

Practice: 317 - Composting Facility

Scenario # 1 Composter, Windrow, compacted earth floor

Scenario Description: Actual Scenario # 2

New York

The composting facility is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil, and climate conditions are appropriate for earth floors and are allowed by state and local regulations. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.

Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).

Before Practice 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 Practice 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. This is incorporated as part of the overall waste management system meeting the National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH) that has been developed to also account for end use of the product from the composting facility. This scenario consists of removing and compacting back into place the top 1' of soil to create a compacted, impervious earthen floor to act as a working area to compost organic material in a static pile, windrow, that has sufficient carbon based bulking material to allow natural aeration. Piles typically turned at least once to go into another heat cycle prior to final disposal, typically land application. Typical pad 90' x 363' (3/4 acre) on an improved compacted earthen surface. Include sufficient area for processing equipment access. Single piles or windrows to minimize runoff. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area or vegetated treatment area as per regulations. Site preparation includes removal and re-compaction of top 1' of material.

Scenario Feature Measure:

Square Foot Floor Area

Scenario Typical Size:	32670	Square Foot	Tot Unit Cost	\$0.37
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Earthfill, Roller Compacted	1210	Cubic yard	\$4.60	\$5,566.00
Equip./Install.	Excavation, common earth, large	1210	Cubic Yard	\$3.98	\$4,815.80
Mobilization	Mobilization, medium equipment	2	Each	\$282.78	\$565.56
Mobilization	Mobilization, large equipment	2	Each	\$539.90	\$1,079.80

Total Cost: \$12,027.16

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$0.28	EQIP-HU	\$0.33
WHIP	\$0.00	WHIP-HU	\$0.00

Practice: 317 - Composting Facility

Scenario # 2 Composter, Windrow, gravel surface

New York

Scenario Description: Actual Scenario # 3

The composting facility is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface, but does not require a hard working surface such as concrete. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility. Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).

Before Practice 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 Practice Situation:

Manure and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. This is incorporated as part of the overall waste management system meeting the National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH) that has been developed to also account for end use of the product from the composting facility. This scenario consists of installing a gravel pad over impervious soil to act as a working area to compost organic material in a static pile, windrow, that has sufficient carbon based bulking material to allow natural aeration. Piles typically turned at least once to go into another heat cycle prior to final disposal, typically land application. Typical pad 90' x 363' (3/4 acre) on an improved gravel surface. Sub base material sufficiently compacted or improved. Include sufficient area for processing equipment access. Single piles or windrows to minimize runoff. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area or vegetated treatment area as per regulations. Site preparation includes topsoil removal (0.5'), excavation and re-compaction of subsoil (1'), placement of geosynthetic material, and installing 6" of compacted gravel.

Scenario Feature Measure:

Square Foot Floor Area

Scenario Typical Size:	32670	Square Foot	Tot Unit Cost	\$1.26
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	605	Cubic yard	\$30.22	\$18,283.10
Equip./Install.	Geotextile, woven	3630	Square Yard	\$2.48	\$9,002.40
Equip./Install.	Earthfill, Roller Compacted	1210	Cubic yard	\$4.60	\$5,566.00
Equip./Install.	Excavation, common earth, large	1815	Cubic Yard	\$3.98	\$7,223.70
Mobilization	Mobilization, very small equipment	1	Each	\$78.08	\$78.08
Mobilization	Mobilization, small equipment	1	Each	\$190.19	\$190.19
Mobilization	Mobilization, medium equipment	1	Each	\$282.78	\$282.78
Mobilization	Mobilization, large equipment	1	Each	\$539.90	\$539.90

Payment types:

Total Cost: \$41,166.15

<u>PayType</u>	<u>Unit Payment</u>	<u>PayType</u>	<u>Unit Payment</u>
EQIP	\$0.95	EQIP-HU	\$1.13
WHIP	\$0.00	WHIP-HU	\$0.00

Practice: 317 - Composting Facility

Scenario # 3 Composter, Windrow, concrete pads, curbs

Scenario Description: Actual Scenario # 4

New York

The composting facility is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. 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. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility. Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).

Before Practice 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 Practice Situation:

Manure and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. This is incorporated as part of the overall waste management system meeting the National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH) that has been developed to also account for end use of the product from the composting facility. This scenario consists of installing 6 inches concrete pad with curbs (8" x 12") over compacted gravel to act as a working area to compost organic material in a static pile, windrow, that has sufficient carbon based bulking material to allow natural aeration. Typical reinforced concrete pad is 90' x 263' or 32,670 square feet. Piles typically turned at least once to go into another heat cycle prior to final disposal, typically land application. Sub base consists of compacted gravel. Include sufficient area for processing equipment access. Single piles or windrows to minimize runoff. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area or vegetated treatment area as per regulations. Site preparation includes topsoil removal (0.5'), placement of compacted gravel (4"), and installing 6" of reinforced concrete.

Scenario Feature Measure:

Square Foot Floor Area

Scenario Typical Size:	32670	Square Foot	Tot Unit Cost	\$5.22
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Graded	605	Cubic yard	\$30.22	\$18,283.10
Equip./Install.	Concrete, CIP, slab on grade,	605	Cubic yard	\$221.81	\$134,195.05
Equip./Install.	Concrete, CIP, formed reinforced	20	Cubic yard	\$477.12	\$9,542.40
Equip./Install.	Earthfill, Roller Compacted	605	Cubic yard	\$4.60	\$2,783.00
Equip./Install.	Excavation, common earth, large	1210	Cubic Yard	\$3.98	\$4,815.80
Mobilization	Mobilization, very small equipment	1	Each	\$78.08	\$78.08
Mobilization	Mobilization, small equipment	1	Each	\$190.19	\$190.19
Mobilization	Mobilization, large equipment	1	Each	\$539.90	\$539.90

Payment types:

Total Cost: \$170,427.52

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$3.91	EQIP-HU	\$4.69
WHIP	\$0.00	WHIP-HU	\$0.00