Practice: 360 - Waste Facility Closure

Scenario # 1 Poultry House Soil Remediation

Scenario Description: **Actual Scenario # 1** **New York**

This practice scenario includes the remediation of the soil in an abandoned poultry structures previously used to store poultry waste (litter) on an earthen floor.The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342).

Before Practice Situation:

The abandoned poultry house has a damaged roof exposing the earthen floor of the structure to rainfall. Rainfall and nutrients on the floor of the house pose a risk to surface water from contaminated runoff or to ground water from seepage into the underlying soils.

After Practice Situation:

This scenario is based on a 40' wide x 400' long poultry house with 1 foot depth of nutrient laden soil to remediate (16,000 CF). Payment under this scenario includes only activities associated with the soil remediation. Soil remediation activities in this scenario include removing the nutrient enriched soil found in the first 7 inches of soil beneath the litter floor and mixing wood chips with the remaining 5 inches of soil. Nutrient level testing and field application of the removed soil shall be performed according to nutrient planning in conformance with Nutrient Management, Code 590. The remaining 5 inches of soil will be remediated in-situ by mixing in wood chips, at a rate of 33% of the volume of remaining soil, for the purpose of nitrogen sequestration. Additional soil will be hauled in (estimated at 110% of the soil volume that was removed for field application) to backfill the depression. Shaping and crowning of the soil material on the disturbed area and critical area seeding will be done to provide drainage, complete the site remediation and establish vegetation. Operation and maintenance of the site will include nutrient testing the following year to determine if the nutrients in the mixed soil have been remediated and surface and ground water resource concerns have been addressed. In this scenario, samples at four (4) locations will be taken at 6, 12, 18 and 24 inches at the end of Year 1.

Scenario Feature Measure:

Cubic feet of soil remediated

Scenario Typical Size:	16000	Cubic Foot	Tot Unit Cost	$0.83

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Test, Soil Test, Standard	16	Each	$9.36	$149.76
Equip./Install.	Front End Loader, 185 HP	6	Hour	$104.12	$624.72
Equip./Install.	Aggregate, Wood Chips	82	Cubic yard	$23.95	$1,963.90
Equip./Install.	Tractor, agricultural, 120 HP	1	Hour	$59.90	$59.90
Equip./Install.	Earthfill, Dumped and Spread	380	Cubic yard	$3.77	$1,432.60
Equip./Install.	Manure, compost, application	19	Hour	$112.09	$2,129.71
Equip./Install.	Hydraulic Excavator, 1 CY	31	Hour	$125.10	$3,878.10
Mobilization	Mobilization, large equipment	2	Each	$539.90	$1,079.80
Mobilization	Mobilization, medium equipment	3	Each	$282.78	$848.34
Labor	Equipment Operators, Light	1	Hour	$24.05	$24.05
Labor	Equipment Operators, Heavy	31	Hour	$36.55	$1,133.05

Total Cost: $13,323.93

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.62	EQIP-HU	$0.75
WHIP	$0.00	WHIP-HU	$0.00

360 1 Poultry House Soil Remediation

Practice: 360 - Waste Facility Closure

Scenario # 2 Feedlot Closure

Scenario Description: **Actual Scenario # 2** **New York**

This practice scenario includes the remediation of the soil on an abandoned feedlot previously used to feed animals on a bare earthen lot.The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342).

Before Practice 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 Practice Situation:

This scenario is based on a 3 acre feedlot. Surveys and testing have determined the manure pack averages 8 inches in depth and the level of nutirients in the 4 inches of soil below the manure pack is too high to treat insitu with vegetation. Payment under this scenario includes only activities associated with the soil remediation. Soil remediation activities in this scenario include removing the nutrient enriched manure pack and soil, an average of 12 inches below the existing surface (130,680 CF). The excavated surface will be vegetated with a mix of salt tolerant plants in conformance with Critical Area Planting, Code 342. Nutrient level testing and field application of the removed soil shall be performed according to nutrient planning in conformance with Nutrient Management, Code 590. Shaping and crowning of the soil material on the disturbed area and critical area seeding will be done to provide drainage, complete the site remediation and establish vegetation. Operation and maintenance of the site will include nutrient testing the following year to determine if the soil has been remediated and surface and ground water resource concerns have been addressed. In this scenario, samples at four (4) locations will be taken at 6, 12, 18 and 24 inches at the end of Year 1. Fence and feedbunk removal is to be performed under Obstruction Removal, Code 500.

Scenario Feature Measure:

Cubic feet of soil remediated

Scenario Typical Size:	130680	Cubic Foot	Tot Unit Cost	$0.29

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Test, Soil Test, Standard	16	Each	$9.36	$149.76
Equip./Install.	Manure, compost, application	269	Hour	$112.09	$30,152.21
Equip./Install.	Hydraulic Excavator, 1 CY	40	Hour	$125.10	$5,004.00
Mobilization	Mobilization, medium equipment	2	Each	$282.78	$565.56
Labor	Equipment Operators, Heavy	40	Hour	$36.55	$1,462.00
				Total Cost:	$37,333.53

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.21	EQIP-HU	$0.26
WHIP	$0.00	WHIP-HU	$0.00

Practice: 360 - Waste Facility Closure

Scenario # 3 Demolition of Concrete Waste Storage Structure

Scenario Description: **Actual Scenario # 3** **New York**

This practice scenario includes the demolition of a concrete waste storage structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 Practice Situation:

This scenario assumes a concrete waste storage structure, with top dimensions of 60 ft x 60 ft with 10 ft vertical walls. The walls are 8 inches thick, the concrete floor is 5 inches thick and the footing for the wall is 12 inches wide by 24 inches deep. The total structural storage volume equals 36,000 cubic feet. The total volume of concrete to be demolished is 3,580 cubic feet ([2 X (60 ft + 60 ft) X 10ft X 8in /12 in/ft] + [60 ft X 60 ft X 5in /12 in/ft] + [2 X (60 ft + 60 ft) X 12in /12 in/ft X 24in /12in/ft]). The volume of waste to be removed approximately equals 50% of the structural volume (50% X 36,000 = 18,000 CF). The volume of earthwork (earthfill and/or excavation, final grading) required is approximately 50% of the structural volume. The concrete will be demolished and hauled off-site for recycling or disposal. Structural removal, as necessary, may include the sealing or removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. Demolition of a concrete waste storage structure 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.

Scenario Feature Measure:

Cubic Feet of concrete to be demolished

Scenario Typical Size:	3580	Cubic Foot	Tot Unit Cost	$3.06

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Hauling, bulk, highway truck	1330	Cubic Yard Mile	$0.36	$478.80
Equip./Install.	Demolition, concrete	133	Cubic Yard	$19.15	$2,546.95
Equip./Install.	Manure, compost, injection	134640	Gallon	$0.01	$1,346.40
Equip./Install.	Earthfill, Roller Compacted	667	Cubic yard	$4.60	$3,068.20
Equip./Install.	Hydraulic Excavator, 1 CY	10	Hour	$125.10	$1,251.00
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	10	Hour	$23.16	$231.60
Labor	Equipment Operators, Heavy	10	Hour	$36.55	$365.50
				Total Cost:	$10,959.47

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$2.30	EQIP-HU	$2.76
WHIP	$0.00	WHIP-HU	$0.00

360 3 Demolition of Concrete Waste Storage Structure

Practice: 360 - Waste Facility Closure

Scenario # 4 Liquid Waste Impoundment Closure with 75% Liquids and 25% Solids

Scenario Description: **Actual Scenario # 4** **New York**

This practice scenario includes the decommissioning of an earthen liquid waste impoundment (embankment or excavated type) where the estimated volume of waste to be removed is approximately 75% liquid/slurry waste and 25% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 75% if the structural volume (75% X 63,851 CF = 47,888 CF). The volume of solid waste to be removed approximately equals 25% of the structural volume (25% X 63,851 = 15,963 CF). The volume of earthwork (earthfill and excavation) required to breach the embankment and/or fill in the impoundment and perform final grading of the site is approximately 50% of the structural volume. The volume of earthwork will include 60% as excavation and 40% as compacted earthfill. 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. Decommissioning of a liquid waste storage impoundment includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). 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). 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.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.25

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	358204	Gallon	$0.01	$3,582.04
Equip./Install.	Spreading, manure sludge	15963	Cubic Foot	$0.28	$4,469.64
Equip./Install.	Excavation, Common Earth, side	709	Cubic yard	$2.48	$1,758.32
Equip./Install.	Earthfill, Roller Compacted	473	Cubic yard	$4.60	$2,175.80
Equip./Install.	Hydraulic Excavator, 1 CY	12	Hour	$125.10	$1,501.20
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	12	Hour	$23.16	$277.92
Labor	Equipment Operators, Heavy	12	Hour	$36.55	$438.60

Total Cost: $15,874.54

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.19	EQIP-HU	$0.22
WHIP	$0.00	WHIP-HU	$0.00

360 4 Liquid Waste Impoundment Closure with 75% Liquids and 25% Solids

Practice: 360 - Waste Facility Closure

Scenario # 5 Liquid Waste Impoundment Closure with 50% Liquids and 50% Solids

Scenario Description: **Actual Scenario # 5** **New York**

This practice scenario includes the decommissioning of an earthen liquid waste impoundment (embankment or excavated type) where the estimated volume of waste to be removed is approximately 50% liquid/slurry waste and 50% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 50% if the structural volume (50% X 63,851 CF = 31,925 CF). The volume of solid waste to be removed approximately equals 50% of the structural volume (50% X 63,851 = 31,925 CF). The volume of earthwork (earthfill and excavation) required to breach the embankment and/or fill in the impoundment and perform final grading of the site is approximately 50% of the structural volume. The volume of earthwork will include 60% as excavation and 40% as compacted earthfill. 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. Decommissioning of a liquid waste storage impoundment includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). 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). 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.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.30

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	238803	Gallon	$0.01	$2,388.03
Equip./Install.	Spreading, manure sludge	31925	Cubic Foot	$0.28	$8,939.00
Equip./Install.	Excavation, Common Earth, side	709	Cubic yard	$2.48	$1,758.32
Equip./Install.	Earthfill, Roller Compacted	473	Cubic yard	$4.60	$2,175.80
Equip./Install.	Hydraulic Excavator, 1 CY	12	Hour	$125.10	$1,501.20
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	12	Hour	$23.16	$277.92
Labor	Equipment Operators, Heavy	12	Hour	$36.55	$438.60

Total Cost: $19,149.89

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.22	EQIP-HU	$0.27
WHIP	$0.00	WHIP-HU	$0.00

360 5 Liquid Waste Impoundment Closure with 50% Liquids and 50% Solids

Practice: 360 - Waste Facility Closure

Scenario # 6 Liquid Waste Impoundment Closure with 25% Liquids and 75% Solids

Scenario Description: **Actual Scenario # 6** **New York**

This practice scenario includes the decommissioning of an earthen liquid waste impoundment (embankment or excavated type) where the estimated volume of waste to be removed is approximately 25% liquid/slurry waste and 75% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 25% if the structural volume (25% X 63,851 CF = 15,9635 CF). The volume of solid waste to be removed approximately equals 75% of the structural volume (75% X 63,851 = 47,888 CF). The volume of earthwork (earthfill and excavation) required to breach the embankment and/or fill in the impoundment and perform final grading of the site is approximately 50% of the structural volume. The volume of earthwork will include 60% as excavation and 40% as compacted earthfill. 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. Decommissioning of a liquid waste storage impoundment includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). 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). 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.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.35

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	119401	Gallon	$0.01	$1,194.01
Equip./Install.	Spreading, manure sludge	47888	Cubic Foot	$0.28	$13,408.64
Equip./Install.	Excavation, Common Earth, side	709	Cubic yard	$2.48	$1,758.32
Equip./Install.	Earthfill, Roller Compacted	473	Cubic yard	$4.60	$2,175.80
Equip./Install.	Hydraulic Excavator, 1 CY	12	Hour	$125.10	$1,501.20
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	12	Hour	$23.16	$277.92
Labor	Equipment Operators, Heavy	12	Hour	$36.55	$438.60

Total Cost: $22,425.51

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.26	EQIP-HU	$0.32
WHIP	$0.00	WHIP-HU	$0.00

360 6 Liquid Waste Impoundment Closure with 25% Liquids and 75% Solids

Practice: 360 - Waste Facility Closure

Scenario # 7 Liquid Waste Impoundment Closure with 0% Liquids and 100% Solids

Scenario Description: **Actual Scenario # 7** **New York**

This practice scenario includes the decommissioning of an earthen liquid waste impoundment (embankment or excavated type) where the estimated volume of waste to be removed is approximately 0% liquid/slurry waste and 100% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 0% of the structural volume. The volume of solid waste to be removed approximately equals 100% of the structural volume (63,851 CF). The volume of earthwork (earthfill and excavation) required to breach the embankment and/or fill in the impoundment and perform final grading of the site is approximately 50% of the structural volume. The volume of earthwork will include 60% as excavation and 40% as compacted earthfill. 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. Decommissioning of a liquid waste storage impoundment includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). 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). 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.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.40

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Spreading, manure sludge	63851	Cubic Foot	$0.28	$17,878.28
Equip./Install.	Excavation, Common Earth, side	709	Cubic yard	$2.48	$1,758.32
Equip./Install.	Earthfill, Roller Compacted	473	Cubic yard	$4.60	$2,175.80
Equip./Install.	Hydraulic Excavator, 1 CY	12	Hour	$125.10	$1,501.20
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	3	Each	$282.78	$848.34
Labor	General Labor	12	Hour	$23.16	$277.92
Labor	Equipment Operators, Heavy	12	Hour	$36.55	$438.60

Total Cost: $25,418.36

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.30	EQIP-HU	$0.36
WHIP	$0.00	WHIP-HU	$0.00

360 7 Liquid Waste Impoundment Closure with 0% Liquids and 100% Solids

Practice: 360 - Waste Facility Closure

Scenario # 8 Liquid Waste Impoundment Conversion to Fresh Water Storage with 75% Liquids and 25% Solids

Scenario Description: **Actual Scenario # 8** **New York**

This practice scenario includes the conversion of an earthen liquid waste impoundment (embankment or excavated type) to fresh water storage where the estimated volume of waste to be removed is approximately 75% liquid/slurry waste and 25% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 75% if the structural volume (75% X 63,851 CF = 47,888 CF). The volume of solid waste to be removed approximately equals 25% of the structural volume (25% X 63,851 = 15,963 CF). The volume of earthwork (earthfill and/or excavation) required to meet current NRCS standards and perform final grading and shaping of the site is approximately 5% of the structural volume. 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. Conversion of a liquid waste storage impoundment for fresh water storage includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be brought up to current NRCS standards for its intended purpose. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Conversion to fresh water storage will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.18

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	358204	Gallon	$0.01	$3,582.04
Equip./Install.	Spreading, manure sludge	15963	Cubic Foot	$0.28	$4,469.64
Equip./Install.	Earthfill, Roller Compacted	118	Cubic yard	$4.60	$542.80
Equip./Install.	Hydraulic Excavator, 1 CY	8	Hour	$125.10	$1,000.80
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	8	Hour	$23.16	$185.28
Labor	Equipment Operators, Heavy	8	Hour	$36.55	$292.40
				Total Cost:	$11,743.98

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.14	EQIP-HU	$0.17
WHIP	$0.00	WHIP-HU	$0.00

360 8 Liquid Waste Impoundment Conversion to Fresh Water Storage with

Practice: 360 - Waste Facility Closure

Scenario # 9 Liquid Waste Impoundment Conversion to Fresh Water Storage with 50% Liquids and 50% Solids

Scenario Description: **Actual Scenario # 9** **New York**

This practice scenario includes the conversion of an earthen liquid waste impoundment (embankment or excavated type) to fresh water storage where the estimated volume of waste to be removed is approximately 50% liquid/slurry waste and 50% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 50% of the structural volume (50% X 63,851 CF = 31,925 CF). The volume of solid waste to be removed approximately equals 50% of the structural volume (50% X 63,851 = 31,925 CF). The volume of earthwork (earthfill and/or excavation) required to meet current NRCS standards and perform final grading and shaping of the site is approximately 5% of the structural volume. 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. Conversion of a liquid waste storage impoundment for fresh water storage includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be brought up to current NRCS standards for its intended purpose. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Conversion to fresh water storage will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.24

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	238803	Gallon	$0.01	$2,388.03
Equip./Install.	Spreading, manure sludge	31925	Cubic Foot	$0.28	$8,939.00
Equip./Install.	Earthfill, Roller Compacted	118	Cubic yard	$4.60	$542.80
Equip./Install.	Hydraulic Excavator, 1 CY	8	Hour	$125.10	$1,000.80
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	8	Hour	$23.16	$185.28
Labor	Equipment Operators, Heavy	8	Hour	$36.55	$292.40
				Total Cost:	$15,019.33

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.18	EQIP-HU	$0.21
WHIP	$0.00	WHIP-HU	$0.00

360 9 Liquid Waste Impoundment Conversion to Fresh Water Storage with

Practice: 360 - Waste Facility Closure

Scenario # 10 Liquid Waste Impoundment Conversion to Fresh Water Storage with 25% Liquids and 75% Solids

Scenario Description: **Actual Scenario # 10** **New York**

This practice scenario includes the conversion of an earthen liquid waste impoundment (embankment or excavated type) to fresh water storage where the estimated volume of waste to be removed is approximately 25% liquid/slurry waste and 75% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 25% of the structural volume (25% X 63,851 CF = 15,963 CF). The volume of solid waste to be removed approximately equals 75% of the structural volume (75% X 63,851 = 47,888 CF). The volume of earthwork (earthfill and/or excavation) required to meet current NRCS standards and perform final grading and shaping of the site is approximately 5% of the structural volume. 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. Conversion of a liquid waste storage impoundment for fresh water storage includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be brought up to current NRCS standards for its intended purpose. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Conversion to fresh water storage will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.29

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Manure, compost, injection	119401	Gallon	$0.01	$1,194.01
Equip./Install.	Spreading, manure sludge	47888	Cubic Foot	$0.28	$13,408.64
Equip./Install.	Earthfill, Roller Compacted	118	Cubic yard	$4.60	$542.80
Equip./Install.	Hydraulic Excavator, 1 CY	8	Hour	$125.10	$1,000.80
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	4	Each	$282.78	$1,131.12
Labor	General Labor	8	Hour	$23.16	$185.28
Labor	Equipment Operators, Heavy	8	Hour	$36.55	$292.40
				Total Cost:	$18,294.95

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.21	EQIP-HU	$0.26
WHIP	$0.00	WHIP-HU	$0.00

360 10 Liquid Waste Impoundment Conversion to Fresh Water Storage with

Practice: 360 - Waste Facility Closure

Scenario # 11 Liquid Waste Impoundment Conversion to Fresh Water Storage with 0% Liquids and 100% Solids

Scenario Description: **Actual Scenario # 11** **New York**

This practice scenario includes the conversion of an earthen liquid waste impoundment (embankment or excavated type) to fresh water storage where the estimated volume of waste to be removed is approximately 0% liquid/slurry waste and 100% sludge/solid waste of the structural storage capacity of the structure. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrient and pathogens in ground and/or surface waters and air quality impacts from greenhouse gases, particulate matter and associated precursors, and objectionable odors.Associated practices: Nutrient Management (590), Critical Area Planting (342)

Before Practice 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 environmentally sustainability by the potential for impacts to water and air quality.

After Practice Situation:

This scenario assumes a waste storage pond, with top dimensions of 110 ft x 110 ft, 8 ft total depth with 2:1 side slopes. The total structural storage volume equals 63,851 cubic feet. The volume of liquid waste to be pumped approximately equals 0% of the structural volume. The volume of solid waste to be removed approximately equals 100% of the structural volume (47,888 CF). The volume of earthwork (earthfill and/or excavation) required to meet current NRCS standards and perform final grading and shaping of the site is approximately 5% of the structural volume. 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. Conversion of a liquid waste storage impoundment for fresh water storage includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be brought up to current NRCS standards for its intended purpose. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Conversion to fresh water storage will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment.

Scenario Feature Measure:

Cubic feet of structural storage

Scenario Typical Size:	63851	Cubic Foot	Tot Unit Cost	$0.33

Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Spreading, manure sludge	63851	Cubic Foot	$0.28	$17,878.28
Equip./Install.	Earthfill, Roller Compacted	118	Cubic yard	$4.60	$542.80
Equip./Install.	Hydraulic Excavator, 1 CY	8	Hour	$125.10	$1,000.80
Mobilization	Mobilization, large equipment	1	Each	$539.90	$539.90
Mobilization	Mobilization, medium equipment	3	Each	$282.78	$848.34
Labor	General Labor	8	Hour	$23.16	$185.28
Labor	Equipment Operators, Heavy	8	Hour	$36.55	$292.40
				Total Cost:	$21,287.80

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	$0.25	EQIP-HU	$0.30
WHIP	$0.00	WHIP-HU	$0.00

360 11 Liquid Waste Impoundment Conversion to Fresh Water Storage with