

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	317 - Composting Facility
Scenario ID	1
Scenario Name	Composter, Wood walls

Scenario Description	<p>The wooden bin composting facility with concrete floor and curbs 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. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.</p> <p>Associated Practices: Access Road (560), Critical Area Planting (342), Diversion (362), Fence (382), Heavy Use Area Protection (561), Livestock Pipeline (516), Nutrient Management (590), 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), Roofs and Covers (367), Roof Runoff Structure (558), Structure for water control (587), Subsurface Drain (606), Waste Recycling (633), Waste Storage Facility (313), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).</p>
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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 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.
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After Practice Situation	<p>Manure, litter 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. The typical composter is designed to handle organic material from a 4 house poultry operation containing 20,000 4 lbs birds in each house. The typical composter is 40' wide x 80' long with 5' high wooden wall on both sides with access from both ends. Single plank walls set on 1' high curb. Gravel access pad across both ends. Strip top 1' of soil and roll compact same back into sub-floor. The 5" concrete slab used to store and stabilize manure, litter and other agricultural by-products from a four house complex on any farm. Roof is paid seperately, if applicable.</p>
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Scenario Feature Measure	Square Foot Floor Area
Scenario Unit	Square Foot
Scenario Typical Size	3200

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$3,478.36	\$1.09
Equipment/Installation	\$21,520.64	\$6.73
Labor	\$2,527.20	\$0.79
Mobilization	\$613.92	\$0.19
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$28,140.12	\$8.79

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	317 - Composting Facility
Scenario ID	2
Scenario Name	Composter, Concrete bins

Scenario Description	<p>The composting facility with concrete floor and walls 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. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.</p> <p>Associated Practices: Access Road (560), Critical Area Planting (342), Diversion (362), Fence (382), Heavy Use Area Protection (561), Livestock Pipeline (516), Nutrient Management (590), 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), Roofs and Covers (367), Roof Runoff Structure (558), Structure for water control (587), Subsurface Drain (606), Waste Recycling (633), Waste Storage Facility (313), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).</p>
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Before Practice Situation	<p>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.</p>
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After Practice Situation	<p>Manure, litter 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. A typical composter facility is 40' wide x 80' long with 4' high concrete wall on both sides with access from both ends. Gravel access pad across both ends. Strip top 1' of soil and roll compact same back into sub-floor. The 5" concrete slab used to store and stabilize manure, litter and other agricultural by-products. Roof is paid seperately, if applicable.</p>
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Scenario Feature Measure	Square Foot Floor Area
Scenario Unit	Square Foot
Scenario Typical Size	3200

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,680.60	\$0.53
Equipment/Installation	\$38,813.98	\$12.13
Labor	\$352.00	\$0.11
Mobilization	\$534.76	\$0.17
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$41,381.34	\$12.93

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	317 - Composting Facility
Scenario ID	3
Scenario Name	Composter, windrow, all weather surface

Scenario Description

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. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.

Associated Practices: Access Road (560), Critical Area Planting (342), Diversion (362), Fence (382), Heavy Use Area Protection (561), Livestock Pipeline (516), Nutrient Management (590), 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), Roofs and Covers (367), Roof Runoff Structure (558), Structure for water control (587), Subsurface Drain (606), Waste Recycling (633), Waste Storage Facility (313), 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 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 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, compaction of subsoil, and installing 8" of compacted gravel.

Scenario Feature Measure	Square Foot Floor Area
Scenario Unit	Square Foot
Scenario Typical Size	32670

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$22,604.07	\$0.69
Equipment/Installation	\$16,263.76	\$0.50
Labor	\$0.00	\$0.00
Mobilization	\$1,143.60	\$0.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$40,011.43	\$1.22

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	317 - Composting Facility
Scenario ID	4
Scenario Name	Composter, with compacted earth floor, windrow

Scenario Description	<p>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.</p> <p>Associated Practices: Access Road (560), Critical Area Planting (342), Diversion (362), Fence (382), Heavy Use Area Protection (561), Livestock Pipeline (516), Nutrient Management (590), 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), Roofs and Covers (367), Roof Runoff Structure (558), Structure for water control (587), Subsurface Drain (606), Waste Recycling (633), Waste Storage Facility (313), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).</p>
Before Practice Situation	<p>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.</p>
After Practice Situation	<p>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 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 deposal, 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 topsoil removal, compaction of subsoil, and reinstalling topsoil, compacted.</p>

Scenario Feature Measure	Square Foot Floor Area
Scenario Unit	Square Foot
Scenario Typical Size	32670

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$8,978.20	\$0.27
Labor	\$0.00	\$0.00
Mobilization	\$2,139.04	\$0.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$11,117.24	\$0.34

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	317 - Composting Facility
Scenario ID	5
Scenario Name	Composter concrete pad& curbs

Scenario Description	<p>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. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.</p> <p>Associated Practices: Access Road (560), Critical Area Planting (342), Diversion (362), Fence (382), Heavy Use Area Protection (561), Livestock Pipeline (516), Nutrient Management (590), 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), Roofs and Covers (367), Roof Runoff Structure (558), Structure for water control (587), Subsurface Drain (606), Waste Recycling (633), Waste Storage Facility (313), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).</p>
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Before Practice Situation	<p>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.</p>
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After Practice Situation	<p>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.</p> <p>This scenario consists of installing a 6" concrete pad with curbs (8" x 12") over 6" of 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. 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 concrete 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, compaction of subsoil, installing 6" of compacted gravel, and 6" of concrete.</p>
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Scenario Feature Measure	Square Foot of Surface
Scenario Unit	Square Foot
Scenario Typical Size	32670

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$16,946.05	\$0.52
Equipment/Installation	\$183,287.30	\$5.61
Labor	\$0.00	\$0.00
Mobilization	\$1,143.60	\$0.04
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$201,376.95	\$6.16

