

**Practice: 655 - Forest Trails and Landings**

**Scenario # 1 Trail Erosion Control w/o Vegetation, Slopes < 35%**

Louisiana

**Scenario Description:**

Rehabilitation of existing forest access trail segments on a 20% slope and a 4% grade by addressing legacy resource issues for long-term use. Typically the trail is a single lane (18-foot wide, including cut and fill), seasonal prism requiring sustained erosion control measures installed by using heavy equipment such as dozers, graders, backhoes, and/or excavators. The purpose is to hydrologically disconnect the existing trail/landing system from streams and natural drainages. This scenario includes designing and installing measures such as cross drains, rock drains, relief drains, out sloping (or changing surface drainage), rolling dips and water bars and ditch outs as needed, and applies to only those segments of the trail system that have resource concerns requiring rehabilitation. Some hand work (chainsaw) will be needed to allow the use of the equipment. Installation will be supervised. Other practices such as Stream Crossing, and Critical Area Planting, Access Road, and Structure for Water Control can be adjacent/appurtenant but not part of this practice scenario. Treatments are for long-term reduction of sediment, restoration of fish habitat, creation of fire access, and the removal of routes off unstable slopes. Resource concerns include: Excessive sedimentation in surface waters, Concentrated flow erosion, Sheet and rill erosion, and Degradation of wildlife species.

**Before Practice Situation:**

Trails are delivering sediment to waterways, impacting riparian areas and wetlands and possibly affecting T&E species. The system's usefulness for access is also being compromised by inadequate erosion and drainage control systems. However rehabilitation over abandonment is an acceptable course of action.

**After Practice Situation:**

Trails and landings provide access and do not adversely affect the resources concerns.

**Scenario Feature Measure:**

Length of trail treated

<b>Scenario Typical Size:</b>	2000	Feet	Unit Cost	\$2.75
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Silt Fence	100	Foot	\$0.67	\$67.00
Equip./Install.	Dozer, 80 HP	18	Hour	\$49.22	\$885.96
Equip./Install.	Truck, Pickup	18	Hour	\$23.48	\$422.64
Equip./Install.	Hydraulic Excavator, 1 CY	18	Hour	\$83.29	\$1,499.22
Equip./Install.	Chainsaw	9	Hour	\$4.85	\$43.65
Equip./Install.	Water Bars	250	Foot	\$1.21	\$302.50
Labor	Equipment Operators, Heavy	36	Hour	\$25.62	\$922.32
Labor	General Labor	18	Hour	\$18.57	\$334.26
Labor	Supervisor or Manager	8	Hour	\$36.21	\$289.68
Mobilization	Mobilization, General labor	2	Hour	\$18.52	\$37.04
Mobilization	Mobilization, large equipment	2	Each	\$249.71	\$499.42
Mobilization	Mobilization, Supervisor or Manager	4	Hour	\$35.87	\$143.48
Mobilization	Mobilization, Heavy Equipment Operator	2	Hour	\$25.38	\$50.76
				<b>Total Cost:</b>	<b>\$5,497.93</b>

**Practice: 655 - Forest Trails and Landings**

**Scenario # 2 Trail Erosion Control w/o Vegetation, Slopes >35%**

**Scenario Description:**

**Louisiana**

Rehabilitation of existing forest access trails and landings by addressing legacy resource issues such as sedimentation, for long-term use. Typically the trail is a single lane, existing 18-foot wide including cut and fill seasonal road prism on a moderately steep (45%) slope on forestland requiring sustained erosion control measures applied by using heavy equipment such as dozers, backhoes, graders, excavators, rock and rollers. The purpose is to hydrologically disconnect existing trail/landing system from the streams and natural drainages. This includes the design and installation of cross drains, rock drains, relief drains, out sloping (or changing road surface drainage), rolling dips and water bars and ditch outs as needed This scenario applies to only those segments of the trail system that have resource concerns requiring rehabilitation. A typical water bar or rolling dip installed in this scenario is on a 75 to 100 foot spacing with a depth of about 1 foot. A layer of aggregate rock is compacted into a 20 foot length of road around the deepest section of the dip. Some hand work (chainsaw) will be needed to allow the use of the equipment. The work will be supervised. Other practices such as Stream Crossing, and Critical Area Planting, Access Road and Structure for Water Control can be adjacent/appurtenant but not part of this practice scenario . Resource concerns include: Excessive sedimentation in surface waters, Concentrated flow erosion, Sheet and rill erosion, and Degradation of wildlife species.

**Before Practice Situation:**

Trails are delivering sediment to waterways, impacting riparian/wetlands and/or possibly affecting fish/T&E species. The usefulness of the trail/landing system is being adversely affected by erosion.

**After Practice Situation:**

Trails and landings provide access and do not adversely affect the resources concerns.

**Scenario Feature Measure:**

Length of trail treated

<b>Scenario Typical Size:</b>	500	Feet	Unit Cost	\$17.58
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Silt Fence	75	Foot	\$0.67	\$50.25
Materials	Aggregate, Gravel, Ungraded, Quarry Run	5	Cubic yard	\$17.44	\$87.20
Equip./Install.	Truck, Pickup	22	Hour	\$23.48	\$516.56
Equip./Install.	Dozer, 140 HP	22	Hour	\$90.94	\$2,000.68
Equip./Install.	Hydraulic Excavator, 2 CY	22	Hour	\$139.36	\$3,065.92
Equip./Install.	Chainsaw	9	Hour	\$4.85	\$43.65
Equip./Install.	Water Bars	150	Foot	\$1.21	\$181.50
Labor	Equipment Operators, Heavy	56	Hour	\$25.62	\$1,434.72
Labor	General Labor	22	Hour	\$18.57	\$408.54
Labor	Supervisor or Manager	8	Hour	\$36.21	\$289.68
Mobilization	Mobilization, General labor	2	Hour	\$18.52	\$37.04
Mobilization	Mobilization, large equipment	2	Each	\$249.71	\$499.42
Mobilization	Mobilization, Supervisor or Manager	2	Hour	\$35.87	\$71.74
Mobilization	Mobilization, Heavy Equipment Operator	4	Hour	\$25.38	\$101.52
				<b>Total Cost:</b>	<b>\$8,788.42</b>

**Practice: 655 - Forest Trails and Landings**

**Scenario # 3 Grading and Shaping with Vegetative Establishment**

**Scenario Description:**

**Louisiana**

Rehabilitation of existing forest access trails and landings on a medium slope by addressing rutting, erosion, and sedimentation. Typically the trail is a single, existing 18-foot wide (including cut and fill) seasonal road prism on gently sloping terrain requiring sustained erosion control measures applied with heavy equipment such as dozers, graders, backhoes, and/or excavators. The purpose is to hydrologically disconnect the existing trail/landing system from streams and natural drainages and to establish a vegetative cover. This scenario includes designing and installation measures such as cross drains, rock drains, relief drainage, out sloping (or changing surface drainage), rolling dips and water bars and ditch outs as needed, and applies to only those segments of the trail system that have resource concerns requiring rehabilitation. It also includes seedbed preparation, seeding and soil amendments determined to be needed. Some hand work (chainsaw) will be needed to allow the use of the equipment. The work will be supervised. Other practices such as Stream Crossing, and Critical Area Planting, Access Road and Structure for Water Control can be adjacent/appurtenant but not part of the practice scenario. Treatments are for long-term reduction of sediment, restore fish habitat, create fire access and to move routes off unstable slopes. Resource concerns include: Excessive sediment in surface waters, Concentrated and Sheet & rill flow erosion, Soil compaction, and Habitat degradation.

**Before Practice Situation:**

Trail/landings are delivering sediment to waterways, impacting riparian/wetlands and/or possibly affecting fish/T&E species. The usefulness of the trail/landing system is being adversely affected by erosion.

**After Practice Situation:**

A trail system is installed that provides access to the forested tract and does not cause excessive erosion or water quality concerns.

**Scenario Feature Measure:**

Length of trail treated

<b>Scenario Typical Size:</b>	2000	Feet	Unit Cost	\$2.98
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Nitrogen (N), Ammonium Nitrate	70	Pound	\$0.78	\$54.60
Materials	Phosphorus, P2O5	55	Pound	\$0.78	\$42.90
Materials	Lime, ENM	1	Ton	\$49.57	\$49.57
Materials	Bahia grass (Paspalum notatum)	20	Pound	\$4.07	\$81.40
Materials	Potassium, K2O	40	Pound	\$0.52	\$20.80
Materials	Silt Fence	100	Foot	\$0.67	\$67.00
Equip./Install.	Backhoe, 80 HP	16	Hour	\$40.48	\$647.68
Equip./Install.	Skidsteer, 80 HP	16	Hour	\$31.28	\$500.48
Equip./Install.	Chainsaw	8	Hour	\$4.85	\$38.80
Equip./Install.	Motor Grader, 200 HP	10	Hour	\$123.72	\$1,237.20
Equip./Install.	Tillage, Light	1	Acre	\$8.86	\$8.86
Equip./Install.	Truck, water	6	Hour	\$149.16	\$894.96
Equip./Install.	Water Bars	300	Foot	\$1.21	\$363.00
Equip./Install.	Fertilizer, ground application, dry bulk	1	Acre	\$6.33	\$6.33
Equip./Install.	Lime application	1	Acre	\$9.47	\$9.47
Equip./Install.	Seeding Operation, Broadcast, Ground	1	Acre	\$18.17	\$18.17
Equip./Install.	All terrain vehicles, ATV	10	Hour	\$25.66	\$256.60
Labor	Equipment Operators, Light	40	Hour	\$19.22	\$768.80
Labor	General Labor	16	Hour	\$18.57	\$297.12
Labor	Supervisor or Manager	4	Hour	\$36.21	\$144.84
Mobilization	Mobilization, General labor	2	Hour	\$18.52	\$37.04
Mobilization	Mobilization, medium equipment	2	Each	\$133.51	\$267.02

Mobilization	Mobilization, Supervisor or Manager	4	Hour	\$35.87	\$143.48
				Total Cost:	\$5,956.12