



Practice Code Name: 101 - CNMP Design and Implementation Activity

Scenario Number: 9

Scenario Name: Comprehensive Nutrient Management Plan Revision

Scenario Description: A Comprehensive Nutrient Management Plan (CNMP) will be updated to reflect any changes in manure management, adjustments in volume or nutrient analysis, as well as updates to plant and crop management strategies. Additionally, the plan will be modified to ensure proper nutrient balance within the Animal Feeding Operation (AFO). No changes will be necessary for engineered practices within the farmstead or production area. The producer may choose to export a portion of the manure or organic products from the farm. The producer also oversees an animal production area where nutrients are applied to the land.

Before Situation: The operator of an AFO currently possesses a CNMP that addresses the resource concerns and client objectives relevant to both facility production and land application areas. Nevertheless, the existing CNMP is outdated and fails to align with the current operational needs and goals. There have been changes in various levels of management and conservation practices within the operation. Furthermore, recent soil tests, manure analyses, and modifications to the cropping system necessitate adjustments to the nutrient balance to ensure the CNMP remains pertinent and effective.

After Situation: Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storing, and application of animal waste in an environmentally safe manner. Design and implementation will meet each conservation practice's general and additional applicable criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,980.09	\$4,980.09
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,980.09	\$4,980.09

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 101 - CNMP Design and Implementation Activity

Scenario Number: 25

Scenario Name: All Livestock Operations without Land Application

Scenario Description: An Animal Feeding Operation (AFO) that does not utilize land application involves a producer who exports manure or organic products from the farm to another owner, with the transfer documented in writing. This operation includes a designated area for animal production. Use only if Conservation Evaluation and Monitoring Activity (CEMA) 226 is needed.

Before Situation: Currently, the production area and land application areas do not meet NRCS quality criteria for water quality and soil erosion. Manure is not frequently tested. Various levels of management and conservation implementation have occurred on the farm. Little documentation exists of the systems used and practices installed. The producer may or may not have a conservation or nutrient management plan. Partial implementation of Comprehensive Nutrient Management Plan (CNMP)-related practices for the AFO has occurred.

After Situation: Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storing, and application of animal waste in an environmentally safe manner. Design and implementation will meet each conservation practice's general and additional applicable criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,144.43	\$1,144.43
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,144.43	\$1,144.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 101 - CNMP Design and Implementation Activity

Scenario Number: 106

Scenario Name: All Livestock Operations with Land Application, Base Cost

Scenario Description: Base cost of all Animal Feeding Operations (AFO) with land application. The producer may export (material transferred to another owner with written documentation of the transfer) a portion 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). Unit of number (each) with a quantity of one.

Before Situation: Currently, the production area and land application areas do not meet NRCS quality criteria for water quality and soil erosion. Soil tests are not current, and manure is not frequently tested.

After Situation: Utilize a certified Technical Service Provider (TSP) to complete a nutrient management plan and implementation specifications for conservation practices treating resource concerns and the application of animal waste in an environmentally safe manner on the production of land treatment areas. Design and implementation will meet the general and additional applicable criteria found in each conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,599.23	\$4,599.23
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,599.23	\$4,599.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 101 - CNMP Design and Implementation Activity

Scenario Number: 107

Scenario Name: All Livestock Operations with Land Application, Implementation Cost

Scenario Description: Implementation cost of all Animal Feeding Operations (AFO) with land application. The producer may export (material transferred to another owner with written documentation of the transfer) a portion 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). Quantity is based on the number of Animal Units.

Before Situation: Currently, the production area and land application areas do not meet NRCS quality criteria for water quality and soil erosion. Soil tests are not current, and manure is not frequently tested.

After Situation: Utilize a certified Technical Service Provider (TSP) to complete a nutrient management plan and implementation specifications for conservation practices treating resource concerns and the application of animal waste in an environmentally safe manner on the production of land treatment areas. Design and implementation will meet the general and additional applicable criteria found in each conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$6.85	\$6.85
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6.85	\$6.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 387

Scenario Name: Dairy Operations without Land Application

Scenario Description: A dairy Animal Feeding Operation (AFO). 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. There is no land treatment section, this plan would cover production only.

Before Situation: Currently the production area does not meet NRCS quality criteria for water quality. Manure or Organic products are not frequently tested. The production area does not meet NRCS quality criteria for water quality and soil erosion. The owner/operator of a dairy AFO has not received a written CNMP that addresses all resource concerns present on the facility production area. Various levels of management and conservation implementation have occurred on the farm. Little documentation of the systems used, and practices installed exists. The producer may or may not have a conservation plan or a nutrient management plan.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$7,072.00	\$7,072.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,072.00	\$7,072.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 403

Scenario Name: Non-Dairy Livestock Operations without Land Application

Scenario Description: Animal Feeding Operation (AFO). 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. There is no land treatment section, this plan would cover production only.

Before Situation: The current production area and land application sites do not meet NRCS quality standards for water quality and soil erosion. Soil tests are either outdated or nonexistent, and there is insufficient testing of manure or organic products. The operator of a livestock AFO has not received a CNMP that addresses all resource concerns. Although some management and conservation practices have been implemented, there is limited documentation of the systems used. The producer may or may not have a conservation or nutrient management plan.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,756.16	\$3,756.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,756.16	\$3,756.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 468

Scenario Name: Dairy Operations with Land Application, Base Cost

Scenario Description: Base cost of an Animal Feeding Operation (AFO) with land application of manure. The producer utilizes manure or organic products from the farm and may export a portion. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). Unit of number (each) with a quantity of one.

Before Situation: The current production area and land application sites do not meet NRCS quality standards for water quality and soil erosion. Soil tests are either outdated or nonexistent, and there is insufficient testing of manure or organic products. The operator of a livestock AFO has not received a CNMP that addresses all resource concerns. Although some management and conservation practices have been implemented, there is limited documentation of the systems used. The producer may or may not have a conservation or nutrient management plan.

After Situation: Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling and storage of animal waste in an environmentally safe manner.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,779.15	\$2,779.15
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,779.15	\$2,779.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 469

Scenario Name: Dairy Operations with Land Application, Implementation Cost

Scenario Description: Implementation cost of an Animal Feeding Operation (AFO) with land application of manure. The producer utilizes manure or organic products from the farm and may export a portion. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). Quantity is based on the number of Animal Units.

Before Situation: The current production area and land application sites do not meet NRCS quality standards for water quality and soil erosion. Soil tests are either outdated or nonexistent, and there is insufficient testing of manure or organic products. The operator of a livestock AFO has not received a CNMP that addresses all resource concerns. Although some management and conservation practices have been implemented, there is limited documentation of the systems used. The producer may or may not have a conservation or nutrient management plan.

After Situation: Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling and storage of animal waste in an environmentally safe manner.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8.57	\$8.57
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.57	\$8.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 472

Scenario Name: Non-Dairy Operations with Land Application, Base Cost

Scenario Description: Base cost of an Animal Feeding Operation (AFO) with land application of manure. The producer utilizes manure or organic products from the farm and may export a portion. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). Unit of number (each) with a quantity of one.

Before Situation: The current production area and land application sites do not meet NRCS quality standards for water quality and soil erosion. Soil tests are either outdated or nonexistent, and there is insufficient testing of manure or organic products. The operator of a livestock AFO has not received a CNMP that addresses all resource concerns. Although some management and conservation practices have been implemented, there is limited documentation of the systems used. The producer may or may not have a conservation or nutrient management plan.

After Situation: Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling and storage of animal waste in an environmentally safe manner.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,289.72	\$2,289.72
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,289.72	\$2,289.72

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 102 - Comprehensive Nutrient Management Plan

Scenario Number: 473

Scenario Name: Non-Dairy Operations with Land Application, Implementation Cost

Scenario Description: Implementation cost of an Animal Feeding Operation (AFO) with land application of manure. The producer utilizes manure or organic products from the farm and may export a portion. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). Quantity is based on the number of Animal Units.

Before Situation: The current production area and land application sites do not meet NRCS quality standards for water quality and soil erosion. Soil tests are either outdated or nonexistent, and there is insufficient testing of manure or organic products. The operator of a livestock AFO has not received a CNMP that addresses all resource concerns. Although some management and conservation practices have been implemented, there is limited documentation of the systems used. The producer may or may not have a conservation or nutrient management plan.

After Situation: Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling and storage of animal waste in an environmentally safe manner.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8.13	\$8.13
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.13	\$8.13

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Practice Code Name: 116 - Soil Health Management Plan

Scenario Number: 121

Scenario Name: Small Farm, Less Than or Equal to 10 Acres

Scenario Description: Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health. The whole farm plan is developed for typical operations managing less than 10 acres and may include urban and operations utilizing high tunnels and low tunnels.

Before Situation: The producer currently manages without an existing soil health management plan or with an outdated plan.

After Situation: Participant has obtained services from a certified Technical Service Provider (TSP) for development of Soil Health Conservation Plan Activities (CPA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,284.65	\$2,284.65
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,284.65	\$2,284.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 116 - Soil Health Management Plan

Scenario Number: 153

Scenario Name: Crops and Livestock Soil Health Management, Greater Than or Equal to Five Units

Scenario Description: Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health. The whole farm plan is developed for four or more production systems where a system is defined as uniquely different crop rotations or forage production systems. Livestock inclusion in the operation will be considered a separate production system.

Before Situation: The producer currently manages without an existing soil health management plan or with an outdated plan.

After Situation: Participant has obtained services from a certified Technical Service Provider (TSP) for development of Soil Health Conservation Plan Activities (CPA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,569.30	\$4,569.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,569.30	\$4,569.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 116 - Soil Health Management Plan

Scenario Number: 169

Scenario Name: Crops and Livestock Soil Health Management, Less Than Five Units

Scenario Description: Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health. The whole farm plan is developed for three or less production systems where a system is defined as uniquely different crop rotations or forage production systems.

Before Situation: The producer currently manages without an existing soil health management plan or with an outdated plan.

After Situation: Participant has obtained services from a certified Technical Service Provider (TSP) for development of Soil Health Conservation Plan Activities (CPA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,426.97	\$3,426.97
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,426.97	\$3,426.97

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Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 186

Scenario Name: High Complexity, Base Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop the documentation for a high complexity design, or when at least half of the designs are high complexity. A high complexity design consists of more than 30% change in service level or relocation of systems that requires changes more than one electrical, mechanical, plumbing, or structural systems. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$5,078.75	\$5,078.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,078.75	\$5,078.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 187

Scenario Name: High Complexity, Implementation Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop the documentation for a high complexity design, or when at least half of the designs are high complexity. A high complexity design consists of more than 30% change in service level or relocation of systems that requires changes more than one electrical, mechanical, plumbing, or structural systems. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Designs

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$951.64	\$951.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$951.64	\$951.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 188

Scenario Name: Low Complexity, Base Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop documentation for a low complexity design, or when at least half of the designs are low complexity. A low complexity design consists of one-to-one device retrofits or new devices to modify the operation of an existing system that does not require changes to electrical, mechanical, plumbing, or structural systems. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,132.55	\$2,132.55
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,132.55	\$2,132.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 189

Scenario Name: Low Complexity, Implementation Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop documentation for a low complexity design, or when at least half of the designs are low complexity. A low complexity design consists of one-to-one device retrofits or new devices to modify the operation of an existing system that does not require changes to electrical, mechanical, plumbing, or structural systems. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Designs

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$951.64	\$951.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$951.64	\$951.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 190

Scenario Name: Medium Complexity, Base Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop the documentation for a medium complexity design, or when at least half of the designs are medium complexity. A medium complexity design consists of more than 10% change in service level or relocation of systems that requires changes to one electrical, mechanical, plumbing, or structural system. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,605.65	\$3,605.65
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,605.65	\$3,605.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 120 - Agricultural Energy Design

Scenario Number: 191

Scenario Name: Medium Complexity, Implementation Cost

Scenario Description: A certified technical service provider develops the design reports, plans, specifications, and operation and maintenance plans for conservation practices selected to reduce energy use or increase energy efficiency. This scenario includes the labor mix and hours to perform tasks and develop the documentation for a medium complexity design, or when at least half of the designs are medium complexity. A medium complexity design consists of more than 10% change in service level or relocation of systems that requires changes to one electrical, mechanical, plumbing, or structural system. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The current agricultural operation uses energy inefficiently and the participant wants to modify energy using systems to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a certified technical service provider to develop and deliver design plans for energy efficiency improvements in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Designs

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$951.64	\$951.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$951.64	\$951.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 157 - Nutrient Management Design and Implementation Activity

Scenario Number: 90

Scenario Name: Nutrient Management, Base Cost

Scenario Description: A Technical Service Provider (TSP) will develop the implementation requirements for all nutrient sources and/or natural or artificial amendments applied. The TSP will develop implementation instructions according to the Design and Implementation Activity 157 deliverables. Manure, compost, biochar, may be included. All nutrient sources have a current analysis showing nitrogen, phosphorus, and potassium. Biosolids may require other tests per state requirements.

Before Situation: An agricultural producer applies and manages of nutrients for crop production based on experience. Soil test analysis are not current or are not utilized.

After Situation: A TSP developed the Nutrient Management Conservation Activity Plan (CAP) consistent with the criteria in DIA 157. The implementation requirement(s) were provided to the producer/client.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,617.28	\$3,617.28
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,617.28	\$3,617.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 157 - Nutrient Management Design and Implementation Activity

Scenario Number: 91

Scenario Name: Nutrient Management, Implementation Cost

Scenario Description: A Technical Service Provider (TSP) will develop the implementation requirements for all nutrient sources and/or natural or artificial amendments applied. The TSP will develop implementation instructions according to the Design and Implementation Activity 157 deliverables. Manure, compost, biochar, may be included. All nutrient sources have a current analysis showing nitrogen, phosphorus, and potassium. Biosolids may require other tests per state requirements.

Before Situation: An agricultural producer applies and manages of nutrients for crop production based on experience. Soil test analyses are not current or are not utilized.

After Situation: A TSP developed the Nutrient Management Conservation Activity Plan (CAP) consistent with the criteria in DIA 157. The implementation requirement(s) were provided to the producer/client.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$19.99	\$19.99
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19.99	\$19.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 158 - Feed Management Design

Scenario Number: 9

Scenario Name: Feed Management Plan

Scenario Description: A certified Technical Service Provider (TSP) develops a Feed Management Plan that describes the specific feed management practices and/or technologies that are planned for the operation to address the quality and quantity of available nutrients, feedstuffs, ingredients, or additives fed to livestock and poultry.

Before Situation: The producer does not have a plan or has limited knowledge of management of feed, nutrients, feedstuffs, or nutritional additives provided to domestic livestock and poultry.

After Situation: The producer has obtained services from a certified TSP for development of the Feed Management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,569.30	\$4,569.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,569.30	\$4,569.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 160 - Prescribed Burning Design

Scenario Number: 90

Scenario Name: Burn Design, Base Cost

Scenario Description: Nonindustrial Private Forest Land, Pasture or Range Land is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load.

Before Situation: The producer has no existing plan or an obsolete plan that is insufficient for current stand condition.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) for the development of the Prescribed Burning Design and Implementation Activity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,452.30	\$1,452.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,452.30	\$1,452.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 160 - Prescribed Burning Design

Scenario Number: 91

Scenario Name: Burn Design, Implementation Cost

Scenario Description: Nonindustrial Private Forest Land, Pasture or Range Land is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load.

Before Situation: The producer has no existing plan or an obsolete plan that is insufficient for current stand condition.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) for the development of the Prescribed Burning Design and Implementation Activity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3.68	\$3.68
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.68	\$3.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 161 - Pest Management Conservation System Design

Scenario Number: 25

Scenario Name: High Complexity

Scenario Description: A certified Technical Service Provider (TSP) creates a Pest Management Plan for an agricultural operation to fulfill the implementation requirements of the conservation practice standard "Pest Management Conservation System" (595). This plan involves developing an improved Integrated Pest Management (IPM) system, which may include the substitution of some pesticides by a pest management professional. It may also involve the adoption of mitigation techniques (i.e., those with fewer than 60 mitigation points) to address identified resource concerns. Additionally, the plan may include the installation of further conservation practices, such as filter strips or contour buffer strips, to achieve greater mitigation values.

Before Situation: An agricultural operation currently not documenting their pest management strategies.

After Situation: A certified TSP completed the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. The participant and NRCS field office received the documents. The participant will adopt the improved IPM system and/or implement prescribed mitigation techniques.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$9,836.25	\$9,836.25
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,836.25	\$9,836.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 161 - Pest Management Conservation System Design

Scenario Number: 41

Scenario Name: Medium Complexity

Scenario Description: A certified Technical Service Provider (TSP) creates a Pest Management Plan for an agricultural operation to fulfill the implementation requirements of the conservation practice standard "Pest Management Conservation System" (595). This plan involves developing an improved Integrated Pest Management (IPM) system, which may include the substitution of some pesticides by a pest management professional. It may also involve the adoption of mitigation techniques (i.e., those with fewer than 40 mitigation points) to address identified resource concerns. Additionally, the plan may include the installation of an additional conservation practice to achieve greater mitigation values.

Before Situation: An agricultural operation currently not documenting their pest management strategies.

After Situation: A certified TSP completed the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. The participant and NRCS field office received the documents. The participant will adopt the improved IPM system and/or implement prescribed mitigation techniques.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$6,391.00	\$6,391.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,391.00	\$6,391.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 161 - Pest Management Conservation System Design

Scenario Number: 57

Scenario Name: Low Complexity

Scenario Description: A certified Technical Service Provider (TSP) develops a Pest Management Plan for an agricultural operation that completes the Implementation Requirement for the conservation practice standard "Pest Management Conservation System" 595, involving the development of an improved Integrated Pest Management (IPM) system and/or involving the adoption of simple (i.e. less than 20 mitigation points) mitigation techniques to protect identified resource concerns.

Before Situation: An agricultural operation currently not documenting their pest management strategies.

After Situation: A certified TSP completed the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. The participant and NRCS field office received the documents. The participant will adopt the improved IPM system and/or implement prescribed mitigation techniques.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,296.86	\$4,296.86
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,296.86	\$4,296.86

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 162 - Soil Health Management System Design

Scenario Number: 41

Scenario Name: High Complexity

Scenario Description: Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health. The whole farm plan is developed for four or more production systems where a system is defined as uniquely different crop rotations or forage production systems. Livestock inclusion in the operation will be considered a separate production system. If less than four production systems but includes engineering.

Before Situation: The producer currently manages without an existing soil health management plan or with an outdated plan.

After Situation: The participant has obtained services from a certified Technical Service Provider (TSP) for the development of a Soil Health Management Plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$11,928.62	\$11,928.62
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,928.62	\$11,928.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 162 - Soil Health Management System Design

Scenario Number: 57

Scenario Name: Small Scale Production

Scenario Description: The plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible and address the four soil health principles. The plan is developed for a small farm operation typically managing less than 10 acres.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles. The producer has noticed yield declines, soil degradation, or is simply interested in learning more about soil health management. The producer has collaborated with a certified Technical Service Provider (TSP) to develop a written Soil Health Management Plan (116).

After Situation: After Environmental Quality Incentives Program (EQIP) contract approval, the participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent with the criteria in Design Implementation Activity (DIA) 162. The DIA criteria requires the plan address all four soil health principles. Meets the planning criteria for DIA 162 and facilitating soil health practices as referenced in the Field Office Technical Guide (FOTG).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,793.80	\$3,793.80
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,793.80	\$3,793.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 162 - Soil Health Management System Design

Scenario Number: 105

Scenario Name: Low Complexity

Scenario Description: Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health.

Before Situation: The producer currently manages without an existing soil health management plan or with an outdated plan.

After Situation: The participant has obtained services from a certified Technical Service Provider (TSP) for the development of a Soil Health Management Plan consistent with the criteria in Design Implementation Activity (DIA) 162 and facilitating soil health practices as referenced in the Field Office Technical Guide (FOTG).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$7,074.63	\$7,074.63
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,074.63	\$7,074.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 163 - Irrigation Water Management Design

Scenario Number: 9

Scenario Name: Designs without Pump Test, One to Two

Scenario Description: An agricultural producer wishes to address irrigation water use inefficiency.

Before Situation: The producer wants to improve irrigation water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Irrigation Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$7,013.76	\$7,013.76
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,013.76	\$7,013.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 163 - Irrigation Water Management Design

Scenario Number: 25

Scenario Name: Designs without Pump Test, Greater Than or Equal to Three

Scenario Description: An agricultural producer wishes to address irrigation water use inefficiency.

Before Situation: The producer wants to improve irrigation water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Drainage Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$11,526.58	\$11,526.58
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,526.58	\$11,526.58

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 163 - Irrigation Water Management Design

Scenario Number: 41

Scenario Name: Designs with Pump Test, One to Two

Scenario Description: An agricultural producer wishes to address irrigation water use inefficiency.

Before Situation: The producer wants to improve irrigation water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Irrigation Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8,337.78	\$8,337.78
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,337.78	\$8,337.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 163 - Irrigation Water Management Design

Scenario Number: 57

Scenario Name: Designs with Pump Test, Greater Than or Equal to Three

Scenario Description: An agricultural producer wishes to address irrigation water use inefficiency.

Before Situation: The producer wants to improve irrigation water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Irrigation Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$13,353.04	\$13,353.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,353.04	\$13,353.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 164 - Improved Management of Drainage Water Design

Scenario Number: 9

Scenario Name: Designs with Tile Map, One to Two

Scenario Description: An agricultural producer wishes to address resource concerns on a relatively flat crop field with a patterned drainage system. The agricultural producer intends to address resource concerns on a flat crop field that incorporates a patterned drainage system. A map of the tile drainage system is available for reference.

Before Situation: The producer wants to improve drainage water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Drainage Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$6,925.82	\$6,925.82
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,925.82	\$6,925.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 164 - Improved Management of Drainage Water Design

Scenario Number: 41

Scenario Name: Designs without Tile Map, One to Two

Scenario Description: An agricultural producer intends to address resource concerns on a flat crop field that incorporates a patterned drainage system. A map of the tile drainage system is not available for reference.

Before Situation: The producer wants to improve drainage water management on their agricultural operation to address resource concerns.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Drainage Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$9,458.08	\$9,458.08
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,458.08	\$9,458.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 164 - Improved Management of Drainage Water Design

Scenario Number: 57

Scenario Name: Designs without Tile Map, Greater Than or Equal to Three

Scenario Description: An agricultural producer intends to address resource concerns on a flat crop field that incorporates a patterned drainage system. A map of the tile drainage system is not available for reference.

Before Situation: The producer wants to improve drainage water management on their agricultural operation.

After Situation: The producer has obtained services from a certified Technical Service Provider (TSP) to develop practice scenario designs using the Drainage Water Management Design Implementation Activity (DIA).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$11,913.98	\$11,913.98
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,913.98	\$11,913.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 199 - Conservation Plan

Scenario Number: 25

Scenario Name: Small Farm

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant that involves combinations of various specialty crops, small fruits, tree and vine crops, and small livestock enterprises on less than or equal to 10 acres.

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,431.19	\$3,431.19
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,431.19	\$3,431.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 170

Scenario Name: One Land Use, Base Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. The Planning Land Unit involves one land use and one agricultural enterprise.

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,785.66	\$3,785.66
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,785.66	\$3,785.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 171

Scenario Name: One Land Use, Implementation Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. The Planning Land Unit involves one land use and one agricultural enterprise.

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4.71	\$4.71
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4.71	\$4.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 173

Scenario Name: Three Land Uses, Base Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. 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.

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8,204.64	\$8,204.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,204.64	\$8,204.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 174

Scenario Name: Three Land Uses, Implementation Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. 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.

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3.89	\$3.89
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.89	\$3.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 175

Scenario Name: Two Land Uses, Base Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. 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).

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$5,853.00	\$5,853.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,853.00	\$5,853.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 199 - Conservation Plan

Scenario Number: 176

Scenario Name: Two Land Uses, Implementation Cost

Scenario Description: Conservation plan developed by a Technical Service Provider (TSP) for a participant. 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).

Before Situation: Client and NRCS have identified a need to develop a conservation plan to address resource concern(s) using a TSP.

After Situation: A TSP provides deliverables that meet the requirements of the CPA 199.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4.84	\$4.84
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4.84	\$4.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 1

Scenario Name: Surface Year One Plus, without Quality Assurance Project Plan

Scenario Description: Provides for interim years (i.e., not first or last) of operation and maintenance of continuous surface water quality monitoring equipment, sample collection, laboratory analysis, data analysis, and the production of required documentation and reports.

Before Situation: A qualified individual has implemented continuous surface water quality monitoring activity for all prior years as specified in the monitoring plan.

After Situation: A qualified individual implements an interim year of surface water quality monitoring and produces the required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Site

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,088.48	\$12,088.48
Equipment Installation	\$0.00	\$0.00
Labor	\$11,915.79	\$11,915.79
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$24,004.27	\$24,004.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 142

Scenario Name: Tile Year One, with Quality Assurance Project Plan

Scenario Description: Provides for the production of a continuous surface and subsurface (tile) water quality monitoring Quality Assurance Project Plan (QAPP), the first year of operation and maintenance of continuous surface water quality monitoring equipment, sample collection, laboratory analysis, data analysis, and production of required documentation and reports.

Before Situation: The participant wants to understand the effects of conservation practices on water quality via continuous surface and subsurface (tile) water quality monitoring.

After Situation: A qualified individual produces a continuous surface and subsurface (tile) QAPP, conducts first year of surface and subsurface (tile) water quality monitoring, and produces the required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Site

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$36,265.43	\$36,265.43
Equipment Installation	\$0.00	\$0.00
Labor	\$31,054.40	\$31,054.40
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$67,319.83	\$67,319.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 156

Scenario Name: Tile Year One Plus, without Quality Assurance Project Plan

Scenario Description: Provides for interim years (i.e., not first or last) of operation and maintenance of continuous surface and subsurface (tile) water quality monitoring equipment, sample collection, laboratory analysis, data analysis, and the production of required documentation and reports.

Before Situation: A qualified individual has implemented continuous surface and subsurface (tile) water quality monitoring activity for all prior years as specified in the monitoring plan.

After Situation: A qualified individual implements interim year of surface and subsurface (tile) water quality monitoring and produces required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Site

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$36,265.43	\$36,265.43
Equipment Installation	\$0.00	\$0.00
Labor	\$22,568.29	\$22,568.29
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$58,833.72	\$58,833.72

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 170

Scenario Name: Tile, Last Year

Scenario Description: Provides for the final year of operation and maintenance of continuous surface water and subsurface (tile) water quality monitoring equipment, sample collection, laboratory analysis, data analysis, and the production of required documentation and reports.

Before Situation: A qualified individual has implemented continous surface and subsurface (tile) water quality monitoring activity for all prior years as specified in the monitoring plan.

After Situation: A qualified individual implements the final year of surface and subsurface (tile) water quality monitoring and produces the required documentation and final activity report.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring site

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$36,265.43	\$36,265.43
Equipment Installation	\$0.00	\$0.00
Labor	\$27,034.66	\$27,034.66
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$63,300.10	\$63,300.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 184

Scenario Name: Surface Year One, with Quality Assurance Project Plan

Scenario Description: Provides for the production of a continuous surface water quality monitoring Quality Assurance Project Plan (QAPP), the first year of operation and maintenance of continuous surface water quality monitoring equipment, sample collection, laboratory analysis, data analysis and the production of required documentation and reports.

Before Situation: The participant wants to understand the effects of conservation practices on water quality via continuous surface water quality monitoring.

After Situation: A qualified individual produces a continuous surface water quality monitoring QAPP, conducts first year of surface water quality monitoring, and produces required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Sites

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,088.48	\$12,088.48
Equipment Installation	\$0.00	\$0.00
Labor	\$20,401.90	\$20,401.90
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$32,490.38	\$32,490.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 200

Scenario Name: Surface Last Year

Scenario Description: Provides for the final year of operation and maintenance of continuous surface water quality monitoring equipment, sample collection, laboratory analysis, data analysis, and the production of required documentation and reports.

Before Situation: A qualified individual has implemented continuous surface water quality monitoring activity for all prior years as specified in the monitoring plan.

After Situation: A qualified individual implements the final year of surface water quality monitoring and produces the required documentation and final activity report.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Site

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,088.48	\$12,088.48
Equipment Installation	\$0.00	\$0.00
Labor	\$16,382.16	\$16,382.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$28,470.64	\$28,470.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 219

Scenario Name: Discrete Sampling, Single Parameter, Year One

Scenario Description: Provides for the development of a discrete water quality monitoring plan with discrete water quality sampling and laboratory analysis for year one. Only applicable to select practices.

Before Situation: The participant wants to understand the effects of select conservation practices on water quality via discrete water quality monitoring.

After Situation: A qualified individual develops a discrete water quality monitoring plan, implements the first year of water quality sampling, and provides the required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring sites

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,774.40	\$2,774.40
Equipment Installation	\$0.00	\$0.00
Labor	\$4,675.54	\$4,675.54
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,449.94	\$7,449.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 201 - Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation

Scenario Number: 235

Scenario Name: Discrete Sampling, Single Parameter, Additional Year

Scenario Description: Provides for discrete water quality sampling and laboratory analyses for years beyond the first year. Only applicable to select practices.

Before Situation: A qualified individual has previously produced a discrete water quality monitoring plan and collected quality samples for at least one year prior.

After Situation: A qualified individual develops a discrete water quality monitoring plan, implements an additional year (beyond the first year) of water quality sampling, and provides the required documentation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Measuring Sites

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,774.40	\$2,774.40
Equipment Installation	\$0.00	\$0.00
Labor	\$3,335.62	\$3,335.62
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,110.03	\$6,110.03

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 202 - Edge-of-Field Water Quality Monitoring-System Installation

Scenario Number: 103

Scenario Name: Subsurface

Scenario Description: Provides for the procurement and installation of a single continuous surface and subsurface (tile) water quality monitoring system that meets Conservation Evaluation and Monitoring Activity (CEMA) criteria for deployment in locations that are prone to freezing.

Before Situation: A qualified individual has produced an approved Quality Assurance Project Plan (QAPP) and monitoring will ensue upon the installation of a continuous surface and subsurface (tile) water quality monitoring system.

After Situation: A qualified individual procures and deploys a continuous surface and subsurface (tile) water quality monitoring system that meets CEMA criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: System installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$38,709.55	\$38,709.55
Equipment Installation	\$0.00	\$0.00
Labor	\$4,682.44	\$4,682.44
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$43,391.99	\$43,391.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 202 - Edge-of-Field Water Quality Monitoring-System Installation

Scenario Number: 112

Scenario Name: Tile

Scenario Description: Provides for the procurement and installation of a single continuous surface and subsurface (tile) water quality monitoring system that meets Conservation Evaluation and Monitoring Activity (CEMA) criteria for deployment in locations not prone to freezing.

Before Situation: A qualified individual has produced an approved Quality Assurance Project Plan (QAPP) and monitoring will ensue upon the installation of a continuous surface and subsurface (tile) water quality monitoring system.

After Situation: A qualified individual procures and deploys a continuous surface and subsurface (tile) water quality monitoring system that meets CEMA criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: System installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$38,709.55	\$38,709.55
Equipment Installation	\$0.00	\$0.00
Labor	\$4,682.44	\$4,682.44
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$43,391.99	\$43,391.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 202 - Edge-of-Field Water Quality Monitoring-System Installation

Scenario Number: 119

Scenario Name: Surface, Cold Climate

Scenario Description: Provides for the procurement and installation of a single continuous surface water quality monitoring system that meets Conservation Evaluation and Monitoring Activity (CEMA) criteria for deployment in locations that are prone to freezing.

Before Situation: A qualified individual has produced an approved Quality Assurance Project Plan (QAPP) and monitoring will ensue upon the installation of a continuous surface water quality monitoring system.

After Situation: A qualified individual procures and deploys a continuous surface water quality monitoring system that meets CEMA criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: System installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$28,874.31	\$28,874.31
Equipment Installation	\$0.00	\$0.00
Labor	\$2,965.79	\$2,965.79
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$31,840.10	\$31,840.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 202 - Edge-of-Field Water Quality Monitoring-System Installation

Scenario Number: 126

Scenario Name: Surface

Scenario Description: Provides for the procurement and installation of a single continuous surface water quality monitoring system that meets Conservation Evaluation and Monitoring Activity (CEMA) criteria for deployment in locations not prone to freezing.

Before Situation: A qualified individual has produced an approved Quality Assurance Project Plan (QAPP) and monitoring will ensue upon the installation of a continuous surface water quality monitoring system.

After Situation: A qualified individual procures and deploys a continuous surface water quality monitoring system that meets CEMA criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: System installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$28,095.80	\$28,095.80
Equipment Installation	\$0.00	\$0.00
Labor	\$2,965.79	\$2,965.79
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$31,061.59	\$31,061.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 202 - Edge-of-Field Water Quality Monitoring-System Installation

Scenario Number: 159

Scenario Name: Retrofit, Surface

Scenario Description: Provides for retrofitting existing continuous surface water quality monitoring equipment to attain Conservation Evaluation and Monitoring Activity (CEMA) criteria.

Before Situation: A participant or qualified individual possess base components of two continuous surface water quality monitoring stations that require additional components to meet CEMA criteria.

After Situation: A qualified individual procures and retrofits necessary components to produce two continuous surface water quality monitoring stations that meet CEMA criteria.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: System installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,327.38	\$9,327.38
Equipment Installation	\$0.00	\$0.00
Labor	\$1,360.79	\$1,360.79
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,688.17	\$10,688.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 204 - Adaptive Management for Soil Health

Scenario Number: 25

Scenario Name: Basic with Soil Health Test

Scenario Description: Field study with replicated plots for the implementation of any of the conservation practices outlined in Conservation Evaluation and Monitoring Activity (CEMA) 204 Adaptive Management for Soil Health. Includes soil health testing as a minimum requirement.

Before Situation: A producer is adopting the practice for the first time and wants to learn how to best apply the practice within their unique landscape and management style or is interested in improving the effectiveness of an existing practice or evaluating a new technology related to a given practice.

After Situation: Study plots were installed with treatments applied per the study design. Plot field data is collected over three years and were measured and statistically summarized following the procedures in Agronomy Technical Note 10 - Adaptive Management. Results will guide future management decisions for the conservation practice to improve or maintain soil health.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of field study plots

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,195.92	\$1,195.92
Equipment Installation	\$0.00	\$0.00
Labor	\$2,880.85	\$2,880.85
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,076.77	\$4,076.77

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 206 - Feed and Forage Analysis

Scenario Number: 9

Scenario Name: Nutrient Composition Analysis

Scenario Description: A qualified individual provides the sampling and testing of feed or forage for nutrient composition.

Before Situation: The producer seeks to mitigate nutrient excretion or emissions from livestock or poultry into the air, soil, or water. Achieving this objective necessitates an understanding of the nutrient composition of feed and forage in the diet. This knowledge is essential for effectively balancing the diet to enhance nutrient utilization by the animals.

After Situation: A qualified individual provides both the producer and the NRCS field office a report of the feed and forage analysis. The animal's diet is carefully formulated to achieve an optimal balance of nutrients, thereby minimizing the excretion or emission of excess nutrients.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$430.79	\$430.79
Equipment Installation	\$18.79	\$18.79
Labor	\$1,680.16	\$1,680.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,129.74	\$2,129.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 207 - Site Assessment and Soil Testing for Contaminants Activity

Scenario Number: 9

Scenario Name: Site Evaluation

Scenario Description: A qualified individual conducts a site assessment investigation. 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.

Before Situation: Soil suitability for agricultural production is unknown with the potential risk of contamination from prior land use activities.

After Situation: A qualified individual provided the participant and NRCS field office with the report of the potential risk of contaminants or that no risk was found.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Site

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,107.91	\$4,107.91
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,107.91	\$4,107.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 207 - Site Assessment and Soil Testing for Contaminants Activity

Scenario Number: 25

Scenario Name: Site Assessment and Subsurface Investigation

Scenario Description: A qualified individual conducts site assessments for contaminant risk and a subsurface soil investigation. Applies to sites where the desired land use is cropland-urban. Sites may have been residential, industrial, or commercial land use in the past and the risk for soil contaminants is unknown.

Before Situation: Soil suitability for agricultural production is unknown with the potential risk of contamination from prior land use activities.

After Situation: A qualified individual provided the participant and NRCS field office with the report of the site assessment and the results of the soils investigation. The report includes analysis of the contaminant levels found and the risk associated as set by state agencies.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Site

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$12,323.74	\$12,323.74
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,323.74	\$12,323.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 207 - Site Assessment and Soil Testing for Contaminants Activity

Scenario Number: 41

Scenario Name: Subsurface Investigation

Scenario Description: A qualified individual conducts a subsurface soil investigation on a site designated as cropland-urban based on findings of a prior environmental site assessment completed by an environmental professional. Findings from a NRCS screening with a portable x-ray florescence scanner detected levels of soil contaminants needing further investigation.

Before Situation: Soil suitability for agricultural production is unknown with the potential risk of contamination from prior land use activities.

After Situation: A qualified individual collected soils and had them tested for for heavy metals and other contaminants. A final report that analyzes the level of contaminant found on site, with the level of risk associated as set by state agencies, is provided to the participant and NRCS field office.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Site

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8,215.83	\$8,215.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,215.83	\$8,215.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 207 - Site Assessment and Soil Testing for Contaminants Activity

Scenario Number: 57

Scenario Name: Low Risk Sites

Scenario Description: A qualified individual monitors the heavy metal contaminant level of on-site soils by collecting and testing soil samples. Applies to sites where the desired land use is cropland-urban. Screening detection levels of heavy metals are below the State Environmental Protection Agency, or equivalent agency, published safety thresholds for bare soil residential use.

Before Situation: On-site soils are known to contain, or have the potential to accumulate, heavy metals.

After Situation: A qualified individual collected and tested for heavy metals only. Soil test reports provided to the participant and NRCS field office record the detected levels of heavy metal contaminants.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Soil Tested

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 4.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$533.34	\$133.33
Equipment Installation	\$0.00	\$0.00
Labor	\$418.70	\$104.67
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$952.03	\$238.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 216 - Soil Health Testing

Scenario Number: 172

Scenario Name: Basic

Scenario Description: Laboratory soil health assessment for a basic suite of indicators is conducted using recommended methods to evaluate and/or monitor conservation practices. Sample collection is completed by a qualified individual and includes time for soil sampling and submission.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles and has noticed yield declines, soil degradation, or is simply interested in learning more about soil health management.

After Situation: A laboratory soil health test was completed for the basic suite of soil health indicators. The results were explained to the producer and were used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Test

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$553.90	\$553.90
Equipment Installation	\$0.00	\$0.00
Labor	\$451.84	\$451.84
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,005.74	\$1,005.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 216 - Soil Health Testing

Scenario Number: 188

Scenario Name: Single Indicator

Scenario Description: A laboratory soil health assessment for a single indicator is conducted using recommended methods to evaluate and/or monitor conservation practices. Sample collection is completed by a qualified individual and includes time for soil sampling and submission.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles and has noticed yield declines, soil degradation, or is simply interested in learning more about soil health management.

After Situation: A laboratory soil health test was completed for a single soil health indicator. The results were explained to the producer and used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: polygon

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$193.93	\$193.93
Equipment Installation	\$0.00	\$0.00
Labor	\$251.22	\$251.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$445.15	\$445.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 216 - Soil Health Testing

Scenario Number: 277

Scenario Name: Minimal Suite

Scenario Description: A laboratory soil health assessment for a minimal suite of indicators is conducted using recommended methods to evaluate and/or monitor conservation practices. Sample collection is completed by a qualified individual and includes time for soil sampling and submission.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles and has noticed yield declines, soil degradation, or is simply interested in learning more about soil health management.

After Situation: A laboratory soil health test was completed for the minimal suite of soil health indicators. The results were explained to the producer and were used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Test

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$581.78	\$581.78
Equipment Installation	\$0.00	\$0.00
Labor	\$251.22	\$251.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$833.00	\$833.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 216 - Soil Health Testing

Scenario Number: 293

Scenario Name: Basic and Single Indicator

Scenario Description: A laboratory soil health assessment for a basic suite of indicators is conducted using recommended methods to evaluate and/or monitor conservation practices. Sample collection is completed by a qualified individual and includes time for soil sampling and submission. The producer also selects one additional indicator from the Single Indicator List.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles and has noticed yield declines, soil degradation, or is simply interested in learning more about soil health management.

After Situation: A laboratory soil health test was completed for the basic suite of soil health indicators. The results were explained to the producer and used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Test

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$636.61	\$636.61
Equipment Installation	\$0.00	\$0.00
Labor	\$251.22	\$251.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$887.83	\$887.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 216 - Soil Health Testing

Scenario Number: 309

Scenario Name: Minimal Suite and Single Indicator

Scenario Description: A laboratory soil health assessment for a minimal suite of indicators is conducted using recommended methods to evaluate and/or monitor conservation practices. Sample collection is completed by a qualified individual and includes time for soil sampling and submission. Producer also selects one additional indicator from the Single Indicator List.

Before Situation: An agricultural producer has been farming a system that has not addressed all four of the soil health principles and has noticed yield declines, soil degradation, or is simply interested in learning more about soil health managem

After Situation: A laboratory soil health test was completed for the minimal suite of soil health indicators. The results were explained to the producer and used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Test

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$775.71	\$775.71
Equipment Installation	\$0.00	\$0.00
Labor	\$251.22	\$251.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,026.92	\$1,026.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 9

Scenario Name: Soil Testing

Scenario Description: A qualified individual will develop a nutrient testing strategy, collect soil samples, prepare them for laboratory analysis, and interpret soil nutrient needs. A typical management unit is 100 acres. Comprehensive soil testing is included to provide both macro and micro soil nutrient levels.

Before Situation: The producer does not possess soil test laboratory analyses that document the levels of nitrogen, phosphorus, potassium, or the potential of hydrogen (pH) for each field or management unit involved in crop production. As a result, nutrient applications are conducted without an informed understanding of existing soil nutrient levels.

After Situation: A qualified individual delivered the soil test report, along with all associated deliverables, to both the producer and the NRCS field office. This report includes a comprehensive summary of the nutrient levels present in the soil, as well as recommendations for additional nutrient amendments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$133.84	\$133.84
Equipment Installation	\$0.00	\$0.00
Labor	\$852.87	\$852.87
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$986.71	\$986.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 41

Scenario Name: Zone or Grid Soil Testing

Scenario Description: A qualified individual will develop a nutrient testing strategy, collect soil samples, prepare them for laboratory analysis, and interpret soil nutrient needs. A typical management unit is 100 acres.

Before Situation: The producer does not possess soil test laboratory analyses that document the levels of nitrogen, phosphorus, potassium, or the potential of hydrogen (pH) for each field or management unit involved in crop production. As a result, nutrient applications are conducted without an informed understanding of existing soil nutrient levels.

After Situation: A qualified individual delivered the soil test report, along with all associated deliverables, to both the producer and the NRCS field office. This report includes a comprehensive summary of the nutrient levels present in the soil, as well as recommendations for additional nutrient amendments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,070.69	\$1,070.69
Equipment Installation	\$0.00	\$0.00
Labor	\$1,248.82	\$1,248.82
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,319.51	\$2,319.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 57

Scenario Name: Manure or Compost

Scenario Description: A qualified individual will develop a nutrient testing strategy, collect soil samples, prepare them for laboratory analysis, and interpret soil nutrient needs. A typical management unit is 100 acres.

Before Situation: The producer does not possess soil test laboratory analyses that document the levels of nitrogen, phosphorus, potassium, or the potential of hydrogen (pH) for each field or management unit involved in crop production. As a result, nutrient applications are conducted without an informed understanding of existing soil nutrient levels.

After Situation: A qualified individual delivered the soil test report, along with all associated deliverables, to both the producer and the NRCS field office. This report includes a comprehensive summary of the nutrient levels present in the soil, as well as recommendations for additional nutrient amendments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$267.12	\$267.12
Equipment Installation	\$0.00	\$0.00
Labor	\$852.87	\$852.87
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,119.99	\$1,119.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 73

Scenario Name: Water Sampling

Scenario Description: A qualified individual will develop a nutrient testing strategy, collect source water samples, prepare them for laboratory analysis, and interpret crop nutrient needs.

Before Situation: The producer does not possess source water nutrient laboratory analyses that document the levels of nitrogen, phosphorus, potassium, or the potential of hydrogen (pH) for each field or management unit involved in crop production. As a result, nutrient applications are conducted without an informed understanding of existing soil nutrient levels.

After Situation: A qualified individual delivered the water test report, along with all associated deliverables, to both the producer and the NRCS field office. This report summarizes the water analysis, highlighting the nutrient content to assist with crop nutrient management.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$198.17	\$198.17
Equipment Installation	\$0.00	\$0.00
Labor	\$534.30	\$534.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$732.47	\$732.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 89

Scenario Name: Acidic or Alkaline Soil Testing

Scenario Description: A qualified individual will develop a soil sampling strategy to assess soil pH ranges in a field. One sample is collected for every 40 acres.

Before Situation: Field shows crop yield decline and areas of lower potential of hydrogen (pH) are suspected but not tested.

After Situation: A qualified individual delivered the soil test report, along with all associated deliverables, to both the producer and the NRCS field office. This report includes a summary of the soil pH and buffer pH analysis, as well as the georeferenced sampling point map that shows sites of soil acidification.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$26.77	\$26.77
Equipment Installation	\$0.00	\$0.00
Labor	\$228.47	\$228.47
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$255.23	\$255.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 105

Scenario Name: Soil Test with Organic Nutrients, Less Than or Equal to One Acre

Scenario Description: A qualified individual will create a nutrient testing plan, collect soil and nutrient source samples, prepare them for lab analysis, and interpret the nutrient needs of the soil and crops. The typical field size is 0.5 acres or less (about 22,000 square feet). Includes comprehensive soil testing to measure both macro and micro nutrient levels in the soil.

Before Situation: The producer lacks laboratory analysis of soil and nutrient sources, including nitrogen, phosphorus, potassium, and potential of hydrogen (pH) levels. As a result, nutrients are applied without understanding the test levels.

After Situation: A qualified individual delivered the soil test report, soil nutrient analysis, and a summary of current soil fertility status along with all associated deliverables, to both the producer and the NRCS field office. Nutrient source material content levels are provided as an expression of nitrogen, potassium and phosphorus.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$173.70	\$173.70
Equipment Installation	\$0.00	\$0.00
Labor	\$312.20	\$312.20
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$485.90	\$485.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 217 - Soil and Source Testing for Nutrient Management

Scenario Number: 121

Scenario Name: Soil Testing, Small Production Beds

Scenario Description: A qualified individual will develop a nutrient testing strategy, collect five soil subsamples and combine to one representative sample, prepare for laboratory analysis, and interpret soil nutrient needs. Considers costs for five or less raised beds. Cost includes comprehensive soil tests based on expected specialty crop production.

Before Situation: The producer does not possess soil test laboratory analyses that document the levels of nitrogen, phosphorus, potassium, or potential of hydrogen (pH) for each field or management unit involved in crop production. As a result, nutrient applications are conducted without an informed understanding of existing soil nutrient levels.

After Situation: A qualified individual delivered the soil test report, along with all associated deliverables, to both the producer and the NRCS field office. This report includes a summary of nutrient level and additional nutrient additions to the soil.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$318.60	\$318.60
Equipment Installation	\$0.00	\$0.00
Labor	\$312.20	\$312.20
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$630.80	\$630.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 218 - Carbon Sequestration and Greenhouse Gas Mitigation Assessment

Scenario Number: 9

Scenario Name: Low Complexity

Scenario Description: An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the Carbon Management and Emissions Tool-Farm (COMET-Farm) tool. Low complexity includes any Forestry or Agroforestry assessments, as well as the baseline and a single alternative scenario, using primarily default values for at least one animal agriculture or cropland, pasture, range, or orchards/vineyards assessment.

Before Situation: The producer objectives are to improve soil carbon sequestration and greenhouse gas mitigation and quantify the effects of a conservation plan, which are currently unknown.

After Situation: The producer receives a detailed report from COMET-Farm that quantifies the soil carbon sequestration and greenhouse gas mitigation effects of baseline and proposed scenarios.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$9,010.92	\$9,010.92
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,010.92	\$9,010.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 218 - Carbon Sequestration and Greenhouse Gas Mitigation Assessment

Scenario Number: 25

Scenario Name: Medium Complexity

Scenario Description: An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the Carbon Management and Emissions Tool-Farm (COMET-Farm) tool. Medium complexity includes a baseline, and up to three alternative scenarios, using primarily default values for at least one animal agriculture or cropland, pasture, range, or orchards/vineyards assessment for up to three herds or up to three crop rotations.

Before Situation: The producer objectives are to improve soil carbon sequestration and greenhouse gas mitigation and quantify the effects of a conservation plan, which are currently unknown.

After Situation: The producer receives a detailed report from COMET-Farm that quantifies the soil carbon sequestration and greenhouse gas mitigation effects of baseline and proposed scenarios.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$6,391.00	\$6,391.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,391.00	\$6,391.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 218 - Carbon Sequestration and Greenhouse Gas Mitigation Assessment

Scenario Number: 41

Scenario Name: High Complexity

Scenario Description: An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the Carbon Management and Emissions Tool-Farm (COMET-Farm) tool. High complexity includes a baseline, and more than three alternative scenarios, using primarily default values for at least one animal agriculture or cropland, pasture, range, or orchards/vineyards assessment for more than three herds or more than three crop rotations.

Before Situation: The producer objectives are to improve soil carbon sequestration and greenhouse gas mitigation and quantify the effects of a conservation plan, which are currently unknown.

After Situation: The producer receives a detailed report from COMET-Farm that quantifies the soil carbon sequestration and greenhouse gas mitigation effects of baseline and proposed scenarios.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$15,692.64	\$15,692.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,692.64	\$15,692.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 219 - Prescribed Grazing Conservation Evaluation and Monitoring Activity

Scenario Number: 90

Scenario Name: Monitoring Grazed Lands, Base Cost

Scenario Description: A qualified individual conducts a Conservation Evaluation and Monitoring Activity (CEMA) and visits the site to assess the effects of grazing and to evaluate grazing management strategies. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A monitoring plan has not been created to determine if the strategies outlined in the grazing management plan are effectively progressing towards the established goals and objectives. There has been no evaluation or monitoring of any supporting practices to assess the effectiveness of the implemented measures.

After Situation: A qualified individual delivers the final report to both the participant and the NRCS field office. This report comprehensively documents various monitoring data and assessment outcomes and includes recommendations for necessary adjustments to grazing management practices.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,656.66	\$1,656.66
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,656.66	\$1,656.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 219 - Prescribed Grazing Conservation Evaluation and Monitoring Activity

Scenario Number: 91

Scenario Name: Monitoring Grazed Lands, Implementation Costs

Scenario Description: A qualified individual conducts a Conservation Evaluation and Monitoring Activity (CEMA) and visits the site to assess the effects of grazing and to evaluate grazing management strategies.

Before Situation: A monitoring plan has not been created to determine if the strategies outlined in the grazing management plan are effectively progressing towards the established goals and objectives. There has been no evaluation or monitoring of any supporting practices to assess the effectiveness of the implemented measures.

After Situation: A qualified individual delivers the final report to both the participant and the NRCS field office. This report comprehensively documents various monitoring data and assessment outcomes and includes recommendations for necessary adjustments to grazing management practices.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.48	\$0.48
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.48	\$0.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 221 - Soil Organic Carbon Stock Monitoring

Scenario Number: 9

Scenario Name: Soil Carbon Stock Sampling

Scenario Description: Soil samples for organic carbon testing are collected in accordance with the Measurement, Monitoring, Reporting, and Verification (MMRV) protocol. A qualified individual gathers samples from six locations within the Area of Interest (AOI). Information about land use and management practices is documented. The payment for this service covers the time spent collecting management information, developing the sampling strategy, conducting the soil sampling, preparing the samples, submitting them to the laboratory, and interpreting and delivering the results.

Before Situation: No recent measurements of soil organic carbon stocks have been made in the AOI. Conservation practices are planned or installed for the purpose of improving soil health and sequestering carbon.

After Situation: A qualified individual interpreted and explained the results to the producer. Initial measurements were taken to establish baseline conditions for soil organic carbon stocks. Subsequent measurements evaluated the effectiveness of a conservation practice in promoting carbon sequestration and monitored any changes over time.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Interest Polygon

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,102.82	\$3,102.82
Equipment Installation	\$785.00	\$785.00
Labor	\$1,028.09	\$1,028.09
Mobilization	\$219.19	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,135.10	\$5,135.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 221 - Soil Organic Carbon Stock Monitoring

Scenario Number: 89

Scenario Name: Citizen Science

Scenario Description: Soil samples for organic carbon testing are collected in accordance with the Measurement, Monitoring, Reporting, and Verification (MMRV) protocol. A qualified individual gathers samples from nine locations within the Area of Interest (AOI). Information about land use and management practices is documented. The payment for this service covers the time spent collecting management information, developing the sampling strategy, conducting the soil sampling, preparing the samples, submitting them to the laboratory, and interpreting and delivering the results.

Before Situation: No recent measurements of soil organic carbon stocks have been made in the AOI. Conservation practices are planned or installed for the purpose of improving soil health and sequestering carbon.

After Situation: A qualified individual interpreted and explained the results to the producer. Initial measurements were taken to establish baseline conditions for soil organic carbon stocks. Subsequent measurements evaluated the effectiveness of a conservation practice in promoting carbon sequestration and monitored any changes over time.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Interest Polygon

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,654.23	\$4,654.23
Equipment Installation	\$1,177.50	\$1,177.50
Labor	\$1,496.40	\$1,496.40
Mobilization	\$219.19	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,547.32	\$7,547.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 222 - Indigenous Stewardship Methods Evaluation

Scenario Number: 58

Scenario Name: Indigenous Knowledge, Base Cost

Scenario Description: A Qualified Individual (QI) evaluates land uses, capabilities, and limitations at the designated planning area. An inventory of existing and desired conditions is used to make conclusions for ways to include traditional methodology in conservation plan implementation. This scenario includes costs incurred on the larger area for a truck and ATV.

Before Situation: Current land use and or land management has not adequately addressed traditional ecological knowledge or practices and may unintentionally reduce stewardship effects or cause resource concerns.

After Situation: The QI has inventoried the planning area and collected traditional knowledge and information. The QI has verified the findings with the appropriate governing body. The report, including all deliverables, has been given to the participant and the NRCS field office.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$9,428.21	\$9,428.21
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,428.21	\$9,428.21

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 222 - Indigenous Stewardship Methods Evaluation

Scenario Number: 59

Scenario Name: Indigenous Knowledge, Implementation Cost

Scenario Description: A Qualified Individual (QI) evaluates land uses, capabilities, and limitations at the designated planning area. An inventory of existing and desired conditions is used to make conclusions for ways to include traditional methodology in conservation plan implementation. This scenario includes costs incurred on the larger area for a truck and ATV.

Before Situation: Current land use and or land management has not adequately addressed traditional ecological knowledge or practices and may unintentionally reduce stewardship effects or cause resource concerns.

After Situation: The QI has inventoried the planning area and collected traditional knowledge and information. The QI has verified the findings with the appropriate governing body. The report, including all deliverables, has been given to the participant and the NRCS field office.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$8.07	\$8.07
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.07	\$8.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 223 - Forest Management Assessment

Scenario Number: 90

Scenario Name: Nonindustrial Private Forest Assessment, Base Cost

Scenario Description: Nonindustrial private forest land consisting of existing, uneven-aged, mixed species stands of harvestable trees. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The current forest management plan is inadequate.

After Situation: The producer obtained services from a qualified individual for the development of a forest inventory.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,226.97	\$1,226.97
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,226.97	\$1,226.97

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 223 - Forest Management Assessment

Scenario Number: 91

Scenario Name: Nonindustrial Private Forest Assessment, Implementation Cost

Scenario Description: Nonindustrial private forest land consisting of existing, uneven-aged, mixed species stands of harvestable trees. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The current forest management plan is inadequate.

After Situation: The producer obtained services from a qualified individual for the development of a forest inventory.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$7.30	\$7.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7.30	\$7.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 224 - Aquifer Flow Test

Scenario Number: 10

Scenario Name: Aquifer Testing

Scenario Description: Involves the utilization of an existing or planned vertical turbine or submersible pump within a water well, whether established or under development, to pressurize an irrigation or livestock water system when the flow rate of the well is unknown. An aquifer flow test, which may include step drawdown or constant rate testing, will be conducted to ascertain the flow rate from the well. This assessment will facilitate the selection of a pumping plant that aligns with the pumping requirements of the irrigation or livestock system.

Before Situation: Livestock or irrigation system is delivering insufficient water due to unknown volume and flow rate of the aquifer

After Situation: After completing the aquifer flow test, the established flow rate of the well is utilized to determine the appropriate flow rate and Total Dynamic Head (TDH) required for a pump that supports the irrigation needs of a stock water system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,496.07	\$1,496.07
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,363.71	\$2,363.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 226 - Waste Facility Site Suitability and Feasibility Assessment

Scenario Number: 9

Scenario Name: Non-Dairy Livestock Operations, On-Site Evaluation for Planned Storage

Scenario Description: 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. Based on one proposed location for the planned storage.

Before Situation: A waste storage, handling, or treatment facility is planned for the operation. The proposed location has not been investigated for determination of suitability and feasibility.

After Situation: An onsite investigation for soil properties and characteristics was conducted and a report documenting the data and results was prepared. The proposed location met the criteria to allow the type and size of the planned storage facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: One site evaluated

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,431.98	\$3,431.98
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,431.98	\$3,431.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 226 - Waste Facility Site Suitability and Feasibility Assessment

Scenario Number: 25

Scenario Name: Dairy Livestock Operations, On-Site Evaluation for Planned Storage

Scenario Description: 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. Based on one proposed location for the planned storage.

Before Situation: A waste storage, handling, or treatment facility is planned for the operation. The proposed location has not been investigated for determination of suitability and feasibility.

After Situation: An onsite investigation for soil properties and characteristics was conducted and a report documenting the data and results was prepared. The proposed location met the criteria to allow the type and size of the planned storage facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: One site evaluated

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,773.95	\$4,773.95
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,773.95	\$4,773.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 227 - Evaluation of Existing Waste Storage Facility Components

Scenario Number: 42

Scenario Name: Livestock Operation, Base Cost

Scenario Description: A qualified individual conducts an on-site investigation of 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A waste storage facility and associated equipment is in use on the production area. The existing structure has not been evaluated for good operating condition. New or expanded waste storage and handling facilities could fail if the existing structure is not evaluated.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,726.67	\$2,726.67
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,726.67	\$2,726.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 227 - Evaluation of Existing Waste Storage Facility Components

Scenario Number: 43

Scenario Name: Livestock Operation, Implementation Cost

Scenario Description: A qualified individual conducts an on-site investigation of 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A waste storage facility and associated equipment is in use on the production area. The existing structure has not been evaluated for good operating condition. New or expanded waste storage and handling facilities could fail is the existing structure is not evaluated.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Production Site Structure

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$506.85	\$506.85
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$506.85	\$506.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 186

Scenario Name: Large Enterprise, Base Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and hours necessary to perform tasks and produce documentation for operations classified as large enterprises, or in instances where at least 50% of the enterprises are represented as large. A large enterprise is defined as operating greater than 2,500 acres of crops, greater than 1,000 animal units, utilizes more than 6 irrigation pumps, and encompasses greater than 40,000 square feet of heated greenhouse space. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$3,930.88	\$3,930.88
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,930.88	\$3,930.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 187

Scenario Name: Large Enterprise, Implementation Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and hours necessary to perform tasks and produce documentation for operations classified as large enterprises, or in instances where at least 50% of the enterprises are represented as large. A large enterprise is defined as operating greater than 2,500 acres of crops, greater than 1,000 animal units, utilizes more than 6 irrigation pumps, and encompasses greater than 40,000 square feet of heated greenhouse space. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,825.75	\$1,825.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,825.75	\$1,825.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 188

Scenario Name: Medium Enterprise, Base Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and the hours necessary to perform tasks and produce documentation for operations classified as medium enterprises, or in instances where at least fifty percent of the enterprises represented are medium. A medium enterprise is defined as one that operates on 301 to 2,500 acres of crops, maintains 301 to 1,000 animal units, utilizes 3 to 6 irrigation pumps, encompasses 20,001 to 40,000 square feet of heated greenhouse space. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,713.56	\$2,713.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,713.56	\$2,713.56

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 189

Scenario Name: Medium Enterprise, Implementation Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and the hours necessary to perform tasks and produce documentation for operations classified as medium enterprises, or in instances where at least fifty percent of the enterprises represented are medium. A medium enterprise is defined as one that operates on 301 to 2,500 acres of crops, maintains 301 to 1,000 animal units, utilizes 3 to 6 irrigation pumps, encompasses 20,001 to 40,000 square feet of heated greenhouse space. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,825.75	\$1,825.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,825.75	\$1,825.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 190

Scenario Name: Small Enterprise, Base Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and the hours necessary to perform tasks and produce documentation for operations classified as small enterprises, or in instances where at least fifty percent of the enterprises represented are small. A small enterprise is defined as one that operates on 300 acres or fewer of crops, maintains 300 animal units or fewer, utilizes 1 to 2 irrigation pumps, encompasses 20,000 square feet or fewer of heated greenhouse space, or engages in maple syrup processing. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,701.64	\$1,701.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,701.64	\$1,701.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 228 - Agricultural Energy Assessment

Scenario Number: 191

Scenario Name: Small Enterprise, Implementation Cost

Scenario Description: A qualified individual develops an agricultural energy assessment for the participant’s entire agricultural operation. This scenario includes the required labor mix and the hours necessary to perform tasks and produce documentation for operations classified as small enterprises, or in instances where at least fifty percent of the enterprises represented are small. A small enterprise is defined as one that operates on 300 acres or fewer of crops, maintains 300 animal units or fewer, utilizes 1 to 2 irrigation pumps, encompasses 20,000 square feet or fewer of heated greenhouse space, or engages in maple syrup processing. Categories of enterprises include dairy, swine, poultry, beef/veal, field crops, forest, fruits, vegetables, nursery/greenhouse, and irrigation. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The participant has minimal knowledge of, and no plan for, energy conservation and wants to assess their on-farm energy use and prioritize opportunities to reduce energy use or increase energy efficiency.

After Situation: The participant obtained services from a qualified individual to develop and deliver an agricultural energy assessment for their entire agricultural operation in accordance with implementation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,825.75	\$1,825.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,825.75	\$1,825.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 309 - Agrichemical Handling Facility

Scenario Number: 1

Scenario Name: Agrichemical Handling Facility

Scenario Description: An agrichemical handling facility is constructed for storage of agrichemicals along with a concrete handling pad for mixing and loading operations. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS. A roof is not included.

Before Situation: Agrichemicals are improperly stored on the ground or next to a well.

After Situation: An agrichemical handling facility is constructed for storage of agrichemicals along with a concrete pad for mixing and loading operations. The facility is constructed of impermeable materials. The concrete pad for mixing and loading operations is sized to contain the length of the agrichemical spray tank and its volume. The reinforced concrete meets the requirements of ACI 350.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Total Containment Area

Scenario Unit: Square Foot

Scenario Typical Size: 1,400.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,705.43	\$4.79
Equipment Installation	\$20,431.05	\$14.59
Labor	\$2,125.61	\$1.52
Mobilization	\$1,954.48	\$1.40
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$31,216.57	\$22.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 311 - Alley Cropping

Scenario Number: 250

Scenario Name: Alley Cropping

Scenario Description: Cropland or grassland is planted with rows of trees and/ or shrubs where a crop is produced in between the rows of trees and/or shrubs, creating an alley cropping system.

Before Situation: They landscape has been cropped for many years. It is void of tree vegetation and the conservation benefits that trees provide.

After Situation: Trees have been established to provide conservation benefit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Tree

Scenario Unit: Each

Scenario Typical Size: 125.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,308.89	\$10.47
Equipment Installation	\$246.08	\$1.97
Labor	\$490.05	\$3.92
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$112.90	\$0.90
Risk	\$0.00	\$0.00
Total	\$2,157.91	\$17.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 44

Scenario Name: Tank, Above Ground Steel, Base Cost

Scenario Description: Construction of an above ground circular structure to store liquid waste from an agricultural waste management system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$111,130.67	\$111,130.67
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$111,130.67	\$111,130.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 45

Scenario Name: Tank, Above Ground Steel, Implementation Cost

Scenario Description: Construction of an above ground circular structure to store liquid waste from an agricultural waste management system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Storage Volume

Scenario Unit: Cubic Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.41	\$2.41
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.41	\$2.41

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 46

Scenario Name: Tank, Buried Concrete, Base Cost

Scenario Description: Construction of a buried or partially buried concrete tank to store liquid waste from an agricultural waste management system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$23,174.76	\$23,174.76
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$23,174.76	\$23,174.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 47

Scenario Name: Tank, Buried Concrete, Implementation Cost

Scenario Description: Construction of a buried or partially buried concrete tank to store liquid waste from an agricultural waste management system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Storage Volume

Scenario Unit: Cubic Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.58	\$1.58
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.58	\$1.58

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 48

Scenario Name: Earthen Storage, Base Cost

Scenario Description: An earthen waste impoundment constructed to store waste such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. Earthen storage liners are addressed with another standard. Vehicular and equipment access is addressed in Heavy Use Area Protection (561) to adequately protect the liner at agitation and access points. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Operator presently has a confined animal feeding operation without a waste management system adequate to handle the waste stream leaving the animal production facilities. Manure and other agricultural waste by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

After Situation: 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 storing waste until it can be utilized in a proper manner in accordance with a nutrient management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,268.11	\$5,268.11
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,268.11	\$5,268.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 49

Scenario Name: Earthen Storage, Implementation Cost

Scenario Description: An earthen waste impoundment constructed to store waste such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. Earthen storage liners are addressed with another standard. Vehicular and equipment access is addressed in Heavy Use Area Protection (561) to adequately protect the liner at agitation and access points. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Operator presently has a confined animal feeding operation without a waste management system adequate to handle the waste stream leaving the animal production facilities. Manure and other agricultural waste by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

After Situation: 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 storing waste until it can be utilized in a proper manner in accordance with a nutrient management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Storage Volume

Scenario Unit: Cubic Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.25	\$0.25
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.25	\$0.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 50

Scenario Name: Earthen Storage, Import Fill, Base Cost

Scenario Description: Construction of an earthen liquid waste impoundment to store waste from an agricultural waste management system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$56,115.99	\$56,115.99
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$56,115.99	\$56,115.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 51

Scenario Name: Earthen Storage, Import Fill, Implementation Cost

Scenario Description: Construction of an earthen liquid waste impoundment to store waste from an agricultural waste management system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The animal feeding operation does not have an adequate waste storage facility.

After Situation: A waste storage facility was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Storage Volume

Scenario Unit: Cubic Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.55	\$0.55
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.55	\$0.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 52

Scenario Name: Tank, Above Ground Concrete, Base Cost

Scenario Description: A concrete tank and has an open top and can also be under an animal facility with the top cover using slats or a concrete lid/floor. The design volume does not include freeboard. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed of. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$36,834.03	\$36,834.03
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$36,834.03	\$36,834.03

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 53

Scenario Name: Tank, Above Ground Concrete, Implementation Cost

Scenario Description: A concrete tank and has an open top and can also be under an animal facility with the top cover using slats or a concrete lid/floor. The design volume does not include freeboard. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed of. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Storage Volume

Scenario Unit: Cubic Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.66	\$1.66
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.66	\$1.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 59

Scenario Name: In-Ground Concrete Block Tank

Scenario Description: This scenario consists of a vessel with a reinforced concrete pad and concrete block walls and a cast in place steel reinforced concrete lid. The purpose of this practice is to properly store manure and other agricultural by-products until they can be hauled away from the site for proper disposal or utilization on land at agronomical rates.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed of. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, in addition to the use of excessive amounts of fertilizers.

After Situation: Manure and other agricultural by-products are being controlled and stored at the source temporarily until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of container

Scenario Unit: Cubic Foot

Scenario Typical Size: 600.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,852.10	\$3.09
Equipment Installation	\$2,764.68	\$4.61
Labor	\$3,520.89	\$5.87
Mobilization	\$1,086.83	\$1.81
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,224.49	\$15.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 91

Scenario Name: Dry Stack, Earth Floor with Walls

Scenario Description: This scenario consists of a dry stack facility with compacted earthen floor with wooden walls, posts and a concrete curb. This scenario is intended for dryer material such as poultry litter.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot Floor Area

Scenario Unit: Square Foot

Scenario Typical Size: 4,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,319.70	\$1.08
Equipment Installation	\$4,348.95	\$1.09
Labor	\$3,864.01	\$0.97
Mobilization	\$3,033.72	\$0.76
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,566.37	\$3.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 112

Scenario Name: Dry Stack, Concrete Floor with Walls

Scenario Description: This scenario consists of a dry stack facility with reinforced concrete Floor with pressure treated wood or concrete walls. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface and requires a hard-working surface such as concrete.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation: 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. Walls allow for greater storage volume.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot Floor Area

Scenario Unit: Square Foot

Scenario Typical Size: 4,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,971.63	\$1.49
Equipment Installation	\$32,735.82	\$8.18
Labor	\$5,028.81	\$1.26
Mobilization	\$1,990.93	\$0.50
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$45,727.19	\$11.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 313 - Waste Storage Facility

Scenario Number: 133

Scenario Name: Dry Stack, Concrete Floor No Walls

Scenario Description: This scenario consists of a dry stack facility with reinforced concrete floor without side walls. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface and requires a hard-working surface such as concrete.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot Floor Area

Scenario Unit: Square Foot

Scenario Typical Size: 4,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,651.93	\$0.41
Equipment Installation	\$29,612.56	\$7.40
Labor	\$931.84	\$0.23
Mobilization	\$1,042.79	\$0.26
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$33,239.13	\$8.31

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 314 - Brush Management

Scenario Number: 375

Scenario Name: Mechanical Control, Less Than or Equal to One Acre

Scenario Description: The use of hand and small power tools to remove, or cut off, invasive woody plants at, or below, the root collar. For woody and non-herbaceous species in the early phases of invasion and are degrading herbaceous plant health and vigor for a 1 acre small farm. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS.

Before Situation: Area is in various phases of woody non-herbaceous species encroachment that degrades the biotic integrity of the site resulting in poor herbaceous plant health and vigor. Continued degradation results in increased invasive woody species and poor hydrological site characteristics.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$122.24	\$122.24
Labor	\$210.25	\$210.25
Mobilization	\$219.19	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$551.68	\$551.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 314 - Brush Management

Scenario Number: 446

Scenario Name: Mechanical Control, Hand Application

Scenario Description: The use of hand tools (e.g. axes, shovels, hoes, nippers, brush pullers, as well as chainsaws) to remove, or cut off, woody plants at, or below, the root collar. Typical area is moderate rolling to gentle sloping with moderately deep to deep soils that have stands of woody and non-herbaceous species in the early phases of invasions. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS.

Before Situation: Area is in the very early phases of woody non-herbaceous species encroachment that degrades habitat for desired wildlife species. Allowing woody species to expand will lead to the future degradation of key forage species and ecological site conditions, promoting the spread of noxious and invasive species while increasing soil erosion.

After Situation: Woody species are removed to achieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site conditions continue to progress in an upward trend while hydrology and plant health and vigor are sustained.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,797.47	\$22.47
Labor	\$4,583.16	\$57.29
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,380.63	\$79.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 314 - Brush Management

Scenario Number: 448

Scenario Name: Mechanical Control for Large Shrubs, Medium Infestation

Scenario Description: Removal of large woody vegetation with medium infestation on gentle sloping to moderately deep to deep soils. Brush is at medium infestation and density has exceeded desired levels based on ecological site potential. Removal of brush by pushing, grubbing, masticating, and chaining, followed by raking or piling to reduce fuel loading and improve ecological site condition. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS.

Before Situation: Area consists of excessive stands of shrub species degrading the health and vigor of native herbaceous species, promoting noxious and invasive species, and degrading wildlife habitat.

After Situation: Woody species are removed to achieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site conditions continue to progress in an upward trend while hydrology and plant health and vigor are sustained.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 120.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$41,689.62	\$347.41
Labor	\$7,786.17	\$64.88
Mobilization	\$1,042.79	\$8.69
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$50,518.58	\$420.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 314 - Brush Management

Scenario Number: 451

Scenario Name: Chemical Control, Ground Application

Scenario Description: Implementation of brush management on rangeland, grazed forest, or pasture through a broadcast application of material using low cost chemicals to reduce or remove undesirable deciduous species (brush). Locations include uplands and other areas not in, or directly adjacent to, streams, ponds, or wetlands. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS.

Before Situation: Plant, animal, or wildlife resource concerns associated with uplands and other areas not in, or adjacent to, stream, ponds, or wetland on grazed range, grazed forest, or pasture are adversely affected by brush.

After Situation: A broadcast or spot treatment chemical application applied on pasture, grazed range, or grazed forest has reduced or removed undesirable deciduous species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 160.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,619.80	\$22.62
Equipment Installation	\$1,167.38	\$7.30
Labor	\$660.26	\$4.13
Mobilization	\$1,232.12	\$7.70
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,679.55	\$41.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 315 - Herbaceous Weed Treatment

Scenario Number: 1

Scenario Name: Chemical Control, Aerial or Ground Application

Scenario Description: A land unit where weed control would be beneficial for reversing plant community succession, enhancing ecological conditions, and improving forage availability for domestic livestock or wildlife. Includes the eradication of vegetation using weed treatments using an airplane, helicopter, drone, or ground equipment to apply chemicals, eliminate noxious weeds, promote forage productivity, and improve ecological conditions. Aerial and ground application can be broadcast or banded as needed based on protection of desired species.

Before Situation: Area consists of excessive stands of herbaceous weeds degrading the health and vigor of native herbaceous species, promoting noxious and invasive species, and degrading wildlife habitat.

After Situation: Herbaceous weeds are removed to achieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site conditions continue to progress in an upward trend, hydrology and plant health and vigor are returning to near normal levels, and wildlife habitat is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$205.63	\$10.28
Equipment Installation	\$322.39	\$16.12
Labor	\$330.13	\$16.51
Mobilization	\$867.64	\$43.38
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,725.79	\$86.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 315 - Herbaceous Weed Treatment

Scenario Number: 3

Scenario Name: Mechanical Control

Scenario Description: Removal of herbaceous weeds of light infestations on gentle sloping with moderately deep to deep soils using a mower, brush hog, disc, or other light equipment to reduce fuel loading and improve ecological site conditions. Weeds have exceeded desired levels based on ecological site potential.

Before Situation: Area consists of excessive stands of herbaceous weeds degrading the health and vigor of native herbaceous species, promoting noxious and invasive species, and degrading wildlife habitat.

After Situation: Herbaceous weeds are removed to achieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site conditions continue to progress in an upward trend, hydrology and plant health and vigor are returning to near normal levels, and wildlife habitat is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$489.01	\$24.45
Labor	\$680.51	\$34.03
Mobilization	\$364.47	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,533.99	\$76.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 315 - Herbaceous Weed Treatment

Scenario Number: 85

Scenario Name: Mechanical Control, Less Than or Equal to One Acre

Scenario Description: The use of hand and small power tools to remove, or cut off, herbaceous weeds at, or below, the root collar and for treating herbaceous weed species that are degrading a 1 acre or less farm.

Before Situation: Area is in various phases of woody herbaceous species encroachment that degrades the biotic integrity of the site resulting in poor plant health and vigor and/or wildlife habitat. Continued degradation results in increased plant pest pressure, loss of plant diversity and biotic integrity, and poor hydrological site characteristics.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$48.35	\$48.35
Labor	\$68.48	\$68.48
Mobilization	\$219.19	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$336.02	\$336.02

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 315 - Herbaceous Weed Treatment

Scenario Number: 91

Scenario Name: Specialized Chemical Control for Resistant Plant Species

Scenario Description: Management of resistant plant species utilizing specialized chemicals and treatments. Resistant, invasive and/or pervasive species are present threatening plant health and productivity, reducing livestock forage and wildlife habitat, and fueling more frequent and larger wildfires. Pre-emergent herbicide is applied to suppress resistant species, deplete the resistant species seedbank, and release desired vegetation. NRCS does not make chemical treatment recommendations, appropriate NRCS tools for risk assessment should be used, and extension publications and product label instructions should be referenced.

Before Situation: Resistant, invasive and/or pervasive plant species are present impacting the biotic integrity of desired species plant health. Without control of the resistant species seedbank, invasive plants continue to spread and outcompete desirable vegetation.

After Situation: Appropriate structural/functional plant groups for the ecological site are released from resistant plant species competition. The desirable health biotic integrity indicator is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: treated acres

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$921.98	\$46.10
Equipment Installation	\$287.61	\$14.38
Labor	\$273.42	\$13.67
Mobilization	\$1,042.79	\$52.14
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,525.80	\$126.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 1

Scenario Name: Bin, Concrete Floor, Wood Walls, Base Cost

Scenario Description: An animal mortality composting facility with a reinforced concrete floor and pressure treated wood walls. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a composting facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,828.92	\$5,828.92
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,828.92	\$5,828.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 2

Scenario Name: Bin, Concrete Floor, Wood Walls, Implementation Cost

Scenario Description: An animal mortality composting facility with a reinforced concrete floor and pressure treated wood walls. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a composting facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Floor

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$19.09	\$19.09
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19.09	\$19.09

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 3

Scenario Name: Farm Bin, Concrete Floor, Concrete Walls, Base Cost

Scenario Description: An animal mortality composting facility with a reinforced concrete floor and concrete walls. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a composting facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Concrete Floor

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$22,411.46	\$22,411.46
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,411.46	\$22,411.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 4

Scenario Name: Farm Bin, Concrete Floor, Concrete Walls, Implementation Cost

Scenario Description: An animal mortality composting facility with a reinforced concrete floor and concrete walls. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a composting facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Concrete Floor

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13.88	\$13.88
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13.88	\$13.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 5

Scenario Name: In-Vessel or Rotary Drum, Base Cost

Scenario Description: A horizontal rotary drum, or other in-vessel system, with a secondary composting storage area to compost poultry or swine mortality. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in an in-vessel or rotary drum composter.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$47,306.47	\$47,306.47
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$47,306.47	\$47,306.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 6

Scenario Name: In-Vessel or Rotary Drum, Implementation Cost

Scenario Description: A horizontal rotary drum, or other in-vessel system, with a secondary composting storage area to compost poultry or swine mortality. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in an in-vessel or rotary drum composter.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pounds of animal mortality per day

Scenario Unit: Pounds per Day

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$42.23	\$42.23
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$42.23	\$42.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 7

Scenario Name: Pile or Windrow, Concrete Pad, Base Cost

Scenario Description: Installation of a concrete pad for pile or windrow composting of larger animal mortality. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a static pile or windrow.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,675.46	\$6,675.46
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,675.46	\$6,675.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 8

Scenario Name: Pile or Windrow, Concrete Pad, Implementation Cost

Scenario Description: Installation of a concrete pad for pile or windrow composting of larger animal mortality. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Animal mortalities are not handled properly.

After Situation: Animal mortality is composted in a static pile or windrow.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Pad

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7.85	\$7.85
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7.85	\$7.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 127

Scenario Name: Forced Air Composting with Preprocessing

Scenario Description: This scenario consists of installing a manufactured Forced Air Composting with mortality preprocessing Unit.

Before Situation: Animal mortality is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for both normal and catastrophic mortality events.

After Situation: 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. Proper operation results in little to no odors and protection from predators to minimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. Selected method for carcass treatment and disposal meet or are permitted by federal, state, and local laws, rules, regulation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet of Roof Covered Facility

Scenario Unit: Square Foot

Scenario Typical Size: 3,510.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$277,738.73	\$79.13
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$277,738.73	\$79.13

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 148

Scenario Name: Thermal Dehydration

Scenario Description: This scenario consists of installing a manufactured mortality thermal dehydration unit designed to handle 2,000 pounds of average daily mortality for the species and size of the operation.

Before Situation: Animal mortality is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for both normal and catastrophic mortality events.

After Situation: 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. Proper operation results in little to no odors, complete incineration, and protection from predators to minimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. Selected method for carcass treatment and disposal meet or are permitted by federal, state, and local laws, rules, regulation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Units

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$82,978.70	\$82,978.70
Equipment Installation	\$4,115.65	\$4,115.65
Labor	\$120.10	\$120.10
Mobilization	\$1,735.29	\$1,735.29
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$88,949.74	\$88,949.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 316 - Animal Mortality Facility

Scenario Number: 169

Scenario Name: Incineration

Scenario Description: This scenario consists of installing a manufactured Type IV incinerator designed to handle daily mortality for the species and size of the operation.

Before Situation: Animal mortality is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for both normal and catastrophic mortality events.

After Situation: 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. Proper operation results in little to no odors, complete incineration, and protection from predators to minimize pathogen survival or spreading. In non-attainment areas, certain states may require a higher level of processing such as gasification or different methods.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Incinerator Chamber

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,613.14	\$14,613.14
Equipment Installation	\$2,057.82	\$2,057.82
Labor	\$60.05	\$60.05
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$17,598.66	\$17,598.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 317 - Composting Facility

Scenario Number: 1

Scenario Name: Farm Bin, Concrete Floor, Wood or Concrete Walls, Base Cost

Scenario Description: A composting facility with a concrete floor and wood or concrete walls. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Manure and other organic material are not utilized or controlled in an environmentally safe manner.

After Situation: Manure and other agricultural by-products are composted and stored until utilized.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,314.06	\$6,314.06
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,314.06	\$6,314.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 317 - Composting Facility

Scenario Number: 2

Scenario Name: Farm Bin, Concrete Floor, Wood or Concrete Walls, Implementation Cost

Scenario Description: A composting facility with a concrete floor and wood or concrete walls. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Manure and other organic material are not utilized or controlled in an environmentally safe manner.

After Situation: Manure and other agricultural by-products are composted and stored until utilized.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Floor

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12.76	\$12.76
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12.76	\$12.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 319 - On-Farm Secondary Containment Facility

Scenario Number: 1

Scenario Name: Tank, Double Wall

Scenario Description: This practice scenario includes the replacement of an existing single wall fuel storage tank with a new double wall tank.

Before Situation: The agricultural operation has an existing single wall fuel/oil storage tank(s) without any spill prevention protection.

After Situation: Existing single wall tank(s) replaced with a new double wall tank(s); meets EQP regulations.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tank volume

Scenario Unit: Gallon

Scenario Typical Size: 3,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,088.99	\$3.70
Equipment Installation	\$640.89	\$0.21
Labor	\$624.29	\$0.21
Mobilization	\$1,086.83	\$0.36
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,441.01	\$4.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 319 - On-Farm Secondary Containment Facility

Scenario Number: 4

Scenario Name: Wall, Concrete Containment

Scenario Description: This practice scenario includes the installation of a reinforced concrete wall containment with a concrete slab around an existing storage tank. storage of these products.

Before Situation: Existing agricultural operation that has single walled fuel/oil storage tank(s) not protected.

After Situation: Containment facility installed to provide secondary containment of oil and oil products.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of concrete in the wall

Scenario Unit: Cubic Yard

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,149.16	\$229.83
Equipment Installation	\$9,414.64	\$1,882.93
Labor	\$76.46	\$15.29
Mobilization	\$2,318.95	\$463.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,959.22	\$2,591.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 319 - On-Farm Secondary Containment Facility

Scenario Number: 7

Scenario Name: Tank, Double Wall Storage, Base Cost

Scenario Description: An existing single wall, fuel storage tank is replaced with a new double wall tank to address resource concerns related to water quality due to the excessive release of organics into the ground and surface waters, or excessive sediment and turbidity in surface waters. Local or state regulations require the use of double wall tanks or on-farm space limitations preclude the use of an open secondary containment facility. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An agricultural operation has an existing single wall fuel/oil storage tank(s) without any spill prevention protection. The producer has an SPCC plan that was developed in accordance with EPA requirements, which requires an above ground secondary containment facility for on-farm oil products. The tank is old, in disrepair and possibly leaking. There are space limitations on the operation which preclude the installation of an open secondary containment system.

After Situation: An existing single wall, fuel storage tank is replaced with a new double wall tank as per the SPCC plan. Installation is based on a new tank. An antiroll tank (U/L 142-23 Secondary Containment Vessel) double walled tank that meets EPA regulations is installed. The double wall tank provides an environmentally safe facility for storage and handling of oil products stored on the property. Any accidental spills will be contained protecting water quality.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,040.10	\$8,040.10
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,040.10	\$8,040.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 319 - On-Farm Secondary Containment Facility

Scenario Number: 8

Scenario Name: Tank, Double Wall Storage, Implementation Cost

Scenario Description: An existing single wall, fuel storage tank is replaced with a new double wall tank to address resource concerns related to water quality due to the excessive release of organics into the ground and surface waters, or excessive sediment and turbidity in surface waters. Local or state regulations require the use of double wall tanks or on-farm space limitations preclude the use of an open secondary containment facility. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An agricultural operation has an existing single wall fuel/oil storage tank(s) without any spill prevention protection. The producer has an SPCC plan that was developed in accordance with EPA requirements, which requires an above ground secondary containment facility for on-farm oil products. The tank is old, in disrepair and possibly leaking. There are space limitations on the operation which preclude the installation of an open secondary containment system.

After Situation: An existing single wall, fuel storage tank is replaced with a new double wall tank as per the SPCC plan. Installation is based on a new tank. An antiroll tank (U/L 142-23 Secondary Containment Vessel) double walled tank that meets EPA regulations is installed. The double wall tank provides an environmentally safe facility for storage and handling of oil products stored on the property. Any accidental spills will be contained protecting water quality.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Gallons of Storage

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3.73	\$3.73
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.73	\$3.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 320 - Irrigation Canal or Lateral

Scenario Number: 1

Scenario Name: Irrigation Canal

Scenario Description: Construction of an irrigation canal or lateral. Design and implementation instructions meeting the practice standard criteria will be provided by NRCS.

Before Situation: Water supply for the area is inadequate for crop production and irrigation water application is inefficient.

After Situation: The earthen canal has adequate capacity to deliver sufficient irrigation water meeting system demands and allowing practical irrigation for crops grown.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of earth excavated

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,467.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,758.50	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$0.25
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,122.97	\$2.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 325 - High Tunnel System

Scenario Number: 117

Scenario Name: Enclosed High Tunnel, Base Cost

Scenario Description: Construction of an enclosed structure from a manufactured high tunnel kit to protect crop vigor. The frame is covered with a 4-year 6 mil plastic and/or shade cloth. Costs are based on the purchase of a manufactured kit with end walls and/or truss support options and gutters. The landowner must install the structure to the manufacturer's specifications. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Crops are grown during the appropriate season and in the corresponding plant hardiness zone; however, there are concerns about plant vigor for early planting or season extension.

After Situation: A high tunnel structure was installed, and plant health and vigor were improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,271.93	\$7,271.93
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,271.93	\$7,271.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 325 - High Tunnel System

Scenario Number: 118

Scenario Name: Enclosed High Tunnel, Implementation Cost

Scenario Description: Construction of an enclosed structure from a manufactured high tunnel kit to protect crop vigor. The frame is covered with a 4-year 6 mil plastic and/or shade cloth. Costs are based on the purchase of a manufactured kit with end walls and/or truss support options and gutters. The landowner must install the structure to the manufacturer's specifications. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Crops are grown during the appropriate season and in the corresponding plant hardiness zone; however, there are concerns about plant vigor for early planting or season extension.

After Situation: A high tunnel structure was installed, and plant health and vigor were improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet of Structure

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6.39	\$6.39
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6.39	\$6.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 326 - Clearing and Snagging

Scenario Number: 26

Scenario Name: Debris Removal, Base Cost

Scenario Description: Removal of vegetation, logs, or other material that impedes the proper functioning of a stream channel or water course to restore flow capacity; prevent bank erosion by eddies; reduce the formation of sediment bars; and/or minimize blockages by debris. The base represents a typical cost incurred regardless of size and must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Vegetation, logs, or other material provide a flow restriction or divert flowing water against the streambank causing excess erosion. Approximately one-third of the channel flow capacity is obstructed. The flow blockage may encourage deposition in the main channel and may alter the established flow channel.

After Situation: Vegetation, logs, or other material have been removed to allow unrestricted flow in the channel and appurtenant structures. Material that poses no blockage threat is left in place to enhance aquatic habitat. Channel bed and banks are in equilibrium with the flow.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$753.47	\$753.47
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$753.47	\$753.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 326 - Clearing and Snagging

Scenario Number: 27

Scenario Name: Debris Removal, Implementation Cost

Scenario Description: Removal of vegetation, logs, or other material that impedes the proper functioning of a stream channel or water course to restore flow capacity; prevent bank erosion by eddies; reduce the formation of sediment bars; and/or minimize blockages by debris. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Vegetation, logs, or other material provide a flow restriction or divert flowing water against the streambank causing excess erosion. Approximately one-third of the channel flow capacity is obstructed. The flow blockage may encourage deposition in the main channel and may alter the established flow channel.

After Situation: Vegetation, logs, or other material have been removed to allow unrestricted flow in the channel and appurtenant structures. Material that poses no blockage threat is left in place to enhance aquatic habitat. Channel bed and banks are in equilibrium with the flow.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$26.96	\$26.96
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26.96	\$26.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 327 - Conservation Cover

Scenario Number: 45

Scenario Name: Introduced Species, Foregone Income

Scenario Description: Establishment of permanent non-native grass/grass mix vegetation on all, or a portion of, land in crop production. Plants cultivated for conservation cover may provide protection for beneficial insects and wildlife. Excludes plantings for forage production or critical areas. Applicable to both conventional and organic systems. When wildlife habitat is the only resource concern, use CPS 420 Wildlife Habitat Planting.

Before Situation: Crop production is primarily field or specialty crops with intensive practices. Soil erosion exceeds the allowable tolerance, and sediment may deteriorate water quality. The system provides little to no wildlife habitat.

After Situation: Implementation requirements were developed for the site and meet the practice criteria. Plants are established and the treated land is removed from crop production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,695.62	\$73.91
Equipment Installation	\$5,607.69	\$112.15
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$12,271.41	\$245.43
Risk	\$0.00	\$0.00
Total	\$21,574.71	\$431.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 327 - Conservation Cover

Scenario Number: 46

Scenario Name: Native Species, Foregone Income

Scenario Description: Establishment of permanent native grass/grass mix vegetation on all, or a portion of, land in crop production. Plants cultivated for conservation cover may provide protection for beneficial insects and wildlife. Excludes plantings for forage production or critical areas. Applicable to both conventional and organic systems. When wildlife habitat is the only resource concern, use CPS 420 Wildlife Habitat Planting.

Before Situation: Crop production is primarily field or specialty crops with intensive practices. Soil erosion exceeds the allowable tolerance, and sediment may deteriorate water quality. The system provides little to no wildlife habitat.

After Situation: Implementation requirements were developed for the site and meet the practice criteria. Plants are established and the treated land area is removed from crop production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,301.50	\$166.03
Equipment Installation	\$6,670.76	\$133.42
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$12,271.41	\$245.43
Risk	\$0.00	\$0.00
Total	\$27,243.66	\$544.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 327 - Conservation Cover

Scenario Number: 47

Scenario Name: Native Mix Plus Pollinator Species, Foregone Income

Scenario Description: Establishment of permanent native grass/grass mix vegetation on all, or a portion of, land in crop production to provide continuous plant cover. Forbs and legumes provide nectar sources during the growing season. Plants cultivated for conservation cover may provide protection for beneficial insects and wildlife. Excludes plantings for forage production or critical areas. Applicable to both conventional and organic systems. When wildlife habitat is the only resource concern, use CPS 420 Wildlife Habitat Planting.

Before Situation: Crop production is primarily field or specialty crops with intensive practices. Soil erosion exceeds the allowable tolerance, and sediment may deteriorate water quality. The system provides little to no wildlife habitat.

After Situation: Implementation requirements were developed for the site and meet the practice criteria. Plants are established and the treated land area is removed from crop production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$603.72	\$603.72
Equipment Installation	\$133.42	\$133.42
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$245.43	\$245.43
Risk	\$0.00	\$0.00
Total	\$982.56	\$982.56

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 327 - Conservation Cover

Scenario Number: 103

Scenario Name: Alleyways, Orchard, or Vineyard

Scenario Description: Establishment of permanent introduced grass/grass mix vegetation on orchards and vineyards that need a permanent protective cover in the alleyways between tree and vine rows. Involves the conversion of a clean-tilled (conventional tilled) intensive cropping system to permanent vegetation. Typically, 60% of the surface area is conservation cover per acre.

Before Situation: Orchard or vineyard has bare soil between vine/tree rows with a clean-tilled (conventional tilled) intensive cropping system. Bare soil is exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Little to no wildlife/pollinator habitat is present.

After Situation: Implementation requirements were developed and applied for the site and meet the practice criteria. The orchard or vineyard area between vine/tree rows are planted with a permanent introduced grass/legume mix.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,781.72	\$89.09
Equipment Installation	\$1,528.00	\$76.40
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,309.72	\$165.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 64

Scenario Name: Basic, Two Crop Types

Scenario Description: Planning of an annual crop rotation with a minimum of two different crop types. Payment is provided to the producer and includes the time needed to plan and implement the logistics of changing the rotation to effectively implement a conservation crop rotation.

Before Situation: A monoculture system is in place and no cover crop is utilized.

After Situation: An annual crop rotation was planned that includes a minimum of two different crops and meets the practice criteria. The implementation requirements provide the sequence of crops grown on the same ground over time.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,397.76	\$13.98
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,397.76	\$13.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 65

Scenario Name: Irrigated to Dryland

Scenario Description: Conversion of an irrigated cropping system to a dryland cropping system to improve water use efficiency. The cost represents typical situations for conventional (non-organic) producers converting from irrigated cropping to dryland farming. Foregone income is included and based on standard crop rotation of corn and soybean.

Before Situation: The rotation consists of growing row crops that receive a significant (more than half) amount of the required water via irrigation. The water demands are impacting the area's water availability.

After Situation: The dryland rotation was planned using the same crops, or a rotation that grows a minimum of two different crops over time and meets the practice criteria. The crop implementation sequence was designed to utilize available rainfall and soil more efficiently.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,397.76	\$6.99
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$185,832.27	\$929.16
Risk	\$0.00	\$0.00
Total	\$187,230.03	\$936.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 95

Scenario Name: Specialty Crop, Small

Scenario Description: Management of residue and tillage applied on 1/2 acre or less sites. Planting beds retain crop residue, or organic residues are uniformly applied. Residue remains on the soil surface during critical periods for wind and water erosion. Tillage operations use equipment or hand tools to reduce disturbance and prepare the seedbed.

Before Situation: Removal of residue from the planted area is common leaving bare soil-residue amounts average 10% or less. Full width tillage is performed prior to planting . Weed control is typically by cultivation.

After Situation: Implementation requirements have been developed and applied, and soil disturbance is reduced with the reduction of tillage planting operations and primary tillage passes.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area planned

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 15.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$19.36	\$1.29
Labor	\$534.73	\$35.65
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$554.10	\$36.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 113

Scenario Name: Winter or Spring Annual

Scenario Description: Addition of a winter annual or small grain to a crop rotation that includes at least two different crop types. Payment includes the time needed to plan and implement the logistics of adding a winter annual or spring-planted small grain into the crop rotation to effectively implement a conservation crop rotation. The cost represents typical situations for conventional and organic producers.

Before Situation: Crop rotation does not include a winter annual or spring-planted small grain grown on the field within the past three years and is not designed to conserve resources.

After Situation: A rotation was planned that includes a minimum of two different crops and a winter annual or small grain and meets the practice criteria. The implementation requirements provide the sequence of crops grown on the same ground over time.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,040.65	\$26.02
Labor	\$1,223.34	\$30.58
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,383.91	\$59.60

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 114

Scenario Name: Perennial, Short-Term

Scenario Description: Addition of a short-term perennial (e.g. alfalfa or intermediate wheatgrass) into a crop rotation that currently includes a minimum of two different crops to effectively implement a conservation crop rotation. The short-term perennial can be for forage, grain, or dual-purpose use in the cropping system while the crop is intended to be harvested and must be grown for a minimum of two years after planting. Payment includes the time needed to plan and implement the logistics of adding a short-term perennial. The cost represents typical situations for conventional and organic producers.

Before Situation: Crop rotation includes at least two different annually planted crops, cover crops are not part of the crop rotation or are infrequently used, and perennials have not been grown on the field within the past three years.

After Situation: A conservation crop rotation was established with a perennial crop for a short-term (3-5 years) and meets the practice criteria. The implementation requirements provide the sequence of crops grown on the same ground over time. The perennial crop rotation provides the same, or greater, conservation benefits than the annual crop plus cover crop system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Planted

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,040.65	\$26.02
Labor	\$1,498.91	\$37.47
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,659.48	\$66.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 116

Scenario Name: Specialty Crops

Scenario Description: Development of an annual crop rotation of specialty crops (herbaceous fruits and vegetables), with a minimum of two different crops on the same ground over time. Typical crop rotation includes multiple plantings of annual crops during the growing season and within the current crop year.

Before Situation: The crop rotation consists of growing one specialty crop type per crop year.

After Situation: A crop rotation was planned that includes a minimum of two different specialty crops and meets the practice criteria. The implementation requirements provide the sequence of crops grown on the same ground as multiple plantings over the crop year.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,863.68	\$37.27
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,863.68	\$37.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 118

Scenario Name: Improved Resource Conserving Crop Rotation

Scenario Description: Improve crop rotation that already includes at least one resource conserving crop by adding a perennial.

Before Situation: Annual field crops being grown. Cover crops are not part of the crop rotation or are infrequently used. Perennials have not been grown on field within the past 3 years.

After Situation: A conservation crop rotation is established with a perennial crop for a short-term (3-5 years). The crop rotation achieves resource conserving benefits by returning and building soil organic matter, reduces wind and water erosion, improves soil fertility and tilth, interrupts pest cycles, and improves soil moisture retention. The perennial crop rotation provides same or greater conservation benefits than annual crop plus cover crop system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,040.65	\$26.02
Labor	\$2,057.21	\$51.43
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,217.78	\$80.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 119

Scenario Name: Resource Conserving Crop Rotation

Scenario Description: Establish a crop rotation with at least one State designated resource conserving crop.

Before Situation: Crop rotation does not include a winter annual or spring-planted small grain grown on the field within the past three years and is not designed to conserve resources.

After Situation: A rotation was planned that includes a minimum of two different crops and a winter annual or small grain and meets the practice criteria. The implementation requirements provide the sequence of crops grown on the same ground over time.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,040.65	\$26.02
Labor	\$2,786.57	\$69.66
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,947.14	\$98.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 328 - Conservation Crop Rotation

Scenario Number: 147

Scenario Name: Add Crop Organic System

Scenario Description: Addition of new crop types to the conservation crop rotation to facilitate building soil organic matter, capturing nitrogen, breaking pest cycles, or other purposes that maintain or enhance natural resources. The producer is changing to organic production, with the existing crop rotation being conventional, non-organic, and has at least two different crop types. Payment includes the labor of the supervisor/decision maker and costs associated with acquiring knowledge about new crop types.

Before Situation: Crops are grown non-organically and crop rotation is not designed to conserve resources. Conventional operations and chemical use may degrade soil and require mitigation to protect natural resources and address health concerns.

After Situation: Implementation requirements were delivered to the producer and meet the practice criteria. Crop types were added to the crop rotation which have improved diversity and soil resource concerns. Operations and management decisions align with National Organic Program (NOP) requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$2,277.98	\$56.95
Labor	\$1,782.45	\$44.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$239.83	\$6.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,300.26	\$107.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 329 - Residue and Tillage Management, No Till

Scenario Number: 16

Scenario Name: No-Till and Strip-Till

Scenario Description: 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. Limit tillage to in-row soil disturbance during strip tillage, the planting operation, and a seed row/furrow closing implement. The no-till/strip-till system includes non-tillage types of weed control. Crop residue is evenly distributed over the entire field after harvest.

Before Situation: Full width tillage is performed prior to planting and weed control during crop production is typically cultivation and chemical application. Fields are disked immediately following harvest, with additional operations in some fields to facilitate drainage, seedbed preparation or additional weed control. Residue amounts after tillage operations average 10% or less, resulting in bare soil being exposed to wind erosion and/or intense rainfall.

After Situation: Implementation Requirements are prepared following the criteria in the 329 Residue and Tillage Management, Reduced Till conservation practice standard. Soil disturbance is reduced with no tillage/ strip tillage planting operations. Crop residues evenly cover the entire field during critical erosion periods. Residue remains on field year round. Soil condition is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,287.75	\$32.88
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,287.75	\$32.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 329 - Residue and Tillage Management, No Till

Scenario Number: 31

Scenario Name: No-Till, Less Than Half Acre

Scenario Description: Conversion from a clean-tilled (conventional tilled) system to a no-till or strip-till system including non-tillage types of weed control. Includes yearly management of the amount, orientation, and distribution of crop and other plant residue on the soil surface while limiting soil-disturbing activities used to establish and harvest crops. Applies to sites less than a 1/2 acre where specialty crops (e.g. fruits and vegetables) are planted or transplanted by no-till methods.

Before Situation: Specialty crops are grown and harvested, with full-width tillage performed before planting. Weed control during production typically relies on cultivation and chemical applications. Fields are disked immediately following harvest, with further operations in some fields to facilitate drainage, seedbed preparation, or additional weed control. Residue amounts after tillage are less than or equal to10%, resulting in bare soil exposed to wind erosion and/or intense rainfall. Remaining crop residue degrades and sediment/nutrient runoff from fields increase during rainfall events. By spring, sheet and rill erosion occur with visible rills. Soil health (e.g. soil organic matter) deteriorates over time due to tillage practices, low residue, and prolonged periods of bare soil. The system will typically have a negative Soil Conditioning Index (SCI) and a high Soil Tillage Intensity Rating (STIR).

After Situation: Implementation requirements were prepared and installed and meet the practice criteria. Crop residues provide a year around soil surface cover and were managed on the surface a field, while limiting soil disturbing activities to those that place nutrients and plant crops meeting the minimum criteria. Runoff and erosion were reduced, and no rills are visible on the soil surface. Wind erosion was 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 provide cover for wildlife. The SCI was increased, and the STIR was decreased, meeting the practice requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area planted

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 15.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8.85	\$0.59
Labor	\$619.80	\$41.32
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$628.64	\$41.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 329 - Residue and Tillage Management, No Till

Scenario Number: 33

Scenario Name: No-Till, Adaptive Management

Scenario Description: Implementation of no-till in small-replicated plots, allowing the producer to learn how to manage no-till on their operation. Includes implementing replicated strip trials on a field plot to evaluate, identify, and implement a particular no-till management strategy (e.g. no-till vs conventional or strip tills, drill vs planter, residue row cleaners vs no row cleaners, etc.). This is accomplished by following the Agronomy Technical Note 10 - Adaptive Management.

Before Situation: Row crops or small grains are grown and harvested, with full-width tillage performed before planting. Weed control during production typically relies on cultivation and chemical applications. Fields are disked immediately following harvest, with further operations in some fields to facilitate drainage or additional weed control. Residue amounts after tillage are less than or equal to 10%, resulting in bare soil exposed to wind erosion and/or intense rainfall. Remaining crop residue degrades and sediment/nutrient runoff from fields increase during rainfall events. By spring, sheet and rill erosion occur with visible rills. Soil health (e.g. soil organic matter) deteriorates over time due to tillage practices, low residue, and prolonged periods of bare soil. The producer is considering using no-till technology on their operation but is unsure how to manage it or needs to improve their no-till management to be successful. The system will typically have a negative Soil Conditioning Index (SCI) and a high Soil Tillage Intensity Rating (STIR).

After Situation: Implementation requirements were prepared, and an Adaptive Management Plan for the plots was developed and implemented and meets the practice criteria. Installation results in the establishment of no-till replicated plots to compare to different management strategies for no-till and other residue management strategies following the guidance in the Agronomy Technical Note 10 - Adaptive Management Process. Implementation included establishing replicated plots to evaluate one or more no-till management strategies. The plot consists of at least four replicated plots that are designed, laid out, managed, and evaluated with the assistance of a consultant knowledgeable in no-till management. The results are used to make no-till management decisions to address erosion, soil health, and water quality issues. The yields for each plot are adjusted to the appropriate moisture content, measured, and statistically summarized following the procedures in Agronomy Technical Note 10 - Adaptive Management. This will be repeated for three years.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Based on 15 acre plots

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$390.24	\$390.24
Labor	\$3,367.33	\$3,367.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,757.57	\$3,757.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 330 - Contour Farming

Scenario Number: 4

Scenario Name: Contour Farming

Scenario Description: Installation of formed ridged tillage, furrows or roughness, and planting operations, on fields greater than five acres, at a grade near the contour. Payment includes the extra labor and initial supervision costs to plan and implement contour farming.

Before Situation: All farming activities on the cropland field, including disking, bedding, planting, and cultivation, are typically carried out up and down the slope. Crops are grown on sloping land, annual erosion rates for the rotation exceed tolerance levels, and excessive runoff leads to the sedimentation of waterways.

After Situation: Implementation requirements were prepared, implemented, and installed on the entire field and meet the practice criteria. All field operations are performed on the contour which is near perpendicular to the field slope. Soil erosion rates are reduced, and sedimentation has been significantly reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$34.79	\$1.16
Labor	\$298.25	\$9.94
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$333.04	\$11.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 332 - Contour Buffer Strips

Scenario Number: 56

Scenario Name: Introduced Species, Foregone Income

Scenario Description: Establishment of narrow strips of permanent, herbaceous vegetative introduced grasses, legumes, and forbs around the hill slope and alternate down the slope with wider cropped strips in between. Minimum widths are based on NRCS local design criteria specific to installing the practice. Native species should be chosen that do not function as hosts for field crop diseases and possess the physical traits needed to control water erosion to tolerable levels within the cropped area of the field. Applies to all cropland and includes seedbed preparation and planting of introduced species. The contour grass strip area is removed from production.

Before Situation: NRCS water erosion prediction software indicates there is a significant amount of sheet and rill erosion and/or a significant amount of sediment potentially delivered to the downslope edge of the field.

After Situation: Implementation requirements were installed and meet the practice criteria. Native grasses, legumes, and forbs were established in strips in the field, and the area was removed from production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,202.35	\$1,202.35
Equipment Installation	\$1,666.85	\$1,666.85
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$372.67	\$372.67
Risk	\$0.00	\$0.00
Total	\$3,241.87	\$3,241.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 332 - Contour Buffer Strips

Scenario Number: 57

Scenario Name: Native Species, Foregone Income

Scenario Description: Establishment of narrow strips of permanent, herbaceous vegetative native grasses, legumes, and forbs around the hill slope and alternate down the slope with wider cropped strips in between. Minimum widths are based on NRCS local design criteria specific to installing the practice. Native species should be chosen that do not function as hosts for field crop diseases and possess the physical traits needed to control water erosion to tolerable levels within the cropped area of the field. Applies to all cropland and includes seedbed preparation and planting. The contour grass strip area is removed from production.

Before Situation: NRCS water erosion prediction software indicates there is a significant amount of sheet and rill erosion and/or a significant amount of sediment potentially delivered to the downslope edge of the field.

After Situation: Implementation requirements were installed and meet the practice criteria. Native grasses, legumes, and forbs were established on the contour, and the land was removed from production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$411.61	\$411.61
Equipment Installation	\$5,066.44	\$5,066.44
Labor	\$226.83	\$226.83
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,348.71	\$2,348.71
Risk	\$0.00	\$0.00
Total	\$8,921.24	\$8,921.24

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 332 - Contour Buffer Strips

Scenario Number: 92

Scenario Name: Specialty Crops, Foregone Income

Scenario Description: Narrow strips of permanent, herbaceous vegetative cover of grasses, legumes and forbs are established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. Minimum widths shall be based on NRCS local design criteria specific to the purpose for installing the practice. 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. This practice applies to all cropland. Practice includes seedbed prep and planting of native species. The area of the contour buffer strips is taken out of production.

Before Situation: NRCS water erosion prediction software indicates there is a significant amount of sheet and rill erosion and/or a significant amount of sediment potentially delivered to the downslope edge of the field.

After Situation: Implementation requirements were installed and meet the practice criteria. Native grasses, legumes, and forbs were established in strips in the field, and the area was removed from production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$174.43	\$174.43
Equipment Installation	\$32.59	\$32.59
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,014.85	\$2,014.85
Risk	\$0.00	\$0.00
Total	\$2,221.87	\$2,221.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 333 - Amending Soil Properties with Gypsum Products

Scenario Number: 1

Scenario Name: Gypsum, Greater Than One Ton

Scenario Description: Application of gypsum at a rate exceeding one ton per acre (averaging 1.5 tons per acre) to improve surface water quality due to phosphorus, pathogens, and soil health (Ca/Mg ratio).

Before Situation: Cropland in continuous production has relatively low soil organic matter, moderately high clay content, poor soil structure, and a high risk of phosphorus and pathogen runoff. Soils are susceptible to soil crusting and because of long-term tillage systems have a high concentration of phosphorus near the soil surface.

After Situation: The application of gypsum to the field was based on the existing soil samples and resulted in reduced runoff and improved runoff water quality. Over time this condition, in combination with the implemented nutrient management plan and supporting practices, will improve soil health and surface water quality.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres with a gypsum product application

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,724.32	\$168.11
Equipment Installation	\$398.89	\$9.97
Labor	\$46.59	\$1.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,169.80	\$179.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 333 - Amending Soil Properties with Gypsum Products

Scenario Number: 2

Scenario Name: Gypsum, Less Than or Equal to One Ton

Scenario Description: Application of gypsum at a rate of one ton per acre or less (averaging one ton per acre) to improve surface water quality due to phosphorus, pathogens, and soil health (Ca/Mg ratio).

Before Situation: Cropland in continuous production has relatively low soil organic matter, moderately high clay content, poor soil structure, and a high risk of phosphorus and pathogen runoff. Soils are susceptible to soil crusting and because of long-term tillage systems have a high concentration of phosphorus near the soil surface.

After Situation: The application of gypsum to the field was based on the existing soil samples and resulted in reduced runoff and improved runoff water quality. Over time this condition, in combination with the implemented nutrient management plan and supporting practices, will improve soil health and surface water quality.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres with a gypsum product application

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,362.16	\$84.05
Equipment Installation	\$398.89	\$9.97
Labor	\$46.59	\$1.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,807.64	\$95.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 334 - Controlled Traffic Farming

Scenario Number: 4

Scenario Name: Reduced Compaction Area

Scenario Description: Confinement of farm equipment wheel traffic to specific lanes in crop fields annually. The controlled traffic typically utilizes Real-Time Kinematic (RTK) automatic steering technology to locate and maintain high-load field traffic. Must be part of a conservation management system to reduce soil compaction. Includes the time needed to modify equipment and develop the technical skills necessary to effectively implement a controlled traffic farming system on a 200-acre cropland farm. The costs include reducing the amount of surface area tracked/compacted to less than or equal to 33% and represent typical situations for conventional, organic, and transitioning to organic producers.

Before Situation: Wheel traffic is uncontrolled, 85% of the field has compacted soil, and the soil condition is degrading.

After Situation: Implementation requirements were developed, and the controlled traffic lanes were installed, meeting the practice criteria. Wheel/track traffic follows the installed traffic lanes/tramlines each year.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$562.83	\$2.81
Labor	\$12,142.74	\$60.71
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,705.56	\$63.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 53

Scenario Name: Compost, Offsite

Scenario Description: Utilization of compost from an offsite source to improve identified resource concerns. 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 applied at the recommended rate to treat the identified resource concerns.

Before Situation: 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 compost is needed to improve the condition of the soil.

After Situation: Compost was tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres treated

Scenario Unit: Acre

Scenario Typical Size: 6.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,046.92	\$174.49
Equipment Installation	\$394.52	\$65.75
Labor	\$0.00	\$0.00
Mobilization	\$400.00	\$66.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,841.44	\$306.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 54

Scenario Name: Biochar

Scenario Description: Application of biochar (assuming it has been charged/inoculated) to improve identified soil health resource concerns. Biochar has been tested according to the Test Methods of the International Biochar Initiative (IBI) or by other Land Grant University (LGU) recognized methods and is applied at the recommended rate to treat the identified resource concerns.

Before Situation: 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 is needed to improve the condition of the soil.

After Situation: Biochar was applied at the recommended rate and proportion and soil health resource concerns were treated. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$974.44	\$974.44
Equipment Installation	\$95.42	\$95.42
Labor	\$28.35	\$28.35
Mobilization	\$800.00	\$800.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,898.22	\$1,898.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 55

Scenario Name: Other Carbon Amendment

Scenario Description: Application of regionally appropriate carbon-based materials and facilitation of the transport and application of carbon amendments. Amendments may include, but are not limited, to woodchips, bagasse, pulverized paper, or distillation residue that are obtained at a negligible cost. The carbon amendment is tested and applied to improve soil health-related resource concerns.

Before Situation: 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 amendment is needed to improve the condition of the soil.

After Situation: A carbon amendment was applied at the recommended rate, based on product analysis and application purpose, and soil health resource concerns were treated. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 6.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$66.78	\$11.13
Equipment Installation	\$572.53	\$95.42
Labor	\$0.00	\$0.00
Mobilization	\$400.00	\$66.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,039.31	\$173.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 56

Scenario Name: Compost, Less Than 10,000 Square Feet

Scenario Description: Utilization of compost from an offsite source to improve identified resource concerns. Used in situations where compost amendments are applied or incorporated using manual labor. 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 applied at the recommended rate to treat the identified resource concerns.

Before Situation: 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 compost is needed to improve the condition of the soil.

After Situation: Compost was tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated.

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$121.23	\$12.12
Equipment Installation	\$153.39	\$15.34
Labor	\$340.24	\$34.02
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$614.87	\$61.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 57

Scenario Name: Compost and Biochar, Less Than 10,000 Square Feet

Scenario Description: Application of a blend of compost and biochar (by volume) to improve identified soil health resource concerns. Biochar and compost have been tested according to the International Biochar Initiative (IBI) Standards and the Test Methods for the Examination of Composting and Compost (TMECC) or by other Land Grant University (LGU) recognized methods. Analysis of the product is provided by the supplier.

Before Situation: 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 compost and biochar are needed to improve the condition of the soil.

After Situation: Compost and biochar were tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$245.88	\$24.59
Equipment Installation	\$153.39	\$15.34
Labor	\$340.24	\$34.02
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$739.51	\$73.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 59

Scenario Name: Biochar, Compost

Scenario Description: Application of a blend of compost and biochar (by volume) to improve identified soil health resource concerns. Biochar and compost have been tested according to the International Biochar Initiative (IBI) Standards, Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and are imported from an outside source. The blend contains at least 40% to no more than 79% biochar and is applied at the recommended rate to treat the identified resource concerns

Before Situation: 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 a biochar and compost blend is needed to improve the condition of the soil.

After Situation: Biochar and compost were tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,455.53	\$691.11
Equipment Installation	\$477.11	\$95.42
Labor	\$0.00	\$0.00
Mobilization	\$1,000.00	\$200.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,932.64	\$986.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 60

Scenario Name: Compost, Biochar

Scenario Description: Application of a blend of compost and biochar (by volume) to improve identified soil health resource concerns. Biochar and compost have 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 are imported from an outside source. The blend contains at least 60% to 90% compost and is applied at the recommended rate to treat the identified resource concerns.

Before Situation: 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.

After Situation: Biochar and compost were tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,847.35	\$569.47
Equipment Installation	\$477.11	\$95.42
Labor	\$0.00	\$0.00
Mobilization	\$1,000.00	\$200.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,324.46	\$864.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 168

Scenario Name: Compost, Onsite

Scenario Description: Utilization of compost from an offsite source to improve identified soil resource concerns. Compost produced on the 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 and is applied at the recommended rate to treat the identified resource concerns. Cost includes the procurement, analysis, installation, and onsite mobilization of the amendment.

Before Situation: An in-field soil health 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 compost is needed to improve the condition of the soil.

After Situation: Compost was tested and applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres treated

Scenario Unit: Acre

Scenario Typical Size: 6.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$381.10	\$63.52
Equipment Installation	\$394.52	\$65.75
Labor	\$907.31	\$151.22
Mobilization	\$364.47	\$60.75
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,047.41	\$341.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 336 - Soil Carbon Amendment

Scenario Number: 193

Scenario Name: Other Carbon Amendment, Less Than 10,000 Square Feet

Scenario Description: Application of regionally appropriate carbon-based materials and facilitation of the transport and application of amendments. Amendments may include, but are not limited, to woodchips, bagasse, pulverized paper, or distillation residue that are obtained at a negligible cost. Amendment test analysis is provided by the supplier.

Before Situation: 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 compost is needed to improve the condition of the soil.

After Situation: A carbon amendment was applied at the recommended rate that will improve soil health resource concerns without creating unacceptable risk of nitrogen or phosphorus loss. A follow-up assessment is planned to determine the effect of the application.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$121.23	\$12.12
Equipment Installation	\$233.35	\$23.34
Labor	\$340.24	\$34.02
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$694.82	\$69.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 338 - Prescribed Burning

Scenario Number: 116

Scenario Name: Level Terrain, Non-Volatile Herbaceous Fuel

Scenario Description: Applying a prescribed burn according to designed 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 of less than 80 acres and applies under the following conditions: where the terrain of the majority of the area to be burned <15% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios)

Before Situation: Desirable plant composition is lacking due to reduced plant vigor, invasive species or improper livestock distribution.

After Situation: Desirable plant composition is restored, plant vigor improved and invasive species reduced. Forage production and quality for livestock and /or wildlife is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$65.00	\$0.81
Equipment Installation	\$1,321.97	\$16.52
Labor	\$1,843.10	\$23.04
Mobilization	\$438.38	\$5.48
Acquisition of Technical Knowledge	\$119.92	\$1.50
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,788.36	\$47.35

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 338 - Prescribed Burning

Scenario Number: 117

Scenario Name: Level Terrain, Volatile or Woody Fuel

Scenario Description: Applying a prescribed burn according to designed 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 of less than 80 acres and applies under the following conditions: where the terrain of the majority of the area to be burned <15% slopes with herbaceous and low volatile woody fuel with high volatile woody fuels less than 4ft tall. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios)

Before Situation: Desirable plant composition is lacking due to reduced plant vigor, invasive species or improper livestock distribution.

After Situation: Desirable plant composition is restored, plant vigor improved and invasive species reduced. Forage production and quality for livestock and /or wildlife is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$81.25	\$1.02
Equipment Installation	\$1,321.97	\$16.52
Labor	\$3,127.09	\$39.09
Mobilization	\$438.38	\$5.48
Acquisition of Technical Knowledge	\$119.92	\$1.50
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,088.61	\$63.61

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 338 - Prescribed Burning

Scenario Number: 120

Scenario Name: Understory

Scenario Description: Applying a prescribed burn according to designed burn plan and NRCS Prescribed Burning (338) standard and specifications. An Understory 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 to residual stand but also must reduce litter and debris. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios)

Before Situation: Light slash accumulation in a open forest stand. Leaf litter and debris throughout stand. Small seedlings of various quantities may be present.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres planned

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$65.00	\$0.81
Equipment Installation	\$926.69	\$11.58
Labor	\$2,736.37	\$34.20
Mobilization	\$438.38	\$5.48
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,166.44	\$52.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 340 - Cover Crop

Scenario Number: 17

Scenario Name: Single Species

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 residue as a mulch. This scenario assumes that seed will be planted with a drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated prior to planting the subsequent crop.

Before Situation: Row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields remain fallow until next crop planting. Soil erosion, water quality and soil health are degrading.

After Situation: Implementation Requirements according to Cover Crop (340) are prepared and implemented. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant composition introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,701.11	\$67.53
Equipment Installation	\$1,303.58	\$32.59
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,004.69	\$100.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 18

Scenario Name: 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. Follow the guidance in the NRCS Technical Note 10 - Adaptive Management.

Before Situation: Row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields remain fallow until next crop planting.

After Situation: Implementation Requirements for Cover Crop (340) and following the guidance in the Agronomy Technical Note 10 - Adaptive Management meet the criteria for cover crop studies. Biomass and yield were measured.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Based on 10 acres

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$718.05	\$718.05
Equipment Installation	\$1,371.30	\$1,371.30
Labor	\$4,169.83	\$4,169.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,259.17	\$6,259.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 19

Scenario Name: Multi-Species

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. 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 prior to planting the subsequent crop.

Before Situation: Row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields remain fallow until next crop planting. Soil erosion, water quality and soil health are degrading.

After Situation: Implementation Requirements according to Cover Crop (340) are prepared and implemented. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant composition introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,872.19	\$71.80
Equipment Installation	\$1,303.58	\$32.59
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,175.77	\$104.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 98

Scenario Name: Single Species, 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 residue as a mulch. This scenario assumes that seed will be planted with a drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated prior to planting the subsequent crop.ed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using a mechanical kill method (mowing, rolling, undercutting, etc.), within weeks prior to planting the subsequent crop. This scenario requires use of Certified Organic Seed.

Before Situation: Organically grown crops such as various vegetable and fruit crops (along with organically produced row crops) or row crops such as corn, soybeans, or cotton are grown and harvested in mid-late fall. Fields remain fallow until next crop planting. Soil erosion, water quality and soil health are degrading.

After Situation: Implementation Requirements according to Cover Crop (340) are prepared and implemented. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant composition introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Planted

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,347.50	\$78.25
Equipment Installation	\$1,691.20	\$56.37
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,038.70	\$134.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 99

Scenario Name: Legume, Tropics

Scenario Description: A legume 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 fixed nitrogen and cover crop biomass as a mulch, provide erosion reduction, improve water quality, and soil health. This scenario assumes that seed will be planted with a drill. Legume seeds must be inoculated with the proper inoculant prior to planting. The cover crop should be allowed to reach early to mid-bloom before it is terminated, using an approved herbicide, in order to maximize nitrogen fixation.

Before Situation: Fields are disked immediately following harvest, with some fields being hipped for drainage. Residue amounts after harvest average 30% or less, resulting in high erosion, impaired water quality, and degraded soil health.

After Situation: The 340 Implementation Requirements is completed per the needed specifications for the field site. Harvest fields are planted immediately with a legume cover crop. The average field size is 5 acres. The cover crop is seeded with a drill. No fertilizer is applied with the cover crop. The cover crop provides soil cover to reduce erosion, improve water quality, and improve soil health.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$410.43	\$82.09
Equipment Installation	\$128.64	\$25.73
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$539.07	\$107.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 100

Scenario Name: Mechanical Termination, Tropics

Scenario Description: A one or more species cover crop mix is planted soon after harvest for either and organic or inorganic operation. Seed is planted using a a drill or broadcast seeder. The cover crop should be allowed to generate as much biomass as possible without delaying planting of the following crop as permitted by the NRCS Cover Crop Termination Guidelines. The cover crop will be terminated using an approved herbicide and/or by mechanical operations prior to planting the subsequent crop. The cover crop will treat erosion, improve soil quality, reduce water quality degradation by utilizing excessive soil nutrients, suppress excessive weed pressures and break pest cycles, improve soil moisture use efficiency, or minimize soil compaction.

Before Situation: Row crops such as corn, soybeans, or vegetables are grown and harvested. Fields are disked immediately following harvest, with rows in some fields being hipped for drainage. Residue amounts after harvest average 30% or less, resulting in bare soil being exposed to wind erosion and/or intense rainfall. After harvest residue degrades and sediment/nutrient runoff from fields increases. Sheet and rill erosion occurs with visible rills. Runoff from the fields flows into streams, water courses or other water bodies causing degradation to the receiving waters. Soil health (soil organic matter) declines over time as a result of tillage practices, low residue crops, and long periods of bare soil.

After Situation: Implementation Requirements are prepared for the site specific conditions and desired purpose(s). After harvest of row crop, fields are planted with a one or more species cover crop to address erosion, improve soil quality, reduce water quality degradation by utilizing excessive soil nutrients, suppress excessive weed pressures and break pest cycles, improve soil moisture use efficiency, or minimize soil compaction. The cover crop provides soil cover until the following crop. Runoff and erosion are reduced and no rills are visible on the soil surface in the spring. Wind erosion is reduced by standing residues. The cover crop is terminated with an approved herbicide or tillage or crimper rolling prior to establishing the next crop. 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 residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Planted

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$63.40	\$63.40
Equipment Installation	\$46.11	\$46.11
Labor	\$113.41	\$113.41
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$222.92	\$222.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 340 - Cover Crop

Scenario Number: 103

Scenario Name: Mechanical Termination

Scenario Description: A mechanically terminated cover crop that is typically one or more plant species, planted immediately after harvest of a crop and will be followed by a new crop. Implementation is mechanized and hand labor.

Before Situation: Residue amounts after harvest average 30% or less or are fragile residues resulting in bare soil exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring. Soil has depleted organic matter or does not store soil carbon from the biomass of a typical crop rotation.

After Situation: Implementation requirements according to Cover Crop (340) are prepared and implemented. The cover crop was planted, provides soil cover at the critical period, and is mechanically terminated as late as feasible to maximize cover crop biomass production and meet the planting date needs of the next crop.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Planted Area

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$69.74	\$6.97
Equipment Installation	\$16.52	\$1.65
Labor	\$206.60	\$20.66
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$292.86	\$29.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 342 - Critical Area Planting

Scenario Number: 26

Scenario Name: Normal Tillage, Native or Introduced

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 with application.

Before Situation: Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from recent natural occurrences (fire, flood, wind, etc.) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind and water erosion that exceed soil loss tolerances. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area seeded

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$355.95	\$355.95
Equipment Installation	\$75.21	\$75.21
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$431.17	\$431.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 27

Scenario Name: Moderate Grading, Native or Introduced

Scenario Description: Application of soil surface disturbance by tillage operations over the entire field. Crop residue is distributed over the entire field after harvest. Full width tillage is used to move crop residue prior to planting. Planting and harvest operations limit soil-disturbing activities.

Before Situation: Crop harvest followed by tillage leaves field with exposed, bare soil. Wind and water erosion potential is high. Seedbed preparation and spring tillage operations disturb soil which increases the potential for particle and sediment movement. Soil organic matter is depleting. Aggregate stability is degrading.

After Situation: Implementation requirements have been developed and applied, and soil disturbance is reduced with the reduction of tillage planting operations and primary tillage passes.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area seeded

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$400.84	\$400.84
Equipment Installation	\$418.78	\$418.78
Labor	\$152.93	\$152.93
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$972.55	\$972.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 28

Scenario Name: Establishment, Heavy Grading

Scenario Description: Establishment of permanent vegetation (native or introduced) on a site that is void, or nearly void, of vegetation due to a natural occurrence or a newly constructed conservation practice. Species selected will reach adequate density and vigor to stabilize the site. Costs include seedbed preparation with typical tillage implements, grading, grass/legume seed, companion crop, and fertilizer and lime with application.

Before Situation: The current site condition is highly disturbed. Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Seeded

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$355.95	\$355.95
Equipment Installation	\$762.35	\$762.35
Labor	\$305.86	\$305.86
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,424.16	\$1,424.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 69

Scenario Name: 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 and urban sites have soil conditions limiting vegetation growth or sensitive areas that need protection.

Before Situation: Fields are bare or sparsely vegetated exposed to wind and water erosion. Soil physical of chemical properties limit vegetative growth. Urban site soils contain heavy metal contaminants at risk of emissions as particulate dust from field activities.

After Situation: 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).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: planted area

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 15.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$88.06	\$5.87
Equipment Installation	\$92.24	\$6.15
Labor	\$170.12	\$11.34
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$350.42	\$23.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 78

Scenario Name: Native or Introduced, Tropics, Shrubs

Scenario Description: Establishment of permanent vegetation on a (Organic and Non-Organic) 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, native grass seed, and trees/shrubs.

Before Situation: Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from recent natural occurrences (fire, flood, wind, etc.) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind and water erosion that exceed soil loss tolerances. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: Implementation Requirements are prepared according to the 342 Critical Area Planting Standard and implemented. This typical 1.0 acre critical area is stabilized by applying seed and some trees and shrubs. The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$759.04	\$759.04
Equipment Installation	\$40.10	\$40.10
Labor	\$680.49	\$680.49
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,479.63	\$1,479.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 79

Scenario Name: Native Tropics, Moderate Grading

Scenario Description: Establishment of permanent vegetation (Native or Introduced) on a site that is void, or nearly void, of vegetation due to a natural or human disturbance. Costs include the grading and shaping of moderate to severe gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.

Before Situation: Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from natural occurrences (fire, flood, etc) or human disturbance. The exposed areas have visible rills and moderate to severe gullies averaging 3 feet in depth and 3 feet in width. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: Implementation Requirements are prepared according to the 342 Critical Area Planting standard and implemented. This typical 1.0 acre critical area is stabilized by grading and shaping the small gullies with a dozer and then applying fertilizer, lime and seed. The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$237.18	\$237.18
Equipment Installation	\$743.79	\$743.79
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,848.62	\$1,848.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 88

Scenario Name: Normal Tillage, Shrubs

Scenario Description: Establishment of permanent vegetation (Native and Introduced) on a 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/legume seed, companion crop, and planting of shrubs.

Before Situation: Areas that are void or nearly void of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused from recent natural occurrences (fire, flood, wind, etc.) or due to newly constructed conservation practices such as waterways, terraces, water and sediment basins or dams. The exposed areas will be subject to wind and water erosion that exceed soil loss tolerances. Runoff from the area flows into streams, water courses or other water bodies causing degradation to the receiving waters.

After Situation: Implementation Requirements are prepared and implemented according to the Critical Area Planting (342) standard. This typical 1.0 acre critical area is stabilized by seed. Planting of shrubs will be used in areas most susceptible to erosion. Proper site preparation, seeding and planting will ensure establishment of permanent vegetative cover. The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Seeded and Planted

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,180.18	\$1,180.18
Equipment Installation	\$50.36	\$50.36
Labor	\$226.83	\$226.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,457.37	\$1,457.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 89

Scenario Name: Establish Herbaceous, Tropics

Scenario Description: Establishment of permanent vegetation on a site that is void, or nearly void, of vegetation due to a natural or human disturbance. Costs include the shaping of small gullies with light equipment, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.

Before Situation: Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused by recent natural occurrences (fire, flood, wind, etc.) or human disturbance and have visible rills and small gullies averaging 1 foot deep and 1 foot wide. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$287.54	\$287.54
Equipment Installation	\$40.10	\$40.10
Labor	\$680.49	\$680.49
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,008.13	\$1,008.13

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 90

Scenario Name: Establish Native Species, Non-Mechanized

Scenario Description: Establishment of permanent vegetation on a site that is void, or nearly void, of vegetation due to a natural occurrence or a newly constructed conservation practice. Species selected will reach adequate density and vigor to stabilize the site. Costs include organic amendment and application, seedbed preparation, grass/legume seed, and labor to seed by hand.

Before Situation: The current site condition is highly disturbed. Slopes are too steep for safe equipment operation. Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Seeded.

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$509.44	\$509.44
Equipment Installation	\$139.14	\$139.14
Labor	\$425.30	\$425.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,073.89	\$1,073.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 92

Scenario Name: Establishment, Native Species, Tropics

Scenario Description: Establishment of permanent vegetation on a site (organic and non-organic) that is void, or nearly void, of vegetation due to a natural occurrence or newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, native grass seed, and trees/shrubs.

Before Situation: Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused by recent natural occurrences (fire, flood, wind, etc.) or newly constructed conservation practices (waterways, terraces, water and sediment basins, or dams) and are subject to wind and water erosion that exceed soil loss tolerances. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$759.04	\$759.04
Equipment Installation	\$40.10	\$40.10
Labor	\$680.49	\$680.49
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,479.63	\$1,479.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 93

Scenario Name: Hydroseed

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 a specialized hydroseed truck, grass/legume seed, companion crop, and fertilizer and lime with application. A hydroseeder is required due to the inaccessibility of other typical planting equipment or the need to have moisture immediately present at seeding.

Before Situation: Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused by natural occurrences (fire, flood, etc.) or human disturbance, have visible rills, and moderate to severe gullies averaging 3 feet deep and 3 feet wide. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters. The soil typically has a pH imbalance and low fertility.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$318.59	\$318.59
Equipment Installation	\$1,252.78	\$1,252.78
Labor	\$226.83	\$226.83
Mobilization	\$364.47	\$364.47
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,162.68	\$2,162.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 96

Scenario Name: Native Species, Minimal

Scenario Description: Establishment of permanent vegetation on a site that is void, or nearly void, of vegetation due to a natural disaster such as a wildfire or flood. Costs include native grass seed, seeded by broadcast and drill or aerial application with no, or minimal, site preparation.

Before Situation: Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused by recent natural occurrences (fire, flood, etc.) and are subject to wind, sheet, or rill erosion, or visible rills may have already occurred. Runoff from the area flows into streams, water courses, or other water bodies causing degradation to the receiving waters. These areas are also often subject to noxious weed invasion.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Seeded

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$237.18	\$237.18
Equipment Installation	\$16.29	\$16.29
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$253.47	\$253.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 342 - Critical Area Planting

Scenario Number: 99

Scenario Name: Normal Tillage, Tropics

Scenario Description: Establishment of permanent vegetation on a site that is void, or nearly void, of vegetation due to a natural occurrence or newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, grass/legume seed, fertilizer, and mulch.

Before Situation: Areas are void, or nearly void, of vegetation, resulting in bare soil being exposed to erosive processes. The exposed areas may be caused by recent natural occurrences (fire, flood, wind, etc.) or newly constructed conservation practices such as dams.

After Situation: Implementation requirements were prepared and implemented according to the Critical Area Planting (342) standard and permanent vegetation will stabilize the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Seeded.

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$446.37	\$446.37
Equipment Installation	\$60.51	\$60.51
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$506.89	\$506.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 345 - Residue and Tillage Management, Reduced Till

Scenario Number: 46

Scenario Name: Reduced Tillage

Scenario Description: Application of soil surface disturbance by tillage operations over the entire field. Crop residue is distributed over the entire field after harvest. Full width tillage is used to move crop residue prior to planting. Planting and harvest operations limit soil-disturbing activities.

Before Situation: Crop harvest followed by tillage leaves field with exposed, bare soil. Wind and water erosion potential is high. Seedbed preparation and spring tillage operations disturb soil which increases the potential for particle and sediment movement. Soil organic matter is depleting. Aggregate stability is degrading.

After Situation: Implementation requirements have been developed and applied, and soil disturbance is reduced with the reduction of tillage planting operations and primary tillage passes.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area planted

Scenario Unit: Acre

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$2,630.43	\$26.30
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,630.43	\$26.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 345 - Residue and Tillage Management, Reduced Till

Scenario Number: 69

Scenario Name: Reduced Tillage, Less Than Half Acres

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) Improve soil moisture efficiency, 4) Reduce plant pest pressures. This practice payment effectively implements a reduced tillage system on a typical urban specialty crop farm. Cost represents typical situations for organic and non-organic producers.

Before Situation: This rotation consisted of growing specialty crops. Fields range from nearly flat to B and C slopes. Erosion, soil quality, and pest management are the primary concern. Removal of residue from the planted area is common leaving bare soil-residue amounts average 10% or less. Full width tillage is performed prior to planting . Weed control is typically by cultivation.

After Situation: The implementation requirements are written following CPS 345 Residue and Tillage Management, Reduced Tillage to 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. Soil disturbance is minimized with no-till drill or planter use. May include single slot opener and seedling or plug planting follows. When pest management requires the removal of crop residue then planting beds are covered with cover crop using the 340 Cover Crop conservation practice. Runoff and erosion are reduced below T. No observed rills. Wind erosion reduced by maintaining surface cover. Over time, soil health is improved due to less tillage, the additional biomass, ground cover, soil infiltration, and plant diversity in the cropping system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area planted

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 15.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8.85	\$0.59
Labor	\$534.73	\$35.65
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$543.58	\$36.24

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 345 - Residue and Tillage Management, Reduced Till

Scenario Number: 78

Scenario Name: Adaptive Management

Scenario Description: On-farm field trial to study the effects of reduced tillage implementation changes. Executes replicated trials on field plots to evaluate and adopt tillage management strategies tailored to the crop, field, or equipment. Involves designing a field-level comparison of one or more treatments and a control treatment, collecting and analyzing data, and refining management strategies based on findings. Follows Agronomy Technical Note 10- Adaptive Management for Conservation Practices.

Before Situation: Current tillage management does not consider soil disturbance impacts on the physical property of the soil. Crop residue is not managed evenly over the entire field or transition residue and tillage management have negative effects on crop production.

After Situation: Implementation requirements have been developed and applied. A field-level comparison of one or more treatments and a control treatment with data collection and analysis was designed and management strategies were refined based on findings.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Based on 20 acres

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$718.05	\$718.05
Equipment Installation	\$1,371.30	\$1,371.30
Labor	\$4,169.83	\$4,169.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,259.17	\$6,259.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 345 - Residue and Tillage Management, Reduced Till

Scenario Number: 80

Scenario Name: Reduced Tillage, Sweep

Scenario Description: Management of tillage and crop residue after harvest with crop residue swept from the row or ridge tops into the furrows. Crop residue remains in the field year-round. Tillage operations (e.g. partial tillage) are used to limit soil disturbance. When using with sugarcane, the burning of crop residue is discontinued and replaced with sweeping.

Before Situation: Crop harvest followed by tillage leaves field with exposed, bare soil. Wind and water erosion potential is high. Seedbed preparation and spring tillage operations disturb soil which increases the potential for particle and sediment movement. Soil organic matter is depleting. Aggregate stability is degrading.

After Situation: Implementation requirements have been developed and applied, and soil disturbance is reduced with the reduction of tillage planting operations and primary tillage passes.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,872.19	\$14.36
Equipment Installation	\$6,034.06	\$30.17
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,906.24	\$44.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 345 - Residue and Tillage Management, Reduced Till

Scenario Number: 83

Scenario Name: Reduced Tillage, Non-Mechanical

Scenario Description: Reduced-till is managing the amount, orientation and distribution of crop and other plant residue on the soil surface year-round while limiting the soil-disturbing activities used to grow crops in systems where the entire field surface is tilled by the walk behind tractor equipment prior to planting. this technology is used in slopes where a typical tractor cannot perform well to security issues.

Before Situation: Fields are tilled immediately following harvest, with rows in some fields being hipped for drainage. Residue amounts after harvest average 30% or less, resulting in bare soil being exposed to wind erosion and/or intense rainfall during the fall, winter, and early spring.

After Situation: The Implementation Requirements are prepared following the criteria in the 345 Residue and Tillage Management, Reduced Till conservation practice standard.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8.40	\$8.40
Equipment Installation	\$760.16	\$760.16
Labor	\$680.49	\$680.49
Mobilization	\$364.47	\$364.47
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,813.52	\$1,813.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 350 - Sediment Basin

Scenario Number: 43

Scenario Name: Earthen Basin, without Pipe

Scenario Description: A low hazard, class embankment, earthen sediment basin in an existing drainage way on a farm for the purpose of trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways and streams and to prevent undesirable deposition on bottom and other developed lands. An earthen embankment will be constructed with an earthen auxiliary spillway, as designed.

Before Situation: Disturbed areas on all land uses that have excessive erosion lead to deterioration of receiving waters due to excessive sedimentation.

After Situation: The typical sediment basin is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using cubic yards to create an embankment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Embankment volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,392.10	\$2.26
Labor	\$917.57	\$0.61
Mobilization	\$867.64	\$0.58
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,177.31	\$3.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 350 - Sediment Basin

Scenario Number: 44

Scenario Name: Earthen Basin, with Pipe

Scenario Description: A low hazard, class embankment, earthen sediment basin in an existing drainage way on a farm for the purpose of trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways and streams and to prevent undesirable deposition on bottom and other developed lands. An earthen embankment will be constructed with a principal spillway conduit and an earthen auxiliary spillway, as designed.

Before Situation: Disturbed areas on all land uses that have excessive erosion lead to deterioration of receiving waters due to excessive sedimentation.

After Situation: The typical sediment basin is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using cubic yards to create an embankment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Embankment volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,794.97	\$3.20
Equipment Installation	\$5,069.52	\$3.38
Labor	\$1,238.57	\$0.83
Mobilization	\$867.64	\$0.58
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,970.70	\$7.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 350 - Sediment Basin

Scenario Number: 45

Scenario Name: Volume, Excavated

Scenario Description: An excavated sediment basin in an existing drainage way on a farm for the purpose of trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways, and streams and to prevent undesirable deposition on bottom and other developed lands.

Before Situation: Disturbed areas on all land uses that have excessive erosion lead to deterioration of receiving waters due to excessive sedimentation.

After Situation: The typical sediment basin is constructed by excavating and spreading the spoil.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Excavated volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,392.10	\$2.26
Labor	\$917.57	\$0.61
Mobilization	\$867.64	\$0.58
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,177.31	\$3.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 351 - Well Decommissioning

Scenario Number: 1

Scenario Name: Well Decommissioning, Base Cost

Scenario Description: Seal and permanently close an inactive, abandoned, or unusable water or monitoring well. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The well is inactive, abandoned, or unusable.

After Situation: The well was permanently sealed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,196.82	\$1,196.82
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,196.82	\$1,196.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 351 - Well Decommissioning

Scenario Number: 2

Scenario Name: Well Decommissioning, Implementation Cost

Scenario Description: Seal and permanently close an inactive, abandoned, or unusable water or monitoring well. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The well is inactive, abandoned, or unusable.

After Situation: The well was permanently sealed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard of Grout

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$871.12	\$871.12
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$871.12	\$871.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 353 - Monitoring Well

Scenario Number: 16

Scenario Name: Borehole, Less Than or Equal to 200 Feet

Scenario Description: Design and installation of a vertical borehole, less than or equal to 200 feet deep, to obtain representative groundwater quality samples and hydrogeologic information. The well provides controlled access for sampling groundwater near an agricultural waste storage or treatment facility to detect seepage, monitor groundwater quality, and collect groundwater information, including water levels. Installation methods must conform with ASTM D5092.

Before Situation: Applies to the design, installation, and development of monitoring wells where contamination of groundwater from an agricultural waste storage or treatment facility is a concern, detection of seepage and monitoring of groundwater quality is needed, and the facility is a component of an agricultural waste management system.

After Situation: A vertical borehole was installed for a monitoring well 100 feet deep that provides controlled access to obtain water samples for detecting seepage and monitors groundwater quality from an agricultural waste storage or treatment facility as a component of an agricultural waste management system. The monitoring well was installed by drilling an 8-inch borehole, installing a 2-inch monitoring riser pipe, protective casing, well screen, and filter pack, and conforms with ASTM D5092.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,721.96	\$47.22
Equipment Installation	\$10,052.15	\$100.52
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$8.68
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,641.75	\$156.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 353 - Monitoring Well

Scenario Number: 34

Scenario Name: Borehole, Greater Than 200 Feet

Scenario Description: Design and installation of a vertical borehole, greater than 200 feet deep, to obtain representative groundwater quality samples and hydrogeologic information. The well provides controlled access for sampling groundwater near an agricultural waste storage or treatment facility to detect seepage, monitor groundwater quality, and collect groundwater information, including water levels. Installation methods must conform with ASTM D5092.

Before Situation: Applies to the design, installation, and development of monitoring wells where contamination of groundwater from an agricultural waste storage or treatment facility is a concern, detection of seepage and monitoring of groundwater quality is needed, and the facility is a component of an agricultural waste management system.

After Situation: A vertical borehole was installed for a monitoring well 300 feet deep that provides controlled access to obtain water samples for detecting seepage and monitors groundwater quality from an agricultural waste storage or treatment facility as a component of an agricultural waste management system. The monitoring well was installed by drilling an 8-inch borehole, installing a 2-inch monitoring riser pipe, protective casing, well screen, and filter pack, and conforms with ASTM D5092.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Foot

Scenario Typical Size: 300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,103.81	\$30.35
Equipment Installation	\$36,589.82	\$121.97
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$2.89
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$46,561.28	\$155.20

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 356 - Dike and Levee

Scenario Number: 4

Scenario Name: Shallow Embankment

Scenario Description: A barrier constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability.

Before Situation: Site requires control of water level for purposes connected with crop production; fish and wildlife management; or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance.

After Situation: A Class III dike is constructed for water level control.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 5,573.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$24,130.71	\$4.33
Labor	\$0.00	\$0.00
Mobilization	\$3,996.02	\$0.72
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$28,126.73	\$5.05

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 356 - Dike and Levee

Scenario Number: 5

Scenario Name: Dike

Scenario Description: Construction of 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. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability.

Before Situation: Site is subject to flooding or inundation which poses a potential hazard to public safety, damage to land or property. Site may also require control of water level for purposes connected with crop production; fish and wildlife management; or wetland maintenance, improvement, restoration. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance.

After Situation: Water level is controlled by a stable earthen structure installed with compacted fill material.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Earthmoving

Scenario Unit: Cubic Yard

Scenario Typical Size: 4,444.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$22,359.61	\$5.03
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$0.20
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$23,227.26	\$5.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 356 - Dike and Levee

Scenario Number: 63

Scenario Name: Material Haul, Less Than or Equal to One Mile

Scenario Description: A barrier constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. The material haul is less than one mile.

Before Situation: Site is subject to flooding or inundation which poses a potential hazard to public safety and damage to land or property. The site may also require control of water levels for purposes associated with crop production, fish and wildlife management, or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance. The material haul is less than one mile.

After Situation: Water level controlled by a stable earthen structure. Potential hazard to public safety, land or property mitigated; environmental benefit provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 4,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$31,013.84	\$6.89
Labor	\$1,339.91	\$0.30
Mobilization	\$3,996.02	\$0.89
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$36,349.77	\$8.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 356 - Dike and Levee

Scenario Number: 64

Scenario Name: Material Haul, Greater Than One Mile

Scenario Description: A barrier constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. The material haul is greater than or equal to one mile.

Before Situation: Site is subject to flooding or inundation which poses a potential hazard to public safety and damage to land or property. The site may also require control of water levels for purposes associated with crop production, fish and wildlife management, or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance. The material haul is greater than or equal to one mile.

After Situation: Water level controlled by a stable earthen structure. Potential hazard to public safety, land or property mitigated; environmental benefit provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 4,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$34,842.71	\$7.74
Labor	\$1,339.91	\$0.30
Mobilization	\$3,996.02	\$0.89
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$40,178.64	\$8.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 359 - Waste Treatment Lagoon

Scenario Number: 14

Scenario Name: Waste Treatment Lagoon

Scenario Description: An embankment or excavated waste treatment lagoon that is a component of a waste management system to provide the biological treatment of manure and other byproducts of animal agricultural operations by reducing the pollution potential.

Before Situation: Operator presently has a confined animal feeding operation without a waste management system adequate to handle the waste stream leaving the animal production facilities. Manure and other agricultural waste by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

After Situation: A waste treatment lagoon constructed from on-site material provides an environmentally safe facility for storing manure and other agricultural waste by-products. The facility provides the landowner with a means of storing and treating waste until it can be utilized in a proper manner in accordance with a nutrient management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Design Volume (Operational + emergency + freeboard)

Scenario Unit: Cubic Foot

Scenario Typical Size: 492,129.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$34.93	\$0.00
Equipment Installation	\$106,946.18	\$0.22
Labor	\$0.00	\$0.00
Mobilization	\$1,910.44	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$108,891.55	\$0.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 1

Scenario Name: Decommission, Concrete Storage, Greater Than Six Feet

Scenario Description: This scenario includes the demolition of a concrete waste storage structure and includes agitating, removing, and spreading the waste remaining in the structure.

Before Situation: An existing concrete waste storage structure is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmentally sustainability by the potential for impacts to water and air quality.

After Situation: Implementation Requirements and or design drawings were developed that meet the criteria for the purpose for which the practice is installed. The concrete waste facility has been decommissioned.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Feet of concrete to be demolished

Scenario Unit: Cubic Foot

Scenario Typical Size: 3,580.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$10,794.88	\$3.02
Labor	\$665.86	\$0.19
Mobilization	\$4,513.37	\$1.26
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,974.11	\$4.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 13

Scenario Name: Decommission, Feedlot

Scenario Description: This scenario includes the remediation of the soil on an abandoned feedlot previously used to feed animals on a bare earthen lot.

Before Situation: The feedlot is abandoned. Vegetation has not been reestablished. The high level of nutrients in the soil is preventing volunteer establishment of native vegetation. Rainfall and nutrients on the bare earth feedlot pose a risk to surface water from contaminated runoff or to ground water from seepage into the underlying soils.

After Situation: This scenario includes only activities associated with soil remediation. The excavated surface will be vegetated with a mix of salt tolerant plants in conformance with Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square feet of closure

Scenario Unit: Square Foot

Scenario Typical Size: 130,680.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$428.27	\$0.00
Equipment Installation	\$48,844.56	\$0.37
Labor	\$1,529.28	\$0.01
Mobilization	\$1,735.29	\$0.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$52,537.40	\$0.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 37

Scenario Name: Decommission, Underbarn

Scenario Description: This scenario includes the decommissioning of a waste storage facility located under an existing building that will remain after the structure is closed.

Before Situation: An existing underbarn waste impoundment is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmentally sustainability by the potential for impacts to water and air quality.

After Situation: This scenario assumes a waste storage facility with vertical walls, which is located under a building. All of the waste stored in the structure will have already been removed and land applied in accordance with Nutrient Management (590). The majority of the walls will remain in place, but a section of wall will be removed as well as creating up to four holes to inspect for contamination and removing the beams and slats on the top of the structure. The rest of the floor is broken up but doesn't need to be removed. The structure is then filled with earthfill material. All inflow devices and associated appurtenances will be removed and properly disposed of. Closure of the waste impoundment 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Feet of Total Storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 19,200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$16,395.38	\$0.85
Equipment Installation	\$5,574.77	\$0.29
Labor	\$2,357.56	\$0.12
Mobilization	\$867.64	\$0.05
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$25,195.35	\$1.31

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 38

Scenario Name: Convert to Freshwater, No Waste, Remove Liner

Scenario Description: This scenario includes the conversion of an earthen storage and/or treatment structure or impoundment (embankment or excavated type) to freshwater storage. Does not include payment for the removal and land application of the manure, wastewater, slurry and/or sludge; however, all manure wastes will be removed and properly land applied in accordance with Nutrient Management (590) prior to decommissioning of the structure.

Before Situation: The existing manure, runoff and/or wastewater lagoon, storage pond or pit is no longer functioning correctly or is not being used for its intended purpose. The structure may or may not contain manure, wastewater, slurry and/or sludge. It poses a safety hazard for humans and livestock and is a threat to environmentally sustainability by the potential for impacts to water and air quality.

After Situation: Conversion of a waste storage pond to freshwater storage. Excavation of the contaminated soil below the original design will occur over the entire footprint of pond. Structural removal, as necessary, may include the removal and disposal of the synthetic liner, sealing or removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. This practice scenario does not include payment for the removal and land application of the manure, wastewater, slurry and/or sludge; however, all manure wastes shall be removed and properly land applied in accordance with Nutrient Management (590) prior to decommissioning of the structure. If present, the synthetic liner will be removed and properly disposed of. All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be breached and the excavation filled in with the embankment material or hauled in earthfill. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342) or planted to crops in accordance with Nutrient Management (590). The site will also become available for another use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Feet of Structural Storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 100,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$26.77	\$0.00
Equipment Installation	\$4,475.91	\$0.04
Labor	\$589.39	\$0.01
Mobilization	\$1,042.79	\$0.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,134.86	\$0.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 39

Scenario Name: Decommission, Concrete Storage, Less Than or Equal to Six Feet

Scenario Description: This scenario includes the demolition of a concrete waste storage structure that is less than or equal to six feet in height or depth.

Before Situation: An existing concrete waste storage structure is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmentally sustainability by the potential for impacts to water and air quality.

After Situation: Demolition of a concrete waste storage structure less than or equal to 6 feet in height or depth includes agitating, removing, and spreading the waste remaining in the structure. 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet of Structure

Scenario Unit: Square Foot

Scenario Typical Size: 640.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$2,105.50	\$3.29
Labor	\$532.68	\$0.83
Mobilization	\$3,470.58	\$5.42
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,108.76	\$9.54

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 41

Scenario Name: Decommission, Slab Only

Scenario Description: This scenario includes the demolition of a concrete waste storage structure without walls or enclosures.

Before Situation: An existing concrete waste storage structure that is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmentally sustainability by the potential for impacts to water and air quality.

After Situation: This scenario assumes a concrete waste storage slab without walls or enclosures. The concrete will be demolished and hauled offsite for recycling or disposal. Excavated areas will be filled in and appropriately graded. 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). 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square feet of concrete structure

Scenario Unit: Square Foot

Scenario Typical Size: 5,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,113.57	\$0.22
Labor	\$170.12	\$0.03
Mobilization	\$2,953.23	\$0.59
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,236.92	\$0.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 81

Scenario Name: Decommission, Earthen Storage, Remove Waste, Using On-Site Earthfill

Scenario Description: This practice scenario includes the decommissioning of an earthen liquid waste impoundment. Estimated volume of waste to be removed is approximately 50% liquid/slurry waste and 50% sludge/solid waste. Includes agitating, removing, and land applying liquid/slurry and solid/sludge waste material.

Before Situation: An existing lagoon or waste storage pond is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmental sustainability by the potential for impacts to water and air quality.

After Situation: Implementation Requirements and or design drawings were developed that meet the criteria for the purpose for which the practice is installed. The waste impoundment has been decommissioned and closed or converted for another use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic feet of structural storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 63,851.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$20,094.80	\$0.31
Labor	\$799.03	\$0.01
Mobilization	\$4,513.37	\$0.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$25,407.19	\$0.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 360 - Waste Facility Closure

Scenario Number: 84

Scenario Name: Convert to Freshwater, Greater Than 50% Solids Removed

Scenario Description: This practice scenario includes the conversion of an earthen liquid waste impoundment to fresh-water storage. Estimated volume of waste to be removed is approximately 50% liquid/slurry waste and 50% sludge/solid waste. Includes agitating, removing, and land applying liquid/slurry and solid/sludge waste material.

Before Situation: An existing lagoon or waste storage pond is no longer functioning correctly or is not being used for its intended purpose. It poses a safety hazard for humans and livestock and is a threat to environmental sustainability by the potential for impacts to water and air quality.

After Situation: Implementation Requirements and or design drawings were developed that meet the criteria for the purpose for which the practice is installed. The earthen liquid waste impoundment has been converted to fresh-water storage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic feet of structural storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 63,851.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$16,741.19	\$0.26
Labor	\$532.68	\$0.01
Mobilization	\$4,513.37	\$0.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$21,787.25	\$0.34

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 362 - Diversion

Scenario Number: 9

Scenario Name: Earthen Channel, Base Cost

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, critical erosion areas, construction areas or other sensitive areas. Outlet may be waterway, underground outlet. or another suitable outlet. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Diversion is installed using a dozer. Clean storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Excavation

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,249.85	\$1,249.85
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,249.85	\$1,249.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 362 - Diversion

Scenario Number: 10

Scenario Name: Earthen Channel, Implementation Cost

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, critical erosion areas, construction areas or other sensitive areas. Outlet may be waterway, underground outlet. or another suitable outlet. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Diversion is installed using a dozer. Clean storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Excavation

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.37	\$2.37
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.37	\$2.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 366 - Anaerobic Digester

Scenario Number: 1

Scenario Name: Anaerobic Digester

Scenario Description: This scenario is for a generic anaerobic digester that can be part of a waste management system and provide biological treatment of waste in the absence of oxygen. Energy generation is not included.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, in addition to the use of excessive amounts of fertilizers. The treatment of manure and other agricultural by-products is desired in order to manage odors, and/or reduce pathogens.

After Situation: Manure and other agricultural by-products are being treated such that odors are managed and/or pathogens are reduced. Effluent from the digester 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). Typical Design Scenario is each.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$2,012,876.39	\$2,012,876.39
Labor	\$0.00	\$0.00
Mobilization	\$2,129.63	\$2,129.63
Acquisition of Technical Knowledge	\$239.83	\$239.83
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,015,245.85	\$2,015,245.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 366 - Anaerobic Digester

Scenario Number: 7

Scenario Name: Covered Lagoon or Holding Pond

Scenario Description: A covered lagoon that can be part of a waste management system and provide biological treatment of waste in the absence of oxygen. This scenario is for all livestock operation sizes. The waste holding/treatment area is covered by Waste Treatment Lagoon (359) or Waste Storage Facility (313) and the cover is addressed under Roofs and Covers (367). Selection of the digester type will be based on effluent consistency. Costs include system controls, gas collection, and flaring system only. Energy generation is not included.

Before Situation: Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed. This situation poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, in addition to the use of excessive amounts of fertilizers. The treatment of manure and other agricultural by-products is desired in order to manage odors, and/or reduce pathogens.

After Situation: Manure and other agricultural by-products are being treated such that odors are managed and/or pathogens are reduced. Effluent from the digester is disposed of or utilized in a proper manner in accordance with a nutrient management plan. A covered lagoon/holding pond typically has a flexible top installed over an earthen storage/treatment facility for the purpose of capturing the biogas. Typical Design Scenario: 1,000 animal units (715 - 1,400 lbs dairy cows).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Animals Units Contributing to Digester

Scenario Unit: Animal Unit

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$495,572.39	\$495.57
Labor	\$0.00	\$0.00
Mobilization	\$1,086.83	\$1.09
Acquisition of Technical Knowledge	\$119.92	\$0.12
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$496,779.14	\$496.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 366 - Anaerobic Digester

Scenario Number: 8

Scenario Name: Biodigester, Modular

Scenario Description: A modular kit anaerobic digester that is part of a waste management system to provide the biological treatment of waste in the absence of oxygen and can be used for small to medium operations for a variety of animal manure and other organic materials. Each module can handle 350 lbs./day of manure (18 cows or 74 hogs fully confined). Energy generation is not included.

Before Situation: Manure and other agricultural byproducts are not being utilized, controlled, or disposed of in an environmentally safe manner and are either accumulating at the source, another location, or are transported. This poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, and the use of excessive amounts of fertilizers. The treatment of manure and other agricultural byproducts is needed to manage odors and/or reduce pathogens.

After Situation: Manure and other agricultural byproducts are treated, and odors are managed and/or pathogens are reduced. Waste from the digester is disposed of or utilized in a proper manner in accordance with a nutrient management plan. Included is a hermetic reactor receiving daily waste (i.e., fermented manure mixed with water) from a farm that produces biogas which is conducted through pipes to the points of use, PVC pipeline connections, gas lines, filters, pressure relief valves, geotextile to place the reactor, gas storage, water heater, and a burner for on-farm operations.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Unit

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,750.00	\$14,750.00
Equipment Installation	\$88.49	\$88.49
Labor	\$0.00	\$0.00
Mobilization	\$1,964.47	\$1,964.47
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,802.96	\$16,802.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 366 - Anaerobic Digester

Scenario Number: 9

Scenario Name: Gas and Flare System, Base Cost

Scenario Description: A complex anaerobic digester that is part of a waste management system to provide the biological treatment of waste in the absence of oxygen. The base represents a typical cost incurred, regardless of size. Energy generation is not included. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Manure and other agricultural byproducts are not being utilized, controlled, or disposed of in an environmentally safe manner and are either accumulating at the source, another location, or are transported. This poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, and the use of excessive amounts of fertilizers. The treatment of manure and other agricultural byproducts is needed to manage odors and/or reduce pathogens.

After Situation: Manure and other agricultural byproducts are treated, and odors are managed and/or pathogens are reduced. Waste from the digester is disposed of or utilized in a proper manner in accordance with a nutrient management plan. Included are the items necessary to maintain mesophilic and thermophilic temperatures for bacterial activity (i.e., piping and boiler or another heat source).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,000,000.00	\$7,000,000.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,000,000.00	\$7,000,000.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 366 - Anaerobic Digester

Scenario Number: 10

Scenario Name: Gas and Flare System, Implementation Cost

Scenario Description: A complex anaerobic digester that is part of a waste management system to provide the biological treatment of waste in the absence of oxygen. Implementation costs are expenses that vary in proportion to the size. Energy generation is not included. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Manure and other agricultural byproducts are not being utilized, controlled, or disposed of in an environmentally safe manner and are either accumulating at the source, another location, or are transported. This poses an environmental threat of excessive nutrients, organics, and pathogens being transported into surface and ground waters, and the use of excessive amounts of fertilizers. The treatment of manure and other agricultural byproducts is needed to manage odors and/or reduce pathogens.

After Situation: Manure and other agricultural byproducts are treated, and odors are managed and/or pathogens are reduced. Waste from the digester is disposed of or utilized in a proper manner in accordance with a nutrient management plan. Included are the items necessary to maintain mesophilic and thermophilic temperatures for bacterial activity (i.e., piping and boiler or another heat source).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Animal Unit

Scenario Unit: Animal Unit

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,210.10	\$2,210.10
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,210.10	\$2,210.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 367 - Roofs and Covers

Scenario Number: 5

Scenario Name: Hoop Structure, Flexible Roof, Base Cost

Scenario Description: Placement of a flexible membrane or fabric-like roof on steel truss hoop-like supports and supporting foundation. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Precipitation is not excluded from an animal waste storage or treatment facility.

After Situation: A roof was installed over a waste storage or treatment facility to exclude precipitation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,997.82	\$3,997.82
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,997.82	\$3,997.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 367 - Roofs and Covers

Scenario Number: 8

Scenario Name: Hoop Structure, Flexible Roof, Implementation Cost

Scenario Description: Placement of a flexible membrane or fabric-like roof on steel truss hoop-like supports and supporting foundation. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Precipitation is not excluded from an animal waste storage or treatment facility.

After Situation: A roof was installed over a waste storage or treatment facility to exclude precipitation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Building Footprint (Square Feet)

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12.12	\$12.12
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12.12	\$12.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 367 - Roofs and Covers

Scenario Number: 9

Scenario Name: Roof, Post Frame, Base Cost

Scenario Description: Installation of a sheet steel roof and supporting foundation over a timber post frame building with timber. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Precipitation is not excluded from an animal waste storage or treatment facility.

After Situation: A roof was installed over a waste storage or treatment facility to exclude precipitation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,800.32	\$5,800.32
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,800.32	\$5,800.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 367 - Roofs and Covers

Scenario Number: 12

Scenario Name: Roof, Post Frame, Implementation Cost

Scenario Description: Installation of a sheet steel roof and supporting foundation over a timber post frame building with timber. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Precipitation is not excluded from an animal waste storage or treatment facility.

After Situation: A roof was installed over a waste storage or treatment facility to exclude precipitation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Building Footprint (Square Feet)

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14.44	\$14.44
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14.44	\$14.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 64

Scenario Name: Burial

Scenario Description: This scenario consists of the onsite burial of animal mortalities resulting from catastrophic events not related to disease. 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.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for catastrophic mortality events.

After Situation: Catastrophic Animal mortalities resultuing 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 survival or 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 with appropriate 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 water diverted and any runoff to spread out into a grassed area.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of 1000 lbs Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 25.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,503.02	\$60.12
Labor	\$720.59	\$28.82
Mobilization	\$1,910.44	\$76.42
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,134.05	\$165.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 201

Scenario Name: Composting, Carbon Material and Mobilization

Scenario Description: This scenario consists of the disposal of animal carcasses by composting in a static windrow resulting from impacts related to a national emergency.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors from incomplete composting, incineration, or interaction with predators. No plan was formulated for catastrophic mortality events.

After Situation: 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 into surface 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 requires 5 cubic yards of carbon material per 1000 pounds of animal. Wood chips (45 pcf) will be used as the carbon source.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of 1000 lbs Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$14,177.00	\$472.57
Labor	\$3,302.71	\$110.09
Mobilization	\$2,173.67	\$72.46
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,653.37	\$655.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 292

Scenario Name: Composting, In-House

Scenario Description: This scenario consists of the emergency disposal of poultry mortality by composting in a static windrow.

Before Situation: Animal mortality is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, or interaction with predators. No plan was formulated for catastrophic mortality events.

After Situation: 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. Proper operation results in 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 typical scenario number of birds to be disposed of is 20,000, 4 pound birds which can be composted in-house. Composting requires 1.5 pounds of carbon per pound of bird. There is 0.5 pounds of litter per bird 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 birds and litter in center of house; 2) construct 2 windrow bases using carbon material; 3) place carcass/litter mix on bases; 4) cover with carbon material; 5) cap windrows with any remaining litter; 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 runoff to spread out into a grassed area.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of 1000 lbs Animal Units

Scenario Unit: Animal Unit

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$7,415.07	\$92.69
Labor	\$1,681.38	\$21.02
Mobilization	\$1,457.89	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,554.34	\$131.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 305

Scenario Name: Disposal, Cattle or Horse

Scenario Description: This scenario consists of the disposal, by methods other than burial, of cattle, horse or other similar sized animal carcasses resulting from catastrophic events not related to disease.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators.

After Situation: Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a manner, other than burial, 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 survival or 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 5 head averaging 1000 pounds each in a landfill. The scenario includes materials, equipment time and labor to recover and transport carcasses to the landfill which is a distance of 35 miles from the farm.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Head

Scenario Unit: Each

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$171.61	\$34.32
Equipment Installation	\$996.38	\$199.28
Labor	\$606.10	\$121.22
Mobilization	\$1,735.29	\$347.06
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,509.38	\$701.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 306

Scenario Name: Disposal, Swine

Scenario Description: This scenario consists of the disposal, by methods other than burial, of swine or other similar sized animal carcasses on a small size operation resulting from catastrophic events not related to disease.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators.

After Situation: Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a manner, other than burial, 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 survival or 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 1 boar at 450 pounds, 9 sows at 350 pounds each and 8 babies/sow at 12 pounds each in a landfill. The number of head counted are the sows and boar (adult swine) at 10 total head. The scenario includes materials, equipment time and labor to recover and transport the boar, sows and baby carcasses to the landfill which is a distance of 35 miles from the farm.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Adult Head

Scenario Unit: Each

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$132.14	\$13.21
Equipment Installation	\$685.06	\$68.51
Labor	\$409.54	\$40.95
Mobilization	\$1,735.29	\$173.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,962.03	\$296.20

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 307

Scenario Name: Disposal, Goat or Sheep

Scenario Description: This scenario consists of the disposal, by methods other than burial, of goat, sheep or other similar sized animal carcasses on a small size operation resulting from catastrophic events not related to disease.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators.

After Situation: Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a manner, other than burial, 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 survival or 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 10 head of goats at an average weight of 100 pounds each in a landfill. All head are counted. The scenario includes materials, equipment time and labor to recover and transport the goat carcasses to the landfill which is a distance of 35 miles from the farm.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Head

Scenario Unit: Each

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$59.15	\$5.92
Equipment Installation	\$529.40	\$52.94
Labor	\$311.26	\$31.13
Mobilization	\$1,735.29	\$173.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,635.10	\$263.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 368 - Emergency Animal Mortality Management

Scenario Number: 308

Scenario Name: Landfill or Render

Scenario Description: This scenario consists of the disposal of animal mortality carcasses by landfilling or rendering resulting from catastrophic events not related to disease.

Before Situation: Animal mortality disposal is done in a manner that results in non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Improper operation results in odors and spread of pathogens from incomplete composting, incineration, or interaction with predators. No plan was formulated for catastrophic mortality events.

After Situation: Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a manner, other than burial, 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 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 within a 1.5 hour drive of the farm.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pounds of mortality

Scenario Unit: Pound

Scenario Typical Size: 140,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,470.79	\$0.02
Equipment Installation	\$3,117.68	\$0.02
Labor	\$1,791.29	\$0.01
Mobilization	\$1,735.29	\$0.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,115.05	\$0.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 2

Scenario Name: Combustion Engine Replacement, Implementation Cost

Scenario Description: Replace an existing older diesel engine with a new diesel engine that is certified to the newest available U.S. Environmental Protection Agency engine TIER rating. The existing diesel engine may be stationary or portable, but not mobile (e.g., providing motive power to tractors, trucks, etc.). Examples of stationary or portable engines include diesel-fired pumping plant power units, emergency generators, or engines providing power for other agricultural systems. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An old or inefficient diesel engine provides power to an agricultural system, such as an irrigation pumping plant or grain dryer fan, or provides backup power generation for a farming operation.

After Situation: The existing older diesel engine is replaced or repowered with a new diesel engine that is certified to the newest available U.S. Environmental Protection Agency engine TIER rating. The engine being replaced or repowered will be destroyed or disabled and a certificate of destruction or inoperability submitted prior to certification of practice completion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Size of Replacement Engine

Scenario Unit: Brake Horse Power

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$155.31	\$155.31
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$155.31	\$155.31

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 190

Scenario Name: Combustion Engine to Electric Motor and Centrifugal Pump Combination

Scenario Description: Replace an existing older diesel engine with a new electric motor/centrifugal pump combination unit. The existing diesel engine may be stationary or portable, but not mobile (e.g. providing motive power to tractors, trucks, etc.). Examples of stationary or portable engines include diesel-fired pumping plant power units.

Before Situation: An old or inefficient diesel engine withdraws water from a surface water body and provides water to an irrigation system.

After Situation: The existing older diesel engine is replaced with a new electric motor/centrifugal pump combination unit. A concrete slab is installed for the new unit. The engine being replaced or repowered is destroyed or disabled and a certificate of destruction or inoperability is submitted prior to certification of practice completion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horsepower of Electric Motor

Scenario Unit: Horsepower

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,850.96	\$228.37
Equipment Installation	\$1,705.89	\$56.86
Labor	\$3,206.83	\$106.89
Mobilization	\$867.64	\$28.92
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,631.33	\$421.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 191

Scenario Name: Combustion Engine to Electric Motor, Implementation Cost

Scenario Description: Replace an existing older diesel engine with a new electric motor. The existing diesel engine may be stationary or portable, but not mobile (e.g. providing motive power to tractors, trucks, etc.). Examples of stationary or portable engines include diesel-fired pumping plant power units or engines providing power for other agricultural systems. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An old or inefficient diesel engine provides power to an agricultural system, such as an irrigation pumping plant or grain dryer fan.

After Situation: The existing older diesel engine is replaced with a new electric motor. The engine being replaced or repowered is destroyed or disabled and a certificate of destruction or inoperability is submitted prior to certification of practice completion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Size of New Motor

Scenario Unit: Brake Horse Power

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$136.75	\$136.75
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$136.75	\$136.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 192

Scenario Name: Combustion Engine to Electric Motor, Base Cost

Scenario Description: Replace an existing older diesel engine with a new electric motor. The existing diesel engine may be stationary or portable, but not mobile (e.g. providing motive power to tractors, trucks, etc.). Examples of stationary or portable engines include diesel-fired pumping plant power units or engines providing power for other agricultural systems. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An old or inefficient diesel engine provides power to an agricultural system, such as an irrigation pumping plant or grain dryer fan.

After Situation: The existing older diesel engine is replaced with a new electric motor. The engine being replaced or repowered is destroyed or disabled and a certificate of destruction or inoperability is submitted prior to certification of practice completion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,236.26	\$2,236.26
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,236.26	\$2,236.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 220

Scenario Name: Soft Start, Base Cost

Scenario Description: This is an installation of electrical and electronic components designed to limit the starting voltage and rpm's on an existing pump. The voltage drop will cause the pump to slowly rotate at first and ramp up to full rpm within a period of time which will not cause a spike in KW to the power grid. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Standard electrical connection from electrical utility to pump motor. No capability to limit pump requirements causing a spike in power output resulting in a power surge and cost are passed on to consumer. Result in possibility of overuse on a power grid, or coop power company refusing to allow pump to be turned on at specific times. Causing inefficient water application in the irrigation system.

After Situation: Soft Start Modifications are implemented at the pump site to allow for varying the speed of an electric motor at startup. Keep power surges to a minimum and match to power consumption of the motor over time. Keeps water hammer to a low risk, and matches the pressure and flow requirements for a irrigation system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$767.75	\$767.75
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$767.75	\$767.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 221

Scenario Name: Soft Start, Implementation Cost

Scenario Description: This is an installation of electrical and electronic components designed to limit the starting voltage and rpms on an existing pump. The voltage drop will cause the pump to slowly rotate at first and ramp up to full rpm within a period of time which will not cause a spike in KW to the power grid. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Standard electrical connection from electrical utility to pump motor. No capability to limit pump requirements causing a spike in power output resulting in a power surge and cost are passed on to consumer. Result in possibility of overuse on a power grid, or coop power company refusing to allow pump to be turned on at specific times. Causing inefficient water application in the irrigation system.

After Situation: Soft Start Modifications are implemented at the pump site to allow for varying the speed of an electric motor at startup. Keep power surges to a minimum and match to power consumption of the motor over time. Keeps water hammer to a low risk, and matches the pressure and flow requirements for a irrigation system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horsepower

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$88.01	\$88.01
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$88.01	\$88.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 372 - Combustion System Improvement

Scenario Number: 256

Scenario Name: Combustion Engine Replacement, Base Cost

Scenario Description: Replace an existing older diesel engine with a new diesel engine that is certified to the newest available U.S. Environmental Protection Agency engine TIER rating. The existing diesel engine may be stationary or portable, but not mobile (e.g., providing motive power to tractors, trucks, etc.). Examples of stationary or portable engines include diesel-fired pumping plant power units, emergency generators, or engines providing power for other agricultural systems. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An old or inefficient diesel engine provides power to an agricultural system, such as an irrigation pumping plant or grain dryer fan, or provides backup power generation for a farming operation.

After Situation: The existing older diesel engine is replaced or repowered with a new diesel engine that is certified to the newest available U.S. Environmental Protection Agency engine TIER rating. The engine being replaced or repowered will be destroyed or disabled and a certificate of destruction or inoperability submitted prior to certification of practice completion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,150.32	\$1,150.32
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,150.32	\$1,150.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 2

Scenario Name: Controller, Variable Speed Drive, for motor 1 to 10 horsepower

Scenario Description: The application of this scenario consists of adding a variable speed drive on an existing electric motor used in an agricultural operation such as a vacuum pump in a dairy. The new variable speed drive will control the existing motor such that the speed can be adjusted to match the varied flow or pressure required to perform the same task as the existing motor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,249.18	\$1,249.18
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,570.18	\$1,570.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 3

Scenario Name: Controller, Variable Speed Drive, for motor greater than 10 horsepower

Scenario Description: The application of this scenario consists of adding a variable speed drive on an existing electric motor used in an agricultural operation such as a ventilation fan in a poultry barn. The new variable speed drive will control the existing motor such that the speed can be adjusted to match the varied flow or pressure required to perform the same task as the existing motor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,321.07	\$2,321.07
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,642.07	\$2,642.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 4

Scenario Name: Controller, Variable Speed Drive, for motor less than or equal to 1 horsepower

Scenario Description: The application of this scenario consists of adding a variable speed drive on an existing electric motor used in an agricultural operation such as a vacuum pump in a small dairy. The new variable speed drive will control the existing motor such that the speed can be adjusted to match the varied flow or pressure required to perform the same task as the existing motor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$763.06	\$763.06
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,084.06	\$1,084.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 5

Scenario Name: Evaporative Cooling System

Scenario Description: The application of this scenario consists of replacing, adding to, or installing a cool cell or evaporative cooling system in an agricultural operation such as a greenhouse, poultry house or other livestock facility to reduce total ventilation requirements in hot weather, or on a specialty crop farm with an inefficient refrigeration system that is used to quick-cool harvested products. The system will distribute and recycle the water, reducing the total amount of water used. The evaporative cooling system will reduce the load on the existing ventilation or cooling system resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of cooling pad

Scenario Unit: Square Foot

Scenario Typical Size: 750.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,058.79	\$18.75
Equipment Installation	\$0.00	\$0.00
Labor	\$1,283.99	\$1.71
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,342.79	\$20.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 6

Scenario Name: Heat Recovery, Water, High Efficiency

Scenario Description: The application of this scenario consists of adding a compressor heat recovery system on an existing refrigeration system in an agricultural operation such as a dairy or nursery that also utilizes an existing hot water heater. The heat recovery system utilizes the heat extracted from the refrigerated fluid to pre-heat water before it enters the existing conventional water heater. Exhaust heat from the liquid cooling system is recovered and used to reduce the heating capacity requirement to heat water, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,215.65	\$6,215.65
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,536.65	\$6,536.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 10

Scenario Name: Heating, Air, Radiant, Brooder

Scenario Description: The application of this scenario consists of replacing pancake brood heaters in a poultry barn, or low efficiency heaters in an agricultural operation, with energy efficient radiant brood heaters. The new, high efficiency heating system will have the same output and perform the same task as the existing heating system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$379.70	\$379.70
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$700.70	\$700.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 11

Scenario Name: Heating, Air, Radiant, Poultry House

Scenario Description: The application of this scenario consists of replacing pancake brood heaters in a poultry barn, or low efficiency heaters in an agricultural operation, with energy efficient tube, quad, or brooder radiant heaters. The new, high efficiency heating system will have the same output and perform the same task as the existing heating system, resulting in the reduction of energy use. The feature measure is the nominal floor area, in square feet, of the existing heated area.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of heated building

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,058.01	\$0.70
Equipment Installation	\$0.00	\$0.00
Labor	\$3,209.99	\$0.16
Mobilization	\$400.00	\$0.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$17,667.99	\$0.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 12

Scenario Name: Heating, Air, Radiant, Tube or Quad

Scenario Description: The application of this scenario consists of replacing pancake brood heaters in a poultry barn, or low efficiency heaters in an agricultural operation, with energy efficient tube or quad radiant heaters. The new, high efficiency heating system will have the same output and perform the same task as the existing heating system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,808.79	\$1,808.79
Equipment Installation	\$0.00	\$0.00
Labor	\$642.00	\$642.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,450.78	\$2,450.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 13

Scenario Name: Heating, Greenhouse Root Zone

Scenario Description: The application of this scenario consists of adding an in-soil, root zone heating system in an existing greenhouse that utilizes supplemental air heating. The root zone heating system provides heat directly to the growing media, using radiant tubes, bench heating, or hot water piping. The root zone heating system replaces the use of inefficient air heating devices, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal length of heating system tubing

Scenario Unit: Linear Foot

Scenario Typical Size: 1,600.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,487.00	\$2.18
Equipment Installation	\$0.00	\$0.00
Labor	\$1,925.99	\$1.20
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,412.99	\$3.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 14

Scenario Name: Heating, Water, High Efficiency

Scenario Description: The application of this scenario consists of replacing a low efficiency water heating system in an agricultural operation with a high efficiency water heater or a tankless, direct vented and high temperature spin down, water heater. The new, high efficiency water heating system will have the same output and perform the same task as the existing water heating system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,503.27	\$3,503.27
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,824.27	\$3,824.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 15

Scenario Name: Livestock Waterer, High Efficiency

Scenario Description: The application of this scenario consists of replacing existing livestock waterers in a grazing or barnyard operation with low energy livestock waterers on a one-to-one basis. The new, high efficiency water heating system will have the same output and perform the same task as the existing water heating system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,140.36	\$1,140.36
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,300.86	\$1,300.86

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 16

Scenario Name: Motor, NEMA Premium, greater than 2 horsepower

Scenario Description: The application of this scenario consists of replacing an existing electric motor used to drive an agricultural system such as a ventilation fan in a poultry barn. The new, high efficiency motor will have the same output and perform the same task as the existing motor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,492.67	\$1,492.67
Equipment Installation	\$0.00	\$0.00
Labor	\$240.75	\$240.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,733.42	\$1,733.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 17

Scenario Name: Motor, NEMA Premium, less than or equal to 2 horsepower

Scenario Description: The application of this scenario consists of replacing an existing electric motor used to drive an agricultural system such as a vacuum pump in a small dairy. The new, high efficiency motor will have the same output and perform the same task as the existing motor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$770.75	\$770.75
Equipment Installation	\$0.00	\$0.00
Labor	\$240.75	\$240.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,011.50	\$1,011.50

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 18

Scenario Name: Plate Cooler

Scenario Description: The application of this scenario consists of adding a dual pass plate cooler in an agricultural operation such as a dairy or nursery. The plate cooler will be stainless steel, type 316, and the cooling water will be recycled, reducing the total amount of water used. The new system will pre-cool water, milk, or other liquids, prior to use or processing, reducing the existing compressor usage for cooling, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,603.03	\$5,603.03
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,924.03	\$5,924.03

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 19

Scenario Name: Scroll Compressor

Scenario Description: The application of this scenario consists of replacing an existing reciprocating compressor with a scroll compressor in an agricultural operation such as a dairy or nursery. The scroll compressor provides equivalent refrigeration capacity at a higher efficiency than the existing reciprocating compressor, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,145.28	\$4,145.28
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,305.78	\$4,305.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 20

Scenario Name: Ventilation, Greater Than or Equal to 1/2 Horsepower

Scenario Description: The application of this scenario consists of replacing conventional circulation fans or installing new high efficiency, circulation, horizontal air flow (HAF), or high-volume low speed (HVLS) fans in an agricultural operation. The new, high efficiency air circulation system will reduce load on the existing ventilation system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$478.46	\$478.46
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$638.96	\$638.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 21

Scenario Name: Ventilation, Less Than 1/2 Horsepower

Scenario Description: The application of this scenario consists of replacing conventional circulation fans or adding new high efficiency, circulation, horizontal air flow (HAF), or high-volume low speed (HVLS) fans in an agricultural operation. The new, high efficiency air circulation system will reduce load on the existing ventilation system resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$202.51	\$202.51
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$363.01	\$363.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 22

Scenario Name: Ventilation, Fan, Exhaust, high efficiency, 36 to 47-inch diameter

Scenario Description: The application of this scenario consists of replacing a conventional exhaust fan in an agricultural operation with a high efficiency exhaust fan. The new, high efficiency ventilation system will perform the same task as the existing ventilation system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,734.30	\$1,734.30
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,894.80	\$1,894.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 23

Scenario Name: Ventilation, Fan, Exhaust, high efficiency, greater than or equal to 48-inch diameter

Scenario Description: The application of this scenario consists of replacing a conventional exhaust fan in an agricultural operation with a high efficiency exhaust fan. The new, high efficiency ventilation system will perform the same task as the existing ventilation system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,462.05	\$2,462.05
Equipment Installation	\$0.00	\$0.00
Labor	\$240.75	\$240.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,702.80	\$2,702.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 24

Scenario Name: Ventilation, Fan, Exhaust, high efficiency, less than 36-inch diameter

Scenario Description: The application of this scenario consists of replacing a conventional exhaust fan in an agricultural operation with a high efficiency exhaust fan. The new, high efficiency ventilation system will perform the same task as the existing ventilation system, resulting in the reduction of energy use.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofit component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system will reduce annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of devices

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,004.98	\$1,004.98
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,165.48	\$1,165.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 38

Scenario Name: Heating, Air, High Efficiency, Base Cost

Scenario Description: Consists of replacing a low efficiency combustion heating system in an agricultural operation with a high efficiency heating system. The new, high efficiency heating system will have the same output and perform the same task as the existing heating system, resulting in the reduction of energy use. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofitted component is installed in an agricultural operation's existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system reduces annual power requirements compared to the existing system. Installation abides by all manufacturers' instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Unit.

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$103.05	\$103.05
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$103.05	\$103.05

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 374 - Energy Efficient Agricultural Operation

Scenario Number: 39

Scenario Name: Heating, Air, High Efficiency, Implementation Cost

Scenario Description: Consists of replacing a low efficiency combustion heating system in an agricultural operation with a high efficiency heating system. The new, high efficiency heating system will have the same output and perform the same task as the existing heating system, resulting in the reduction of energy use. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An agricultural operation uses energy inefficiently. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, modified, or retrofitted component is installed in an agricultural operation’s existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new energy using system reduces annual power requirements compared to the existing system. Installation abides by all manufacturers instructions, including the use of factory trained installers, if applicable. All existing system components not required for the new system are decommissioned or destroyed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Heating Capacity

Scenario Unit: 1,000 BTU/Hour

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$26.32	\$26.32
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26.32	\$26.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 10

Scenario Name: Crops per Year

Scenario Description: Utilization of equipment that reduces tillage passes through the field and/or utilizing precision GPS guidance to avoid an overlap of tillage passes across the field per crop rotation. Use this practice only when residue and Soil Tillage Intensity Rating (STIR) values cannot be achieved when utilizing the associated residue and tillage management practices.

Before Situation: Tillage operations are performed individually, and each operation requires a tractor or other power implement to pull the tillage implement resulting in multiple passes across the field. Each pass creates soil particulate emissions contributing to the area's reduced air quality.

After Situation: Implementation requirements were developed and meet the criteria for 376 Field Operations Emissions Reduction. A reduced number of field passes across the field is shown and soil particulate emissions are reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Number

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$946.10	\$23.65
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$946.10	\$23.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 106

Scenario Name: Technology, Clean Harvest

Scenario Description: Utilization of harvest equipment that is documented to reduce PM10 by 30% or greater. Technology may also have beneficial impacts to reducing PM2.5 and NOx emissions. Qualified technologies must be approved by the State Air Quality Specialist or equivalent and can include sweepers, harvesters, or other equipment designed to reduce the output of dust, particulates, or other emissions affecting air quality. Equipment could be self-propelled or powered by another unit.

Before Situation: Harvest operations are performed individually, and each operation requires a combustion system and other implement used to harvest crops.

After Situation: Implementation requirements for clean harvest technology were developed and meet the criteria of 376 Field Operations Emissions Reduction. The use of clean harvest technology may reduce the total number of passes, reduce the amount of emissions, or meet a state or local emission regulation. These reductions may result from fossil fuel combustion or particulate matter emissions.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.00	\$0.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 107

Scenario Name: Air Curtain Burner, Small

Scenario Description: Utilization of an air curtain burner to replace open pile burning of an orchard/vineyard and other crop tree prunings and trimmings for operations less than 60 acres. Air curtain burners provide a hotter, cleaner and more efficient burn that results in a reduction of smoke, odor, and particulate matter that reduces impacts to ambient air quality. Applies to woody crop biomass treatment. Forest slash should be treated under practice 384 Woody Biomass Treatment.

Before Situation: Woody residue prunings, trimmings, and removals at operations less than 60 acres are burned in open piles, resulting in substantial air emissions of particulate matter.

After Situation: Implementation requirements were developed to use air curtain burners and meet the criteria for 376 Field Operations Emissions Reduction. Open pile burning has been discontinued and particulate matter emissions were reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$6,627.07	\$132.54
Labor	\$4,243.33	\$84.87
Mobilization	\$867.64	\$17.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,738.05	\$234.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 108

Scenario Name: Woody Biomass, Chipping

Scenario Description: Utilization of a chipper/shredder/masticator to replace Open Pile Burning (OPB) of woody stem/branch prunings, trimmings, and removal on orchards/vineyards/Christmas trees. The chipped materials will be processed to dimensions suitable to be left in the field or associated agriculture lands and/or will not adversely impact operations.

Before Situation: Open Pile Burning (OPB) is used to burn woody stem/branch prunings, trimmings, and removals from orchard/vineyard/Christmas tree operations resulting in the release of smoke, fugitive dust, odors, and ozone precursors impacting ambient air quality.

After Situation: Implementation requirements for chipping woody biomass were designed and meet the criteria of 376 Field Operations Emissions Reduction. The treatment of woody residue without burning resulted in the reduction of air pollutants.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,583.84	\$79.19
Labor	\$2,034.99	\$101.75
Mobilization	\$1,232.12	\$61.61
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,850.95	\$242.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 109

Scenario Name: Woody Biomass Treatment, Tub Grinder

Scenario Description: The slash created during large tree orchard removal is chipped, ground or shredded in lieu of burning. Applicable to treat biomass from large mature vineyards. Material may be removed from the site, incorporated in the soil, or used as a dust suppressant on unpaved roads or traffic areas.

Before Situation: Wood waste is burned creating an air quality issue.

After Situation: Implementation requirements for grinding woody biomass were designed and meet the criteria of 376 Field Operations Emissions Reduction. The treatment of woody residue without burning resulted in the reduction of air pollutants.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres treated

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$22,487.83	\$1,124.39
Labor	\$3,058.56	\$152.93
Mobilization	\$3,128.38	\$156.42
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$28,674.76	\$1,433.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 376 - Field Operations Emissions Reduction

Scenario Number: 110

Scenario Name: Air Curtain Burner, Large

Scenario Description: Utilization of an air curtain burner to replace open pile burning of an orchard/vineyard and other crop tree prunings and trimmings for operations greater than or equal to 60 acres. Air curtain burners provide a hotter, cleaner and more efficient burn that results in a reduction of smoke, odor, and particulate matter that reduces impacts to ambient air quality. Applies to woody crop biomass treatment. Forest slash should be treated under practice 384 Woody Biomass Treatment.

Before Situation: Orchard/vineyard or other crop tree prunings, trimmings, and removals at operations greater than or equal to 60 acres are burned in open piles, resulting in substantial air emissions of particulate matter.

After Situation: Implementation requirements to use air curtain burners were developed and meet the criteria for 376 Field Operations Emissions Reduction. Open pile burning has been discontinued and particulate matter emissions were reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$24,557.48	\$122.79
Labor	\$12,550.18	\$62.75
Mobilization	\$1,735.29	\$8.68
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$38,842.95	\$194.21

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 378 - Pond

Scenario Number: 84

Scenario Name: Embankment Pond without Pipe

Scenario Description: Installation of a water impoundment structure on agricultural land to improve water quality and provide water for livestock, fish and wildlife, recreation, fire control, crop and orchard irrigation, and other related uses. An earthen embankment will be constructed with an earthen auxiliary spillway.

Before Situation: An area exists where water naturally pools or runs off to create a pond for livestock, wildlife, fire control, or irrigation. Failure of the embankment does not result in loss of life or damage of any kind.

After Situation: The typical pond was constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 3,100 cubic yards to create an embankment. The earthen auxiliary spillway was constructed as designed. No principle spillway pipe was used.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Embankment Volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$5,899.31	\$1.90
Labor	\$1,529.28	\$0.49
Mobilization	\$867.64	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,296.23	\$2.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 378 - Pond

Scenario Number: 85

Scenario Name: Embankment Pond with Pipe

Scenario Description: Installation of a low hazard water impoundment structure on agricultural land to improve water quality and provide water for livestock, fish and wildlife, recreation, fire control, crop and orchard irrigation, and other related uses. An earthen embankment will be constructed with a principle spillway conduit and earthen auxiliary spillway, as designed.

Before Situation: An area exists where water naturally pools or runs off to create a pond for livestock, wildlife, fire control, or irrigation. Failure of the embankment does not result in loss of life or damage of any kind.

After Situation: The typical low hazard pond was constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 3,100 cubic yards to create an embankment. The principle spillway was installed using approved conduit material and the earthen auxiliary spillway was constructed as designed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Embankment Volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,741.57	\$1.53
Equipment Installation	\$8,760.69	\$2.83
Labor	\$2,175.25	\$0.70
Mobilization	\$867.64	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,545.15	\$5.34

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 378 - Pond

Scenario Number: 101

Scenario Name: Excavated Pit

Scenario Description: Installation of a low-hazard water impoundment structure on agricultural land to improve water quality and provide water for livestock, fish and wildlife, recreation, fire control, crop and orchard irrigation, and other related uses. The pond is created solely by excavation and impounds less than three feet against the embankment or spoil. Excavated material is spoiled, not placed in a designed embankment, and earthen spillway is constructed, as needed.

Before Situation: An area exists where water naturally pools or runs off to create a pond for livestock, wildlife, fire control, or irrigation. Failure of the pond does not result in loss of life, damage to homes, commercial or industrial buildings, main highways, railroads, or interference with public utility services.

After Situation: The typical pond was constructed by excavating and spreading the spoil outside the pool area using a dozer or similar excavation equipment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Excavated Volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$5,899.31	\$1.90
Labor	\$1,567.51	\$0.51
Mobilization	\$867.64	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,334.46	\$2.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 380 - Windbreak/Shelterbelt Establishment and Renovation

Scenario Number: 270

Scenario Name: One Row Planting, No Protection

Scenario Description: Planting of a single row of trees and/or shrubs for wind protection, wildlife habitat, snow management, or visual screening. Plantings are not protected by tree shelters.

Before Situation: An agricultural field, livestock paddock, feedlot, or farmstead needs protection from wind, additional wildlife food and cover, management of snow deposition, or visual shielding.

After Situation: Wind velocity was suitably lowered and reduces soil erosion or manages snow deposition. Additional food and cover for wildlife were established, or the area is visually shielded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet

Scenario Unit: Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$198.73	\$0.40
Equipment Installation	\$246.08	\$0.49
Labor	\$319.92	\$0.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$112.90	\$0.23
Risk	\$0.00	\$0.00
Total	\$877.64	\$1.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 380 - Windbreak/Shelterbelt Establishment and Renovation

Scenario Number: 291

Scenario Name: One Row Planting with Protection or Supplemental Planting

Scenario Description: Planting of a single row of trees and/or shrubs for wind protection, wildlife habitat, snow management, or visual screening. Plantings are protected by tree shelters because environmental impacts are likely.

Before Situation: An agricultural field, livestock paddock, feedlot, or farmstead needs protection from wind, additional wildlife food and cover, management of snow deposition, or visual shielding.

After Situation: Wind velocity was suitably lowered and reduces soil erosion or manages snow deposition. Additional food and cover for wildlife were established, or the area is visually shielded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet

Scenario Unit: Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,233.64	\$2.47
Equipment Installation	\$246.08	\$0.49
Labor	\$490.05	\$0.98
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$112.90	\$0.23
Risk	\$0.00	\$0.00
Total	\$2,082.66	\$4.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 380 - Windbreak/Shelterbelt Establishment and Renovation

Scenario Number: 312

Scenario Name: Renovation, Tree Removal with Planting, No Protection

Scenario Description: Renovation of a windbreak/shelterbelt to remove and replace deteriorated, damaged, diseased, or unsuitable trees or shrubs. The treatment to improve its health and function may include the removal of entire rows or selected trees/shrubs using mechanized equipment to prepare for the necessary planting of replacement trees and shrubs within the footprint of an existing windbreak. Trees and/or shrubs are replanted for wind protection, wildlife habitat, snow management, or visual screening. Plantings are not protected by tree shelters.

Before Situation: An agricultural field, livestock paddock, feedlot, or farmstead needs protection from wind, additional wildlife food and cover, management of snow deposition, or visual shielding.

After Situation: Wind velocity was suitably lowered and reduces soil erosion or manages snow deposition. Additional food and cover for wildlife were established, or the area is visually shielded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet

Scenario Unit: Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$198.73	\$0.40
Equipment Installation	\$1,130.98	\$2.26
Labor	\$549.32	\$1.10
Mobilization	\$867.64	\$1.74
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,746.67	\$5.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 380 - Windbreak/Shelterbelt Establishment and Renovation

Scenario Number: 333

Scenario Name: Renovation, Tree Removal with Planting with Tree Protection or Small Farm Planting

Scenario Description: Renovation of a windbreak/shelterbelt to remove and replace deteriorated, damaged, diseased, or unsuitable trees or shrubs. The treatment to improve its health and function may include the removal of entire rows or selected trees/shrubs using mechanized equipment to prepare for the necessary planting of replacement trees and shrubs within the footprint of an existing windbreak. Trees and/or shrubs are planted back for wind protection, wildlife habitat, snow management, or visual screening. Plantings are protected by tree shelters because environmental impacts are likely.

Before Situation: An agricultural field, livestock paddock, feedlot, or farmstead needs protection from wind, additional wildlife food and cover, management of snow deposition, or visual shielding.

After Situation: Wind velocity was suitably lowered and reduces soil erosion or manages snow deposition. Additional food and cover for wildlife were established, or the area is visually shielded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet

Scenario Unit: Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,233.64	\$2.47
Equipment Installation	\$1,130.98	\$2.26
Labor	\$719.44	\$1.44
Mobilization	\$867.64	\$1.74
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,951.70	\$7.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 381 - Silvopasture

Scenario Number: 17

Scenario Name: Native Perennial Grass, Non-Commercial

Scenario Description: Non-commercial thinning of an existing stand of trees followed by establishment of native grasses.

Before Situation: 10-acre stand of trees that are overstocked with a basal area of 100 sq. ft. per acre. Due to the dense shade of the tree canopy, there is very little available forage for livestock.

After Situation: The stand is thinned non-commercially to a basal area of 50 sq. ft. per acre, which allows adequate sunlight to the forest floor for grass production and still provides shade and some protection from the elements for livestock and wildlife. Debris is removed and all tree cutting will leave the shortest possible stump height. The soil is prepared for planting using chemical and mechanical means and a mix of native grasses will be established, providing forage to livestock and wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of silvopasture established

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,075.28	\$407.53
Equipment Installation	\$3,219.90	\$321.99
Labor	\$4,065.40	\$406.54
Mobilization	\$2,778.08	\$277.81
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,138.67	\$1,413.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 381 - Silvopasture

Scenario Number: 18

Scenario Name: Native Perennial Grass, Commercial

Scenario Description: Commercial thinning of an existing stand of trees followed by establishment of native grasses.

Before Situation: 10-acre pine plantation that is overstocked with a basal area of 100 sq. ft. per acre. Due to the dense shade of the tree canopy, there is very little available forage for livestock.

After Situation: The stand is thinned commercially to a basal area of 50 sq. ft. per acre, which allows adequate sunlight to the forest floor for grass production and still provides shade and some protection from the elements for livestock and wildlife. Since thinning is done commercially, no harvesting costs are incurred. Debris is removed and all tree cutting will leave the shortest possible stump height. The soil is prepared for planting using chemical and mechanical means and a mix of native warm-season grasses will be established, providing forage to livestock and wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of silvopasture established

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,075.28	\$407.53
Equipment Installation	\$559.98	\$56.00
Labor	\$893.28	\$89.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,528.54	\$552.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 381 - Silvopasture

Scenario Number: 20

Scenario Name: Native Perennial Grass, Pine Plantation

Scenario Description: Establishment of native grasses into an existing stand of trees that is already at an adequate density .

Before Situation: 10-acre pine plantation woodlot that has a basal area of 50 sq. ft. per acre. Due to undesirable species in the understory, there is very little available forage for livestock.

After Situation: The soil is prepared for planting using chemical and mechanical means and a mix of native warm-season grasses will be established, providing forage to livestock and wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of silvopasture established

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,946.61	\$394.66
Equipment Installation	\$559.98	\$56.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,506.59	\$450.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 381 - Silvopasture

Scenario Number: 23

Scenario Name: Bareroot, Conifer

Scenario Description: Establishment of trees into an existing pasture that contains adequate native or introduced forage.

Before Situation: 10-acre pasture with suitable forage for livestock. There is very little protection from the elements (sun, wind, etc.) available to the livestock and there are no long-term wood products being produced.

After Situation: The site is prepared using Tree/Shrub Site Preparation (490), if needed, and then 200 pine trees per acre will be planted, providing shade and wind protection to livestock and wildlife, and, in time, producing a viable wood products crop. Per the conservation practice standard, livestock grazing will be deferred until the trees reach adequate height to resist damage or use exclusion measures are established.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of silvopasture established

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,345.39	\$234.54
Equipment Installation	\$282.80	\$28.28
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,628.19	\$262.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 381 - Silvopasture

Scenario Number: 25

Scenario Name: Bareroot Conifer and Introduced Perennial Grass

Scenario Description: Establishment of trees and introduced grasses and legumes into a field that contains neither suitable forage nor suitable tree cover for a silvopasture system.

Before Situation: 10-acre old field without suitable forage for livestock or tree cover Due to undesirable species in the understory, there is very little available forage for livestock.

After Situation: The site is prepared using chemical and mechanical means, a mix of cool-season grasses and legumes will be established, and then 200 pine trees per acre will be planted, providing forage to livestock and wildlife, and, in time, producing a viable wood products crop. Per the conservation practice standard, livestock grazing will be deferred until the trees reach adequate height to resist damage or use exclusion measures are established.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of silvopasture established

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,174.30	\$517.43
Equipment Installation	\$748.95	\$74.89
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,923.25	\$592.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 382 - Fence

Scenario Number: 159

Scenario Name: Woven Wire, 96 Inches

Scenario Description: Woven Wire fencing installed for large livestock such as Bison, large ungulate herbivores, captive cervidae that are not domesticated. Because of the size and behavior differences relative to domesticated livestock, fences, handling facilities and loading facilities must be more robust to accommodate bison. Fence allows for the implementation of a grazing management under a CPS 528 Prescribed Grazing plan. Fence facilitates the movement of livestock for forage management and protection of sensitive areas. All fence components are included. Fence encloses <= 20 acres or 2640 foot linear run connection with 5-8 wire fencing. Install fence with considerations for wildlife corridors.

Before Situation: Livestock have access to forage and sensitive areas without management of intensity, duration and frequency of grazing events.Plant productivity and health is degraded. Water quality may be impaired by sediment and livestock access to water.

After Situation: Installation of the tall woven wire high tensile electric fence allows for grazing management to be implemented. Fence is installed to specifications meeting the producer's objective and livestock type. Fence is installed with wildlife friendly considerations and known wildlife corridors.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: length

Scenario Unit: Foot

Scenario Typical Size: 2,640.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13,037.57	\$4.94
Equipment Installation	\$4,246.85	\$1.61
Labor	\$4,670.25	\$1.77
Mobilization	\$728.94	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,683.61	\$8.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 269

Scenario Name: Barbed or Smooth Wire, Multi-Strand

Scenario Description: Multi-strand, Barbed, Smooth or Woven Wire - 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. Constructed using fencing materials rather than a pre-manufactured gate.

Before Situation: On grazing lands health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation: 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, etc. Four strand wire is commonly installed. Fence will be installed with wildlife friendly considerations.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,169.37	\$1.64
Equipment Installation	\$575.14	\$0.44
Labor	\$1,356.01	\$1.03
Mobilization	\$364.47	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,465.00	\$3.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 273

Scenario Name: Virtual Fence, Startup Year 1, Base Cost

Scenario Description: Utilization of a virtual fence to manage cattle distribution, frequency, and duration in accordance with the Grazing Management Plan (CPS 528). The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Grazing land is undesirable and used inefficiently.

After Situation: A virtual fence is used and improves the distribution, frequency, intensity, and duration of grazing.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Grazing System

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,137.30	\$11,137.30
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,137.30	\$11,137.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 274

Scenario Name: Virtual Fence, Startup Year 1, Implementation Cost

Scenario Description: This scenario will involve utilizing virtual fence to manage cattle distribution, frequency, duration according to objectives in the Grazing Management Plan (CPS 528). Design and implementation of a virtual fence with multiple subunits that will enhance grazing land health and ecosystem function as well as optimize efficiency and economic return. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost. Implementation costs are expenses that vary in proportion to the size and must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: This scenario will involve utilizing virtual fence to manage cattle distribution, frequency, duration according to objectives in the Grazing Management Plan (CPS 528). Design and implementation of a virtual fence with multiple subunits that will enhance grazing land health and ecosystem function as well as optimize efficiency and economic return.

After Situation: Virtual fence used in conjunction with the Grazing Management Plan (CPS 528) will improve the distribution, frequency, intensity, and duration of grazing. Virtual fence will be used to manage livestock in a way that enhances grazing land health and function and improve harvest efficiencies of forage resources and protection of sensitive areas such as riparian areas, T&E habitat, recently burned areas, etc., by establishing subunits within the grazing unit. Grazing Management Plan objectives and VF system success will be evaluated through short term monitoring.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Collars

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$54.23	\$54.23
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$54.23	\$54.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 276

Scenario Name: High Tensile, Electric, Five or More Wires

Scenario Description: Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.

Before Situation: On grazinglands health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,024.64	\$1.53
Equipment Installation	\$1,310.21	\$0.99
Labor	\$1,092.53	\$0.83
Mobilization	\$364.47	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,791.85	\$3.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 277

Scenario Name: High Tensile, Electric, Four Wires or Less

Scenario Description: Installation of fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.

Before Situation: On grazinglands health and vigor are negatively impacted by poor grazing distribution, timing of grazing and inadequate rest and recovery periods. Water quality is impacted by increased erosion and runoff, cattle access to water bodies is uncontrolled. Reduced vegetative cover increases the opportunity for encroachment of noxious and invasive weeds.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,353.74	\$1.78
Equipment Installation	\$222.22	\$0.17
Labor	\$662.16	\$0.50
Mobilization	\$364.47	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,602.58	\$2.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 382 - Fence

Scenario Number: 278

Scenario Name: Temporary/Portable Fence

Scenario Description: Establishment of temporary or portable fence for livestock to facilitate a more intensive grazing system such as stockpiling or strip grazing.

Before Situation: This practice will be installed on grazing land. The resource concerns to be addressed by this practice are poor grazing distribution, inadequate water supply, and degraded site conditions leading to poor animal health.

After Situation: Consists of installing a single strand polywire/polytape fence with step in/fiberglass posts, solar energizer, and all appurtenances. Cost represents typical situations for conventional, organic, and transitioning to organic producers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$964.20	\$0.73
Equipment Installation	\$106.17	\$0.08
Labor	\$56.71	\$0.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,127.08	\$0.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 384 - Woody Residue Treatment

Scenario Number: 56

Scenario Name: Mechanical and Manual Control for Slash, Less Than 5 Tons per Acre

Scenario Description: The treatment of woody residue that is of low complexity that can include residue amount, size, volatility, and accessibility by equipment. An increase in one of these factors could require using the medium complexity scenario. Treatment is implemented by hand tools and light equipment to lop and scatter and hand pile to reduce the continuity of woody residue to address resource concerns. These can be used following a light thinning/pruning.

Before Situation: Area has low amount of woody residue (i.e. <5 tons/ac, 6in diameter) that is easily accessible. Residue was created by management activity or natural weather event that is causing a resource concern or potential resource concern.

After Situation: The residue is treated to an acceptable level to address the resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,752.40	\$43.81
Labor	\$4,814.98	\$120.37
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,567.38	\$164.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 384 - Woody Residue Treatment

Scenario Number: 72

Scenario Name: Mechanical and Manual Control for Slash, 5 to 15 Tons per Acre

Scenario Description: The treatment of woody residue that is of medium complexity that can include residue amount, size, volatility, and accessibility by equipment. An increase in one of these factors could require using the heavy complexity scenario. Treatment is implemented by medium-sized equipment such as a chipper, masticator, or skid steer to reduce the dimensions of the woody residue and address resource concerns.

Before Situation: Area has moderate amount of woody residue (i.e. 5-15 tons/ac, 8-12 in diameter). Residue was created by management activity or natural weather event that is causing a resource concern or potential resource concern.

After Situation: The residue is treated to an acceptable level to address resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$6,709.35	\$335.47
Labor	\$4,663.55	\$233.18
Mobilization	\$2,085.59	\$104.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,458.48	\$672.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 384 - Woody Residue Treatment

Scenario Number: 120

Scenario Name: Air Curtain Burner

Scenario Description: The use of an air curtain burner to replace open pile burning.

Before Situation: Woody residue would typically be burned in open piles, resulting in substantial air quality issues

After Situation: Air quality concerns are lessened by using air curtain burner instead of open pile burning.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$6,627.07	\$132.54
Labor	\$4,243.33	\$84.87
Mobilization	\$867.64	\$17.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,738.05	\$234.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 386 - Field Border

Scenario Number: 31

Scenario Name: Native Species, Foregone Income

Scenario Description: A strip of permanent vegetation established at the edge or around the perimeter of an agricultural field. Practice includes seedbed prep and planting of native species. The area of the field border is taken out of production.

Before Situation: Before practice conditions may vary widely. Fields may have erosion issues from wind or water, a field border may be needed to manage pest populations, protect soil and water quality, provide wildlife food and cover, provide pollinator habitat, or a field border may be used to increase carbon storage and improve air quality. Water quality, soil erosion and/or wildlife food and cover may all be primary resource concerns.

After Situation: The 386 Implementation Requirements have been developed and applied for the site. This practice 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 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$411.61	\$411.61
Equipment Installation	\$5,066.44	\$5,066.44
Labor	\$226.83	\$226.83
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,221.46	\$2,221.46
Risk	\$0.00	\$0.00
Total	\$8,794.00	\$8,794.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 386 - Field Border

Scenario Number: 32

Scenario Name: Introduced Species, Foregone Income

Scenario Description: A strip of permanent vegetation established at the edge or around the perimeter of an agricultural field. Introduced species of grasses, legumes, forbs or shrubs will be selected that are adapted to site, will not function as a host for diseases of a field crop, and have the physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area. Includes seedbed preparation and planting of introduced species. The area of the field border is taken out of production.

Before Situation: Before practice conditions may vary widely. Crop production and management activities can degrade the soil, water, air and plant resource concerns.

After Situation: The field border area is identified and removed from production. Implementation Requirements have been developed and applied for the site. Minimum field border widths meet criteria specific to the purpose for installing the practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,202.35	\$1,202.35
Equipment Installation	\$2,089.63	\$2,089.63
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$245.43	\$245.43
Risk	\$0.00	\$0.00
Total	\$3,537.42	\$3,537.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 386 - Field Border

Scenario Number: 33

Scenario Name: Pollinator, Foregone Income

Scenario Description: A strip of permanent vegetation established at the edge or around the perimeter of an agricultural field. Practice includes seedbed prep and planting of pollinator friendly herbaceous species. The area of the field border is taken out of production.

Before Situation: Before practice conditions may vary widely. Fields may have erosion issues from wind or water, a field border may be needed to manage pest populations, protect soil and water quality, provide wildlife food and cover, provide pollinator habitat, or a field border may be used to increase carbon storage and improve air quality. Water quality, soil erosion and/or wildlife food and cover may all be primary resource concerns.

After Situation: The 386 Implementation Requirements have been developed and applied for the site. This practice when applied around a field may support and connect other buffer practices within and between fields. Pollinator herbaceous plantings will provide species which flower throughout the growing season. This provides a source of nectar for 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 of the 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$603.72	\$603.72
Equipment Installation	\$72.13	\$72.13
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$245.43	\$245.43
Risk	\$0.00	\$0.00
Total	\$921.27	\$921.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 386 - Field Border

Scenario Number: 81

Scenario Name: Extend or Diversify, Foregone Income

Scenario Description: A strip of permanent vegetation established at the edge or around the perimeter of a small agricultural field or diversified farm less than 43,560 square feet. Species have physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area. Practice includes seedbed prep and planting of introduced plant species. Treated area is taken out of production.

Before Situation: Before practice conditions may vary based on farm size and location. Fields may have erosion by wind or water. Site provides little wildlife food or cover or pollinator habitat. Site soil organic matter is depleting. Particulate matter as dust is generated by field activity.

After Situation: The 386 Implementation Requirements have been developed and applied for the site. Field border width meets criteria specific to the purpose for installing the practice.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Planted Area

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$10.93	\$5.47
Equipment Installation	\$3.00	\$1.50
Labor	\$141.77	\$70.88
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$100.74	\$50.37
Risk	\$0.00	\$0.00
Total	\$256.44	\$128.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 386 - Field Border

Scenario Number: 82

Scenario Name: Renovate Degraded Field Border

Scenario Description: Improve stand density of a degraded field border by sowing into the existing stand.

Before Situation: A field border installed to protect the soil has not been maintained or has degraded as a result of extended drought or flooding conditions. Resources are no longer protected at the minimum level of the conservation practice Field Border (386).

After Situation: The adoption of this enhancement will provide resource protection above the minimum level as described in Field Border (386).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$114.87	\$114.87
Equipment Installation	\$50.58	\$50.58
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$165.45	\$165.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 388 - Irrigation Field Ditch

Scenario Number: 5

Scenario Name: Irrigation Field Ditch

Scenario Description: Construction of an irrigation field ditch.

Before Situation: The water supply for an area is inadequate for crop production and irrigation water application is inefficient.

After Situation: An earthen canal with adequate capacity was constructed and conveys sufficient irrigation water to meet the demands of the system and supports practical irrigation for the crops grown.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of earth excavated

Scenario Unit: Cubic Yard

Scenario Typical Size: 587.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,503.91	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$728.94	\$1.24
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,232.86	\$3.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 390 - Riparian Herbaceous Cover

Scenario Number: 49

Scenario Name: Grass

Scenario Description: Addresses inadequate herbaceous plant community function within the specific transitional zone between terrestrial and aquatic habitats. Natural seeding methods or management is unlikely to improve the plant community within a reasonable time. The typical setting is a narrow strip between the aquatic and terrestrial habitats that is subject to intermittent flooding and saturated soils. The existing plant community has been disturbed, destroyed, or the species diversity is unable to provide adequate function (e.g. reduce streambank erosion). Establishment of a riparian herbaceous plant community is desired, and site adapted species of grasses will be planted by no-till or range drill seeding methods to accomplish the intended purpose(s).

Before Situation: Riparian zone vegetation is currently undesirable or inadequate as determined by the NRCS (e.g. Stream Visual Assessment Protocol). Natural reseeding or vegetation management is unlikely to improve the plant community within a reasonable amount of time. Riparian vegetation quality and/or quantity have been compromised by human activities and/or livestock to the extent that the riparian area is not functioning to provide the necessary stream and riparian habitat components.

After Situation: The riparian zone is established to an adapted vegetative plant community made up of grasses and is under close management to ensure long term survival and ecological function. The quality and quantity of the riparian zone components are managed to support stabilizing the streambank and/or shoreline, dissipating stream energy and trapping sediment, and improving and/or maintaining water quality. These functions include stream temperature moderation through shading, recruitment of non-woody organic matter, habitat for terrestrial insects and other riparian dependent species, streambank integrity, and filtration of contaminants from surface run-off into the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Planted

Scenario Unit: Acre

Scenario Typical Size: 0.50

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$154.17	\$308.34
Equipment Installation	\$20.60	\$41.19
Labor	\$56.71	\$113.41
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$127.24	\$254.48
Risk	\$0.00	\$0.00
Total	\$358.72	\$717.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 390 - Riparian Herbaceous Cover

Scenario Number: 50

Scenario Name: Native Grass and Forbs

Scenario Description: Addresses inadequate herbaceous plant community function and diversity within the specific transitional zone between terrestrial and aquatic habitats. Natural seeding methods or management is unlikely to improve the plant community within a reasonable amount of time. The typical setting for this scenario is a narrow strip between the aquatic and terrestrial habitats that is subject to intermittent flooding and saturated soils. The existing plant community has been disturbed, destroyed, or the species diversity is unable to provide adequate function (e.g. habitat corridors). Establishment of a diverse riparian herbaceous plant community is desired.

Before Situation: Riparian zone vegetation is currently undesirable or inadequate as determined by the NRCS (e.g. Stream Visual Assessment Protocol). Natural reseeding or vegetation management is unlikely to improve the plant community within a reasonable amount of time. Riparian vegetation quality and/or quantity have been compromised by human activities and/or livestock to the extent that the riparian area is not functioning to provide the necessary stream and riparian habitat components.

After Situation: The riparian zone is established to an adapted and diverse vegetative plant community made up of grasses and forbs is under close management to ensure long term survival and ecological function. The quality and quantity of the riparian zone components are managed to support stabilizing the streambank and/or shoreline, dissipating stream energy and trapping sediment, and improving and/or maintaining water quality. These functions include stream temperature moderation through shading, recruitment of non-woody organic matter, habitat for terrestrial insects and other riparian dependent species, streambank integrity, and filtration of contaminants from surface run-off into the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Planted

Scenario Unit: Acre

Scenario Typical Size: 0.50

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$154.17	\$308.34
Equipment Installation	\$20.60	\$41.19
Labor	\$56.71	\$113.41
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$127.24	\$254.48
Risk	\$0.00	\$0.00
Total	\$358.72	\$717.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 390 - Riparian Herbaceous Cover

Scenario Number: 51

Scenario Name: Specialized Seed

Scenario Description: Addresses inadequate herbaceous plant community function and diversity within the specific transitional zone between terrestrial and aquatic habitats. Natural seeding methods or management is unlikely to improve the plant community within a reasonable amount of time. The typical setting for this scenario is a narrow strip between the aquatic and terrestrial habitats that is subject to intermittent flooding and saturated soils. The existing plant community has been disturbed, destroyed, or the species diversity is unable to provide adequate function (e.g. habitat corridors). Establishment of a diverse riparian herbaceous plant community is desired.

Before Situation: Riparian zone vegetation is currently undesirable or inadequate as determined by the NRCS (e.g. Stream Visual Assessment Protocol). Natural reseeding or vegetation management is unlikely to improve the plant community within a reasonable amount of time. Riparian vegetation quality and/or quantity have been compromised by human activities and/or livestock to the extent that the riparian area is not functioning to provide the necessary stream and riparian habitat components.

After Situation: The riparian zone is established to an adapted and diverse vegetative plant community made up of grasses and forbs is under close management to ensure long term survival and ecological function. The quality and quantity of the riparian zone components are managed to support stabilizing the streambank and/or shoreline, dissipating stream energy and trapping sediment, and improving and/or maintaining water quality. These functions include stream temperature moderation through shading, recruitment of non-woody organic matter, habitat for terrestrial insects and other riparian dependent species, streambank integrity, and filtration of contaminants from surface run-off into the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Planted

Scenario Unit: Acre

Scenario Typical Size: 0.50

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$301.86	\$603.72
Equipment Installation	\$20.60	\$41.19
Labor	\$56.71	\$113.41
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$127.24	\$254.48
Risk	\$0.00	\$0.00
Total	\$506.41	\$1,012.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 391 - Riparian Forest Buffer

Scenario Number: 62

Scenario Name: Small Area Planting Mix with Tree Shelters

Scenario Description: Establish a small (less than 1 acre) buffer of trees and shrubs into a suitably prepared site to restore riparian plant communities and provide conservation benefits. The buffer will be located adjacent to a watercourse or waterbody and designed with dimensions and plant spacings that fully implement the practice. The planting will consist of planted trees and shrubs, with protection, that are suitable to the site. Includes tree and shrub components representative of a small area.

Before Situation: Typical settings include degraded or converted riparian forests and non-forest conditions with undesirable amounts or types of vegetation. Active bank erosion is contributing sediment, nutrients, pesticides, pathogens, chemicals, or organics into surface waters. Water temperature is elevated due to the lack of shade. Habitat is not desirable for fish, wildlife, or invertebrates.

After Situation: A riparian buffer of trees and shrubs has been restored and is functioning properly to provide stability, filtration, shade, and desirable habitat to address identified resource concerns.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of planting

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,610.51	\$3,610.51
Equipment Installation	\$1,212.27	\$1,212.27
Labor	\$1,876.11	\$1,876.11
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$254.48	\$254.48
Risk	\$0.00	\$0.00
Total	\$6,953.37	\$6,953.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 393 - Filter Strip

Scenario Number: 25

Scenario Name: Native Species, Foregone Income

Scenario Description: Installation of a strip or area of herbaceous vegetation that removes contaminants from overland flow. Species selected can withstand partial burial by sediment and are tolerant of herbicides used on the contribution area while protecting environmentally sensitive areas. Includes seedbed preparation and the planting of native species. The area of the filter strip is taken out of production.

Before Situation: Annual crop, grazing, or disturbed lands (including forestland) allow for runoff of suspended solids, dissolved, and/or associated contaminants into environmentally sensitive areas such as wetlands, riparian zones, critical habitats, and neighboring non-agricultural properties.

After Situation: Implementation requirements have been developed and applied, and the planned filter strip is established, will be maintained, and has the adequate width to filter expected pollutants. The area of the filter strip was taken out of production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$21,995.51	\$21,995.51
Equipment Installation	\$5,066.44	\$5,066.44
Labor	\$226.83	\$226.83
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,221.46	\$2,221.46
Risk	\$0.00	\$0.00
Total	\$30,377.90	\$30,377.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 393 - Filter Strip

Scenario Number: 26

Scenario Name: Introduced Species, Foregone Income

Scenario Description: Installation of a strip or area of herbaceous vegetation that removes contaminants from overland flow. Species selected can withstand partial burial by sediment and are tolerant of herbicides used on the contribution area while protecting environmentally sensitive areas. Includes seedbed preparation and the planting of native species. The area of the filter strip is taken out of production.

Before Situation: Annual crop, grazing, or disturbed lands (including forestland) allow for runoff of suspended solids, dissolved, and/or associated contaminants into environmentally sensitive areas such as wetlands, riparian zones, critical habitats, and neighboring non-agricultural properties.

After Situation: Implementation requirements have been developed and applied, and the planned filter strip is established, will be maintained, and has the adequate width to filter expected pollutants. The area of the filter strip was taken out of production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,915.35	\$3,915.35
Equipment Installation	\$1,651.38	\$1,651.38
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$245.43	\$245.43
Risk	\$0.00	\$0.00
Total	\$5,812.16	\$5,812.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 393 - Filter Strip

Scenario Number: 95

Scenario Name: Any Species, Tropics, Foregone Income

Scenario Description: Installation of a strip or area of herbaceous vegetation that removes contaminants from overland flow. Species selected can withstand partial burial by sediment and are tolerant of herbicides used on the contribution area while protecting environmentally sensitive areas. Includes seedbed preparation and the planting of introduced species. The area of the filter strip is taken out of production.

Before Situation: Annual crop, grazing, or disturbed lands (including forestland) allow for runoff of suspended solids, dissolved, and/or associated contaminants into environmentally sensitive areas such as wetlands, riparian zones, critical habitats, and neighboring non-agricultural properties.

After Situation: Implementation requirements have been developed and applied, and the planned filter strip is established, will be maintained, and has the adequate width to filter expected pollutants. The area of the filter strip was taken out of production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre planted

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$91.45	\$91.45
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,014.85	\$2,014.85
Risk	\$0.00	\$0.00
Total	\$2,106.29	\$2,106.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 394 - Firebreak

Scenario Number: 15

Scenario Name: Bare Soil, Bladed or Disked, Greater Than or Equal to 30 Feet

Scenario Description: Installation of a bare-ground firebreak with a width of 30' or more on gently to steeply sloping slopes with equipment such as a dozer with a heavy disk. Using smaller equipment, erosion control devices such as water bars will be installed at approximately 15 to 25 per 1,000 feet of firebreak length. Devices will have stable outlets.

Before Situation: Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Wide firebreaks are needed due to topography, high wildfire risk or to their use as down-wind breaks for prescribed burns. Conditions such as topography, the presence of brush and trees, etc. make the use of typical farm equipment impractical. As slopes increase, the potential for excessive erosion increases from soil disturbances. Therefore the installation of water control devices such as water bars will be important in protecting the resource base.

After Situation: The property is adequately protected from wildfire or can be safely prescribe burned and the potential for excessive erosion from the firebreak is minimized.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of firebreak

Scenario Unit: Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,478.82	\$3.48
Labor	\$458.78	\$0.46
Mobilization	\$1,042.79	\$1.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,980.40	\$4.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 394 - Firebreak

Scenario Number: 45

Scenario Name: Bare Soil, Light Equipment

Scenario Description: Installation of a bare-ground firebreak with a minimum width of 15' around a 20-acre field/farm using farm equipment (two passes). Generally, water control devices such as water bars are not needed because of the lack of steep terrain or the temporary nature of the firebreak.

Before Situation: Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn. Installation will be accomplished by making two passes with the use of typical farm equipment such as tractors, plows, disks, or similar implements.

After Situation: The property is adequately protected from wildfire or can be safely prescribe burned.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of firebreak

Scenario Unit: 100 Feet

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$147.81	\$3.70
Labor	\$56.71	\$1.42
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$204.51	\$5.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 394 - Firebreak

Scenario Number: 46

Scenario Name: Permanent Vegetation, 20 Feet

Scenario Description: Establishment of a 20-foot-wide strip of permanent vegetation that will serve as a green firebreak. Includes clearing the site, preparing the seedbed, seeding (typically cool season grasses and/or legumes), and applying needed soil amendments. Clearing will be performed using a bush hog or similar equipment, seedbed preparation and vegetation establishment will be done with farm equipment, and soil amendments will be applied according to the local Field Office Technical Guide.

Before Situation: Tract, field, or farm lacks adequate firebreaks to either reduce the spread of wildfires or contain a prescribed burn.

After Situation: The property is adequately protected from wildfire or can be safely prescribe burned. Wildlife habitat will also be enhanced and the potential for erosion from the firebreak is minimized.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of firebreak

Scenario Unit: Foot

Scenario Typical Size: 3,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$277.93	\$0.09
Equipment Installation	\$313.80	\$0.10
Labor	\$226.83	\$0.08
Mobilization	\$364.47	\$0.12
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,183.03	\$0.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 2

Scenario Name: Instream Structure, Low Complexity

Scenario Description: This scenario involves placement of wood (logs, root wads, log structures) or rock into a stream channel where the existing stream conditions show a low to moderate departure from targeted stream conditions. A stream assessment (i.e. Stream Visual Assessment Protocol, or other state approved assessment) should be conducted to document that habitat conditions are lacking for aquatic species. A project design will be based on assessment of the target stream reach characteristics. These characteristics include channel geometry, channel slope, stream bottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Wood and/or boulders placed into the stream will mimic genus, age, and size of mature trees and natural materials found in reference areas where the project is located. Large wood and/or rock should be placed in streams to create habitat according to NRCS engineering specifications and with close review and approval of a fish habitat biologist. 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 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.

Before Situation: In this stream reach, habitat for fish, aquatic insects and/or other stream species is sub-optimal as determined by the NRCS Stream Visual Assessment Protocol score of less than 5 overall. The site does not have adequate food, cover, and perhaps habitat connectivity for desired species. Riparian vegetation quality and/or quantity may also be compromised to the extent that the riparian area and floodplain are not functioning to provide necessary stream and riparian habitat components, such as large wood.

After Situation: Stream habitat within the project reach is improving as a result of placing natural materials such as rocks/boulders, 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Bankfull width x reach length

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13,683.54	\$13,683.54
Equipment Installation	\$4,457.28	\$4,457.28
Labor	\$5,882.87	\$5,882.87
Mobilization	\$2,085.59	\$2,085.59
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26,109.27	\$26,109.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 4

Scenario Name: Rock and Wood Structure

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 senario involves placement of large wood and rock structures into a stream channel in order to improve aquatic habitat that currently does not meet planning criteria for stream species habitat. A stream assessment (i.e. Stream Visual Assessment Protocol) should be conducted in order to document habitat components (such as large wood, pools) are not currently present 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 an assessment of (a) the target stream reach characteristics and (b) 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 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, boulders and/or boulder clusters will be placed in the stream to create pool habitat 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 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. Records demonstrating implementation of this scenario addressing resource concerns for stream species of concern will be required.

Before Situation: In this stream reach, habitat for fish, aquatic insects and/or other stream species is sub-optimal as determined by the NRCS Stream Visual Assessment Protocol score of less than 5. The site does not have adequate food, cover, and/or habitat connectivity for desired species. Riparian vegetation quality and/or quantity may be compromised to the extent that the riparian area and floodplain are not functioning to provide necessary stream habitat components, such as large wood and off-channel refuge habitat.

After Situation: 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. Hiding cover, food availability, refuge and pool habitat, for all stream species in the reach, is improving.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Bankfull width x reach length

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,273.44	\$14,273.44
Equipment Installation	\$4,457.28	\$4,457.28
Labor	\$15,965.22	\$15,965.22
Mobilization	\$1,042.79	\$1,042.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00

Cost Category	Total Cost	Scenario Cost/Unit
Total	\$35,738.74	\$35,738.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 5

Scenario Name: Fish Barrier

Scenario Description: This scenario describes the implementation of a stream habitat improvement and management project where practices are focused on the stream channel. The planned activity will meet the current 395 standard, and facilitating practice standards utilized. Implementation will result in protecting native aquatic fauna in the reach from competition or harrassament from non-native fish. This action may also increase food availability for fish and other stream species located above the constructed barrier. Payment for implementation is to defray the costs of stream habitat assessment above the barrier, and project implementation. Records demonstrating that the implementation of this scenario will address resource concerns for aquatic and riparian species of concern will be required.

Before Situation: In this stream corridor, native aquatic species are at risk as determined by the state fish and wildlife agency. NRCS Stream Visual Assessment Protocol for the reach being protected by a barrier meets planning criteria and provides habitat for native species of concern, as determined by a Stream Visual Assessment Protocol score of greater than 5 .

After Situation: Native fish inhabiting areas upstream of the newly constructed concrete barrier will not be adversely affected by interactions with non-native species/competitors.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Cubic Yard

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$670.20	\$134.04
Equipment Installation	\$42,103.01	\$8,420.60
Labor	\$1,960.38	\$392.08
Mobilization	\$1,042.79	\$208.56
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$45,776.39	\$9,155.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 6

Scenario Name: Habitat, Backwater Refuge

Scenario Description: Installation of a backwater refuge habitat in connection with the stream channel habitat components. A project design will be based on an assessment of the target stream reach characteristics and those of a suitable reference reach. The backwater refuge is usually installed with other accompanying instream habitat improvements being implemented with other instream habitat improvement scenarios. Backwater refuges placed adjacent to the stream will serve as important reptile, amphibian and invertebrate habitat which has been lost due to sedimentation since the advent of modern agriculture in the watershed.

Before Situation: In this stream reach, habitat for fish, aquatic insects and other stream species is sub-optimal as determined by SVAP2 or other state specific stream assessment tool. The site does not have adequate food, cover, and perhaps habitat connectivity for desired species. Riparian backwater area quality and/or quantity has been compromised to the extent that the fish, reptile, amphibian, and invertebrate habitat is no longer available to enhance the overall riparian area and floodplain ecosystem function.

After Situation: Stream, riparian and floodplain habitat within the project reach is improving as a result of installation of the shallow backwater refuge habitat. Hydrologic complexity of the habitat in the reach is increased, and hiding cover, food availability and refuge habitat for stream and riparian species is improving.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Refuge

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$291.41	\$291.41
Labor	\$179.76	\$179.76
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,338.82	\$1,338.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 7

Scenario Name: Rock or Wood Structure, Less Than or Equal to 80 Tons

Scenario Description: 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 rocks or a combination of rocks and logs as deflectors or across the entire stream channel to improve aquatic habitat. Size is less than or equal to 80 tons. A stream assessment (i.e. Stream Visual Assessment Protocol) should be conducted in order to document habitat components (such as large wood, pools) are not currently present in the stream or are limited for aquatic species. These characteristics include channel geometry, channel slope, stream bottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Structures will be constructed to NRCS engineering specifications and with close review & approval of a fish habitat biologist onsite during the planning and implementation of the project.

Before Situation: In this stream reach, habitat for fish, aquatic insects and/or other stream species is sub-optimal as determined by the NRCS Stream Visual Assessment Protocol score of less than 5. The site does not have adequate food, cover, and perhaps habitat connectivity for desired species. Riparian vegetation quality and/or quantity may also be compromised to the extent that the riparian area and floodplain are not functioning to provide necessary stream habitat components, such as large wood and off-channel refuge habitat.

After Situation: Stream habitat within the project reach is improving as a result of placing a 60-ton rock deflector with several logs into the channel from the stream bank. Stream habitat in the reach is improved, and hiding cover, food availability and refuge habitat for all stream species is improving.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Refuge

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,738.61	\$4,738.61
Equipment Installation	\$246.12	\$246.12
Labor	\$4,707.42	\$4,707.42
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,692.15	\$9,692.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 395 - Stream Habitat Improvement and Management

Scenario Number: 50

Scenario Name: Riparian Zone, Forested

Scenario Description: This scenario describes fish and wildlife habitat improvement and/or management actions focused on the community 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. Because species and habitats differ dramatically within and across regions and/or MLRAs, up to 12 riparian plant community-specific scenarios may be required across the US.

Before Situation: Riparian quality and quantity are at risk as determined by the NRCS Stream Visual Assessment Protocol score of less than 5 for those elements. The site does not have adequate food, cover, and/or connectivity for riparian wildlife, and contributes insufficient amounts of organic matter and/or large woody material for stream species food and cover. The site's riparian vegetation is compromised by human activities and/or access of vehicles, people, and/or livestock is not controlled adequately to protect riparian functions and stream habitat quality. Nutrients are transported to surface waters through runoff or soil erosion or to ground water from leaching in quantities that degrade water quality and limit use of intended purposes. Soil quality may be reduced due to compaction. Riparian vegetation quality and/or quantity is compromised to the extent that the riparian area and floodplain are not functioning to provide necessary stream and riparian habitat components.

After Situation: 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 managed to 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 of contaminants from surface run-off into the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,278.54	\$1,639.27
Equipment Installation	\$2,207.29	\$1,103.65
Labor	\$14,801.74	\$7,400.87
Mobilization	\$1,735.29	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,022.86	\$11,011.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 1

Scenario Name: Removal, Passage Barriers

Scenario Description: Removal of passage barriers, including small relict earthen diversions (remnant formations, e.g., splash dams), failing or undersized culverts, and sediment or large woody material (>10cm diameter and 2m length) from mass wasting or major flood events. Instream material associated with the previously mentioned circumstances or structures prevents aquatic organism passage by the creation of channel-spanning blockages, or areas of shallow depth, high velocities, or extensive changes in water surface elevation. In addition, these features may encourage abrupt channel changes that endanger adjacent capital infrastructure or transportation corridors. Excessive streambank erosion by flows deflected around or impounded behind these features may impair water quality by introducing fine sediment out of phase with the natural hydrography and the life history requirements of native aquatic species. Removal is done with an assortment of equipment, including tracked excavators outfitted with buckets with "thumbs", bull dozers, skid steers, front-end loaders, and dump trucks. The channel and adjacent floodplain are restored to pre-blockage conditions to the fullest extent practicable. Removed materials are trucked away and disposed of or recycled offsite, unless native streambed material found in the blockage can be used in site reclamation. Large woody material, if present, is used for instream reclamation, replaced in the channel downstream of the blockage, or trucked offsite for disposal or stockpiling for future projects. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed in the active channel and floodplain. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature; SOIL EROSION– Excessive bank erosion from streams, shorelines, or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment; (643) Restoration and Management of Rare and Declining Habitats. ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection

Before Situation: An instream feature spanning the active channel creates hydraulic conditions that exceed the swimming or crawling abilities of native aquatic organisms. Event-driven mass wasting or instream deposits of coarse sediment create channel blockages or areas of shallow, fast-moving water. An instream plug of material transported to the site by flood flows or delivered to the channel from a hillslope failure not only blocks passage, but may deflect the stream toward a new course than endangers adjacent capital infrastructure or transportation corridors. Elevated risks associated with eventual over-topping or failure of the blockage to downstream features or communities are imminent in the event of a blockage that forms a temporary dam. Accelerated instream or lateral channel erosion may introduce fine sediment that impairs water quality.

After Situation: The instream barrier is removed by a combination of methods and equipment and the channel and affected floodplain are restored to pre-blockage conditions to the fullest extent practicable. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of mineral sediment, fill or large woody material

Scenario Unit: Cubic Yard

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
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Materials	\$0.00	\$0.00
Equipment Installation	\$11,906.93	\$59.53
Labor	\$2,661.49	\$13.31
Mobilization	\$1,910.44	\$9.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,478.85	\$82.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 2

Scenario Name: Fishway, Nature-Like

Scenario Description: Nature-like fishways, also known as roughened channels, rock ramps, or bypass channels, are constructed features that provide passage around an instream barrier or in place of a removed barrier. Fishway design is based on simulating or mimicking adjacent stream characteristics, using natural materials, and providing suitable passage conditions over a range of flows for a wide variety of fish species and other aquatic organisms. Nature-like fishways provide enhanced passage conditions compared to concrete or aluminum (Alaskan Steeppass) ladders, and are not as susceptible to debris-related operational issues. When used to bypass an instream barrier, they require a larger footprint than instream structures, and may also require control structures to regulate flow through the fishway or address tailwater fluctuations affecting the fishway entrance (downstream end). Fishway design includes an assessment of adjacent stream characteristics, including channel geometry, slope, sediment texture and composition, and major geomorphic units that govern channel plan, pattern and profile. In the case of a fishway that bypasses an instream barrier, the design is tailored to these elements, the elevation required to ascend the barrier, and the known range of flow variation or operations. For fishways constructed in the place of a removed barrier, the design may be a hybrid approach that meets the same criteria, although in a smaller instream footprint. Nature-like fishways are constructed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Construction elements generally include an assortment of rock used to create riffles, cascades, or riffle-pool sequences with between 6 to 12 inches of water surface elevation drop between adjacent structures. Large woody material is used to create channel structural elements in some settings, when available and where approved by oversight agencies. Removed materials are trucked away and disposed or recycled off-site, unless excavated native streambed material can be used in fishway construction. Large woody material or removed trees, if present, are used for fishway construction trucked offsite for disposal, or trucked offsite for stockpiling for future projects. Disturbed areas are revegetated with a mix of site-adapted species, and access control and signage are provided. Scenario does not include additional measures needed in the active channel and floodplain or at an existing dam necessary to control flow associated with nature-like fishway. RESOURCE CONCERNS: INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature; EROSION– Excessive bank erosion from streams shorelines or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: An instream barrier prevents upstream migration of native aquatic organisms and no support exists for removal. Similarly, an instream barrier is removed, and interested parties require maintenance of an upstream pool or pond. The subject stream contains a number of migrating aquatic organisms ranging in size from small to large with a range of propulsion abilities--weak to strong swimmers and animals that crawl along the bottom. In either case--barrier removal or bypassing an existing barrier--local sentiment to preserve existing or natural conditions and the desire to provide passage for a range of aquatic organisms indicate the use of a nature-like fishway. Adequate space for a bypass channel is available, and adjacent landowners approve.

After Situation: A nature-like fishway is constructed in place of a removed barrier or around an existing barrier. The fishway is designed to mimic the adjacent natural stream, and is constructed of rock and/or large woody material that provides quality passage conditions for a number of species and geomorphic stability over a range of flows. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of constructed fishway (bankfull width X total length/43,650)

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,944.46	\$9,944.46
Equipment Installation	\$32,839.51	\$32,839.51
Labor	\$9,723.93	\$9,723.93
Mobilization	\$1,910.44	\$1,910.44
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$54,418.33	\$54,418.33

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 3

Scenario Name: Culvert, Corrugated Metal Pipe

Scenario Description: A corrugated metal (galvanized steel or aluminum) pipe culvert (CMP) of any shape (round, elliptical, or squash) used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. CMPs used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and streamflow at the site from the contributing watershed. In addition, 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. The first estimate of culvert size--diameter or span--is obtained by analyzing bankfull channel width on a reach of stream not affected by an existing road crossing or other conditions that alter self-formed conditions. In the case of a culvert replacement, bankfull investigations are begun at least 10-20 estimated bankfull channel widths above the existing stream crossing. Culvert diameter or span is then increased according to channel bed composition and texture, bank characteristics, channel alignment at the crossing section, and other parameters that may affect channel dynamics and stability. Once the CMP diameter or span is determined, culvert length will be determined by roadway geometry and loading requirements, and site stream conditions. Concrete headwalls and/or wingwalls may be necessary in shorter installations and/or where fill/roadway cover is limited or the stream alignment is not perpendicular to the road axis. Culvert wall thickness and corrugations are determined by road loading requirements. Stream geomorphic characteristics, including the reach longitudinal profile, channel cross-sectional shape, substrate composition and arrangement, and bank shape and composition are determined. CMPs are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Construction elements generally include an assortment of rock used to create riffles, cascades, or riffle-pool sequences with between 6 to 12 inches of water surface elevation drop between adjacent structures. Stream dewatering and diversion around the work site is often required, and temporary road closure or re-routing may also be required. Channel bed material within the culvert barrel varies according to prevailing stream characteristics at the crossing site. The culvert is placed within the roadway on a subexcavated compacted bed, set at a slope that matches the design longitudinal profile, and backfilled with a bed mixture that mimics adjacent stream characteristics with special attention to channel pattern. Backfill depths are typically at least 20% of the culvert diameter or rise, but may deviate based on the shape of the culvert used, channel dimensions, substrate size, and the site longitudinal profile. Special equipment such as motorized wheelbarrows may be necessary to backfill smaller CMPs. Once the simulated streambed in the culvert barrel is complete, the roadway is replaced and any necessary armoring and revegetating material is placed at the culvert inlet and outlet where it intersects the road fill prism. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the stream crossing. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature; SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment; ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection

Before Situation: An existing undersized culvert as contributed to general bed and bank scour downstream of a road crossing, and may have contributed to the deposition of a wedge of sediment upstream of the road crossing. The road may be overtopped by high flows, resulting in outright failure, landowner accessibility problems, access by and to emergency services, and hamper post-flood recovery efforts. An upstream impoundment created by the undersized culvert has contributed to water quality problems including high water temperatures and the deposition and later mobilization of polluted fine sediment. Native aquatic organisms are unable to pass through the road crossing because the culvert outlet is perched above the downstream pool, and high velocities are not negotiable by animals that are able to leap into the culvert barrel.

After Situation: The undersized culvert is replaced with a CMP sized, placed, and backfilled with material determined by geomorphic analyses performed in a reference reach upstream 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 promote the transport of streamflow and the materials it carries, it requires decreased maintenance activities over time. Landowners are able to access their holdings across a range of flows, and are able to seek and receive emergency and post-flood recovery services. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: CMP

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,900.78	\$5,900.78
Equipment Installation	\$4,172.91	\$4,172.91
Labor	\$4,497.09	\$4,497.09
Mobilization	\$1,910.44	\$1,910.44
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,481.22	\$16,481.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 4

Scenario Name: Crossing, Low Water

Scenario Description: Structure installed on low volume or on unimproved roads at watercourse crossings. Primary use is to allow livestock and equipment access to other parcels of land or operational units. Low-water crossings provide safe and stable stream crossings that do not negatively impact water and ecological quality while remaining stable across a wide range of flows. Variations exist, but a common application consists of an improved or hardened ford located above a hydraulic control (e.g., bedrock outcropping, riffle, or step composed of coarse substrates). Properly designed and installed low water crossings provide aquatic organism passage (AOP), promote stream ecological and geomorphic function, remain stable over time, and can pass sediment and woody debris. Conservation planning and interaction with the landowner is vital to determine if existing crossings can be consolidated into fewer, more reliable locations. Characterizing a site according to its watershed position and geomorphic function will aid design decisions. Optimal AOP conditions are usually realized when the backfill is composed of a mixture that mimics bed material as evaluated from a reference reach adjacent to the crossing—preferably at least 10-20 estimated bankfull channel widths above an existing crossing to avoid effects that alter channel geometry or bedform composition and spacing. Low water crossings are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Low water crossings provide the best mix of function and longevity when they are designed and built to conform to existing channel geometry and slope, constructed to match the shape of the existing channel, and oriented to cross the stream at a 90 degree angle. Crossing width, measured along the downstream axis, should not exceed 2 times the bankfull width. Low water crossings are commonly constructed by over excavating the crossing section 6-12 inches below the existing streambed and backfilling the void with well-graded rock back to natural bed elevation. Geotextile lining may be required in some settings. Rock size and gradation is the smallest mix needed to remain stable under prevailing flow conditions—larger rock can endanger livestock and turbulence impairs passage. Sand or soil may be added into the mix to seal the section to ensure that the stream doesn't percolate into the crossing substrate. Smaller material increases bed diversity, chokes voids between bigger stones, and helps preserve passage quality. Rocks smaller than 2 inches at the finished surface may become lodged in livestock hooves. The road/trail surface of the crossing should be extended to an elevation that exceeds the known high water level on each side of the crossing. The downstream edge of the crossing should not produce a sharp drop in water surface to preserve AOP quality and discourage sediment deposition and debris accumulation. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the stream crossing. Stream corridor fencing should be considered to control livestock access and preserve water and riparian quality. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: Small farming operations have pastures and hay meadows where seasonal movement of equipment and livestock between parcels is required. Farm equipment has gotten stuck in the past, and uncontrolled livestock access and frequent crossing or loafing in the stream contributes to chronic water quality problems associated with elevated fine sediment, high water temperatures, invasive aquatic vegetation, and fecal coliform bacteria. At times, headcuts develop that impede movement of aquatic species within the stream.

After Situation: An improved ford is constructed by excavating the channel just upstream of the boulder/cobble hydraulic control. The cut is lined with geotextile to control seepage and subsurface flow, and backfilled up to the existing bed elevation with a well-graded mix of rock sized to mimic the material in the channel upstream of the crossing. The finished crossing surface is at grade with the up and downstream channel elevation, and no drop exists along the downstream edge. Approaches on either side of the crossing are extended up to the adjacent floodplain surface, and the finished instream portion of the ford matches the existing channel cross section. Approach slopes are shallow enough for expected equipment traffic, including towed combinations, and armored as needed with larger rock to protect against erosion

that may occur when the floodplain is inundated. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 60.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,832.85	\$47.21
Equipment Installation	\$14,819.25	\$246.99
Labor	\$2,976.45	\$49.61
Mobilization	\$1,910.44	\$31.84
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,538.99	\$375.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 99

Scenario Name: Bridge

Scenario Description: A channel-spanning structure that carries a road or railway across a river or stream. Constructed of timber, i-beams, or concrete, bridges are attached at either end to prefabricated, reinforced and poured-in-place, or piling abutments capped/surrounded with concrete. Longer span bridges may require instream pilings to support the travel surface. Bridge decking can be timber, concrete, asphalt, or some combination thereof. Typical size 30 ft span bridge, with most single lane bridges being 16 ft width= 480 sq ft Bridge design is completed to conform to loading requirements and site conditions. Geotechnical investigations are used to determine the best support structure suited to a given site. The bridge deck is designed to rest on abutments placed on the adjacent floodplain. Bridge components are delivered to the site and assembled by a combination of equipment and manual labor. They are installed with an assortment of equipment used for excavation, placing material, delivering and removing material, and lifting bridge components from delivery trucks onto the constructed bridge support elements. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert (if applicable), and topsoil conservation for site reclamation. Stream diversion is not necessary since the bridge will be constructed above the active channel. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the bridge crossing. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; **EXCESS WATER** – Ponding, flooding, seasonal high water table, seeps, and drifted snow; **WATER QUALITY DEGRADATION** – Elevated water temperature; **SOIL EROSION**– Excessive bank erosion from streams shorelines or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment; ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection

Before Situation: An existing stream crossing outfitted with an undersized culvert has a history of maintenance issues and failure. The downstream channel has experienced bed and bank scour, and the crossing may have to the deposition of a wedge of sediment upstream of the road. The road may be overtopped by high flows, resulting in outright failure, landowner accessibility problems, access by and to emergency services, and hamper post-flood recovery efforts. An upstream impoundment created by the undersized culvert has contributed to water quality problems including high water temperatures and the deposition and later mobilization of polluted fine sediment. Native aquatic organisms are unable to pass through the road crossing because the culvert outlet is perched above the downstream pool, and high velocities are not negotiable by animals that are able to leap into the culvert barrel.

After Situation: The undersized culvert is replaced with a timber bridge placed on precast concrete abutments. The bridge deck is composed of timber planks, and elevated, continuous railings run down each side connecting one abutment to its counterpart on the opposite bank. Signs on either approach indicate bridge capacity and weight restrictions. Because the bridge spans the active channel and sits atop the adjacent floodplain surface, geomorphic and ecological functions are preserved through the crossing site, enhancing AOP, water quality, and culvert longevity. Landowners are able to access their holdings across a range of flows, and are able to seek and receive emergency and post-flood recovery services. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: square feet of bridge deck

Scenario Unit: Square Foot

Scenario Typical Size: 480.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$21,398.59	\$44.58
Equipment Installation	\$84,615.93	\$176.28
Labor	\$25,450.77	\$53.02
Mobilization	\$5,556.16	\$11.58
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$137,021.45	\$285.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 100

Scenario Name: Culvert, Bottomless

Scenario Description: A multi-plate galvanized steel or aluminum culvert (arch or box) used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. They commonly attach to preformed reinforced or poured-in-place concrete footings. Bottomless culverts used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and streamflow at the site from the contributing watershed. In addition, bottomless culverts 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. The first estimate of culvert span is obtained by analyzing bankfull channel width on a reach of stream not affected by an existing road crossing or other conditions that alter self-formed conditions. In the case of a culvert replacement, bankfull investigations are begun at least 10-20 estimated bankfull channel widths above the existing stream crossing. Culvert span is then increased according to channel bed composition and texture, bank characteristics, channel alignment at the crossing section, and other parameters that may affect channel dynamics and stability. Once the culvert span is determined, culvert length will be dictated by roadway geometry and loading requirements, and site stream conditions. Concrete headwalls and/or wingwalls may be necessary in shorter installations and/or where fill/roadway cover is limited or the stream alignment is not perpendicular to the road axis. Culvert wall thickness and footing requirements are determined by road loading requirements and site geotechnical investigations. Generally, the preferred footing is a T-design with a spread footing with stem wall. Connecting the culvert leg to the footing can be done by welding, grouting, bolting. Stream geomorphic characteristics, including the reach longitudinal profile, channel cross-sectional shape, substrate composition and arrangement, and bank shape and composition are determined. Bottomless arch or box culverts are commonly delivered in sections and bolted together in the field. Smaller arches can be delivered in one piece. They are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Construction elements generally include an assortment of rock used to create riffles, cascades, or riffle-pool sequences with between 6 to 12 inches of water surface elevation drop between adjacent structures. Stream dewatering and diversion around the work site is often required, and temporary road closure or re-routing may also be required. Channel bed material within the culvert barrel varies according to prevailing stream characteristics at the crossing site. Footings are placed or poured, and the new streambed is set at a slope that matches the design longitudinal profile, and backfilled with a bed mixture that mimics adjacent stream characteristics with special attention to channel pattern. Once the simulated streambed between the footings is complete, the culvert sections are assembled and attached to the footings. Larger rock may be placed along the footing/culvert stemwall to project the connection from damage by transported bedload. The roadway is replaced and any necessary armoring and revegetating material is placed at the culvert inlet and outlet where it intersects the road fill prism. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the stream crossing. Scenario does not include concrete for head or wingwalls. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature; SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment; ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection

Before Situation: An existing undersized culvert as contributed to general bed and bank scour downstream of a road crossing, and may have contributed to the deposition of a wedge of sediment upstream of the road crossing. The road may be overtopped by high flows, resulting in outright failure, landowner accessibility problems, access by and to emergency services, and hamper post-flood recovery efforts. An upstream impoundment created by the undersized culvert has contributed to water quality problems including high water temperatures and the deposition and later mobilization of polluted fine sediment. Native aquatic organisms are unable to pass through the road crossing because the culvert outlet is perched above the downstream pool, and high velocities are not negotiable by animals that are able to leap into the culvert barrel.

After Situation: The undersized culvert is replaced with a bottomless arch or box culvert sized, placed, and backfilled with material determined by geomorphic analyses performed in a reference reach upstream 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 promote the transport of streamflow and the materials it carries, it requires decreased maintenance activities over time. Landowners are able to access their holdings across a range of flows, and are able to seek and receive emergency and post-flood recovery services. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Multi-plate arch or box and rock fill

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$23,532.62	\$23,532.62
Equipment Installation	\$19,051.19	\$19,051.19
Labor	\$10,522.36	\$10,522.36
Mobilization	\$3,820.88	\$3,820.88
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$56,927.04	\$56,927.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 101

Scenario Name: Culvert, Concrete Box

Scenario Description: A four-sided precast concrete box (square or rectangular) culvert used at a road-stream crossing to provide aquatic organism passage (AOP) and promote stream ecological and geomorphic function. Concrete box culverts are generally available in sections of 1-foot increments. Concrete box culverts used for AOP are sized according to geomorphic analyses, not just an estimate of runoff and streamflow at the site from the contributing watershed. In addition, concrete box culverts 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. The first estimate of culvert width is obtained by analyzing bankfull channel width on a reach of stream not affected by an existing road crossing or other conditions that alter self-formed conditions. In the case of a culvert replacement, bankfull investigations are begun at least 10-20 estimated bankfull channel widths above the existing stream crossing. Culvert width is then increased according to channel bed composition and texture, bank characteristics, channel alignment at the crossing section, and other parameters that may affect channel dynamics and stability. Once the culvert width is determined, culvert length will be determined by roadway geometry and loading requirements, and site stream conditions. Concrete headwalls and/or wingwalls may be necessary in shorter installations and/or where fill/roadway cover is limited or the stream alignment is not perpendicular to the road axis. Stream geomorphic characteristics, including the reach longitudinal profile, channel cross-sectional shape, substrate composition and arrangement, and bank shape and composition are determined. Concrete box culverts are delivered in sections and assembled onsite, and require adequate bed compaction throughout the crossing section. They are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. Construction elements generally include an assortment of rock used to create riffles, cascades, or riffle-pool sequences with between 6 to 12 inches of water surface elevation drop between adjacent structures. Stream dewatering and diversion around the work site is often required, and temporary road closure or re-routing may also be required. Channel bed material within the culvert barrel varies according to prevailing stream characteristics at the crossing site. The new streambed is set at a slope that matches the design longitudinal profile, and backfilled with a bed mixture that mimics adjacent stream characteristics with special attention to channel pattern. The roadway is replaced and any necessary armoring and revegetating material is placed at the culvert inlet and outlet where it intersects the road fill prism. Other actions include construction staking and signage, soil erosion and pollution control, removal and disposal of the old culvert, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, and other factors associated with the presence of the stream crossing. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature; SOIL EROSION– Excessive bank erosion from streams shorelines or water conveyance channels Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment; ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection

Before Situation: An existing undersized culvert as contributed to general bed and bank scour downstream of a road crossing, and may have contributed to the deposition of a wedge of sediment upstream of the road crossing. The road may be overtopped by high flows, resulting in outright failure, landowner accessibility problems, access by and to emergency services, and hamper post-flood recovery efforts. An upstream impoundment created by the undersized culvert has contributed to water quality problems including high water temperatures and the deposition and later mobilization of polluted fine sediment. Native aquatic organisms are unable to pass through the road crossing because the culvert outlet is perched above the downstream pool, and high velocities are not negotiable by animals that are able to leap into the culvert barrel.

After Situation: The undersized culvert is replaced with a concrete box culvert sized, placed, and backfilled with material determined by geomorphic analyses performed in a reference reach upstream 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 promote the transport of streamflow and the materials it carries, it requires decreased maintenance activities over time. Landowners

are able to access their holdings across a range of flows, and are able to seek and receive emergency and post-flood recovery services. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Concrete box culvert and rock fill

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$36,361.15	\$36,361.15
Equipment Installation	\$19,347.83	\$19,347.83
Labor	\$10,522.36	\$10,522.36
Mobilization	\$3,820.88	\$3,820.88
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$70,052.23	\$70,052.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 102

Scenario Name: Ladder, Concrete

Scenario Description: Formed, reinforced, poured-in-place concrete structures outfitted with baffles (Denil), vertical slots, pools and weirs, submerged orifices, chutes or some combination thereof to provide upstream passage for aquatic organisms over dams and other hydraulic structures. Although fish ladder designs vary according to target species and site conditions, they can generally be described as a three-sided concrete channel with integrated hydraulic features that provide a gradual elevation increase across some distance that allows aquatic organism to swim over a barrier--they convert the total barrier head elevation into passable increments. Concrete ladders are often constructed with resting pools and may have switchbacks. The primary water source for a concrete ladder comes from streamflow diverted into the ladder exit (upstream end) and since it is passed through the ladder to the river below, it is not a consumptive use. These ladders often require flow control and regulating devices (sometimes automated), gates, and may need auxiliary pumps to provide attraction flows at the ladder entrance (downstream end) or augment flow in the ladder. Gages above and below the dam are required to inform ladder operation. Trash racks are used at the upstream end to block debris from entering the ladder. Concrete ladders also require frequent maintenance, and flow through unautomated ladders may need to be adjusted manually when adjacent river conditions or dam operations change. Concrete ladder designs can be complex and require interactions between engineering and ecological sciences for successful implementation. For example, the ladder entrance is one of the most important elements of the structure, and placement of this entrance in the downstream reach is a function of site characteristics and aquatic organism biology. In addition, some aquatic animals will not swim through a submerged orifice, so use of pool-orifice ladders is not recommended. Partners associated with dam ownership and operation, regulatory agencies, and others are consulted and included in the design and construction process. Ladder designs account for run volume and timing, and the swimming capabilities of target species. Some ladders in highly visible areas are finished with masonry facades to blend the ladder to the site in the interest of aesthetics or to conform with historic appearances. Concrete ladders are constructed with equipment for excavation, placing material, and delivering and removing material. Lifts or booms are required to place concrete into forms. Because ladders are often attached to existing dams, personnel familiar with the dam structure are involved at all phases of the process to ensure that plans conform with site requirements. Bed and bank excavation are necessary to create the location for concrete ladders, so site isolation and sediment and erosion control measures are used. Disturbed areas are revegetated with a mix of site-adapted species, and access control and signage are provided. Scenario does not include additional measures in the adjacent active channel necessary to control flow, address channel elevation or stability, or encourage fish guidance into the concrete ladder. Scenario does not include structures used as counting stations or to trap and sample upstream migrants. **RESOURCE CONCERNS: INADEQUATE HABITAT FOR FISH AND WILDLIFE** –Habitat degradation Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: An operational, low hazard class fixed crest concrete dam becomes the target of parties interested in providing fish passage. The dam presently blocks the upstream migration of a number of native aquatic organisms, and suitable spawning and rearing habitats for targeted fish species exists in upstream river reaches. Assessment of site conditions, dam operation, and target species swimming abilities indicate that a concrete ladder will provide suitable passage conditions during the migration season and pass the expected run volume without excessive delays.

After Situation: A concrete pool and chute ladder outfitted with aluminum internal features and 2 turn/resting pool is installed. The ladder is attached to the face and abutment of the dam, and the entrance is located along the streambank where migrating aquatic organisms are likely to encounter it. The ladder passes the estimated run volume with minimal delays, and native aquatic animals are able to reach upstream spawning and rearing areas and successfully produce offspring that become part of the population. The ladder has an operating plan that stipulates actions and responsible parties for every month of the year. The ladder is fenced to control access and signage indicating its function and relevant warnings is provided at numerous locations. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Barrier height (feet)

Scenario Unit: Foot

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$328,608.75	\$16,430.44
Labor	\$43,847.85	\$2,192.39
Mobilization	\$5,556.16	\$277.81
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$378,012.76	\$18,900.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 103

Scenario Name: Removal, Concrete Dam

Scenario Description: Full or partial removal of a concrete or earthen dam to restore aquatic organism passage, improve water 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. Pre-removal sediment assays are completed to determine the toxicity of sediment stored behind the dam. Planning for the reclamation and management of stored sediments is completed according to geomorphic conditions, prevailing regulations, and the results of sediment toxicity investigations. Removal is done 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. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed in the active channel and floodplain to account for post-removal changes to stream plan, pattern, or profile, or reclamation of any former impounded areas. Additional structural measures may be necessary to address constructed features associated with the removed dam including canals, raceways, adjacent spillways, navigation locks, access and maintenance roads, or similar civil works. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature. Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: A channel-spanning concrete dam no longer has functional use, may be failing, or creates a hazard to downstream capital infrastructure or communities. The dam blocks upstream aquatic organism migration, and downstream migrants may be diverted into hydraulic structures that increase mortality or result in migration delays or dead-ends. The dam disrupts the downstream cycling and transport of sediment, woody material and nutrients. The pool created by the dam may impair water quality by increasing temperatures, capturing fine sediment--sometimes laden with heavy metals or other pollutants--later mobilized by high flow events, and creating slackwater habitat for invasive aquatic vegetation. Non-native or exotic fish species inhabit the pool and predate upon and/or displace native fish.

After Situation: The existing dam is removed and reach geometry and slope are 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of concrete in dam and abutments (if present)

Scenario Unit: Cubic Yard

Scenario Typical Size: 250.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00

Cost Category	Total Cost	Scenario Cost/Unit
Equipment Installation	\$31,815.68	\$127.26
Labor	\$15,185.91	\$60.74
Mobilization	\$5,556.16	\$22.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$52,557.76	\$210.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 104

Scenario Name: Removal, Earthen Dam

Scenario Description: Full removal of an earthen dam to restore aquatic organism passage, improve water quality, and promote functional river ecology and geomorphology. The removal extent 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. Pre-removal sediment assays are be completed as necessary to determine the toxicity of sediment stored behind the dam. Planning for the reclamation and management of stored sediments is completed according to geomorphic conditions, prevailing regulations, and the results of sediment toxicity investigations. Removal is done 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. Removed materials are trucked away and disposed or recycled off-site, unless native streambed material found in the embankment can be used in site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed in the active channel and floodplain to account for post-removal changes to stream plan, pattern, or profile, or reclamation of any former impounded areas. Additional structural measures may be necessary to address constructed features associated with the removed dam including head gates, canals, raceways, access and maintenance roads, or similar civil works. RESOURCE CONCERNS: INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation; EXCESS WATER – Ponding, flooding, seasonal high water table, seeps, and drifted snow; WATER QUALITY DEGRADATION – Elevated water temperature. Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: A channel-spanning earthen dam no longer has functional use, may be failing, or creates a hazard to downstream capital infrastructure or communities. The dam blocks upstream aquatic organism migration, and downstream migrants may be diverted into hydraulic structures that increase mortality or result in migration delays or dead-ends. The dam disrupts the downstream cycling and transport of sediment, woody material and nutrients. The pool created by the dam may impair water quality by increasing temperatures, capturing fine sediment--sometimes laden with heavy metals or other pollutants--later mobilized by high flow events, and creating slackwater habitat for invasive aquatic vegetation. Non-native or exotic fish species inhabit the pool and predate upon and/or displace native fish.

After Situation: The existing dam is removed and reach geometry and slope are 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of earthen embankment

Scenario Unit: Cubic Yard

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00

Cost Category	Total Cost	Scenario Cost/Unit
Equipment Installation	\$32,505.29	\$65.01
Labor	\$6,699.17	\$13.40
Mobilization	\$5,556.16	\$11.11
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$44,760.62	\$89.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 105

Scenario Name: Screen, Paddlewheel

Scenario Description: A fish screen used at surface (gravity) diversions intended to prevent juvenile or small-bodied adult fish from entering ditches, canals, laterals or other pathways that lead to migration dead-ends or sources of mortality. Paddlewheel screens are active by design, meaning that they are outfitted with mechanisms that automatically cycle to keep the screen free of debris that will restrict the screen area, impede flow through the screen, and may cause the screen to fail. These screens are powered by a paddlewheel driven by flowing water and are thus suitable for remote locations without electrical services. Paddlewheel screens can be installed in the active channel along a streambank, but are most commonly built in a canal below a diversion structure. Aquatic organisms that encounter a screen installed in a canal are diverted back into the adjacent stream through a buried pipe. Screens installed in the active channel are built at the point of diversion with the screen face aligned parallel to the flow of the river. Bankline modifications can be necessary to achieve proper alignment. Screens installed in a canal can be aligned differently and are best sited at a canal location that minimizes the straight-line bypass/return path distance. Again, canal installation is the most common. A fully functional screen is designed to meet criteria intended to protect target organisms from being swept into and pinned against or along the screen face (impingement). When this occurs, animals can be physically harmed or, in the case of a rotating drum screen, introduced into the diversion works behind the screen. Active screens are designed to ensure that the approach velocity will not exceed .4 feet per second (fps). Approach velocity is calculated by dividing the maximum screened flow volume by the vertical projection of the effective screen area at maximum submergence. For a rotating drum screen the design submergence should not be more than 85% or less than 65% of the screen diameter. Screen design should strive to provide nearly uniform flow distribution across the screen surface. Screens longer than 6 feet must be angled to the direction of incoming flow and have sweeping velocities (along the face of the screen) greater than the approach velocity, and sweeping velocities should not decrease along the face of the screen. Screen face openings must not exceed 3/32 inch in diameter, and perforated plate must be smooth to the touch with openings punched through in the direction of approaching flow. Material used for the screen face should be corrosion resistant and sufficiently durable to maintain a smooth uniform surface with long term use. Bypass design flow should be about 5% of the diverted amount, include an easily accessible entrance, and flow velocity in the bypass pipe or channel should not exceed 0.2fps. Minimum design depth in a bypass pipe should be at least 40% of the pipe diameter. Bypass entrances should be installed with independent flow control capability. The face of all screen surfaces must be placed flush (to the extent possible) with any adjacent screen bay, pier noses, and walls to allow fish unimpeded movement parallel to the screen face and ready access to bypass routes. Paddlewheel screens are generally fabricated at a machine shop and delivered to the project site. Site conditions may require the construction of a small concrete headwall that will anchor the screen and may be outfitted with flow control that to adjust hydraulic conditions and optimize screen function. In addition, concrete training walls to conduct flow into, through, and below the screen may be required at some sites. Paddlewheel screens are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. A crane or boom truck may be needed to place the screen assembly. Other actions include construction staking and signage, soil erosion and pollution control, access control and fencing, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, or factors associated with channel improvements at the bypass pipe outfall. Final contracts stipulate entities and schedules for operation and maintenance. **RESOURCE CONCERNS:** INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: An unscreened gravity diversion removes water and fish from a small stream. The ditch under the 5 cfs diversion serves a number of pumps and turnouts used to irrigate alfalfa and flood irrigate hay. The diversion is run from late winter into fall, although the flood irrigated crops are shut off in mid-summer to allow growth and prepare the fields for mowing and haying. Although the diversion is owned by a nth-generation landowner with proven, long-standing rights to the diverted water, recent fish listings under the Endangered Species Act present liability risks in the face of a third party lawsuit. Diverted listed fish are killed in residual depressions in the irrigated meadow, and often become entrained and killed in pumps

used to drive wheel lines used to irrigate alfalfa.

After Situation: A modular rotating drum paddlewheel screen is installed in the ditch about 100 feet downstream of the diversion dam. The screen is outfitted with a screw-gated 10-inch smooth HDPE pipe buried below the floodplain that connects the bypass entrance to a deep pool in the adjacent stream. The screen is placed on an excavated bed backfilled with compacted sand and gravel, and bolted to a small reinforced poured-in-place concrete headwall. Inspection during the first operational season following construction confirms that the screen is within hydraulic criteria and providing adequate protection to listed fish. The screen structure is fenced from livestock, and inspected and maintained according to contractual agreements. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: CFS

Scenario Unit: Cubic Foot per Second

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$29,597.31	\$5,919.46
Labor	\$23,577.03	\$4,715.41
Mobilization	\$5,820.88	\$1,164.18
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$58,995.21	\$11,799.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 396 - Aquatic Organism Passage

Scenario Number: 106

Scenario Name: Screen, Rotating Drum

Scenario Description: A fish screen used at surface (gravity) diversions intended to prevent juvenile or small-bodied adult fish from entering ditches, canals, laterals or other pathways that lead to migration dead-ends or sources of mortality. Rotating drum screens are active by design, meaning that they are outfitted with mechanisms that automatically cycle to keep the screen free of debris that will restrict the screen area, impede flow through the screen, and may cause the screen to fail. These screens are powered electric motors that rotate a drum covered in fine stainless steel mesh. The drum rotates in the direction of the incoming flow, and is designed to protect fish from entrainment into the diversion while at the same time rolling fine debris attached to the screen face into the ditch or canal below. Rotating drum screens can be installed in the active channel along a streambank, but are most commonly built in a canal below a diversion structure. . Aquatic organisms that encounter a screen installed in a canal are diverted back into the adjacent stream through a buried pipe. Screens installed in the active channel are built at the point of diversion with the screen face aligned parallel to the flow of the river. Bankline modifications can be necessary to achieve proper alignment. Screens installed in a canal can be aligned differently and are best sited at a canal location that minimizes the straight-line bypass/return path distance. Again, canal installation is the most common. A fully functional screen is designed to meet criteria intended to protect target organisms from being swept into and pinned against or along the screen face (impingement). When this occurs, animals can be physically harmed or, in the case of a rotating drum screen, introduced into the diversion works behind the screen. Active screens are designed to ensure that the approach velocity will not exceed .4 feet per second (fps). Approach velocity is calculating by dividing the maximum screened flow volume by the vertical projection of the effective screen area at maximum submergence. For a rotating drum screen the design submergence should not be more than 85% or less than 65% of the screen diameter. Screen design should strive to provide nearly uniform flow distribution across the screen surface. Screens longer than 6 feet must be angled to the direction of incoming flow and have sweeping velocities (along the face of the screen) greater than the approach velocity, and sweeping velocities should not decrease along the face of the screen. Screen face openings must not exceed 3/32 inch in diameter, and perforated plate must be smooth to the touch with openings punched through in the direction of approaching flow. Material used for the screen face should be corrosion resistant and sufficiently durable to maintain a smooth uniform surface with long term use. Bypass design flow should be about 5% of the diverted amount, include an easily accessible entrance, and flow velocity in the bypass pipe or channel should not exceed 0.2fps. Minimum design depth in a bypass pipe should be at least 40% of the pipe diameter. Bypass entrances should be installed with independent flow control capability. The face of all screen surfaces must be placed flush (to the extent possible) with any adjacent screen bay, pier noses, and walls to allow fish unimpeded movement parallel to the screen face and ready access to bypass routes. Rotating drum screens are composed of elements fabricated at a machine shop and delivered to the project site, or built onsite. They are generally part of a reinforced, poured-in-place mass of concrete that forms a three-sided section above, around, and below the screen. Onsite derricks or metal framework can be required above screen bays to facilitate lifting drums for maintenance and inspection of side and bottom seals. Rotating drum screens may need to be fitted with flow control devices that to adjust hydraulic conditions and optimize screen function. Rotating drum screens are installed with an assortment of equipment used for excavation, placing material, and delivering and removing material. A crane or boom truck may be needed to place elements of larger screen installations, including gates, drums, and overhead metal framework. Other actions include construction staking and signage, soil erosion and pollution control, access control and fencing, and topsoil conservation for site reclamation. Disturbed areas are revegetated with a mix of site-adapted species. Scenario does not include additional measures needed to address channel incision, bank stability, or factors associated with channel improvements at the bypass pipe outfall. **RESOURCE CONCERNS: INADEQUATE HABITAT FOR FISH AND WILDLIFE –Habitat degradation** Payments for these associated practices are made separately and are covered by other typical scenarios and payment schedules. See relevant CPS for additional information. ---Site Preparation and Reclamation associated with project footprint: (326) Clearing and Snagging, (342) Critical Area Planting, (382) Fence, (390) Riparian Herbaceous Cover, (391) Riparian Forest Buffer, (612) Tree/Shrub Establishment ---Reach Planning/Habitat Enhancement: (395) Stream Habitat Improvement and Management, ---Structural Measures Associated with Scenario but outside of project footprint: (410) Grade Stabilization Structure, (582) Open Channel, (584) Channel Bed Stabilization, (580) Streambank and Shoreline Protection, (587) Structure for Water Control

Before Situation: An unscreened gravity diversion removes water and fish from a medium-sized stream. The ditch under the 75 cfs diversion serves a number of pumps and turnouts used to irrigate alfalfa and flood irrigate hay. The diversion is run from late winter into fall, although the flood irrigated crops are shut off in mid-summer to allow growth and prepare the fields for mowing and haying. Although the diversion is

owned by a nth-generation landowner with proven, long-standing rights to the diverted water, recent fish listings under the Endangered Species Act present liability risks in the face of a third party lawsuit. Diverted listed fish are killed in residual depressions in the irrigated meadow, and often become entrained and killed in pumps used to drive wheel lines used to irrigate alfalfa.

After Situation: A rotating drum screen consisting of three 8-foot wide, 4-foot diameter drums each driven by a 5hp electric motor is installed in the ditch about 200 feet downstream of the diversion dam. The screen is outfitted with a screw-gated 20-inch smooth HDPE pipe buried below the floodplain that connects the bypass entrance to a deep pool in the adjacent stream. The screen is placed in a concrete section extending above, underneath and below the drum location that forms the structure holding the drums, side and bottom seals, bypass entrance, and screen fore and afterbay. A steel I-beam structure is erected to form continuous overhead cover above the screen bays, and outfitted with a traveling electric winch used to raise each drum for periodic maintenance and seal inspection. Inspection during the first operational season following construction confirms that the screen is within hydraulic criteria and providing adequate protection to listed fish. The screen structure is fenced from livestock, and inspected and maintained according to contractual agreements. Resource Concerns are addressed within the context of the site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: CFS

Scenario Unit: Cubic Foot per Second

Scenario Typical Size: 75.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$77,316.98	\$1,030.89
Labor	\$24,508.87	\$326.78
Mobilization	\$5,820.88	\$77.61
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$107,646.73	\$1,435.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 397 - Aquaculture Pond

Scenario Number: 14

Scenario Name: Pond, Aquaculture

Scenario Description: Typical practice is 1 acre pond surface area, 3:1 side slopes, average 5' depth. The construction of an aquaculture pond to facilitate the efficient collection and transfer of waste, the containment of cultured fish, efficient use of water and the maintenance of water quality. The resource concerns addressed include excess nutrients in surface and ground waters, inefficient water use, and habitat degradation. Typical pond outlet is a Structure for Water Control (587). Costs include all equipment necessary to excavate, grade and shape an aquaculture pond. Water Control Structure and Seeding not included.

Before Situation: In the before situation, an aquaculture producer has an aquaculture pond system that has one or more of the following concerns: excessive seepage or frequent release of nutrient laden aquaculture water, potential of loss of non-native aquaculture production fish species to the native environment, and/or poor growing conditions for the current aquaculture species.

After Situation: Aquaculture pond is typically 1 acre in surface area, 5 feet deep with 3:1 side slopes. The practice is installed using a dozer. Drainage tile, if needed, will be installed accoring to Subsurface Drain (606). Outlets, if needed will be installed using Structure for Water Control (587). A liner, if needed, will be installed using Pond Sealing or Lining, Compacted Soil Treatment 520, or Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner. Water Well, Pumps, and Access Roads may also be needed and will be installed using those standards as appropriate.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of Aquaculture Pond

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$27,622.88	\$27,622.88
Labor	\$93.18	\$93.18
Mobilization	\$1,042.79	\$1,042.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$28,758.86	\$28,758.86

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 399 - Fishpond Management

Scenario Number: 2

Scenario Name: Structure, Habitat

Scenario Description: Integration of habitat structures into existing fishponds to significantly enhance habitat diversity meeting the ecological needs of desired fish species and other aquatic organisms. A conservation planner or other qualified professional with relevant experience will determine the specific type, quantity, density, and placement of the structures. Structures can be submerged or extend above the water’s surface and take various forms (e.g. log cribs, rock piles, combinations of logs and rocks, pipe and limber cribs, conifer cribs, PVC tree structures, gravel spawning beds, catfish cages, concrete blocks filled with organic materials, or plastic barrels filled with sand and sticks).

Before Situation: The existing fishpond lacks the habitat diversity required for desired fish species.

After Situation: The habitat structures in the fishpond are appropriate for desired fish species, all resource concerns were addressed, and participants will adhere to the operation and maintenance guidelines to ensure the established habitat is preserved and continues to benefit resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of pond managed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$371.89	\$371.89
Equipment Installation	\$313.07	\$313.07
Labor	\$510.36	\$510.36
Mobilization	\$1,093.41	\$1,093.41
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,288.74	\$2,288.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 399 - Fishpond Management

Scenario Number: 4

Scenario Name: Depth Management

Scenario Description: Management of an existing fishpond by excavation or the placement of material to create deep open water or littoral shelves. The fishpond does not provide sufficient depth, diversity of depth, or bottom structure for desired fish, vegetation, or water quality. Excavated material will be relocated within the fishpond or sited appropriately to avoid negative environmental effects. Changes to depth will be based on recommendations by a conservation planner or other individual with appropriate credentials.

Before Situation: The existing fishpond does not provide sufficient depth, diversity of depth, or bottom structure to provide quality aquatic habitat for desired fish, vegetation, or water quality.

After Situation: The depth and bottom structure of the fishpond are suitable for the desired fish species, vegetation, and water quality. Resource concerns have been addressed appropriately. Participants will adhere to the operation and maintenance guidelines to ensure the habitat remains well-maintained and continues to benefit the resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of pond managed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$285.25	\$285.25
Equipment Installation	\$5,792.14	\$5,792.14
Labor	\$1,297.32	\$1,297.32
Mobilization	\$1,910.44	\$1,910.44
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,285.15	\$9,285.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 399 - Fishpond Management

Scenario Number: 39

Scenario Name: Aeration, Subsurface

Scenario Description: Addition of an aerator to a fishpond to obtain desired oxygen levels. Oxygen levels and the size of the aerator are to be determined by a conservation planner, engineer, or as per existing supporting data.

Before Situation: The existing fishpond has insufficient levels of oxygen for desired fish species, including in bottom waters, and habitat and water quality are degraded, negatively affecting the fish population.

After Situation: An appropriately sized aerator was installed in the fishpond, ensuring oxygen levels are optimal, including in deeper waters. Participants will adhere to the operation and maintenance guidelines to properly maintain the aerator, ensuring the fishpond continuously receives adequate oxygen levels.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of pond managed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,326.02	\$3,326.02
Equipment Installation	\$90.07	\$90.07
Labor	\$56.71	\$56.71
Mobilization	\$728.94	\$728.94
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,201.74	\$4,201.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 4

Scenario Name: Pipe Drop, Plastic

Scenario Description: Construction of a full flow pipe drop (e.g. riser and barrel) grade stabilization structure designed and created using plastic pipe without anti-seep collars. 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. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion. Disturbed areas are protected with permanent vegetative cover.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Riser Weir Length x Barrel Length

Scenario Unit: Square Foot

Scenario Typical Size: 251.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,525.81	\$29.98
Equipment Installation	\$9,638.99	\$38.40
Labor	\$331.65	\$1.32
Mobilization	\$1,954.48	\$7.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,450.93	\$77.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 111

Scenario Name: Embankment, Soil Treatment

Scenario Description: Construction of an earthen embankment dam with a principal spillway pipe where onsite soils are unacceptable and require extra processing or hauling from off farm on distances greater than one mile. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Earthfill

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,348.52	\$0.94
Equipment Installation	\$23,104.08	\$9.24
Labor	\$2,436.67	\$0.97
Mobilization	\$1,954.48	\$0.78
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$29,843.75	\$11.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 112

Scenario Name: Pipe, Less Than or Equal to 6 Inches

Scenario Description: Construction of an earthen embankment dam with a principal spillway pipe six inches or less and the assessment shows anti-seep collars or sand diaphragms are not required. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Earthfill

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$570.42	\$0.29
Equipment Installation	\$9,516.97	\$4.76
Labor	\$1,277.19	\$0.64
Mobilization	\$1,735.29	\$0.87
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,099.87	\$6.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 113

Scenario Name: Pipe, 8 to 12 Inches

Scenario Description: Construction of an earthen embankment dam with a principal spillway pipe between 8 and 12 inches, anti-seep collars or a sand diaphragm, and an excavated plunge pool basin. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Earthfill

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,348.52	\$0.94
Equipment Installation	\$12,468.33	\$4.99
Labor	\$2,436.67	\$0.97
Mobilization	\$1,954.48	\$0.78
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,208.00	\$7.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 114

Scenario Name: Pipe, Greater Than 12 Inches

Scenario Description: Construction of an earthen embankment dam with a principal spillway pipe greater than12 inches. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Earthfill

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,332.87	\$2.93
Equipment Installation	\$14,885.40	\$5.95
Labor	\$3,212.61	\$1.29
Mobilization	\$1,954.48	\$0.78
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$27,385.36	\$10.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 115

Scenario Name: Pipe Drop, Steel

Scenario Description: Construction of a full flow pipe drop (e.g. riser and barrel) grade stabilization structure designed and created with a metal anti-seep collar. 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. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Riser Weir Length x Barrel Length

Scenario Unit: Square Foot

Scenario Typical Size: 940.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13,048.59	\$13.88
Equipment Installation	\$3,823.66	\$4.07
Labor	\$877.84	\$0.93
Mobilization	\$1,954.48	\$2.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,704.57	\$20.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 117

Scenario Name: Drop Structure, Weir

Scenario Description: Construction of straight, semicircular, or box drop structure composed of metal or reinforced concrete. The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet of Weir length times Drop Height

Scenario Unit: Square Foot

Scenario Typical Size: 90.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,904.16	\$54.49
Equipment Installation	\$6,200.25	\$68.89
Labor	\$1,443.01	\$16.03
Mobilization	\$1,735.29	\$19.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,282.71	\$158.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 118

Scenario Name: Rock Drop

Scenario Description: Construction of a straight drop structure with rock riprap held in place by galvanized wire (e.g. gabion baskets, fence panels, or 'sausage' baskets). The structure will be used to stabilize the grade, control erosion in natural or artificial channels, prevent the formation or advancing of gullies, enhance environmental quality, and reduce pollution hazards. The structure will be constructed in areas where the concentration and flow velocity of water requires structures to stabilize the grade in channels or to control gully erosion.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet of Weir length times Drop Height

Scenario Unit: Square Foot

Scenario Typical Size: 48.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,293.20	\$26.94
Equipment Installation	\$1,390.44	\$28.97
Labor	\$940.62	\$19.60
Mobilization	\$1,735.29	\$36.15
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,359.55	\$111.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 410 - Grade Stabilization Structure

Scenario Number: 158

Scenario Name: Check Dams

Scenario Description: The typical setting is on a 40-acre pasture/hayland field with a slope of 5 to 10 percent where ephemeral gullies have formed. The check dams are underlain with geotextile fabric and disturbed areas are protected with permanent vegetative cover.

Before Situation: Gullies are forming and/or worsening on the farmland impacting the usable area and downstream water quality. Erosion from the gullies allows soil and potentially nutrients to be transported downstream to receiving waters degrading water quality and causing soil loss.

After Situation: The area was stabilized, the advancement and/or formation of gullies was stopped, soil from gullies no longer leaves the farm, useable farm area increased, sedimentation and other pollution hazards were decreased, and downstream water quality is protected. Any needed revegetation of disturbed areas should use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tons of rock installed

Scenario Unit: Ton

Scenario Typical Size: 126.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,879.89	\$102.22
Equipment Installation	\$267.74	\$2.12
Labor	\$226.83	\$1.80
Mobilization	\$1,735.29	\$13.77
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,109.75	\$119.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 412 - Grassed Waterway

Scenario Number: 46

Scenario Name: Grass Waterway

Scenario Description: A grass waterway is a shaped or graded channel lined with appropriate vegetation designed to carry surface water at a velocity that does not cause erosion, directing it to a stable outlet. The area designated for seeding is 20% larger than the actual waterway area to account for any disturbed sections. The costs associated with creating the waterway include excavation and other related work necessary to construct its overall shape and grade.

Before Situation: Gullies have formed in fields and are deepening over time due to excessive runoff and poor agricultural practices. Excessive sedimentation and soil erosion are caused by either ephemeral or classic gully erosion. Installing a grassed waterway is a common solution to convey runoff from concentrated flows, terraces, diversions, water control structures, or similar practices, directing it to a suitable and stable outlet.

After Situation: A grassed waterway was installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of Waterway

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$355.95	\$355.95
Equipment Installation	\$1,413.90	\$1,413.90
Labor	\$160.01	\$160.01
Mobilization	\$1,232.12	\$1,232.12
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,161.98	\$3,161.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 412 - Grassed Waterway

Scenario Number: 47

Scenario Name: Grassed Waterway with Checks

Scenario Description: Typical practice is 1200 ft long, 12 ft bottom, 8:1 side slopes, 1.5 ft 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. Fabric or stone checks 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. Fabric Checks are installed 18" deep with 12" laid over on the surface. (Alternatively, rock checks could be installed). 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.

Before Situation: The field has a small gully which is cutting deeper into the field as time goes on, so it needs to be stopped or controlled. Excessive sedimentation and soil erosion as a result from ephemeral or classic gully erosion. Gully has formed in field as a result of excessive runoff and poor cropping techniques. Grassed waterway is also commonly installed to covey runoff from concentrated flows, terrarces, diversions, or water control structures or similar practices to a suitable, stable outlet.

After Situation: Installed grassed waterway is 1200 ft long, 12 ft bottom, 8:1 side slopes, 1.5 ft depth. Fabric checks are installed every 100 feet along the length of the waterway. The practice is installed using a dozer. Fabric or stone checks are installed with small backhoe and labor. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will be installed accoring to Subsurface Drain (606). Outlets, if needed will be installed using Structure for Water Control (587). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre of Waterway

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$633.68	\$633.68
Equipment Installation	\$1,710.59	\$1,710.59
Labor	\$433.43	\$433.43
Mobilization	\$1,451.30	\$1,451.30
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,229.01	\$4,229.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 172

Scenario Name: High Species Diversity on Fallow or Non-Cropland

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) by establishing herbaceous plants. This practice scenario applies to areas not in production (e.g. fallow areas, forest understory, and non-cropped areas in and around crop fields).

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential. Undesirable vegetation has either been controlled or suppressed with the use of other conservation practice standards prior to implementation of this practice scenario.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The area provides the identified habitat requirements for the target species and meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,018.60	\$603.72
Equipment Installation	\$205.97	\$41.19
Labor	\$93.18	\$18.64
Mobilization	\$364.47	\$72.89
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,682.22	\$736.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 173

Scenario Name: Specialized Habitat Requirements on Non-Cropland

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) by establishing herbaceous plants. This practice scenario applies to areas not in production (e.g. fallow areas, forest understory, and non-cropped areas in and around crop fields).

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential. Undesirable vegetation has either been controlled or suppressed with the use of other conservation practice standards prior to implementation of this practice scenario.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The area provides the identified habitat requirements for the target species and meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,793.90	\$1,358.78
Equipment Installation	\$205.97	\$41.19
Labor	\$93.18	\$18.64
Mobilization	\$867.64	\$173.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,960.70	\$1,592.14

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 174

Scenario Name: High Species Diversity on Cropland, Foregone Income

Scenario Description: Interplanting of herbaceous potted plants (e.g. milkweed) or shrubs into an existing herbaceous habitat to address a missing life-need or habitat component. Includes the treatment of broad-spectrum herbicide prior to planting followed by the hand planting of potted plants, plugs, or seedlings.

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The land is no longer in crop production and the site meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,060.62	\$612.12
Equipment Installation	\$240.28	\$48.06
Labor	\$186.37	\$37.27
Mobilization	\$1,086.83	\$217.37
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$1,272.42	\$254.48
Risk	\$0.00	\$0.00
Total	\$5,846.52	\$1,169.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 175

Scenario Name: Specialized Habitat Requirements on Cropland, 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.

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The area provides the identified habitat requirements for the target species and meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,835.92	\$1,367.18
Equipment Installation	\$240.28	\$48.06
Labor	\$186.37	\$37.27
Mobilization	\$583.66	\$116.73
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$1,272.42	\$254.48
Risk	\$0.00	\$0.00
Total	\$9,118.64	\$1,823.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 177

Scenario Name: Low Species Diversity on Non-Cropland

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) by establishing herbaceous plants. This practice scenario applies to areas not in production (e.g. fallow areas, forest understory, and non-cropped areas in and around crop fields).

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential. Undesirable vegetation has either been controlled or suppressed with the use of other conservation practice standards prior to implementation of this practice scenario.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The area provides the identified habitat requirements for the target species and meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,249.75	\$249.95
Equipment Installation	\$205.97	\$41.19
Labor	\$93.18	\$18.64
Mobilization	\$364.47	\$72.89
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,913.37	\$382.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 178

Scenario Name: Low Species Diversity on Cropland, 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.

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential.

After Situation: Desired species were planted, and implementation requirements were successfully developed and applied. The land is no longer in crop production and the site meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres planted (per acre)

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,291.77	\$258.35
Equipment Installation	\$240.28	\$48.06
Labor	\$186.37	\$37.27
Mobilization	\$583.66	\$116.73
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$1,272.42	\$254.48
Risk	\$0.00	\$0.00
Total	\$3,574.49	\$714.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 420 - Wildlife Habitat Planting

Scenario Number: 272

Scenario Name: Planting with Seedlings

Scenario Description: This scenario is applicable to very small areas 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.

Before Situation: Vegetative habitat conditions (e.g. species diversity, richness, structure, and pattern) do not meet planning criteria and do not have the potential to meet, or exceed, the minimum criteria through vegetative management activities alone. Current conditions and management are insufficient to address identified limiting habitat factor(s) or to increase planning criteria above a current planning criterion of at least 50% of the potential.

After Situation: Implementation requirements were successfully developed and applied, the site was mechanically and chemically treated, and planting has occurred. The area is adequately stocked with the desired species and full coverage of permanent vegetation is expected that will provide the desired habitat requirements for target wildlife. The site meets, or exceeds, the planning criteria for inadequate wildlife habitat.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: sg ft planted (1/4 acre)

Scenario Unit: Square Foot

Scenario Typical Size: 10,890.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,235.52	\$0.57
Equipment Installation	\$40.52	\$0.00
Labor	\$392.97	\$0.04
Mobilization	\$583.66	\$0.05
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,252.67	\$0.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 422 - Hedgerow Planting

Scenario Number: 22

Scenario Name: Grasses for Poultry House Air Quality Mitigation

Scenario Description: Grasses are planted to mitigate odor and filter particulate matter associated with the poultry house operation.

Before Situation: Poultry house produces strong odor and particulate matter when operating exhaust fans.

After Situation: Poultry house odor and particulate matter emission has been mitigated by grass plantings.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Hedgerow

Scenario Unit: Foot

Scenario Typical Size: 180.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$460.80	\$2.56
Equipment Installation	\$34.43	\$0.19
Labor	\$70.88	\$0.39
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$566.11	\$3.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 422 - Hedgerow Planting

Scenario Number: 23

Scenario Name: Wildlife Hedgerow, High Labor

Scenario Description: Labor intensive establishment of a hedgerow to provide food, cover, shelter or habitat connectivity. Terrain at site is rugged, difficult to access and/or hand planting is required because equipment cannot be transported to site.

Before Situation: Currently the site lacks food, cover, shelter, or habitat connectivity for terrestrial wildlife.

After Situation: Hedgerow planting provides terrestrial or aquatic wildlife with needed food, cover, shelter, or habitat connectivity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Hedgerow

Scenario Unit: Foot

Scenario Typical Size: 800.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$696.75	\$0.87
Equipment Installation	\$452.43	\$0.57
Labor	\$935.67	\$1.17
Mobilization	\$364.47	\$0.46
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$45.81	\$0.06
Risk	\$0.00	\$0.00
Total	\$2,495.13	\$3.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 422 - Hedgerow Planting

Scenario Number: 24

Scenario Name: Wildlife Hedgerow, Low Labor

Scenario Description: Low labor-intensive establishment of a hedgerow to provide food, cover, shelter or habitat connectivity. Terrain at site is flat, easy to access and/or machine planting equipment can be transported to site.

Before Situation: Currently the site lacks food, cover, shelter, or habitat connectivity for terrestrial wildlife.

After Situation: Hedgerow planting provides terrestrial or aquatic wildlife with needed food, cover, shelter, or habitat connectivity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Hedgerow

Scenario Unit: Foot

Scenario Typical Size: 800.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$696.75	\$0.87
Equipment Installation	\$394.89	\$0.49
Labor	\$235.33	\$0.29
Mobilization	\$364.47	\$0.46
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$45.81	\$0.06
Risk	\$0.00	\$0.00
Total	\$1,737.25	\$2.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 422 - Hedgerow Planting

Scenario Number: 25

Scenario Name: Beetle Bank

Scenario Description: Establishment of a beetle bank to provide shelter and overwintering habitat for beetles, spiders, and other beneficial insects that attack crop pests and weeds.

Before Situation: Fields are managed for crop production across the entire acreage. Within the existing crop field, habitat to support beetles, spiders, and other beneficial insects is not present.

After Situation: Installed beetle bank provides shelter and overwintering habitat for beetles, spiders, and other beneficial insects.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Beetle Bank

Scenario Unit: Foot

Scenario Typical Size: 750.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$30.43	\$0.04
Equipment Installation	\$84.39	\$0.11
Labor	\$306.47	\$0.41
Mobilization	\$728.94	\$0.97
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$201.48	\$0.27
Risk	\$0.00	\$0.00
Total	\$1,351.72	\$1.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 428 - Irrigation Ditch Lining

Scenario Number: 11

Scenario Name: Flexible Lining

Scenario Description: Construction of a quarter mile of uncovered flexible membrane lining in an existing ditch alignment to convey water from the source of supply to a field or fields in a farm distribution system. Includes subgrade preparation via clearing and grubbing, shaping old channels with no bedding or geotextile cushion to place, and placing membrane. Assumes the typical trapezoidal ditch (one foot bottom, two feet depth including freeboard, and 1:1 side slope).

Before Situation: Leaky and erosive earthen irrigation ditch.

After Situation: Impervious lining prevents seepage, reduces energy use and improves water quality and irrigation efficiency.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of Lining

Scenario Unit: Square Yard

Scenario Typical Size: 1,173.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,969.92	\$5.09
Equipment Installation	\$1,520.16	\$1.30
Labor	\$4,104.52	\$3.50
Mobilization	\$1,735.29	\$1.48
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,329.89	\$11.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 428 - Irrigation Ditch Lining

Scenario Number: 12

Scenario Name: Concrete Liner, Base Cost

Scenario Description: Construct quarter mile of concrete (2.5 inch in thickness) lining in an existing ditch alignment to convey water from the source of supply to a field or fields in a farm distribution system. Typical scenario includes filling the old ditch with on-site fill material, compacting, and constructing an 8 ft pad with on site fill material. This scenario does not include any check or outlets gates. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Leaky and erosive earthen irrigation ditch.

After Situation: Impervious lining prevents seepage, reduces energy use and improves water quality and irrigation efficiency.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,586.59	\$4,586.59
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,586.59	\$4,586.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 428 - Irrigation Ditch Lining

Scenario Number: 13

Scenario Name: Concrete Liner, Implementation Cost

Scenario Description: Construct quarter mile of concrete (2.5 inch in thickness) lining in an existing ditch alignment to convey water from the source of supply to a field or fields in a farm distribution system. Typical scenario includes filling the old ditch with on-site fill material, compacting, and constructing an 8 ft pad with on site fill material. This scenario does not include any check or outlets gates. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Leaky and erosive earthen irrigation ditch.

After Situation: Impervious lining prevents seepage, reduces energy use and improves water quality and irrigation efficiency.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Concrete

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$373.00	\$373.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$373.00	\$373.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 158

Scenario Name: High-Density Polyethylene (HDPE), (Corrugated Plastic Pipe)

Scenario Description: Description: Below ground installation of HDPE (Corrugated Plastic Pipe) pipeline. HDPE (CPP) Twin-Wall is manufactured in sizes (nominal diameter) from 4-inch to 60-inch; typical practice sizes range from 12-inch to 24-inch; and typical scenario size is 18-inch. Construct 1/8 mile (660 feet) of 18-inch, Twin-Wall, HDPE Corrugated Plastic Pipe (CPP) with a smooth interior, and appurtenances, installed below ground with a minimum 2 feet of ground cover. The unit is in weight of pipe material in pounds. 660 feet of 18-inch, Twin-Wall, HDPE CPP weighs 6.40 lb/ft, or a total of 4,224 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 flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient 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.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 4,224.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,139.28	\$2.16
Equipment Installation	\$2,576.97	\$0.61
Labor	\$1,814.63	\$0.43
Mobilization	\$1,735.29	\$0.41
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,266.17	\$3.61

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 159

Scenario Name: Surface Steel (Iron Pipe Size)

Scenario Description: Description: On-ground surface installation of Steel (Iron Pipe Size) pipeline. Steel (IPS) is manufactured in sizes (nominal diameter) from ½-inch to 36-inch; typical practice sizes range from 2-inch to 18-inch; and typical scenario size is 2-inch. Construct 1/4 mile (1,320 feet) of 2-inch, Schedule 40, Galvanized Steel Pipe with appurtenances, installed on the ground surface. The unit is weight of pipe material in pounds. 1,320 feet of 2-inch, Schedule 40, Galvanized Steel Pipe weighs 3.653 lb/ft, or a total of 4,822 pounds . Appurtenances include: couplings, fittings, air vents, pressure relief valves, anchors, expansion joints, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 15% 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. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient 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.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 4,822.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,018.96	\$2.29
Equipment Installation	\$0.00	\$0.00
Labor	\$1,360.97	\$0.28
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,379.93	\$2.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 160

Scenario Name: Steel (Corrugated Steel Pipe)

Scenario Description: Description: Below ground installation of Corrugated Steel Pipe (CSP) pipeline. Steel (CSP) is manufactured in sizes (nominal diameter) from 12-inch to 72-inch; typical practice sizes range from 12-inch to 24-inch; and typical scenario size is 18-inch. Construct 1/8 mile (660 feet) of 18-inch, 14-gauge, Galvanized Corrugated Steel Pipe (CSP) with appurtenances, installed below ground with a minimum 2 feet of ground cover. The unit is weight of pipe material in pounds. 660 feet of 18-inch, 14-gauge, Galvanized CSP weighs 18.0 lb/ft, or a total of 11,800 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 flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. Resource Concerns: Inefficient Use of Irrigation Water; Inefficient 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.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 11,880.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$15,661.30	\$1.32
Equipment Installation	\$2,576.97	\$0.22
Labor	\$2,268.28	\$0.19
Mobilization	\$1,735.29	\$0.15
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,241.84	\$1.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 162

Scenario Name: High-Density Polyethylene (HDPE), Base Cost

Scenario Description: Below ground installation of HDPE (Iron Pipe Size & Tubing) pipeline. Appurtenances include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,500.83	\$7,500.83
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,500.83	\$7,500.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 163

Scenario Name: High-Density Polyethylene (HDPE), Implementation Cost

Scenario Description: Below ground installation of High-Density Polyethylene pipeline. Appurtenances include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3.16	\$3.16
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.16	\$3.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 164

Scenario Name: Plastic Irrigation Pipe (PIP), Base Cost

Scenario Description: Below ground installation of Plastic Irrigation Pipe (PIP) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,802.78	\$7,802.78
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,802.78	\$7,802.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 165

Scenario Name: Plastic Irrigation Pipe (PIP), Implementation Cost

Scenario Description: Below ground installation of Plastic Irrigation Pipe (PIP) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.98	\$1.98
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.98	\$1.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 166

Scenario Name: Polyvinyl Chloride (PVC), Base Cost

Scenario Description: Below ground installation of Polyvinyl Chloride (PVC) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,040.33	\$7,040.33
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,040.33	\$7,040.33

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 167

Scenario Name: Polyvinyl Chloride (PVC), Implementation Cost

Scenario Description: Below ground installation of Polyvinyl Chloride (PVC) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.99	\$1.99
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.99	\$1.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 168

Scenario Name: Steel (Iron Pipe Size), Base Cost

Scenario Description: Below ground installation of Steel (Iron Pipe Size) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,868.28	\$5,868.28
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,868.28	\$5,868.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 430 - Irrigation Pipeline

Scenario Number: 169

Scenario Name: Steel (Iron Pipe Size), Implementation Cost

Scenario Description: Below ground installation of Steel (Iron Pipe Size) pipeline. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Pipeline needed to replace or supplement inefficient irrigation conveyance systems.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.15	\$2.15
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.15	\$2.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 436 - Irrigation Reservoir

Scenario Number: 48

Scenario Name: Plastic Tank, Base Cost

Scenario Description: An above-ground, High Density Polyethylene plastic enclosed tank, is installed on well-compacted drain rock or a reinforced concrete support pad, to store water from a reliable source for irrigation of an area less than one acre. Includes the cost of the tank and pad only and does not include estimate for pumps, pipe, or connecting fittings. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Insufficient volume of water to complete an irrigation cycle at the required flow rate.

After Situation: 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, a domestic water system, a large roof area, a water ram , or a pump drawing water from a stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Installed

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,632.62	\$3,632.62
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,632.62	\$3,632.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 436 - Irrigation Reservoir

Scenario Number: 49

Scenario Name: Plastic Tank, Implementation Cost

Scenario Description: An above-ground, High Density Polyethylene plastic enclosed tank, is installed on well-compacted drain rock or a reinforced concrete support pad, to store water from a reliable source for irrigation of an area less than one acre. Includes the cost of the tank and pad only and does not include estimate for pumps, pipe, or connecting fittings. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Insufficient volume of water to complete an irrigation cycle at the required flow rate.

After Situation: 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, a domestic water system, a large roof area, a water ram, or a pump drawing water from a stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Tank Storage

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.71	\$2.71
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.71	\$2.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 75

Scenario Name: Small Microirrigation System

Scenario Description: A small-scale surface microirrigation system using drip tape or a similar type microirrigation material placed on the soil surface to irrigate vegetables or field crops. Applied on a 40' x 40' plot with 24' spaced rows and emitters on a 12' spacing. Submains break the plot into several smaller zones. The system includes a disk filter and chemical injection for chemigation. A water meter is not included.

Before Situation: A field has an inefficient garden-hose based sprinkler irrigation system causing irrigation water loss that impacts water quality and water quantity.

After Situation: A surface placed microirrigation system is utilized to provide highly efficient irrigation to a small plot. Water applications are reduced and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Microirrigation area

Scenario Unit: Square Foot

Scenario Typical Size: 1,600.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,022.73	\$0.64
Equipment Installation	\$851.62	\$0.53
Labor	\$170.12	\$0.11
Mobilization	\$728.94	\$0.46
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,773.41	\$1.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 95

Scenario Name: Hoop House Surface Microirrigation

Scenario Description: A surface microirrigation system for a 30' x 96' seasonal high tunnel with 24' spaced rows and emitters on a 12' spacing.

Before Situation: A field has an inefficient garden-hose based sprinkler irrigation system causing irrigation water loss that impacts water quality and water quantity.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Microirrigation area

Scenario Unit: Square Foot

Scenario Typical Size: 2,880.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$428.68	\$0.15
Equipment Installation	\$0.00	\$0.00
Labor	\$113.41	\$0.04
Mobilization	\$728.94	\$0.25
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,271.04	\$0.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 98

Scenario Name: Subsurface Drip Irrigation, Base Cost

Scenario Description: A subsurface drip irrigation system (SDI) with a lateral spacing between 37-59 inches. This buried drip irrigation system utilizes a thin wall dripper line or tape with inline emitters at a uniform spacing for the system laterals. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Typical before irrigation situation would normally be an existing inefficient surface or sprinkler irrigation system on a cropland or hayland field. The existing irrigation system would experience poor, non-uniform irrigation applications and significant water losses affecting both water quantity and water quality.

After Situation: A typical practice would be the installation of a subsurface drip irrigation system (SDI) on cropland or hayland. This highly efficient SDI (buried) irrigation system provides irrigation water directly to the plant root zone eliminating application losses resulting in a very high water application efficiency and properly designed these SDI systems are capable of very uniform water applications.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$16,507.95	\$16,507.95
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,507.95	\$16,507.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 99

Scenario Name: Subsurface Drip Irrigation, Implementation Cost

Scenario Description: A subsurface drip irrigation system (SDI) with a lateral spacing between 37-59 inches. This buried drip irrigation system utilizes a thin wall dripper line or tape with inline emitters at a uniform spacing for the system laterals. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a buried flush manifold with manual flush valves. This is an all-inclusive system starting with the filter station including all required system components out to the flush valves. The water supply line from the water source to the filter station is an irrigation pipeline (430) and is not included as part of this system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Typical before irrigation situation would normally be an existing inefficient surface or sprinkler irrigation system on a cropland or hayland field. The existing irrigation system would experience poor, non-uniform irrigation applications and significant water losses affecting both water quantity and water quality.

After Situation: A typical practice would be the installation of a subsurface drip irrigation system (SDI) on cropland or hayland. This highly efficient SDI (buried) irrigation system provides irrigation water directly to the plant root zone eliminating application losses resulting in a very high water application efficiency and properly designed these SDI systems are capable of very uniform water applications.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Tape

Scenario Unit: Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.15	\$0.15
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.15	\$0.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 100

Scenario Name: Surface Polyethylene (PE) with Emitters, Base Cost

Scenario Description: A micro-irrigation system, utilizing surface polyethylene (PE) tubing (can be placed on trellis or above ground) with emitters to provide irrigation for an orchard, vineyard, or other specialty crop grown in a grid pattern. This system utilizes emitters at each tree or plant as the water application device. This system typically includes a filter system, PE tubing laterals, PVC manifolds, and submains, valves, fittings, emitters, etc. This practice applies to systems designed to discharge < 60 gal/hr. at each individual lateral discharge point. Does not include Pump, Power source, Water source (well or reservoir). The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A vineyard has an inefficient surface flood irrigation system causing irrigation water loss that impacts water quality and water quantity.

After Situation: A surface placed micro irrigation system is utilized to provide highly efficient irrigation to an vineyard. Water applications are reduced and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,105.27	\$7,105.27
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,105.27	\$7,105.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 101

Scenario Name: Surface Polyethylene (PE) with Emitters, Implementation Cost

Scenario Description: A micro-irrigation system, utilizing surface polyethylene tubing (can be placed on trellis or above ground) with emitters to provide irrigation for an orchard, vineyard, or other specialty crop grown in a grid pattern. This system utilizes emitters at each tree or plant as the water application device. This system typically includes a filter system, PE tubing laterals, PVC manifolds, and submains, valves, fittings, emitters, etc. This practice applies to systems designed to discharge < 60 gal/hr. at each individual lateral discharge point. Does not include Pump, Power source, Water source (well or reservoir). Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A vineyard has an inefficient surface flood irrigation system causing irrigation water loss that impacts water quality and water quantity.

After Situation: A surface placed micro irrigation system is utilized to provide highly efficient irrigation to an vineyard. Water applications are reduced and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Tube

Scenario Unit: Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.57	\$0.57
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.57	\$0.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 102

Scenario Name: Surface Tape, Base Cost

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. This system typically includes a filter system, PE manifolds fittings, drip tape, etc. After first installation drip tape will be replaced as operation and maintenance issue as required for proper operation of the system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A typical before irrigation situation would normally be an existing inefficient sprinkler or surface irrigation system for vegetable or other crop production system. The existing irrigation system would experience poor, nonuniform irrigation applications and significant water losses affecting both water quantity and water quality.

After Situation: 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. Drip tape will be replaced as operation and maintenance issue as required for proper operation of the system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,349.79	\$1,349.79
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,349.79	\$1,349.79

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 441 - Irrigation System, Microirrigation

Scenario Number: 103

Scenario Name: Surface Tape, Implementation Cost

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. This system typically includes a filter system, PE manifolds fittings, drip tape, etc. After first installation drip tape will be replaced as operation and maintenance issue as required for proper operation of the system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A typical before irrigation situation would normally be an existing inefficient sprinkler or surface irrigation system for vegetable or other crop production system. The existing irrigation system would experience poor, nonuniform irrigation applications and significant water losses affecting both water quantity and water quality.

After Situation: 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. Drip tape will be replaced as operation and maintenance issue as required for proper operation of the system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Tape

Scenario Unit: Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.17	\$0.17
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.17	\$0.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 442 - Sprinkler System

Scenario Number: 5

Scenario Name: VRI System Retrofit Zone

Scenario Description: Integrating variable application technology into a center pivot system or linear move for precision zone placement of water along the length of the system. A variable application over the field is based on either EC mapping, previous year(s) harvest yield maps, soil properties, within field ET variability, topography, or combination of each. Includes the renovation of a previously installed pivot or linear move irrigation system with proper modular components and pressure regulating devices, GPS for field locations, new control panel, valves, and other needed components to install a VRI system for more effective utilization of water.

Before Situation: A center pivot or lateral move system has low pressure sprinklers. Water runs off the field and degrades the receiving waters. Deep percolation in some parts of the field degrades the ground water quality. The runoff from the field causes soil erosion. The high pressure requirement for the system requires excess energy use.

After Situation: A Center Pivot or Linear Move sprinkler system with a span of 1300 linear feet is has modular VRI components added to the system which increases irrigation efficiency and uniformity utilizing a modern center pivot system resulting in water savings. 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 no longer degraded. The irrigation induced soil erosion caused by runoff is also eliminated. The lower pressure requirements of the sprinklers reduces the energy used by the pump.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Center Pivot or Lateral with VRI Components for system renovation

Scenario Unit: Foot

Scenario Typical Size: 1,300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$62,913.06	\$48.39
Equipment Installation	\$1,153.05	\$0.89
Labor	\$2,404.18	\$1.85
Mobilization	\$1,232.12	\$0.95
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$67,702.40	\$52.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 67

Scenario Name: 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 15 ft x 22 ft plant spacing. Laterals are spaced 22 ft apart, however other spacings for this scenario also apply. The system utilizes sprayers or mini sprinklers at each tree or plant and includes a filter system, PE tubing laterals, PVC manifolds, submains, valves, fittings, and emitters. System installation does not include a flowmeter, pump, power source, irrigation water conveyance to the irrigated field, or a water source (well or reservoir).

Before Situation: The typical installation will be on an orchard, nursery, or vineyard with an existing inefficient irrigation system.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area in Irrigation System

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,229.75	\$3,114.87
Equipment Installation	\$1,570.17	\$785.08
Labor	\$113.41	\$56.71
Mobilization	\$438.38	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,351.71	\$4,175.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 72

Scenario Name: Linear Move System

Scenario Description: Installation of a linear or lateral move sprinkler system with sprinklers on drops with or without drag hoses to improve irrigation efficiency and reduce soil erosion. Payment rate is calculated based on installed hardware length measured in feet.

Before Situation: A 76 acre field is flood irrigated. Application of irrigation water is inefficient and non-uniform. Irrigation water is typically over applied in some parts of the field, and under applied in others. Deep percolation from the excess irrigation delivers excess nutrients salts, and chemicals to the ground water. Runoff from the field contains excess nutrients and degrades the receiving waters. Irrigated induced erosion is excessive.

After Situation: A typical unit is approximately 76 acres in size with the sprinkler system up to 1280 feet in length with drop tubes that have a minimum of 30" spacing. 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Linear Move Lateral

Scenario Unit: Foot

Scenario Typical Size: 1,280.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$188,686.85	\$147.41
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$2,173.67	\$1.70
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$190,860.52	\$149.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 112

Scenario Name: Mobile Drip Irrigation Retrofit, Center Pivot

Scenario Description: Center pivot sprinkler systems used to irrigate low-profile crops (e.g., alfalfa or small grains) to medium-profile crops (e.g., corn) in fields with regular borders and flat to slightly sloping terrain. Includes retrofitting an existing center pivot irrigation system to incorporate dragged low pressure drip irrigation lines to improve efficiency of water use and reduce energy use. A typical scenario assumes a 1,300 LF span, retrofitted to include heavy wall drip hoses in place of nozzles or sprinkler heads. Drip hoses are spaced 20 - 60 inches apart and include drippers with a 1 - 2 gallon per hour flowrate and are spaced approximately every 6 - 12 inches on the driplines. Systems with shorter profile crops may have a manifold that is 3 - 4 ft from the ground. Crops are typically planted in a circular pattern relative to the center pivot path. Inline mesh filtration and chemigation are included. A sand separator is not included.

Before Situation: A center pivot system that has high pressure sprinklers. The nozzles are worn and water is applied non-uniformly. Water runs off the field and degrades receiving waterbodies. Deep percolation in some parts of the field degrades groundwater quality. The high-pressure requirement of the system requires excess energy use.

After Situation: A center pivot sprinkler system with a span of 1,300 linear feet is retrofitted to apply water through dragged surface drip irrigation lines. Irrigation water is applied efficiently and uniformly directly to the soil surface to maintain soil moisture for optimal plant growth. Runoff and deep percolation are addressed, and surface waterbodies are no longer degraded. Lower pressure requirements and higher application efficiency of the center mobile drip irrigation retrofit reduces the energy used by the pump.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Lateral Retrofitted

Scenario Unit: Linear Foot

Scenario Typical Size: 1,300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$16,974.57	\$13.06
Equipment Installation	\$2,513.00	\$1.93
Labor	\$3,629.26	\$2.79
Mobilization	\$364.47	\$0.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$23,481.30	\$18.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 146

Scenario Name: Renovation of Existing Sprinkler System

Scenario Description: Center pivot and linear move sprinkler systems used in large crop fields with regular field borders and flat topography. Includes changing nozzles on center pivot or lateral move irrigation systems to low-pressure systems to improve efficiency of water use and reduce energy use. Intended for cropland areas where the objective is water conservation. A typical scenario assumes a 1,300 LF span, including end booms fitted with low-pressure nozzles.

Before Situation: A center pivot or lateral move system has high pressure sprinklers. The nozzles are worn and water is applied non-uniformly. Water runs off the field and degrades the receiving waters. Deep percolation in some parts of the field degrades the ground water quality. The runoff from the field causes soil erosion. The high pressure requirement for the system requires excess energy use.

After Situation: A Center Pivot or Linear Move sprinkler system with a span of 1300 linear feet is re-nozzled 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 no longer degraded. The irrigation induced soil erosion caused by runoff is also eliminated. The lower pressure requirements of the sprinklers reduces the energy used by the pump.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Lateral Retrofitted

Scenario Unit: Foot

Scenario Typical Size: 1,300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,735.19	\$5.95
Equipment Installation	\$384.35	\$0.30
Labor	\$480.39	\$0.37
Mobilization	\$867.64	\$0.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,467.58	\$7.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 148

Scenario Name: Center Pivot, Base Cost

Scenario Description: Installation of a low pressure center pivot system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Application of a flood irrigation water system is inefficient and non-uniform. Irrigation water is typically over applied in some parts of the field, and under applied in others.

After Situation: The existing surface irrigation system is converted to a low pressure center pivot. Corners are converted to non-irrigated cropland. Irrigation water is efficiently and uniformly applied to maintain adequate soil water for the desired level of plant growth. This center pivot scenario includes all hardware from the pivot point, including the concrete pad the pivot is placed on.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,502.93	\$12,502.93
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,502.93	\$12,502.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 149

Scenario Name: Center Pivot, Implementation Cost

Scenario Description: Installation of a low pressure center pivot system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Application of a flood irrigation water system is inefficient and non-uniform. Irrigation water is typically over applied in some parts of the field, and under applied in others.

After Situation: The existing surface irrigation system is converted to a low pressure center pivot. Corners are converted to non-irrigated cropland. Irrigation water is efficiently and uniformly applied to maintain adequate soil water for the desired level of plant growth. This center pivot scenario includes all hardware from the pivot point, including the concrete pad the pivot is placed on.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Pivot

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$85.38	\$85.38
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$85.38	\$85.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 153

Scenario Name: Solid Set Sprinkler, Base Cost

Scenario Description: A solid set irrigation system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The typical installation will be on cropland with some existing inefficient irrigation. The farm is typically producing specialty crops, such as fresh vegetables.

After Situation: The system is installed on a small acreage. 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$68.08	\$68.08
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$68.08	\$68.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 442 - Sprinkler System

Scenario Number: 154

Scenario Name: Solid Set Sprinkler, Implementation Cost

Scenario Description: A solid set irrigation system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The typical installation will be on cropland with some existing inefficient irrigation. The farm is typically producing specialty crops, such as fresh vegetables.

After Situation: The system is installed on a small acreage. 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Pod System

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6.71	\$6.71
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6.71	\$6.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 158

Scenario Name: Advanced Irrigation Water Management, Base Cost

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 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The farmer decides when to irrigate based on general crop or soil appearance or limited soil moisture monitoring. System run times are based on past apparent success.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,585.73	\$1,585.73
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,585.73	\$1,585.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 159

Scenario Name: Advanced Irrigation Water Management, Implementation Cost

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 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The farmer decides when to irrigate based on general crop or soil appearance or limited soil moisture monitoring. System run times are based on past apparent success.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9.26	\$9.26
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9.26	\$9.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 160

Scenario Name: Intermediate Irrigation Water Management, Base Cost

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). 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The farmer decides when to irrigate based on general crop or soil appearance or limited soil moisture monitoring. System run times are based on past apparent success.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,253.05	\$1,253.05
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,253.05	\$1,253.05

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 161

Scenario Name: Intermediate Irrigation Water Management, Implementation Cost

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). 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The farmer decides when to irrigate based on general crop or soil appearance or limited soil moisture monitoring. System run times are based on past apparent success.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7.93	\$7.93
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7.93	\$7.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 162

Scenario Name: Soil Moisture Sensors with Data Loggers and Telemetry, Base Cost

Scenario Description: 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 with telemetry to log and transmit continuous soil moisture data that can be accessed with a personal computer and associated graphing software. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation in the field.

After Situation: Producer has installed four sensors at each monitoring site to a depth of four feet with one sensor representing each foot of depth. Producer monitors continuously recorded soil moisture measurements that are used to schedule irrigation more effectively resulting in improved irrigation water management and reduced energy use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,285.10	\$3,285.10
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,285.10	\$3,285.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 163

Scenario Name: Soil Moisture Sensors with Data Loggers and Telemetry, Implementation Cost

Scenario Description: 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 with telemetry to log and transmit continuous soil moisture data that can be accessed with a personal computer and associated graphing software. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation in the field.

After Situation: Producer has installed four sensors at each monitoring site to a depth of four feet with one sensor representing each foot of depth. Producer monitors continuously recorded soil moisture measurements that are used to schedule irrigation more effectively resulting in improved irrigation water management and reduced energy use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Irrigated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8.48	\$8.48
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.48	\$8.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 164

Scenario Name: Soil Moisture Sensors with Data Loggers, Base Cost

Scenario Description: 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation in the field.

After Situation: Producer has installed four sensors at 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,897.49	\$2,897.49
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,897.49	\$2,897.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 165

Scenario Name: Soil Moisture Sensors with Data Loggers, Implementation Cost

Scenario Description: 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation in the field.

After Situation: Producer has installed four sensors at 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Irrigated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8.48	\$8.48
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.48	\$8.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 166

Scenario Name: Soil Moisture Sensors, Base Cost

Scenario Description: Installation of soil moisture sensors such as tensiometers, gyp blocks, capacitance sensors etc, that are used to determine point in time soil moisture by depth. The installation includes the purchase of soil moisture meters and sensors, installation equipment, and labor to install.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation.

After Situation: Producer has installed four sensors at 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 managment and reduced energy use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,114.42	\$1,114.42
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,114.42	\$1,114.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 449 - Irrigation Water Management

Scenario Number: 167

Scenario Name: Soil Moisture Sensors, Implementation Cost

Scenario Description: Installation of soil moisture sensors such as tensiometers, gyp blocks, capacitance sensors etc, that are used to determine point in time soil moisture by depth. The installation includes the purchase of soil moisture meters and sensors, installation equipment, and labor to install. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Producer uses feel method to estimate soil moisture for scheduling irrigation.

After Situation: Producer has installed four sensors at 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Irrigated

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6.79	\$6.79
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6.79	\$6.79

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 460 - Land Clearing

Scenario Number: 51

Scenario Name: Land Clearing

Scenario Description: Site preparation of a field using heavy and medium equipment that requires the clearing and onsite disposal of approximately 10 acres of trees and shrubs to accomplish specific conservation objectives.

Before Situation: The current forested area, approximately 10 acres, has a moderate density of trees with an evenly spaced canopy.

After Situation: The land was cleared of trees and shrubs using heavy and medium equipment and achieves specific conservation objectives.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Cleared

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$10,577.97	\$1,057.80
Labor	\$3,931.25	\$393.12
Mobilization	\$1,910.44	\$191.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,419.66	\$1,641.97

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 462 - Precision Land Forming and Smoothing

Scenario Number: 28

Scenario Name: Minor Shaping

Scenario Description: The land surface is shaped or leveled to a specific elevation and grade for various land uses. Cuts and fills are small.

Before Situation: The field has minor topographic issues or problems with surface drainage or erosion which can be corrected without land leveling or land smoothing. Site conditions require attention to elevation and grade. Typical situation is a 5 acre field. Material to be moved and or placed typically around 100 cubic yards per acre.

After Situation: The land has been shaped to the required elevations and grades. Resource concerns have been addressed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of land treated

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,352.06	\$270.41
Labor	\$419.57	\$83.91
Mobilization	\$2,967.40	\$593.48
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,739.03	\$947.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 462 - Precision Land Forming and Smoothing

Scenario Number: 29

Scenario Name: Site Stabilization

Scenario Description: The site contains a gully or another site-specific topographic problem. Site conditions require attention to elevation and grade.

Before Situation: The site, commonly a crop field or Confined Animal Feeding Operation (CAFO), has a localized 10 ft wide and 5 ft deep gully or other topographic issues causing drainage or erosion problems.

After Situation: The land has been shaped to the required elevations and grades. Resource concerns have been addressed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic yards of material placed

Scenario Unit: Cubic Yard

Scenario Typical Size: 6,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$15,372.20	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$867.64	\$0.14
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,239.84	\$2.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 462 - Precision Land Forming and Smoothing

Scenario Number: 33

Scenario Name: Terrace Removal

Scenario Description: Removal and disposal of an existing terrace system by placing earthfill, excavation, grading, leveling or other means required for removal. Disposal of terrace ridge earthfill material is done by placing it into the adjacent terrace channel so that the disturbed area slope matches the adjacent field slope and it does not impede subsequent work or cause onsite or offsite damage.

Before Situation: On any land where an existing terrace system interfere with planned land use development or infrastructure. The site, commonly a crop field that is being developed into a pasture/range field, has localized topographic issues causing drainage or erosion problems.

After Situation: The existing terrace system, typically 12,460 LF, was removed by placing earthfill, excavation, grading, leveling, or other means with the use of heavy equipment. Terrace ridge earthfill material was disposed of by placing it into the adjacent terrace channel so that the disturbed area slope matches the adjacent field slope and it does not impede subsequent work or cause onsite or offsite damage. Revegetate or otherwise protect the disturbed areas from erosion as soon as possible.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of removed terraces

Scenario Unit: Foot

Scenario Typical Size: 12,460.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8,317.05	\$0.67
Labor	\$1,529.28	\$0.12
Mobilization	\$1,042.79	\$0.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,889.12	\$0.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 462 - Precision Land Forming and Smoothing

Scenario Number: 34

Scenario Name: Minor Shaping, Field Scale

Scenario Description: Removing irregularities on the land surface of cropland by use of heavy equipment.

Before Situation: Field damaged by flooding, past agricultural practices, or other topographic issues causing drainage or field workability issues. Typically less than 100 cy/acre material moved.

After Situation: Land level, backhoe, bulldozer or other heavy equipment used to correct irregularities and address drainage or workability issues.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of land treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$4,220.53	\$105.51
Labor	\$955.80	\$23.90
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,176.32	\$129.41

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 462 - Precision Land Forming and Smoothing

Scenario Number: 35

Scenario Name: Heavy Shaping

Scenario Description: Removing irregularities on the land surface of cropland or pastureland by use of heavy equipment.

Before Situation: Field damaged by erosion, past agricultural practices, or other topographic issues causing drainage or field workability issues.

After Situation: Bulldozer or other heavy equipment used to correct irregularities and address drainage or workability issues.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of land treated

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,350.57	\$675.28
Labor	\$305.86	\$152.93
Mobilization	\$2,085.59	\$1,042.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,742.01	\$1,871.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 464 - Irrigation Land Leveling

Scenario Number: 34

Scenario Name: Irrigation Land Leveling, Base Cost

Scenario Description: This is scenario will level a typical 80 acres of irrigated crop land surface to enhance uniform flow of surface water to improve irrigation efficiency using dirt pans/carry-all/pan-scraper equipment. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Irregular field surface reduces uniformity of surface application and thus irrigation efficiency by localized ponding and/or excess runoff/run-on.

After Situation: Cropland will be reshaped to provide uniform distribution of irrigation water in order to promote irrigation efficiencies.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,102.96	\$3,102.96
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,102.96	\$3,102.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 464 - Irrigation Land Leveling

Scenario Number: 35

Scenario Name: Irrigation Land Leveling, Implementation Cost

Scenario Description: This is scenario will level a typical 80 acres of irrigated crop land surface to enhance uniform flow of surface water to improve irrigation efficiency using dirt pans/carry-all/pan-scraper equipment. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Irregular field surface reduces uniformity of surface application and thus irrigation efficiency by localized ponding and/or excess runoff/run-on.

After Situation: Cropland will be reshaped to provide uniform distribution of irrigation water in order to promote irrigation efficiencies.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earth Moved

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.71	\$2.71
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.71	\$2.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 468 - Lined Waterway or Outlet

Scenario Number: 47

Scenario Name: Turf Reinforced Matting

Scenario Description: Install a trapezoidal or parabolic shaped waterway lined with Turf Reinforced Matting (TRM). One half of the channel is excavated. Excess excavation is spoiled in the immediate area. TRM is installed over 100 percent of the width of the waterway to prevent scour and 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.

Before Situation: Excessive sedimentation and soil erosion as a result of ephemeral or classic gully erosion. Velocities are generally too high or saturated soil conditions make it difficult to establish a grassed waterway.

After Situation: TRM lined waterway is 300 ft long by 15 ft wide by 1.5 ft deep. The practice is installed using a hydraulic excavator. TRM is installed by laborers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Waterway

Scenario Unit: Square Foot

Scenario Typical Size: 4,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,256.40	\$0.95
Equipment Installation	\$530.34	\$0.12
Labor	\$320.01	\$0.07
Mobilization	\$867.64	\$0.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,974.40	\$1.33

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 468 - Lined Waterway or Outlet

Scenario Number: 49

Scenario Name: Concrete Block

Scenario Description: Install a trapezoidal shaped waterway or chute lined with concrete blocks. One half of the channel is excavated. Excess excavation is spoiled in the immediate area. 8 x 8 x16 inch standard concrete blocks are installed over 100 percent of the width of the waterway/chute to prevent scour. Cost include excavation, spoiling of excess material, 3-inch stone subgrade, geotextile and furnishing and installing standard concrete blocks. Lined waterway width is measured from top of bank to top of bank.

Before Situation: Excessive sedimentation and soil erosion as a result of ephemeral or classic gully erosion. Velocities are generally too high, or saturated soil conditions make it difficult to establish a grassed waterway. Usually installed in locations where rock or other lining materials are not readily available.

After Situation: Concrete block lined waterway or chute is installed using a hydraulic excavator. Geotextile and concrete blocks are installed by laborers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Waterway

Scenario Unit: Square Foot

Scenario Typical Size: 540.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,301.77	\$6.11
Equipment Installation	\$192.41	\$0.36
Labor	\$773.67	\$1.43
Mobilization	\$867.64	\$1.61
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,135.49	\$9.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 468 - Lined Waterway or Outlet

Scenario Number: 71

Scenario Name: Concrete

Scenario Description: Install a trapezoidal or parabolic shaped waterway lined with concrete. Excess excavation is spoiled in the immediate area. Concrete is installed over 100 percent of the width of the waterway to prevent scour. Cost include excavation, spoiling of excess material, 6 inches of clean sand or gravel subgrade, and 5 inches of reinforced concrete slab. Lined waterway width is measured from top of bank to top of bank.

Before Situation: Excessive sedimentation and soil erosion as a result of ephemeral or classic gully erosion. Velocities are generally too high or saturated soil conditions making it difficult to establish a grassed waterway. Usually installed in locations where rock or other lining materials are not readily available.

After Situation: Concrete lined waterway is 300 ft long by 15 ft wide by 1.5 ft deep. Waterway is excavated using a hydraulic excavator. Concrete slab is placed on 6 inches of clean sand or #57 stone. Concrete is placed, graded and screeded by laborers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Waterway

Scenario Unit: Square Foot

Scenario Typical Size: 4,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,936.77	\$0.65
Equipment Installation	\$35,940.39	\$7.99
Labor	\$149.89	\$0.03
Mobilization	\$867.64	\$0.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$39,894.70	\$8.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 468 - Lined Waterway or Outlet

Scenario Number: 73

Scenario Name: Rock Lined, Base Cost

Scenario Description: Install trapezoidal or parabolic shaped waterway lined with riprap. Excess excavation is spoiled in the immediate area. Riprap is installed over 100 percent of the width of the waterway to prevent scour. Cost include excavation, spoiling of excess material, geotextile underlayment and installing rock riprap. Lined waterway width is measured from top of bank to top of bank. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of ephemeral or classic gully erosion. Velocities are generally too high or saturated soil conditions make it difficult to establish a grassed waterway.

After Situation: Rock lined waterway is installed. Waterway is excavated and rock is placed using a hydraulic excavator. Geotextile underlayment is installed by laborers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Installation.

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,253.63	\$1,253.63
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,253.63	\$1,253.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 468 - Lined Waterway or Outlet

Scenario Number: 74

Scenario Name: Rock Lined, Implementation Cost

Scenario Description: Install trapezoidal or parabolic shaped waterway lined with riprap. Excess excavation is spoiled in the immediate area. Riprap is installed over 100 percent of the width of the waterway to prevent scour. Cost include excavation, spoiling of excess material, geotextile underlayment and installing rock riprap. Lined waterway width is measured from top of bank to top of bank. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of ephemeral or classic gully erosion. Velocities are generally too high, or saturated soil conditions make it difficult to establish a grassed waterway.

After Situation: Rock lined waterway is installed. Waterway is excavated and rock is placed using a hydraulic excavator. Geotextile underlayment is installed by laborers.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Riprap

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$155.98	\$155.98
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$155.98	\$155.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 472 - Access Control

Scenario Number: 61

Scenario Name: Animal Exclusion from Sensitive Areas

Scenario Description: This scenario is used for excluding animals from an area to address identified resource concerns and protect or enhance natural resource values. Control will be done by temporary electric fencing. Any need for permanent fencing will be planned and installed using Fence (382).

Before Situation: Sensitive areas are threatened by the adverse actions of domestic and/or wild animals. The importance of the sensitive areas can include (but are not limited to): wildlife habitat, plant species composition, newly established trees and/or plants, stream bank stability, and/or water quality.

After Situation: Sensitive areas are protected from the adverse actions of domestic and/or wild animals by excluding them from the area.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of fence

Scenario Unit: Foot

Scenario Typical Size: 3,600.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$133.73	\$0.04
Equipment Installation	\$139.14	\$0.04
Labor	\$113.41	\$0.03
Mobilization	\$364.47	\$0.10
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$750.76	\$0.21

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 484 - Mulching

Scenario Number: 2

Scenario Name: Erosion Control Blanket

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.

Before Situation: There are areas of concentrated flow and a grassed waterway is being installed and seeded to permanent cover. Soil erosion is a concern and there is little to no vegetation.

After Situation: The erosion control blanket is placed on concentrated flow areas and secured with ground staples. Soil erosion is minimized and vegetative cover is established.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Total Area Mulched

Scenario Unit: Square Foot

Scenario Typical Size: 5,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,065.45	\$0.21
Equipment Installation	\$0.00	\$0.00
Labor	\$453.66	\$0.09
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,519.10	\$0.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 57

Scenario Name: Synthetic Material

Scenario Description: Installation of geotextile, biodegradable plastic, polyethylene plastic, or other state approved synthetic mulch to conserve soil moisture, moderate soil temperature, suppress weed growth and provide erosion control. Payment based on actual area covered by mulching material based on 5 foot on center spacings.

Before Situation: Site conditions vary. Typically scenarios include new tree and shrub plantings, irrigated orchards or vineyards, or annual and perennial specialty crops. Water quantity efficiency and maintaining soil moisture is a concern.

After Situation: Implementation Requirements are prepared according to the 484 Mulching Standard and implemented. Synthetic mulch is applied in rows with a mulch layer or by other mechanized means. Soil moisture is conserved, energy use associated with irrigation is decreased, and weed growth is suppressed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Covered by Mulch

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,289.44	\$3,289.44
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,289.44	\$3,289.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 58

Scenario Name: Natural Material, Temporary

Scenario Description: Application of straw mulch or other other state approved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage and is typically used with critical area planting. Assumes 2 tons of straw mulch per acre

Before Situation: Typical scenario ranges from a 0.1 to 1.0 acre disturbed site around a newly constructed structural practice. The potential for soil erosion is high and mulch is needed to stabilize the soil and facilitate the establishment of vegetative cover.

After Situation: Implementation Requirements are prepared 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Covered by Mulch

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$163.55	\$163.55
Equipment Installation	\$17.39	\$17.39
Labor	\$283.54	\$283.54
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$464.48	\$464.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 77

Scenario Name: Natural Material, Small Bale

Scenario Description: Application of straw mulch or other state approved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage over the row, shaped bed or raised bed. Typical row length is 2000 ft. Mulch is hand applied/spread minimum of 2 inches thick.

Before Situation: Current crop production does not manage natural precipitation and soil moisture efficiently. Weed competition for soil moisture degrades plant productivity. Pesticides applied for full area coverage.

After Situation: Implementation Requirements are prepared according to the 484 Mulching Standard. Straw mulch has been applied to areas needing mulch. Rows or beds received natural mulch to improve efficiency of naturally available water use. Pesticide use is reduced because the mulch prevents weeds in the crop rows.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Covered by Mulch

Scenario Unit: Square Foot

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$210.35	\$0.11
Equipment Installation	\$139.14	\$0.07
Labor	\$425.30	\$0.21
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$774.80	\$0.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 128

Scenario Name: Natural Material, Partial Coverage

Scenario Description: Application of straw mulch or other other state approved natural material (such as wood chips, compost, or hay) to reduce erosion, moderate soil temperature and suppress weeds. Typically used to provide partial coverage (either in-row or between rows) to suppress weeds. Payment based on total acres mulched, assuming 3-5 ft. swatch and 10-12 ft. row spacing.

Before Situation: Site conditions vary. Typically scenarios include new tree and shrub plantings, irrigated orchards or vineyards, or annual and perennial specialty crops. Water quantity and soil moisture is a concern.

After Situation: Implementation Requirements are prepared according to the 484 Mulching Standard and implemented. 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 weed growth is suppressed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Total Acres Mulched

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,635.47	\$163.55
Equipment Installation	\$203.03	\$20.30
Labor	\$158.48	\$15.85
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,996.98	\$199.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 129

Scenario Name: Synthetic Material, Row

Scenario Description: Synthetic rolled or biodegradable sheet mulch is applied as partial coverage (rows or beds) to reduce weed pressure, conserve soil moisture, and moderate soil temperatures. Facilitates micro irrigation and irrigation water management. Area with mulch cover is less than or equal to 1 acre or 7260 square feet. Typical row is 4 ft wide and 2000 ft long. Synthetic mulch rolls are 2000 ft length.

Before Situation: Typical installation for small operations, market gardens, and community gardens where rows or bedded rows or raised beds are used for crop production. Soil erosion, plant productivity and health are resource concerns. Improper irrigation management, natural precipitation use, and improper fertility management degrade plant health and soil health. Pesticides applied to full acres rather than row only.

After Situation: Synthetic mulch applied to rows or beds to improve moisture management, natural precipitation use and as appropriate improve irrigation efficiency. Quantities of pesticides used are reduced as mulch prevents weed competition in the crop rows or beds. Synthetic mulch is applied at the beginning of growing season and removed at the end of the season. Synthetic mulch is disposed of properly and not incorporated into the soil.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area under synthetic mulch

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 8.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$349.72	\$43.71
Equipment Installation	\$417.43	\$52.18
Labor	\$680.49	\$85.06
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,447.63	\$180.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 484 - Mulching

Scenario Number: 130

Scenario Name: Tree and Shrub

Scenario Description: Weed barrier fabric or other suitable natural or synthetic mulch is installed with a new tree and shrub planting. Typically used to prevent weed competition during the installation of conservation practices. Rate is per tree/shrub and assumes 1 square yard of weed barrier fabric and 5 staples/tree.

Before Situation: Site conditions vary. Typical scenario is an installation of 100 native trees and shrubs to enhance wildlife habitat. Sites are often remote and trees may not be planted in rows, requiring each tree to be mulched individually

After Situation: Implementation Requirements are prepared according to the 484 Mulching Standard and implemented. Weed barrier fabric squares are installed with 5 sod staples each, around individual trees and shrubs to control weed competition. Weeds are controlled and tree/shrub growth is minimally influenced by weed competition.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Trees Mulched

Scenario Unit: Each

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$135.93	\$1.36
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$135.93	\$1.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 1

Scenario Name: Mechanical, Heavy

Scenario Description: Uses heavy, mechanical equipment to prepare the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 6.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$199.74	\$33.29
Equipment Installation	\$9,811.35	\$1,635.23
Labor	\$1,018.89	\$169.82
Mobilization	\$2,085.59	\$347.60
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,115.57	\$2,185.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 64

Scenario Name: Small Acre, Site Preparation

Scenario Description: Uses two types of application methods: one to mechanically prepare the soil and another to apply herbicides to treat undesirable vegetation. Various herbicides may be used depending on site conditions and target species. For small acres to prepare the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of treatment

Scenario Unit: Acre

Scenario Typical Size: 0.50

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9.34	\$18.69
Equipment Installation	\$11.16	\$22.33
Labor	\$204.84	\$409.69
Mobilization	\$364.47	\$728.94
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$589.82	\$1,179.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 91

Scenario Name: Chemical Application, Spot Treatment

Scenario Description: Uses two types of herbicides and application methods: one, herbicides are applied over the entire area to treat herbaceous and shrub vegetation and, two, single-stem treatments, using a different herbicide, are applied on selected individual trees. Various herbicides may be used depending on site conditions and target species. Eliminates undesirable vegetation and creates site conditions suitable for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Treatment

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$125.82	\$3.15
Equipment Installation	\$7,248.92	\$181.22
Labor	\$1,155.16	\$28.88
Mobilization	\$867.64	\$21.69
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,397.54	\$234.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 92

Scenario Name: Chemical Application

Scenario Description: Applies herbicides over entire area to treat herbaceous and shrub vegetation. Various herbicides may be used depending on site conditions and target species. Eliminates undesirable vegetation and creates site conditions suitable for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatment

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$5,498.44	\$137.46
Labor	\$204.84	\$5.12
Mobilization	\$867.64	\$21.69
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,570.93	\$164.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 93

Scenario Name: Manual Site Preparation

Scenario Description: Uses manual tools and labor to prepare the site. Eliminates undesirable vegetation and prepares soils for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Treatment

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$767.76	\$76.78
Labor	\$2,072.20	\$207.22
Mobilization	\$219.19	\$21.92
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,059.15	\$305.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 94

Scenario Name: Mechanical, Heavy with Chemical Application

Scenario Description: Uses heavy, mechanical equipment and chemicals to treat the site. Various herbicides may be used depending on site conditions and target species. Prepares the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,190.21	\$79.76
Equipment Installation	\$16,914.28	\$422.86
Labor	\$2,906.38	\$72.66
Mobilization	\$3,128.38	\$78.21
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26,139.25	\$653.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 95

Scenario Name: Mechanical, Light and Chemical Application

Scenario Description: Uses light-sized, mechanical equipment and chemicals to treat the site. Various herbicides may be used depending on site conditions and target species. Prepares the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,190.21	\$79.76
Equipment Installation	\$1,936.41	\$48.41
Labor	\$2,385.13	\$59.63
Mobilization	\$2,602.93	\$65.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,114.69	\$252.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 96

Scenario Name: Mechanical, Moderate

Scenario Description: Uses moderate-sized, mechanical equipment to prepare the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$7,300.17	\$182.50
Labor	\$968.79	\$24.22
Mobilization	\$1,042.79	\$26.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,311.76	\$232.79

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 97

Scenario Name: Mechanical, Moderate with Chemical Application

Scenario Description: Uses moderate-sized, mechanical equipment and chemicals to treat the site. Various herbicides may be used depending on site conditions and target species. Prepares the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,190.21	\$79.76
Equipment Installation	\$7,574.62	\$189.37
Labor	\$1,453.19	\$36.33
Mobilization	\$2,085.59	\$52.14
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,303.61	\$357.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 490 - Tree/Shrub Site Preparation

Scenario Number: 104

Scenario Name: Mechanical, Light

Scenario Description: Uses light-sized, mechanical equipment to prepare the site for establishing desirable trees and/or shrubs appropriate for the eco-site and to meet the landowner's desired future condition.

Before Situation: The site is dominated by undesirable herbaceous and woody vegetation. Noxious and invasive species may make up part, or all of, the species present. If left uncontrolled, undesirable vegetation will inhibit the successful establishment of desired species of trees and/or shrubs.

After Situation: Undesirable vegetation has been treated and will not compete with desired trees and/or shrubs. Site conditions are favorable for the successful establishment of trees and/or shrubs.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,661.96	\$41.55
Labor	\$1,900.73	\$47.52
Mobilization	\$1,735.29	\$43.38
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,297.98	\$132.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 500 - Obstruction Removal

Scenario Number: 7

Scenario Name: Removal and Disposal of Brush and Trees, Less Than Six Inch Diameter

Scenario Description: Removal and disposal of brush and trees less than 6 inches in diameter by demolition, excavation, or other means required.

Before Situation: On any land where existing obstructions interfere with planned land use development, public safety or infrastructure. The site may be abandoned mine lands, construction sites, recreation areas, farms, ranches, and areas affected by natural disasters. This is not intended for the removal of obstructions from aquatic environments.

After Situation: The typical area will be a 2.0 acre impaired area. The removal of brush and trees < 6 inch diameter will be performed with the use of equipment and hand labor. Dispose of all brush and trees 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 site conditions in order to apply conservation practices or facilitate better use of the landscape.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Land Area

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,797.88	\$898.94
Labor	\$869.87	\$434.94
Mobilization	\$867.64	\$433.82
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,535.40	\$1,767.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 500 - Obstruction Removal

Scenario Number: 8

Scenario Name: Removal and Disposal of Brush and Trees, Greater Than Six Inch Diameter

Scenario Description: Removal and disposal of brush and trees greater than 6 inches in diameter by demolition, excavation, or other means required.

Before Situation: On any land where existing obstructions interfere with planned land use development, public safety or infrastructure. The site may be abandoned mine lands, construction sites, recreation areas, farms, ranches, and areas affected by natural disasters. This is not intended for the removal of obstructions from aquatic environments.

After Situation: The typical area will be a 2.0 acre impaired area. The removal of brush and trees > 6 inch diameter will be performed with the use of equipment and hand labor. Dispose of all brush and trees 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 site conditions in order to apply conservation practices or facilitate better use of the landscape.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Land Area

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,012.94	\$1,506.47
Labor	\$1,659.42	\$829.71
Mobilization	\$2,274.91	\$1,137.45
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,947.27	\$3,473.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 500 - Obstruction Removal

Scenario Number: 174

Scenario Name: Removal and Disposal of Fence

Scenario Description: Removal and disposal of all existing fences by demolition, excavation, or other means required.

Before Situation: On any land where existing fence interferes with planned land use development, public safety, wildlife movement and habitat, or infrastructure. The site may be abandoned mine lands, construction sites, recreation areas, farms, ranches, and areas affected by natural disasters. This is not intended for the removal of obstructions from aquatic environments.

After Situation: The typical fence will be 2640 in linear feet. The removal of the fence will be performed with the use of equipment 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).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Fence

Scenario Unit: Foot

Scenario Typical Size: 2,640.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,826.18	\$0.69
Labor	\$1,229.34	\$0.47
Mobilization	\$867.64	\$0.33
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,923.16	\$1.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 500 - Obstruction Removal

Scenario Number: 184

Scenario Name: Removal and Disposal of Steel and or Concrete Structures

Scenario Description: Removal and disposal of steel and/or concrete structures by demolition, excavation, or other means required.

Before Situation: On any land where existing obstructions interfere with planned land use development, public safety or infrastructure. The site may be abandoned mine lands, construction sites, recreation areas, farms, ranches, and areas affected by natural disasters. This is not intended for the removal of obstructions from aquatic environments.

After Situation: The typical area will be a 2000 square feet of impaired land. The removal of steel and or concrete structures will be performed by demolition, excavation or other means required for removal with the use of heavy equipment and hand labor. Dispose of all steel and or concrete structures 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 site conditions in order to apply conservation practices or facilitate better use of the landscape.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Land Area

Scenario Unit: Square Foot

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$27,336.02	\$13.67
Labor	\$6,936.17	\$3.47
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$34,272.19	\$17.14

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 500 - Obstruction Removal

Scenario Number: 185

Scenario Name: Removal and Disposal of Wood Structures

Scenario Description: Removal and disposal of wood structures by demolition, excavation, or other means required.

Before Situation: On any land where existing obstructions interfere with planned land use development, public safety or infrastructure. The site may be abandoned mine lands, construction sites, recreation areas, farms, ranches, and areas affected by natural disasters. This is not intended for the removal of obstructions from aquatic environments.

After Situation: The typical area will be a 2000 square feet of impaired land. The removal of wood structures will be performed by demolition, excavation or other means required for removal with the use of heavy equipment and hand labor. Dispose of all wood structures 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 site conditions in order to apply conservation practices or facilitate better use of the landscape.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Land Area

Scenario Unit: Square Foot

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$13,668.01	\$6.83
Labor	\$3,521.44	\$1.76
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$17,189.45	\$8.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 511 - Forage Harvest Management

Scenario Number: 1

Scenario Name: Improved Forage Quality

Scenario Description: Improved forage harvest management, forage quality analysis, and recordkeeping result in better forage quality and better livestock performance.

Before Situation: Forage cutting heights are as close to the ground as equipment will allow resulting in very low stubble height. Plant regrowth is very slow. Forage quality tests are not regularly done. Records of forage quality components, cutting heights, moisture content, and harvest schedule are not regularly kept.

After Situation: Forage cutting heights are raised based on the physiology of the specific forage species harvested to ensure that there is enough residue left to provide adequate leaf area for photosynthetic recovery (i.e., 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Improved Relative Feed Value

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$64.40	\$2.15
Equipment Installation	\$0.00	\$0.00
Labor	\$120.37	\$4.01
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$4.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$304.69	\$10.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 511 - Forage Harvest Management

Scenario Number: 20

Scenario Name: Delayed Mowing of Perennial Forages

Scenario Description: In perennial forage, the delaying the harvest of the first cutting will promote the reproduction of ground nesting birds and benefit other wildlife species. The delayed harvest results in a decrease in overall forage quality and quantity. Producers could see a significant reduction in market value due to declines in protein (50%) and digestibility (20%), making the forage crop less palatable and lower in relative feed value.

Before Situation: Perennial forage crops are produced and harvested; ground nesting birds and other wildlife are disturbed and/or fledgling birds are killed in the process.

After Situation: Perennial crops are harvested with a delayed mowing; forage quality is compromised; however, the survival of ground nesting birds and other wildlife is promoted.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Increased grassland bird populations.

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$64.40	\$2.15
Equipment Installation	\$0.00	\$0.00
Labor	\$120.37	\$4.01
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$4.00
Foregone Income	\$1,942.40	\$64.75
Risk	\$0.00	\$0.00
Total	\$2,247.08	\$74.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 512 - Pasture and Hay Planting

Scenario Number: 3

Scenario Name: Native Perennial Species, Low Input

Scenario Description: Establish or reseed adapted perennial native grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native grasses for pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. Pollinator species may also be planned. This scenario assumes fertility and pH are not needed. Seed, equipment and labor for seed bed prep, tillage, seeding, and spreading are included.

Before Situation: Poorly managed/degraded range, pasture, hayland or cropland.

After Situation: Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, or pasture.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,259.81	\$175.33
Equipment Installation	\$977.68	\$32.59
Labor	\$226.83	\$7.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$642.21	\$21.41
Risk	\$0.00	\$0.00
Total	\$7,106.53	\$236.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 512 - Pasture and Hay Planting

Scenario Number: 5

Scenario Name: Introduced Perennial Species, Low Input

Scenario Description: Establish or reseed adapted perennial introduced cool season grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of introduced perennial species for pasture, hayland, and wildlife plantings. This practice may be utilized for organic or regular production. Pollinator species may also be planned. This scenario assumes fertility and pH are not needed. Seed, equipment and labor for seed bed prep, tillage, seeding, and spreading are included.

Before Situation: Poor or nonexistent stand of introduced perennial species.

After Situation: Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, or pasture.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,906.71	\$63.56
Equipment Installation	\$1,441.65	\$48.06
Labor	\$226.83	\$7.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$222.30	\$7.41
Risk	\$0.00	\$0.00
Total	\$3,797.49	\$126.58

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 512 - Pasture and Hay Planting

Scenario Number: 6

Scenario Name: Introduced Perennial Species

Scenario Description: Establish or reseed adapted perennial introduced species to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of introduced perennial species for pasture, hayland, and wildlife habitat. This practice may be utilized for organic or regular production. Pollinator species may also be planned. This scenario assumes fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

Before Situation: Poor or nonexistent stand of introduced perennial species.

After Situation: Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, or pasture.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,509.63	\$316.99
Equipment Installation	\$1,723.16	\$57.44
Labor	\$226.83	\$7.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$222.30	\$7.41
Risk	\$0.00	\$0.00
Total	\$11,681.92	\$389.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 512 - Pasture and Hay Planting

Scenario Number: 11

Scenario Name: Perennial Species, Sprigging

Scenario Description: Sprigging new grasses with sprigging application for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario assumes fertilizer, sprigs, equipment and labor for seed bed prep, tillage, sprigging, and spreading.

Before Situation: Poor or nonexistent stand of grass species.

After Situation: Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hayland, or pasture.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,022.83	\$367.43
Equipment Installation	\$3,050.43	\$101.68
Labor	\$226.83	\$7.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$222.30	\$7.41
Risk	\$0.00	\$0.00
Total	\$14,522.39	\$484.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 512 - Pasture and Hay Planting

Scenario Number: 107

Scenario Name: Native Perennial Species

Scenario Description: Establish or reseed adapted perennial native species to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of native species for range, pasture, hayland, and wildlife openings. This practice may be utilized for organic or regular production. Native pollinator species may also be planned. This scenario assumes lime, fertilizer, seed, equipment and labor for seed bed prep, tillage, seeding, and spreading.

Before Situation: Poorly managed/degraded pasture, hayland or cropland.

After Situation: Suitable species are established to improve forage quality and quantity, reduce soil erosion and improve wildlife habitat on cropland, hayland, or pasture.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,866.60	\$395.55
Equipment Installation	\$1,558.36	\$51.95
Labor	\$226.83	\$7.56
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$642.21	\$21.41
Risk	\$0.00	\$0.00
Total	\$14,294.01	\$476.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 8

Scenario Name: Rural Water Connection Equipment

Scenario Description: The rural water connection consists of the manhole, meter, pipe, valves, and necessary construction for connecting from a rural water pipeline to a livestock distribution pipeline. Includes the cost of installation, all materials, appurtenances, and labor required to construct and install the meter pit. Hook-up fees to the rural water system are not included.

Before Situation: Inadequate water supply for domestic animals located on grazed range, pasture, or grazed forest in the northern plains region.

After Situation: A rural water connection which provides access to a reliable, high quality water supply for meeting the needs of domestic animals on grazed range, pasture, or grazed forest in the northern plains region. The 4' manhole, meter, pipe and appurtenances will enable the pipeline to meet the quantity requirements of domestic animals.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Rural Water Connection

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,530.24	\$2,530.24
Equipment Installation	\$727.50	\$727.50
Labor	\$657.20	\$657.20
Mobilization	\$1,735.29	\$1,735.29
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,650.23	\$5,650.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 207

Scenario Name: Difficult Trenching Conditions

Scenario Description: Below-ground installation of Polyvinyl Chloride (PVC), High Density Polyethylene (HDPE), or Steel pipeline in difficult areas such as rocky terrain. Includes equipment and labor only for additional costs of installing pipeline.

Before Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After Situation: Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Trenching

Scenario Unit: Linear Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$12,408.37	\$24.82
Labor	\$907.31	\$1.81
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,315.69	\$26.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 208

Scenario Name: High-Density Polyethylene, Implementation Cost

Scenario Description: Below ground installation of High-Density Polyethylene (HDPE) pipeline. The scenario unit is weight of pipe material in pounds. Appurtenances include couplings, fittings, thrust blocks, gate valves, air release valves, drain valve, and pressure relief valve. Revegetation is not included. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After Situation: Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5.61	\$5.61
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5.61	\$5.61

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 209

Scenario Name: High-Density Polyethylene, Base Cost

Scenario Description: Below ground installation of High-Density Polyethylene (HDPE) pipeline. The scenario unit is weight of pipe material in pounds. Appurtenances include couplings, fittings, thrust blocks, gate valves, air release valves, drain valve, and pressure relief valve. Revegetation is not included. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After Situation: Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,824.66	\$1,824.66
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,824.66	\$1,824.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 210

Scenario Name: Horizontal Boring

Scenario Description: Install a livestock watering pipeline under a road using directional drilling or horizontal boring equipment. Applies to soils with no special bedding requirements. Includes a carrier pipe, pipeline, horizontal boring equipment, excavation and labor.

Before Situation: A livestock pipeline is needed to replace or supplement insufficient water supply to livestock.

After Situation: Pipeline installed with a carrier pipe to convey water to a livestock watering system, minimizing non-beneficial water use, reducing soil erosion, and improving animal health.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Pipeline

Scenario Unit: Linear Foot

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,546.67	\$90.93
Equipment Installation	\$12,253.15	\$245.06
Labor	\$625.87	\$12.52
Mobilization	\$1,735.29	\$34.71
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,160.98	\$383.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 211

Scenario Name: Polyvinyl Chloride, Base Cost

Scenario Description: Below ground installation of Polyvinyl Chloride (PVC) pipeline. The scenario unit is weight of pipe material in pounds. Appurtenances include couplings, fittings, thrust blocks, gate valves, air release valves, drain valve, and pressure relief valve. Revegetation is not included. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After Situation: Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,376.37	\$1,376.37
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,376.37	\$1,376.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 516 - Livestock Pipeline

Scenario Number: 212

Scenario Name: Polyvinyl Chloride, Implementation Cost

Scenario Description: Below ground installation of Polyvinyl Chloride (PVC) pipeline. The scenario unit is weight of pipe material in pounds. Appurtenances include couplings, fittings, thrust blocks, gate valves, air release valves, drain valve, and pressure relief valve. Revegetation is not included. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After Situation: Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8.94	\$8.94
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.94	\$8.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 520 - Pond Sealing or Lining, Compacted Soil Treatment

Scenario Number: 61

Scenario Name: Soil Dispersant

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, 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).

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits. Soils are suitable for treatment with dispersants.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Liner Material including Soil Cover over Liner

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,226.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,901.52	\$0.90
Equipment Installation	\$14,466.15	\$4.48
Labor	\$849.62	\$0.26
Mobilization	\$868.64	\$0.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,085.94	\$5.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 520 - Pond Sealing or Lining, Compacted Soil Treatment

Scenario Number: 66

Scenario Name: Bentonite Treatment

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 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 the subgrade (graded filter or geotextile).

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits. Soils are suitable for treatment with bentonite.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Liner Material including Soil Cover over Liner

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,227.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$268,407.15	\$83.18
Equipment Installation	\$14,470.48	\$4.48
Labor	\$650.03	\$0.20
Mobilization	\$868.64	\$0.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$284,396.31	\$88.13

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 520 - Pond Sealing or Lining, Compacted Soil Treatment

Scenario Number: 85

Scenario Name: Soil Liner, Material Haul, Greater Than One Mile

Scenario Description: Construction of a compacted soil liner to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and protection of the finished liner. Material haul is greater than 1 mile.

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits. An adequate quantity of soil suitable for constructing a clay liner without amendments is available at an economical haul distance.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Compacted Soil Liner

Scenario Unit: Cubic Yard

Scenario Typical Size: 5,322.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$53,309.71	\$10.02
Labor	\$3,851.08	\$0.72
Mobilization	\$1,042.79	\$0.20
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$58,203.58	\$10.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 520 - Pond Sealing or Lining, Compacted Soil Treatment

Scenario Number: 86

Scenario Name: Soil Liner, Material Haul, Less Than One Mile

Scenario Description: Construction of a compacted soil liner to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner. Material haul located less than 1 mile.

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits. An adequate quantity of soil suitable for constructing a clay liner without amendments is available at an economical haul distance.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Compacted Soil Liner

Scenario Unit: Cubic Yard

Scenario Typical Size: 5,322.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$44,649.12	\$8.39
Labor	\$7,062.56	\$1.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$51,711.67	\$9.72

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 520 - Pond Sealing or Lining, Compacted Soil Treatment

Scenario Number: 87

Scenario Name: Soil Liner, On-Site Material

Scenario Description: Construction of a compacted soil liner to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner. Material is located on site.

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits. An adequate quantity of soil suitable for constructing a clay liner without amendments is available at an economical haul distance.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Liner Material

Scenario Unit: Cubic Yard

Scenario Typical Size: 5,322.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$22,067.71	\$4.15
Labor	\$3,851.08	\$0.72
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$25,918.79	\$4.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 521 - Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner

Scenario Number: 4

Scenario Name: Flexible Membrane with Liner Drainage or Venting

Scenario Description: Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storage impoundment 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.

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of Liner Material (including anchorage)

Scenario Unit: Square Yard

Scenario Typical Size: 2,420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$74,407.30	\$30.75
Equipment Installation	\$6,783.70	\$2.80
Labor	\$5,329.88	\$2.20
Mobilization	\$1,000.00	\$0.41
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$87,520.87	\$36.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 521 - Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner

Scenario Number: 64

Scenario Name: Flexible Membrane without Liner Drainage or Venting

Scenario Description: Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes 1 foot of soil cover for liner protection, and a geotextile or soil cushion to protect liner from subgrade damage.

Before Situation: In-place soils at site exhibit seepage rates in excess of acceptable limits.

After Situation: Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of Liner Material (including anchorage)

Scenario Unit: Square Yard

Scenario Typical Size: 2,420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$48,096.16	\$19.87
Equipment Installation	\$6,783.70	\$2.80
Labor	\$5,329.88	\$2.20
Mobilization	\$1,000.00	\$0.41
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$61,209.74	\$25.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 528 - Grazing Management

Scenario Number: 8

Scenario Name: Livestock Deferment, Standard

Scenario Description: Defer livestock for up to a 12-month period to prepare site for practices such as brush or weed management, prescribed burning or conversion from cropland. Deferment may also be used to improve plant health and vigor/or provide nesting habitat for wildlife species or provide adequate rest and recovery from natural disturbances such as wildfire. Livestock exclusion is required during the specified planned time period. Keep records of livestock turn out dates and monitor to determine when desired objectives of deferment are met.

Before Situation: Past management has resulted in possible over-grazed or grazing unit with increases in un-desirable vegetation such as shrubs, noxious or invasive plants resulting in declining overall health of the unit and ecologic function.

After Situation: Deferment of grazing has resulted in improved plant vigor and health and improved wildlife habitat following the installation of management practices. Adequate rest and recovery of desirable species has occurred. Records of livestock movement have been recorded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$501.27	\$6.27
Labor	\$321.00	\$4.01
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$815.12	\$10.19
Risk	\$0.00	\$0.00
Total	\$1,637.38	\$20.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 528 - Grazing Management

Scenario Number: 39

Scenario Name: Livestock Deferment, High Production

Scenario Description: Defer livestock for up to a 12-month period to prepare site for practices such as brush or weed management, prescribed burning, or conversion from cropland on high production grazing units. Deferment may also be used to improve plant health and vigor, provide a nesting habitat for wildlife species, or provide adequate rest and recovery from natural disturbances such as wildfire. Livestock exclusion is required during the specified planned time period. Keep records of livestock turn out dates and monitor to determine when desired objectives of deferment are met.

Before Situation: Past management has resulted in possible overgrazing or grazing units with increases in undesirable vegetation such as shrubs, noxious, or invasive plants resulting in declining overall health of the unit and ecologic function.

After Situation: Deferment of grazing has resulted in improved plant vigor and health and improved wildlife habitat following the installation of management practices. Adequate rest and recovery of desirable species has occurred. Records of livestock movement have been recorded.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$431.69	\$10.79
Labor	\$240.75	\$6.02
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$1,333.82	\$33.35
Risk	\$0.00	\$0.00
Total	\$2,006.27	\$50.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 528 - Grazing Management

Scenario Number: 55

Scenario Name: Prescribed Grazing Management, Five Acres or Less

Scenario Description: Plan, implement and monitor a rotational grazing system that will enhance and maintain ecosystem function as well as optimize efficiency and economic return on small farm (5 acres or less) grazing lands.

Before Situation: Area is degraded due to inappropriate timing, duration, frequency and intensity of animal utilization resulting in impaired ecosystem functions. Overuse and degradation of the soil and plant resources are occurring and animal health is compromised.

After Situation: Planned rotational movement of animals meet ecosystem functions due to proper timing, duration, frequency and intensity of animal utilization. Monitoring is showing that animals are in balance with available forage resources and ecological function and processes for soil, water and plant resources are being improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$222.98	\$44.60
Labor	\$1,034.65	\$206.93
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$23.98
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,377.54	\$275.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 528 - Grazing Management

Scenario Number: 72

Scenario Name: Virtual Fence Adaptive Management, Years Two Through Five

Scenario Description: Design and implementation of a grazing system with multiple subunits that will enhance rangeland health and ecosystem function as well as optimize efficiency and economic return through short-term and long-term monitoring (Ex: photo points, stubble height after grazing, etc.) & record keeping. This scenario will involve utilizing virtual fencing to manage cattle distribution, frequency, and duration according to objectives in CPS 528 (Prescribed Grazing). This scenario is for operations that have already acquired a virtual fence system.

Before Situation: Current grazing management exhibits undesirable and inefficient use of forage plants, and such use may have a negative impact on rangeland health, as well as soil and water resources. Stocking rates are likely higher than the current level of production and efficiency of use can support without management changes. The distribution, frequency, and duration of grazing may not be meeting objectives in CPS 528 (Prescribed Grazing).

After Situation: Grazing management is designed to protect the health and vigor of the plant communities that are in place. Livestock are managed in a way that enhances rangeland health and function through protection of sensitive areas, and efficient harvest of forage resources. Grazing Management objectives and VF grazing system success will be evaluated through short-term and long-term monitoring.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Animals

Scenario Unit: Number

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,635.46	\$36.35
Equipment Installation	\$222.98	\$2.23
Labor	\$2,904.96	\$29.05
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$1.20
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,883.32	\$68.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 528 - Grazing Management

Scenario Number: 105

Scenario Name: Range, Standard

Scenario Description: Design and implementation of a grazing system that will enhance rangeland health and ecosystem function as well as optimize efficiency and economic return through monitoring (ex:photo points, stubble height after grazing, etc) & record keeping.

Before Situation: Current grazing system exhibits undesirable and inefficient use of forage plants and such use may have a negative impact on rangeland health, as well as soil and water resources. Stocking rates are likely higher than the current level of production and efficiency of use can support without management changes. There is currently no monitoring plan in place to evaluate change on the landscape.

After Situation: 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 rangeland health and function through protection of sensitive areas, and efficient harvest of forage resources. Grazing system success will be evaluated through short term monitoring.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: <Unknown>

Scenario Unit: Acre

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$222.98	\$0.45
Labor	\$4,606.17	\$9.21
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$0.24
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,949.07	\$9.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 528 - Grazing Management

Scenario Number: 106

Scenario Name: Range, Intensive

Scenario Description: Design and implementation of a grazing system that will enhance rangeland health and ecosystem function enhance habitat components for the identified wildlife species of concern and/or improve the plant community as well as optimize efficiency and economic return through monitoring (ex: trend, composition, production, etc.), record keeping.

Before Situation: Current grazing system exhibits undesirable and inefficient use of forage plants and such use may have a negative impact on rangeland health, as well as soil and water resources. Stocking rates are likely higher than the current level of production and efficiency of use can support without management changes and wildlife cover, shelter, food, water and movement are limited due to grazingland condition. There is currently no monitoring plan in place to evaluate change on the landscape.

After Situation: 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 rangeland health and function through proper rest and recovery periods, protection of sensitive areas, proper utilization, and efficient harvest of forage resources and/or enhanced to benefit habitat for targeted wildlife species. Grazing system success will be evaluated through long term monitoring.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$2,496.31	\$4.99
Labor	\$9,212.34	\$18.42
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$359.75	\$0.72
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,068.40	\$24.14

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 197

Scenario Name: Windmill-Powered Pump

Scenario Description: Installation of a windmill to supply a reliable water source for livestock and/or wildlife. Includes the tower, concrete footings, wheel blade unit, sucker rod, down pipe, gear box, pump, plumbing, and well head protection concrete pad. Includes a windmill system with a 10 ft diameter mill and 27 ft tower pumping from a 150 ft well.

Before Situation: In a rangeland or pasture setting, a reliable source of water for livestock is not available, or the spacing between water sources is such that grazing distribution and plant health are adversely impacted.

After Situation: 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 rate of 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Diameter of Mill Wheel

Scenario Unit: Foot

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,520.60	\$952.06
Equipment Installation	\$1,469.30	\$146.93
Labor	\$1,652.79	\$165.28
Mobilization	\$1,735.29	\$173.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,377.98	\$1,437.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 198

Scenario Name: Fertigation Retrofit

Scenario Description: Integrating fertigation application technology onto a center pivot system for efficient placement of chemicals along the length of the system. Pumping capacity of the center pivot system is between 800 to 1200 gallons per minute of water.

Before Situation: A center pivot system has low pressure sprinklers. Deep percolation of chemicals in some parts of the field degrades the ground water quality.

After Situation: A center pivot sprinkler system has fertigation components added to the system which increases chemical application efficiency and uniformity utilizing a modern center pivot system. The chemicals are applied efficiently and uniformly to maintain optimum plant growth.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each System

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,356.75	\$3,356.75
Equipment Installation	\$0.00	\$0.00
Labor	\$722.25	\$722.25
Mobilization	\$219.19	\$219.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,298.19	\$4,298.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 201

Scenario Name: Pump, Electric with Pressure Tank, Base Cost

Scenario Description: A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system; or for pressurizing a small irrigation system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Livestock: The present gravity flow system is inadequate to provide the proper flow rate for a prescribed grazing system. Irrigation: Available water is at an insufficient pressure to allow for even distribution of water.

After Situation: Livestock: Water is transferred at a sufficient rate and pressure to meet the requirements of a prescribed grazing system. Irrigation: A properly designed pump is installed to improve irrigation efficiency and reduce energy usage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,217.92	\$2,217.92
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,217.92	\$2,217.92

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 202

Scenario Name: Pump, Electric with Pressure Tank, Implementation Cost

Scenario Description: A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system; or for pressurizing a small irrigation system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Livestock: The present gravity flow system is inadequate to provide the proper flow rate for a prescribed grazing system. Irrigation: Available water is at an insufficient pressure to allow for even distribution of water.

After Situation: Livestock: Water is transferred at a sufficient rate and pressure to meet the requirements of a prescribed grazing system. Irrigation: A properly designed pump is installed to improve irrigation efficiency and reduce energy usage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pump Power Requirement

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,512.75	\$1,512.75
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,512.75	\$1,512.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 203

Scenario Name: Pump, Electric, Base Cost

Scenario Description: A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system; or for pressurizing a small irrigation system; or for transferring liquid waste in a waste transfer system. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Livestock: The present gravity flow system is inadequate to provide the proper flow rate for a prescribed grazing system. Irrigation: Available water is at an insufficient pressure to allow for even distribution of water. Waste Transfer: Contaminated water needs to be moved to a containment facility.

After Situation: Livestock: Water is transferred at a sufficient rate and pressure to meet the requirements of a prescribed grazing system. Irrigation: A properly designed pump is installed to improve irrigation efficiency and reduce energy usage. Waste Transfer: Liquid wastes that have been collected through a waste transfer system are now efficiently transferred to an appropriate treatment or storage facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,301.30	\$8,301.30
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,301.30	\$8,301.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 204

Scenario Name: Pump, Electric, Implementation Cost

Scenario Description: A submersible electric-powered pump is installed in a well or structure; or a close-coupled electric-powered centrifugal pump is mounted on a platform. It is used for watering livestock as part of a prescribed grazing system; or for pressurizing a small irrigation system; or for transferring liquid waste in a waste transfer system. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Livestock: The present gravity flow system is inadequate to provide the proper flow rate for a prescribed grazing system. Irrigation: Available water is at an insufficient pressure to allow for even distribution of water. Waste Transfer: Contaminated water needs to be moved to a containment facility.

After Situation: Livestock: Water is transferred at a sufficient rate and pressure to meet the requirements of a prescribed grazing system. Irrigation: A properly designed pump is installed to improve irrigation efficiency and reduce energy usage. Waste Transfer: Liquid wastes that have been collected through a waste transfer system are now efficiently transferred to an appropriate treatment or storage facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pump Power Requirement

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$406.73	\$406.73
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$406.73	\$406.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 205

Scenario Name: Pump, Internal Combustion, Base Cost

Scenario Description: Installation of a pump in an existing irrigation system or installation of a new pump on cropland. Size of pump is determined by required GPM and pressure derived from a design for specific irrigation system on cropland. The combination of higher solids content and volume require a larger horsepower pump. This liquid manure pump is used to transfer semi-solid manure from a small reception pit located either below a barnyard or at the end of a free-stall barn or scrape alley. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Irrigation: Either an existing irrigation system employs an inefficient, improperly sized pump that leads to inefficient water delivery resulting in high energy costs, or Waste Transfer: various types of semi-solid or liquid waste at the headquarters is uncollected causing surface and ground water issues.

After Situation: Irrigation Setting: For irrigation system, a properly designed pump is installed, reducing water and energy usage. Waste Transfer Setting: For semi-solid or liquid waste, wastes that have been collected through a waste transfer system are now efficiently transferred to appropriate treatment or storage facilities 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,650.89	\$6,650.89
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,650.89	\$6,650.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 206

Scenario Name: Pump, Internal Combustion, Implementation Cost

Scenario Description: Installation of a pump in an existing irrigation system or installation of a new pump on cropland. Size of pump is determined by required GPM and pressure derived from a design for specific irrigation system on cropland. The combination of higher solids content and volume require a larger horsepower pump. This liquid manure pump is used to transfer semi-solid manure from a small reception pit located either below a barnyard or at the end of a free-stall barn or scrape alley. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Irrigation: Either an existing irrigation system employs an inefficient, improperly sized pump that leads to inefficient water delivery resulting in high energy costs, or Waste Transfer: various types of semi-solid or liquid waste at the headquarters is uncollected causing surface and ground water issues.

After Situation: Irrigation Setting: For irrigation system, a properly designed pump is installed, reducing water and energy usage. Waste Transfer Setting: For semi-solid or liquid waste, wastes that have been collected through a waste transfer system are now efficiently transferred to appropriate treatment or storage facilities 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pump Power Requirement

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$651.08	\$651.08
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$651.08	\$651.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 207

Scenario Name: Pump, Photovoltaic, Base Cost

Scenario Description: A submersible solar-powered pump is installed in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all appurtenances. Grazing - Livestock exclusion from surface water will result in improved surface water quality and reduced erosion. Irrigation - energy consumption will be reduced, and the increased pressure and flow rates will improve irrigation efficiency

Before Situation: Livestock: Inadequate supply or location of water for a prescribed grazing system. Eroded stream banks and degraded water quality due to livestock access to stream. Cattle are not well-distributed because of remote water location. Irrigation: Pressure and flow rate is insufficient for uniform irrigation.

After Situation: The typical scenario assumes installation of photovoltaic (PV) panels, capable of operating a solar-powered submersible pump in a well or other water source. The installation includes the pump, wiring, pipeline in the well, solar panels, frame mounts, controller, and all appurtenances.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,087.87	\$5,087.87
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,087.87	\$5,087.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 208

Scenario Name: Pump, Photovoltaic, Implementation Cost

Scenario Description: A submersible solar-powered pump is installed in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all appurtenances. Grazing - Livestock exclusion from surface water will result in improved surface water quality and reduced erosion. Irrigation - energy consumption will be reduced, and the increased pressure and flow rates will improve irrigation efficiency. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Livestock: Inadequate supply or location of water for a prescribed grazing system. Eroded stream banks and degraded water quality due to livestock access to stream. Cattle are not well-distributed because of remote water location. Irrigation: Pressure and flow rate is insufficient for uniform irrigation.

After Situation: The typical scenario assumes installation of photovoltaic (PV) panels, capable of operating a solar-powered submersible pump in a well or other water source. The installation includes the pump, wiring, pipeline in the well, solar panels, frame mounts, controller, and all appurtenances.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Photovoltaic Power Requirement

Scenario Unit: Kilowatt

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,385.03	\$3,385.03
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,385.03	\$3,385.03

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 211

Scenario Name: Turbine Pump, Base Cost

Scenario Description: Installation of a turbine pump to replace a pump in an existing irrigation system or a new pump on cropland. Size of pump is determined by required GPM and pressure derived from a design for specific irrigation system on cropland. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An existing irrigation system employs an inefficient, improperly sized pump that leads to inefficient water delivery resulting in high energy costs.

After Situation: For irrigation system, a properly designed pump is installed, reducing water and energy usage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$16,898.36	\$16,898.36
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,898.36	\$16,898.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 212

Scenario Name: Turbine Pump, Implementation Cost

Scenario Description: Installation of a turbine pump to replace a pump in an existing irrigation system or a new pump on cropland. Size of pump is determined by required GPM and pressure derived from a design for specific irrigation system on cropland. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An existing irrigation system employs an inefficient, improperly sized pump that leads to inefficient water delivery resulting in high energy costs.

After Situation: For irrigation system, a properly designed pump is installed, reducing water and energy usage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Gallons per Minute

Scenario Unit: Gallons per Minute

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8.96	\$8.96
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8.96	\$8.96

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 213

Scenario Name: Variable Frequency Drive, Base Cost

Scenario Description: This is an installation of electrical and electronic components designed to vary the frequency of the voltage to an electric motor and thus the ability to vary the speed of the motor. This directly affects pressure and flowrate. This also could give the operator the flexibility to operate several systems separately or at the same time.

Before Situation: Standard electrical connection from electrical utility to pump motor. No capability to match pump output pressure and/or flowrate to field(s) need(s). Result is over/under pressure(s) and/or flow rate(s), possible hydraulic anomalies, energy loss, and or inefficient water application in the irrigation system.

After Situation: VFD Modifications are implemented at the pump site to allow for varying the speed of an electric motor to match the pressure and flow requirements for a center pivot irrigation system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,136.26	\$2,136.26
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,136.26	\$2,136.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 214

Scenario Name: Variable Frequency Drive, Implementation Cost

Scenario Description: This is an installation of electrical and electronic components designed to vary the frequency of the voltage to an electric motor and thus the ability to vary the speed of the motor. This directly affects pressure and flowrate. This also could give the operator the flexibility to operate several systems separately or at the same time.

Before Situation: Standard electrical connection from electrical utility to pump motor. No capability to match pump output pressure and/or flowrate to field(s) need(s). Result is over/under pressure(s) and/or flow rate(s), possible hydraulic anomalies, energy loss, and or inefficient water application in the irrigation system.

After Situation: VFD Modifications are implemented at the pump site to allow for varying the speed of a 40 Hp electric motor to match the pressure and flow requirements for a center pivot irrigation system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horsepower

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$100.32	\$100.32
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$100.32	\$100.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 215

Scenario Name: Waste Transfer, Chopper Pump

Scenario Description: Installation of an electric chopper pump for pumping wastewater 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 Vegetated Treatment 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.

Before Situation: Various types of semi-solid or liquid waste are uncollected causing surface and ground water issues. 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.

After Situation: Collected wastes are now efficiently transferred to an appropriate treatment or storage facility or to a distribution system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each System

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$17,233.03	\$17,233.03
Equipment Installation	\$0.00	\$0.00
Labor	\$425.30	\$425.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$17,658.33	\$17,658.33

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 216

Scenario Name: Waste Transfer, Piston Pump

Scenario Description: Installation of a large piston pump with hopper to transfer heavily bedded manure or sand laden manure (as part of a waste transfer system) at the farm headquarters to a Waste Storage Facility - 313. The pump is set in concrete pit. Site topography or limited space requires transfer of wastes to another location. Gravity flow is not an option.

Before Situation: Various types of semi-solid or liquid waste at the headquarters are uncollected causing surface and ground water issues. A transfer method for waste is needed. 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.

After Situation: A piston pump with hopper set in a concrete pit used to transfer semi-solid manure with sand (as part of a waste transfer system) at the farm headquarters from a Waste Storage Facility - 313. An additional valve is installed to allow access to the pump for repairs. Wastes that have been collected through a waste transfer system are now efficiently transferred from a Waste Storage Facility (313) to an appropriate treatment facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each System

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$37,788.35	\$37,788.35
Equipment Installation	\$945.81	\$945.81
Labor	\$630.40	\$630.40
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$39,364.57	\$39,364.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 217

Scenario Name: Wastewater Screw Pump, Base Cost

Scenario Description: An electric chopper screw pump for pumping wastewater 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 Vegetated Treatment 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Dairy milk parlor wastewater is not managed properly, or feedlot runoff enters a nearby stream, causing water quality concerns through excessive nutrients, organics, and pathogen.

After Situation: Dairy milk parlor wastewater 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 to a Vegetated Treatment Area. Contaminated water no longer enters the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,003.12	\$2,003.12
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,003.12	\$2,003.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 218

Scenario Name: Wastewater Screw Pump, Implementation Cost

Scenario Description: An electric chopper screw pump for pumping wastewater 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 Vegetated Treatment 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Dairy milk parlor wastewater is not managed properly, or feedlot runoff enters a nearby stream, causing water quality concerns through excessive nutrients, organics, and pathogen.

After Situation: Dairy milk parlor wastewater 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 to a Vegetated Treatment Area. Contaminated water no longer enters the stream.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horsepower

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,258.11	\$1,258.11
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,258.11	\$1,258.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 533 - Pumping Plant

Scenario Number: 314

Scenario Name: Water Ram Pump

Scenario Description: Installation of a water ram, anchored to a small concrete pad, to transfer water from a live stream to a Watering Facility (614) or small Irrigation Reservoir (436) utilizing the energy of moving water to transfer a portion of that water to a higher elevation. Bypass water (which can be 90% of the water diverted from the stream) is returned to the stream or transferred in a pipe to a lower Elevation Tank (614) or small Irrigation Reservoir (436), without erosion or impairment to water quality. The objective is to provide cattle access to drinking water outside of a live stream or other natural source, thereby eliminating significant erosion and improving water quality while ensuring access without the need to enter the stream. The water ram may need to be fenced for protection from curious bovines. Water can also be retrieved from a stream and stored in a small Irrigation Reservoir (436) to provide water for a very small (0.1 acre) irrigation system.

Before Situation: Water in a nearby stream is not available at the desired location, pressure and/or flow rate.

After Situation: A 2" diameter inlet pipe is installed and connected to a water ram pump with all appurtenances and anchored to a concrete pad (9 ft x 4 ft x 5 in) or other appropriate secure base. Depending upon the application, either a 1-inch diameter Livestock Pipeline (516) or an Irrigation Pipeline (430) is installed from the water ram to a 5,000 gallon storage facility. Improved water quantity or quality, grazing management, plant diversity, animal health, and/or irrigation purposes as outlined in the appropriate NRCS irrigation system standard. A 2" water ram, with 10 gpm of inlet flow and 10 feet of drop, can supply about 1.0 gpm to a location about 50 feet higher than the water ram.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Ram Pumps

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$422.19	\$422.19
Equipment Installation	\$793.02	\$793.02
Labor	\$1,199.13	\$1,199.13
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,414.35	\$2,414.35

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 548 - Grazing Land Mechanical Treatment

Scenario Number: 14

Scenario Name: Pastureland Mechanical Treatment

Scenario Description: This also applies to organic operations as well. Chisel plowing or subsoiling will be used to break the restrictive layers that will increase water infiltration,break up sod and thatch on introduced forages. Depth of treatment will be 1" deeper than the restrictive layer.

Before Situation: Forage growth on pastureland is limited by compacted soils layers and /or dense sod with a thatch build up.

After Situation: Forage growth is increased due to greater rooting depths and water infiltration.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatmment

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,375.63	\$27.51
Labor	\$226.83	\$4.54
Mobilization	\$867.64	\$17.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,470.10	\$49.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 550 - Range Planting

Scenario Number: 75

Scenario Name: Conversion from Dryland Cropland, Foregone Income

Scenario Description: Conversion of cropland to a mixture of predominantly native adapted perennial species for forage production. Seed mix of predominantly native species is chosen based availability of seed. Includes seedbed preparation and seeding with a no-till drill, range drill, or by broadcasting. This scenario includes foregone income when land is converted from dryland cropland.

Before Situation: A monoculture of dryland crops are grown on cropland.

After Situation: Establishment of predominantly native adapted perennial vegetation such as grasses, forbs, and legumes on cropland.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13,282.40	\$166.03
Equipment Installation	\$3,295.50	\$41.19
Labor	\$0.00	\$0.00
Mobilization	\$1,735.29	\$21.69
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$6,233.76	\$77.92
Risk	\$0.00	\$0.00
Total	\$24,546.95	\$306.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 550 - Range Planting

Scenario Number: 76

Scenario Name: Native Species, Foregone Income

Scenario Description: Establishment of a mixture of predominantly native adapted perennial species on a rangeland unit to improve forage condition, improve wildlife habitat and/or reduce erosion. Seed mix of predominantly native species is chosen based on range conditions and availability of seed. Includes seedbed preparation and seeding with a no-till drill, range drill, or broadcast.

Before Situation: Rangeland with existing stand of perennial or annual grasses, monoculture, or no grasses present where natural reseeding or vegetation enhancement by grazing management alone is unlikely. Existing conditions often require complete suppression or eradication of existing vegetation to ensure success of planting.

After Situation: Establishment of predominantly native adapted perennial vegetation such as grasses, forbs, legumes, shrubs, and trees to improve forage quality and quantity and reduce soil erosion on rangeland, native or naturalized pasture, grazed forest or other suitable location.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Planting

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$21,829.48	\$272.87
Equipment Installation	\$11,896.07	\$148.70
Labor	\$226.83	\$2.84
Mobilization	\$867.64	\$10.85
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$14,247.44	\$178.09
Risk	\$0.00	\$0.00
Total	\$49,067.47	\$613.34

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 554 - Drainage Water Management

Scenario Number: 22

Scenario Name: Drainage Water Management

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.

Before Situation: Existing inefficient drainage systems are in place and water flows uncontrolled, resulting in sediment and nutrient laden outflow entering ditches or streams.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Managed Drainage

Scenario Unit: Acre

Scenario Typical Size: 50.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$347.53	\$6.95
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$2.40
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$467.44	\$9.35

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 558 - Roof Runoff Structure

Scenario Number: 1

Scenario Name: Roof Gutter, Small

Scenario Description: A small roof runoff structure, consisting of gutter(s) equal to or less than 6 inches wide, downspout(s) 5 inches wide or less, and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface.

Before Situation: Applicable where: (1) a roof runoff management facility is included in an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and convey runoff from roofs to a stable outlet.

After Situation: A small gutter, downspout, and outlet system servicing the portion of the building roof that would otherwise drain into a waste management system contaminating the runoff or creating soil erosion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Length of Roof to be Guttered

Scenario Unit: Foot

Scenario Typical Size: 70.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$474.66	\$6.78
Equipment Installation	\$0.00	\$0.00
Labor	\$132.41	\$1.89
Mobilization	\$364.47	\$5.21
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$971.55	\$13.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 558 - Roof Runoff Structure

Scenario Number: 57

Scenario Name: Roof Gutter, Medium

Scenario Description: A roof runoff structure, consisting of 7- to 9-inch-wide gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Before Situation: Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation: A gutter, downspout, and outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Length of Roof to be Guttered

Scenario Unit: Foot

Scenario Typical Size: 140.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,374.00	\$16.96
Equipment Installation	\$0.00	\$0.00
Labor	\$198.47	\$1.42
Mobilization	\$364.47	\$2.60
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,936.95	\$20.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 558 - Roof Runoff Structure

Scenario Number: 58

Scenario Name: Roof Gutter, Large

Scenario Description: A roof runoff structure, consisting of 10–12-inch gutter(s), downspout(s), and appropriate outlet facilities. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns.

Before Situation: Applicable where: (1) a roof runoff management facility is included in an overall plan for an overall plan for a waste management system; (2) roof runoff needs to be diverted away from structures or contaminated areas; (3) there is a need to collect, control, and transport runoff from roofs to a stable outlet.

After Situation: A gutter, downspout, and outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Length of Roof to be Guttered

Scenario Unit: Foot

Scenario Typical Size: 220.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,671.05	\$30.32
Equipment Installation	\$0.00	\$0.00
Labor	\$311.89	\$1.42
Mobilization	\$364.47	\$1.66
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,347.41	\$33.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 560 - Access Road

Scenario Number: 7

Scenario Name: Gravel Road, Level Terrain, Base Cost

Scenario Description: Newly constructed gravel earth road in relatively level terrain and wet areas. Includes excavation, shaping, grading, surface material, vegetation of disturbed areas and all equipment, labor and incidental materials necessary to install the practice. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An agricultural enterprise which requires, but does not have, a fixed travel way for equipment and vehicles for various resource activities and where use of equipment and vehicles within the enterprise without a defined access road would result in compaction, excessive sediment and turbidity in surface water, reduced visibility, and emissions of fugitive dust.

After Situation: A well-defined access road is constructed to reduce or eliminate compaction in land use areas where it is harmful, reduce emissions of fugitive dust and also reduce excessive sediment in surface water by reducing uncontrolled sediment transport and improving drainage of irrigated lands.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,566.27	\$5,566.27
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,566.27	\$5,566.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 560 - Access Road

Scenario Number: 8

Scenario Name: Gravel Road, Level Terrain, Implementation Cost

Scenario Description: Newly constructed gravel earth road in relatively level terrain and wet areas. Includes excavation, shaping, grading, surface material, vegetation of disturbed areas and all equipment, labor and incidental materials necessary to install the practice. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An agricultural enterprise which requires, but does not have, a fixed travel way for equipment and vehicles for various resource activities and where use of equipment and vehicles within the enterprise without a defined access road would result in compaction, excessive sediment and turbidity in surface water, reduced visibility, and emissions of fugitive dust.

After Situation: A well-defined access road is constructed to reduce or eliminate compaction in land use areas where it is harmful, reduce emissions of fugitive dust and also reduce excessive sediment in surface water by reducing uncontrolled sediment transport and improving drainage of irrigated lands.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Gravel

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$31.53	\$31.53
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$31.53	\$31.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 561 - Heavy Use Area Protection

Scenario Number: 89

Scenario Name: Rock/Gravel on Geotextile

Scenario Description: The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with rock and or gravel on a geotextile fabric foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, vegetation of disturbed areas and labor to install this practice, The stabilized area will address the resource concerns of soil erosion and water quality degradation.

Before Situation: This practice applies to all land uses where frequently and/or intensively used areas require treatment to address soil erosion and water quality degradation.

After Situation: The stabilized area is surfaced with approximately 630 square feet of rock and or gravel on approximately 70 square yards of geotextile fabric foundation material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All seeding or revegetation of disturbed areas is provided. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Rock and or Gravel

Scenario Unit: Square Foot

Scenario Typical Size: 630.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$268.64	\$0.43
Equipment Installation	\$467.43	\$0.74
Labor	\$360.26	\$0.57
Mobilization	\$867.64	\$1.38
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,963.97	\$3.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 561 - Heavy Use Area Protection

Scenario Number: 91

Scenario Name: Reinforced Concrete, Base Cost

Scenario Description: The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, vegetation of disturbed areas, and labor to install this practice. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: This practice applies to all land uses where frequently and/or intensively used areas require treatment to address soil erosion and water quality degradation.

After Situation: The stabilized area is surfaced with welded wire mesh reinforced concrete with sand or gravel foundation for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles. All seeding or revegetation of disturbed areas is provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,459.95	\$2,459.95
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,459.95	\$2,459.95

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 561 - Heavy Use Area Protection

Scenario Number: 92

Scenario Name: Reinforced Concrete, Implementation Cost

Scenario Description: The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, vegetation of disturbed areas, and labor to install this practice. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: This practice applies to all land uses where frequently and/or intensively used areas require treatment to address soil erosion and water quality degradation.

After Situation: The stabilized area is surfaced with welded wire mesh reinforced concrete with sand or gravel foundation for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles. All seeding or revegetation of disturbed areas is provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Concrete

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,146.08	\$1,146.08
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,146.08	\$1,146.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 574 - Spring Development

Scenario Number: 1

Scenario Name: Clay, Concrete, or Vinyl Cutoff Wall and Storage

Scenario Description: Development of a natural spring or seep to supply water for livestock and wildlife needs. Includes excavation to expose the water source on a hillside, construct a water collection system that includes a perforated pipe to collect the water, and a clay, concrete, or vinyl wall to help retain the water. The collection system typically has one or more drainage pipes in a trench to capture the water that is stored in a pipe, well casing, or tank. The outflow pipe from the spring box can be directed to a large, buried storage.

Before Situation: The current operation has inadequate fresh water for livestock and an undeveloped onsite spring/seep.

After Situation: The spring development system provides adequate water for the intended use and typically runs year-round in most zones.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Developments

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,093.55	\$1,093.55
Equipment Installation	\$1,718.29	\$1,718.29
Labor	\$1,174.25	\$1,174.25
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,853.73	\$4,853.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 574 - Spring Development

Scenario Number: 2

Scenario Name: Polyfilm and Storage

Scenario Description: Development of a natural spring or seep to supply water for livestock and wildlife needs. Includes excavation to expose the water source on a hillside, construct a water collection system that includes a pipe to collect the water, and a clay or concrete wall to help retain the water. The collection system typically has one or more drainage pipes in a trench to capture the water, uses polyfilm to direct or contain the water, and a tank, well casing, or pipe spring box. The outflow pipe from the spring box can be directed to a large, buried storage.

Before Situation: The current operation has inadequate fresh water for livestock and an undeveloped onsite spring/seep.

After Situation: The spring development system provides adequate water for the intended use and typically runs year-round in most zones.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Developments

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,723.82	\$1,723.82
Equipment Installation	\$2,525.06	\$2,525.06
Labor	\$1,783.04	\$1,783.04
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,899.57	\$6,899.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 574 - Spring Development

Scenario Number: 3

Scenario Name: Reinforced Cutoff Wall and Storage

Scenario Description: Development of a natural spring or seep to supply water for livestock and wildlife needs. Includes excavation to expose the water source on a hillside, construct a water collection system that includes a pipe to collect the water, and a clay or concrete wall to help retain the water. The collection system typically has one or more drainage pipes in a trench to capture the water and uses reinforced concrete for the cutoff wall. The spring box is constructed of a pipe, well casing, or tank and the outflow pipe from the spring box can be directed to a large, buried storage.

Before Situation: The current operation has inadequate fresh water for livestock and an undeveloped onsite spring/seep.

After Situation: The spring development system provides adequate water for the intended use and typically runs year-round in most zones.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Developments

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$789.74	\$789.74
Equipment Installation	\$3,212.53	\$3,212.53
Labor	\$1,357.74	\$1,357.74
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,227.65	\$6,227.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 574 - Spring Development

Scenario Number: 4

Scenario Name: Small Spring Cutoff Wall, No Storage

Scenario Description: Development of a natural spring or seep to supply water for livestock and wildlife needs. Includes excavation to expose the water source and construct a water collection system with a pipe to capture the water. Pertains to a small system that does not require a spring box.

Before Situation: The current operation has inadequate fresh water for livestock and an undeveloped onsite spring/seep.

After Situation: The spring development system provides adequate water for the intended use and typically runs year-round in most zones.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Developments

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$569.99	\$569.99
Equipment Installation	\$738.63	\$738.63
Labor	\$495.38	\$495.38
Mobilization	\$902.42	\$902.42
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,706.42	\$2,706.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 575 - Trails and Walkways

Scenario Number: 88

Scenario Name: Walkway, Earth or Vegetated, Base Cost

Scenario Description: Layout and construct an earth or vegetated trail 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. Includes excavation, shaping, grading, earth and or vegetated surfaces and all equipment, labor and incidental materials necessary to install the practice. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Applies on all lands where management of animal or human movement is needed to address soil erosion and water quality resource concerns. This practice applies to a trails or walkways constructed for use by off-road vehicles, such as All-Terrain Vehicles or snowmobiles, which are not designed for use on public roads. It does not apply to roads constructed for movement of equipment or vehicles.

After Situation: The typical trail is a 12-foot-wide lane of earth and vegetation. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. If the lane requires planting, the vegetation is provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$200.51	\$200.51
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$200.51	\$200.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 575 - Trails and Walkways

Scenario Number: 89

Scenario Name: Walkway, Earth or Vegetated, Implementation Cost

Scenario Description: Layout and construct an earth or vegetated trail 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. Includes excavation, shaping, grading, earth and or vegetated surfaces and all equipment, labor and incidental materials necessary to install the practice. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Applies on all lands where management of animal or human movement is needed to address soil erosion and water quality resource concerns. This practice applies to a trails or walkways constructed for use by off-road vehicles, such as All-Terrain Vehicles or snowmobiles, which are not designed for use on public roads. It does not apply to roads constructed for movement of equipment or vehicles.

After Situation: The typical trail is a 12-foot-wide lane of earth and vegetation. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. If the lane requires planting, the vegetation is provided.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Path

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.48	\$0.48
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.48	\$0.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 576 - Livestock Shelter Structure

Scenario Number: 24

Scenario Name: Wind Shelter

Scenario Description: Portable livestock fabricated wind shelter to reduce livestock shelter concerns. Shelter moves as needed.

Before Situation: Livestock shelter is not adequate and grazing use efficiency is reduced. Limited natural areas used for shelter are degrading.

After Situation: Wind shelters have been designed and installed on pastures where needed to protect livestock and reduce site degradation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Shelter

Scenario Unit: Foot

Scenario Typical Size: 96.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,935.38	\$40.99
Equipment Installation	\$556.57	\$5.80
Labor	\$1,416.65	\$14.76
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,908.61	\$61.55

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 578 - Stream Crossing

Scenario Number: 1

Scenario Name: Bridge

Scenario Description: Installation of a bridge to allow stream flows to cross under an access road or animal trail. The bridge opening is determined by sizing for a storm event as dictated in the standard. Includes dewatering, abutments, girders, decking, site preparation, dewatering, acquiring and installing abutments, girders, decking with necessary hardware, backfilling abutments, and armoring with geotextile and riprap. Riprap and geotextile are used to stabilize and protect abutments as needed. Based on cast in place concrete abutments, steel girders, and timber deck. The travel surface will be a wooden deck surface; if a different surface is needed, refer to the appropriate standard for surfacing.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: Access 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Footage of Bridge Deck

Scenario Unit: Square Foot

Scenario Typical Size: 252.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$18,707.17	\$74.23
Equipment Installation	\$80,256.89	\$318.48
Labor	\$20,479.86	\$81.27
Mobilization	\$2,953.23	\$11.72
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$122,397.16	\$485.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 578 - Stream Crossing

Scenario Number: 2

Scenario Name: Culvert Installation

Scenario Description: Installation of a new culvert. Includes dewatering, site preparation, and removing any old crossing, acquiring and installing a culvert pipe with gravel bedding and fill (compacted), and building headwalls. If a different surface is needed, refer to the appropriate standard for surfacing.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Culvert

Scenario Unit: Diameter Inch Foot

Scenario Typical Size: 1,200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,297.93	\$1.91
Equipment Installation	\$1,476.36	\$1.23
Labor	\$382.32	\$0.32
Mobilization	\$867.64	\$0.72
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,024.25	\$4.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 578 - Stream Crossing

Scenario Number: 3

Scenario Name: Hard Armored Low Water Crossing

Scenario Description: Stabilization of the bottom and slope of a stream channel using rock riprap or cast in place concrete. The typical stream has a 30 ft bottom width and approaches. Includes site preparation, dewatering, acquiring, and installing gravel or geotextile with rock riprap or cast in place concrete on a channel bottom and approaches. Final travel surface will be the rocks or concrete if a different surface is needed, refer to the appropriate standard for surfacing.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: Stream flow is not impeded, and a stable base exists for equipment, people and/or animals to cross.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Crossing Dimensions

Scenario Unit: Square Foot

Scenario Typical Size: 420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,082.62	\$7.34
Equipment Installation	\$309.54	\$0.74
Labor	\$76.46	\$0.18
Mobilization	\$867.64	\$2.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,336.27	\$10.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 578 - Stream Crossing

Scenario Number: 4

Scenario Name: Low Water Crossing

Scenario Description: Installation of a stable crossing medium on channel bottom and approaches. Includes but is not limited to precast concrete blocks, geocells, pavers, and gabions. If a different surface is needed, refer to the appropriate standard for surfacing.

Before Situation: Water flow could not cross access road or trail without erosion; or access road or trail could not cross channel.

After Situation: 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: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Low Water Crossing

Scenario Unit: Square Foot

Scenario Typical Size: 420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,167.49	\$5.16
Equipment Installation	\$309.54	\$0.74
Labor	\$1,210.61	\$2.88
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,687.64	\$8.78

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 580 - Streambank and Shoreline Protection

Scenario Number: 2

Scenario Name: Bioengineered

Scenario Description: Protection of streambanks consisting of a bioengineered technique comprised of non-structural measures such as earth revetments and benches with vegetative measures to stabilize and protect the streambank against scour and erosion.

Before Situation: A stream bisects the agricultural property, and all woody vegetation has been removed due to overgrazing or human manipulation The stream has moderately degraded streambanks that are unstable and show signs of active erosion.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Lineal Feet of Bioengineering Installed

Scenario Unit: Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$12,956.95	\$12.96
Equipment Installation	\$23,873.43	\$23.87
Labor	\$18,342.17	\$18.34
Mobilization	\$2,967.40	\$2.97
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$58,139.95	\$58.14

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 580 - Streambank and Shoreline Protection

Scenario Number: 40

Scenario Name: Structural

Scenario Description: Protection of streambanks using structural measures such as riprap, concrete block, gabions, etc. to stabilize and protect banks of streams or excavated channels against scour and erosion.

Before Situation: A stream bisects the agricultural property, and all woody vegetation has been removed due to overgrazing or human manipulation The stream has severely degraded streambanks that are unstable and show signs of active erosion.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet of Streambank/Shoreline Protected

Scenario Unit: Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$257,792.24	\$257.79
Equipment Installation	\$24,869.41	\$24.87
Labor	\$14,907.70	\$14.91
Mobilization	\$2,274.91	\$2.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$299,844.26	\$299.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 580 - Streambank and Shoreline Protection

Scenario Number: 41

Scenario Name: Vegetative

Scenario Description: Protection of streambanks consisting of conventional plantings of vegetation to stabilize and protect against scour and erosion.

Before Situation: A stream bisects the agricultural property, and all woody vegetation has been removed due to overgrazing or human manipulation The stream has marginally degraded streambanks that are unstable and show signs of active erosion.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet of Streambank/Shoreline Protected

Scenario Unit: Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,746.95	\$8.75
Equipment Installation	\$7,786.85	\$7.79
Labor	\$10,587.53	\$10.59
Mobilization	\$2,099.76	\$2.10
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$29,221.08	\$29.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 582 - Open Channel

Scenario Number: 2

Scenario Name: Excavation, Off-Site Spoil Disposal

Scenario Description: This scenario is the construction or improvement of a channel in which water flows with a free surface. The practice is used for the restoration of a natural or artificial channel to improve the process and ecological function in a degraded and eroding stream. Conditions are normal. Spoil from excavation cannot be spread adjacent to the excavation area because of wetland or floodplain restrictions. Spoil must be hauled off site for disposal.

Before Situation: A stream or channel with active streambank erosion or head cuts and inadequate capacity to handle the flow needed for flood prevention, drainage or erosion prevention.

After Situation: An earthen channel was excavated to allow unrestricted flow of water and to stabilize the bottom and side slopes. Flooding and erosion are no longer resource concerns.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Excavation Volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8,086.33	\$5.39
Labor	\$2,446.84	\$1.63
Mobilization	\$1,910.44	\$1.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,443.61	\$8.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 582 - Open Channel

Scenario Number: 3

Scenario Name: Excavation, On-Site Spoil Disposal

Scenario Description: This scenario is the construction or improvement of a channel in which water flows with a free surface. The practice is used for the restoration of a natural or artificial channel to improve the process and ecological function in a degraded and eroding stream. Conditions are normal. Normal conditions include: a location easily accessible from a main road, soils without large rock or difficult clay to excavate, and/or other aspects that are average compared to excavation work in the area. Spoil from excavation is able to be spread adjacent to the excavation area without trucking.

Before Situation: A stream or channel with active streambank erosion or head cuts and inadequate capacity to handle the flow needed for flood prevention, drainage or erosion prevention.

After Situation: An earthen channel was excavated to allow unrestricted flow of water and to stabilize the bottom and side slopes. Flooding and erosion are no longer resource concerns.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Excavated Volume

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$4,741.79	\$3.16
Labor	\$1,223.42	\$0.82
Mobilization	\$1,910.44	\$1.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,875.65	\$5.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 584 - Channel Bed Stabilization

Scenario Number: 37

Scenario Name: Rock Structures

Scenario Description: Stabilization of the bottom and slope of a stream channel using rock riprap or engineered products that consist primarily of rock or concrete. Includes, but is not limited to, gabions, rock veins, rock weirs, concrete blocks, etc. Based on a degrading channel that needs to be riprapped its entire wetted perimeter.

Before Situation: Bed of an existing or newly constructed alluvial or threshold channel is undergoing damaging aggradation or degradation. Changes cannot be feasibly controlled with clearing and snagging, vegetation, bank protection, or upstream water control.

After Situation: The stream channel is stable.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area to be stabilized.

Scenario Unit: Cubic Yard

Scenario Typical Size: 575.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$92,433.24	\$160.75
Equipment Installation	\$61.91	\$0.11
Labor	\$567.07	\$0.99
Mobilization	\$867.64	\$1.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$93,929.87	\$163.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 585 - Stripcropping

Scenario Number: 17

Scenario Name: Strip Erosion Protection

Scenario Description: Install alternating strips of erosion susceptible crops with erosion resistant crops that are oriented as close to perpendicular to water flows as possible to reduce erosion loss and sediment delivery to surface waters. The scenario includes the costs of designing the system, installing the strips on the landscape appropriately.

Before Situation: The cropland site conditions are susceptible to wind and water erosion. Current crop rotation does not include the use of strips.

After Situation: Implementation requirements have been developed for the site and meet the practice criteria. Strips of crops are established to provide wind protection to sensitive crops and reduce soil loss from wind or water erosion.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 80.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$139.14	\$1.74
Labor	\$1,441.10	\$18.01
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,580.24	\$19.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 587 - Structure for Water Control

Scenario Number: 520

Scenario Name: Commercial Inline Flashboard Riser

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. 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 is 24 inches or less.

Before Situation: The landowner wishes to provide for a way to control the water surface elevation in a wetland area. The landowner wishes to enhance and enlarge the area to provide habitat for fish and wildlife.

After Situation: 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).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Flashboard Weir Length (in) x Barrel Length (ft)

Scenario Unit: Diameter Inch Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,563.28	\$2.56
Equipment Installation	\$1,119.11	\$1.12
Labor	\$423.67	\$0.42
Mobilization	\$1,086.83	\$1.09
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,192.90	\$5.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 521

Scenario Name: Concrete Turnout Structure

Scenario Description: A reinforced concrete turnout structure equipped with a 48 inch screw gate diverts irrigation water from a canal into a field or field ditch. A sloping trash rack fabricated from rebar is installed on the inlet. If needed fish screens may be installed at the inlet.

Before Situation: A delivery canal exists, but a means to move water from the canal into a smaller ditch or field does not exist. A water supply of sufficient quantity and quality is available for irrigation.

After Situation: Water is diverted from a canal to meet irrigation requirements. An eight-foot wide and six-foot-tall turnout structure equipped with a 48-inch slide gate conducts water through the canal berm. The concrete structure is ten feet long and has an end sill. All footings, floors. and walls have a minimum thickness of six inches. The structure delivers water to field or ditch bottom elevation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,937.00	\$8,937.00
Equipment Installation	\$3,175.73	\$3,175.73
Labor	\$442.01	\$442.01
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,422.40	\$13,422.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 530

Scenario Name: In-Stream Structure for Water Surface Profile

Scenario Description: Typical setting is in a stream that has become incised and is therefore disconnected from the floodplain. Typical installation consists of installing a V-shaped concrete structure which points facing upstream for the purpose of raising the water surface profile. Disturbed areas are protected with permanent vegetative cover.

Before Situation: The stream presently is incised with near vertical banks caused by bank toe erosion and sloughing. This condition has caused the floodplains to be disconnected from the stream, with only floods well above normal high-water escaping the high banks of the stream.

After Situation: Banks are stabilized, and pools are created raising the water surface elevation and effectively reducing the slope. Riffle pool scheme is restored and banks are protected. Water quality is protected downstream due to erosion protection, and wetland features are restored in the floodplain. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: In-Stream Structure for Water Surface Profile

Scenario Unit: Foot

Scenario Typical Size: 36.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$10,917.17	\$303.25
Labor	\$609.68	\$16.94
Mobilization	\$1,261.98	\$35.06
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,788.83	\$355.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 535

Scenario Name: Rock Checks for Water Surface Profile

Scenario Description: Typical setting is in a stream that has become incised and is therefore disconnected from the floodplain. Typical installation consists of installing a V-shaped rock structures with points facing upstream for the purpose of raising the water surface profile. The check dams are underlain with geotextile fabric. Disturbed areas are protected with permanent vegetative cover.

Before Situation: The stream presently is incised with near vertical banks caused by bank toe erosion and sloughing. This condition has caused the floodplains to be disconnected from the stream, with only floods well above normal high-water escaping the high banks of the stream.

After Situation: Banks are stabilized, and pools are created raising the Water Surface Profile elevation and effectively reducing the slope. Riffle pool scheme is restored, and banks are protected. Water quality is protected downstream due to erosion protection, and wetland features are restored in the floodplain. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tons of Rock Installed

Scenario Unit: Ton

Scenario Typical Size: 87.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,739.93	\$100.46
Equipment Installation	\$140.56	\$1.62
Labor	\$226.83	\$2.61
Mobilization	\$1,042.79	\$11.99
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,150.11	\$116.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 538

Scenario Name: Corrugated Metal Pipe (CMP) Turnout

Scenario Description: A corrugated metal pipe (CMP) equipped with a slide gate diverts water from a ditch or canal into a field or field ditch.

Before Situation: A ditch or canal exists, but a means to move water from the ditch into a smaller ditch or field does not exist. A water supply of sufficient quantity and quality is available for irrigation.

After Situation: Water is diverted from a canal or ditch to meet irrigation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$417.10	\$417.10
Equipment Installation	\$0.00	\$0.00
Labor	\$236.85	\$236.85
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,521.60	\$1,521.60

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 539

Scenario Name: Flap Gate, Concrete Wall

Scenario Description: Install a concrete cut off wall with tide gate at the outlet of a channel. A concrete wall will extend 10 feet on each side and include a 4-foot flap gate structure to control flooding. Work includes site preparation, forming and pouring concrete, backfilling and acquiring and installing the tide gate.

Before Situation: Tides or flooding inundate and affect water quality of wetlands or other managed systems.

After Situation: Tide or flood inundation is controlled.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Concrete

Scenario Unit: Cubic Yard

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,741.02	\$874.10
Equipment Installation	\$6,969.78	\$696.98
Labor	\$56.71	\$5.67
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,767.51	\$1,576.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 540

Scenario Name: Flashboard Riser, Metal

Scenario Description: A flashboard riser (inlet or inline) fabricated of metal and used in a water management system that maintains a desired water surface elevation, controls the direction or rate of flow, or conveys water. The water surface elevation is controlled by addition or removal of slats or "stoplogs".

Before Situation: The operator presently flood irrigates his field and has no means to accurately maintain a constant water level at varying elevations resulting in a lack of flexibility, and inefficient use of water and energy during pumping. The operator also desires to maintain a permanent pool for waterfowl during the winter.

After Situation: The operator has the capability to more efficiently control and maintain a range of water surface elevations thereby reducing the flow rate needed. Less water is wasted and both water and energy are conserved. The operator is now able to maintain adequate water during the winter as a benefit to waterfowl.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Flashboard Weir Length (in) x barrel Length (ft)

Scenario Unit: Diameter Inch Foot

Scenario Typical Size: 1,800.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,393.06	\$3.55
Equipment Installation	\$1,319.11	\$0.73
Labor	\$717.34	\$0.40
Mobilization	\$1,086.83	\$0.60
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,516.34	\$5.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 541

Scenario Name: Gate, Flap, or Slide

Scenario Description: This scenario is the installation of a permanent flap or slide gate structure to control the direction of flow resulting from tides or high water or back-flow from flooding. The gate may be installed on an open channel or pipeline. It is made of steel and operates automatically.

Before Situation: A wetland or other area is in need of a flap gate to control the direction of the water.

After Situation: A flap or slide gate is installed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet Diameter (of Gate)

Scenario Unit: Foot

Scenario Typical Size: 4.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$8,131.63	\$2,032.91
Equipment Installation	\$570.06	\$142.51
Labor	\$1,051.13	\$262.78
Mobilization	\$867.64	\$216.91
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,620.46	\$2,655.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 542

Scenario Name: Automated Drainage Water Management, Water Control Structure, Base Cost

Scenario Description: A subsurface drainage system on a field with a fairly flat slope that outlets through a control structure which is operated with an automated slide gate. This allows the operator to keep the water in the soil profile 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Uncontrolled discharge from a subsurface drainage system enters ditches or streams, often laden with sediment and nutrients.

After Situation: The water surface profile in the subsurface drainage system is managed in a manner which retains moisture in the soil for plant uptake and to allow for enhanced nutrient utilization. The use of automated control structures allows water levels to be monitored and adjusted remotely to allow for more active management in accordance with the drainage systems Drainage Water Management plan. A single structure with an automated slide gate may have its influence extended by use of buried float-activated control structures.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,731.15	\$1,731.15
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,731.15	\$1,731.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 543

Scenario Name: Automated Drainage Water Management, Water Control Structure, Implementation Cost

Scenario Description: A subsurface drainage system on a field with a fairly flat slope that outlets through a control structure which is operated with an automated slide gate. This allows the operator to keep the water in the soil profile 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Uncontrolled discharge from a subsurface drainage system enters ditches or streams, often laden with sediment and nutrients.

After Situation: The water surface profile in the subsurface drainage system is managed in a manner which retains moisture in the soil for plant uptake and to allow for enhanced nutrient utilization. The use of automated control structures allows water levels to be monitored and adjusted remotely to allow for more active management in accordance with the drainage systems Drainage Water Management plan. A single structure with an automated slide gate may have its influence extended by use of buried float-activated control structures.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$19.67	\$19.67
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19.67	\$19.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 544

Scenario Name: Automation Retrofit

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 has been retrofitted to operate with an automated slide gate. This allows the operator to keep the water in the soil profile 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 retrofitted automated retrofit structure may have its influence extended by buried float-activated structures to provide a greater area of control.

Before Situation: Control structure with manually operated slide gate.

After Situation: The water surface profile in the subsurface drainage system is managed in a manner which retains moisture in the soil for plant uptake and to allow for enhanced nutrient utilization. The use of retrofitted control structures for automated slide gate operation allows water levels to be monitored and adjusted remotely to allow for more active management in accordance with the drainage systems Drainage Water Management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Structures

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,435.23	\$4,435.23
Equipment Installation	\$0.00	\$0.00
Labor	\$683.60	\$683.60
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,118.83	\$5,118.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 547

Scenario Name: Concrete Turnout Structure, No Gate

Scenario Description: A reinforced concrete turnout structure equipped with slide boards or panels diverts irrigation water from a ditch or canal into a field or field ditch.

Before Situation: A ditch or canal exists, but a means to move water from the ditch into a smaller ditch or field does not exist. A water supply of sufficient quantity and quality is available for irrigation.

After Situation: Water is diverted from a canal or ditch to meet irrigation requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,213.29	\$1,213.29
Labor	\$63.39	\$63.39
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,144.32	\$2,144.32

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 551

Scenario Name: Flow Meter, Electronic Index

Scenario Description: Permanently installed water flow meter with an electronic index. Meters can be any flow measurement device that meets CPS 433, (i.e., meters: turbine, propeller, acoustic, magnetic, venturi, orifice, etc.) with or without straightening vanes or data logging capability. Meter nominal diameter for insert type turbine meters will be installation pipe size.

Before Situation: Producer estimates seasonal and individual irrigation application flow rate and volumes based on energy costs, system operating pressure, or other means.

After Situation: Producer is able to access instantaneous rate and cumulative flow volume data at the meter location. The information gained will enable the irrigator to improve irrigation water management, recognize system performance issues before they become critical, and reduce energy use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal Diameter of Meter

Scenario Unit: Inch

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,968.32	\$396.83
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$219.19	\$21.92
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,187.51	\$418.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 556

Scenario Name: Inline Water Control Structure, Base Cost

Scenario Description: A subsurface drainage system on a field with 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. 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: The discharge from a subsurface drainage system enters ditches or streams, often laden with sediment and nutrients.

After Situation: 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. 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,061.57	\$2,061.57
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,061.57	\$2,061.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 557

Scenario Name: Inline Water Control Structure, 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. This allows the operator to keep the water in the soil profile when it is not critical to dry the soil. Multiple buried float-activated structures can be used to extend the influence of a single inline water control structure.

Before Situation: The discharge from a subsurface drainage system enters ditches or streams, often laden with sediment and nutrients.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Structures

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,849.92	\$2,849.92
Equipment Installation	\$855.09	\$855.09
Labor	\$548.57	\$548.57
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,121.22	\$5,121.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 558

Scenario Name: Inline Water Control Structure, Implementation Cost

Scenario Description: A subsurface drainage system on a field with 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. 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: The discharge from a subsurface drainage system enters ditches or streams, often laden with sediment and nutrients.

After Situation: 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. 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4.91	\$4.91
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4.91	\$4.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 587 - Structure for Water Control

Scenario Number: 560

Scenario Name: Steel Fabrication

Scenario Description: Fabricating steel into water controls structures, weir plates, trash racks, measuring flumes etc.

Before Situation: Current water control structures are either non-existent, inefficient or not controlling water in an efficient or desired manner. A water supply of sufficient quantity and quality is available for the desired use.

After Situation: Water is measured and controlled efficiently for desired use.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight

Scenario Unit: Pound

Scenario Typical Size: 320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$343.01	\$1.07
Equipment Installation	\$380.04	\$1.19
Labor	\$447.78	\$1.40
Mobilization	\$364.47	\$1.14
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,535.30	\$4.80

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 590 - Nutrient Management

Scenario Number: 274

Scenario Name: Adaptive Nutrient Management

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.

Before Situation: The practice will be installed on cropland (small grain rotation or typical corn-soybean rotation) to address water quality degradation, air quality degradation and energy concerns. The scenario applies to non-organic and organic operations.

After Situation: Installation of this scenario will result in adopting the four R's of nutrient management following the procedures outlined in Agronomy Technical Note 7 - Adaptive Nutrient 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 the appropriate moisture content.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: <Unknown>

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$778.66	\$778.66
Equipment Installation	\$1.75	\$1.75
Labor	\$2,383.73	\$2,383.73
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,164.14	\$3,164.14

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 590 - Nutrient Management

Scenario Number: 304

Scenario Name: 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.

Before Situation: Currently, a nutrient management system for the farm operation accounting for all know measurable nutrient sources does not exist or does not meet the Nutrient Management (590) CPS requirements for General and Additional Criteria. Management of nutrients is not based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management. An environmental evaluation or risk assessment for the nutrient application area has not completed. Nutrients are subject to loss through surface water runoff, green-house gas emissions, drainage tile, soil erosion, or to ground water from leaching in quantities that degrade soil/water quality and limit use of the intended purpose.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$936.85	\$23.42
Equipment Installation	\$1,197.16	\$29.93
Labor	\$2,076.14	\$51.90
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$239.83	\$6.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,449.98	\$111.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 590 - Nutrient Management

Scenario Number: 305

Scenario Name: Prescription Nutrient Efficiency

Scenario Description: The planned Precision Nutrient Efficiency system will meet the current Nutrient Management (590) CPS general and additional criteria. Precision nutrient efficiency system involves the testing or evaluation of crop and/or soil during the growing season to more accurately determine if additional nutrient application(s) are needed. This includes methods or technologies such as PPSN (pre-plant soil nitrate test), PSNT (pre-side dress nitrogen test), LSNT (late spring soil nitrate test), CSNT (corn stalk nitrate test) and chlorophyll meters, and/or spectral analysis may be used to determine if additional nutrients are needed. Nitrification or urease inhibitors (as well as other Enhanced Efficiency Fertilizer technologies recognized by Land Grant Universities) may also be used. Payment for implementation is to defray the costs of additional soil and plant nutrient testing and analysis, in-season crop nutrient testing, equipment, labor, implementation of the NMP and recordkeeping. Typical treatment area is 40 acres.

Before Situation: This scenario takes a conventional cropping system where either no nutrient management or only a basic level of nutrient management is being practiced and improves it to address air quality (reduce emissions for N fertilizer) and/or minimize agricultural nonpoint source pollution of surface and groundwater. Application(s) of fertilizers, including manures and amendments, are based upon tradition and does not specifically consider the detrimental affects of improper timing or rates of nutrients, nitrous oxide emissions or excess nutrient build-up in the soil. Runoff transports nutrients and sediment to adjacent streams, water courses, tile drains, field surface drains, or other water courses causing degradation to receiving waters. Leaching transports soluble nutrients to shallow ground water sources. There is typically no environmental evaluation of the potential for off-site nutrient movement.

After Situation: A Precision Nutrient Management Efficiency system will be developed to meet the current Nutrient Management (590) CPS general and additional criteria. When applicable the system will also meet NOP (National Organic Program) regulations, including reducing nitrogen emissions. Implementation of the adopted efficiency system improves the 4R Stewardship installation which will reduce nutrient loss reducing the potential of off-site movement of nutrients. A nutrient budget is developed for each field or management zone annually for the crop rotation or sequence. The Nutrient Management Plan will include current soil test results, nutrient application rates, source, timing, and placement of all nutrients applied, risk assessments and actual crop yields. Record keeping includes documentation of as applied nutrients by field annually plus and State record keeping requirements.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acres treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$577.40	\$14.44
Equipment Installation	\$485.93	\$12.15
Labor	\$1,357.34	\$33.93
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,540.59	\$63.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 590 - Nutrient Management

Scenario Number: 350

Scenario Name: 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.

Before Situation: Currently, a nutrient management system for the farm operation accounting for all know measurable nutrient sources does not exist or does not meet the Nutrient Management (590) CPS requirements for General and Additional Criteria. Management of nutrients is not based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management. An environmental evaluation or risk assessment for the nutrient application area has not completed. Nutrients are subject to loss through surface water runoff, green-house gas emissions, drainage tile, soil erosion, or to ground water from leaching in quantities that degrade soil/water quality and limit use of the intended purpose.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Ac.

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$827.32	\$20.68
Labor	\$840.08	\$21.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,667.40	\$41.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 590 - Nutrient Management

Scenario Number: 400

Scenario Name: Manure

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 liquid manure as a nutrient source. Manure nutrients will be injected or placed subsurface. 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, injection of manure nutrients and recordkeeping. Typical treatment area is 40 acres.

Before Situation: Currently, a nutrient management system for the farm operation accounting for all know measurable nutrient sources does not exist or does not meet the Nutrient Management (590) CPS requirements for General and Additional Criteria. Liquid manure is currently surface applied. Management of nutrients is not based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management. An environmental evaluation or risk assessment for the nutrient application area has not completed. Nutrients are subject to loss through surface water runoff, green-house gas emissions, drainage tile, soil erosion, or to ground water from leaching in quantities that degrade soil/water quality and limit use of the intended purpose.

After Situation: 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. Liquid manure applications are injected below the soil surface at appropriate depth according to the nutrient management system using manure injection equipment to reduce nitrogen loss through surface runoff, leaching and ammonia volatilization. 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$12,616.80	\$315.42
Labor	\$840.08	\$21.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,456.88	\$336.42

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 591 - Amendments for Treatment of Agricultural Waste

Scenario Number: 27

Scenario Name: Litter Amendments, Air Quality

Scenario Description: This practice scenario includes the application of a litter treatment amendment that is approved by NRCS to the entire poultry house to reduce ammonia emissions from the house and facilitate manure management. An entire poultry house is treated year-round for air quality impacts.

Before Situation: No litter amendments are being applied during the spring through fall months. An amendment is being applied at a lower application rate during the winter months, typically half the house and only two flocks. Partial winter application is solely for production purposes, and the lower application rate is not enough to address the air quality resource concerns.

After Situation: An NRCS approved amendment is applied between each flock. All flocks are optimally treated with litter amendments year-round.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tons of Application

Scenario Unit: Ton

Scenario Typical Size: 3.40

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,506.96	\$737.34
Equipment Installation	\$576.60	\$169.59
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,083.57	\$906.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 591 - Amendments for Treatment of Agricultural Waste

Scenario Number: 28

Scenario Name: Litter Amendments, Water Quality

Scenario Description: This practice scenario includes the application of a litter treatment amendment that is approved by NRCS to the entire poultry house to reduce ammonia emissions and water-soluble phosphorous in the poultry litter. An entire poultry house is treated year-round for air and water quality impacts.

Before Situation: No litter amendments are being applied during the spring through fall months. An amendment is being applied at a lower application rate during the winter months, typically half the house and only two flocks. Partial winter application is solely for production purposes, and the lower application rate is not enough to address resource concerns from existing nutrient levels which may contribute to water quality degradation from nutrient runoff and leaching from fields fertilized with poultry litter and cause adverse air quality impacts such as objectionable odors and ammonia emissions.

After Situation: An NRCS approved amendment is applied between each flock. All flocks are optimally treated with litter amendments year-round.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tons of Application

Scenario Unit: Ton

Scenario Typical Size: 3.40

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,853.82	\$1,133.48
Equipment Installation	\$576.60	\$169.59
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,430.42	\$1,303.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 591 - Amendments for Treatment of Agricultural Waste

Scenario Number: 29

Scenario Name: Zeolite for Ammonia Reduction

Scenario Description: Application of bulk zeolite to a beef or dairy pen surface to reduce ammonia emissions.

Before Situation: Zeolite is not added to a beef or dairy open lot pen surface, resulting in loss of nitrogen via ammonia volatilization.

After Situation: Bulk zeolite with a minimum of 65% natural clinoptilolite zeolite, crushed to a size of not smaller than 14-30 mesh nor larger than 6-14 mesh, is added to a beef or dairy open lot pen surface. Zeolite is applied at a rate of 4-6% of the anticipated weight of manure produced over the period of time animals are housed in the pen. The zeolite will adsorb ammonia and other compounds, resulting in lower ammonia emissions and resultant air quality improvement.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Application

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$18,330.34	\$611.01
Equipment Installation	\$4.80	\$0.16
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$18,335.15	\$611.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 592 - Feed Management

Scenario Number: 25

Scenario Name: Animal Group

Scenario Description: Feed ration management on an animal operation that does not have access to enough acres to spread all its manure nutrients at an agronomic rate.

Before Situation: Producer is feeding a higher level of protein and/or phosphorus than is needed to meet National Research Council (NRC) recommendations for a group of animals of this type and at this stage of production. The operation does not have all of the available acres that it needs to use the nutrients in the manure when spread at agronomic rates causing over application of nutrients on land affecting soil quality, which may lead to water quality degradation.

After Situation: The producer will reduce feed protein and phosphorus levels to that of NRC recommendations for a group of animals of this type and at this stage of production. The producer will also explore alternative feedstuffs and alternative feeding strategies to bring manure nitrogen and/or phosphorus levels down without hurting production of the animals or profitability of the operation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Group

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,439.90	\$1,439.90
Equipment Installation	\$0.00	\$0.00
Labor	\$2,913.67	\$2,913.67
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,353.57	\$4,353.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 592 - Feed Management

Scenario Number: 41

Scenario Name: Feed Additive

Scenario Description: Feed ration management on an animal operation by inclusion of a feed additive.

Before Situation: Producer is feeding a balanced diet to his animals. He knows that the diet, however is leading to resource concerns by soluble nutrients or pathogens entering the surface water from his operation, or that odors, NOx, or Methane are affecting air quality. For this scenario, the producer knows that nitrogen loss via ammonia volatilization from manure is affecting air quality and that adding zeolite to the ration will decrease this effect and improve air quality for his animals.

After Situation: A zeolite is added to a beef or dairy ration at a rate of 2% of the daily ration and will absorb ammonia and other compounds, resulting in lower nitrogen excretion and lower ammonia emissions from the manure resulting in improved air quality. It is assumed that each animal unit requires one hour of general labor per year to load and unload zeolite into feed mixing equipment. At a 2% inclusion rate in a 25 pound daily dry matter ration, this equals 0.5 pounds of zeolite per day, or about 0.1 tons per year per animal unit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Animal unit, per year

Scenario Unit: Animal Unit

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$40.73	\$40.73
Equipment Installation	\$0.00	\$0.00
Labor	\$28.35	\$28.35
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$69.09	\$69.09

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 592 - Feed Management

Scenario Number: 54

Scenario Name: Enteric Methane Reduction

Scenario Description: Incorporation of an enteric-methane-reducing product on a livestock operation into its lactating dairy cattle total mixed rations (TMR) to reduce enteric methane emissions (less than 20%) when included continuously in balanced TMRs of lactating dairy cattle.

Before Situation: The producer is feeding a balanced custom diet to a herd of 700 mature lactating dairy cows and knows that the diet being fed is contributing to detrimental effects of climate change because his animals are emitting enteric methane.

After Situation: The product has been included in lactating dairy cattle TMRs at the prescribed rate and results in lower enteric methane production and emissions and decreased detrimental effects of climate change.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Head

Scenario Unit: Number

Scenario Typical Size: 700.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$111,312.63	\$159.02
Equipment Installation	\$0.00	\$0.00
Labor	\$20,740.76	\$29.63
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$132,053.39	\$188.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 197

Scenario Name: Plant Health PAMS (acs) Low Labor, Materials and Mitigation

Scenario Description: PAMS activities with low labor and material costs will be implemented plus mitigation on a large scale crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure). Mitigation up to 30 points.

After Situation: 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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure). Mitigation up to 30 points.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Management Applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$252.18	\$6.30
Equipment Installation	\$0.00	\$0.00
Labor	\$2,111.06	\$52.78
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,483.16	\$62.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 198

Scenario Name: Water Quality Pesticide Mitigation, Greater Than 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/OR impacts to wildlife-beneficial insects including pollinators.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using many pest suppression techniques (pesticides, tillage for weed control, burning, etc.) to the client is using many different pest suppression techniques for many different pests, but in all cases at least one planned pest suppression technique has risk to an identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water AND/OR Wildlife-beneficial insects including pollinators).

After Situation: 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 risk mitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND Agronomy Technical Note 9).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small Farm, typically <= 5 acs

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,030.75	\$2,030.75
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,030.75	\$2,030.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 200

Scenario Name: Water Quality Pesticide Mitigation, Greater Than 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/OR impacts to wildlife-beneficial insects including pollinators.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using many pest suppression techniques (pesticides, tillage for weed control, burning, etc.) to the client is using many different pest suppression techniques for many different pests, but in all cases at least one planned pest suppression technique has risk to an identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water AND/OR Wildlife-beneficial insects including pollinators).

After Situation: 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 risk mitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND/OR Agronomy Technical Note 9).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Management Applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$2,835.06	\$70.88
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,835.06	\$70.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 202

Scenario Name: 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.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure).

After Situation: Planned Prevention (resistant cultivar 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).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small farm, typically <= 5 ac

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$490.27	\$490.27
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$119.92
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$610.19	\$610.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 286

Scenario Name: Plant Health PAMS (acs) High Labor and Materials

Scenario Description: PAMS activities with high labor and material costs will be implemented on a large scale crop production area (weather station, netting, field sanitation, mating disruption etc.).

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure).

After Situation: 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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Management Applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,152.13	\$28.80
Equipment Installation	\$12,444.83	\$311.12
Labor	\$6,544.07	\$163.60
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$20,260.95	\$506.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 287

Scenario Name: Plant Health PAMS (acs) High Labor, Materials and Mitigation

Scenario Description: PAMS activities with high labor and material costs (weather station, netting, field sanitation, mating disruption) plus mitigation will be implemented on a large scale crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure). Mitigation over 30 points.

After Situation: 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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure). Mitigation over 30 points.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of management applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,152.13	\$28.80
Equipment Installation	\$12,444.83	\$311.12
Labor	\$8,709.18	\$217.73
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,426.06	\$560.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 288

Scenario Name: Plant Health PAMS (acs), Low Labor and Materials

Scenario Description: PAMS activities with low labor and material costs will be implemented on a large scale crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure).

After Situation: Planned Prevention (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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Management Applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$252.18	\$6.30
Equipment Installation	\$0.00	\$0.00
Labor	\$530.40	\$13.26
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$3.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$902.50	\$22.56

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 289

Scenario Name: Plant Health PAMS (Small Farm - Each) Labor and Mitigation

Scenario Description: PAMS activities with labor costs will be implemented plus mitigation on a small scale crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure). Mitigation up to 30 points.

After Situation: Planned Prevention (resistant cultivar 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). Mitigation up to 30 points.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small farm, typically = 5Ac

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,793.51	\$1,793.51
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$119.92
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,913.43	\$1,913.43

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 290

Scenario Name: 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 crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure).

After Situation: 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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small Farm, typically <= 5 ac

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,663.72	\$3,663.72
Equipment Installation	\$0.00	\$0.00
Labor	\$490.27	\$490.27
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$119.92
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,273.91	\$4,273.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 291

Scenario Name: Plant Health PAMS Activities (Small Farm - Each) Labor, Materials, and Mitigation

Scenario Description: PAMS activities with labor and material costs plus mitigation will be implemented on a small scale crop production area.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using any PAMS techniques to the client is using many different PAMS techniques for many different pests. In all cases at least one planned PAMS technique has risk to an identified resource concern (Plant Pest Pressure). Mitigation over 30 points.

After Situation: 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 have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure). Mitigation over 30 points.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small farm, typically = 5Ac

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,663.72	\$3,663.72
Equipment Installation	\$0.00	\$0.00
Labor	\$3,208.41	\$3,208.41
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$119.92
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,992.04	\$6,992.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 292

Scenario Name: Water Quality Pesticide Mitigation, Equal to 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/OR impacts to wildlife-beneficial insects including pollinators.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using many pest suppression techniques (pesticides, tillage for weed control, burning, etc.) to the client is using many different pest suppression techniques for many different pests, but in all cases at least one planned pest suppression technique has risk to an identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water AND/OR Wildlife-beneficial insects including pollinators).

After Situation: 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 risk mitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND Agronomy Technical Note 9).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Management Applied

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,620.79	\$40.52
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,620.79	\$40.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 595 - Pest Management Conservation System

Scenario Number: 293

Scenario Name: Water Quality Pesticide Mitigation, Equal to 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/OR impacts to wildlife-beneficial insects including pollinators.

Before Situation: Before practice conditions vary widely. Conditions range from the client is not using many pest suppression techniques (pesticides, tillage for weed control, burning, etc.) to the client is using many different pest suppression techniques for many different pests, but in all cases at least one planned pest suppression technique has risk to an identified resource concern (e.g. Water Quality - Impacts to Human Drinking Water AND/OR Wildlife-beneficial insects including pollinators).

After Situation: 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 risk mitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND/OR Agronomy Technical Note 9).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Small Farm, typically <= 5 acres

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,231.70	\$1,231.70
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,231.70	\$1,231.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 600 - Terrace

Scenario Number: 89

Scenario Name: Broadbased

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. The typical installation is a broadbased terrace having 5:1 upstream and 5:1 downstream slopes measuring 2,500 feet in a field with slopes from 2% to 8% constructed in loam soils or similar in regards to workability. Channel and berm are farmed. A stable outlet is provided in the form of a Grassed Waterway or Underground Outlet. Costs include all equipment and forces necessary to excavate, shape, and compact terrace. This practice addresses Concentrated Flow Erosion and Excessive Sediment in surface waters.

Before Situation: Long slope lengths contribute to excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

After Situation: A system of broadbased terraces measuring 2,500 feet in length, 2.5 height, and 5:1 front and back slopes 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. Associated practices are Critical Area Planting (342), Grassed Waterway (412), and Underground Outlet (620).

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Terrace

Scenario Unit: Foot

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$5,014.41	\$2.01
Labor	\$1,579.44	\$0.63
Mobilization	\$867.64	\$0.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$490.86	\$0.20
Risk	\$0.00	\$0.00
Total	\$7,952.35	\$3.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 600 - Terrace

Scenario Number: 90

Scenario Name: Flat Channel

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. The typical installation is a flat channel (level) terrace storing runoff with a length of 2,500 feet and side slopes of 8:1 or greater in a field with slopes from 2% to 8% constructed in loam soils or similar in regard to workability. Costs include all equipment necessary to excavate, shape, and compact terrace.

Before Situation: Long slope lengths contribute to excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

After Situation: A system of flat channel (level) terraces with approximately 8:1 front and back slopes, 2.5 feet height, and 2,500 feet in length 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Terrace

Scenario Unit: Foot

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$8,406.52	\$3.36
Labor	\$2,551.96	\$1.02
Mobilization	\$867.64	\$0.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,826.12	\$4.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 600 - Terrace

Scenario Number: 92

Scenario Name: Narrow Base

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. The typical installation is a system of narrow base terraces with 2:1 slopes, 2,500 ft. length, and 2.5 ft. height in a field with slopes from 3% to 8% constructed in loam soils or similar in regard to workability. A stable outlet is provided in the form of a Grassed Waterway or Underground Outlet. Costs include all equipment necessary to excavate, shape, and compact terrace. Permanent vegetation is established. Seeding is not included.

Before Situation: Long slope lengths contribute to excessive sedimentation and soil erosion in cropped fields as a result of gully, rill, and sheet erosion. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

After Situation: A system of narrow base terraces with approximately 2:1 front and back slopes measuring 2,500 feet in length and 2.5 feet height is constructed 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length of Terrace

Scenario Unit: Foot

Scenario Typical Size: 2,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,539.59	\$1.42
Labor	\$1,057.34	\$0.42
Mobilization	\$867.64	\$0.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$490.86	\$0.20
Risk	\$0.00	\$0.00
Total	\$5,955.43	\$2.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 603 - Herbaceous Wind Barriers

Scenario Number: 6

Scenario Name: Annual Species, Small

Scenario Description: This scenario describes the annual implementation of herbaceous barriers to reduce wind velocities and wind-borne particulate matter. In this scenario barriers are composed of annual living vegetation. Plant materials shall be selected for local adaptation and climatic conditions and are resistant to lodging and are non-spreading in their habit. Barriers will be designed as close to perpendicular to prevailing winds as practical. Barrier direction, spacing, and composition needed to achieve the desired purpose shall be designed using the currently approved wind erosion technology. Establishment is done either by using light tillage or chemical application and no till drill.

Before Situation: Typically cropland has excessive soil disturbance and un-sheltered distance that results in excessive wind erosion that affect soil resources. Seedling development and wildlife habitat are negatively affected by wind-borne sediment and sediment-borne contaminants travelling offsite.

After Situation: Implementation Requirements will be prepared for the site according to the 603 Herbaceous Wind Barrier Standard and implemented. Implementation of herbaceous wind barriers will modify the flow and velocity of air dependent upon barrier height, porosity, spacing and wind speed. Orientation is generally placed across an entire field perpendicular to applicable prevailing wind direction. Implementation will reduce soil loss; protect growing plants from damage by wind blown soil particles, provide food and cover for wildlife. Payment is for the design and implementation of annual barriers and required reestablishment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet Planted

Scenario Unit: Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$83.02	\$0.08
Equipment Installation	\$28.33	\$0.03
Labor	\$223.32	\$0.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$334.66	\$0.33

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 603 - Herbaceous Wind Barriers

Scenario Number: 10

Scenario Name: Cool Season

Scenario Description: This scenario describes the implementation of herbaceous barriers to reduce wind velocities and wind-borne particulate matter. In this scenario barriers are composed of cool season annual or perennial vegetation. Plant materials shall be selected for local adaptation and climatic conditions and are resistant to lodging and are non-spreading in their habit. Barriers will be designed as close to perpendicular to prevailing winds as practical. Barrier direction, spacing, and composition needed to achieve the desired purpose shall be designed using the currently approved wind erosion technology.

Before Situation: Typically cropland has excessive soil disturbance and unsheltered distance that results in excessive wind erosion that affect soil resources. Seedling development and wildlife habitat are negatively affected by wind-borne sediment and sediment-borne contaminants travelling offsite.

After Situation: Implementation Requirements will be prepared and implemented for the site according to the Herbaceous Wind Barrier (603) standard. Implementation of herbaceous wind barriers will modify the flow and velocity of air dependent upon barrier height, porosity, spacing and wind speed. Orientation is generally placed across an entire field perpendicular to applicable prevailing wind direction. Implementation will reduce soil loss, protect growing plants from damage by wind-blown soil particles, and provide food and cover for wildlife. The scenario includes the design and implementation of annual barriers and required reestablishment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: linear feet of barrier planted

Scenario Unit: Linear Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4.04	\$0.00
Equipment Installation	\$95.30	\$0.07
Labor	\$56.71	\$0.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$156.05	\$0.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 606 - Subsurface Drain

Scenario Number: 2

Scenario Name: Enveloped Corrugated Plastic Pipe

Scenario Description: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline with Sand-Gravel envelope, using a drainage trencher. The unit is in weight of pipe material in pounds.

Before Situation: Before installation soil conditions are excessively wet in the spring due to poor internal soil drainage. Excess soil water is causing crop stress and delay of field operations (seed bed preparation, planting, etc.).

After Situation: The drainage modifications result in reduced plant stress due to excessive wetness caused by a seasonal high water table, or improved drainage water quality due to system retrofit enabling drainage water management.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,203.93	\$4.20
Equipment Installation	\$4,890.20	\$4.89
Labor	\$305.86	\$0.31
Mobilization	\$2,085.59	\$2.09
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,485.57	\$11.49

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 606 - Subsurface Drain

Scenario Number: 37

Scenario Name: Corrugated Plastic Pipe, Twin-Wall

Scenario Description: Below ground installation of HDPE (Corrugated Plastic Pipe) pipeline, using a drainage plow. The unit is in weight of pipe material in pounds.

Before Situation: Before installation soil conditions are excessively wet in the spring due to poor internal soil drainage. Excess soil water is causing crop stress and delay of field operations (seed bed preparation, planting, etc.).

After Situation: The drainage modifications result in reduced plant stress due to excessive wetness caused by a seasonal high water table, or improved drainage water quality due to system retrofit enabling drainage water management.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 3,200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$10,897.76	\$3.41
Equipment Installation	\$3,904.50	\$1.22
Labor	\$1,814.63	\$0.57
Mobilization	\$2,085.59	\$0.65
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$18,702.48	\$5.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 606 - Subsurface Drain

Scenario Number: 38

Scenario Name: Corrugated Plastic Pipe, Single Wall, Base Cost

Scenario Description: Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth 5 feet. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Before installation soil conditions are excessively wet in the spring due to poor internal soil drainage. Excess soil water is causing crop stress and delay of field operations (seed bed preparation, planting, etc.).

After Situation: The drainage modifications result in reduced plant stress due to excessive wetness caused by a seasonal high-water table, or improved drainage water quality due to system retrofit enabling drainage water management.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,962.98	\$6,962.98
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,962.98	\$6,962.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 606 - Subsurface Drain

Scenario Number: 39

Scenario Name: Corrugated Plastic Pipe, Single Wall, Implementation Cost

Scenario Description: Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth 5 feet. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Before installation soil conditions are excessively wet in the spring due to poor internal soil drainage. Excess soil water is causing crop stress and delay of field operations (seed bed preparation, planting, etc.).

After Situation: The drainage modifications result in reduced plant stress due to excessive wetness caused by a seasonal high water table, or improved drainage water quality due to system retrofit enabling drainage water management.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Weight of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.26	\$2.26
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.26	\$2.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 607 - Surface Drain, Field Ditch

Scenario Number: 7

Scenario Name: Field Drainage Ditch

Scenario Description: Construction of a surface drain, field ditch. Typical dimensions are 4' bottom x 2.5' deep x 1320' length with a side slope of 3:1. Excess water is either reused in an Irrigation System, Tailwater Recovery (447) system or conveyed to a receiving water body.

Before Situation: Excess water has no outlet and backs up into the fields causing damage or loss of the crop.

After Situation: An earthen ditch that follows the natural slope of the land at the low end of the field will be constructed to carry excess water to an outlet.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earth Excavated

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,406.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,602.22	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$728.94	\$0.52
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,331.16	\$3.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 608 - Surface Drain, Main or Lateral

Scenario Number: 10

Scenario Name: Main or Lateral Drainage Ditch

Scenario Description: Construction of a surface drain, main, or lateral. Typical dimensions are 4' bottom x 4' deep x 1320' length with a side slope of 2.5:1.

Before Situation: Excess water has no outlet and backs up into the fields causing damage or loss of the crop.

After Situation: An earthen ditch that follows the natural slope of the land at the low end of the field is constructed to carry excess water to an outlet so that water no longer backs up into the field so that field production is improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earth Excavated

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,738.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$7,014.85	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$0.13
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,379.32	\$2.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 610 - Salinity and Sodic Soil Management

Scenario Number: 1

Scenario Name: Soil Management, Non-Irrigated

Scenario Description: The producer attends training in Salinity and Sodic Soil Management, analyzes subsurface conditions in areas in and around a saline seep and, using the information gained from training and field observations, carries out a Salinity and Sodic Soil Management Plan employing as applicable changes in Conservation Cropping Systems, Critical Area Planting, Nutrient Management and use of soil amendments. Includes the cost of attending a six-hour university, NRCS, or commodity group sponsored training session and 40 hours of management labor per year to analyze available data and field situations, review, and modify the Salinity and Sodic Soil Management Plan, as necessary, and continue to carry it out.

Before Situation: A crop-fallow system on sodic and saline soils has resulted in saline seeps. The recharge area of the seep must be determined before the extents of the treatment can be planned. An analyses of the subsurface conditions in areas in and around a saline is completed on 95 acres of recharge area surrounding a 5 acre saline seep in order to determine groundwater gradients and limits of the recharge area.

After Situation: A determination of extent of recharge area has been made. The area to be treated has been identified. The producer has developed and is carrying out a Salinity and Sodic Soil Management Plan. Deep percolation in the recharge area is eliminated and salts no longer leach into the ground or surface water.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres included in Salinity and Sodic Soil Management Plan

Scenario Unit: Acre

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$1,863.68	\$18.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$1.20
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,983.60	\$19.84

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 610 - Salinity and Sodic Soil Management

Scenario Number: 3

Scenario Name: Soil Management, Irrigated

Scenario Description: The producer attends training in Salinity and Sodic Soil Management and develops and carries out a Salinity and Sodic Soil Management Plan. Includes the cost of attending a six-hour university, NRCS, or commodity group sponsored training session and 12 hours of management labor per year to analyze available data and field situations, develop, or review and modify as necessary, plan, and carry it out.

Before Situation: Salintiy and or Sodic conditions have developed in the root zone of a 100 acre irrigated cropland field resulting in decreased soil quality, plant health problems, and yield reductions.

After Situation: Producer conducts soil conductivity and salinity test to determine the root zone depth of water application necessary for flushing accumulated salts and maintaining a proper salt balance. Producer conducts irrigation suitability test of water supply results to determine suitability of applied water for irrigation and additional irrigation volumes needed for leaching. Routine periodic checks of water EC will be conducted by producer to monitor for water salinity which might require changes to Salinity and Sodic Soil Management Plan. The Salinity and Sodic Soil Management Plan is carried out employing soil and water testing and as applicable changes in Irrigation Water Management (449), Conservation Crop Rotation (328), tillage, and use of soil amendments. The producer has developed and is carrying out a Salinity and Sodic Soil Management Plan resulting in improved soil quality and plant health.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres included in Salinity and Sodic Soil Management Plan

Scenario Unit: Acre

Scenario Typical Size: 100.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,693.64	\$16.94
Equipment Installation	\$0.00	\$0.00
Labor	\$1,863.68	\$18.64
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$119.92	\$1.20
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,677.24	\$36.77

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 111

Scenario Name: Direct Seeding

Scenario Description: Seeds are broadcasted and tilled into the soil to meet the conservation benefit.

Before Situation: Area has little to no tree cover and there are resources concerns that need to be addressed using trees.

After Situation: Area has been planted to the appropriate species to meet the conservation benefit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Planting

Scenario Unit: Acre

Scenario Typical Size: 5.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,946.67	\$1,189.33
Equipment Installation	\$228.34	\$45.67
Labor	\$626.30	\$125.26
Mobilization	\$1,093.41	\$218.68
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,894.72	\$1,578.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 112

Scenario Name: Large Containers with Protection

Scenario Description: Large sized potted trees and shrubs are needed to meet conservation purposes. The plants are protected from environmental stressors.

Before Situation: Area is lacking in tree cover and there is a conservation need to plant large sized plants. There are environment factors that will impede the establishment of these plants.

After Situation: Area has been planted with protection to meet the conservation benefit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Container

Scenario Unit: Number

Scenario Typical Size: 250.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,089.94	\$20.36
Equipment Installation	\$1,005.95	\$4.02
Labor	\$1,876.11	\$7.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,972.00	\$31.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 113

Scenario Name: Medium Containers with Protection

Scenario Description: Medium sized potted trees and shrubs are needed to meet conservation purposes. The plants are protected from environmental stressors.

Before Situation: Area is lacking in tree cover and there is a conservation need to plant medium sized plants. There are environment factors that will impede the establishment of these plants.

After Situation: Area has been planted with protection to meet the conservation benefit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Seedling

Scenario Unit: Number

Scenario Typical Size: 1,940.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$30,561.95	\$15.75
Equipment Installation	\$1,447.72	\$0.75
Labor	\$2,588.45	\$1.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$34,598.13	\$17.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 114

Scenario Name: Protection of Natural Regeneration

Scenario Description: Area is being managed for natural regeneration of forest however there are environmental stressors that pose a threat to the new regrowth.

Before Situation: Area is unprotected from environmental stressors

After Situation: Area has been adequately protected from environmental stressors

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$10,702.40	\$535.12
Equipment Installation	\$278.29	\$13.91
Labor	\$680.49	\$34.02
Mobilization	\$364.47	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,025.64	\$601.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 115

Scenario Name: Small Seedlings without Protection

Scenario Description: Small seedlings are planted on site to meet the conservation benefit.

Before Situation: Area has little to no tree cover and there are resources concerns that need to be addressed using trees.

After Situation: Area has been planted to the appropriate species to meet the conservation benefit.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Seedling

Scenario Unit: Number

Scenario Typical Size: 12,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$15,720.00	\$1.31
Equipment Installation	\$2,559.11	\$0.21
Labor	\$3,953.57	\$0.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,232.67	\$1.85

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 612 - Tree/Shrub Establishment

Scenario Number: 116

Scenario Name: Small Seedlings with Protection

Scenario Description: Small seedlings are planted on site with needed protection from environmental stressors. These seedlings are planted to meet a conservation benefit.

Before Situation: Area has little to no tree cover and there are resources concerns that need to be addressed using trees. There is also environmental stressors that will impede the plants from being established.

After Situation: Area has been planted to the appropriate species to meet the conservation benefit, and the seedlings are protected.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Seedling

Scenario Unit: Number

Scenario Typical Size: 3,872.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$28,941.98	\$7.47
Equipment Installation	\$1,683.22	\$0.43
Labor	\$2,588.45	\$0.67
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$33,213.66	\$8.58

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 614 - Watering Facility

Scenario Number: 11

Scenario Name: Insulated Tank with Cover

Scenario Description: A permanent watering facility for livestock constructed using a rubber equipment tire with concrete plug or fiberglass tank placed on a gravel or compacted earth foundation that stores adequate quantity and quality of water for storage and or direct drinking access. This scenario includes an insulated cover for the watering facility.

Before Situation: This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.

After Situation: A permanent insulated watering facility is constructed using a rubber equipment tire with concrete plug or fiberglass tank with an insulated lid.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Capacity in Gallons

Scenario Unit: Gallon

Scenario Typical Size: 1,200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,935.75	\$3.28
Equipment Installation	\$606.13	\$0.51
Labor	\$600.49	\$0.50
Mobilization	\$1,735.29	\$1.45
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,877.66	\$5.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 13

Scenario Name: Water Storage Tank, Base Cost

Scenario Description: A permanent watering facility constructed of approved materials for water storage capacity to provide 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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A new, or improved, watering facility for livestock or wildlife is needed.

After Situation: A permanent watering facility with adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,564.01	\$1,564.01
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,564.01	\$1,564.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 14

Scenario Name: Water Storage Tank, Implementation Cost

Scenario Description: A permanent watering facility constructed of approved materials for water storage capacity to provide 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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A new, or improved, watering facility for livestock or wildlife is needed.

After Situation: A permanent watering facility with adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Capacity in Gallons

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.23	\$1.23
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.23	\$1.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 15

Scenario Name: Permanent, Small, Base Cost

Scenario Description: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with less than 750 capacity that stores adequate quantity and quality of water for storage or direct drinking access. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A watering facility for livestock or wildlife is needed.

After Situation: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with a capacity less than 750 gallons, with all tank materials, tank plumbing and float valve, that stores adequate quantity and quality of water for storage or direct drinking access.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$941.37	\$941.37
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$941.37	\$941.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 16

Scenario Name: Permanent, Small, Implementation Cost

Scenario Description: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with less than 750 capacity that stores adequate quantity and quality of water for storage or direct drinking access. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A watering facility for livestock or wildlife is needed.

After Situation: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with a capacity less than 750 gallons, with all tank materials, tank plumbing and float valve, that stores adequate quantity and quality of water for storage or direct drinking access.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Capacity in Gallons

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3.16	\$3.16
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.16	\$3.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 195

Scenario Name: Tire Trough

Scenario Description: Installation of a permanent watering facility for livestock and/or wildlife constructed from tires that stores adequate quantity and quality of water for storage and/or direct drinking access. The watering facility will be constructed from approved durable materials that have a life expectancy that meets, or exceeds, the planned useful life of the installation.

Before Situation: There is insufficient water to meet livestock or wildlife watering needs at a site. Animals may have access to streams or ponds, need to travel a long distance to available water or pasture use and rotation may be affected. This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and/or wildlife where water is not available in sufficient quantities at specific locations; and where habitat, water quality, plant productivity and health needs to be improved. Resource concerns include, but may not be limited to, Plant Condition and Quality, Soil Erosion and Stream Habitat/Water Quality.

After Situation: A permanent watering facility using a 10' diameter tire is installed 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. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Capacity in Gallons

Scenario Unit: Gallon

Scenario Typical Size: 981.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,524.10	\$1.55
Equipment Installation	\$792.79	\$0.81
Labor	\$683.65	\$0.70
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,000.54	\$3.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 196

Scenario Name: Frost Free Tank

Scenario Description: A permanent commercially available frost-proof or geothermal watering facility constructed of approved materials that provides adequate quantity and quality of water for direct drinking access.

Before Situation: Livestock have access to streams, ponds and/or lakes causing shoreline and/or streambank erosion and delivering non-point source pollutants directly to the receiving water, grazing patterns of the livestock are poorly distributed, and livestock must walk excessive distances to access water.

After Situation: The watering facility is installed to provide water at a controlled access point to meet the livestock needs, improve animal and waste distribution/nutrient cycling, or provide a water source that is an alternative to a sensitive resource.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Tanks

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$868.51	\$868.51
Equipment Installation	\$473.76	\$473.76
Labor	\$120.10	\$120.10
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,330.02	\$2,330.02

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 198

Scenario Name: Permanent, Large, Base Cost

Scenario Description: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with greater than 750 capacity that stores adequate quantity and quality of water for storage or direct drinking access. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: A watering facility for livestock or wildlife is needed to provide daily water requirements, improve animal distribution to better utilize grazing resources, provide a water source that is an alternative to a sensitive resource.

After Situation: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with a capacity of greater than 750 gallons, with all tank materials, tank plumbing and float valve, that stores adequate quantity and quality of water for storage or direct drinking access.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,875.00	\$2,875.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,875.00	\$2,875.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 614 - Watering Facility

Scenario Number: 199

Scenario Name: Permanent, Large, Implementation Cost

Scenario Description: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with greater than 750 capacity that stores adequate quantity and quality of water for storage or direct drinking access. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: A watering facility for livestock or wildlife is needed to provide daily water requirements, improve animal distribution to better utilize grazing resources, provide a water source that is an alternative to a sensitive resource.

After Situation: A permanent watering facility as a means for providing controlled access to drinking water for livestock or wildlife constructed of approved materials with a capacity of greater than 750 gallons, with all tank materials, tank plumbing and float valve, that stores adequate quantity and quality of water for storage or direct drinking access.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Storage Volume

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.90	\$0.90
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$0.90	\$0.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 620 - Underground Outlet

Scenario Number: 73

Scenario Name: Horizontal Boring

Scenario Description: Install an approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Includes pipe installed under road using horizontal boring equipment. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways, roof runoff structures, or similar practices.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds T from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Field system meets T or clean storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Length in Feet

Scenario Unit: Linear Foot

Scenario Typical Size: 150.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,546.67	\$30.31
Equipment Installation	\$12,253.15	\$81.69
Labor	\$948.92	\$6.33
Mobilization	\$2,602.93	\$17.35
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$20,351.67	\$135.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 620 - Underground Outlet

Scenario Number: 74

Scenario Name: Pipeline with Risers, Base Cost

Scenario Description: Install a plastic pipe to convey stormwater from one location to a suitable and stable outlet. Includes pipe, perforated PVC riser inlet, trench excavation, and backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds T from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,526.39	\$3,526.39
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,526.39	\$3,526.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 620 - Underground Outlet

Scenario Number: 75

Scenario Name: Pipeline with Risers, Implementation Cost

Scenario Description: Install a plastic pipe to convey stormwater from one location to a suitable and stable outlet. Includes pipe, perforated PVC riser inlet, trench excavation, and backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds T from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pound of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.99	\$1.99
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.99	\$1.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 620 - Underground Outlet

Scenario Number: 76

Scenario Name: Pipeline, Base Cost

Scenario Description: Install a plastic pipe to convey stormwater from one location to a suitable and stable outlet. Includes pipe, trench excavation, and backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds T from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,185.44	\$2,185.44
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,185.44	\$2,185.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 620 - Underground Outlet

Scenario Number: 77

Scenario Name: Pipeline, Implementation Cost

Scenario Description: Install a plastic pipe to convey stormwater from one location to a suitable and stable outlet. Includes pipe, trench excavation, and backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds T from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pounds of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3.69	\$3.69
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.69	\$3.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 629 - Waste Treatment

Scenario Number: 21

Scenario Name: Aerobic Circulator

Scenario Description: The addition of aerobic circulators to an existing lagoon or liquid storage pond with adequate minimum treatment volume (at least 270 days storage) and depth (at least 4.5 ft) to circulate lagoon water to allow for oxygen interchange at the surface of the lagoon, creating aerobic conditions in the lagoon and reducing emissions of odors and other volatile gases.

Before Situation: The existing uncovered anaerobic lagoon or liquid storage pond results in emissions of odors, ammonia, methane, and other volatile gases.

After Situation: One aerobic circulator is added to the existing lagoon or storage pond for each 100 animal units of manure input to the lagoon or storage pond, resulting in a conversion of the anaerobic liquid storage to an aerobic liquid storage and reducing emissions of odors and other volatile gases. The circulators are spaced at least 25 feet apart.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Animal Units Treated

Scenario Unit: Animal Unit

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$73,919.65	\$147.84
Equipment Installation	\$0.00	\$0.00
Labor	\$413.20	\$0.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$74,332.85	\$148.67

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 120

Scenario Name: Aerator, Greater Than Five Horsepower

Scenario Description: Installation of an aerator into a liquid storage pond or tank that has a surface area greater than 1 acre.

Before Situation: A dairy, swine, or other agricultural operation in which the waste goes into a storage pond. The pond is not managed as an anaerobic lagoon and the nutrients stratify over time and odors are objectionable. It is difficult to properly estimate the nutrient content being pumped onto the land because of the stratification. There is also not enough aerobic microbial activity in the pond to prevent objectionable odors.

After Situation: This scenario assumes that the producer would like to increase oxygen content in the storage pond and mix the waste for even nutrient distribution. Under aerobic conditions microorganisms can convert nutrients and odors will be reduced. Nutrient content of the liquid waste is more uniform which is better for uniform agronomic applications rates improving nutrient management and to protect air and water quality resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horse Power of aerator

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$14,783.93	\$14,783.93
Equipment Installation	\$0.00	\$0.00
Labor	\$120.37	\$120.37
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,904.31	\$14,904.31

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 121

Scenario Name: Aerator, Less Than or Equal to Five Horsepower

Scenario Description: Installation of an aerator into a liquid storage pond or tank that has a surface area less than 1 acre.

Before Situation: A dairy, swine, or other agricultural operation in which the waste goes into a storage pond. The pond is not managed as an anaerobic lagoon and the nutrients stratify over time and odors are objectionable. It is difficult to properly estimate the nutrient content being pumped onto the land because of the stratification. There is also not enough aerobic microbial activity in the pond to prevent objectionable odors.

After Situation: This scenario assumes that the producer would like to increase oxygen content in the storage pond and mix the waste for even nutrient distribution. Under aerobic conditions microorganisms can convert nutrients and odors will be reduced. Nutrient content of the liquid waste is more uniform which is better for uniform agronomic application rates improving nutrient management and to protect air and water quality resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Horse Power of aerator

Scenario Unit: Horsepower

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,648.00	\$1,648.00
Equipment Installation	\$0.00	\$0.00
Labor	\$80.25	\$80.25
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,728.25	\$1,728.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 122

Scenario Name: Animal Mortality Preprocessor

Scenario Description: Preprocessing of animal mortalities with compost in order to reduce the size of carcass being composted, allow fluids to be mixed into the compost, which will facilitate faster composting (more carcass throughput in an existing facility), a reduction in the need for carbonaceous material, in odor and associated vectors such as flies, in GHG produced, and facilitate other benefits of composting animal carcasses. Includes a commercially manufactured animal carcass preprocessor with a large tub hopper that facilitates grinding of the carcass with compost in an approximate 20-minute cycle time resulting in absorption of fluids by the carbonaceous material that is preprocessed with the carcass in the tub/hopper. The carcass preprocessor should be installed with features to enable the loading and unloading of the material to be processed, all electrical appurtenances needed, and with training for the operator on proper operation of the machinery. Sizing of the facility is based on the typical animal carcass size and the number of animals at the facility. The carcass preprocessor and any associated equipment will need to be placed under a roof and on a concrete slab. These items are not included in this scenario and if needed would require the addition of associated practices Heavy Use Area Protection (561) and Roofs and Cover (367).

Before Situation: An existing animal mortality facility is under sized, has excessive odor or fly issues, has mortality associated leachate issues, or is experiencing poor composting results which could indicate higher than desired GHG production. Large unit sizes of animal mortality result in composting being done in a manner that results in excessive lengths of time, excessive liquid secretions, more anaerobic zones in the compost, and large quantities of carbon sources. Improper composting results in odors, pathogen vectors from predation, increased GHG, and incomplete composting. Addressing incomplete composting by increasing the composting duration times, the number of turnings, and the volume of carbon source materials all combine to results in the need for larger size mortality facilities and increased labor and equipment time to properly manage the mortality.

After Situation: 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. A preprocessor machine is installed on a concrete pad adjacent to composting areas. Mortality is being processed into small, consistently sized particles. The compost required less volume of carbon source. The carbon to nitrogen contact zones are significantly increased following preprocessing, facilitating more efficient composting, less potent GHG production (methane and N2O) and storage properties of all waste materials are reduced and enhanced. Animal mortality composting is being done with less required volume of carbonaceous material, no leachate, no odor or flies, and the composting rate has been improved which increases the mortality throughput for the existing facility and with an associated reduction in GHG production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Unit Horsepower

Scenario Unit: Horsepower

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$66,433.00	\$3,321.65
Equipment Installation	\$0.00	\$0.00
Labor	\$240.75	\$12.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00

Cost Category	Total Cost	Scenario Cost/Unit
Total	\$66,673.75	\$3,333.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 123

Scenario Name: Litter Windrow Pasteurization

Scenario Description: The in-house windrowing of poultry litter to promote pasteurization between flocks.

Before Situation: A poultry operation typically removes part of the litter and bedding between flocks, called a cakeout. A full cleanout of litter and bedding is typically done once every 1-3 years depending on the operation. Over time, the accumulation of poultry waste in the litter contributes to an increase in odors and high ammonia emissions in the house contribute to impacts on bird health.

After Situation: In-house pasteurization of poultry litter is done by windrowing the litter in the house. The process takes approximately one week and successfully addresses air quality impacts (ammonia emissions, PM and PM precursors), improves bird health, reduces bird mortality, and improves the quality of poultry litter that must be spread on farmland.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of housing floor windrowed per year in 1000 SF

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 126.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$5,949.53	\$47.22
Labor	\$2,091.91	\$16.60
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,041.44	\$63.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 124

Scenario Name: Mechanical Flare

Scenario Description: Installation of a mechanical system to flare biogas from a covered waste holding/treatment area. Flaring may occur either continuously or intermittently, as needed, during times when the energy conversion equipment is not operating for maintenance or other reasons. The process facilitates the desirable handling of agricultural waste, manages odors, and reduces greenhouse gas emissions. The waste holding/treatment area is addressed by Waste Treatment Lagoon (359) or Waste Storage Facility (313) and the cover is addressed under Roofs and Covers (367). Costs include the flaring system components and system controls, specifically including the ignition system, temperature detection system, electrical control cabinet, windproof body, combustion chamber, biogas piping, condensate drainage, installation fixtures, burner head, insulation, pilot or ignition burner, and a 10'x10' concrete slab foundation.

Before Situation: Manure and other agricultural by-products are not being controlled or utilized in an environmentally safe manner. Waste gases are accumulating but are not properly utilized or disposed of, posing an environmental threat of excessive odors, reduced air quality, and greenhouse gas emissions. The treatment of manure and other agricultural by-products is desired in order to manage odors, improve air quality, and reduce greenhouse gas emissions.

After Situation: A mechanical gas flaring system is installed on a 10'x10'x6" concrete pad with 4" gravel underneath. System operates in conjunction with a covered waste treatment lagoon or waste storage holding pond for the purpose of flaring biogas either continuously or intermittently as needed in order to manage odors and reduce greenhouse gas emissions from the waste management system. Effluent from the system is disposed of or utilized in accordance with a nutrient management plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$75,541.12	\$75,541.12
Equipment Installation	\$1,002.33	\$1,002.33
Labor	\$60.05	\$60.05
Mobilization	\$364.47	\$364.47
Acquisition of Technical Knowledge	\$119.92	\$119.92
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$77,087.89	\$77,087.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 629 - Waste Treatment

Scenario Number: 125

Scenario Name: Straw Pond Cover

Scenario Description: Application of a permeable organic cover to the liquid surface of a waste storage facility that has a surface area less than or equal to 2 acres. Straw cover applications can remain on top of the pond for between 2 and 6 months to reduce radiation and wind velocity over the surface of a manure storage and reduce the transmission of odors and act as a medium for growth of microorganisms that utilize carbon, nitrogen, and sulfur to decompose odorous compounds.

Before Situation: This practice is applicable on a dairy or swine operation in which the waste goes into a liquid storage pond or tank and the bio-treatment of emissions will improve air quality. The maximum recommended surface area is 2 acres.

After Situation: A permeable organic cover was applied to the liquid surface of a waste storage or treatment facility. Organic materials often used as covers include straws, cornstalks and peat moss. Typical application is an 8' straw application on a 120' diameter storage tank every three months.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of Pond or Tank per application

Scenario Unit: Square Foot

Scenario Typical Size: 45,239.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$19,854.61	\$0.44
Equipment Installation	\$3,026.13	\$0.07
Labor	\$507.13	\$0.01
Mobilization	\$2,915.77	\$0.06
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26,303.65	\$0.58

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 632 - Waste Separation Facility

Scenario Number: 6

Scenario Name: Concrete Sand Settling Lane

Scenario Description: A concrete structure or 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, remove a portion of the solids to facilitate waste handling, and address water quality concerns.

Before Situation: Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.

After Situation: One concrete settling lane structure constructed around, or at, a livestock feeding operation. A portion of the solids (sand) that otherwise would leave with the runoff from an animal feeding operation was removed. Part of an animal waste management system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot of Settling Lane Footprint

Scenario Unit: Square Foot

Scenario Typical Size: 16,280.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,707.86	\$0.41
Equipment Installation	\$189,464.21	\$11.64
Labor	\$1,001.48	\$0.06
Mobilization	\$3,800.12	\$0.23
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$200,973.67	\$12.34

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 632 - Waste Separation Facility

Scenario Number: 34

Scenario Name: Mechanical Separation Facility

Scenario Description: A small mechanical separation facility to partition solids, liquids, and/or associated nutrients from animal waste streams. The partitioning 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, or other systems.

Before Situation: Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.

After Situation: One small mechanical separation facility (a vibratory or rotating screen) installed at livestock facility before storage or treatment or after treatment, for example, after an anaerobic digester. Part of an animal waste management system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Item

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$61,392.64	\$61,392.64
Equipment Installation	\$4,729.05	\$4,729.05
Labor	\$1,549.31	\$1,549.31
Mobilization	\$3,121.80	\$3,121.80
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$70,792.81	\$70,792.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 632 - Waste Separation Facility

Scenario Number: 35

Scenario Name: Earthen Settling Structure

Scenario Description: An earthen structure, such as a basin or a terrace or dike-like structure used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility, remove a portion of the solids to facilitate waste handling, and address water quality concerns. A concrete pad should be installed on the bottom of the basin and around outlet structures to facilitate cleanout.

Before Situation: Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.

After Situation: One earthen settling basin structure with three screening outlet structures constructed around, or at, a livestock feeding operation. A portion of the solids that otherwise would leave with the runoff from an animal feeding operation was removed. Part of an animal waste management system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Foot of Design Storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 30,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,278.70	\$0.04
Equipment Installation	\$13,601.63	\$0.45
Labor	\$1,228.31	\$0.04
Mobilization	\$3,296.95	\$0.11
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,405.60	\$0.65

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 632 - Waste Separation Facility

Scenario Number: 36

Scenario Name: 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, remove a portion of the solids to facilitate waste handling, and address water quality concerns.

Before Situation: Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.

After Situation: One concrete settling basin structure constructed around or at a livestock feeding operation. A portion of the solids that otherwise would leave with the runoff from an animal feeding operation was removed. Part of an animal waste management system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Foot of Design Storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 1,800.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,237.42	\$0.69
Equipment Installation	\$18,343.99	\$10.19
Labor	\$1,228.31	\$0.68
Mobilization	\$3,296.95	\$1.83
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$24,106.67	\$13.39

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 632 - Waste Separation Facility

Scenario Number: 37

Scenario Name: Concrete Basin, Multiple Cells, Gravity

Scenario Description: A concrete basin containing multiple cells with concrete walls and floor. Basin cells use gravity and time to separate a portion of the solids from a liquid waste stream from a drylot dairy, animal production, or confinement facility and are used where manure is cleaned by flushing. The use of multiple separation cells allows for the continuous operation and management of the waste stream to be altered between cells thereby providing time for the solids portion to drain to be handled as a solid, removes a portion of the solids to facilitate waste handling, and addresses water quality concerns.

Before Situation: Applicable to situations and locations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.

After Situation: One concrete gravity settling basin containing multiple cells. Part of an animal waste and nutrient management system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Foot of Design Storage

Scenario Unit: Cubic Foot

Scenario Typical Size: 26,250.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,426.26	\$0.28
Equipment Installation	\$149,441.32	\$5.69
Labor	\$1,228.31	\$0.05
Mobilization	\$3,296.95	\$0.13
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$161,392.84	\$6.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 633 - Waste Recycling

Scenario Number: 1

Scenario Name: Export Agricultural Waste By-Products Recycled for Use Off Farm

Scenario Description: Agricultural byproducts on the farm are more than the ability of the farm and limited crop landbase to utilize. These waste materials are accumulating in a manner that the water, soil, and/or air quality have resource concerns. The application of a waste management plan will recycle the byproducts so the quality of the natural resources will be improved and the environment protected. The agricultural byproducts are tested and exported off the farm operation for external use. Records are kept detailing the disposition of the waste, including date, amount, and receiver who also receives the results of the agricultural byproduct laboratory analysis.

Before Situation: Unexpected loss of leased cropland by the operation; irrigation limitations, weather conditions have altered crop rotations and have decreased crop nutrient needs. Agricultural by-products are accumulating because less land application sites are available. Excessive by-products have the potential for nutrient runoff and leaching from the site and available cropland. Resource concerns, such as degradation of water quality, soil health and/or air quality, are valid. The original nutrient and waste management plans need to be updated, but the producer lacks the expertise to complete all the modifications.

After Situation: The producer "exports" excess by-products to area growers. Growers are invited to pick up the by-products for nutrient use on their farms. Prior to export, all by-products will be sampled and analyzed annually in accordance with LGU guidelines. Nutrients and characteristics to be analyzed for include Total N, Total Ammonium-N, Total Phosphorus, Total Potassium and percent moisture/dry content. Depending on the type of by-product, the analysis may also include heavy metals and pathogens. The farm documents all by-product exports, including the date(s) and quantities, the recipient's name, address and phone number. Each recipient will receive a copy of applicable nutrient analysis report. The farm has modified nutrient and waste management plans to account for nutrients of by-products being generated. Additional practices may be installed as needed. The farm may continue to export by-products if a demand exists.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Farm

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$108.19	\$108.19
Equipment Installation	\$0.00	\$0.00
Labor	\$409.69	\$409.69
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$517.88	\$517.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 633 - Waste Recycling

Scenario Number: 4

Scenario Name: Import Non-Agricultural By-Products, Land Applied

Scenario Description: A farm has resource concerns about the low soil organic matter content on several fields that are located where a source of municipal green waste may be available. The green municipal waste might contain material such as food or green yard waste and waste from local processing facilities. The farmer agrees to receive waste materials in bulk two times a year, once in the spring and once in the fall. A blended sample of the waste is tested for nutrients and any potential chemicals of concern. It is land applied in such a manner that soil organic matter is enhanced, crop nutrients are available, and soil compaction is minimized. Records of the tested samples and rates of land application are maintained and accounted for in the nutrient management plan.

Before Situation: A farm has several fields with low soil organic matter and is located near a community where the local municipality collects green waste. The farmer is concerned about applying the green waste directly to the fields, that the applied material may tie up nutrients, and possible soil compaction issues from equipment the municipality may use for spreading. Before agreeing to recycle any imported green waste, the farmer wants to ensure the waste material that may be applied is safe and existing soil quality conditions are protected.

After Situation: A farm has low soil organic matter content on several fields and can import non-agricultural green waste material. The farm imports the green waste material that has been chopped and screened for land application. The imported material is briefly stockpiled, for no more than seven days, while a blended sample is tested for nutrient content and any potential chemicals of concern. Based on the results of the tested sample, and in consultation with an agronomist, the waste material is land applied on the agricultural fields. Soil is protected from compaction by applying the waste in an appropriate manner. Records of the sample test and rate of land application in the field are maintained and used to adjust fertilizer application rates and to prevent crop nutrient tie-up resulting from increased carbon in the soil. The green waste recycling activity on the farm is documented and included in the nutrient management plan records.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Ton

Scenario Unit: Ton

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$108.19	\$5.41
Equipment Installation	\$0.00	\$0.00
Labor	\$316.50	\$15.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$424.69	\$21.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 63

Scenario Name: Wastewater Catchment with Piping, Base Cost

Scenario Description: Installation for a wastewater collection system that includes materials and structures to collect a liquid such as silage leachate, lot runoff and other contaminated liquid effluent which is then transferred through a low-pressure conduit to the waste storage structure. The transfer conduit consists of the pipe plus the inlet structure connection and all other fittings, trench excavation and backfill, labor and equipment for installation. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns as it is not efficient in transporting the waste to the storage. The site has a change in elevation between production area and treatment or storage structure that is adequate to provide sufficient head for a gravity flow conduit to transport the slurry waste liquid stream.

After Situation: Install a transfer system of a precast collection hopper with a watertight pipe that will flow to an outlet at the site of manure treatment or storage. This scenario includes the collection hopper, pipe, inlet, outlet, couplers and all other fittings, trench excavation, pipe bedding and backfill. The site should be evaluated by the designing engineer to make sure there is adequate elevation drop before contracting.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$15,992.22	\$15,992.22
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$15,992.22	\$15,992.22

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 64

Scenario Name: Wastewater Catchment with Piping, Implementation Cost

Scenario Description: Installation for a wastewater collection system that includes materials and structures to collect a liquid such as silage leachate, lot runoff and other contaminated liquid effluent which is then transferred through a low-pressure conduit to the waste storage structure. The transfer conduit consists of the pipe plus the inlet structure connection and all other fittings, trench excavation and backfill, labor and equipment for installation. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns as it is not efficient in transporting the waste to the storage. The site has a change in elevation between production area and treatment or storage structure that is adequate to provide sufficient head for a gravity flow conduit to transport the slurry waste liquid stream.

After Situation: Install a transfer system of a precast collection hopper with a watertight pipe that will flow to an outlet at the site of manure treatment or storage. This scenario includes the collection hopper, pipe, inlet, outlet, couplers and all other fittings, trench excavation, pipe bedding and backfill. The site should be evaluated by the designing engineer to make sure there is adequate elevation drop before contracting.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Storage

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.37	\$2.37
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.37	\$2.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 65

Scenario Name: Wastewater Collection Basin, Base Cost

Scenario Description: Installation for a wastewater collection and transfer system that includes materials and structures to collect liquids such as silage leachate, lot runoff and other contaminated effluent. This may include curbs, screens, precast manholes, sumps or catch basins. The wastewater will typically be transferred from the collection basin to a treatment area or a waste storage facility through a gravity or low-pressure flow conduit. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Inadequate storage is available to collect wastewater from an operation that may contaminate surface or groundwater resources. The liquids contain few solids or limited solids that can be easily screened out without blocking the collection intake.

After Situation: This practice scenario is suitable where the estimated design volume for wastewater transfer of contaminated liquid that may flow from silage bunkers or animal lot areas after a precipitation event. The practice scenario typically includes materials and installation of flat and formed concrete for curbs and/or gutters to collect liquids. The transfer basin is a catch basin with appurtenances such as manhole with lid of catchment cover that is piped to storage. The cost includes excavation, placement of bedding as needed, placement of structure and backfill with construction of concrete inlet collection area. May include some minimal piping but significant piping should use the scenario for wastewater catchment with piping.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Storage

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,523.98	\$11,523.98
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,523.98	\$11,523.98

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 66

Scenario Name: Wastewater Collection Basin, Implementation Cost

Scenario Description: Installation for a wastewater collection and transfer system that includes materials and structures to collect liquids such as silage leachate, lot runoff and other contaminated effluent. This may include curbs, screens, precast manholes, sumps or catch basins. The wastewater will typically be transferred from the collection basin to a treatment area or a waste storage facility through a gravity or low-pressure flow conduit. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Inadequate storage is available to collect wastewater from an operation that may contaminate surface or groundwater resources. The liquids contain few solids or limited solids that can be easily screened out without blocking the collection intake.

After Situation: This practice scenario is suitable where the estimated design volume for wastewater transfer of contaminated liquid that may flow from silage bunkers or animal lot areas after a precipitation event. The practice scenario typically includes materials and installation of flat and formed concrete for curbs and/or gutters to collect liquids. The transfer basin is a catch basin with appurtenances such as manhole with lid of catchment cover that is piped to storage. The cost includes excavation, placement of bedding as needed, placement of structure and backfill with construction of concrete inlet collection area. May include some minimal piping but significant piping should use the scenario for wastewater catchment with piping.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Storage

Scenario Unit: Gallon

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1.64	\$1.64
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1.64	\$1.64

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 69

Scenario Name: Concrete Channel, Base Cost

Scenario Description: Installation of a concrete channel that consists of a slab with curb and footing on each side of the slab for the entire length of the channel to enable the facility manager to direct liquid waste to an existing collection basin and/or waste storage facility. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.

After Situation: A concrete channel that is installed for the purpose of transferring liquids or manure slurry from one area to an existing collection basin or waste storage facility. Includes safety chain for equipment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,483.66	\$1,483.66
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,483.66	\$1,483.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 70

Scenario Name: Concrete Channel, Implementation Cost

Scenario Description: Installation of a concrete channel that consists of a slab with curb and footing on each side of the slab for the entire length of the channel to enable the facility manager to direct liquid waste to an existing collection basin and/or waste storage facility. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.

After Situation: A concrete channel that is installed for the purpose of transferring liquids or manure slurry from one area to an existing collection basin or waste storage facility. Includes safety chain for equipment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yards of Concrete

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$578.18	\$578.18
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$578.18	\$578.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 71

Scenario Name: HDPE Pipe, Base Cost

Scenario Description: Gravity flow watertight HDPE sanitary sewer pipe used to transfer manure by gravity from one location to another. The pipe conveys the slurry waste liquid between the waste collection point and a manure storage or waste treatment structure. This practice includes the pipe attachment to an existing inlet structure and all other fittings, trench excavation and backfill, labor and a equipment for installation. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns. The site of waste collection or structure has the capacity to install a pumping plant but needs a pipeline to transfer the liquid manure slurry under low pressure from the collection site to the treatment or storage structure.

After Situation: A watertight HDPE pipe is installed to transfer manure by gravity from one location to another. A gravity transfer system typically consists of a sealed inlet at an existing waste collection structure to a smooth interior sewer grade pipe that will gravity flow to an outlet at a site of manure treatment or storage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each System

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,630.23	\$5,630.23
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,630.23	\$5,630.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 72

Scenario Name: HDPE Pipe, Implementation Cost

Scenario Description: Gravity flow watertight HDPE sanitary sewer pipe used to transfer manure by gravity from one location to another. The pipe conveys the slurry waste liquid between the waste collection point and a manure storage or waste treatment structure. This practice includes the pipe attachment to an existing inlet structure and all other fittings, trench excavation and backfill, labor and equipment for installation. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns. The site of waste collection or structure has the capacity to install a pumping plant but needs a pipeline to transfer the liquid manure slurry under low pressure from the collection site to the treatment or storage structure.

After Situation: A watertight HDPE pipe is installed to transfer manure by gravity from one location to another. A gravity transfer system typically consists of a sealed inlet at an existing waste collection structure to a smooth interior sewer grade pipe that will gravity flow to an outlet at a site of manure treatment or storage.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pounds of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3.52	\$3.52
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3.52	\$3.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 73

Scenario Name: PVC Pipe, Base Cost

Scenario Description: Low pressure flow conduit is typically a PVC pipeline used to transfer wastewater or manure slurry by pumping from one production location to a storage or treatment location. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns. The site of waste collection or structure has the capacity to install a pumping plant but needs a pipeline to transfer the liquid manure slurry under low pressure from the collection site to the treatment or storage structure.

After Situation: A low-pressure wastewater pipeline in installed to transfer wastewater or manure slurry from one location to another. The low-pressure flow situation refers to pipe flow that has an unrestricted outlet and low pumping head pressure. A pumping plant will send the liquid through a pipe inlet at an existing waste collection basin to transfer to an outlet at the wastewater treatment or storage site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each System

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,508.76	\$3,508.76
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,508.76	\$3,508.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 74

Scenario Name: PVC Pipe, Implementation Cost

Scenario Description: Low pressure flow conduit is typically a PVC pipeline used to transfer wastewater or manure slurry by pumping from one production location to a storage or treatment location. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: An area of waste production is separated from the waste storage facility and current operations may cause water quality concerns. The site of waste collection or structure has the capacity to install a pumping plant but needs a pipeline to transfer the liquid manure slurry under low pressure from the collection site to the treatment or storage structure.

After Situation: A low-pressure wastewater pipeline in installed to transfer wastewater or manure slurry from one location to another. The low-pressure flow situation refers to pipe flow that has an unrestricted outlet and low pumping head pressure. A pumping plant will send the liquid through a pipe inlet at an existing waste collection basin to transfer to an outlet at the wastewater treatment or storage site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Pounds of Pipe

Scenario Unit: Pound

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.52	\$2.52
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.52	\$2.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 634 - Waste Transfer

Scenario Number: 115

Scenario Name: Alley Scraper

Scenario Description: This waste transfer method is a component of an agricultural waste management system and includes the installation of an electric powered alley scraper that transfers manure from a lane to a collection basin, channel, or waste storage facility.

Before Situation: Current facility operations have no consistent method of cleaning alleyways or the method is not an efficient method for collecting and transferring waste.

After Situation: Typical installation is a "V" shaped mechanical blade that is dragged over an alley by chain or cable to pull manure to collection channel/basin or waste storage facility.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Scraper System

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$32,620.85	\$32,620.85
Equipment Installation	\$452.18	\$452.18
Labor	\$2,500.56	\$2,500.56
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$36,441.23	\$36,441.23

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 6

Scenario Name: Existing Area, Pod Sprinkler

Scenario Description: This is a permanent herbaceous vegetative area located adjacent to a livestock production area. Wastewater (runoff or milking parlor wastewater) is properly collected at the production area and pumped to mechanically distribute wastewater onto the VTA. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich wastewater that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Typically, does not require grading and shaping to maintain as uniform application onto the VTA is made through a mobile pod type sprinkler system. A settling basin for wastewater collection is contracted using Solid/Liquid Waste Separation Facility (632) and Pumping Plant (533) to get the wastewater to the VTA. The system is sized such that the total number of Pods will distribute wastewater to half of the VTA. The pods will be relocated to distribute wastewater to the other half of the VTA.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Amount of VTA Installed

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$10,317.84	\$5,158.92
Equipment Installation	\$463.28	\$231.64
Labor	\$707.22	\$353.61
Mobilization	\$867.64	\$433.82
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,355.99	\$6,177.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 52

Scenario Name: Graded Area, Gravity Flow

Scenario Description: This is a permanent herbaceous vegetative area or channel installed down slope from a livestock production area. Wastewater (runoff or milking parlor wastewater) is properly collected and released with a controlled gravity outflow into the VTA. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich wastewater that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Typical VTA is 1.0 ac in size, includes a gravel trench for distribution flow (sheet flow) into the VTA. Typically requires grading and shaping, gravel spreader trenches and perforated pipe to maintain sheet flow throughout the VTA. A settling basin for wastewater collection is contracted using Solid/Liquid Waste Separation Facility (632). For milkhouse waste, Waste Treatment (629) could be contracted to provide pre-treatment prior to being released into the VTA. The VTA practice will provide a controlled release of nutrient rich wastewater into a designed vegetative area for nutrient uptake. This system will improve water quality by treating nutrient rich wastewater and prevent contamination of surface and ground water resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Amount of VTA Installed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,874.99	\$3,874.99
Equipment Installation	\$2,097.32	\$2,097.32
Labor	\$1,178.78	\$1,178.78
Mobilization	\$1,954.48	\$1,954.48
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$9,105.57	\$9,105.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 53

Scenario Name: Graded Area, Pump, Gravity Flow

Scenario Description: This is a permanent herbaceous vegetative area or channel located upslope from the livestock production area. The topography of the site requires wastewater to be pumped uphill to the VTA designed system. Wastewater (runoff or milking parlor wastewater) is properly collected at the production area and pumped uphill to a shallow tank or basin where it has a controlled gravity outflow into the VTA. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich wastewater that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Typical VTA is 1.0 ac in size, includes the installation site to be upslope from the production area with a shallow tank or basin that provides a controlled gravity outflow into the VTA. Typically requires grading and shaping, gravel spreader trenches and perforated pipe to maintain sheet flow throughout the VTA. A settling basin for wastewater collection is contracted using Solid/Liquid Waste Separation Facility (632) and Pumping Plant (533) to get the wastewater upslope to the VTA distribution point. For milkhouse waste, Waste Treatment (629) could be contracted to provide pretreatment prior to being released into the VTA. The VTA practice will provide a controlled release of nutrient rich wastewater into a designed vegetative area for nutrient uptake. This system will improve water quality by treating nutrient rich wastewater and prevent contamination of surface and ground water resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Amount of VTA Installed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,756.09	\$4,756.09
Equipment Installation	\$8,455.39	\$8,455.39
Labor	\$1,134.14	\$1,134.14
Mobilization	\$2,173.67	\$2,173.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16,519.29	\$16,519.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 54

Scenario Name: Graded Area, Mechanical Distribution

Scenario Description: This is a permanent herbaceous vegetative area located adjacent to a livestock production area. Wastewater (runoff or milking parlor wastewater) is properly collected at the production area and pumped to mechanically distribute wastewater onto the VTA. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich wastewater that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Typical VTA is 1.0 ac in size, includes the sizing, grading and shaping of the VTA area. Typically requires grading and shaping to maintain sheet flow onto the VTA. A settling basin for wastewater collection is contracted using Solid/Liquid Waste Separation Facility (632) and Pumping Plant (533) to get the wastewater to the VTA mechanical distribution component that is contracted using Irrigation System, Sprinkler (442). For milkhouse waste, Waste Treatment (629) could be contracted to provide pretreatment prior to being pumped and distributed onto the VTA. The VTA practice will provide a controlled release of nutrient rich wastewater into a designed vegetative area for nutrient uptake. This system will improve water quality by treating nutrient rich wastewater and prevent contamination of surface and ground water resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Amount of VTA installed

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,374.27	\$1,374.27
Labor	\$1,065.37	\$1,065.37
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,307.28	\$3,307.28

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 55

Scenario Name: Existing Vegetative Area, Gravity Flow

Scenario Description: An existing permanent herbaceous vegetated area that meets the requirements for a VTA and is used as an overland flow area for nutrient rich runoff treatment. A flow distribution component is installed to achieve sheet flow at the start of the VTA. Clean runoff is diverted where possible. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich runoff that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Typical VTA is 1.0 ac in size, includes gravel trenches and perforated pipe to establish sheet flow into the VTA where an existing permanent herbaceous vegetated area meets the requirements for a VTA. Does not include any grading or seeding. The VTA practice will provide a controlled release of nutrient rich runoff into an existing vegetative area for nutrient uptake. This system will improve water quality by treating nutrient rich runoff and prevent contamination of surface and ground water resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Amount of VTA treating wastewater

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,405.48	\$4,405.48
Equipment Installation	\$4,711.00	\$4,711.00
Labor	\$453.66	\$453.66
Mobilization	\$1,306.02	\$1,306.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,876.16	\$10,876.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 56

Scenario Name: Earthfill, Base Cost

Scenario Description: This is a permanent herbaceous vegetative area or channel installed down slope from a livestock production area. Clean runoff is diverted where possible. The VTA vegetation is harvested to removed nutrients on a regular basis. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Upper topsoil is removed and replaced. Gravel trenches and perforated pipe is included to establish sheet flow into the area.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7,575.53	\$7,575.53
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,575.53	\$7,575.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 57

Scenario Name: Earthfill, Implementation Cost

Scenario Description: This is a permanent herbaceous vegetative area or channel installed down slope from a livestock production area. Clean runoff is diverted where possible. The VTA vegetation is harvested to removed nutrients on a regular basis. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Upper topsoil is removed and replaced. Gravel trenches and perforated pipe is included to establish sheet flow into the area.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Volume of Earthfill

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7.12	\$7.12
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7.12	\$7.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 635 - Vegetated Treatment Area

Scenario Number: 58

Scenario Name: Existing Vegetative Area, Gated Pipe

Scenario Description: An existing permanent herbaceous vegetated area that meets the requirements for a VTA and is used as an overland flow area for nutrient rich runoff treatment. A flow distribution component is installed to achieve sheet flow at the start of the VTA or a fixed sprinkler setup is installed. Clean runoff is diverted where possible. The VTA vegetation is harvested to removed nutrients on a regular basis. This practice addresses water quality degradation due to uncontrolled nutrient rich runoff that can flow into surface waters or leach into ground water.

Before Situation: Nutrient rich wastewater is running off from an animal operation that has the potential to pollute surface waters or ponding and leaching into groundwater.

After Situation: Perforated pipe is used to establish sheet flow into the VTA where an existing permanent herbaceous vegetated area meets the requirements for a VTA. Does not include any grading or seeding. The VTA practice will provide a controlled release of nutrient rich runoff into an existing vegetative area for nutrient uptake.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Foot

Scenario Unit: Square Foot

Scenario Typical Size: 22,500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,555.12	\$0.11
Equipment Installation	\$0.00	\$0.00
Labor	\$226.83	\$0.01
Mobilization	\$867.64	\$0.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,649.59	\$0.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 638 - Water and Sediment Control Basin

Scenario Number: 10

Scenario Name: Water and Sediment Control Basin, Base Cost

Scenario Description: 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. Include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

After Situation: A Water and Sediment Control Basin is constructed of excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,196.50	\$1,196.50
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,196.50	\$1,196.50

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 638 - Water and Sediment Control Basin

Scenario Number: 11

Scenario Name: Water and Sediment Control Basin, Implementation Cost

Scenario Description: 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. Include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport.

After Situation: A Water and Sediment Control Basis is constructed of excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Water and Sediment Control Basin

Scenario Unit: Cubic Yard

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.83	\$2.83
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.83	\$2.83

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 154

Scenario Name: Typical Well, 10 Inch Diameter, Base Cost

Scenario Description: A 10 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,801.59	\$11,801.59
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,801.59	\$11,801.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 155

Scenario Name: Typical Well, 10 Inch Diameter, Implementation Cost

Scenario Description: A 10 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$152.01	\$152.01
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$152.01	\$152.01

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 156

Scenario Name: Typical Well, Four Inch Diameter, Base Cost

Scenario Description: A 4 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,181.08	\$6,181.08
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,181.08	\$6,181.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 157

Scenario Name: Typical Well, Four Inch Diameter, Implementation Cost

Scenario Description: A 4 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$75.40	\$75.40
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$75.40	\$75.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 158

Scenario Name: Typical Well, Six Inch Diameter, Base Cost

Scenario Description: A 6 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,542.07	\$6,542.07
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,542.07	\$6,542.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 159

Scenario Name: Typical Well, Six Inch Diameter, Implementation Cost

Scenario Description: A 6 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$96.45	\$96.45
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$96.45	\$96.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 160

Scenario Name: Typical Well, Eight Inch Diameter, Base Cost

Scenario Description: An 8 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. The base represents a typical cost incurred regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$10,271.93	\$10,271.93
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,271.93	\$10,271.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 161

Scenario Name: Typical Well, Eight Inch Diameter, Implementation Cost

Scenario Description: An 8 inch diameter well is drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer for water supply. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Water quantity or quality for livestock is insufficient, or irrigation is not efficient.

After Situation: A well was installed and supplies sufficient water for livestock or irrigation.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Depth of Well

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$84.35	\$84.35
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$84.35	\$84.35

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 642 - Water Well

Scenario Number: 199

Scenario Name: Dug Well

Scenario Description: Typical construction is for the excavation of a shallow dug well. The purpose of the practice is to provide water for livestock. A typical dug well is 4 foot in diameter and 15 feet in depth. The well is excavated using a backhoe. Excavate to a depth where the water recharge is greater than the equipment can remove. Washed gravel is placed in the base of the dug opening. Concrete manhole risers are installed to hold the water. Pea gravel is placed above the washed gravel to transition to the earth backfill. The hole is backfilled and sloped to direct surface water away from entering the manhole cover.

Before Situation: Livestock have insufficient water or are fenced from their water source.

After Situation: Sufficient water is available for livestock. Utilize Pumping Plant (533) and Pipeline (516) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: No.

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$16,993.91	\$16,993.91
Equipment Installation	\$950.10	\$950.10
Labor	\$704.09	\$704.09
Mobilization	\$867.64	\$867.64
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,515.74	\$19,515.74

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 643 - Restoration of Rare or Declining Natural Communities

Scenario Number: 56

Scenario Name: Beaver Dam Analogues or Post-Assisted Log Structures

Scenario Description: Installation of low-tech woody structures (Beaver Dam Analogues (BDAs) or Post-Assisted Log Structures (PALS)) to facilitate process-based restoration in perennial, intermittent, or ephemeral streams and riparian areas. The structures are low, semi-permeable, and hand-built using native materials (wood, sod, etc.). Untreated wooden fence posts are added for extra stability, where necessary. Structures mimic the function of natural beaver dams and wood accumulation in streams by reducing water velocities, raising water tables, enhancing floodplain connectivity, and inducing other dynamic ecological and hydrogeomorphic processes. Typically, complexes consisting of multiple structures within reach are used to meet project objectives.

Before Situation: Degraded stream channel and associated riparian/mesic/wetland vegetation are impaired by lack of structural complexity, channel incision, reduced floodplain connectivity, or inadequate habitat features. Extent of potential riparian/mesic/wetland vegetation is reduced due to lack of floodplain inundation or low water table. Channel condition/complexity is insufficient to permit proper hydrologic function, vegetation maintenance/recovery, or to support desired fish and wildlife habitat.

After Situation: Low-tech structures mimic and promote ecological and physical processes that foster recovery of streams, riparian areas, wet meadows, or aquatic ecosystems. Channel complexity is increased and condition improved by promoting riparian/mesic/wetland vegetation expansion, reconnecting floodplains, and increasing habitat structure for fish and wildlife. Additional treatments may be needed through time until ecosystem is self-sustaining.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet

Scenario Unit: Linear Foot

Scenario Typical Size: 400.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,312.31	\$10.78
Equipment Installation	\$2,592.66	\$6.48
Labor	\$12,436.72	\$31.09
Mobilization	\$219.19	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,560.88	\$48.90

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 643 - Restoration of Rare or Declining Natural Communities

Scenario Number: 162

Scenario Name: Habitat Monitoring and Management, Medium Intensity and Complexity

Scenario Description: This scenario is applied to all landuse 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. Two or 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.

Before Situation: Rare or declining habitat is deficient due to the absence of annual monitoring and adaptive management actions of medium intensity and complexity.

After Situation: Rare or declining habitat is improved by implementation of annual adaptive management actions of medium intensity and complexity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Monitoring efforts and adaptive management actions

Scenario Unit: Acre

Scenario Typical Size: 160.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$651.68	\$4.07
Labor	\$1,842.14	\$11.51
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,493.82	\$15.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 644 - Wetland Wildlife Habitat Management

Scenario Number: 26

Scenario Name: Establishment of Seasonal Wildlife Forage or Cover 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 will occur on areas supporting perinneal herbaceous vegetaion, not currently in cropland. Due to existing dense vegetation, these area 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 forage. A seedmix consisting of annuals is typical for this activity.

Before Situation: The existing habitat has an excess of herbaceous perineal habitat suitable for cover, but is lacking high quality forage seasonal forage, or the cover conditions is too thick and establishment of annuals create a diverse cover condition for the target wildlife species.

After Situation: The availability of high-quality seasonal forage for the target wildlife species is provided and target wildlife health is improved, and populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$787.78	\$78.78
Equipment Installation	\$1,096.03	\$109.60
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,883.81	\$188.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 644 - Wetland Wildlife Habitat Management

Scenario Number: 45

Scenario Name: Management and Monitoring on Idled Cropland for Wetland Wildlife, Foregone Income - Level 1 (Years Two Through Five)

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 and forage sources. Where this occurs on cropped fields, annual crops will be lost for one growing season (foregone income is included).

Before Situation: Setting is any prairie pothole. The wetlands must be wholly or partially in cropland. These wetlands are currently cropped, and hydrology has or could be diverted from the wetland by way of tiling, field or road ditching, diking or any other feature that removes wetland hydrology. These wetter or more water saturated portions of cropland fields have the potential to produce a significant amount of moist soil plants which are valuable source of forage and cover for many waterfowl, shorebird and wading bird species. Under normal cropland production, the native vegetation is restricted on these sites through mechanical and/or chemical control. The current system provides little to no wildlife habitat with habitat limiting factors such as quality, quantity and continuity of forage, cover, shelter and space being identified. Drainage could also result in inadequate wildlife water and inadequate habitat.

After Situation: The planning unit is adequately covered with permanent and/or 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 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$15.47	\$7.73
Labor	\$111.66	\$55.83
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$339.00	\$169.50
Risk	\$0.00	\$0.00
Total	\$466.12	\$233.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 644 - Wetland Wildlife Habitat Management

Scenario Number: 105

Scenario Name: Habitat Monitoring and Management, Medium Intensity and Complexity

Scenario Description: This scenario is applied to wetland areas located on all landuse 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 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 provide access for monitoring and management.

Before Situation: Wetland wildlife habitat is deficient due to the absence of annual monitoring and adaptive management actions of medium intensity and complexity.

After Situation: wetland wildlife habitat is improved by implementation of annual adaptive management actions of medium intensity and complexity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Monitoring efforts and adaptive management actions

Scenario Unit: Acre

Scenario Typical Size: 160.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$651.68	\$4.07
Labor	\$1,842.14	\$11.51
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,493.82	\$15.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 644 - Wetland Wildlife Habitat Management

Scenario Number: 109

Scenario Name: Establishment of Annuals for Wildlife on Cropland, without Foregone Income

Scenario Description: The habitat assessment identified the need to provide seasonal forage or cover for target wildlife species or guild. This identified habitat need will be met through the establishment of annual vegetation by planting of seed. This typical scenario is that this activity will occur on cropland, but outside of the normal cropping season. Thus, income will not be foregone. Seed bed preparation will be furthered by firming the seed bed by cultipacking the site. The only fertilizer need is N as this is cropland and P and K levels are sufficient.

Before Situation: Cropland that fails to provide adequate wildlife habitat (forage and/or cover) seasonnally for the target wildlife species..

After Situation: The availability of high-quality seasonal forage for the target wildlife species is provided and target wildlife health and populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$708.71	\$70.87
Equipment Installation	\$597.47	\$59.75
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,306.18	\$130.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 644 - Wetland Wildlife Habitat Management

Scenario Number: 110

Scenario Name: Establishment of Annual Vegetation on Cropland, Foregone Income

Scenario Description: The typical scenario is applied on cropped wetlands (cropland). The habitat assessment identified the lack of wildlife forage or cover during the same season of year as crops are grown. In response to the need to provide wetland dependent wildlife needed forage or cover during the cropping season, annual wildlife forages will be planted on cropland for one year, in lieu of the traditional cash crop. Seedbed preparation is limited to one light disking and cultipacking. The only fertilizer need is a light application of N as cropland P and K levels are sufficient. These wildlife forages and/or seasonal cover are planted in lieu of the cash crop, such as a corn and soybean rotation. Thus, income from the traditional cash crop will be foregone for the year.

Before Situation: The existing habitat is cropland, lacking high quality forage for cover during the cropping season.

After Situation: Annual wildlife forages are planted in lieu of a cash crop. Target wildlife health is improved and local populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$683.81	\$68.38
Equipment Installation	\$597.47	\$59.75
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,454.28	\$245.43
Risk	\$0.00	\$0.00
Total	\$3,735.56	\$373.56

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 645 - Upland Wildlife Habitat Management

Scenario Number: 32

Scenario Name: Establishment of Seasonal Wildlife Forage or Cover on Cropland, without Foregone Income

Scenario Description: This typical scenario occurs on cropland. The habitat assessment identified 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 food plants or cover plants by planting of seed. The typical scenario for seasonal forage or cover will be established outside of crop season, thus FI is not needed. Seedbed preparation (light tillage) will be furthered by firming the seed bed by cultipacking the site. The only fertilizer need is N as this is cropland and P and K levels are sufficient. Cropland, so mobilization of equipment not needed.

Before Situation: Cropland that fails to provided food or cover for target species at the proper location and season to meet the needs of wildlife.

After Situation: The availability of high-quality seasonal forage or seasonal cover for the target wildlife species is provided. Target wildlife health is improved and populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$708.71	\$70.87
Equipment Installation	\$597.47	\$59.75
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,306.18	\$130.62

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 645 - Upland Wildlife Habitat Management

Scenario Number: 33

Scenario Name: Establishment of Seasonal Forage or Cover for Wildlife on Cropland, Foregone Income

Scenario Description: The habitat assessment identified the need to provide seasonal forage or cover for target wildlife species or guild. This habitat needs will be met through the establishment of annuals by planting of seed. The typical scenario is for cropland. Seed bed preparation is limited to one light disking, furthered by firming the seed bed by cultipacking the site. The only fertilizer need is N as this is cropland and P and K levels are sufficient. These wildlife forages or seasonal cover will be available for wildlife during the cropping season, and are in lieu of the cash crops typically planted on the field. Thus, income from the cash crop will be foregone for a year.

Before Situation: Cropland does not provide forage or cover needed for wildlife during the season on dearth.

After Situation: Annual wildlife forages are planted in lieu of a cash crop. Target wildlife health is improved and populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$708.71	\$70.87
Equipment Installation	\$505.77	\$50.58
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$2,454.28	\$245.43
Risk	\$0.00	\$0.00
Total	\$3,668.77	\$366.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 645 - Upland Wildlife Habitat Management

Scenario Number: 308

Scenario Name: Habitat Monitoring and Management, Medium Intensity and Complexity

Scenario Description: This scenario is applied to all landuse 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 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 provide access for monitoring and management.

Before Situation: Wildlife habitat is deficient due to the absence of annual monitoring and adaptive management actions of medium intensity and complexity.

After Situation: Wildlife habitat is improved by implementation of annual adaptive management actions of medium intensity and complexity.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Monitoring efforts and adaptive management actions

Scenario Unit: Acre

Scenario Typical Size: 160.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$651.68	\$4.07
Labor	\$1,842.14	\$11.51
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,493.82	\$15.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 645 - Upland Wildlife Habitat Management

Scenario Number: 439

Scenario Name: 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 on herbaceous areas, not currently in cropland. Due to existing dense vegetation, these area 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..

Before Situation: The existing habitat has an excess of herbaceous perineal habitat, but is lacking high-quality seasonal forage, or the existing cover is too dense and cover conditions found in annual plant communities are absent.

After Situation: The availability of high-quality seasonal forage, or cover condition common in annual plant communities is provided and target wildlife health and populations are increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: acre

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,669.83	\$266.98
Equipment Installation	\$1,096.03	\$109.60
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,765.86	\$376.59

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 646 - Seasonal Water Management for Wildlife

Scenario Number: 3

Scenario Name: Capture Water, High Labor Inputs Required for Management

Scenario Description: The planning unit is located where water can be captured/collected without the need for mechanized pumping. Existing infrastructure (e.g. water control structure, dike, etc.) is in place and adequate or is planned to be installed prior to implementation of this practice. Water can be diverted from a drainage system or other adequate source (e.g. overland flow). A high-level of management is required due to site characteristics (e.g. high level of beaver activity, inefficient water control structures, etc.). Can be applied to any land use, where flooding for target species is feasible and has been identified as a primary planning objective.

Before Situation: Seasonal inundation is not occurring or is not occurring at the appropriate time of year or for the needed duration of time. As a result, critical habitat components needed to provide specific lifecycle requirements are unavailable or inadequate for target species of wildlife. Infrastructure needed to retain water is in place and functionally adequate or will be installed prior to implementation of this practice.

After Situation: Seasonal inundation with water is now occurring for the required depth, duration and at the appropriate time of year. Identified habitat elements for target species are present as a result. A depth gauge has been installed in a location that is easily visible and representative of the planning unit. Water depth is monitored and maintained regularly to ensure planning requirements are met. Water control structures are also monitored and adjusted, as needed, to maintain the planned depth over the majority of the planning unit. Infrastructure is maintained and functioning. Water depth is documented as described in the conservation plan, typically once weekly. Draw down of water begins as described in the conservation plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Inundation

Scenario Unit: Acre

Scenario Typical Size: 75.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$165.13	\$2.20
Equipment Installation	\$738.12	\$9.84
Labor	\$2,807.28	\$37.43
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,710.53	\$49.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 646 - Seasonal Water Management for Wildlife

Scenario Number: 4

Scenario Name: Capture Water, Low Labor Inputs Required for Management

Scenario Description: The planning unit is located where water can be captured/collected without the need for mechanized pumping. Existing infrastructure (e.g. water control structure, dike, etc.) is in place and adequate or is planned to be installed prior to implementation of this practice. Water can be diverted from a drainage system or other adequate source (e.g. overland flow). A low-level of management is required due to site characteristics (e.g. no noticeable beaver activity). Can be applied to any land use, where flooding for target species is feasible and has been identified as a primary planning objective.

Before Situation: Seasonal inundation is not occurring or is not occurring at the appropriate time of year or for the needed duration of time. As a result, critical habitat components needed to provide specific lifecycle requirements are unavailable or inadequate for target species of wildlife. Infrastructure needed to retain water is in place and functionally adequate or will be installed prior to implementation of this practice.

After Situation: Seasonal inundation with water is now occurring for the required depth, duration and at the appropriate time of year. Identified habitat elements for target species are present as a result. A depth gauge has been installed in a location that is easily visible and representative of the planning unit. Water depth is monitored and maintained regularly to ensure planning requirements are met. Water control structures are also monitored and adjusted, as needed, to maintain the planned depth over the majority of the planning unit. Infrastructure is maintained and functioning. Water depth is documented as described in the conservation plan, typically once weekly. Draw down of water begins as described in the conservation plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Inundation

Scenario Unit: Acre

Scenario Typical Size: 75.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$165.13	\$2.20
Equipment Installation	\$246.04	\$3.28
Labor	\$1,680.16	\$22.40
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,091.32	\$27.88

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 646 - Seasonal Water Management for Wildlife

Scenario Number: 5

Scenario Name: Pump Water, High Labor Inputs Required for Management

Scenario Description: The planning unit is located where water can be pumped into and held onsite with existing or planned infrastructure (e.g. water control structure, dike, etc.). This is accomplished by diverting water from a drainage system or other adequate water source into the planning unit with mechanical pumps. A high-level of management is required due to site characteristics (e.g. high level of beaver activity, inefficient water control structures, etc.). Can be applied to any land use, where flooding for target species is feasible and has been identified as a primary planning objective.

Before Situation: Seasonal inundation is not occurring, or is not occurring at the appropriate time of year or for the needed duration of time. As a result, critical habitat components needed to provide specific lifecycle requirements for target species are unavailable or inadequate. Infrastructure needed to retain water is in place and functionally adequate or will be installed prior to implementation of this practice.

After Situation: Seasonal inundation with water is now present for the required duration and at the appropriate time and provides critical habitat elements for target species. A depth gauge has been installed in a location that is visible and representative of the site. Water depth is monitored and maintained regularly to ensure planning requirements are met. Water control structures are also monitored and adjusted, as needed, to maintain planned depth over the majority of the planning unit. Pumps and other infrastructure are maintained and functioning. Water depth is documented as described in the conservation plan, typically twice weekly. Draw down of water begins as described in the conservation plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Inundation

Scenario Unit: Acre

Scenario Typical Size: 75.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$165.13	\$2.20
Equipment Installation	\$984.17	\$13.12
Labor	\$3,147.52	\$41.97
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,296.81	\$57.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 646 - Seasonal Water Management for Wildlife

Scenario Number: 6

Scenario Name: Pump Water, Low Labor Inputs Required for Management

Scenario Description: The planning unit is located where water can be pumped into and held onsite with existing or planned infrastructure (e.g. water control structure, dike, etc.). This is accomplished by diverting water from a drainage system or other adequate water source into the planning unit with mechanical pumps. A low-level of management is required due to site characteristics (e.g. no noticeable beaver activity). Can be applied to any land use, where flooding for target species is feasible and has been identified as a primary planning objective.

Before Situation: Seasonal inundation is not occurring or is not occurring at the appropriate time of year or for the needed duration of time. As a result, critical habitat components needed to provide specific lifecycle requirements for target species are unavailable or inadequate. Infrastructure needed to retain water is in place and functionally adequate or will be installed prior to implementation of this practice.

After Situation: Seasonal inundation with water is now present for the required duration and at the appropriate time and provides critical habitat elements for target species. A depth gauge has been installed in a location that is visible and representative of the site. Water depth is monitored and maintained regularly to ensure planning requirements are met. Water control structures are also monitored and adjusted, as needed, to maintain planned depth over the majority of the planning unit. Pumps and other infrastructure are maintained and functioning. Water depth is documented as described in the conservation plan, typically twice weekly. Draw down of water begins as described in the conservation plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Inundation

Scenario Unit: Acre

Scenario Typical Size: 75.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$165.13	\$2.20
Equipment Installation	\$492.08	\$6.56
Labor	\$2,467.04	\$32.89
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,124.25	\$41.66

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 646 - Seasonal Water Management for Wildlife

Scenario Number: 7

Scenario Name: Pump Water on Cropland for Fish, Continual Flow of Water

Scenario Description: Floodplain, wetlands, and off-channel rearing habitat for fish species has been significantly altered through urbanization and ag production. Holding water in rice fields during critical rearing periods has shown increased fish growth, survival, and production of valuable food resources for fish species. Incorporating standing or pooled water at the appropriate depth and duration will provide critical lifecycle needs. Following crop harvest, containment levees are evaluated and, when needed, fortified with a tractor or small tracked machine. Field conditions are managed for fish access (ingress and egress) prior to sites being seasonally flooding through pumping, collection of precipitation, and ground water seepage. Required depth of inundation should be defined in the conservation plan and maintained over the majority of the planning unit for the required duration of time. Monitoring of abiotic parameters, water depth, and adjustment of the water control structures frequently occurs and is used to meet specific depth and duration requirements. This high-level management is applied to lands used for rice production, where flooding for target species has been identified as a primary concern.

Before Situation: The planning unit is located on cropland. Fish species do not have access to critical off-channel food resources and rearing habitat. As a result, critical habitat components needed to provide specific lifecycle requirements for target species are unavailable or inadequate. Existing water control structures typically do not allow for adequate ingress/egress and need to be modified. Agricultural operations often leave existing levees with minor damage that will be addressed to ensure water can be contained for the required depth and duration.

After Situation: Seasonal standing water is now present and provides critical habitat elements for target species. A depth gauge has been installed in a location that is visible and representative of the site. Water quality (temperature and dissolved oxygen) and depth is monitored and maintained regularly to ensure planning requirements are met. Water is continually pumped through the system to ensure required water quality parameters are met. Water control structures have been modified (e.g. riser boards drilled to enable fish to pass) and are monitored and adjusted, as needed, to maintain planned depth and ensure safe passage conditions. Draw down of water will begin as described in the conservation plan.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres of Inundation

Scenario Unit: Acre

Scenario Typical Size: 125.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,037.54	\$16.30
Equipment Installation	\$2,740.61	\$21.92
Labor	\$7,205.71	\$57.65
Mobilization	\$1,910.44	\$15.28
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,894.29	\$111.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 647 - Early Successional Habitat Development-Mgt

Scenario Number: 1

Scenario Name: Mowing

Scenario Description: This scenario addresses inadequate habitat for fish and wildlife where succession is set back by mowing short, herbaceous vegetation prior to using another treatment, to create early successional habitat (disking, herbicide application, etc.). Mowing can be used to increase structural diversity by creating areas of shorter vegetation preferred by some species or during certain life stages of species. The typical setting for this scenario is at the edge of crop fields, in pastures, at the edge of woodlands or brushy areas, and in odd areas such as pivot corners. Where additional chemical control of weeds, including invasives grasses, is required to reduce competition for the desired plant community, conservation practice 315, herbaceous weed control, should be used. Where the seedbank is inadequate for natural regeneration and seeding is required, use conservation practice 327, Conservation Cover, or 550, Range Planting. Where the need is to create early successional habitat within or at the edge of a woodland or forest use conservation practice 666, forest stand improvement, to remove trees.

Before Situation: The site is static or trending to a later successional plant community. The disturbance regime to maintain an earlier successional plant community is lacking. Pastures are often monotypic, lacking in diversity. Competition for sunlight from dense grass stands prevents seedling establishment. Stands are often dense and inhibit the movements of young wildlife such as game bird chicks. Area lacks diversity in the height of vegetation.

After Situation: Early successssional habitat created or maintained. Mowing has provided more sunlight for forb establishment or has prepared the site for another treatment (disking, herbicide application, etc.). Typically, mowing, by itself, is not an effective tool for the creation of early successional habitat unless the site already contains features such as bare ground, low litter, above average diversity of forbs, etc. The heterogeneity of the habitat structure has been increased.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: width and length of treated area

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$107.38	\$5.37
Labor	\$158.48	\$7.92
Mobilization	\$364.47	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$630.33	\$31.52

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 647 - Early Successional Habitat Development-Mgt

Scenario Number: 2

Scenario Name: Disking

Scenario Description: This practice addresses inadequate wildlife habitat for species requiring early successional habitat. This scenario provides early successional habitat by setting back succession and manipulating species composition by disking vegetation and creating bare ground. The typical setting for this scenario 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, or 666, forest stand improvement, 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 control, should be used. Where the seedbank is inadequate for natural regeneration and planting is required, use conservation practice 550, range seeding, or 327, Conservation Cover. Where the need is to create early successional habitat within or at the edge of woodland or forest, use conservation practice 666, forest stand improvement, to remove trees.

Before Situation: The site is static or trending to higher successional plant species. The disturbance regime to maintain a lower successional stage is lacking. Pastures are often monotypic, lacking in diversity. Bare ground for seedling establishment is absent. Stands are often dense and inhibit the movements of younger wildlife species such as game bird chicks.

After Situation: The application of this scenario improves wildlife habitat for species requiring early successional plant 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 plant community that allows chicks to negotiate the terrain and exploit those food resources.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: width and length of treated area

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$740.50	\$37.03
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,104.97	\$55.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 5

Scenario Name: Escape Ramp

Scenario Description: Retrofit an existing watering trough/tank with an appropriately designed and installed wildlife escape ramp to reduce wildlife mortality and maintain water quality within the watering facility. The typical size range for this scenario is 4 watering facilities retrofitted to include an escape ramp (2 ramps per tank).

Before Situation: Existing watering facilities lack escape potential for wildlife. This results in death of the small wildlife accessing the facility for water, and resulting poor water quality as the animal decays.

After Situation: Watering facilities provide wildlife safe access. Water quality is improved within the watering facility and wildlife mortality is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each Ramp

Scenario Unit: Each

Scenario Typical Size: 8.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$618.53	\$77.32
Equipment Installation	\$0.00	\$0.00
Labor	\$141.77	\$17.72
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$760.30	\$95.04

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 6

Scenario Name: 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.

Before Situation: Wire fences located in high risk areas pose a collision threat to wildlife of special concern.

After Situation: Fence related mortality of species of special concern is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: feet of fence marked

Scenario Unit: Foot

Scenario Typical Size: 5,280.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,274.67	\$0.24
Equipment Installation	\$41.01	\$0.01
Labor	\$56.71	\$0.01
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,372.38	\$0.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 7

Scenario Name: Brush Pile, Small

Scenario Description: Small brush piles are created to provide shrubby/woody escape cover for wildlife. Branches, limbs, and/or rocks are layered together to create a small brush pile approximately 5 to 6 feet in diameter and piled 4 to 6 feet high.

Before Situation: The existing habitat lacks escape, ground nesting and safe loafing cover.

After Situation: Small brush piles provide needed escape, ground nesting and safe loafing cover for targeted wildlife species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: brush piles

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$28.26	\$28.26
Labor	\$15.85	\$15.85
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$44.11	\$44.11

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 8

Scenario Name: Brush Pile, Large

Scenario Description: Large brush piles are created to provide shrubby/woody escape cover for wildlife. Rocks or logs are placed in an overlapping pattern to provide a foundation approximately 10 to 12 feet in diameter and woody branches and limbs are piled 5 to 10 feet high to create the brush pile.

Before Situation: The existing habitat lacks escape, ground nesting and safe loafing cover.

After Situation: Large brush piles provide needed escape, ground nesting and safe loafing cover for targeted wildlife species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: brush piles

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$66.78	\$66.78
Labor	\$116.76	\$116.76
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$183.53	\$183.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 51

Scenario Name: 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 and are designed to meet targeted species biology and life history needs.

Before Situation: The area lacks sufficient overall habitat conditions to support viable populations of targeted species. A suitable location to mount the box is available. Predator guards not needed.

After Situation: The installation of nesting and rearing boxes support the life-cycle needs of targeted species, such as birds, bats and pollinators. 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of structures.

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$114.10	\$114.10
Equipment Installation	\$0.00	\$0.00
Labor	\$14.18	\$14.18
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$128.27	\$128.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 54

Scenario Name: Fence Retrofit for Wildlife

Scenario Description: A quarter mile section of fence wires is replaced with wildlife friendly wires in any 3 or 4 strand configuration that meets the state's spacing requirements for wildlife. As part of the retrofit, vinyl markers are installed to make the fence wires visible to wildlife.

Before Situation: Fences do not meet wildlife friendly criteria and are causing direct mortality to migratory wildlife based on a wildlife habitat assessment.

After Situation: Fences meet wildlife friendly criteria and allow wildlife safe passage through the area addressing the resource concern for terrestrial wildlife habitat and reducing animal mortality.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet

Scenario Unit: Linear Foot

Scenario Typical Size: 1,320.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,355.41	\$1.03
Equipment Installation	\$139.14	\$0.11
Labor	\$907.31	\$0.69
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,401.86	\$1.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 649 - Structures for Wildlife

Scenario Number: 58

Scenario Name: Snag Creation

Scenario Description: A standing dead snag is created using a chainsaw to girdle a live tree. Herbicide may be injected into the cut to help facilitate the snag creation.

Before Situation: The planning unit lacks critical habitat features for target wildlife species such as cavities for nesting birds or loose bark for roosting bats.

After Situation: Standing dead trees decay and provide habitat features for target wildlife species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Each

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3.38	\$3.38
Labor	\$13.24	\$13.24
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$16.63	\$16.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 655 - Forest Trails and Landings

Scenario Number: 141

Scenario Name: Temporary Stream Crossing

Scenario Description: The design and installation of a temporary stream crossing that protects resource concerns and provides access to forestland to perform management activates and install conservation practices. Crossings should be removed when the activity is completed, restored, and stabilized to natural conditions. Wooden construction mats may be used.

Before Situation: Forestland cannot be accessed for management activities and the installation of conservation practices due to the lack of a suitable stream crossing. The improperly designed and installed stream crossing have adverse effects on natural resources.

After Situation: A stream crossing was designed and installed that provides access for management activities and the installation of conservation practices. The crossing has been removed, and the site is stabilized and restored to natural conditions.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square foot of crossing

Scenario Unit: Square Foot

Scenario Typical Size: 240.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$624.13	\$2.60
Equipment Installation	\$641.48	\$2.67
Labor	\$546.28	\$2.28
Mobilization	\$1,910.44	\$7.96
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,722.32	\$15.51

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 656 - Constructed Wetland

Scenario Number: 4

Scenario Name: Constructed Wetland, Base Cost

Scenario Description: Basic earthwork and native and/or organic wetland vegetation to create a constructed wetland to treat contaminated agricultural runoff, effluent from a drainage system high in nutrients, or contaminated water from a confined animal facility. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Contaminated agricultural runoff, tile drainage water, or water from confined livestock facility causes excess ponding and/or water quality degradation.

After Situation: A wetland is constructed to treat effluent by reducing excess nutrients and adding oxygen through wetland plants and functions before the effluent is transported to a waste storage facility or discharged off site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,833.45	\$1,833.45
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,833.45	\$1,833.45

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 656 - Constructed Wetland

Scenario Number: 5

Scenario Name: Constructed Wetland, Implementation Cost

Scenario Description: Basic earthwork and native and/or organic wetland vegetation to create a constructed wetland to treat contaminated agricultural runoff, effluent from a drainage system high in nutrients, or contaminated water from a confined animal facility. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Contaminated agricultural runoff, tile drainage water, or water from confined livestock facility causes excess ponding and/or water quality degradation.

After Situation: A wetland is constructed to treat effluent by reducing excess nutrients and adding oxygen through wetland plants and functions before the effluent is transported to a waste storage facility or discharged off site.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area of Site

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$11,424.69	\$11,424.69
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,424.69	\$11,424.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 657 - Wetland Restoration

Scenario Number: 1

Scenario Name: Dry Sediment Removal, Offsite

Scenario Description: Wetland restoration occurs using an excavator to remove compacted fill from levees or sediment from other sources where it cannot be spread on adjacent areas and must be disposed offsite. Also applies to the construction of ditch plugs needed for restoration when materials cannot be found in adjacent uplands and must be hauled in.

Before Situation: The hydrology of the wetland is not functioning due to ditches or levees that intercept the flow of water.

After Situation: A close approximation of the natural hydrological regime has been restored by breaching a levee and moving the spoil offsite or by constructing a ditch plug from materials hauled from offsite.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$17,080.51	\$5.69
Labor	\$3,058.56	\$1.02
Mobilization	\$3,128.38	\$1.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$23,267.45	\$7.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 657 - Wetland Restoration

Scenario Number: 2

Scenario Name: Sediment Removal/Ditch Plugs/Fill, Dry Soil Conditions

Scenario Description: Wetland restoration occurs using a dozer or similar equipment to restore wetland hydrology by moving onsite sediment out of a wetland or from upland areas where spoil or excess sediment is salvaged to fill formerly excavated dugouts, shallow ditches, or create ditch plugs within a wetland area.

Before Situation: The soil profile of the wetland has been altered by the addition or removal of sediment that negatively impacts the hydrology and vegetative community.

After Situation: A close approximation of the natural hydrological regime has been restored by moving onsite sediment to reshape the wetland profile.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,016.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$7,966.77	\$3.95
Labor	\$0.00	\$0.00
Mobilization	\$2,085.59	\$1.03
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,052.36	\$4.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 657 - Wetland Restoration

Scenario Number: 3

Scenario Name: Sediment Removal/Ditch Plugs/Fill, Saturated Soils

Scenario Description: Wetland restoration occurs using a dozer or similar equipment to restore wetland hydrology by moving sediment out of a wetland to adjacent upland areas or from nearby upland areas where spoil or excess sediment is salvaged to fill formerly excavated dugouts, shallow ditches, or create ditch plugs within a wetland area. Wetland hydrology is present but reduced and specialized equipment or materials are needed to avoid compaction of wet portions of the project area.

Before Situation: The soil profile of the wetland has been altered by the addition or removal of sediment that negatively impacts the hydrology and vegetative community. The site exhibits some wetland hydrology, but is still functionally impaired.

After Situation: A close approximation of the natural hydrological regime has been restored by moving onsite sediment to reshape the wetland profile.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$12,262.97	\$5.07
Labor	\$0.00	\$0.00
Mobilization	\$2,085.59	\$0.86
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,348.56	\$5.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 657 - Wetland Restoration

Scenario Number: 4

Scenario Name: Tile Break

Scenario Description: Wetland restoration occurs using an excavator or similar equipment to disable tile lines. Two cubic yards is the equivalent of three linear feet of tile removed from a three-foot depth.

Before Situation: The former wetland area lacks hydrology and is drained by a subsurface tile drain system.

After Situation: Hydrology to the wetland has been restored by removing sections of tile, recompactng the trenches, and using concrete to cap the ends of the tile.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 400.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$49.73	\$0.12
Equipment Installation	\$1,378.39	\$3.45
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$0.91
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,792.59	\$4.48

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 657 - Wetland Restoration

Scenario Number: 5

Scenario Name: Wet Sediment Removal, Offsite

Scenario Description: Wetland restoration occurs using an excavator to restore or reshape wetland features in wet conditions where specialized equipment is needed to minimize compaction to the soils. Excess soil cannot be spread on adjacent lands and must be transported to another location offsite or soil needed for the construction of ditch plugs or other features must be hauled in from offsite.

Before Situation: The soil profile of the wetland has been altered by the addition of sediment that negatively impacts the hydrology and vegetative community. The site exhibits some wetland hydrology and is functionally impaired or has been partially drained by ditches.

After Situation: A close approximation of the natural hydrological regime has been restored by reshaping the wetland basins and moving the spoil offsite or by constructing a ditch plug from materials hauled in from offsite.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$14,221.29	\$7.11
Labor	\$1,146.96	\$0.57
Mobilization	\$3,128.38	\$1.56
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$18,496.62	\$9.25

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 658 - Wetland Creation

Scenario Number: 1

Scenario Name: Vernal Pool Creation with Liner

Scenario Description: Shallow vernal pools less than two feet deep are created in upland areas by excavating the soil, installing a water holding liner of suitable material, or by compaction, and replacing the topsoil. One cubic yard is the equivalent of installing 15 square feet of vernal pool.

Before Situation: The required wetland hydrology necessary to provide food, cover, or water for wildlife is lacking.

After Situation: Shallow vernal pools are created that provide food, cover, and water resources for target wildlife species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,744.13	\$8.72
Equipment Installation	\$512.41	\$2.56
Labor	\$340.24	\$1.70
Mobilization	\$364.47	\$1.82
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,961.25	\$14.81

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 658 - Wetland Creation

Scenario Number: 3

Scenario Name: Wetland Excavation for Wildlife

Scenario Description: A wetland is excavated in an upland area that will support wetland hydrology at least seasonally using a dozer or excavator and spread on adjacent upland areas.

Before Situation: The required wetland hydrology necessary to provide food, cover, or water for wildlife is lacking.

After Situation: A new wetland area is created to provide food, cover, and water resources for the target wildlife species.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,951.77	\$3.95
Labor	\$0.00	\$0.00
Mobilization	\$1,042.79	\$1.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,994.56	\$4.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 659 - Wetland Enhancement

Scenario Number: 1

Scenario Name: Daylight Tile Lines

Scenario Description: Wetland enhancement occurs using an excavator or similar equipment to remove existing tile lines and create new surface outlets to provide more surface water or expand the footprint of an existing wetland. One cubic yard is the equivalent of three linear feet of tile removed from a three-foot depth.

Before Situation: An existing wetland has reduced functional values for wildlife or another resource concern.

After Situation: Wetlands are expanded or functional values are improved to address a resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 200.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$512.41	\$2.56
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$1.82
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$876.88	\$4.38

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 659 - Wetland Enhancement

Scenario Number: 2

Scenario Name: Earthwork, Dry Soil Conditions

Scenario Description: Using a dozer or similar equipment, wetland hydrology is enhanced by moving material out of a wetland and spreading it on adjacent uplands to enlarge the area. Also applies to the movement of material from adjacent areas to add topographic complexity or fill formerly excavated dugouts and shallow ditches to enhance wetland hydrology.

Before Situation: An existing wetland has reduced functional values for wildlife or another resource concern.

After Situation: Wetlands are expanded or functional values are improved to address a resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,016.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$7,966.77	\$3.95
Labor	\$0.00	\$0.00
Mobilization	\$2,085.59	\$1.03
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,052.36	\$4.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 659 - Wetland Enhancement

Scenario Number: 3

Scenario Name: Earthwork, Wet Soil Conditions

Scenario Description: Using a dozer or similar equipment, wetland hydrology is enhanced by moving material out of a wetland and spreading it on adjacent uplands to enlarge the area. Also applies to the movement of material from adjacent areas to add topographic complexity or fill formerly excavated dugouts and shallow ditches to enhance wetland hydrology. Specialized equipment or materials are needed to avoid compaction of wet soils where the work is being done.

Before Situation: An existing wetland has reduced functional values for wildlife or another resource concern.

After Situation: Wetlands are expanded or functional values are improved to address a resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,420.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$12,262.97	\$5.07
Labor	\$0.00	\$0.00
Mobilization	\$2,085.59	\$0.86
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$14,348.56	\$5.93

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 659 - Wetland Enhancement

Scenario Number: 4

Scenario Name: Earthwork Dry Soil, Offsite

Scenario Description: Wetland enhancement occurs using an excavator to expand or reshape wetland features in dry soil conditions. Excess soil cannot be spread on adjacent lands and must be transported to another location offsite or soil needed to alter wetland topography is hauled in from offsite.

Before Situation: An existing wetland has reduced functional values for wildlife or another resource concern.

After Situation: Wetlands are expanded or functional values are improved to address a resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 3,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$17,080.51	\$5.69
Labor	\$3,058.56	\$1.02
Mobilization	\$3,128.38	\$1.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$23,267.45	\$7.76

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 659 - Wetland Enhancement

Scenario Number: 5

Scenario Name: Earthwork Wet Soil, Offsite

Scenario Description: Wetland enhancement occurs using an excavator to expand or reshape wetland features in wet soil conditions where specialized equipment is needed to minimize compaction to the soils. Excess soil cannot be spread on adjacent lands and must be transported to another location offsite or soil needed to alter wetland topography is hauled in from offsite.

Before Situation: An existing wetland has reduced functional values for wildlife or another resource concern.

After Situation: Wetlands are expanded or functional values are improved to address a resource concern.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Cubic Yard

Scenario Unit: Cubic Yard

Scenario Typical Size: 2,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$14,221.29	\$7.11
Labor	\$1,146.96	\$0.57
Mobilization	\$2,085.59	\$1.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$17,453.83	\$8.73

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 10

Scenario Name: Pruning, Low Height

Scenario Description: Pruning is done by hand with chain saws, tree loppers, hand shears, or hand saws. Trees are identified for pruning. To improve the quality of the stem wood, branches are pruned from the trees. Trees are growing at a fast pace, with leader growth on trees anywhere from 1.5 feet to 4 feet in length.

Before Situation: Trees are retaining lower limbs along the entire tree bole, reducing wood quality. Pruning height will be based on overall stand diameter and height. Stand has been thinned and crop trees are identified for pruning. Degrade plant condition- undesirable plant productivity and health is the resource concern.

After Situation: The typical forest pruning treatment is 20 acres. Trees are pruned to the desirable height of 8-10 feet. Pruned branches are treated if they are a hazard, see Woody Residue Treatment standard.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatment

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$128.67	\$6.43
Equipment Installation	\$866.48	\$43.32
Labor	\$3,534.24	\$176.71
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,529.39	\$226.47

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 11

Scenario Name: Pruning, High Height

Scenario Description: Pruning is done by hand with pole saws or with gas pole saw. Crop trees are identified for pruning. The forest is on highly productive soils. Trees are growing at a fast pace, with leader growth on trees anywhere from 1.5 feet to 4 feet in length. To improve the quality of the stem wood, branches are pruned from the trees.

Before Situation: Trees are retaining limbs mostly along the mid to upper section of the tree bole, reducing quality. Lower branches (0-8 feet) may have already been pruned, have naturally self pruned to differing heights. Pruning height is at least to eighteen (18) feet above the ground. Degrade plant condition-undesirable plant productivity and health is the resource concern.

After Situation: The typical forest pruning treatment is 20 acres. Trees are pruned to the height of 18 feet or more. Pruned branches are treated so they do not become a fire or health hazard.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatment

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$128.67	\$6.43
Equipment Installation	\$1,469.58	\$73.48
Labor	\$6,835.51	\$341.78
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,433.76	\$421.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 12

Scenario Name: Pruning, Multistory Cropping, Understory

Scenario Description: Pruning trees and/or shrubs is accomplished to extend the life span of trees and or shrubs. Pruning reduces the time periods of replacement by 2/3rds, exposing less bare soil. Pruning is accomplished by hand with hand tools and/or chainsaw. Trees and or shrubs are growing where the average rainfall is very high, with cooler temperatures and deep steep soils. Resouce concerns are degraded plant condition-undesireable plant productivity and health, soil erosion-sheet and rill.

Before Situation: Trees and/or shrubs are showing signs of reduced health (thinning crowns/less branching) and fruit production. Loss of trees or shrubs will occur within a few years. Severe soil erosion and sedimentation is a great concern if trees or shrubs are removed.

After Situation: Tree/shrub pruning is completed on trees and/or shrubs. Cut vegetative material is left on the ground providing cover, and increasing organic matter. Alternative row pruning, treating every other row (or one-half the plants), in the same field, is completed 2 times. Renovation pruning is conducted one time for the entire field.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: individual tree/shrub pruned

Scenario Unit: Each

Scenario Typical Size: 800.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$111.77	\$0.14
Labor	\$749.46	\$0.94
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$861.22	\$1.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 13

Scenario Name: Pruning, Multistory Cropping, Overstory

Scenario Description: Overstory tree crowns are pruned to increase sunlight to understory shrubs and low growing trees that have been purposely established to grow on the same acre of ground. Resource concern is degraded plant condition - undesirable plant productivity and health.

Before Situation: The overstory trees are expanding their crowns, providing to much shade on the understory plants. The shade is affecting the growth and production of the understory plants. Pruning of branches, leaves, frawns, etc. are needed to maintain the desired amount of sunlight reaching the understory.

After Situation: Pruning of the overstory tree crowns is completed, allowing the proper amount of sunlight to reach the understory vegetation, maintaining their growth, health and vigor, and wildlife benefits.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Overstory Trees Pruned

Scenario Unit: Each

Scenario Typical Size: 120.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$232.74	\$1.94
Labor	\$866.85	\$7.22
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,099.60	\$9.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 29

Scenario Name: Pruning Individual Agroforestry Tree, Small Acreage

Scenario Description: In agroforestry settings (crop or forest lands) overstory tree crowns are pruned to increase sunlight to understory shrubs, low growing trees, and crop plants that have been purposely established to grow on the same ground. Thirty trees or less per acre require pruning. Associated Conservation Practice Standard (CPS) 384 - Woody Residue Treatment. Resource concern is degraded plant condition - undesirable plant productivity and health.

Before Situation: Overstory trees are expanding their crowns, providing too much shade on the understory plants. The shade is affecting the growth and production of the understory plants. Pruning branches, leaves, frawns, etc. are needed to maintain the desired about of sunlight reaching the understory.

After Situation: Pruning of the overstory tree crowns is completed, allowing the proper amount of sunlight to reach the understory vegetation, maintaining their grown, health and vigor, and wildlife benefits. Typical treatment area is less than 1 acre; typical scenario based on 1 ac, 30 TPA.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Tree Pruned

Scenario Unit: Each

Scenario Typical Size: 30.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$92.97	\$3.10
Labor	\$332.28	\$11.08
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$425.25	\$14.17

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 71

Scenario Name: Pruning, Fire Hazard

Scenario Description: Pruning trees of branches in a forest stand where wildfires are considered a high and very high hazard. Hand tools and power tools are used to cut branches from trees. Resource concerns include Degraded plant condition-wildfire hazard and Undesirable plant productivity and health.

Before Situation: The forest stand is well to over-stocked, generally with 200 to 300+ trees per acre. Branches are touching understory vegetation or are in close proximity to forest floor where a ground fire can ignite the lower branches and move into the upper canopy. Wildfire hazard is very high.

After Situation: The typical forest pruning treatment is 20 acres. Trees are pruned to the desirable height (generally 8-10') based on desired separation space between ground vegetation and tree crown. Pruned branches are treated if they are a hazard, see Woody Residue Treatment standard.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatment

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$1,276.69	\$63.83
Labor	\$4,528.60	\$226.43
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,805.29	\$290.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 660 - Tree-Shrub Pruning

Scenario Number: 72

Scenario Name: Pruning, Wildlife

Scenario Description: Pruning of hard/soft mast trees and shrubs to stimulate increased fruit/nut production for wildlife food. Primarily done around old agricultural fields, in old orchards, in forested areas. Is usually done with a chainsaw or handsaw to open the canopy and remove dead branches to increase airflow and sunlight penetration. Resource concerns are inadequate habitat for fish and wildlife - habitat degradation and plant condition- undesirable plant productivity and health

Before Situation: Trees have reduced mast production due to tree reaching maturity or heavy shade. Pruning is needed to remove older branches, dead material and increase sunlight into the canopy. New branching will be stimulated, increasing mast production.

After Situation: Selected trees (10 per acre) are re-invigorated with new branching and an increase in mast production.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: area of treatment

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$123.10	\$61.55
Labor	\$660.26	\$330.13
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$783.36	\$391.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 92

Scenario Name: Pre-Commercial Thinning, Hand Tools

Scenario Description: Management of excessively dense young and developing tree stands. The treatment area will be marked and treatment activities will be supervised by a forester. Treatment to reduce density requires skilled labor using chainsaws and other hand tools.

Before Situation: Stand density exceeds natural stand recruitment levels for the eco-site. Stand and canopy density shades out understory shrubs and herbaceous plants, reducing food and cover for wildlife. Stand density compromises eco-site productivity and landscape hydrologic functions. Stand density compromises tree health and increases susceptibility to unacceptable outbreaks of insects and diseases, and creates catastrophic wild-land fire risk conditions that may threaten landscape health and function.

After Situation: After management, stand density, structure and composition are at an acceptable level. Canopy gaps allow increased sunlight and air movement; understory plant growth, condition and quality are improved. Habitat for wildlife is improved. Stand density enhances eco-site diversity, and landscape hydrologic functions are improved. Trees are healthy and less susceptible to damaging levels of insect pests and diseases. The risk from catastrophic wild-land fire is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$90.07	\$9.01
Equipment Installation	\$596.60	\$59.66
Labor	\$3,265.90	\$326.59
Mobilization	\$219.19	\$21.92
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,171.77	\$417.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 99

Scenario Name: Conservation Thinning, High Intensity

Scenario Description: Thinning of an overstocked stand that occurs on steep or moderate slopes with excessive tree densities. Cut trees frequently become entangled in the residual stand and must be pulled or cut into smaller segments to lay them on the ground. The operation is supervised by a consultant forester and is carried out using hand tools.

Before Situation: Forest stand is overstocked with sapling and small pole-sized trees, exceeding the recommended stocking level for the tree species and site. Species compositions may be undesirable. resulting in slower than expected reasonable growth and an increased susceptibility to insects, disease, and wildfire risk.

After Situation: Proper stocking rates were achieved, improving wildlife habitat, forest productivity and health, and decreasing the fire risk.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$128.67	\$12.87
Equipment Installation	\$2,398.89	\$239.89
Labor	\$10,258.15	\$1,025.82
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12,785.71	\$1,278.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 100

Scenario Name: Mechanical and Hand, High Intensity

Scenario Description: Utilization of hand tools and light mechanized equipment to achieve silvicultural treatments such as understory thinning, wildfire hazard reduction, group selection and retention, and post wildfire vegetation treatments.

Before Situation: Forest stand with uniform stand structure (e.g. species, age, and size) is susceptible to insects and disease, an unacceptable wildfire risk, and degraded understory plant and wildlife conditions.

After Situation: Conditions were created to support the regeneration of desired species and densities and wildfire resilient stand densities with spatial patterns. Benefits include reduced fire behavior and improved early successional wildlife habitat and understory plant communities.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres Treated

Scenario Unit: Acre

Scenario Typical Size: 20.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$128.67	\$6.43
Equipment Installation	\$17,770.34	\$888.52
Labor	\$34,388.45	\$1,719.42
Mobilization	\$364.47	\$18.22
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$52,651.93	\$2,632.60

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 103

Scenario Name: Tree Marking

Scenario Description: Individual trees within a forest stand are marked for removal by a professional forester to improve the stand's health, productivity, composition, and/or structure, enhance wildlife habitat, reduce wildfire hazard, and/or address soil erosion and water quality. The cost covers marking trees by a professional forester to ensure a silvicultural sound treatment, minimize damage to residual trees, and achieve landowner's outcomes. Costs for removing undesirable trees are not included and are accomplished through a commercial operation. Tree marking scenario payment is made after conservation activity (tree removal) is certified.

Before Situation: Forest stand is overstocked and/or lacks desired species composition, structure, and/or health, and may have additional water and soil erosion. Wildlife habitat lacks desired tree species composition, structure, and understory vegetation conditions. Trees may be removed without professional assistance, resulting in resource damage.

After Situation: Stand was marked by a professional forester and trees have been removed by a commercial logger to ensure a sustainable outcome. Stand stocking is adjusted to an appropriate level, species composition is better suited for wildlife, and stand productivity and health are improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$128.67	\$12.87
Equipment Installation	\$104.36	\$10.44
Labor	\$1,563.23	\$156.32
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,796.26	\$179.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 149

Scenario Name: Single Stem, Chemical Treatment

Scenario Description: Altering the composition and stocking of a stand of trees by treating individual stems. The trees to be retained are marked by a consultant forester. The undesirable trees are killed using single-stem treatments such as injection or basal bark spraying. To be used when the species and/or condition of trees makes it infeasible to use a commercial operation to remove them from the site.

Before Situation: The existing stand is composed of undesirable woody species and stocking exceeds the recommended levels for healthy growth. Stand and canopy density shades out understory shrubs and herbaceous plants, reducing food and cover for wildlife, and allowing soil erosion to occur due to the lack of herbaceous vegetation to slow runoff. Stand density compromises eco-site productivity and landscape hydrologic functions. Stand density compromises tree health and increases susceptibility to unacceptable outbreaks of insects and diseases, and creates catastrophic wild-land fire risk conditions that may threaten landscape health and function.

After Situation: After management, stand density, structure and composition are at an acceptable level. Canopy gaps allow increased sunlight and air movement; understory plant growth, condition and quality are improved. Habitat for wildlife is improved, and soil erosion is limited. Stand density enhances eco-site diversity, and landscape hydrologic functions are improved. Trees are healthy and less susceptible to damaging levels of insect pests and diseases. The risk from catastrophic wild-land fire is reduced.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$188.73	\$18.87
Equipment Installation	\$1,854.83	\$185.48
Labor	\$2,009.87	\$200.99
Mobilization	\$219.19	\$21.92
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,272.63	\$427.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 150

Scenario Name: Ground, Chemical Treatment

Scenario Description: Application of herbicides with a sprayer mounted on a tractor or other mechanized ground-based equipment or applied with a backpack sprayer. The treatment releases young desirable trees from competing and/or overtopping vegetation by applying herbicides according to label directions. Designed primarily for the release of planted pines, but with different herbicides can be used to release other tree species. Size of the treatment area is less than or equal to 40 acres.

Before Situation: An adequately stocked stand of desirable tree species is threatened by severe competition from undesirable trees and brush. Without treatment the desirable trees may not survive, and impacts on forest health and wildlife habitat may occur. Soil erosion may occur beneath a dense thicket of brush that shades out understory vegetation.

After Situation: After management, the released stand of trees has the desired species composition and structure to support forest health and meet landowner objectives. A layer of desirable understory vegetation reduces runoff and limits erosion and sedimentation. The eco-site provides habitat for desirable wildlife species. Trees are healthy and less susceptible to damaging levels of insect pests and diseases. The risk from catastrophic wild-land fire is reduced and other resource concerns are addressed.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,595.86	\$39.90
Equipment Installation	\$274.45	\$6.86
Labor	\$0.00	\$0.00
Mobilization	\$364.47	\$9.11
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,234.78	\$55.87

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 152

Scenario Name: Heavy Equipment, Mechanical Treatment

Scenario Description: Utilization of equipment such as a masticator or mulcher to mechanically control vegetation that competes with desirable trees and/or species or to reduce the density of a stand of desirable trees. The trees to be retained will be marked by a forester.

Before Situation: A stand of desirable trees is adversely affected by competition from undesirable species and/or trees, or because the stand is excessively dense. The vegetation to be controlled is too large to be mowed and requires mechanized equipment such as masticators or mulchers.

After Situation: The released stand of trees has a composition and structure that satisfies landowners' objectives and addresses the resource concerns.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$3,992.63	\$399.26
Labor	\$2,821.85	\$282.18
Mobilization	\$867.64	\$86.76
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,682.12	\$768.21

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 153

Scenario Name: Creating Patch Clearcuts

Scenario Description: Creating openings of 0.5–2 acres within degraded stands or in older stands where regenerating young forest is lacking. A forester marks locations for patch creation so the young forest will regenerate in openings and less desirable groups of trees will be cut. Tree felling is accomplished with hand tools such as chainsaws.

Before Situation: The existing stand is not regenerating to the desired species composition, and/or has been degraded by past harvesting practices. The trees currently on the site are of species or structure such that managing them will not achieve desired conditions in addressing resource concerns and meeting landowners' objectives. Site and tree species' attributes are such that creating openings will facilitate regeneration of shade-intolerant species.

After Situation: The stand contains patches of new, young trees of desirable species, providing for wildlife that utilizes early-successional habitat within a matrix of mature forest. The activity improves a forest stand of 10 acres in size.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area treated

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$164.08	\$82.04
Labor	\$865.32	\$432.66
Mobilization	\$219.19	\$109.59
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,248.59	\$624.29

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 154

Scenario Name: 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 more favorable conditions 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 include marking trees to be treated and supervising the treatment work. Any commercial harvest operation, including access and transportation costs, are not included.

Before Situation: The stand of mature trees is excessively dense, resulting in a closed canopy. The forest lacks midstory and horizontal structure, the herbaceous layer is lacking or in poor condition, and/or the desired and characteristic plant diversity for the eco-site is not present. Without management, the site will not reach the desired future condition and meet landowners' objectives for wildlife habitat and forest health.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 10.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$425.94	\$42.59
Equipment Installation	\$4,013.68	\$401.37
Labor	\$2,721.59	\$272.16
Mobilization	\$364.47	\$36.45
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,525.67	\$752.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 666 - Forest Stand Improvement

Scenario Number: 155

Scenario Name: Heat Release Treatment

Scenario Description: Management of forest stand conditions by heat treatment of undesired or invasive vegetation around established conservation trees, seedlings, or saplings to reduce invasive or competing vegetation adversely impacting multiple desired ecosite conditions and conditions that support catastrophic wildfire that will damage desired understory forest trees and shrubs. The undesirable competing vegetation is killed using a ground application with a handheld flame torch or steam wand (e.g. propane torch, steam wand, etc.). Timing and locations for heat treatment will be determined by a certified agroforester, forester, or qualified professional. This scenario replaces a chemical weed treatment where the desired future condition and/or on and offsite resource concerns documented in a WIN_PST report precludes the use of a chemical herbicide treatment.

Before Situation: The existing forest stand has undesirable or invasive grasses, forbs and woody plants negatively affecting the resource setting. Desired conservation trees, shrubs and herbaceous plant productivity and health suffer as a result of competing or invasive understory plants as well as reducing food and cover for wildlife/native pollinators. Eco-site productivity, forest stand health and landscape hydrologic functions are compromised by non-native and invasive plants. Trees/shrubs are susceptible to unacceptable outbreaks of insects and diseases. Competing or invasive under-story plants creates catastrophic wild-land fire risk conditions that may threaten landscape health and function. Soil erosion is accelerating due to competing or invasive understory vegetation.

After Situation: The typical resource setting is <1 to 5 ac, 2 ac is average. After management, understory competing or invasive vegetation density, structure and composition are at an acceptable level. Over and understory desired tree, shrub seedling and sapling competition is reduced. Management supports increased wildlife/native pollinators forage and nesting habitat. Understory eco-site conditions are enhanced and landscape hydrologic functions are improved. Seedlings and saplings are healthy and less susceptible to damaging levels of insect pests and diseases. The risk from catastrophic wild-land fire is reduced. Soil erosion is limited.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Area Treated

Scenario Unit: Acre

Scenario Typical Size: 2.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$25.73	\$12.87
Equipment Installation	\$130.86	\$65.43
Labor	\$3,977.86	\$1,988.93
Mobilization	\$219.19	\$109.59
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,353.64	\$2,176.82

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 47

Scenario Name: LED (using existing fixture), Less Than 20 Watts

Scenario Description: The application of this practice consists of the replacement of an incandescent or compact fluorescent light or tube with a new light emitting diode (LED) lamp or tube on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp is properly disposed according to its contents and applicable environmental laws and regulations. The typical bulb installed is a 9-watt LED.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator Tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of lamps replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7.33	\$7.33
Equipment Installation	\$0.00	\$0.00
Labor	\$4.82	\$4.82
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$12.15	\$12.15

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 63

Scenario Name: LED (using existing fixture), Greater Than or Equal to 20 Watts and Less Than 100 Watts

Scenario Description: The application of this practice consists of the replacement of an incandescent, compact fluorescent, high-pressure sodium (HPS), or similar lamp or tube with new light emitting diode (LED) flood lamp on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp is properly disposed according to its contents and applicable environmental laws and regulations. The typical flood lamp installed is a 50-watt LED.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of lamps replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$30.79	\$30.79
Equipment Installation	\$0.00	\$0.00
Labor	\$14.18	\$14.18
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$44.97	\$44.97

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 79

Scenario Name: LED (using existing fixture), Greater Than or Equal to 100 Watts

Scenario Description: The application of this practice consists of the replacement of an incandescent, compact fluorescent, mercury vapor, or similar lamp or tube with new light emitting diode (LED) flood lamp or tube on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp is properly disposed according to its contents and applicable environmental laws and regulations. The typical flood lamp installed is a 150-watt high bay.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of lamps replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$92.37	\$92.37
Equipment Installation	\$0.00	\$0.00
Labor	\$14.18	\$14.18
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$106.54	\$106.54

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 95

Scenario Name: Fixture (including LED), Less Than 20 Watts

Scenario Description: The application of this practice consists of the replacement of an existing lamp and fixture with a new light emitting diode (LED) fixture on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp, fixture, and ballast are properly disposed according to their contents and applicable environmental laws and regulations. The fixture is for indoor or exterior locations and generally known as general, flood, linear, canopy, pendant, wall pack, low intensity flood, ceiling mounted, or low bay. Low bay lighting is used when ceilings are 20 feet or less in height. Low bay fixtures usually have a diffuser mounted to the bottom of the fixture that serves to spread light over a large area. The typical fixture installed is a 9-watt fixture with diodes or lamp.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of fixtures replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$19.81	\$19.81
Equipment Installation	\$0.00	\$0.00
Labor	\$6.82	\$6.82
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$26.63	\$26.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 111

Scenario Name: Fixture (including LED), Greater Than or Equal to 20 Watts and Less Than 40 Watts

Scenario Description: The application of this practice consists of the replacement of an existing lamp and fixture with a new light emitting diode (LED) fixture on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp, fixture, and ballast are properly disposed according to their contents and applicable environmental laws and regulations. The fixture is for indoor or exterior locations and generally known as general, flood, linear, canopy, pendant, wall pack, low intensity flood, ceiling mounted, or low bay. Low bay lighting is used when ceilings are 20 feet or less in height. Low bay fixtures usually have a diffuser mounted to the bottom of the fixture that serves to spread light over a large area. The typical fixture installed is a 25-watt fixture with diodes or lamp.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of fixtures replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$55.03	\$55.03
Equipment Installation	\$0.00	\$0.00
Labor	\$20.06	\$20.06
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$75.09	\$75.09

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 127

Scenario Name: Fixture (including LED), Greater Than or Equal to 40 Watts and Less Than 80 Watts

Scenario Description: The application of this practice consists of the replacement of an existing lamp and fixture with a new light emitting diode (LED) fixture on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp, fixture, and ballast are properly disposed according to their contents and applicable environmental laws and regulations. The fixture is for indoor or exterior locations and generally known as general, flood, linear, canopy, pendant, wall pack, low intensity flood, ceiling mounted, or low bay. Low bay lighting is used when ceilings are 20 feet or less in height. Low bay fixtures usually have a diffuser mounted to the bottom of the fixture that serves to spread light over a large area. The typical fixture installed is a 50-watt fixture with diodes or lamp.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of fixtures replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$110.05	\$110.05
Equipment Installation	\$0.00	\$0.00
Labor	\$40.12	\$40.12
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$150.18	\$150.18

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 143

Scenario Name: Fixture (including LED), Greater Than or Equal to 80 Watts

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixture with a new light emitting diode (LED) fixture on a one-for-one basis where the existing fixture and wiring is functioning. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamp, fixture, and ballast is properly disposed according to its contents and applicable environmental laws and regulations. The fixture is for indoor or exterior locations and generally known as high bay or high intensity flood light or linear. High bay lighting is used when ceilings are 20 - 45 feet in height and where fixtures are mounted at the ceiling height instead of being suspended down to a lower level. High bay fixtures usually have an aluminum or mirror-like reflector which directs light downwards to the floor area or a prismatic reflector to spread light over larger areas. The typical fixture installed is a 200-watt round high bay or 160-watt linear fixture.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of fixtures replaced

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$189.26	\$189.26
Equipment Installation	\$0.00	\$0.00
Labor	\$54.30	\$54.30
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$243.56	\$243.56

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 159

Scenario Name: Poultry House, Lamp Replacement

Scenario Description: The application of this practice consists of the replacement of incandescent or compact fluorescent lights with new light emitting diode (LED) lamps on a one-for-one basis where the existing fixtures and wiring are functioning. The retrofitted lighting system with a new dimmer will provide similar light level as the existing system. Existing lamps are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the poultry house. The typical system installed is in a 40x500-foot poultry house with 99 existing incandescent light bulbs that are removed and replaced with 99 9-watt LED grow out bulbs, and the typical size is 20,000 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of building

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,101.09	\$0.06
Equipment Installation	\$0.00	\$0.00
Labor	\$510.36	\$0.03
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,611.45	\$0.08

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 175

Scenario Name: Poultry House, Fixture (including LED) Replacement

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new light emitting diode (LED) fixtures on a one-for-one basis where the existing fixtures and wiring are functioning. The retrofitted lighting system with a new dimmer will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the poultry house. The typical system installed is in a 40x500 foot poultry house with 99 existing incandescent light fixture and bulbs that are removed and replaced with 99 9-watt LED fixtures with diodes or new fixtures with LED grow out bulbs, and the typical size is 20,000 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of building

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,336.67	\$0.12
Equipment Installation	\$0.00	\$0.00
Labor	\$802.50	\$0.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,139.17	\$0.16

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 191

Scenario Name: Poultry House, Fixture (including LED) Replacement with New Layout

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new light emitting diode (LED) fixtures and wiring in a new layout. The replacement lighting system with a new dimmer will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the poultry house. The typical system installed is in a 40x500 ft. poultry house with 21 150W sodium or halide fixtures and bulbs that are removed and replaced with 100 9-watt LED fixtures with diodes or new fixtures with LED grow out bulbs in a new layout, and the typical size is 20,000 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator Tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of building

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,114.42	\$0.16
Equipment Installation	\$0.00	\$0.00
Labor	\$1,143.56	\$0.06
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,257.98	\$0.21

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 207

Scenario Name: Swine Facility, Fixture (including LED) Replacement

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new light emitting diode (LED) fixtures on a one-for-one basis where the existing fixtures and wiring are functioning. The areas of installation may include any combination of gestation, nursery, farrowing and finishing facilities. The retrofitted lighting system with a new dimmer will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the lighted area. The typical system installed is in a 60x500 ft. swine facility with 115 existing incandescent light fixture and bulbs that are removed and replaced with 115 25-watt LED fixtures with diodes and the typical size is 30,000 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal lighted area

Scenario Unit: Square Foot

Scenario Typical Size: 30,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,703.50	\$0.22
Equipment Installation	\$0.00	\$0.00
Labor	\$1,294.03	\$0.04
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7,997.52	\$0.27

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 223

Scenario Name: Dairy Housing, Fixture (including LED) Replacement

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new light emitting diode (LED) fixtures on a one-for-one basis where the existing fixtures and wiring are functioning. The areas of installation may include any combination of free stalls and dairy housing, and other areas where high bay fixtures are appropriate such as milking parlors, washrooms, and other interior spaces. The retrofitted lighting system will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the lighted area. The typical system installed is in a 105x230 ft. free stall barn with 30 existing mercury vapor lights that are removed and replaced with 30 180-watt high bay fixtures with diodes and the typical size is 24,150 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal lighted area

Scenario Unit: Square Foot

Scenario Typical Size: 24,150.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$6,081.97	\$0.25
Equipment Installation	\$0.00	\$0.00
Labor	\$2,728.49	\$0.11
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$8,810.46	\$0.36

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 239

Scenario Name: General Agricultural Area, Fixture (including LED) Replacement

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with multiple, new light emitting diode (LED) fixtures and wiring in a new layout. The replacement lighting system will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the lighted area. The typical system installed is in a 25x65 ft. agricultural building with 20 high pressure sodium light fixtures that are removed and replaced with 25 12-watt LED fixtures with diodes, and the typical size of 1,625 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal lighted area

Scenario Unit: Square Foot

Scenario Typical Size: 1,625.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$660.31	\$0.41
Equipment Installation	\$0.00	\$0.00
Labor	\$561.75	\$0.35
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,222.05	\$0.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 255

Scenario Name: Specialty Agricultural Area, Waterproof, Fixture (including LED) Replacement

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new vapor-tight and waterproof light emitting diode (LED) fixtures where the existing fixtures and wiring are functioning. The replaced lighting system will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the lighted area. The typical system installed is in a 43x43 ft. dairy parlor where existing fixtures are removed and replaced with 4 linear, waterproof, LED T8 fixtures with four tubes and the typical size of 1,849 square feet.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, high pressure sodium, mercury vapor, metal halide, halogen, T12 fluorescent tubes driven by magnetic ballasts, or similar lights. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal lighted area

Scenario Unit: Square Foot

Scenario Typical Size: 1,849.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$1,383.40	\$0.75
Equipment Installation	\$0.00	\$0.00
Labor	\$361.12	\$0.20
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,744.52	\$0.94

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 271

Scenario Name: LED Dimmer or Controller

Scenario Description: The typical application of this practice consists of the replacement of an existing dimmer or controller where the existing or retrofitted lighting system and wiring is functioning. The dimmer or controller shall be rated to operate with the retrofitted lighting system and includes all wiring, switches and controls. The existing dimmers and controls are properly disposed according to its contents and applicable environmental laws and regulations.

Before Situation: A replaced or retrofitted lighting system within an agricultural operation has none or an obsolete dimmer or controller. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of dimmers installed

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$375.57	\$375.57
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$536.07	\$536.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 670 - Energy Efficient Lighting System

Scenario Number: 287

Scenario Name: Poultry Breeding, Fixture (including LED) Replacement with New Layout

Scenario Description: The application of this practice consists of the replacement of existing lamps and fixtures with new light emitting diode (LED) fixtures and wiring in a new layout. The replacement lighting system with a new dimmer will provide similar light levels as the existing system. Existing lamps, fixtures, and ballasts are properly disposed according to their contents and applicable environmental laws and regulations. The quantity for the scenario is based upon the nominal floor area, in square feet, of the poultry house. The typical system installed is in a 40’ x 500’ poultry breeder house with 21 150W sodium or halide fixtures and bulbs that are removed and replaced with 135 10-watt LED fixtures with diodes or new fixtures with LED grow out bulbs in a new layout, and the contract item number quantity is 20,000.

Before Situation: A lighting system uses energy inefficiently within an agricultural operation. The existing lighting system consists of incandescent, compact fluorescent, or similar lamps. Inefficient energy use and a recommendation to implement an improvement has been identified by an ASABE S612 compliant on-farm energy audit or the NRCS Energy Estimator tools.

After Situation: A replaced or retrofitted lighting system with a minimum rated efficacy of 90 lumens per watt was installed in an agricultural operation and can withstand the environmental conditions and is designed for light levels suitable for the area and is expressed as lumens. An analysis of the estimated annual energy savings was completed. The replaced or retrofitted lighting system will reduce overall power requirements (kW) compared to the existing lighting system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of building

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$4,443.25	\$0.22
Equipment Installation	\$0.00	\$0.00
Labor	\$1,815.65	\$0.09
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$6,258.89	\$0.31

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 1

Scenario Name: Door, Roll-up, Insulated

Scenario Description: The application of this scenario consists of replacing an existing door with an insulated roll-up or swinging door in a heated, cooled, or ventilated agricultural structure. The insulated door will reduce heat loss and heat gain, which reduces the respective need for heating and cooling equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of doors

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,380.71	\$2,380.71
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$321.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,701.71	\$2,701.71

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 2

Scenario Name: Door, Tunnel

Scenario Description: The application of this scenario consists of replacing existing tunnel curtain openings or cool pads or adding a new insulated tunnel door in a heated and ventilated poultry building. The insulated tunnel door will reduce heat loss and aids in air mixing, which reduces the respective need for heating and ventilation equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of Door

Scenario Unit: Square Foot

Scenario Typical Size: 600.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,646.72	\$16.08
Equipment Installation	\$0.00	\$0.00
Labor	\$963.00	\$1.61
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$10,609.71	\$17.68

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 3

Scenario Name: Energy Efficient Glazing

Scenario Description: The application of this practice consists of replacing existing greenhouse glazing with new, energy efficient, glazing. Energy efficient glazing will reduce heat loss and provide better heat transfer during cold weather conditions, which reduces the need for heating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of glazing

Scenario Unit: Square Foot

Scenario Typical Size: 6,684.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$974.14	\$0.15
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$0.05
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,295.14	\$0.19

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 4

Scenario Name: Heat Recovery, Attic Vent

Scenario Description: The application of this scenario consists of installing actuated inlets or automatic latching gravity inlets in a heated and ventilated poultry or livestock building. The vents better control moisture and heat by drawing in warmer, drier air from the attic, which reduces the need for heating and ventilating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number of Vents

Scenario Unit: Each

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$171.07	\$171.07
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$160.50
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$331.57	\$331.57

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 5

Scenario Name: Insulation, Attic, Zones 1 - 4

Scenario Description: The application of this scenario consists of installing appropriate insulation in an existing attic or ceiling of a conditioned agricultural building. The insulation will reduce heat loss or heat gain, which reduces the respective need for heating and cooling equipment to operate, resulting in the reduction of energy use. The agricultural building is in climate zones 1 – 4 of ASHRAE 90.1-2016 Annex 1.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet

Scenario Unit: Square Foot

Scenario Typical Size: 20,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$184.80	\$0.01
Equipment Installation	\$0.00	\$0.00
Labor	\$1,283.99	\$0.06
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,468.79	\$0.07

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 6

Scenario Name: Insulation, Attic, Zones 5 - 6

Scenario Description: The application of this scenario consists of installing appropriate insulation in an existing attic or ceiling of a conditioned agricultural building. The insulation will reduce heat loss or heat gain, which reduces the respective need for heating and cooling equipment to operate, resulting in the reduction of energy use. The agricultural building is in climate zones 5 – 6 of ASHRAE 90.1-2016 Annex 1.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet

Scenario Unit: Square Foot

Scenario Typical Size: 13,333.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$278.94	\$0.02
Equipment Installation	\$0.00	\$0.00
Labor	\$1,283.99	\$0.10
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,562.93	\$0.12

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 7

Scenario Name: Insulation, Attic, Zones 7 - 8

Scenario Description: The application of this scenario consists of installing appropriate insulation in an existing attic or ceiling of a conditioned agricultural building. The insulation will reduce heat loss or heat gain, which reduces the respective need for heating and cooling equipment to operate, resulting in the reduction of energy use. The agricultural building is in climate zones 7 – 8 of ASHRAE 90.1-2016 Annex 1.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal area of attic

Scenario Unit: Square Foot

Scenario Typical Size: 16,666.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$348.67	\$0.02
Equipment Installation	\$0.00	\$0.00
Labor	\$1,283.99	\$0.08
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,632.66	\$0.10

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 8

Scenario Name: Insulation, Bubble

Scenario Description: The application of this scenario consists of installing aluminum foil faced, double bubble insulation in greenhouse sidewalls from floor to bench height (3 feet) or in greenhouse end walls from floor to ceiling height. The insulation will reduce heat loss or heat gain, which reduces the respective need for heating and cooling equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of insulation

Scenario Unit: Square Foot

Scenario Typical Size: 500.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$190.32	\$0.38
Equipment Installation	\$0.00	\$0.00
Labor	\$160.50	\$0.32
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$350.81	\$0.70

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 9

Scenario Name: Insulation, Curtain, Livestock or Poultry Housing

Scenario Description: The application of this scenario consists of replacing existing non-insulated curtains with insulated curtains, seven-layer minimum, on the sidewalls of a conditioned livestock structure or in the mid-house brooding area of a poultry building. The system will better control heat transfer, which reduces the need for heating, cooling, and ventilating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of curtain

Scenario Unit: Square Foot

Scenario Typical Size: 300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$710.64	\$2.37
Equipment Installation	\$0.00	\$0.00
Labor	\$321.00	\$1.07
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,031.64	\$3.44

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 10

Scenario Name: Insulation, Solid, Bench Height or Below Grade

Scenario Description: The application of this scenario consists of installing one inch thick (minimum) polystyrene or polyurethane solid insulation in greenhouse sidewalls from floor to bench height (3 feet) or on the foundation (24 inches below ground) of a conditioned space such as animal housing. The insulation will reduce heat loss, which reduces the need for heating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of insulation

Scenario Unit: Square Foot

Scenario Typical Size: 300.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$296.16	\$0.99
Equipment Installation	\$0.00	\$0.00
Labor	\$113.41	\$0.38
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$409.58	\$1.37

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 11

Scenario Name: Insulation, Structure, Cooling, Drying, Processing

Scenario Description: The application of this scenario consists of installing appropriate insulation on the walls and ceilings of an agricultural structure used for cooling, drying, or processing such as a walk-in refrigeration unit or a tobacco drying barn. The system will better control heat transfer, which reduces the need for cooling or drying (heating) equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of insulation

Scenario Unit: Square Foot

Scenario Typical Size: 1,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$3,063.21	\$3.06
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$3,063.21	\$3.06

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 12

Scenario Name: Insulation, Walls

Scenario Description: The application of this scenario consists of installing non-flammable insulation, vapor barrier, and appropriate covering on the interior walls of a conditioned agricultural structure. The insulation will reduce heat loss, which reduces the need for heating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of Insulation

Scenario Unit: Square Foot

Scenario Typical Size: 5,770.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$13,563.09	\$2.35
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$13,563.09	\$2.35

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 13

Scenario Name: Insulation, Walls, Spray Foam with Thermal Barrier

Scenario Description: The application of this scenario consists of installing flammable insulation, vapor barrier, and thermal barrier covering on the interior walls of a conditioned agricultural structure. The insulation will reduce heat loss, which reduces the need for heating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface Area of Insulation

Scenario Unit: Square Foot

Scenario Typical Size: 5,770.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$29,953.03	\$5.19
Equipment Installation	\$0.00	\$0.00
Labor	\$1,925.99	\$0.33
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$31,879.02	\$5.53

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 14

Scenario Name: Mechanical Screens, Greater Than 10,000 Square Feet

Scenario Description: The application of this scenario consists of installing a mechanical energy screen system 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 in a greenhouse. The system will better control heat loss and heat transfer, which reduces the need for heating and cooling equipment to operate, resulting in the reduction of energy use. The total area of installed screens is greater than 10,000 and less than 50,000 square feet.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet

Scenario Unit: Square Foot

Scenario Typical Size: 25,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$81,744.33	\$3.27
Equipment Installation	\$0.00	\$0.00
Labor	\$642.00	\$0.03
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$82,386.32	\$3.30

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 15

Scenario Name: Mechanical Screens, Less Than or Equal to 10,000 Square Feet

Scenario Description: The application of this scenario consists of installing a mechanical energy screen system 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 in a greenhouse. The system will better control heat loss and heat transfer, which reduces the need for heating and cooling equipment to operate, resulting in the reduction of energy use. The total area of installed screens is less than or equal to 10,000 square feet.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet

Scenario Unit: Square Foot

Scenario Typical Size: 4,000.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$19,314.94	\$4.83
Equipment Installation	\$0.00	\$0.00
Labor	\$642.00	\$0.16
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$19,956.94	\$4.99

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 16

Scenario Name: Roof Vent

Scenario Description: The application of this scenario consists of installing a motorized roof vent system consisting of a motor, mount, controller, and roof vent, along the peak of an existing greenhouse that is ventilated primarily with a fan installed in the end wall. The greenhouse roof vent allows natural ventilation, which reduces the need for ventilation fans to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Feet

Scenario Unit: Foot

Scenario Typical Size: 125.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$9,452.68	\$75.62
Equipment Installation	\$0.00	\$0.00
Labor	\$1,604.99	\$12.84
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$11,057.68	\$88.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 17

Scenario Name: Sealant, Gap, Whole Building

Scenario Description: The application of this scenario consists of professional sealing of all air leakage gaps in a heated, cooled, or ventilated agricultural structure. The sealant will reduce heat loss and heat gain due to infiltration, which reduces the respective need for heating, cooling, and ventilating equipment to operate, resulting in the reduction of energy use. The measurement is based upon the nominal perimeter of the building where all gaps are sealed, including, but not limited to, between the floor and walls, along all eaves, gable ends, and ridge cap and around windows, doors, and other penetrations.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Nominal Perimeter of Building

Scenario Unit: Foot

Scenario Typical Size: 1,120.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$5,497.13	\$4.91
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$5,497.13	\$4.91

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 672 - Energy Efficient Building Envelope

Scenario Number: 18

Scenario Name: Wall Conversion

Scenario Description: The application of this scenario consists of replacing curtain walls, evaporative cool pads, or other openings in external walls with a new insulated wall assembly in a conditioned agricultural structure. The insulated wall will reduce heat loss, which reduces the need for heating equipment to operate, resulting in the reduction of energy use.

Before Situation: An agricultural operation includes a building envelope or boundary between conditioned spaces that causes inefficient energy use by heating, cooling, or ventilation systems. Inefficient energy use and a recommendation to implement an improvement, which is comparable to a scenario, has been identified by an ASABE S612 compliant on-farm energy audit, the NRCS Energy Tools, or another NRCS approved tool.

After Situation: A replaced, retrofit, or new component of a building envelope or boundary is installed in an agricultural operation that affects an existing energy using system. An analysis of the estimated annual energy savings is completed that demonstrates the reduction of energy use. The new component of the building envelope or boundary will cause reduce annual power requirements compared to the existing system.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Surface area of insulation

Scenario Unit: Square Foot

Scenario Typical Size: 3,040.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$20,568.92	\$6.77
Equipment Installation	\$0.00	\$0.00
Labor	\$1,925.99	\$0.63
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$22,494.91	\$7.40

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 805 - Amending Soil Properties with Lime

Scenario Number: 5

Scenario Name: Low Rate Lime, Less Than or Equal to Two Tons

Scenario Description: Crop production is impacted by Soil pH. Lime will be applied based on cropping system and according to soil test recommendations to improve the soil physical, chemical, and biological properties.

Before Situation: Producer has not used lime and as a result the soil pH is acidic and resulting in decrease in plant available nutrients, poor soil structure, soil health is reduced and poor crop production.

After Situation: Plant productivity and heath is improved due to a increase in availability for applied nutrient and less nutrients being lost. Soil structure & Health will improve resulting improved water infiltration and less runoff.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$53.53	\$1.34
Equipment Installation	\$398.89	\$9.97
Labor	\$372.74	\$9.32
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$825.16	\$20.63

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 805 - Amending Soil Properties with Lime

Scenario Number: 6

Scenario Name: Market/Gardens

Scenario Description: Market/Garden production is impacted by Soil pH. Lime will be applied according to soil test recommendations to improve the soil physical, chemical, and biological properties.

Before Situation: Producer has not used lime and as a result the soil pH is acidic and resulting in decrease in plant available nutrients, poor soil structure, soil health is reduced and poor crop production.

After Situation: Plant productivity and heath is improved due to a increase in availability for applied nutrient and less nutrients being lost. Soil structure & Health will improve resulting improved water infiltration and less runoff.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: 1,000 square foot

Scenario Unit: 1,000 Square Feet

Scenario Typical Size: 15.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$26.77	\$1.78
Equipment Installation	\$3.39	\$0.23
Labor	\$178.24	\$11.88
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$208.40	\$13.89

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 805 - Amending Soil Properties with Lime

Scenario Number: 13

Scenario Name: Lime Rate, Greater Than Two Tons

Scenario Description: Biogeochemical function of the soil is impacted by Soil pH. Lime will be applied based on cropping system and according to soil test recommendations to improve the soil physical, chemical, and biological properties.

Before Situation: Producer has not used lime and as a result the soil pH is acidic and resulting in decrease in plant available nutrients, poor soil structure, soil health is reduced and poor crop production.

After Situation: Implementation according to the plans and specification has occurred. Plant productivity and heath is improved due to a increase in availability for applied nutrient and less nutrients being lost. Soil structure and health will improve resulting improved water infiltration and less runoff.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acres treated

Scenario Unit: Acre

Scenario Typical Size: 40.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$53.53	\$1.34
Equipment Installation	\$797.78	\$19.94
Labor	\$559.11	\$13.98
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$1,410.42	\$35.26

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 812 - Raised Beds

Scenario Number: 23

Scenario Name: Unframed, Contamination or Debris Sites Only, Base Cost

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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Soils on site are unsuitable for agricultural production. Soil cannot be remediated or debris cannot be removed practically.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$209.54	\$209.54
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$209.54	\$209.54

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 812 - Raised Beds

Scenario Number: 24

Scenario Name: Unframed, Contamination or Debris Sites Only, Implementation Cost

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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Soils on site are unsuitable for agricultural production. Soil cannot be be remediated or debris cannot be removed practically.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet per Bed

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.77	\$2.77
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.77	\$2.77

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 812 - Raised Beds

Scenario Number: 26

Scenario Name: Framed, Contamination or Debris Sites Only, Base Cost

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. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Soils on site are unsuitable for agricultural production. Soil cannot be be remediated or debris cannot be removed practically.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$305.46	\$305.46
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$305.46	\$305.46

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 812 - Raised Beds

Scenario Number: 27

Scenario Name: Framed, Contamination or Debris Sites Only, Implementation Cost

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. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Soils on site are unsuitable for agricultural production. Soil cannot be be remediated or debris cannot be removed practically.

After Situation: 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.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Square Feet of Bed

Scenario Unit: Square Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$7.75	\$7.75
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$7.75	\$7.75

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: 821 - Low Tunnel Systems

Scenario Number: 22

Scenario Name: Low Tunnel, Base Cost

Scenario Description: Protection for annual row crops including vegetables and other truck crops with a low tunnel system or floating cover to protect plant vigor. The covered row ranges from 500 to 5000 linear feet. The producer manages seasonal conditions such as soil temperature, exposure to early or late frost, and insects of food crops. Cost includes the sum total, in linear feet, of all rows for materials and labor. The base represents a typical cost incurred, regardless of size. Must be planned in conjunction with the implementation scenario to reflect the total installation cost.

Before Situation: Crop production occurs within the zone growing season; however, plant productivity and health is negatively impacted due to weather/environmental conditions that delay planting.

After Situation: Low tunnels were installed and managed for the desired growing season and implementation requirements for low tunnels and covers were provided. Plant productivity and health were improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Number

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2,594.69	\$2,594.69
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2,594.69	\$2,594.69

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.

Practice Code Name: 821 - Low Tunnel Systems

Scenario Number: 23

Scenario Name: Low Tunnel, Implementation Cost

Scenario Description: Protection for annual row crops including vegetables and other truck crops with a low tunnel system or floating cover to protect plant vigor. The covered row ranges from 500 to 5000 linear feet. The producer manages seasonal conditions such as soil temperature, exposure to early or late frost, and insects of food crops. Cost includes the sum total, in linear feet, of all rows for materials and labor. Implementation costs are expenses that vary in proportion to the size. Must be planned in conjunction with the base cost to reflect the total installation cost.

Before Situation: Crop production occurs within the zone growing season; however, plant productivity and health is negatively impacted due to weather/environmental conditions that delay planting.

After Situation: Low tunnels were installed and managed for the desired growing season and implementation requirements for low tunnels and covers were provided. Plant productivity and health were improved.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Linear Feet of Structure

Scenario Unit: Linear Foot

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$2.29	\$2.29
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$2.29	\$2.29

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Practice Code Name: E300EAP - Existing Activity Payment

Scenario Number: 1

Scenario Name: Existing Activity Payment

Scenario Description: Existing activity payments are provided to enhance, maintain, and manage conservation activities already implemented at the agricultural operation when the contract offer is accepted. These payments are intended to support the continuation of those activities throughout the duration of the contract.

Before Situation: Producer implements conservation activities across all land uses included in the operation at the base level conservation stewardship levels.

After Situation: Through participation in the program, the producer continues to maintain or improve the base level of stewardship assessed at the time of enrollment.

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Per Contract

Scenario Unit: Number

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$4,000.00	\$4,000.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Risk	\$0.00	\$0.00
Total	\$4,000.00	\$4,000.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.



Practice Code Name: RFRN - FA Rental Payment based on NRCS Defined Model

Scenario Number: 7

Scenario Name: Rental Payment, Irrigated Cropland

Scenario Description: FA payment earned for rental activity to provide conservation benefit based on NRCS defined tasks or templates.

Before Situation: Eligible Lands with Project Resource Concerns

After Situation: Eligible Lands where Project Resource Concerns are managed via Rental Contract

Associated Practices: Additional practices may be required to ensure effective implementation. The costs associated with these practices are not included in the current practice scenario.

Resource Concerns: The conservation practice standard provides implementation specifications to achieve the desired conservation objective(s) by addressing identified natural resource concern(s).

Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 1.00

Cost Summary:

Cost Category	Total Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$167.00	\$167.00
Risk	\$0.00	\$0.00
Total	\$167.00	\$167.00

Disclaimer: This information is not intended for practical implementation. Please adhere to the specific design or implementation requirements applicable to your site.