Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	632 - Solid/Liquid Waste Separation Facility
Scenario ID	1
Scenario Name	Mechanical Separation Facility, <= 150 AU
Scenario Description	A small mechanical separation facility to partition solids, liquids, and/or associated nutrients from animal waste streams. The partitioning of the previously mentioned components facilitates the protection of air and water quality, protects animal health, and improves the management of an animal waste management system. Mechanical separators may include, but are not limited to: static inclined screens , vibratory screens, rotating screens, centrifuges, screw or roller presses, or other systems. Associated practices include Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Amendments for the Treatment of Agricultural Waste (591), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D),Roofs and Covers (367)and Waste Treatment (629).
Before Practice Situation	Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.
After Practice Situation	One small mechanical separation facility (a screw press) installed at livestock facility before storage or treatment or after treatment, for example, after an anaerobic digester. Part of an animal waste management system.
Scenario Feature Measure	Item
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$29,095.00	$29,095.00
Equipment/Installation	$2,735.80	$2,735.80
Labor	$1,303.36	$1,303.36
Mobilization	$962.06	$962.06
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$34,096.22	$34,096.22

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1948	Vibratory or Rotating Screen	Vibratory or Rotating Screen, includes materials and equipment.	Each	$29,095.00	1	$29,095.00		
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-placed 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	$273.58	10	$2,735.80		
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.	Hours	$41.44	16	$663.04	Install mechanical separator	
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.	Hours	$20.01	32	$640.32	Install mechanical separator	
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	$195.13	2	$390.26		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	2	$571.80		

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Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	632 - Solid/Liquid Waste Separation Facility
Scenario ID	2
Scenario Name	Mechanical Seperation Facility,Large, > 150 AU
Scenario Description	A large mechanical separation facility to partition solids, liquids, and/or associated nutrients from animal waste streams. The partitioning of the previously mentioned components facilitates the protection of air and water quality, protects animal health, and improves the management of an animal waste management system. Mechanical separators may include, but are not limited to: static inclined screens , vibratory screens, rotating screens, centrifuges, screw or roller presses, or other systems. Associated practices include Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Amendments for the Treatment of Agricultural Waste (591), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), Roofs and Covers (367) and Waste Treatment (629).
Before Practice Situation	Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.
After Practice Situation	A large mechanical separation facility (a screw press) installed at livestock facility before storage or treatment or after treatment, for example, after an anaerobic digester. Part of an animal waste management system.
Scenario Feature Measure	Item
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$42,000.00	$42,000.00
Equipment/Installation	$3,282.96	$3,282.96
Labor	$1,303.36	$1,303.36
Mobilization	$962.06	$962.06
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$47,548.38	$47,548.38

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1950	Screw or Roller Press - Small	Screw or Roller Press with a capacity of < 100 GPM. Includes materials and equipment.	Gallons per Minute	$42,000.00	1	$42,000.00		
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-placed 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	$273.58	12	$3,282.96		
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.	Hours	$41.44	16	$663.04		
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.	Hours	$20.01	32	$640.32		
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	$195.13	2	$390.26		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	2	$571.80		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	632 - Solid/Liquid Waste Separation Facility
Scenario ID	3
Scenario Name	Earthen Settling Structure
Scenario Description	An earthen structure, such as a basin or a terrace or dike like structure, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. A concrete pad should be installed on the bottom of the basin and around outlet structures to facilitate cleanout. Removes as portion of the solids to facilitate waste handling and to address water quality concerns. Associated practices include Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), and Waste Treatment (629).
Before Practice Situation	Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.
After Practice Situation	One earthen settling basin structure (60 ft wide by 200 ft long by 3 ft deep, with three screening outlet structures) constructed around or at a livestock feeding operation. Removes a portion of the solids that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.
Scenario Feature Measure	Cubic Foot of Design Storage
Scenario Unit	Cubic Foot
Scenario Typical Size	30,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,616.14	$0.05
Equipment/Installation	$13,046.96	$0.43
Labor	$160.08	$0.01
Mobilization	$962.06	$0.03
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$15,785.24	$0.53

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1765	Weeping Wall	Weeping wall or picket screen structure for solid settling basin. Materials only.	Foot	$51.00	24	$1,224.00	Three screen structures, each 8 ft long.	
Materials	46	Aggregate, Gravel, Graded, Washed	Gravel, includes materials, equipment and labor to transport and place	Cubic yard	$28.01	14	$392.14		
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	1000	$4,080.00		
Equipment/Installation	38	Concrete, CIP, formed reinforced	Steel reinforced concrete formed and cast-in-placed 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	$563.08	12	$6,756.96	800 square feet of concrete slab around outlet areas. Two 20 ft by 20 ft by 5 inch slabs.	
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	$2.21	1000	$2,210.00		
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.	Hours	$20.01	8	$160.08	Install weeping wall - picket structure	
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	$195.13	2	$390.26		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	2	$571.80		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	632 - Solid/Liquid Waste Separation Facility
Scenario ID	4
Scenario Name	Concrete Basin
Scenario Description	A concrete structure, such as a basin with concrete walls and floor, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. Removes as portion of the solids to facilitate waste handling and to address water quality concerns. Associated practices include Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Heavy Use Area Protection (561), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), and Waste Treatment (629).
Before Practice Situation	Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.
After Practice Situation	One concrete settling basin structure (20 ft wide by 30 ft long with 3 ft high walls and weeping wall/picket structure or outlet control) constructed around or at a livestock feeding operation. Removes a portion of the solids that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.
Scenario Feature Measure	Cubic Foot of Design Storage
Scenario Unit	Cubic Foot
Scenario Typical Size	1,800

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,202.32	$0.67
Equipment/Installation	$10,477.42	$5.82
Labor	$160.08	$0.09
Mobilization	$962.06	$0.53
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$12,801.88	$7.11

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1765	Weeping Wall	Weeping wall or picket screen structure for solid settling basin. Materials only.	Foot	$51.00	6	$306.00		
Materials	46	Aggregate, Gravel, Graded, Washed	Gravel, includes materials, equipment and labor to transport and place	Cubic yard	$28.01	32	$896.32		
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-placed 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	$273.58	12	$3,282.96		
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	50	$204.00		
Equipment/Installation	38	Concrete, CIP, formed reinforced	Steel reinforced concrete formed and cast-in-placed 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	$563.08	12	$6,756.96		
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.46	50	$123.00		
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	$2.21	50	$110.50		
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.	Hours	$20.01	8	$160.08	Install weeping wall - picket structure	
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	$195.13	2	$390.26		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	2	$571.80		

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Environmental Engineering
Practice Code/Name	632 - Solid/Liquid Waste Separation Facility
Scenario ID	5
Scenario Name	Concrete Sand Settling Lane
Scenario Description	A concrete structure, a concrete lane with curbs, used to capture and separate a portion of the solids, mainly sand, from a liquid stream from a confinement facility. Removes as portion of the solids to facilitate waste handling and to address water quality concerns. Associated practices include Nutrient Management (590), Composting Facility (317), Anaerobic Digester (366), Heavy Use Area Protection (561), \Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Pumping Plant (533), Vegetated Treatment Area (635), Pond Lining or Sealing (521A-D), Roofs and Covers (367) and Waste Treatment (629).
Before Practice Situation	Applicable to situations where partitioning solids, liquids, and nutrients will facilitate the management of an animal waste management system, improve air quality (reduce odors), and address water quality concerns.
After Practice Situation	One concrete settling lane structure (25 ft wide by 200 ft long by 0.5 ft thick) constructed around or at a livestock feeding operation. Removes a portion of the solids (sand) that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.
Scenario Feature Measure	Square Foot of Settling Lane Footprint
Scenario Unit	Square Foot
Scenario Typical Size	5,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$2,520.90	$0.50
Equipment/Installation	$36,648.80	$7.33
Labor	$0.00	$0.00
Mobilization	$962.06	$0.19
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$40,131.76	$8.03

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	46	Aggregate, Gravel, Graded, Washed	Gravel, includes materials, equipment and labor to transport and place	Cubic yard	$28.01	90	$2,520.90		
Equipment/Installation	37	Concrete, CIP, slab on grade, reinforced	Steel reinforced concrete formed and cast-in-placed 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	$273.58	90	$24,622.20		
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	90	$367.20		
Equipment/Installation	38	Concrete, CIP, formed reinforced	Steel reinforced concrete formed and cast-in-placed 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	$563.08	20	$11,261.60		
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	$2.21	180	$397.80		
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	$195.13	2	$390.26		
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	2	$571.80		