

Practice: 316 - Animal Mortality Facility
Scenario # 1 Incineration <50 Cu Ft Chamber

Missouri

Scenario Description:

This scenario consists of installing a manufactured Type IV incinerator designed to handle up to 350 lbs of average daily mortality for the species and size of the operation. Payment includes the incinerator, fuel tank and concrete slab to support the incinerator and fuel tank. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

Potential Associated Practices: Heavy Use Area Protection (561), Fence (382), Critical Area Planting (342), Access Road (560), Waste Storage Facility (313), Nutrient Management (590), Roofs and Covers (367), Critical Area Planting (342).

Before Practice 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 Practice 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. Included is a concrete slab to set the incinerator on and a fuel tank. Ash materials to be stored in suitable containers until land disposal as per the nutrient management plan or landfilled.

Scenario Feature Measure:

Incinerator Chamber Volume

Scenario Typical Size:	44	Cubic Foot	Tot Unit Cost	\$172.40
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Incinerator, 200 lb	1	Each	\$6,025.00	\$6,025.00
Equip./Install.	Excavation, Common Earth, side cast, small	4	Cubic yard	\$1.96	\$7.84
Equip./Install.	Concrete, CIP, slab on grade, reinforced	4	Cubic yard	\$253.20	\$1,012.80
Equip./Install.	Hydraulic Excavator, 1 CY	1	Hour	\$96.78	\$96.78
Labor	Equipment Operators, Light	1	Hour	\$20.92	\$20.92
Labor	General Labor	1	Hour	\$21.56	\$21.56
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$7,585.76

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$129.30	EQIP-HU	\$155.16
EQIP-NOI	\$129.30	EQIP-HUNOI	\$155.16

Practice: 316 - Animal Mortality Facility
Scenario # 2 Incineration 50-100 Cu Ft Chamber

Missouri

Scenario Description:

This scenario consists of installing a manufactured Type IV incinerator designed to handle 350 to 850 lbs of average daily mortality for the species and size of the operation. Payment includes the incinerator, fuel tank and concrete slab to support the incinerator and fuel tank. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

Potential Associated Practices: Heavy Use Area Protection (561), Fence (382), Critical Area Planting (342), Access Road (560), Waste Storage Facility (313), Nutrient Management (590), Roofs and Covers (367), Critical Area Planting (342).

Before Practice 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 Practice 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. Included is a concrete slab to set the incinerator on and a fuel tank. Ash materials to be stored in suitable containers until land disposal as per the nutrient management plan or landfilled.

Scenario Feature Measure:

Incinerator Chamber Volume

Scenario Typical Size:	55.8	Cubic Foot	Tot Unit Cost	\$150.28
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Incinerator, 400 lb	1	Each	\$6,825.00	\$6,825.00
Equip./Install.	Excavation, Common Earth, side cast, small	4	Cubic yard	\$1.96	\$7.84
Equip./Install.	Concrete, CIP, slab on grade, reinforced	4	Cubic yard	\$253.20	\$1,012.80
Equip./Install.	Hydraulic Excavator, 1 CY	1	Hour	\$96.78	\$96.78
Labor	Equipment Operators, Light	1	Hour	\$20.92	\$20.92
Labor	General Labor	1	Hour	\$21.56	\$21.56
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$8,385.76

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$112.71	EQIP-HU	\$135.25
EQIP-NOI	\$112.71	EQIP-HUNOI	\$135.25

Practice: 316 - Animal Mortality Facility
Scenario # 3 Incineration >100 Cu Ft Chamber

Missouri

Scenario Description:

This scenario consists of installing a manufactured Type IV incinerator designed to handle a single 1,200 to 1,500 lbs of average daily mortality for the species and size of the operation. Payment includes the incinerator, fuel tank and concrete slab to support the incinerator and fuel tank. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources.

Potential Associated Practices: Heavy Use Area Protection (561), Fence (382), Critical Area Planting (342), Access Road (560), Waste Storage Facility (313), Nutrient Management (590), Roofs and Covers (367), Critical Area Planting (342).

Before Practice 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 Practice 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. Included is a concrete slab to set the incinerator on and a fuel tank. Ash materials to be stored in suitable containers until land disposal as per the nutrient management plan or landfilled.

Scenario Feature Measure:

Incineration Chamber Volume

Scenario Typical Size:	119.6	Cubic Foot	Tot Unit Cost	\$86.63
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Incinerator, 600 lb	1	Each	\$8,800.00	\$8,800.00
Equip./Install.	Excavation, Common Earth, side cast, small	4	Cubic yard	\$1.96	\$7.84
Equip./Install.	Concrete, CIP, slab on grade, reinforced	4	Cubic yard	\$253.20	\$1,012.80
Equip./Install.	Hydraulic Excavator, 1 CY	1	Hour	\$96.78	\$96.78
Labor	Equipment Operators, Light	1	Hour	\$20.92	\$20.92
Labor	General Labor	1	Hour	\$21.56	\$21.56
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$10,360.76

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$64.97	EQIP-HU	\$77.97
EQIP-NOI	\$64.97	EQIP-HUNOI	\$77.97

Practice: 316 - Animal Mortality Facility

Scenario # 4 Static Pile - Concrete Pad

Missouri

Scenario Description:

This scenario consists of installing a concrete pad. Area is sized for composting animal mortality as a static pile or windrow and equipment access to the material. Facility sizing parameters include primary and secondary composting area requirements to allow piles to be turned at least once to go into another heat cycle prior to final disposal, typically land application. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area or vegetated treatment area as per regulations. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers.

Potential Associated Practices: Pond Sealing or Lining, Bentonite Sealant (521C), Pond Sealing or Lining, Compacted Clay Treatment (521D), Pond Sealing or Lining, Flexible Membrane (521A), Pond Sealing or Lining, Soil Dispersant (521B), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Diversion (362), Subsurface Drain (606), Heavy Use Area Protection (561), and Underground Outlet (620).

Before Practice 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 Practice 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. Construct a 75'x226' concrete surface to process mortality. Concrete 5" thick with light reinforcement. Site preparation includes topsoil removal, minimal regrading and compaction, installing gravel or sand subbase and then concrete.

Scenario Feature Measure:

Pad Area

Scenario Typical Size:	16950	Square Foot	Tot Unit Cost	\$4.35
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	206	Cubic yard	\$24.76	\$5,100.56
Equip./Install.	Earthfill, Roller Compacted	315	Cubic yard	\$3.62	\$1,140.30
Equip./Install.	Excavation, Common Earth, side cast, small	630	Cubic yard	\$1.96	\$1,234.80
Equip./Install.	Concrete, CIP, slab on grade, reinforced	260	Cubic yard	\$253.20	\$65,832.00
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$73,708.52

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$3.26	EQIP-HU	\$3.91
EQIP-NOI	\$3.26	EQIP-HUNOI	\$3.91

Practice: 316 - Animal Mortality Facility

Scenario # 5 Static Pile - Concrete Pad with Concrete Bin(s)

Missouri

Scenario Description:

This scenario consists of installing concrete bin(s), open on one end, on top of a concrete pad to compost mortality in static piles that have sufficient bulking material to allow natural aeration. Facility sizing parameters include primary and secondary composting area requirements to allow piles to be turned at least once to go into another heat cycle prior to final disposal, typically land application. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Size of facility based on daily mortality and sizing procedures accepted in particular state.

Potential Associated Practices: Roofs and Cover (367), Heavy Use Area Protection (561), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Roof Runoff Structure (558), Diversion (362), Subsurface Drain (606), Heavy Use Area Protection (561) and Underground Outlet (620).

Before Practice 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 Practice 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. Selected method for carcass treatment and disposal meet or are permitted by federal, state, and local laws, rules, regulation. This scenario is based upon a 40' x 56' concrete slab with 5' high bin dividers, and 5 bins (configured 2 at 20'x28' and 3 at 20'x18.5'). Preparation includes stripping the top 1' of soil and roll compact same back into sub-floor. The bins are constructed on a 5" concrete slab. Roofed portion is addressed under Roofs and Covers (367). Piles are turned by moving to adjacent bin to go through a second heat cycle prior to final land application.

Scenario Feature Measure:

Cubic Foot of Storage

Scenario Typical Size:	11200	Cubic Foot	Tot Unit Cost	\$2.19
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	28	Cubic yard	\$24.76	\$693.28
Equip./Install.	Earthfill, Roller Compacted	83	Cubic yard	\$3.62	\$300.46
Equip./Install.	Excavation, Common Earth, side cast, small	83	Cubic yard	\$1.96	\$162.68
Equip./Install.	Concrete, CIP, formed reinforced	35	Cubic yard	\$402.08	\$14,072.80
Equip./Install.	Concrete, CIP, slab on grade, reinforced	35	Cubic yard	\$253.20	\$8,862.00
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$24,492.08

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1.64	EQIP-HU	\$1.97
EQIP-NOI	\$1.64	EQIP-HUNOI	\$1.97