Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	1
Scenario Name	Reinforced Concrete with sand or gravel foundation
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, and labor to install this practice, The stabilized area will address the resource concerns soil erosion and water quality degradation. **Associated Practices:** Critical Area Planting (342), Herbaceous Wind Barriers (603), Sediment Basin (350), Stream Crossing (578), Waste Storage Facility (313), Waste Transfer (634), Waste Treatment (629), Watering Facility (614), and Windbreak/Shelterbelt Establishment (380).
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced with approximately 5000 (50 x 100) square feet of 6" thick, welded wire mesh reinforced concrete and 6 inches of sand or gravel foundation material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and o treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area
Scenario Unit	Square Foot
Scenario Typical Size	5000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$2,593.73	$0.52
Equipment/Installation	$26,120.17	$5.22
Labor	$0.00	$0.00
Mobilization	$525.21	$0.11
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$29,239.10	$5.85

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	92.6	$2,593.73	Graded gravel foundation of 6" is placed below the concrete to provide suitable foundation	6" of graded gravel is placed over entire surface area (5000 square feet) =92.6 cy
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	92.6	$25,333.51	Concrete slab on surface is 6 inches thick over the entire area laid on top of gravel foundation	Installation is 6" concrete on grade over the entire surface area (5000 sf) = 92.6 cy
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	92.6	$377.81	Roller compaction of 6" gravel foundation to compact gravel into suitable foundation	6" of gravel is compacted over entire surface area (5000 square feet) =92.6 cy
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	185	$408.85	Excavation of material to provide suitable surface for gravel foundation and concrete slab	Typical excavation size is 1 foot depth by the area (5000square feet) = 185 Cubic Yards
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.09	2	$44.18	Operators are not typically on site	Time for 2 operators to travel to site within region
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	1	$285.90	Equipment is not typically on site	Time for 1 operator to travel to site within region
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	1	$195.13	Equipment is not typically on site	Time for 1 operator to travel to site within region

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	2
Scenario Name	Rock/Gravel on Geotextile
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with rock and or gravel on a geotextile fabric foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, and labor to install this practice, The stabilized area will address the resource concerns of soil erosion and water quality degradation. **Associated Practices**: Critical Area Planting (342), Herbaceous Wind Barriers (603), Sediment Basin (350), Stream Crossing (578), Waste Storage Facility (313), Waste Transfer (634), Waste Treatment (629), Watering Facility (614), and Windbreak/Shelterbelt Establishment (380).
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced 1,000 square feet of rock and or gravel (8 inches thick) on a geotextile fabric foundation material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area of Rock and or Gravel
Scenario Unit	Square Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$700.25	$0.70
Equipment/Installation	$648.12	$0.65
Labor	$0.00	$0.00
Mobilization	$571.80	$0.57
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$1,920.17	$1.92

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	25	$700.25	Gravel used to provide suitable surface	Typical gravel needed for 8" depth by the total surface area (1000sf) = 25 cy.
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	$45.10	6	$270.60	Excavation of material to provide suitable surface for gravel surface	Typical excavation size is 1 foot depth by the area (1000square feet) = 37 CY. It takes approximately 1 hour per 6 cy of material excavated with a backhoe.
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	25	$102.00	Gravel is compacted to provide suitable surface for use	Total gravel is compacted (8" gravel depth of 1000 sf area) = 25 cy
Equipment/Installation	42	Geotextile, woven	Woven Geotextile Fabric. Includes materials, equipment and labor	Square Yard	$2.46	112	$275.52	Geotextile is used beneath gravel	Area needed is the entire surface area beneath the gravel (1000sf)= 112 sy
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	Equipment is not typically on site	Time for 1 operator to travel to site within region

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	3
Scenario Name	Concrete slab with Curb on steep site
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with rock and or gravel in a cellular containment grid on a geotextile fabric foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment and labor to install this practice. The stabilized area will address the resource concerns of soil erosion and water quality degradation. **Associated Practices:** Critical Area Planting (342), Herbaceous Wind Barriers (603), Sediment Basin (350), Stream Crossing (578), Waste Storage Facility (313), Waste Transfer (634), Waste Treatment (629), Watering Facility (614), and Windbreak/Shelterbelt Establishment (380).
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced with 2500 (50 x 50) square feet of 6" thick concrete, reinforeced with welded wire mesh and has 12" high by 8" thick curbs on the perimeter except for a 20' section of rolled curb for access. Entire site needs excavated, regraded and compacted with an average fill of 5' due to steep site conditions. Base under concrete to be 6 inches of sand or gravel foundation material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area of Rock and or Gravel
Scenario Unit	Square Foot
Scenario Typical Size	2500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,316.47	$0.53
Equipment/Installation	$26,473.38	$10.59
Labor	$0.00	$0.00
Mobilization	$857.70	$0.34
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$28,647.55	$11.46

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
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	14	$7,883.12	Reinforced concrete is needed for the curbing system	Curbs = 12" high by 8" thick and 20 feet in length = 14 cy
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	47	$1,316.47	Graded gravel foundation of 6" is placed below the concrete to provide suitable foundation	6" of graded gravel is placed over entire surface area (2500 square feet) = 47 cy
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	45	$12,311.10	Steep site add 30% for slopinig beyond pad	6" concrete slab over surcace area (2500 sf)= 47 cy(minus curbing) + 30% added for sloping beyond pad
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	$3.34	600	$2,004.00	Steep site add 30% for slopinig beyond pad	2500x5/27x1.3= 600
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	647	$2,639.76	Gravel is compacted to provide suitable surface for use, Total gravel is compacted along with additional site preparation	gravel (47 cy)+ earthfill (600 cy)
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	740	$1,635.40	Excavation of material at site and borrow source to provide suitable surface for gravel foundation and concrete slab	2500x1.5/27=140 + 600
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	3	$857.70	Equipment is not typically on site	Time for 3 operators to travel to site within region

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	5
Scenario Name	Bituminous Concrete Pavement
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with bituminous concrete pavement on aggregate gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, and labor to install this practice. The stabilized area will address the resource concerns of soil erosion and water quality degradation. **Associated Practices:** Critical Area Planting (342), Herbaceous Wind Barriers (603), Sediment Basin (350), Stream Crossing (578), Waste Storage Facility (313), Waste Transfer (634), Waste Treatment (629), Watering Facility (614), and Windbreak/Shelterbelt Establishment (380).
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced with 1,000 square feet of 8" thick bituminous concrete pavement over a 6" aggregate gravel material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. Entire site needs excavated by 1' and an average fill of 2'. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area of Bituminous Pavement
Scenario Unit	Square Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$4,732.19	$4.73
Equipment/Installation	$814.50	$0.81
Labor	$0.00	$0.00
Mobilization	$593.89	$0.59
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$6,140.58	$6.14

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
Materials	1867	Asphalt, pavement	"Bituminous Concrete,includes materials, equipment and labor for 4"" layer, base not included."	Square Foot	$2.10	2000	$4,200.00	8" thick bituminous surface applied to entire surface area	1000 square foot area x 2 layers = 2000 square feet
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	19	$532.19	Aggregate gravel spread over surface area to provide adequate foundation	1000 SF with 6" gravel= 19 cy
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	$3.34	97	$323.98	2' Fill is spread to level site plus 30% for outside toe and compaction	1,000x2/27x1.3= 97
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	$5.45	75	$408.75	2' Fill is compacted to level site over entire surface area	1,000x2/27=75 cy
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	37	$81.77	Bulk excavation of area to be replaced by asphalt and graded gravel surface. Typical excavation is 1 foot depth	1,000x1/27=37 cy
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.09	1	$22.09	One operator needed - not typically on site	Time for one operator to travel to site within region
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	Two pieces of equipment are not typically on site	Two pieces of equipment mobilized to site

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	6
Scenario Name	Reinforced Concrete with Curbs
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, and labor to install this practice, The stabilized area will address the resource concerns soil erosion and water quality degradation. **Associated Practices:** Critical Area Planting (342), Herbaceous Wind Barriers (603), Sediment Basin (350), Stream Crossing (578), Waste Storage Facility (313), Waste Transfer (634), Waste Treatment (629), Watering Facility (614), and Windbreak/Shelterbelt Establishment (380).
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced with 2500 (50 x 50) square feet of 6" thick concrete, reinforeced with welded wire mesh and has 12" high by 8" thick curbs on the perimeter except for a 20' section of rolled curb for access. Entire site needs excavated, regraded and compacted with an average fill of 2'. Base under concrete to be 6 inches of sand or gravel foundation material for surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area of slab with curbing
Scenario Unit	Square Foot
Scenario Typical Size	2500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,316.47	$0.53
Equipment/Installation	$23,177.58	$9.27
Labor	$0.00	$0.00
Mobilization	$879.79	$0.35
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$25,373.84	$10.15

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
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	15	$8,446.20	Reinforced concrete is needed for the curbing system	Curb length 200 LF Curb is 8" x 12" and base 8"x24" or 0.74CY/LF or 15CY
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	47	$1,316.47	Aggregate gravel base is needed to provide supporting foundation for concrete	2500 square feet of area x 6" thick gravel = 47 cy.
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	45	$12,311.10	Concrete slab placed over graded gravel surface area minus the curbing system	6" x 49 x 49 is 45 cy.
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	$3.34	241	$804.94	Additional fill needed to provide suitable surface area extending around pad	Bring in fill, need 30% extra for compaction and slope beyond pad. 50x50x2/27*1.3
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	215	$877.20	Graded gravel surface and site preparation is needed to compact area for suitable foundation for concrete slab	2' over entire site+15% for slope beyond pad
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	334	$738.14	Entire surface area is excavated one foot in depth	2500SF @1'=93 CY unsuitable material waste offsite + excavate borrow material+241
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.09	1	$22.09	One operator needed - not typically on site	Time for one operator to travel to site within region
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	3	$857.70	Three pieces of equipment are not typically on site	Three pieces of equipment mobilized to site

Scenario Worksheet

Practice and Scenario Description:	
Information Type	**Data**
Region	Mid Atlantic
State	New Jersey
Discipline Group	Agricultural Engineering
Practice Code/Name	561 - Heavy Use Area Protection
Scenario ID	7
Scenario Name	Concrete pad with Curbs &Buckwall
Scenario Description	The stabilization of areas around facilities that are frequently and intensively used by people, animals or vehicles by surfacing with reinforced concrete on a sand or gravel foundation to provide a stable, non-eroding surface. Installation includes all materials, equipment, and labor to install this practice, including a walled section to facilitate loading accumulated wastes. The stabilized area will address the resource concerns soil erosion and water quality degradation.
Before Practice Situation	This practice applies to agricultural, urban, recreational and other frequently and/or intensively used areas requiring treatment to address soil erosion and water quality degradation.
After Practice Situation	The stabilized area is surfaced with 2000 (40 x 50) square feet of 6" thick concrete, reinforced with welded wire mesh and has 140 LF of 12" high by 8" thick curbs on the perimeter except for 40 LF of 4' high, 8" thick reinforced concrete buck wall and footer. Entire site needs excavated, regraded and compacted with an average fill of 2'. The wall is for assisting in loading out solids collected on the lot. If area used for storage, use 313, Waste Storage Facility. Surfacing areas around facilities that are frequently and intensively used by people, animals or vehicles and will address soil erosion and water quality degradation. All needed roads must use Access Road (560). Any needed treatment of stream crossings must use Stream Crossing (578). Any needed vegetation of disturbed areas must use Critical Area Planting (342). Provisions to collect, store, utilize, and or treat contaminated runoff must use Sediment Basin (350), Waste Storage Facility (313), or Waste Treatment (629) as appropriate. To reduce the potential for air quality problems from particulate matter associated with heavy use areas, consider the use of Windbreak/Shelterbelt Establishment (380) or Herbaceous Wind Barriers (603).
Scenario Feature Measure	Area of pad
Scenario Unit	Square Foot
Scenario Typical Size	2000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	$1,036.37	$0.52
Equipment/Installation	$24,828.36	$12.41
Labor	$0.00	$0.00
Mobilization	$879.79	$0.44
Acquisition of Technical Knowledge	$0.00	$0.00
Foregone Income	$0.00	$0.00
Total	$26,744.52	$13.37

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price ($/unit)	Quantity	Cost	Component Justification	Quantity Justification
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	24	$13,513.92	Reinforced concrete for curbing system 8" thick by 12" high around perimiter and buckwall	Curb length 160 LF Curb is 8" x 12" and base 8"x24" or 0.074CY/LF or 12 CY plus Buckwall 8" thick wall and 12" thickx5'wide footer= .28x40=12
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$28.01	37	$1,036.37	Gravel spread over entire surface area to provide suitable foundation for concrete surface	Gravel spread over entire surface area (2000 square feet) to a depth of 6 inches = 37 cy
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	35	$9,575.30	Concrete slab on surface is 6 inches thick over the entire area minus the curbing/buckwall area laid on top of gravel foundation	6" x 49x39= 35 cy.
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	$3.34	192	$641.28	Additional earthfill needed to provide suitable surface in and around slab	Bring in fill, need 30% extra for compaction and slope beyond pad. 40x50x2/27*1.3
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$4.08	229	$934.32	Spread earthfill is compacted + gravel surface area	Compacted earthfill = 192+ gravel = 229 cy
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	74	$163.54	One foot of material is excavated to provide suitable site and foundation for concrete slab and gravel	Entire surface area is excavated (2000 sf) x 1' depth = 74 cy
Mobilization	1143	Mobilization, Light Equipment Operator	Mobilization of light equipment operators: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	$22.09	1	$22.09	One operator needed - not typically on site	Time for one operator to travel to site within region
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$285.90	3	$857.70	Three pieces of equipment are not typically on site	Three pieces of equipment mobilized to site