

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Environmental Engineering
Practice Code/Name	316 - Mortality Facility
Scenario ID	9
Scenario Name	Traditional Forced Aeration

Scenario Description
 This scenario consists of installing a forced aeration compost facility to compost large animal mortality such as swine or turkey (sow, finisher, heavy tom, etc.). The roofed portion of the facility is addressed in Roofs and Covers (367). Material storage and finished compost storage are permitted under the 316 standard by reference to the 317 Composting Facility standard (under facility sizing) however, the states may choose to allow for any additional area required for raw material storage or tertiary treatment of compost to be addressed in Waste Storage Facility (313). Size of facility based on average daily mortality and sizing procedures accepted in particular state. Payment is based on area, in square feet, of the compost bins only. A typical operation is a 1000 head sow, a 5880 head finisher, or a 15000 head heavy tom turkey operation that has an average daily mortality of 150 pounds (typical scenario size is 5 bins = 600 sf). Potential Associated Practices: Roofs and Covers (367), Heavy Use Area Protection (561), Waste Storage Facility (313), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Roof Runoff Structure (558), Diversion (362), Subsurface Drain (606), and Underground Outlet (620).

Before Practice Situation
 Animal mortality is dealt with 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 handled 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. The mortality facility consists of 5 - 120sf bins with cast-in-place trenched floors with aprons, external recirculating leachate system with piping, central aeration system with control panel and control room, concrete walls, and custom-built doors. In addition, a roof is installed over the compost bins and a roofed dry stack type structure is installed for tertiary treatment and raw material storage.

Scenario Feature Measure	Area of compost bins only	
Scenario Unit	Square Foot	
Scenario Typical Size	600.00	

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$26,077.92	\$43.46
Equipment/Installation	\$15,474.89	\$25.79
Labor	\$8,823.38	\$14.71
Mobilization	\$126.40	\$0.21
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$50,502.59	\$84.17

Cost Details:							
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-place as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$207.24	42	\$8,704.08
Equipment/Installation	38	Concrete, CIP, formed reinforced	Steel reinforced concrete formed and cast-in-place in formed structures such as walls or suspended slabs by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$329.10	15.1	\$4,969.41
Equipment/Installation	40	Clearing and Grubbing	Clearing and Grubbing, includes materials, equipment and labor	Acre	\$250.11	0.1	\$25.01
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	\$2.11	217	\$457.87
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$1.71	90	\$153.90
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.23	90	\$380.70
Equipment/Installation	926	Backhoe, 80 HP	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$45.37	8	\$362.96
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.31	16	\$420.96
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$23.98	75	\$1,798.50
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.67	150	\$2,800.50
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.62	24	\$470.88
Labor	235	Specialist Labor	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$75.07	50	\$3,753.50
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$24.01	72.2	\$1,733.52
Materials	978	"Pipe, PVC, 4", SCH 40"	"Materials: - 4" - PVC - SCH 40 - ASTM D1785"	Foot	\$2.98	500	\$1,490.00
Materials	996	"Pipe, PE, 3/4", DR 9"	"Materials: - 3/4" - PE - 160 psi - ASTM D3035 DR 9"	Foot	\$0.39	813	\$317.07
Materials	999	"Pipe, PE, 1 1/2", DR 9"	"Materials: - 1 1/2" - PE - 160 psi - ASTM D3035 DR 9"	Foot	\$1.23	331	\$407.13
Materials	1046	Post Frame Building, enclosed 4 sides	Enclosed post frame building, four walls. Includes materials, labor and equipment costs.	Square Foot	\$9.77	36	\$351.72
Materials	1738	Prefabricated concrete septic tank, 1500 gal	Precast concrete septic tank, 1,500 gal. Materials only.	Each	\$1,908.38	1	\$1,908.38
Materials	2067	Riser, Septic Tank	"24" HDPE riser with cover. Materials only."	Each	\$122.75	1	\$122.75
Materials	2160	Pump, Sewage, Solids Handling	"Pump, Sewage (Wastewater), Solids Handling, Submersible, Ressed Impeller, 2" Solids, 2" to 3" Discharge, 0.5 to 2 HP. Includes floats, alarm, and delivery."	Each	\$847.35	1	\$847.35
Materials	new	Air Blower with Control Panel	FPZ DH-30-3-115/230 1 phase Regenerative Blower with ADVD-10 Control Panel, Ashcroft Low Pressure Gauge, VLR6 Safety Relief Valve-P, FS-19P-150 Filter, 1-1/2" Brass Valves, and wiring	Each	\$11,400.00	1	\$11,400.00
Materials	new	Bin Doors	HDG Door Panel with frames, screws, hinge pins, and anchor bolts	Each	\$750.00	10	\$7,500.00
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$63.20	2	\$126.40

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Environmental Engineering
Practice Code/Name	316 - Mortality Facility
Scenario ID	10
Scenario Name	Economical Forced Aeration

Scenario Description	<p>This scenario consists of installing a forced aeration composting facility to compost small animal mortality such as poultry or nursery mortality (broilers, breeders, nursery, etc.). The roofed portion of the facility is addressed in Roofs and Covers (367). Material storage and finished compost storage are permitted under the 316 standard by reference to the 317 Composting Facility standard (under facility sizing) however, the states may choose to allow for any additional area required for raw material storage or tertiary treatment of compost to be addressed in Waste Storage Facility (313). Size of facility based on average daily mortality and sizing procedures accepted in particular state. Payment is based on area, in square feet, of the compost bins only. A typical operation is a 200,000 head (8 houses) broiler, a 80,000 head (6 houses) breeder or a 18,000 head nursery operation that has an average daily mortality of 500 pounds (typical scenario size is 5 bins = 600 sf). The mortality facility consists of concrete cast-in-place trenched floors with aprons, central aeration system, wood walls, and custom-built doors. Potential Associated Practices: Roofs and Covers (367), Heavy Use Area Protection (561), Waste Storage Facility (313), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Roof Runoff Structure (558), Diversion (362), Subsurface Drain (606), and Underground Outlet (620).</p>	
Before Practice Situation	<p>Animal mortality is dealt with 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.</p>	
After Practice Situation	<p>Animal mortality is handled 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. The mortality facility consists of 5 - 120sf bins with cast-in-place trenched floors with aprons, individual bin aeration systems consisting of an air compressor and piping, wood walls, and custom-built doors. In addition, a roof is installed over the compost bins and a roofed dry stack type structure is installed for tertiary treatment and raw material storage.</p>	
Scenario Feature Measure	Area of compost bins only	
Scenario Unit	Square Foot	
Scenario Typical Size	600.00	

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$19,008.47	\$31.68
Equipment/Installation	\$10,812.65	\$18.02
Labor	\$6,604.31	\$11.01
Mobilization	\$252.80	\$0.42
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$36,678.23	\$61.13

Cost Details:							
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-place as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$207.24	42	\$8,704.08
Equipment/Installation	40	Clearing and Grubbing	Clearing and Grubbing, includes materials, equipment and labor	Acre	\$250.11	0.1	\$25.01
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	\$2.11	217	\$457.87
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$1.71	90	\$153.90
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.23	90	\$380.70
Equipment/Installation	926	Backhoe, 80 HP	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$45.37	8	\$362.96
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$26.31	16	\$420.96
Equipment/Installation	963	Tractor, agricultural, 60 HP	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$19.28	11.5	\$221.72
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$23.98	90	\$2,158.20
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.67	40	\$746.80
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.62	35.5	\$696.51
Labor	235	Specialist Labor	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$75.07	40	\$3,002.80
Materials	12	"Post, Wood, CCA treated, 6" x 8"	"Wood Post, End 6" X 8', CCA Treated"	Each	\$20.58	23	\$473.34
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$24.01	72.2	\$1,733.52
Materials	996	"Pipe, PE, 3/4", DR 9"	"Materials: - 3/4" - PE - 160 psi - ASTM D3035 DR 9"	Foot	\$0.39	813	\$317.07
Materials	1044	Dimension Lumber, Treated	"Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners"	Board Foot	\$0.71	1342	\$952.82
Materials	1046	Post Frame Building, enclosed 4 sides	Enclosed post frame building, four walls. Includes materials, labor and equipment costs.	Square Foot	\$9.77	36	\$351.72
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$63.20	4	\$252.80
Equipment/Installation	934	Auger, Post driver attachment	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$7.43	11.5	\$85.45
Materials	new	Air Compressor	Rotary Vane Compressor with Ashcroft Low Pressure Gauge, VLR6 Safety Relief Valve-P, and FS-19P-150 Filter	Each	\$1,536.00	5	\$7,680.00
Materials	new	Bin Doors	HDG Door Panel with frames, screws, hinge pins, and anchor bolts	Each	\$750.00	10	\$7,500.00

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Environmental Engineering
Practice Code/Name	316 - Mortality Facility
Scenario ID	11
Scenario Name	In-vessel Rotary Drum, 170-300 CF

Scenario Description	<p>This scenario consists of installing a horizontal rotary drum to compost poultry or swine facility mortality. It can handle up to 300 lbs per day of mortality plus equal or higher volumes of carbon material (i.e. wood chips). A secondary composting storage area is required to finish materials. Payment quantity based on interior volume of rotary composter in cubic feet of smallest drum that can process daily mortality as per manufacturers' recommendations. 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. Air quality impacts due to odors will also be addressed.</p> <p>Potential Associated Practices: Roofs and Covers (367), Waste Storage Facility (313), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Diversion (362), Subsurface Drain (606), and Underground Outlet (620).</p>
Before Practice Situation	<p>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.</p>
After Practice Situation	<p>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.</p> <p>Installed 4' diameter by 18' long rotary drum on a concrete pad. Drum rotation moves and mixes mortality and wood chips. Facility includes site preparation, gravel, concrete pad, 4 wood wall bins, 8x10' each to complete composting. Area can be protected by adding Roofs and Covers (367) standard.</p>

Scenario Feature Measure	Volume of Drum
Scenario Unit	Cubic Foot
Scenario Typical Size	162

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,745.94	\$10.78
Equipment/Installation	\$24,187.07	\$149.30
Labor	\$3,442.19	\$21.25
Mobilization	\$299.60	\$1.85
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$29,674.80	\$183.18

Cost Details:							
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-place as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$207.24	20	\$4,144.80
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	\$2.11	120	\$253.20
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$1.71	20	\$34.20
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.23	20	\$84.60
Equipment/Installation	934	Auger, Post driver attachment	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$7.43	9.5	\$70.59
Equipment/Installation	963	Tractor, agricultural, 60 HP	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$19.28	9.5	\$183.16
Equipment/Installation	1734	Crane, truck mounted, hydraulic, 12 ton	12 ton capacity truck mounted hydraulic crane. Equipment cost only.	Hour	\$83.94	8	\$671.52
Equipment/Installation	2036	Composter, drum, 6 CY	6 CY drum composter unit. Includes equipment and operation controls. Labor not included.	Each	\$18,745.00	1	\$18,745.00
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$23.98	16	\$383.68
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.67	64	\$1,194.88
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.62	9.5	\$186.39
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$21.98	8	\$175.84
Labor	235	Specialist Labor	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$75.07	20	\$1,501.40
Materials	12	"Post, Wood, CCA treated, 6" x 8"	"Wood Post, End 6" X 8", CCA Treated"	Each	\$20.58	19	\$391.02
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$24.01	20	\$480.20
Materials	1044	Dimension Lumber, Treated	"Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners"	Board Foot	\$0.71	1232	\$874.72
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$63.20	2	\$126.40
Mobilization	1140	Mobilization, large equipment	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$173.20	1	\$173.20

Scenario Worksheet

Practice and Scenario Description:	
Information Type	Data
Region	Appalachian
State	North Carolina
Discipline Group	Environmental Engineering
Practice Code/Name	316 - Mortality Facility
Scenario ID	12
Scenario Name	In-vessel Rotary Drum > 300 CF

Scenario Description	<p>This scenario consists of installing a horizontal rotary drum to compost poultry or swine facility mortality. It can handle over 300 lbs per day of mortality plus equal or higher volumes of carbon material (i.e. wood chips). A secondary composting storage area is required to finish materials. Payment quantity based on interior volume of rotary composter in cubic feet of smallest drum that can process daily mortality as per manufacturers' recommendations. 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. Air quality impacts due to odors will also be addressed.</p> <p>Potential Associated Practices: Roofs and Covers (367), Waste Storage Facility (313), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Diversion (362), Subsurface Drain (606), and Underground Outlet (620).</p>
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	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. Installed two 4' diameter by 30' long rotary drums on a concrete pad. Drum rotation moves and mixes mortality and wood chips. Facility includes site preparation, gravel, concrete pad, 4 wood wall bins, 10'x16' each to complete composting. Area can be protected by adding Roofs and Covers (367) standard.
Scenario Feature Measure	Volume of Drum
Scenario Unit	Cubic Foot
Scenario Typical Size	756

Cost Summary:		
Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$62,568.46	\$82.76
Equipment/Installation	\$9,275.34	\$12.27
Labor	\$3,442.19	\$4.55
Mobilization	\$299.60	\$0.40
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$75,585.59	\$99.98

Cost Details:							
Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-place as a slab on grade by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$207.24	37	\$7,667.88
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	\$2.11	220	\$464.20
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$1.71	36.7	\$62.76
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$4.23	36.7	\$155.24
Equipment/Installation	934	Auger, Post driver attachment	Auger or post driver attachment to a tractor or skidsteer. Does not include power unit. Labor not included.	Hour	\$7.43	9.5	\$70.59
Equipment/Installation	963	Tractor, agricultural, 60 HP	Agricultural tractor with horsepower range of 50 to 90. Equipment and power unit costs. Labor not included.	Hour	\$19.28	9.5	\$183.16
Equipment/Installation	1734	Crane, truck mounted, hydraulic, 12 ton	12 ton capacity truck mounted hydraulic crane. Equipment cost only.	Hour	\$83.94	8	\$671.52
Labor	230	Skilled Labor	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$23.98	16	\$383.68
Labor	231	General Labor	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$18.67	64	\$1,194.88
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$19.62	9.5	\$186.39
Labor	233	Equipment Operators, Heavy	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$21.98	8	\$175.84
Labor	235	Specialist Labor	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	\$75.07	20	\$1,501.40
Materials	12	"Post, Wood, CCA treated, 6" x 8"	"Wood Post, End 6" X 8", CCA Treated"	Each	\$20.58	19	\$391.02
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$24.01	36	\$864.36
Materials	1044	Dimension Lumber, Treated	"Treated dimension lumber with nominal thickness equal or less than 2"". Includes lumber and fasteners"	Board Foot	\$0.71	1848	\$1,312.08
Materials	1628	Composter, drum, 28 CY	28 CY drum composter unit. Includes equipment and operation controls. Labor not included.	Each	\$60,001.00	1	\$60,001.00
Mobilization	1138	Mobilization, small equipment	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$63.20	2	\$126.40
Mobilization	1140	Mobilization, large equipment	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$173.20	1	\$173.20