

## **GUIDELINES FOR PAYMENTS ON ENGINEERING PRACTICES FY 2010**

**Introduction:** The following guidelines are provided to assist NRCS staff in determining eligible payments in the implementation of engineering practices for conservation programs administered by the Natural Resources Conservation Service (NRCS) in North Dakota. Individual program criteria may establish additional requirements, establish limits on the number of units that may be paid, or prohibit payment on some conservation practices. See applicable program guidelines for more information.

The Engineering Payment Schedule Guidance is arranged numerically by conservation practice code for engineering practices payments. Included is a basic description of the practice and activity type along with any relevant payment eligibility guidance. The components that were used to develop the payment rate are also listed. Finally, each practice payment includes guidance on developing quantities for payment amounts.

NOTE: The bulleted items are for information on what components were used to develop the rate. Actual installed practices that are eligible for payment may not have installed all of the components of a 'typical' practice.

## 313 – Waste Storage Facility-

Agricultural waste systems may be designed for up to 365 days of storage.

### ***Solid Stacking Facility-***

A solid storage facility constructed to store manure and bedding. Costs used to determine the payment rate include:

- Steel Reinforced flatwork
- Formed steel reinforced exterior and interior walls
- Stripping
- Excavation

**Payment quantity will be cubic yards of concrete.** Quantity calculations include floor, footings, exterior walls, & interior walls.

### ***Liquid Storage Concrete-***

A liquid storage tank consisting of a storage facility buried in the ground. Costs used to determine the payment rate include:

- Steel Reinforced Flatwork
- Formed steel reinforced exterior and interior concrete walls
- Excavation

**Payment quantity will be cubic feet of storage.** Quantity calculations are based on the cubic feet of storage in the structure including above the pump out level.

### ***Excavated Pond-***

A storage pond constructed to store animal waste primarily with excavation. Costs used to determine the payment rate include:

- Staff gauge
- Inlet Pipe (large diameter)
- Concrete chute
- Geotextile
- Excavation
- Earthfill
- Trenching
- Hand compaction of trench

**Payment quantity will be cubic yards of total storage.** Quantity calculations include the storage created by the pond including the annual runoff, 25 year storm event, solids storage in the pond, and the minimum freeboard as required by the design.

### ***Embankment Pond-***

A storage pond constructed to store animal waste primarily with earthfill. Costs used to determine the payment rate include:

- Staff gauge
- Inlet Pipe (large diameter)
- Concrete chute
- Geotextile
- Excavation
- Stripping
- Earthfill
- Trenching
- Hand compaction of trench

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the pond to total fill height including overfill for settlement, earthfill to replace the stripping, backfill of the core trench, and volume of topsoil specified in the plans.

## **317 – Composting Facility-**

Agricultural waste systems may be designed for up to 365 days of storage.

### ***Composting Facility-***

This is a treatment component of an agricultural management system for the biological stabilization of organic material. Costs used to determine the payment rate include:

- Roof with Steel sidewalls
- Concrete flatwork
- Concrete Exterior walls
- Concrete Interior walls
- Stripping
- Site Prep
- Gravel Base
- Roof and Steel Sidewall installation

**Payment quantity will be cubic yards of storage available in the structure.**

The storage volume is determined by the depth that material could reasonably be placed in the structure.

## 350 – Sediment Basin-

### ***Sediment Basin-***

A sediment control basin constructed in an ephemeral waterway to capture sediment and slowly-release water. The outlet to release water can be the soil, a grassed waterway, or an underground outlet. Costs used to determine the payment rate include:

- Excavation
- Earthfill

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include excavation to grade and overexcavation for topsoil placement.

## 351 – Well Decommissioning-

### ***Well Decommissioning-***

The sealing and permanent closure of a water well no longer in use. Costs used to determine the payment rate include:

- Sand
- Bentonite
- Concrete
- Native Clay
- Chlorine
- Labor

**Payment quantity will be diameter inch foot.** Quantity calculations include the diameter of the well in inches and the entire length of the well in feet. Length is determined by maximum depth of the well to the ground surface.

### ***Well Decommissioning less than 4” or Artesian-***

The sealing and permanent closure of a water well no longer in use. The well casing is less than 4 inches in diameter or the well is under pressure not necessarily flowing at the surface. NRCS standard requires the decommissioning be conducted by a licensed well driller in the state of North Dakota. Costs used to determine the payment rate include:

- Concrete Grout
- Bentonite Grout
- Native Clay
- Chlorine
- Water for Construction
- Labor
- Mobilization

**Payment quantity will be diameter inch foot.** Quantity calculations include the diameter of the well in inches and the entire length of the well in feet. Length is determined by maximum depth of the well to the ground surface.

## 356 – Dike-

### ***Dike-***

An embankment constructed of earth or other suitable materials to protect land against overflow or to regulate water. Costs used to determine the payment rate include:

- Earthfill
- Stripping
- Core Trench
- Culvert

**Payment quantity will be cubic yards of earthfill.** Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil placement on sideslopes to grade, and backfill of stripped area and core trench.

### ***Ring Dike 4 ft or less-***

### ***Ring Dike 4.1 to 6 ft-***

### ***Ring Dike >6 ft-***

An embankment constructed of earth or other suitable materials to protect land against overflow or to regulate water. Ring Dikes form an enclosure to protect farmsteads or other property from flood waters of various heights. Costs used to determine the payment rate include:

- Earthfill
- Excavation
- Topsoil
- Culverts
- Gravel at driveway

**Payment quantity will be lineal feet of dike.** Quantity calculation for length includes transition area if raising existing dike or road.

## 360 – Closurement of Waste Impoundment-

### ***Close Waste Impoundment-***

The closure of waste impoundments that are no longer used for their intended purpose, in an environmentally safe manner. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be each closure.** No quantity calculations are needed. Removal of stored waste is paid as a separate practice, 633 Waste Utilization.

## 362 – Diversion-

Clean water diversions that are not part of a CNMP will compete for funding under the Local Work Group (LWG) funding pool.

### ***Diversion-***

A channel constructed across long slopes, undulating land surfaces or gently rolling slopes to divert water away from farmsteads, agricultural waste systems, gullies, critical erosion areas or construction areas or collect and direct runoff or protect terraces. Costs used to determine the payment rate include:

- Excavation
- Topsoil
- Earthfill

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include stripping under fill, overexcavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

## 378 – Pond-

Financial assistance is authorized to facilitate a prescribed grazing system on grazing lands and to provide adequate water quality or quantity supplies to meet livestock needs.

Water developments will improve grazing distribution if the portion of the pasture that is under-utilized, is located farther than 1/4 mile in rough terrain, 3/8 mile in rolling terrain, and 3/4 mile in level terrain from an existing water source, or the existing water is not accessible to the pasture due to existing or proposed cross fencing (National Range and Pasture Handbook).

Sediment removal in ponds within the practice lifespan (20 years) will be considered maintenance and will not be eligible for financial assistance.

### ***Embankment Pond with Pipe-***

Small farm pond for livestock water and wildlife habitat constructed by building an embankment across a small drain. A principal spillway is required to be installed. Costs used to determine the payment rate include:

- Principal Spillway Pipe
- Drawdown Pipe
- Filter Drain Pipe
- Canopy Inlet
- Trash Rack
- Filter Diaphragm
- Temporary Erosion Control
- Manually Compacted Backfill
- Machine Compacted Earthfill
- Excavation for Core Trench

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the pond to total fill height including overfill for settlement, earthfill to replace the stripping, backfill of the core trench, and volume of topsoil specified in the plans.

### ***Embankment Pond, No Permit-***

Small farm pond for livestock water and wildlife habitat constructed by building an embankment across a small drain. This pond would not require a principal spillway but may include a trickle tube. Costs used to determine the payment rate include:

- Earthfill
- Excavation for Core Trench

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the pond to total fill height including overfill for settlement, earthfill to replace the stripping, backfill of the core trench, and volume of topsoil specified in the plans.

### ***Excavated Pond w/ Embankment-***

A small farm pond for livestock water constructed by excavating an area. Excavated material is placed in a designed embankment. Costs used to determine the payment rate include:

- Excavation
- Earthfill

**Payment quantity will be cubic yards of excavation or earthfill, whichever is greater.** Quantity calculations for excavation include stripping under fill, excavation to grade, and over-excavation for gravel placement. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

### ***Excavated Pond-***

A small farm pond for livestock water constructed by excavating an area. Costs used to determine the payment rate include:

- Excavation with Dozer
- Excavation with Excavator
- Excavation with Scraper

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include stripping, excavation to grade and over-excavation for gravel placement.

### ***Wildlife Pond-***

Shallow water area developed to provide adequate drinking water for wildlife. A water impoundment made by excavating a pit or dugout. Costs used to determine the payment rate include:

- Excavation with Dozer
- Excavation with Excavator
- Excavation with Scraper

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include stripping, excavation to grade and over-excavation for gravel placement.

## 410 – Grade Stabilization Structure-

### ***Sheet Pile Weir-***

A grade stabilization structure installed at the toe of ephemeral forming gully, consisting of an embankment across a drain with a weir constructed from sheet piling. Costs used to determine the payment rate include:

- Excavation
- Earthfill
- Piling
- Water for Construction
- Topsoil
- Rock Riprap

**Payment quantity will be square feet of piling.** Quantity calculations include the entire area of sheet piling above and below ground.

### ***Grade Stabilization Dam-***

A grade stabilization structure constructed by building an embankment across a small drain to control gully headcuts. A large diameter principal spillway pipe and drop inlet is installed along with a filter diaphragm, pipe support, and riprap as needed. Costs used to determine the payment rate include:

- Principal Spillway Pipe
- Filter Drain Pipe
- Drop Inlet
- Riser Base
- Principal Spillway Tee
- Trash Rack
- Filter Diaphragm
- Rock Riprap
- Temporary Erosion Control
- Manually Compacted Backfill
- Machine Compacted Earthfill
- Excavation for Core Trench

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the embankment to total fill height including overfill for settlement, earthfill to replace the stripping, backfill of the core trench, and volume of topsoil specified in the plans.

### ***Concrete Drop Box Spillway-***

Installation of a concrete box drop spillway structure installed at the toe of ephemeral forming gully. The structure uses standard designs and includes all components of installation. Costs used to determine the payment rate include:

- Concrete
- Geotextile
- Fine Drainfill
- Rock Riprap
- Earthfill

**Payment quantity will be cubic yards of concrete.** Quantity calculations for concrete include volume to grade along with volume for footers.

### ***Concrete Structure-***

Installation of a concrete straight drop spillway structure installed at the toe of ephemeral forming gully. The structure uses standard designs and includes all components of installation. Costs used to determine the payment rate include:

- Concrete
- Drain Pipe
- Fine Drainfill
- Earthfill

**Payment quantity will be cubic yards of concrete.** Quantity calculations for concrete include volume to grade along with volume for footers.

### ***Concrete Block Structures-***

A grade stabilization structure installed at the toe of ephemeral forming gully constructed of large concrete blocks stacked on each other or small concrete masonry units (CMU) laid on a slope to form a chute. Costs used to determine the payment rate include:

- Concrete Blocks
- Sand Bedding
- Geotextile
- Earthfill
- Excavation

**Payment quantity will be a structure factor.** The structure factor is calculated by multiplying the drop height by the design width.

### ***Rock Chute-***

A grade stabilization structure consisting of a rock chute spillway structure installed at the toe of ephemeral forming gully. Costs used to determine the payment rate include:

- Rock Riprap
- Geotextile

**Payment quantity will be cubic yards of rock installed.** Quantity calculations for rock include the sideslopes and aprons.

### ***Pipe Drop-***

A grade stabilization structure installed on steep land, at the toe of ephemeral forming gully constructed of primarily earthfill and a drop pipe. Costs used to determine the payment rate include:

- Clearing and grubbing
- Removal of water
- Excavation for Core Trench
- Earthfill
- Stripping
- Topsoil
- Concrete
- Pipe and appurtenances
- Rock Riprap
- Geotextile
- Trash Rack

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the embankment to total fill height including overfill for settlement, earthfill to replace the stripping, backfill of the core trench, and volume of topsoil specified in the plans.

## 412 – Grassed Waterway-

### ***Grass Waterway-***

A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation. Costs used to determine the payment rate include:

- Excavation
- Topsoil
- Earthfill

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include excavation to grade and overexcavation for topsoil placement.

## **430DD – Irrigation Water Conveyance, Pipeline, High-Pressure, Underground, Plastic-**

### ***8" Pipe-***

### ***10" Pipe-***

### ***12" Pipe-***

An 8", 10", or 12" pipeline and appurtenances installed in an irrigation system. Pipe will consist of plastic pipe rated to a pressure of 80 psi or higher. Costs used to determine the payment rate include:

- Pipe
- Vacuum Release Valve
- Pressure Relief Valve
- Flow Meter
- Grade Transition Section
- Trenching with backhoe

**Payment quantity will be lineal feet of pipeline.** Quantity calculations for length include all buried pipe.

## **430EE – Irrigation Water Conveyance, Pipeline, Low-Pressure, Underground, Plastic-**

### ***8" Pipe-***

### ***10" Pipe-***

### ***12" Pipe-***

An 8", 10", or 12" pipeline and appurtenances installed in an irrigation system. Pipe will consist of plastic pipe rated to a pressure of lower than 80 psi. Costs used to determine the payment rate include:

- Pipe
- Vacuum Release Valve
- Pressure Relief Valve
- Flow Meter
- Grade Transition Section
- Trenching with backhoe

**Payment quantity will be lineal feet of pipeline.** Quantity calculations for length include all buried pipe.

## 442 – Irrigation System Sprinkler-

**IRRIGATION SYSTEM CONVERSIONS** - Financial assistance is limited to the reorganization of existing systems (operating two out of the last five years and holding a current water permit) in which a net water savings will be realized. Activities planned to properly deliver water to the irrigation system shall be scheduled separately under an Irrigation Water Conveyance practice code. Replacements considered to be maintenance on an existing system are also not eligible.

If the percentage of conditional soils exceeds the amount allowed using the EQIP screening tool, the area resource soil scientist will be contacted for a field visit to evaluate the site and water quality. Soils should be evaluated on a per irrigation system basis (per pivot, per flood system, etc).

Systems used for manure transfer may be eligible if irrigation water will also be applied by the system.

If the percentage of conditional soils exceeds the amount allowed using the EQIP screening tool, the area resource soil scientist will be contacted for a field visit to evaluate the site and water quality. Soils should be evaluated on a per irrigation system basis (per pivot, per flood system, etc).

### ***Center Pivot (New)-***

Center pivot irrigating land previously flood irrigated. Part of an Irrigation Water Management System. All Components are NEW. Costs used to determine the payment rate include:

- Center pivot structure
- Control panel
- Booster Pump
- Drops
- Nozzles
- Pressure Regulators
- Concrete Pad Base

**Payment quantity will be lineal feet of pivot.** Quantity calculations for length include entire structure including overhang.

### ***Center Pivot Renozzle-***

A renozzle package for an irrigation center pivot converting to a lower pressure. Part of an Irrigation Water Management System. Costs used to determine the payment rate include:

- Drops
- Nozzles
- Regulators
- Booster Pump

**Payment quantity will be lineal feet of pivot.** Quantity calculations for length include entire structure including overhang.

***Center Pivot (Used)-***

Center pivot irrigating land previously flood irrigated. Part of an Irrigation Water Management System. All Components are USED, must be less than 10 years old and inspected by the State Engineer's Staff. Costs used to determine the payment rate include:

- Center pivot structure
- Control panel
- Booster Pump
- Drops
- Nozzles
- Pressure Regulators
- Concrete Pad Base

**Payment quantity will be lineal feet of pivot.** Quantity calculations for length include entire structure including overhang.

## **462 – Precision Land Forming-**

Financial assistance is allowed for the reshaping of land to allow for improved surface drainage and to control erosion. For example: feedlot shaping and shaping and grading field gullies. (This list is not all inclusive.) The use of this practice simply to improve drainage to increase agricultural production is not eligible for financial assistance.

### ***Land Forming-***

This practice consists of reshaping the surface of land to planned grades. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include stripping under fill, overexcavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil, and backfill of stripped area.

## 464 – Irrigation Land Leveling-

### ***Land Leveling-***

The practice of reshaping the surface of land to be irrigated to planned grades. Costs used to determine the payment rate include:

- Excavation
- Earthfill

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include overexcavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade, topsoil and backfill of stripped area.

## 468 – Lined Waterway or Outlet-

This practice refers to a waterway installation requiring lining due to erosive soils or high water velocities. This practice pertains to the lining only - not the excavation or earthfill required to construct the waterway itself. This practice is installed in conjunction with a 412 Grassed Waterway for earthwork payment.

### ***Rock Riprap Lining-***

The rock lined section extends up the side slopes to designed depth. The earth above the permanent lining may be vegetated or otherwise protected. Costs used to determine the payment rate include:

- Rock Riprap
- Geotextile

**Payment quantity will be square yards of rock.** Quantity calculations for rock include area of fill including side slopes.

### ***Concrete Lined Waterway-***

The concrete lined section extends up the side slopes to designed depth. The earth above the permanent lining may be vegetated or otherwise protected. Costs used to determine the payment rate include:

- Concrete

**Payment quantity will be square yards of concrete.** Quantity calculations for concrete include area of placement including side slopes.

### ***Turf Reinforced Blanket-***

The lined section extends up the side slopes to designed depth with 3D material designed for turf reinforcing. The earth above the permanent lining may be vegetated or otherwise protected. Costs used to determine the payment rate include:

- Turf Reinforcing Blanket

**Payment quantity will be square yards of blanket.** Quantity calculations for blanket include the area of the blanket installed including side slopes, blanket in the anchor trench, and overlap.

## **516 – Pipeline-**

Financial assistance is authorized to facilitate a prescribed grazing system on grazing lands and to provide adequate water quality or quantity supplies to meet livestock needs. Portable equipment may be eligible when it will supply water; so cattle may be excluded from a stream or dugout, the area is subject to flooding, or the grazing plan calls for movement of the equipment to another location to allow better grazing distribution.

Water developments will improve grazing distribution if the portion of the pasture that is under-utilized, is located farther than 1/4 mile in rough terrain, 3/8 mile in rolling terrain, and 3/4 mile in level terrain from an existing water source, or the existing water is not accessible to the pasture due to existing or proposed cross fencing (National Range and Pasture Handbook).

Water developments, excluding 378 Pond, may be eligible for financial assistance for grazing crop aftermath when they are part of the prescribed grazing system. The forage provided by aftermath grazing is considered supplemental. The grazing system must currently have adequate AUMS on the original grassland to accommodate the herd.

Financial assistance for a rural water system hookup and a vault with pressure tank are included in this practice. Vaults and pressure tanks shall be eligible for financial assistance only when installed or approved by a certified well contractor or water well pump installer.

Domestic water sources are not eligible for financial assistance. Pipelines that serve as domestic water at farm headquarters or winter feeding headquarters and to pastures, will be prorated based on water use.

Pipeline-laid on the surface and anchored: Seasonal pipelines may be laid on the surface when cultural, historical, soils, or other physical land features preclude burial (ex: extreme rocky conditions). PVC pipe is not allowed. See standard for further clarification. District Conservationist will provide an approval request to the Area Resource Conservationist. The approval request will be reviewed by the Area Resource Conservationist, who will provide recommendation to the State Conservation Engineer.

### ***Pipeline – Plowed Shallow-***

Pipeline installed with a plow at a shallow burial depth (<3 ft). The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- HDPE Pipe
- Fittings or Fusion Joints

- Appurtenances – valves, drains, hydrants, etc
- Shallow Plow Installation

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Plowed Shallow w/ Rural Water Hookup and/or Vault -***

Pipeline installed with a plow at a shallow burial depth (<3 ft). The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. A vault to store the pressure system is installed as part of the construction of this pipeline. In lieu of a private pressure system a rural water hook up fee may be incurred. Costs used to determine the payment rate include:

- HDPE Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Shallow Plow Installation
- Rural Water Hookup Fee
- Vault w/ Drain
- Pressure System
  - Pressure Tank
  - Pressure Switch
  - Electrical Controls
  - Pressure Gauge
  - Valves

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline- Laid on surface and Anchored-***

Pipeline installed by staking the pipeline on the surface of the ground. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- HDPE Pipe
- Fittings or Fusion Joints
- Anchors
- Appurtenances – valves, drains, hydrants, etc.

**Payment quantity will be lineal feet.** Quantity calculations include the total length of pipe.

### ***Pipeline – Trenched or Deep Plowed-***

Pipeline installed with a plow or trencher at a deep burial depth (>3 ft). The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Trenching

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

### ***Pipeline – Trenched or Deep Plowed with Boring -***

Pipeline installed with a plow or trencher at a deep burial depth (>3 ft). The installation includes a road or water crossing requiring boring. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Trenching
- Boring

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

### ***Pipeline – Trenched or Deep Plowed with Rural Water Hookup and/or Vault -***

Pipeline installed with a plow or trencher at a deep burial depth (>3 ft). A vault to store the pressure system is installed as part of the construction of this pipeline. In lieu of a private pressure system a rural water hook up fee may be incurred. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Trenching
- Rural Water Hookup Fee
- Vault w/ Drain
- Pressure System

- Pressure Tank
- Pressure Switch
- Electrical Controls
- Pressure Gauge
- Valves

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Trenched or Deep Plowed with Rural Water Hookup and/or Vault with Boring -***

Pipeline installed with a plow or trencher at a deep burial depth (>3 ft). A vault to store the pressure system is installed as part of the construction of this pipeline. In lieu of a private pressure system a rural water hook up fee may be incurred. The installation includes a road or water crossing requiring boring. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Trenching
- Rural Water Hookup Fee
- Vault w/ Drain
- Pressure System
  - Pressure Tank
  - Pressure Switch
  - Electrical Controls
  - Pressure Gauge
  - Valves
- Boring

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Backhoe-***

Pipeline installed with a backhoe due to rocky conditions or soil conditions that would require this type of equipment. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Backhoe Installation

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Backhoe with Boring-***

Pipeline installed with a backhoe due to rocky conditions or soil conditions that would require this type of equipment. The installation includes a road or water crossing requiring boring. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Backhoe Installation
- Boring

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Backhoe with Rural Water Hookup and/or Vault-***

Pipeline installed with a backhoe due to rocky conditions or soil conditions that would require this type of equipment. A vault to store the pressure system is installed as part of the construction of this pipeline. In lieu of a private pressure system a rural water hook up fee may be incurred. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Backhoe Installation
- Rural Water Hookup Fee
- Vault w/ Drain
- Pressure System
  - Pressure Tank
  - Pressure Switch
  - Electrical Controls
  - Pressure Gauge
  - Valves

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

***Pipeline – Backhoe with Rural Water Hookup and/or Vault with Boring-***

Pipeline installed with a backhoe due to rocky conditions or soil conditions that would require this type of equipment. A vault to store the pressure system is installed as part of the construction of this pipeline. In lieu of a private pressure system a rural water hook up fee may be incurred. The installation includes a road or water crossing requiring boring. The pipeline is part of a livestock water delivery system as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Pipe
- Fittings or Fusion Joints
- Appurtenances – valves, drains, hydrants, etc.
- Backhoe Installation
- Rural Water Hookup Fee
- Vault w/ Drain
- Pressure System
  - Pressure Tank
  - Pressure Switch
  - Electrical Controls
  - Pressure Gauge
  - Valves
- Boring

**Payment quantity will be lineal feet.** Quantity calculations include the total length of buried pipe.

## 521A – Pond Sealing or Lining-

### ***Pond, Flexible Membrane-***

Flexible liner of PVC, PE, EPDM, or GCL placed in a water or waste storage pond to reduce seepage to allowable values. Costs used to determine the payment rate include:

- Flexible Liner
- Site Preparation
- Water for Earthfill
- Liner Installation
- Soil Cover

**Payment quantity will be square feet of liner.** Quantity calculations include the entire surface of liner including edges and area in the backfill trench.

## 521B – Pond Sealing or Lining-

### ***Soil Dispersant-***

A liner for a pond or waste impoundment consisting of a compacted clay soil treated with a soil dispersant. Costs used to determine the payment rate include:

- Soda Ash
- Over-excavation
- Class A Compacted Earthfill
- Water for Earthfill Moisture Control
- Professional Density Testing Services

**Payment quantity will be cubic yards of liner material.** Quantity calculations include the volume of liner installed. The volume is determined by the depth of the dispersant mixed with soil and is a mixture of soil and dispersant compacted to a specified density.

## 521C – Pond Sealing or Lining-

### ***Bentonite-***

A liner for a pond or waste impoundment consisting of a compacted soil-bentonite mixture. Costs used to determine the payment rate include:

- Bentonite
- Liner material installation
- Incorporation and Compaction
- Cover Installation

**Payment quantity will be cubic yards of liner material.** Quantity calculations include the volume of liner installed. The volume is determined by the depth of the bentonite mixed with soil and is a mixture of soil and bentonite.

## 521D – Pond Sealing or Lining-

### ***Clay Lining-***

A liner for a pond or waste impoundment constructed using compacted soil without soil amendments. Costs used to determine the payment rate include:

- Borrow Hauling
- Over-excavation
- Class A Compacted Earthfill
- Water for Earthfill Moisture Control
- Professional Density Testing Services

**Payment quantity will be cubic yards of liner material.** Quantity calculations include the volume of clay after being placed to the specified density.

## 533 – Pumping Plant-

Pumps shall be eligible for financial assistance only when installed or approved by a certified well contractor or water well pump installer. Portable pumps, solar pumps, or pumps associated with windmill installations do not need to be installed by a certified well contractor or water well pump installer. Solar pumps and on-site solar panels are only eligible when other electric power sources are impractical. This practice is available on existing water sources that are feasible.

Variable Frequency Drives (VFDs) are eligible when they are the most cost effective alternative for a pressure system. Variable Frequency Drives (VFDs) are eligible for installation on an irrigation pump that supplies water to more than one irrigation system.

### ***Windmill-***

Complete windmill system to pump livestock water. This practice includes air injection windmills installed on shallow wells or water ponds. The well is used as a water source as part of a prescribed grazing system. Costs used to determine the payment rate include:

- Windmill
- Tower
- Concrete Pad
- Appurtances

**Payment quantity will be each installation.** No quantity calculations are needed.

### ***Variable Frequency Drive 2HP or Less-***

A variable frequency drive pump utilized for livestock watering purposes. The pump must be installed by certified pump installer. Costs used to determine the payment rate include:

- Pump
- Down Hole Delivery Pipe
- Down Hole Electrical Wiring
- Controls

**Payment quantity will be pump horsepower.** No quantity calculations are needed.

### ***Variable Frequency Drive > 2HP-***

A variable frequency drive pump utilized for irrigation purposes. The pump must be installed by certified pump installer. Costs used to determine the payment rate include:

- Controls
- Electrical Wiring

**Payment quantity will be pump horsepower.** No quantity calculations are needed.

### ***Pump - Livestock Submersible-***

A submersible pump installed in a well for livestock watering purposes. The pump must be installed by certified pump installer. Costs used to determine the payment rate include:

- Pump
- Down Hole Delivery Pipe
- Down Hole Electrical Wiring
- Controls

**Payment quantity will be pump horsepower.** No quantity calculations are needed.

### ***Pump – Livestock solar pump-***

A pump installed for livestock watering purposes. Power is supplied by on-site solar panels. Costs used to determine the payment rate include:

- Pump
- Down Hole Delivery Pipe
- Down Hole Electrical Wiring
- Control System
- Solar Panels

**Payment quantity will be each installation.** No quantity calculations are needed.

### ***Pump – Retrofit Existing Irrigation Pump - Well-***

The retrofit of an existing irrigation pump in a well to deliver lower pressure. Costs used to determine the payment rate include:

- Remove Pump from Well
- Trim Impellers
- Re-install Pump in Well

**Payment quantity will be pump horsepower following the retrofit work.** No quantity calculations are needed.

***Pump – Retrofit Existing Irrigation Pump - Surface-***

The retrofit of an existing irrigation pump installed on a water source, other than a well, to deliver lower pressure. Typical installations of these pumps are on a river, lake or canal. Costs used to determine the payment rate include:

- Remove Pump from Current Installation
- Trim Impellers
- Re-install Pump

**Payment quantity will be pump horsepower following the retrofit work.** No quantity calculations are needed.

***Pump – Surface Irrigation (New)-***

The installation of a new irrigation pump installed on a water source, other than a well, to deliver water to an irrigation system as needed by the conversion to a more efficient delivery. Typical installations of these pumps are on a river, lake or canal. Costs used to determine the payment rate include:

- Pump
- Installation
- Pump Housing

**Payment quantity will be pump horsepower.** No quantity calculations are needed.

***Pump – Manure Transfer-***

Pump and accessories to move manure from storage location to manure distribution site/equipment. The pump is part of an animal waste management system. Costs used to determine the payment rate include:

- Manure Transfer Pump
- Pump Stand and Base
- Pipe
- Appurtances
- Agitator with Hookups

**Payment quantity will be each installation.** No quantity calculations are needed.

## 558 – Roof Runoff Structure-

### ***Rain Gutters-***

Structures that collect, control, and transport precipitation from roofs. Practice pertains to gutter system only - roof not included. Costs used to determine the payment rate include:

- Rain Gutters
- Downspout Pipe
- Elbows
- Bolts and Straps

**Payment quantity will be lineal feet.** Quantity calculations for length include actual length of installed gutter not including roof edges without gutter.

## **560 – Access Road-**

Financial assistance is only authorized when this practice is installed for the operation and maintenance of an animal waste system or when installation of conservation practice damages or renders useless an existing access road. Access roads, travel lanes, and equipment turn-around areas, required for management of the waste generated by the animal confinement and for the proper operation and maintenance of the components of the waste management system are eligible. Access roads with the sole purpose of feed management are not eligible.

### ***New Single Lane-***

A travel-way for equipment and vehicles constructed as part of a conservation plan. This practice consists of constructing a road where no road existed prior. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be cubic yards of earthfill.** Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil placement on sideslopes to grade, and backfill of stripped area.

### ***New Single Lane with Culvert-***

A travel-way for equipment and vehicles constructed as part of a conservation plan. This practice consists of constructing a road where no road existed prior. Costs used to determine the payment rate include:

- Earthfill
- Corrugated metal pipe
- CMP connecting band

**Payment quantity will be cubic yards of earthfill.** Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil placement on sideslopes to grade, and backfill of stripped area.

### ***Road Rebuild-***

A travel-way for equipment and vehicles constructed as part of a conservation plan. This practice applies when there is a modification of an existing road. Costs used to determine the payment rate include:

- Earthfill
- Excavation

**Payment quantity will be cubic yards of earthfill or excavation whichever is greater.** Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil placement on sideslopes to grade, and backfill of stripped area. Quantity calculations for excavation include stripping under fill, overexcavation for topsoil placement, and excavation to grade.

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

Financial assistance is only authorized when this practice is installed for proper management of wastes within the animal waste system or around livestock watering tanks in AFO's. For example:

- Heavy use areas used as scraping pads and scraping lanes. Financial assistance is limited to a concrete pad 12 feet wide, with a maximum length of 1.5 feet per animal unit (AU).
- Heavy use areas for expanding facilities are limited to the planned AUs that the producer is expected to have on-site within a reasonable timeframe (typically one-year).
- Additional pad length of 20 feet may be added to accommodate equipment access at feedlot gates.
- Financial assistance is only authorized for the portion of the barn floor necessary for the collection and storage of waste materials. Floor space used to house animals is not eligible.

The following items are ineligible:

- The portion of the concrete slab utilized for feeding (as a feed bunk) or to support the feed bunk.
- Concrete curbs or other curb materials.

### ***Heavy Use Protection, Gravel-***

The stabilization or areas frequently and intensively used by people, animals or vehicles by surfacing with suitable materials, and/or by installing needed structures. Costs used to determine the payment rate include:

- Gravel

**Payment quantity will be cubic yards of gravel.** Quantity calculations for gravel include fill to grade.

### ***Heavy Use Protection, Gravel on Geotextile-***

The stabilization or areas frequently and intensively used by people, animals or vehicles by surfacing with suitable materials, and/or by installing needed structures. Costs used to determine the payment rate include:

- Gravel
- Geotextile

**Payment quantity will be cubic yards of gravel.** Quantity calculations for gravel include fill to grade.

### ***Heavy Use Protection, Concrete-***

The stabilization of areas frequently and intensively used by people, animals or vehicles by surfacing with suitable materials, and/or by installing needed structures. Costs used to determine the payment rate include:

- Concrete
- Bedding Gravel

**Payment quantity will be cubic yards of concrete.** Quantity calculations for concrete include volume to grade along with volume for footers.

## 574 – Spring Development-

Financial assistance is authorized to facilitate a prescribed grazing system on grazing lands and to provide adequate water quality or quantity supplies to meet livestock needs.

Water developments will improve grazing distribution if the portion of the pasture that is under-utilized is located farther than 1/4 mile in rough terrain, 3/8 mile in rolling terrain, and 3/4 mile in level terrain from an existing water source, or the existing water is not accessible to the pasture due to existing or proposed cross fencing (National Range and Pasture Handbook).

Spring developments may be eligible for financial assistance for grazing crop aftermath when they are part of the prescribed grazing system. The forage provided by aftermath grazing is considered supplemental. The grazing system must currently have adequate AUMS on the original grassland to accommodate the herd.

### ***Spring Development-***

Utilizing springs and seeps to provide water for a conservation need. Costs used to determine the payment rate include:

- Site Leveling
- Collection Trench and Spring Box Excavation
- Washed coarse gravel
- Collection Pipe
- Outflow Trench
- Outflow Pipe
- Overflow Trench
- Overflow Pipe
- Valves and fittings
- Spring Box

**Payment quantity will be each development.** No quantity calculations are required.

## 575 – Animal Trails and Walkways-

### ***New Walkway-***

This is a travel facility for livestock and/or wildlife to provide movement through difficult or ecologically sensitive terrain. Costs used to determine the payment rate include:

- Earthfill
- Excavation

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include stripping under fill, overexcavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

## 580 – Streambank and Shoreline Protection-

### ***Bioengineering-***

This scenario consists of treatment(s) using bioengineering methods to stabilize and protect banks of streams, lakes, reservoirs, estuaries, or excavated channels against scour and erosion. This practice is also employed to influence scour and desposition patterns, working with streams power in order to influence streams planform and grade. Costs used to determine the payment rate include:

- Willow Poles
- Cedar Tree Revetments
- Erosion Control Blankets
- Excavation

**Payment quantity will be square feet of streambank protected.** Quantity calculations include the entire area of construction excluding any borrow.

### ***Rock Armor-***

This scenario consists of treatment(s) using rock riprap to stabilize and protect banks of streams, lakes, reservoirs, estuaries, or excavated channels against scour and erosion. This practice is also employed to influence scour and desposition patterns, working with streams power in order to influence streams planform and grade. Costs used to determine the payment rate include:

- Rock Riprap
- Geotextile

**Payment quantity will be square yards of rock riprap.** Quantity calculations include the area of rock required to protect the designed surface.

## 582 – Open Channel-

### ***Excavated Channel-***

An excavated earthen channel, used to convey water. This practice is used to construct, improve, re-create, or restore a channel in which water flows with a free surface. Costs used to determine the payment rate include:

- Excavation

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include excavation to grade and overexcavation for topsoil placement.

## 584 – Streambank Channel Stabilization-

### ***Bioengineering-***

This scenario consists of treatment(s) using bioengineering methods to stabilize and protect the bottom of streams or constructed channels against scour and erosion. Costs used to determine the payment rate include:

- Willow Poles
- Cedar Tree Revetments
- Erosion Control Blankets
- Excavation

**Payment quantity will be square feet of channel protected.** Quantity calculations include the entire area of construction excluding any borrow.

### ***Rock Armor-***

This scenario consists of treatment(s) using rock riprap to stabilize and protect the bottom of streams or constructed channels against scour and erosion. Costs used to determine the payment rate include:

- Rock Riprap
- Geotextile
- Excavation

**Payment quantity will be square yards of rock riprap.** Quantity calculations include the area of rock required to protect designed surface.

## 614 – Watering Facility-

Financial assistance is authorized to facilitate a prescribed grazing system on grazing lands and to provide adequate water quality or quantity supplies to meet livestock needs. Portable equipment may be eligible when it will supply water; so cattle may be excluded from a stream or dugout, the area is subject to flooding, or the grazing plan calls for movement of the equipment to another location to allow better grazing distribution.

Water developments will improve grazing distribution if the portion of the pasture that is under-utilized, is located farther than 1/4 mile in rough terrain, 3/8 mile in rolling terrain, and 3/4 mile in level terrain from an existing water source, or the existing water is not accessible to the pasture due to existing or proposed cross fencing (National Range and Pasture Handbook).

Water developments, excluding 378 Pond, may be eligible for financial assistance for grazing crop aftermath when they are part of the prescribed grazing system. The forage provided by aftermath grazing is considered supplemental. The grazing system must currently have adequate AUMS on the original grassland to accommodate the herd.

Domestic water sources are not eligible for financial assistance. Gravel is now part of the Watering Facility payment schedule. Heavy Use Area is no longer to be contracted for gravel in conjunction with a tank.

### ***Tank or Trough-***

This practice consists of a device (tank, trough, or other watertight container) for providing animal access to water. Costs used to determine the payment rate include:

- Tank
- Float Shutoff
- Gravel Bedding
- Gravel Apron
- Site Preparation

**Payment quantity will be gallons of storage.** Quantity calculations include the maximum storage volume of the tank regardless of the overflow or float setting. The volume provided by the manufacturer is acceptable for quantity calculations.

### ***Tank or Trough (Insulated)-***

This practice consists of a device (tank, trough, or other watertight container) for providing animal access to water. The tank is constructed to resist freezing the water in the tank in cold weather. Tank must be installed in accordance with

manufacturer's recommendation. If the tank is fabricated on site it must be preapproved by NRCS engineers prior to installation. Costs used to determine the payment rate include:

- Tank
- Float Shutoff
- Gravel Bedding
- Gravel Apron
- Site Preparation

**Payment quantity will be gallons of storage.** Quantity calculations include the maximum storage volume of the tank regardless of the overflow or float setting. The volume provided by the manufacturer is acceptable for quantity calculations.

### ***Nose Pump-***

This practice consists of a device for providing animal access to water. The nose pump is operated by the livestock without a separate power supply. Costs used to determine the payment rate include:

- Nose Pump

**Payment quantity will be each installation.** No quantity calculations are needed.

### ***Water Fountain-***

This practice consists of a device for providing animal access to water. Water fountains have a heat source incorporated in the design of the structure to allow for use in freezing temperatures. Costs used to determine the payment rate include:

- Water Fountain

**Payment quantity will be each installation regardless of storage volume.** No quantity calculations are needed. Heavy Use Area (560) may still be contracted for the concrete base and apron around the fountain.

### ***Wildlife Watering Guzzler-***

This practice will establish a collection device consisting of an apron to collect and funnel water into a tank for wildlife. This practice will be installed on Range or Pasture land next to targeted species habitat (woody draws, dense herbaceous cover,...). This facility will provide suitable water for wildlife. Costs used to determine the payment rate include:

- Tank
- Sheet Metal

- Lumber
- Posts
- Gutter
- Downspout
- Site Preparation

**Payment quantity will be each installation.** No quantity calculations are needed.

## 620 – Underground Outlet-

### ***Inlet/Outlet Structure-***

This practice consists of a conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water.

Costs used to determine the payment rate include:

- Pipe
- Trenching
- Elbows
- Anti-seep diaphragm
- Riser
- Concrete
- Earthfill
- Trash Rack w/ anti-vortex vane
- Rodent Guard
- End Sections
- Connecting Bands
- Gravel

**Payment quantity will be diameter inch foot.** Quantity calculations include the diameter of the pipe in inches and the entire length of the outlet pipe in feet. The height and diameter of the riser pipe is not included in the calculations.

### ***Underground Outlet - Ring Dike 4 ft or less-***

### ***Underground Outlet - Ring Dike 4.1 to 6 ft-***

### ***Underground Outlet - Ring Dike >6 ft-***

This practice consists of a conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water installed in conjunction with a ring dike of various heights. Ring Dikes form an enclosure to protect farmsteads or other property from flood waters. Costs used to determine the payment rate include:

- Pipe
- End Sections
- Anti-seep Diaphragm
- Waterman Gates

**Payment quantity will be each installation.** No quantity calculations are needed.

## **632 – Solid/Liquid Waste Separation Facility-**

Financial assistance is allowed for the installation of a screening device or settling basin used to separate solids from a liquid waste stream.

### ***Solid Separation Facility – w/ Picket Fence, Concrete-***

A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste stream. The facility consists of a picket fence holding section and small concrete scraping pad. Costs used to determine the payment rate include:

- Steel Reinforced Concrete Flatwork
- Pressure Treated Lumber
- Manually Compacted Earthfill
- Posts

**Payment quantity will be lineal feet of picket fence.** Quantity calculations include the entire length of picket fence including any boards partially buried.

### ***Solid Separation Facility – w/ Picket Fence, No Concrete-***

A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste stream. The facility consists of a picket fence holding section. Costs used to determine the payment rate include:

- Pressure Treated Lumber
- Manually Compacted Earthfill
- Posts

**Payment quantity will be lineal feet of picket fence.** Quantity calculations include the entire length of picket fence including any boards partially buried.

### ***Solid Separation Facility - Concrete-***

A filtration or screening device, settling tank, settling basin, or settling channel used to separate a portion of solids from a liquid waste stream. The facility consists of a concrete pad with concrete sidewalls and a picket fence entrance with a pipe outlet. Costs used to determine the payment rate include:

- Steel Reinforced Concrete Flatwork
- Steel Reinforced Formed Concrete
- Outlet Pipe
- Manually Compacted Earthfill
- Screen

**Payment quantity will be cubic yards of concrete.** Quantity calculations include floor, footings, exterior walls, & interior walls.

## **634 – Manure Transfer-**

Financial assistance is only authorized for this practice when applied for proper operation and maintenance of the animal waste system. This practice is not eligible when the system transfers manure beyond the point of storage or installations primarily for operator convenience.

### ***Transfer Pipe - 8"-***

### ***Transfer Pipe - 10"-***

### ***Transfer Pipe 12"-***

An 8", 10", or 12" pipeline and appurtenances installed in an animal waste system. Costs used to determine the payment rate include:

- Pipe
- Pump Out Point
- Trenching with backhoe

**Payment quantity will be lineal feet of pipeline.** Quantity calculations for length include all buried pipe from the pumping plant or collection point to the end section.

## 638 – Water and Sediment Control Basin-

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

An earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. This practice will be installed in conjunction with a 620 Underground Outlet. Costs used to determine the payment rate include:

- Excavation
- Earthfill

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include stripping under fill, over-excavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

## 640 – Waterspreading-

### ***Waterspreading-***

A system of dams, dikes, ditches, or other means of diverting or collecting runoff from natural channels, gullies, or streams and spreading it over relatively flat areas. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be cubic yards of earthfill or excavation, whichever is greater.** Quantity calculations for excavation include stripping under fill, overexcavation for topsoil placement, and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

## **642 – Water Well-**

Financial assistance is authorized to facilitate improved grazing distribution and ensure adequate and reliable livestock water. A well may also be eligible for financial assistance when the installation of a redesigned or relocated animal waste system impacts the availability of the existing water source. This practice is not authorized for financial assistance when a new animal waste facility or expansion of an existing facility creates the need for an additional water source. When the installation of an animal waste system impacts the availability of the existing water source, the most economical water development is an eligible system practice.

Pitless well units shall be eligible for financial assistance only when installed or approved by a certified well contractor or water well pump installer. Dry wells are not eligible for cost-share.

Financial assistance will be pro-rated if the water development's primary function of grazing distribution is coupled with ineligible uses such as providing water to headquarters, feedlots, and corrals.

### ***Well, Drilled, Cased – Depth 100' or less-***

This is a shallow livestock well, 100 feet deep or less. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development

**Payment quantity will be each installation.** No quantity calculations are needed.

### ***Well, Drilled, Cased – Depth 100' or less with Pitless Unit-***

This is a shallow livestock well, 100 feet deep or less with a pitless unit installed. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development
- Pitless Unit

**Payment quantity will be each installation.** No quantity calculations are needed.

### ***Well, Drilled, Cased – Artesian >100’-***

This is a well drilled into an artesian formation. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development

**Payment quantity will be diameter inch foot.** Quantity calculations include the diameter of the well in inches and the entire length of the well in feet. Length is determined by maximum depth of the well to the ground surface.

### ***Well, Drilled, Cased – Artesian > 100’ with Pitless Unit-***

This is a well drilled into an artesian formation with a pitless unit installed. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development
- Pitless Unit

**Payment quantity will be diameter inch foot.** Quantity calculations include the diameter of the well in inches and the entire length of the well in feet. Length is determined by maximum depth of the well to the ground surface.

### ***Well, Bored or Dug-***

This is a well bored or dug into a non-artesian formation. The typical installation would be a large diameter (>12”) well to a shallow depth (<80’). Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development

**Payment quantity will be lineal feet of hole.** Quantity calculations include the entire length of the well in feet. Length is determined by maximum depth of the well to the ground surface.

### ***Well, Drilled, Cased – Non-Artesian >100’-***

This is a well drilled into a non-artesian formation. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development

**Payment quantity will be lineal feet of hole.** Quantity calculations include the entire length of the cased well in feet. Length is determined by maximum depth of the cased hole to the ground surface.

***Well, Drilled, Cased – Non-Artesian > 100' with Pitless Unit-***

This is a well drilled into an artesian formation with a pitless unit installed. Costs used to determine the payment rate include:

- Drilling
- Casing
- Screen
- Development
- Pitless Unit

**Payment quantity will be lineal feet of hole.** Quantity calculations include the entire length of the cased well in feet. Length is determined by maximum depth of the cased hole to the ground surface.

## 656 – Constructed Wetland-

### ***Constructed Wetland Conjunction w/ Ag Waste System-***

A constructed wetland that was constructed in conjunction with an ag waste system. Costs used to determine the payment rate include:

- Wet Excavation
- Earthfill
- Grass Seed

**Payment quantity will be acres of wetland created.** Quantity calculations for area include entire surface area seeded.

## 657 – Wetland Restoration-

### ***Fill Dugout-***

A wetland restoration is a rehabilitation of a drained or degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to the natural condition to the extent practicable. This practice consists of filling a dugout to restore a wetland to original condition. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be cubic yards of earthfill.** Quantity calculations include the earthfill required to construct the wetland to original depth including overfill for settlement, earthfill to replace the stripping, and any volume of topsoil specified in the plans.

### ***Wetland Restoration – Ditch Plug-***

A wetland restoration is a rehabilitation of a drained or degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to the natural condition to the extent practicable. This practice consists of plugging an existing drain with earthen fill. Costs used to determine the payment rate include:

- Earthfill

**Payment quantity will be each ditch plug installed.** No quantity calculations are needed.

### ***Wetland Restoration – Scrapes -***

A wetland restoration is a rehabilitation of a drained or degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to the natural condition to the extent practicable. This practice consists of the removal of sediment at bottom of wetlands and hauling that material to the uplands. Costs used to determine the payment rate include:

- Excavation
- Hauling Materials

**Payment quantity will be acres of wetland cleaned.** Quantity calculations for area include entire surface area of the wetland that was cleaned of sediment.

***Dike Less than 2 Ft-***

This scenario is for a wetland restoration consisting of the construction of a dike 2' height or less. Costs used to determine the payment rate include:

- Stripping
- Earthfill

**Payment quantity will be lineal feet of dike.** Quantity calculation for length includes transition area.

***2 – 4 Ft Dike-***

This scenario is for a wetland restoration consisting of the construction of a dike 2.1' – 4' high. Costs used to determine the payment rate include:

- Stripping
- Earthfill

**Payment quantity will be lineal feet of dike.** Quantity calculation for length includes transition area.

## 658 – Wetland Creation-

### ***Excavated Wetland w/ Embankment-***

This consists of the creation of a wetland. A wetland creation is a shallow water area developed to provide wetland functions and values. Excavated material is placed in a designed embankment. Costs used to determine the payment rate include:

- Excavation
- Hauling Materials

**Payment quantity will be cubic yards of excavation or earthfill, whichever is greater.** Quantity calculations for excavation include stripping under fill and excavation to grade. Quantity calculations for earthfill include fill to grade including overfill for settlement, topsoil and backfill of stripped area.

### ***Excavation-***

A wetland creation is a shallow water area developed to provide wetland functions and values. This practice consists of the excavation of a water impoundment. Costs used to determine the payment rate include:

- Excavation with Dozer
- Excavation with Excavator
- Excavation with Scraper

**Payment quantity will be cubic yards of excavation.** Quantity calculations for excavation include stripping and excavation to grade.