

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agronomy
Practice Code/Name	601 - Vegetative Barriers
Scenario ID	1
Scenario Name	Vegetative Barrier: Cuttings across concentrated flow areas
Scenario Description	Permanent strips of stiff, dense vegetation established across concentrated flow areas. Thousand linear feet of vegetative barrier, tall grasses and shrubs, installed on cropland to catch sediment and debris. Assume each Linear Foot is 2 feet wide, or 2 Sq Ft. So each 1500 LF is 3000 SF.
Before Practice Situation	Significant erosion is occurring resulting in substantial transport of sediment through concentrated flow areas. A large amount of sediment is subsequently delivered to the edge of the field and/or waterways.
After Practice Situation	A strip or strips of stiff, dense vegetation such as Vetivier Grass is/are established across concentrated flow areas that effectively settles a significant amount of sediment above the leading edge of the vegetative barrier. Barrier may also help to connect green areas to provide shelter for wildlife.
Scenario Feature Measure	Linear feet of practice installed
Scenario Unit	Linear Feet
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,531.55	\$15.32
Equipment/Installation	\$1.07	\$0.01
Labor	\$0.00	\$0.00
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,532.62	\$15.33

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1233	Vetiver Grass, plug	Introduced Perennial Grasses established as plugs. Materials only.	Each	\$3.82	400	\$1,528.00
Materials	334	Herbicide, Glyphosate	A broad-spectrum, non-selective systemic herbicide. Product is typically used in these practices 340, 645, 314, 666, and 512. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$11.04	0.0092	\$0.10
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.93	0.8	\$0.74
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$1.64	0.9	\$1.48
Materials	70	Nitrogen (N), Ammonium Sulfate	Price per pound of N supplied by Ammonium Sulfate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$2.04	0.6	\$1.22
Equipment/Installation	948	Chemical, ground application	Chemical application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$5.04	0.0092	\$0.05
Equipment/Installation	1101	Ground sprigging	Includes costs for equipment, power unit and labor.	Acre	\$103.30	0.0092	\$0.95
Equipment/Installation	950	Fertilizer, ground application, dry bulk	Dry bulk fertilizer application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	\$8.11	0.0092	\$0.07

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Water Management Engineering
Practice Code/Name	606 - Subsurface Drain
Scenario ID	1
Scenario Name	Corrugated Plastic Pipe (CPP), Single-Wall, ≤ 6"
Scenario Description	Description: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a backhoe to dig the trench. HDPE (CPP) Single-Wall is manufactured in sizes (nominal diameter) from 3-inch to 24-inch; typical practice sizes range from 3-inch to 12-inch; and typical scenario size is 5-inch. Construct 200 feet of 5-inch, Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth 5 feet. The unit is in weight of pipe material in pounds. 200 feet of 5-inch, Single-Wall, perforated HDPE CPP weighs 0.50 lb/ft, or a total of 100 pounds. Resource Concerns: Excess Water (Seasonal High Water Table) Associated Practices: 608 - Surface Drain, Main or Lateral; 587 - Structure for Water Control, 533 - Pumping Plant; 620 - Underground Outlet, and 554 - Drainage Water Management.
Before Practice Situation	Before installation soil conditions are excessively wet in the spring due to poor internal soil drainage. Excess soil water will cause hydrostatic pressure on structural practices to be installed.
After Practice Situation	The drainage modifications result in reduced hydrostatic pressure due to excessive wetness caused by a seasonal high water table.
Scenario Feature Measure	Weight of Pipe
Scenario Unit	Pound
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$493.76	\$4.94
Equipment/Installation	\$404.00	\$4.04
Labor	\$183.66	\$1.84
Mobilization	\$529.34	\$5.29
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,610.76	\$16.11

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$35.22	8	\$281.76
Materials	1380	Pipe, HDPE, corrugated single wall, ≤ 12" weight priced Compound	High Density Polyethylene (HDPE) compound manufactured into single wall corrugated pipe or tubing. Materials only.	Pound	\$2.12	100	\$212.00
Equipment/Installation	1459	Trenching, Earth, 12" x 60"	Trenching, earth, 12" wide x 60' depth, includes equipment and labor for trenching, laying 3"-6" CPP drain line with envelope, and backfilling.	Foot	\$2.02	200	\$404.00
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.	Hour	\$30.61	6	\$183.66
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	5
Scenario Name	Hand planting Zone (I) 250 t/ac with Browse Protection
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level does not meet the minimum recommended number of trees per acre and does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. Wildlife are known to browse tree seedlings in the area causing great damage.
After Practice Situation	The prescribed number of trees are hand planted, and the objectives of the landowner are met. Seedlings are protected from wildlife browsing by installing some type of protection devise. A forest will provide wildlife habitat, provide a long term ground and capture atmospheric carbon.
Scenario Feature Measure	Each Planted Seedling
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$4,718.08	\$235.90
Equipment/Installation	\$828.28	\$41.41
Labor	\$3,498.39	\$174.92
Mobilization	\$1,810.24	\$90.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,854.99	\$542.75

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	5000	\$2,400.00
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	\$0.28	5000	\$1,400.00
Materials	1584	Stake, bamboo, 3/8" x 36"	3/8" x 36" bamboo stakes to anchor items in place. Materials only.	Each	\$0.08	10000	\$800.00
Materials	1908	Animal repellent, organic	Organic compound animal repellent to protect trees from animal damage. Materials only.	Gallon	\$39.36	3	\$118.08
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	75	\$708.00
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.	Hour	\$30.61	83	\$2,540.63
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1450	\$1,450.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	11
Scenario Name	Fill in Tree planting 200 t/ac
Scenario Description	Tree seedlings will be hand planted in the forested area where the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre 450 T/Ac. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 10 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Acre
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,200.00	\$120.00
Equipment/Installation	\$315.02	\$31.50
Labor	\$1,065.91	\$106.59
Mobilization	\$655.12	\$65.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,236.05	\$323.61

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	2500	\$1,200.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	27	\$254.88
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	\$30.61	27	\$826.47
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	475	\$475.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	10
Scenario Name	Fill in Tree planting 200 t/ac
Scenario Description	Tree seedlings will be hand planted in the forested area where the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre 450 T/Ac. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 10 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Acre
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,200.00	\$120.00
Equipment/Installation	\$315.02	\$31.50
Labor	\$1,065.91	\$106.59
Mobilization	\$530.12	\$53.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,111.05	\$311.11

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	2500	\$1,200.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	27	\$254.88
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	\$30.61	27	\$826.47
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	350	\$350.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	4
Scenario Name	Hand planting Zone (II & III) 450 t/ac Remote Sites
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 20 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Each
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$4,320.00	\$216.00
Equipment/Installation	\$995.76	\$49.79
Labor	\$2,933.12	\$146.66
Mobilization	\$1,890.12	\$94.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,139.00	\$506.95

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	9000	\$4,320.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	80	\$755.20
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	\$30.61	88	\$2,693.68
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1710	\$1,710.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	9
Scenario Name	Individual tree - hand planting
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 5 acres or less, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Acre
Scenario Typical Size	5

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,080.00	\$216.00
Equipment/Installation	\$290.20	\$58.04
Labor	\$790.42	\$158.08
Mobilization	\$1,305.12	\$261.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,465.74	\$693.15

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	2250	\$1,080.00
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	18	\$169.92
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
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	\$30.61	18	\$550.98
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1125	\$1,125.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	3
Scenario Name	Hand planting Zone (I) 250 t/ac Remote Sites
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 20 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Each
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,400.00	\$120.00
Equipment/Installation	\$712.56	\$35.63
Labor	\$2,014.82	\$100.74
Mobilization	\$880.12	\$44.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$6,007.50	\$300.38

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	5000	\$2,400.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	50	\$472.00
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.	Hour	\$30.61	58	\$1,775.38
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	700	\$700.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	2
Scenario Name	Hand planting Zone (II&III) 450 t/ac
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 20 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$4,320.00	\$216.00
Equipment/Installation	\$995.76	\$49.79
Labor	\$2,933.12	\$146.66
Mobilization	\$1,440.12	\$72.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$9,689.00	\$484.45

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	9000	\$4,320.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	80	\$755.20
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	\$30.61	88	\$2,693.68
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1260	\$1,260.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	1
Scenario Name	Hand planting Zone (I) 250 t/ac
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level of the forest does not meet the minimum recommended number of trees per acre. The existing condition of the forest stand does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor.
After Practice Situation	The prescribed number of trees are hand planted on 20 acres, and the objectives of the landowner are met. The forest will provide wildlife habitat, provide a long term ground cover, and capture atmospheric carbon.
Scenario Feature Measure	Area Planted
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,400.00	\$120.00
Equipment/Installation	\$832.84	\$41.64
Labor	\$2,254.26	\$112.71
Mobilization	\$1,041.62	\$52.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$6,528.72	\$326.44

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	5000	\$2,400.00
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	50	\$472.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	12	\$360.84
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	\$30.61	58	\$1,775.38
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	8	\$478.88
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	800	\$800.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	7
Scenario Name	Hand planting Zone (I) 250 t/ac with Browse Protection Remote
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level does not meet the minimum recommended number of trees per acre and does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. Wildlife are known to browse tree seedlings in the area causing great damage.
After Practice Situation	The prescribed number of trees are hand planted, and the objectives of the landowner are met. Seedlings are protected from wildlife browsing by installing some type of protection devise. A forest will provide wildlife habitat, provide a long term ground and capture atmospheric carbon.
Scenario Feature Measure	Each Planted Seedling
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$5,000.00	\$250.00
Equipment/Installation	\$828.28	\$41.41
Labor	\$3,498.39	\$174.92
Mobilization	\$2,160.24	\$108.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$11,486.91	\$574.35

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1518	Tree, conifer, seedling, containerized, 8 cu. in.	Containerized conifer stock, 8 cubic inches (e.g. 1.5" x 6"). Materials and shipping.	Each	\$0.56	5000	\$2,800.00
Materials	1584	Stake, bamboo, 3/8" x 36"	3/8" x 36" bamboo stakes to anchor items in place. Materials only.	Each	\$0.08	10000	\$800.00
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	\$0.28	5000	\$1,400.00
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	75	\$708.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
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	\$30.61	83	\$2,540.63
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1800	\$1,800.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	8
Scenario Name	Hand planting Zone (II&III) 450 t/ac with Browse Protection Remote Sites
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level does not meet the minimum recommended number of trees per acre and does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. Wildlife are known to browse tree seedlings in the area causing great damage.
After Practice Situation	The prescribed number of trees are hand planted, and the objectives of the landowner are met. Seedlings are protected from wildlife browsing by installing some type of protection devise. A forest will provide wildlife habitat, provide a long term ground and capture atmospheric carbon.
Scenario Feature Measure	Each Planted Seedling
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$9,000.00	\$450.00
Equipment/Installation	\$1,253.08	\$62.65
Labor	\$4,875.84	\$243.79
Mobilization	\$3,240.24	\$162.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$18,369.16	\$918.46

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1518	Tree, conifer, seedling, containerized, 8 cu. in.	Containerized conifer stock, 8 cubic inches (e.g. 1.5" x 6"). Materials and shipping.	Each	\$0.56	9000	\$5,040.00
Materials	1584	Stake, bamboo, 3/8" x 36"	3/8" x 36" bamboo stakes to anchor items in place. Materials only.	Each	\$0.08	18000	\$1,440.00
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	\$0.28	9000	\$2,520.00
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	120	\$1,132.80
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
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	\$30.61	128	\$3,918.08
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	2880	\$2,880.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	6
Scenario Name	Hand planting Zone (II&III) 450 t/ac with Browse Protection
Scenario Description	Tree seedlings will be hand planted in the forested area where few or no forest trees growing, the existing stand of trees needs underplanting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions. This resource concern addressed is degraded plant condition -- and inadequate structure and composition, and inadequate wildlife & fish habitat.
Before Practice Situation	The stocking level does not meet the minimum recommended number of trees per acre and does not meet the landowners objectives. To be a viable forest additional seedlings need planting. Wildlife habitat is rated poor. Wildlife are known to browse tree seedlings in the area causing great damage.
After Practice Situation	The prescribed number of trees are hand planted, and the objectives of the landowner are met. Seedlings are protected from wildlife browsing by installing some type of protection devise. A forest will provide wildlife habitat, provide a long term ground and capture atmospheric carbon.
Scenario Feature Measure	Each Planted Seedling
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$8,398.08	\$419.90
Equipment/Installation	\$1,253.08	\$62.65
Labor	\$4,875.84	\$243.79
Mobilization	\$2,790.24	\$139.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$17,317.24	\$865.86

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1517	Tree, conifer, seedling, containerized, 6 cu. in.	Containerized conifer stock, 6 cubic inches (e.g., "multipot" plug), 1.4" x 4.6". Materials and shipping.	Each	\$0.48	9000	\$4,320.00
Materials	1584	Stake, bamboo, 3/8" x 36"	3/8" x 36" bamboo stakes to anchor items in place. Materials only.	Each	\$0.08	18000	\$1,440.00
Materials	1555	Tree shelter, mesh tree tube, 24"	24" tall vexar or other open weave tubular tree shelter to protect from animal damage. Materials only.	Each	\$0.28	9000	\$2,520.00
Materials	1908	Animal repellent, organic	Organic compound animal repellent to protect trees from animal damage. Materials only.	Gallon	\$39.36	3	\$118.08
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	120	\$1,132.80
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
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	\$30.61	128	\$3,918.08
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	2430	\$2,430.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	612 - Tree & Shrub Establishment
Scenario ID	12
Scenario Name	Shrub Planting live Stakes
Scenario Description	Shrubs are planted to provide a more diverse habitat. Plantings are in either uplands or bottomlands. The site lacks ground level habitat structure and diversity for wildlife. Resource concern is inadequate habitat for fish and wildlife - habitat fragmentation.
Before Practice Situation	No shrubby vegetation, or very little, is present under the forest overstory. Wildlife species that need shrub cover are not present. An adequate stand of overstory trees is present, but it is a single level, not multi-level.
After Practice Situation	A 10 acre area is planted with shrubs. Shrubs are not planted over the entire 10 acres. They are planted in groups or motts. The motts, more or less circular in shape, are 50 feet in diameter, with 50 shrubs planted within each mott. 10 motts are planted per acre for a total of 500 shrubs per acre. Motts are randomly established to take advantage of site conditions and shrub species being planted.
Scenario Feature Measure	Area of Treatment
Scenario Unit	Acres
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,200.00	\$220.00
Equipment/Installation	\$680.74	\$68.07
Labor	\$1,981.49	\$198.15
Mobilization	\$587.62	\$58.76
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,449.85	\$544.99

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1308	Cuttings, woody, medium size	Woody cuttings, live stakes or whips typically 1/4" to 1" diameter and 24" to 48" long. Materials only.	Each	\$0.44	5000	\$2,200.00
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only. Labor not included.	Hour	\$9.44	53	\$500.32
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	6	\$180.42
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	\$30.61	53	\$1,622.33
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	6	\$359.16
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	12	\$369.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	100	\$100.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	0	\$0.00
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	6
Scenario Name	Livestock Fountain, remote
Scenario Description	A commercially manufactured livestock watering fountain for domestic livestock installed in locations off the road system. This scenario typically addresses the following resource concern: "Livestock production limitation-inadequate livestock water".
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering facility with a capacity of less than 500 gallons is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Per Tank
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$571.10	\$571.10
Equipment/Installation	\$749.67	\$749.67
Labor	\$122.44	\$122.44
Mobilization	\$793.34	\$793.34
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,236.55	\$2,236.55

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	1.48	\$37.50
Materials	280	Tank, Freeze Proof, 2 hole	Tank, Freeze Proof with 2 drinking holes	Each	\$533.60	1	\$533.60
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	\$372.82	2	\$745.64
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	\$2.72	1.48	\$4.03
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	\$30.61	4	\$122.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$180.64	2	\$361.28
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	\$28.17	0.5	\$14.09
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost or material for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	402.6	\$402.60

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	3
Scenario Name	Livestock Fountain
Scenario Description	A commercially manufactured livestock watering fountain for domestic livestock. This scenario typically addresses the following resource concern: "Livestock production limitation-inadequate livestock water".
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering fountain is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Per Tank
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$571.10	\$571.10
Equipment/Installation	\$749.67	\$749.67
Labor	\$122.44	\$122.44
Mobilization	\$390.74	\$390.74
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,833.95	\$1,833.95

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	1.48	\$37.50
Materials	280	Tank, Freeze Proof, 2 hole	Tank, Freeze Proof with 2 drinking holes	Each	\$533.60	1	\$533.60
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	\$372.82	2	\$745.64
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	\$2.72	1.48	\$4.03
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	\$30.61	4	\$122.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$28.17	0.5	\$14.09
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	\$180.64	2	\$361.28

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	5
Scenario Name	Water Trough > 500 Gallons, remote
Scenario Description	A livestock watering facility >500 Gallons for domestic livestock on pasture or rangeland that is greater than 500 gallons. This scenario typically addresses the following concern: "Livestock production limitation-inadequate livestock water". This Practice is used in Off-Road situations.
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering facility with an average capacity of 750 (300 to 1000 gallons) more is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Capacity in Gallons
Scenario Unit	Gallon
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$608.46	\$0.81
Equipment/Installation	\$109.14	\$0.15
Labor	\$118.08	\$0.16
Mobilization	\$786.74	\$1.05
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,622.42	\$2.16

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1050	Post, Wood, CCA Treated, 4-5" X 7'	Wood Post, Line 4-5" X 7', CCA Treated	Each	\$11.30	3	\$33.90
Materials	1044	Dimension Lumber, Treated	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	\$0.93	48	\$44.64
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	2	\$50.68
Materials	1068	Tank, Galvanized Steel Livestock, > 300 - 1,000 gallon	Includes tank materials and float valve	Gallon	\$0.59	750	\$442.50
Materials	242	Wildlife Escape Ramp	Pool size 15' x 30', for small mammals less than one pound	Each	\$36.74	1	\$36.74
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	\$2.72	2	\$5.44
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	\$51.85	2	\$103.70
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	\$30.61	2	\$61.22
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$180.64	2	\$361.28
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	\$28.17	0.5	\$14.09
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	396	\$396.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	2
Scenario Name	Water Trough > 500 Gallons (On-Road)
Scenario Description	A livestock watering facility >500 Gallons for domestic livestock on pasture or rangeland that is greater than 500 gallons. This scenario typically addresses the following concern: "Livestock production limitation-inadequate livestock water".
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering facility with an average capacity of 750 (300 to 1000 gallons) more is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Capacity in Gallons
Scenario Unit	Gallon
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$608.46	\$0.81
Equipment/Installation	\$109.14	\$0.15
Labor	\$118.08	\$0.16
Mobilization	\$390.74	\$0.52
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,226.42	\$1.64

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1050	Post, Wood, CCA Treated, 4-5" X 7'	Wood Post, Line 4-5" X 7', CCA Treated	Each	\$11.30	3	\$33.90
Materials	1044	Dimension Lumber, Treated	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	\$0.93	48	\$44.64
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	2	\$50.68
Materials	1068	Tank, Galvanized Steel Livestock, > 300 - 1,000 gallon	Includes tank materials and float valve	Gallon	\$0.59	750	\$442.50
Materials	242	Wildlife Escape Ramp	Pool size 15' x 30', for small mammals less than one pound	Each	\$36.74	1	\$36.74
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	\$2.72	2	\$5.44
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	\$51.85	2	\$103.70
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	\$30.61	2	\$61.22
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$180.64	2	\$361.28
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	\$28.17	0.5	\$14.09

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	4
Scenario Name	Water Trough Trough ≤ 500 gallons, remote
Scenario Description	A 300 gallon livestock watering facility for domestic livestock on pasture or rangeland installed in locations off the road system. This scenario typically addresses the following concern: "Livestock production limitation-inadequate livestock water".
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering facility with a capacity of less than 500 gallons is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Capacity in Gallons
Scenario Unit	Gallon
Scenario Typical Size	300

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$223.83	\$0.75
Equipment/Installation	\$105.06	\$0.35
Labor	\$179.30	\$0.60
Mobilization	\$558.74	\$1.86
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,066.93	\$3.56

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1044	Dimension Lumber, Treated	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	\$0.93	24	\$22.32
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	0.5	\$12.67
Materials	1067	Tank, Galvanized Steel Livestock, >75 - 300 gallon	Includes tank materials and float valve	Gallon	\$0.90	169	\$152.10
Materials	242	Wildlife Escape Ramp	Pool size 15' x 30', for small mammals less than one pound	Each	\$36.74	1	\$36.74
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	\$2.72	0.5	\$1.36
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	\$51.85	2	\$103.70
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	\$30.61	4	\$122.44
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$180.64	2	\$361.28
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	\$28.17	0.5	\$14.09
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	168	\$168.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	614 - Watering Facility
Scenario ID	1
Scenario Name	Water Trough ≤ 500 Gallons
Scenario Description	A 300 gallon livestock watering facility for domestic livestock on pasture or rangeland. This scenario typically addresses the following concern: "Livestock production limitation-inadequate livestock water".
Before Practice Situation	This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and or wildlife, where water is not available in sufficient quantities at specific locations, and habitat, water quality, plant productivity and health needs to be improved.
After Practice Situation	A permanent watering facility with a capacity of less than 500 gallons is installed with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing. All needed pipelines are installed using Livestock Pipeline (516). Any needed vegetation of disturbed areas will use Critical Area Planting (342). All collectors or catchments for collecting precipitation will be addressed by using Water Harvesting Catchment (636). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate. Areas around watering facilities where animal concentrations or overflow from the watering facility will cause resource concerns will be protected by using Heavy Use Area Protection (561) as appropriate.
Scenario Feature Measure	Capacity in Gallons
Scenario Unit	Gallon
Scenario Typical Size	300

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$257.73	\$0.86
Equipment/Installation	\$105.06	\$0.35
Labor	\$179.30	\$0.60
Mobilization	\$390.74	\$1.30
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$932.83	\$3.11

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1050	Post, Wood, CCA Treated, 4-5" X 7'	Wood Post, Line 4-5" X 7', CCA Treated	Each	\$11.30	3	\$33.90
Materials	1044	Dimension Lumber, Treated	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	\$0.93	24	\$22.32
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	0.5	\$12.67
Materials	1067	Tank, Galvanized Steel Livestock, >75 - 300 gallon	Includes tank materials and float valve	Gallon	\$0.90	169	\$152.10
Materials	242	Wildlife Escape Ramp	Pool size 15' x 30', for small mammals less than one pound	Each	\$36.74	1	\$36.74
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	\$2.72	0.5	\$1.36
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	\$51.85	2	\$103.70
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	\$30.61	4	\$122.44
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	0.5	\$15.38
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	\$180.64	2	\$361.28
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	\$28.17	0.5	\$14.09

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	1
Scenario Name	≤6" w Riser
Scenario Description	Install 250 feet of 6" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench is excavated approximately 48" deep and 18" wide by mini-excavator. Costs include 6" PVC SCH 40 pipe, 6" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, diversions, sediment control basins, waterways or similar practices.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Feet
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,677.25	\$6.71
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$486.28	\$1.95
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,021.27	\$12.09

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	125	\$125.00
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	\$180.64	2	\$361.28
Materials	980	Pipe, PVC, 6", SCH 40	Materials: - 6" - PVC - SCH 40 - ASTM D1785	Foot	\$5.54	260	\$1,440.40
Materials	1261	Inlet, riser, 6"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 6" diameter. Materials only.	Each	\$76.64	2	\$153.28
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
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	\$30.61	8	\$244.88

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	3
Scenario Name	s6" w Riser, remote
Scenario Description	Install 250 feet of 6" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench is excavated approximately 48" deep and 18" wide by mini-excavator. Costs include 6" PVC SCH 40 pipe, 6" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, diversions, sediment control basins, waterways or similar practices. A remote site is one where the project is greater than 50 miles from the nearest retail outlet for building supplies, or one where the material needs to be loaded on a plane or on a boat for transportation to the project site. A site that is accessible by vehicle and/or ATV, within 50 miles of Kodiak, Juneau, Ketchikan, or Sitka is not considered remote.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Foot
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,677.25	\$6.71
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$1,460.15	\$5.84
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,995.14	\$15.98

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1261	Inlet, riser, 6"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 6" diameter. Materials only.	Each	\$76.64	2	\$153.28
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Materials	980	Pipe, PVC, 6", SCH 40	Materials: - 6" - PVC - SCH 40 - ASTM D1785	Foot	\$5.54	260	\$1,440.40
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
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	\$30.61	8	\$244.88
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1098.9	\$1,098.87
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	\$180.64	2	\$361.28

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	2
Scenario Name	>6" w Riser
Scenario Description	Install 250 feet of 10" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench Excavation is 54" deep and 24" wide. Costs include 10" HDPE pipe, 10" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, terraces, diversions, sediment control basins, waterways or similar practices.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Feet
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,883.29	\$7.53
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$486.28	\$1.95
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,227.31	\$12.91

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	125	\$125.00
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	\$180.64	2	\$361.28
Materials	1243	Pipe, HDPE, CPT, Double Wall, Soil Tight, 10"	Pipe, Corrugated HDPE Double Wall, 10" diameter with soil tight joints - AASHTO M252. Material cost only.	Foot	\$5.61	260	\$1,458.60
Materials	1263	Inlet, riser, 10"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 10" diameter. Materials only.	Each	\$170.56	2	\$341.12
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
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	\$30.61	8	\$244.88

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	4
Scenario Name	>6" w Riser, remote
Scenario Description	Install 250 feet of 10" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench Excavation is 54" deep and 24" wide. Costs include 10" HDPE pipe, 10" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, terraces, diversions, sediment control basins, waterways or similar practices. A remote site is one where the project is greater than 50 miles from the nearest retail outlet for building supplies, or one where the material needs to be loaded on a plane or on a boat for transportation to the project site. A site that is accessible by vehicle and/or ATV, within 50 miles of Kodiak, Juneau, Ketchikan, or Sitka is not considered remote.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Foot
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,883.29	\$7.53
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$1,020.60	\$4.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,761.63	\$15.05

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1243	Pipe, HDPE, CPT, Double Wall, Soil Tight, 10"	Pipe, Corrugated HDPE Double Wall, 10" diameter with soil tight joints - AASHTO M252. Material cost only.	Foot	\$5.61	260	\$1,458.60
Materials	1263	Inlet, riser, 10"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 10" diameter. Materials only.	Each	\$170.56	2	\$341.12
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
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	\$30.61	8	\$244.88
Mobilization	1043	Mobilization, Material, distance > 50 miles	Includes cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	659.3	\$659.32
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	\$180.64	2	\$361.28

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	1
Scenario Name	UO<=6" w Riser
Scenario Description	Install 250 feet of 6" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench is excavated approximately 48" deep and 18" wide by mini-excavator. Costs include 6" PVC SCH 40 pipe, 6" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, diversions, sediment control basins, waterways or similar practices.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Feet
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,677.25	\$6.71
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$486.28	\$1.95
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,021.27	\$12.09

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	125	\$125.00
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	\$180.64	2	\$361.28
Materials	980	Pipe, PVC, 6", SCH 40	Materials: - 6" - PVC - SCH 40 - ASTM D1785	Foot	\$5.54	260	\$1,440.40
Materials	1261	Inlet, riser, 6"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 6" diameter. Materials only.	Each	\$76.64	2	\$153.28
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
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	\$30.61	8	\$244.88

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	620 - Underground Outlet
Scenario ID	3
Scenario Name	UO<6" w Riser-Remote
Scenario Description	Install 250 feet of 6" approved plastic pipe to convey stormwater from one location to a suitable and stable outlet. Trench is excavated approximately 48" deep and 18" wide by mini-excavator. Costs include 6" PVC SCH 40 pipe, 6" Perforated PVC Riser Inlet, trench excavation, trench backfill, rodent guard and laid up stone headwall at outlet. This practice is often installed in conjunction with roof runoff structures, diversions, sediment control basins, waterways or similar practices. A remote site is one where the project is greater than 50 miles from the nearest retail outlet for building supplies, or one where the material needs to be loaded on a plane or on a boat for transportation to the project site. A site that is accessible by vehicle and/or ATV, within 50 miles of Kodiak, Juneau, Ketchikan, or Sitka is not considered remote.
Before Practice Situation	Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.
After Practice Situation	Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Terrace (600), Diversion (342), Water and Sediment Control Basin (638), and Subsurface Drainage (606)
Scenario Feature Measure	Length of Conduit
Scenario Unit	Foot
Scenario Typical Size	250

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,677.25	\$6.71
Equipment/Installation	\$385.42	\$1.54
Labor	\$472.32	\$1.89
Mobilization	\$1,460.15	\$5.84
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,995.14	\$15.98

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1261	Inlet, riser, 6"	Riser, polymer, complete vertical perforated UGO inlet with Tee, orifice plate if needed, 6" diameter. Materials only.	Each	\$76.64	2	\$153.28
Materials	44	Rock Riprap, Placed with geotextile	Rock Riprap, placed with geotextile, includes materials, equipment and labor to transport and place	Cubic yard	\$83.57	1	\$83.57
Materials	980	Pipe, PVC, 6", SCH 40	Materials: - 6" - PVC - SCH 40 - ASTM D1785	Foot	\$5.54	260	\$1,440.40
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
Equipment/Installation	930	Hydraulic Excavator, .5 CY	Track mounted hydraulic excavator with bucket capacity range of 0.3 to 0.8 CY. Equipment and power unit costs. Labor not included.	Hour	\$52.93	4	\$211.72
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	2	\$13.42
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	8	\$227.44
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	\$30.61	8	\$244.88
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1098.9	\$1,098.87
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	\$180.64	2	\$361.28

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	6
Scenario Name	Agitator, remote site
Scenario Description	<p>PTO-driven, 3-pt hitch mounted agitator to "stir" manure and suspend solids and sludge within animal waste storage structure. Typically used to stir pond contents prior to pumping to honeywagon or other land application system. 3-pt mounted system allows equipment to be stored out of weather. As such, installation is likely performed by producer. This scenario does not include a pump.</p> <p>This scenario applies to practices off the Alaskan road system.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling</p> <p>The waste transfer equipment is installed to address water quality concerns by facilitating timely land application of waste at agronomic rates according to the nutrient management plan. This scenario addresses the potential for surface water and groundwater quality degradation.</p>
Before Practice Situation	In this typical setting, the operator has a small waste storage structure from a confined animal feeding operation without an effective waste handling and transfer system to manage the waste stream departing from the facility.
After Practice Situation	The typical installation would be for a small manure 10 HP agitator to put settled manure solids into suspension for removal from an animal waste storage structure and transfer to utilization. Part of an animal waste management system to address water quality concerns. If required a wastewater reception pit, concrete channel or transfer conduit scenario may need to be contracted to support the operation of this waste transfer system equipment.
Scenario Feature Measure	Agitator for wastewater, installed
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$11,000.00	\$11,000.00
Equipment/Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$500.00	\$500.00
Acquisition of Technical Knowledge	\$233.34	\$233.34
Foregone Income	\$0.00	\$0.00
Total	\$11,733.34	\$11,733.34

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	500	\$500.00
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	5
Scenario Name	Agitator
Scenario Description	<p>PTO-driven, 3-pt hitch mounted agitator to "stir" manure and suspend solids and sludge within animal waste storage structure. Typically used to stir pond contents prior to pumping to honeywagon or other land application system. 3-pt mounted system allows equipment to be stored out of weather. As such, installation is likely performed by producer. This scenario does not include a pump.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling</p> <p>The waste transfer equipment is installed to address water quality concerns by facilitating timely land application of waste at agronomic rates according to the nutrient management plan. This scenario addresses the potential for surface water and groundwater quality degradation.</p>
Before Practice Situation	In this typical setting, the operator has a small waste storage structure from a confined animal feeding operation without an effective waste handling and transfer system to manage the waste stream departing from the facility.
After Practice Situation	The typical installation would be for a small manure 10 HP agitator to put settled manure solids into suspension for removal from an animal waste storage structure and transfer to utilization. Part of an animal waste management system to address water quality concerns. If required a wastewater reception pit, concrete channel or transfer conduit scenario may need to be contracted to support the operation of this waste transfer system equipment.
Scenario Feature Measure	Agitator for wastewater, installed
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$11,000.00	\$11,000.00
Equipment/Installation	\$0.00	\$0.00
Labor	\$0.00	\$0.00
Mobilization	\$73.29	\$73.29
Acquisition of Technical Knowledge	\$233.34	\$233.34
Foregone Income	\$0.00	\$0.00
Total	\$11,306.63	\$11,306.63

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	1	\$73.29
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	10
Scenario Name	Alley, reception pit, agitator, and waste pipeline, remote site
Scenario Description	<p>Installation of a concrete channel or alley (slab with curb for the entire length of the channel to enable the facility manager to direct liquid waste to a reception pit. The wastewater is then transferred from the pit by use of an agitator, 6" diameter pipeline, and pump, to a honey wagon, waste storage facility, or field application system.</p> <p>This scenario applies to practices off the Alaskan road system.</p> <p>Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p>
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	<p>Typical installation of a 15 foot wide 50' long concrete channel or alleyway that consists of a 6" thick concrete slab with curbing on each side of the slab that is 2' high and 8" thick. Waste is collected in a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67'x14.67'x6' inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. A small manure 10 HP agitator puts settled manure solids into suspension, and the waste is then pumped through 500' of 6" diameter PVC gasketed IPS pipe, SDR 21 to a waste storage facility, honey wagon, or irrigation system.</p> <p>Alternative configurations can consist of the installation of a more narrow or wider channel without curbs or a deeper shaped channel and may include a half pipe on the bottom. Different size reception pits are allowed as well.</p>
Scenario Feature Measure	Bottom surface area of concrete alley
Scenario Unit	Square Foot
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$15,113.26	\$20.15
Equipment/Installation	\$18,290.14	\$24.39
Labor	\$3,570.32	\$4.76
Mobilization	\$5,267.43	\$7.02
Acquisition of Technical Knowledge	\$233.34	\$0.31
Foregone Income	\$0.00	\$0.00
Total	\$42,474.49	\$56.63

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Materials	1725	Safety chain tractor barrier	3/8 in. transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor (non reinforced concrete cast-in-place)	Cubic yard	\$25.34	19	\$481.46
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
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	\$372.82	19	\$7,083.58
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
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	\$592.03	14	\$8,288.42
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	\$51.85	8	\$414.80
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	48	\$2,873.28

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	\$30.61	8	\$244.88
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	\$37.68	12	\$452.16
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	\$28.17	60.8	\$1,712.74
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	8.5	\$2,249.70
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	1305	\$1,305.00
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	9
Scenario Name	Alley, reception pit, agitator, and waste pipeline
Scenario Description	<p>Installation of a concrete channel or alley (slab with curb for the entire length of the channel to enable the facility manager to direct liquid waste to a reception pit. The wastewater is then transferred from the pit by use of an agitator, 6" diameter pipeline, and pump, to a honey wagon, waste storage facility, or field application system.</p> <p>Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p>
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	<p>Typical installation of a 15 foot wide 50' long concrete channel or alleyway that consists of a 6" thick concrete slab with curbing on each side of the slab that is 2' high and 8" thick. Waste is collected in a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67'x14.67'x6' inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. A small manure 10 HP agitator puts settled manure solids into suspension, and the waste is then pumped through 500' of 6" diameter PVC gasketted IPS pipe, SDR 21 to a waste storage facility, honey wagon, or irrigation system.</p> <p>Alternative configurations can consist of the installation of a more narrow or wider channel without curbs or a deeper shaped channel and may include a half pipe on the bottom. Different size reception pits are allowed as well.</p>
Scenario Feature Measure	Bottom surface area of concrete alley
Scenario Unit	Square Foot
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$15,113.26	\$20.15
Equipment/Installation	\$18,290.14	\$24.39
Labor	\$3,570.32	\$4.76
Mobilization	\$1,493.25	\$1.99
Acquisition of Technical Knowledge	\$233.34	\$0.31
Foregone Income	\$0.00	\$0.00
Total	\$38,700.31	\$51.60

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1725	Safety chain tractor barrier	3/8 in. transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	19	\$481.46
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	\$372.82	19	\$7,083.58
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
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	\$592.03	14	\$8,288.42
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	\$51.85	8	\$414.80
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	48	\$2,873.28
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	\$37.68	12	\$452.16
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	\$180.64	2	\$361.28
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	4	\$1,058.68
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00

Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	1	\$73.29
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	Non reinforced concrete cast-in-place without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
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	\$30.61	8	\$244.88

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	2
Scenario Name	Concrete alley, remote site
Scenario Description	Concrete alleys, push ramps, and other structures needed to transfer manure from barn or other facility to waste storage facility, composting facility, or other acceptable storage/treatment facility. Typical scenario consists of a slab with curb to enable the facility manager to push solids and liquid waste to an existing collection basin and/or waste storage facility. Scenario could be applied to other concrete flatwork structures with low walls or no walls that are required for waste transfer. Practice is located off the Alaskan road system. Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation. Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	Typical installation of a 15 foot wide 50' long concrete channel or alleyway that consists of a 6" thick concrete slab with curbing on each side of the slab that is 2' high and 8" thick. The purpose is to transfer liquids or manure slurry from one area to an existing collection basin or waste storage facility. Alternative configurations can consist of the installation of a more narrow or wider channel that may or may not have curbs or a deeper shaped channel and may include a half pipe on the bottom.
Scenario Feature Measure	Bottom surface area of concrete alley
Scenario Unit	Square Foot
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$354.76	\$0.47
Equipment/Installation	\$8,431.79	\$11.24
Labor	\$1,587.36	\$2.12
Mobilization	\$4,593.43	\$6.12
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$14,967.34	\$19.96

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	14	\$354.76
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
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	\$592.03	5	\$2,960.15
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	\$372.82	14	\$5,219.48
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	24	\$1,436.64
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	\$37.68	4	\$150.72
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	\$28.17	60.8	\$1,712.74
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	8.5	\$2,249.70
Mobilization	1043	Mobilization, Material, distance > 50 miles	Mobilization cost of materials for special cases where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	631	\$631.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	1
Scenario Name	Concrete alley
Scenario Description	<p>Concrete alleys, push ramps, and other structures needed to transfer manure from barn or other facility to waste storage facility, composting facility, or other acceptable storage/treatment facility. Typical scenario consists of a slab with curb to enable the facility manager to push solids and liquid waste to an existing collection basin and/or waste storage facility. Scenario could be applied to other concrete flatwork structures with low walls or no walls that are required for waste transfer.</p> <p>Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p>
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	Typical installation of a 15 foot wide 50' long concrete channel or alleyway that consists of a 6" thick concrete slab with curbing on each side of the slab that is 2' high and 8" thick. The purpose is to transfer liquids or manure slurry from one area to an existing collection basin or waste storage facility.
Scenario Feature Measure	Bottom surface area of concrete alley
Scenario Unit	Square Foot
Scenario Typical Size	750

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$354.76	\$0.47
Equipment/Installation	\$8,431.79	\$11.24
Labor	\$1,587.36	\$2.12
Mobilization	\$529.34	\$0.71
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,903.25	\$14.54

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	14	\$354.76
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
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	\$592.03	5	\$2,960.15
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	\$372.82	14	\$5,219.48
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	24	\$1,436.64
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	\$37.68	4	\$150.72
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	4
Scenario Name	Concrete reception pit, remote site
Scenario Description	<p>Installation for a wastewater collection system that includes materials and structures to collect liquids such as lot runoff, manure slurry and other contaminated liquid effluent. The wastewater collected in this pit is intended to be transferred to final storage or treatment within a short period of time. This scenario includes a reinforced concrete manure reception pit for temporary storage and transfer of manure and wastewater for an animal operation. Reception Pit includes safety fence w/gate or solid/grated cover. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressure flow conduit. Practice is located off the Alaskan road system.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p> <p>This scenario addresses the potential for surface water and groundwater quality degradation from liquid wastewater running unchecked out of silage bunkers and off</p>
Before Practice Situation	Inadequate storage is available to collect wastewater from an operation that may contaminate surface or groundwater resources.
After Practice Situation	This practice scenario is suitable where the waste needs to be collected and stored for a short time, then transferred to treatment or longer-term storage. The practice scenario typically includes materials and installation of a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67'x14.67'x6' inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. The cost includes excavation, placement of subgrade as needed, forming, pouring and finishing of concrete structure and backfilling. Transfer pump if needed must be contracted under pumping plant, PS 533.
Scenario Feature Measure	Total pit volume, gallons
Scenario Unit	Gallon
Scenario Typical Size	7021

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$293.50	\$0.04
Equipment/Installation	\$8,679.39	\$1.24
Labor	\$1,654.80	\$0.24
Mobilization	\$4,427.43	\$0.63
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$15,055.12	\$2.14

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1725	Safety chain tractor barrier	3/8 in. transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	5	\$126.70
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	\$372.82	5	\$1,864.10
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	10	\$67.10
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
Equipment/Installation	962	Tractor, agricultural, 120 HP	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	\$47.06	16	\$752.96
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	\$592.03	9	\$5,328.27
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	\$51.85	8	\$414.80
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
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	\$30.61	8	\$244.88
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	\$37.68	12	\$452.16
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	\$28.17	60.8	\$1,712.74

Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	8.5	\$2,249.70
			where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.				
Mobilization	1043	Mobilization, Material, distance > 50 miles		Dollar	\$1.00	465	\$465.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	3
Scenario Name	Concrete reception pit
Scenario Description	<p>Installation for a wastewater collection system that includes materials and structures to collect liquids such as lot runoff, manure slurry and other contaminated liquid effluent. The wastewater collected in this pit is intended to be transferred to final storage or treatment within a short period of time. This scenario includes a reinforced concrete manure reception pit for temporary storage and transfer of manure and wastewater for an animal operation. Reception Pit includes safety fence w/gate or solid/grated cover. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressure flow conduit.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p> <p>This scenario addresses the potential for surface water and groundwater quality degradation from liquid wastewater running unchecked out of silage bunkers and off of animal feeding lots.</p>
Before Practice Situation	Inadequate storage is available to collect wastewater from an operation that may contaminate surface or groundwater resources.
After Practice Situation	This practice scenario is suitable where the waste needs to be collected and stored for a short time, then transferred to treatment or longer-term storage. The practice scenario typically includes materials and installation of a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67'x14.67'x6' inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. The cost includes excavation, placement of subgrade as needed, forming, pouring and finishing of concrete structure and backfilling. Transfer pump if needed must be contracted under pumping plant, PS 533.
Scenario Feature Measure	Total pit volume, gallons
Scenario Unit	Gallon
Scenario Typical Size	7021

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$293.50	\$0.04
Equipment/Installation	\$8,679.39	\$1.24
Labor	\$1,654.80	\$0.24
Mobilization	\$890.62	\$0.13
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$11,518.31	\$1.64

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	5	\$126.70
Materials	1725	Safety chain tractor barrier	3/8 in. Transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
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	\$51.85	8	\$414.80
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
Equipment/Installation	962	Tractor, agricultural, 120 HP	Agricultural tractor with horsepower range of 90 to 140. Equipment and power unit costs. Labor not included.	Hour	\$47.06	16	\$752.96
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	10	\$67.10
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	\$592.03	9	\$5,328.27
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	\$372.82	5	\$1,864.10
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	\$30.61	8	\$244.88
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
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	\$37.68	12	\$452.16
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	\$180.64	2	\$361.28

Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34
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Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	12
Scenario Name	Reception pit, agitator, and waste pipeline, remote site
Scenario Description	<p>Installation liquid waste reception pit, agitator, 6" diameter pipeline, and pump (pump is under PS-533), to a honey wagon, waste storage facility, or field application system.</p> <p>This scenario applies to practices off the Alaskan road system.</p> <p>Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p>
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	Typical installation of a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67"x14.67"x6" inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. A small manure 10 HP agitator puts settled manure solids into suspension, and the waste is then pumped through 500' of 6" diameter PVC gasketed IPS pipe, SDR 21 to a waste storage facility, honey wagon, or irrigation system.
Scenario Feature Measure	Total pit volume, gallons
Scenario Unit	Gallon
Scenario Typical Size	7021

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$14,758.50	\$2.10
Equipment/Installation	\$9,858.35	\$1.40
Labor	\$1,832.24	\$0.26
Mobilization	\$3,584.76	\$0.51
Acquisition of Technical Knowledge	\$233.34	\$0.03
Foregone Income	\$0.00	\$0.00
Total	\$30,267.19	\$4.31

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Materials	1725	Safety chain tractor barrier	3/8 in. Transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	5	\$126.70
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	non reinforced concrete cast-in-place without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
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	\$372.82	5	\$1,864.10
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
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	\$592.03	9	\$5,328.27
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	\$51.85	8	\$414.80
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	24	\$1,436.64
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	\$30.61	8	\$244.88

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	\$37.68	4	\$150.72
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	\$28.17	60.8	\$1,712.74
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	\$180.64	2	\$361.28
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	3.8	\$1,005.75
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	505	\$505.00
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	11
Scenario Name	Reception pit, agitator, and waste pipeline
Scenario Description	<p>Installation liquid waste reception pit, agitator, 6" diameter pipeline, and pump (pump is under PS-533), to a honey wagon, waste storage facility, or field application system.</p> <p>Water quality concerns will be addressed by preventing liquid waste from entering surface waters, and to facilitate timely land application of manure and wastewater at agronomic rates according to the CNMP. This scenario addresses the potential for surface water and groundwater quality degradation.</p> <p>Associated practices may include: PS 313 Waste Storage Facility for storage structures; PS 533, Pumping Plant; PS 430, Irrigation Pipeline; PS 632, Solid/Liquid Waste Separation Facility; PS 468, Lined Waterway or Outlet; PS 590 Nutrient Management for waste application; PS 633, Waste Recycling.</p>
Before Practice Situation	Current facility operations are allowing liquid waste to flow uncontrolled during periods of precipitation events or cleaning operations such that water resources can be contaminated.
After Practice Situation	<p>Typical installation of a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit (10.67'x14.67'x6' inside dimensions, or 7021 gallons) formed in place that includes safety fence w/gate or solid/grated cover. A small manure 10 HP agitator puts settled manure solids into suspension, and the waste is then pumped through 500' of 6" diameter PVC gasketed IPS pipe, SDR 21 to a waste storage facility, honey wagon, or irrigation system.</p> <p>Alternative configurations can consist of different size reception pits as well.</p>
Scenario Feature Measure	Total pit volume, gallons
Scenario Unit	Gallon
Scenario Typical Size	7021

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$14,758.50	\$2.10
Equipment/Installation	\$9,858.35	\$1.40
Labor	\$1,832.24	\$0.26
Mobilization	\$963.91	\$0.14
Acquisition of Technical Knowledge	\$233.34	\$0.03
Foregone Income	\$0.00	\$0.00
Total	\$27,646.34	\$3.94

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Materials	1725	Safety chain tractor barrier	3/8 in. transport chain barrier installed to prevent tractor equipment from entering wastewater collection basin or pit. Material cost only.	Foot	\$2.78	60	\$166.80
Materials	1768	Manure agitator, mixing depth less than 10 feet.	Agitator to move put settled manure solids into suspension for removal from an animal waste storage structure. Materials only.	Each	\$11,000.00	1	\$11,000.00
Materials	1099	Aggregate, Gravel, Ungraded, Quarry Run	Includes materials, equipment and labor	Cubic yard	\$25.34	5	\$126.70
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	Non reinforced concrete cast-in-place without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
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	\$372.82	5	\$1,864.10
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
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	\$592.03	9	\$5,328.27
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	\$51.85	8	\$414.80
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	24	\$1,436.64
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	\$30.61	8	\$244.88

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	\$37.68	4	\$150.72
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	\$180.64	2	\$361.28
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	1	\$73.29
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	2	\$233.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	8
Scenario Name	Waste pipeline, remote site
Scenario Description	<p>Pressure flow pipeline used to transfer manure wastewater by pumping from the waste storage pond to a honey wagon or existing/proposed irrigation system for field application. Pressure flow transfer pipelines can be between 3" and 12" diameter but 6" diameter is a commonly used pipe size. Pressure pipe will handle an internal pumping pressure between 130 and 200 psi depending on the designed pumping system and must have gasketed joints to seal for the wastewater transfer. Practice is located off the Alaskan road system.</p> <p>The pressure pipe moves the water by pumping from the intake riser location, through a buried mainline, and to an outlet that can be emptied into a honey wagon. This practice includes the pipe plus an inlet riser structure, clean-out risers and outlet risers plus all other valves and fittings, trench excavation and backfill, labor and a equipment for installation. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.</p> <p>This pipeline is part of a manure transfer system for a planned waste management or comprehensive nutrient management plan. This scenario addresses the transport of liquid waste to a waste storage or treatment facility to prevent a water quality resource concern of excessive nutrients/organics and harmful levels of pathogens in surface water and/or excessive nutrients/organics in ground water.</p>
Before Practice Situation	<p>The waste storage structure is separated from the application fields where wastewater nutrients are needed. Soil nutrients in the near fields have high phosphorus levels from over application near the waste storage facility. The current application operation is high in the use of time and energy and may cause water quality concerns as it is not efficient in transporting the waste to the field.</p>
After Practice Situation	<p>Install 500' of 6" diameter PVC gasketed IPS pipe, SDR 21 and is water tight under pressure flow to transfer the manure wastewater. An inlet riser and is located near the pump site of the waste storage pond and designed for the desired pressure and flow for the application system. This scenario includes the pipe, inlet riser, couplers, air-vac vents, all other fittings, and risers placed as specified by the design, trench excavation, pipe bedding and backfill. The site should be evaluated by the designing engineer to make sure the design will function.</p> <p>The transfer pipeline will deliver the manure slurry to the fields or honey-wagon for agronomic nutrient utilization according to the CNMP, thereby protecting water quality resources.</p>
Scenario Feature Measure	Length of pipe installed
Scenario Unit	Feet
Scenario Typical Size	500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$3,465.00	\$6.93
Equipment/Installation	\$2,251.18	\$4.50
Labor	\$1,202.64	\$2.41
Mobilization	\$4,118.09	\$8.24
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$11,036.91	\$22.07

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	Non reinforced concrete cast-in-place without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
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	\$30.61	8	\$244.88
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	\$28.17	20.9	\$588.75
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34
Mobilization	1043	Mobilization, Material, distance > 50 miles	where the distance from the supplier delivery point to the job site exceeds 50 miles. The costs for shipping by UPS or bulk freight shipping to a location within 50 miles of the job site have already been included in the component price.	Dollar	\$1.00	3000	\$3,000.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Environmental Engineering
Practice Code/Name	634 - Waste Transfer
Scenario ID	7
Scenario Name	Waste pipeline
Scenario Description	<p>Pressure flow pipeline used to transfer manure wastewater by pumping from the waste storage pond to a honey wagon or existing/proposed irrigation system for field application. Pressure flow transfer pipelines can be between 3" and 12" diameter but 6" diameter is a commonly used pipe size. Pressure pipe will handle an internal pumping pressure between 130 and 200 psi depending on the designed pumping system and must have gasketed joints to seal for the wastewater transfer.</p> <p>The pressure pipe moves the water by pumping from the intake riser location, through a buried mainline, and to an outlet that can be emptied into a honey wagon. This practice includes the pipe plus an inlet riser structure, clean-out risers and outlet risers plus all other valves and fittings, trench excavation and backfill, labor and an equipment for installation. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements.</p> <p>This pipeline is part of a manure transfer system for a planned waste management or comprehensive nutrient management plan. This scenario addresses the transport of liquid waste to a waste storage or treatment facility to prevent a water quality resource concern of excessive nutrients/organics and harmful levels of pathogens in surface water and/or excessive nutrients/organics in ground water.</p>
Before Practice Situation	<p>The waste storage structure is separated from the application fields where wastewater nutrients are needed. Soil nutrients in the near fields have high phosphorus levels from over application near the waste storage facility. The current application operation is high in the use of time and energy and may cause water quality concerns as it is not efficient in transporting the waste to the field.</p>
After Practice Situation	<p>Install 500' of 6" diameter PVC gasketed IPS pipe, SDR 21 and is water tight under pressure flow to transfer the manure wastewater. An inlet riser and is located near the pump site of the waste storage pond and designed for the desired pressure and flow for the application system. This scenario includes the pipe, inlet riser, couplers, air-vac vents, all other fittings, and risers placed as specified by the design, trench excavation, pipe bedding and backfill. The site should be evaluated by the designing engineer to make sure the design will function.</p> <p>The transfer pipeline will deliver the manure slurry to the fields or honey-wagon for agronomic nutrient utilization according to the CNMP, thereby protecting water quality resources.</p>
Scenario Feature Measure	Length of pipe installed
Scenario Unit	Feet
Scenario Typical Size	500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$3,465.00	\$6.93
Equipment/Installation	\$2,251.18	\$4.50
Labor	\$1,202.64	\$2.41
Mobilization	\$529.34	\$1.06
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$7,448.16	\$14.90

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	987	Pipe, PVC, 6", SDR 21	Materials: - 6" - PVC - SDR 21 200 psi - ASTM D2241	Foot	\$6.30	550	\$3,465.00
Equipment/Installation	54	Trenching, Earth, loam, 24" x 48"	Trenching, earth, loam, 24" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$3.64	500	\$1,820.00
Equipment/Installation	50	Earthfill, Manually Compacted	Earthfill, manually compacted, includes equipment and labor	Cubic yard	\$6.71	37	\$248.27
Equipment/Installation	36	Concrete, CIP, formless, non reinforced	Non reinforced concrete cast-in-place without forms by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic yard	\$182.91	1	\$182.91
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	\$30.61	8	\$244.88
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	16	\$957.76
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Agricultural Engineering
Practice Code/Name	638 - Water & Sediment Control Basin
Scenario ID	1
Scenario Name	Water and Sediment Control Basin
Scenario Description	<p>Typical scenarios for the construction of 300 CY earthen embankment. Prior to building the embankment, 6 inches of topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Costs include all equipment necessary to strip and stock pile topsoil, excavate, shape, grade and compact the Water and Sediment Control Basin, spread and replace topsoil after construction and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Work is done with dozer, scraper, or road grader.</p> <p>Off-road vs. on-road cost differences were deemed insignificant, and most off-road locations have backhoes/dozers available so mobilization costs were similar.</p>
Before Practice Situation	Site has shallow topsoil which if removed by earthwork for construction of embankment will significantly impact yields. Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concern addressed includes soil erosion and water quality by trapping sediment and/or reduce erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) is being transported into the riparian areas and water bodies downstream.
After Practice Situation	Water and Sediment Control Basin is constructed with 300 CY of excavation/earthfill with dozer or excavator. Rill and/or gully erosion is reduced. If riser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.
Scenario Feature Measure	CY of Embankment
Scenario Unit	Cubic Yard
Scenario Typical Size	300

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$4,744.95	\$15.82
Labor	\$0.00	\$0.00
Mobilization	\$1,058.68	\$3.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,803.63	\$19.35

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1199	Stripping and stockpiling, topsoil	Stripping and stockpiling of topsoil adjacent to stripping area. Includes equipment and labor.	Cubic Yard	\$0.91	60	\$54.60
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$5.02	375	\$1,882.50
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	435	\$1,787.85
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	\$2.72	375	\$1,020.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	4	\$1,058.68

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Engineering General
Practice Code/Name	642 - Water Well
Scenario ID	2
Scenario Name	Well Screen
Scenario Description	This scenario is a component of a water well and is to be included in the contract anytime a well may pump silt or sand. The only situations not requiring a screen are wells in fractured bedrock or wells in well cemented sandstone or siltstones. The screen shall be a commercially manufactured brass or stainless steel well screen. This scenario is a component of a water well and does not directly address a resource concern on its own.
Before Practice Situation	Livestock have insufficient water or are fenced from their water source. There is insufficient water for use in micro-irrigation.
After Practice Situation	Sufficient water is available for livestock or micro-irrigation. Utilize Pumping Plant (533) and Pipeline (516) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.
Scenario Feature Measure	Measured in Each
Scenario Unit	Each
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$543.66	\$543.66
Equipment/Installation	\$179.63	\$179.63
Labor	\$122.44	\$122.44
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$845.73	\$845.73

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1995	Well Screen, stainless steel, 6"	6" Stainless steel well screen. Materials only.	Foot	\$271.83	2	\$543.66
Equipment/Installation	1595	Rotary Drill Rig with Operator	Rotary drill rig including equipment and power unit costs and labor.	Hour	\$179.63	1	\$179.63
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	\$30.61	4	\$122.44

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Engineering General
Practice Code/Name	642 - Water Well
Scenario ID	1
Scenario Name	Typical Well w/o Screen
Scenario Description	Livestock well, 100 feet deep, 6-inch steel cased with pitless adaptor, grout seal, and pumping test. This scenario typically addresses the following resource concern: "Livestock production limitation-inadequate water."
Before Practice Situation	Livestock have insufficient water or are fenced from their water source. There is insufficient water for use in micro-irrigation.
After Practice Situation	Sufficient water is available for livestock or micro-irrigation. Utilize Pumping Plant (533) and Pipeline (516) as associated practices. Use Critical Area Seeding (342) where necessary to prevent erosion following construction activities.
Scenario Feature Measure	Measured in Feet
Scenario Unit	Foot
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$667.64	\$6.68
Equipment/Installation	\$1,437.04	\$14.37
Labor	\$0.00	\$0.00
Mobilization	\$302.00	\$3.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,406.68	\$24.07

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1810	Well Casing, Metal, 6"	Steel well casing, 6". Materials only.	Foot	\$61.77	10	\$617.70
Materials	1333	Grout, cement	Cement grout meeting ASTM specifications for well sealing. Includes both neat-cement grout and bentonite grout mixtures. Includes materials, equipment and labor to place.	Cubic Yard	\$117.47	0.13	\$15.27
Materials	1335	Chlorine	Liquid chlorine bleach. Materials only.	Gallon	\$2.32	1	\$2.32
Materials	1786	Well Cap, 6"	Well cap, 6". Materials only.	Each	\$32.35	1	\$32.35
Equipment/Installation	1595	Rotary Drill Rig with Operator	Rotary drill rig including equipment and power unit costs and labor.	Hour	\$179.63	8	\$1,437.04
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	1	\$264.67
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	1	\$37.33

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	3
Scenario Name	Monitoring, Management, High Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires two qualitative data assessment efforts which may include water quality monitoring and is high in complexity and intensity. In this scenario, the treatment area has received numerous structural and vegetative manipulations in highly difficult topographic settings. The monitoring activity is to be accomplished by two individuals per effort. Required actions include establishing a minimum of 5 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulted in inadequate use of the area by target rare and declining species and associated species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate conditions and deficiencies have been addressed. Monitoring has maximized the benefits of the needed habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored.
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.88
Equipment/Installation	\$561.92	\$5.62
Labor	\$1,681.12	\$16.81
Mobilization	\$722.88	\$7.23
Acquisition of Technical Knowledge	\$144.67	\$1.45
Foregone Income	\$0.00	\$0.00
Total	\$3,199.07	\$31.99

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	16	\$525.92
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	300	\$36.00
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	\$74.46	16	\$1,191.36
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	\$30.61	16	\$489.76
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	4	\$293.16
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	4	\$306.72
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	1	\$116.67
Acquisition of Technical Knowledge	297	Transportation	Mileage to attend a training conference, workshop, or TSP travel associated with developing Conservation Activity Plan.	Mile	\$0.56	50	\$28.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	1
Scenario Name	Monitoring, & Management, Low Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is low in complexity and intensity in this scenario. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) . Provide annual written documentation identifying observed plant presence/growth/regrowth conditions, wildlife utilization and site referenced photographs
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulted in low use of the area by target species identified as Rare and Declining and associated species. However, existing conditions do not require specialized or extreme effort to perform restoration.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate habitat conditions have been addressed. Monitoring has maximized the benefits of the needed habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.44
Equipment/Installation	\$274.96	\$2.75
Labor	\$244.88	\$2.45
Mobilization	\$208.08	\$2.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$772.16	\$7.72

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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.	Hour	\$30.61	8	\$244.88
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	2
Scenario Name	Monitoring & Management, Medium Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is medium in complexity and intensity. In this scenario, the treatment area has received numerous structural and vegetative manipulations in moderately difficult topographic settings. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) . Provide twice annual
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulted in low use of the area by target species identified as Rare and Declining and associated species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate habitat conditions have been addressed. Monitoring has maximized the benefits of the needed habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored.
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.44
Equipment/Installation	\$274.96	\$2.75
Labor	\$775.18	\$7.75
Mobilization	\$300.56	\$3.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,394.94	\$13.95

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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	\$47.57	6	\$285.42
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	\$30.61	16	\$489.76
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	643 - Restoration and Management of Rare and Declining Habitats
Scenario ID	4
Scenario Name	Monitoring, Management, Federal T&E Species
Scenario Description	Restoration and Management of Declining Habitat is designed to restore and conserve habitats and their functions and values for native plant and/or animal species or ecological conditions, which are in danger of disappearing from the landscape in Alaska. In some areas of the state, these habitats might be settings such as old growth forests, or areas where once abundant shallow surface water or wetlands are receding due to local, regional or global environmental conditions. In order to receive this payment the landowner at the minimum will need to manage the soil resource, restore plant and/or animal diversity, control invasive species and when necessary provide cover, water, and food for the identified Threatened and Endangered species. An increased level of management may consist of improving the wildlife habitat for connectivity, diversity, and sustainability (including disturbance use) for the focus wildlife species. This practice is usually facilitated through the application of other structural or vegetative practices necessary for site condition manipulation/ restoration. Only species designated by the US Fish and Wildlife Service as Candidate or Threatened or Endangered are eligible for this practice scenario. Habitat management and monitoring needed to treat the resource
Before Practice Situation	Existing site degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulted in inadequate use of the area by target US Fish and Wildlife Service designated T&E or Candidate Species.
After Practice Situation	Based on the results of a Federally approved wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate conditions and deficiencies have been addressed. Monitoring is maximizing the benefits of the needed habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored.
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.88
Equipment/Installation	\$645.92	\$6.46
Labor	\$3,468.16	\$34.68
Mobilization	\$722.88	\$7.23
Acquisition of Technical Knowledge	\$144.67	\$1.45
Foregone Income	\$0.00	\$0.00
Total	\$5,070.11	\$50.70

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	16	\$525.92
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	1000	\$120.00
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	\$74.46	40	\$2,978.40
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	\$30.61	16	\$489.76
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	4	\$293.16
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	4	\$306.72
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	1	\$116.67
Acquisition of Technical Knowledge	297	Transportation	Mileage to attend a training conference, workshop, or TSP travel associated with developing Conservation Activity Plan.	Mile	\$0.56	50	\$28.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	644 - Wetland Wildlife Management
Scenario ID	3
Scenario Name	Monitoring, Management, High Intensity & Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Wetland Wildlife/ Habitatand the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires qualitative data assessment which may include water quality monitoring and is high in complexity and intensity. In this scenario, the treatment area has received numerous structural and vegetative manipulations in highly difficult topographic settings. Required actions include establishing a minimum of 5 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) .
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated wetland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of wetland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate wetland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.88
Equipment/Installation	\$561.92	\$5.62
Labor	\$1,085.44	\$10.85
Mobilization	\$722.88	\$7.23
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,458.72	\$24.59

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	16	\$525.92
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	300	\$36.00
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	\$74.46	8	\$595.68
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	\$30.61	16	\$489.76
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	4	\$306.72
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	4	\$293.16

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	644 - Wetland Wildlife Management
Scenario ID	1
Scenario Name	Monitoring & Management, Low Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Wetland Wildlife and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is low in complexity and intensity in this scenario. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) . Provide annual written documentation identifying observed plant presence/growth/regrowth conditions, wildlife utilization and site referenced photographs
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated wetland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of wetland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate wetland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.44
Equipment/Installation	\$274.96	\$2.75
Labor	\$122.44	\$1.22
Mobilization	\$208.08	\$2.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$649.72	\$6.50

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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.	Hour	\$30.61	4	\$122.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	644 - Wetland Wildlife Management
Scenario ID	2
Scenario Name	Monitoring, Management, Medium Intensity & Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Wetland Wildlife/ Habitat, and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is medium in complexity and intensity. In this scenario. The treatment area has received numerous structural and vegetative manipulations in moderately difficult topographic settings. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) .
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated wetland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of wetland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate wetland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	85

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.52
Equipment/Installation	\$274.96	\$3.23
Labor	\$632.47	\$7.44
Mobilization	\$300.56	\$3.54
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,252.23	\$14.73

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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	\$47.57	3	\$142.71
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	\$30.61	16	\$489.76
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	644 - Wetland Wildlife Management
Scenario ID	4
Scenario Name	WetWild, Subsistence Resource Harvest
Scenario Description	<p>The Subsistence Resource Rotation Harvest scenario is not designed to address resource needs associated with traditional agricultural operations. The Rotation Harvest scenario is intended to address acquisition of wildlife and wildlife based products in a wildland setting. Rotation Harvest: Upland Wildlife Habitat Management implemented at the Rotation Harvest level requires meeting all requirements identified for the Maximum level scenario, to include implementing a specialized site and species specific wildlife and wildlife product harvest plan which is intended to restore, improve or create increased wildlife productivity for species and the quality and quantity of their habitats.</p> <p>Develop and implement a plan which defines a strategy of controlled harvest and disturbance, access and use of species specific or habitat specific areas, through the use of alternately rested and use rotations, according to the needs of the species and habitat features to improve species populations and the quantity and quality of their habitat.</p> <p>Rotation Harvest incorporates human requirements and utilization of wildlife species and habitats (including plant and animal forage sources) in a way that promotes the acquisition of human food resources, improves and sustains wildlife species populations and the quality and quantity of habitat, in a defined conservation treatment area. The establishment of access and use areas and areas of no disturbances or harvest within a seasonal and year-to-year timing strategy on a broad landscape area is a core implementation requirement.</p> <p>Landscape resource inventories are coupled with rural community wildlife and wildlife product use patterns to identify potential sub-unit treatment area polygons. Locations of Threatened and Endangered, Federal and State Sensitive species populations and habitat will have priority considerations in the harvest and disturbance</p>
Before Practice Situation	Subsistence plant and animal resources on the exist on the landscape in scattered defined patches and availability and require a rotational use plan to promote sustainable harvest of native plant and animal resources. Currently indiscriminate a dn over use or native plant and animal resources have depleted food availability for remote village and community locations.
After Practice Situation	A planned wildlife ecosystem providing more sustainable use of native plant and animal resource for human consumption will guide community residents in the in the use of wildlife species and their forage plants.
Scenario Feature Measure	Acres of Wildlife and resource management applied
Scenario Unit	Acre
Scenario Typical Size	850

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.10
Equipment/Installation	\$3,944.40	\$4.64
Labor	\$17,316.28	\$20.37
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$466.68	\$0.55
Foregone Income	\$0.00	\$0.00
Total	\$21,815.84	\$25.67

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	120	\$3,944.40
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	\$74.46	6	\$446.76
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	20	\$1,197.20
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	\$30.61	512	\$15,672.32
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	4	\$466.68

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	645 - Upland Wildlife Habitat Management
Scenario ID	3
Scenario Name	Monitoring, Management, High Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Upland Wildlife/ Habitat and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires qualitative data assessment which may include water quality monitoring and is high in complexity and intensity. In this scenario, the treatment area has received numerous structural and vegetative manipulations in highly difficult topographic settings. Required actions include establishing a minimum of 5 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points).
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated upland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of upland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate upland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored.
Scenario Unit	Acre
Scenario Typical Size	125

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.71
Equipment/Installation	\$561.92	\$4.50
Labor	\$1,085.44	\$8.68
Mobilization	\$722.88	\$5.78
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,458.72	\$19.67

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	16	\$525.92
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	300	\$36.00
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	\$74.46	8	\$595.68
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	\$30.61	16	\$489.76
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	4	\$306.72
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	4	\$293.16

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	645 - Upland Wildlife Habitat Management
Scenario ID	1
Scenario Name	Monitoring, Management, Low Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Upland Wildlife and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is low in complexity and intensity in this scenario. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) . Provide annual written documentation identifying observed plant presence/growth/regrowth conditions, wildlife utilization and site referenced photographs
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated upland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of upland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate upland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.44
Equipment/Installation	\$274.96	\$2.75
Labor	\$122.44	\$1.22
Mobilization	\$208.08	\$2.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$649.72	\$6.50

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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.	Hour	\$30.61	4	\$122.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	645 - Upland Wildlife Habitat Management
Scenario ID	2
Scenario Name	Monitoring & Management, Medium Intensity and Complexity
Scenario Description	Setting is any land use with the potential to provide habitat for species of plants and animals identified as Upland Wildlife/ Habitat, and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implemented based on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is medium in complexity and intensity. In this scenario. The treatment area has received numerous structural and vegetative manipulations in moderately difficult topographic settings. Required actions include establishing 3 diverse geo-referenced photo-point sites per 100 acres of treatment area. Twice per year (early summer after 10%-20% leaf-out, and late fall before leaf-loss) a minimum of four legible photographs per site will be collected (photo's directed towards treatment area and/ or the N, S, E, W compass points) .
Before Practice Situation	Existing degraded plant conditions and resulting inadequate habitat for fish and wildlife have resulting in low use of the area by target and associated upland wildlife species.
After Practice Situation	Based on the results of a State-approved upland wildlife habitat assessment process, the application of upland wildlife habitat management efforts and prescribed monitoring have been implemented. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate upland wildlife habitat conditions have addressed. Monitoring has maximized the benefits of the needed upland wildlife habitat treatment efforts.
Scenario Feature Measure	Acres Managed and Monitored.
Scenario Unit	Acre
Scenario Typical Size	100

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$44.24	\$0.44
Equipment/Installation	\$274.96	\$2.75
Labor	\$632.47	\$6.32
Mobilization	\$300.56	\$3.01
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,252.23	\$12.52

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	1	\$44.24
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	8	\$262.96
Equipment/Installation	966	Satellite imagery, aerial photography, infrared	Infrared imagery	Acre	\$0.12	100	\$12.00
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	\$47.57	3	\$142.71
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	\$30.61	16	\$489.76
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	645 - Upland Wildlife Habitat Management
Scenario ID	4
Scenario Name	UplWild, Subsistence Rotation Harvest
Scenario Description	<p>The Subsistence Resource Rotation Harvest scenario is not designed to address resource needs associated with traditional agricultural operations. The Rotation Harvest scenario is intended to address acquisition of wildlife and wildlife based products in a wildland setting. Rotation Harvest: Upland Wildlife Habitat Management implemented at the Rotation Harvest level requires meeting all requirements identified for the Maximum level scenario, to include implementing a specialized site and species specific wildlife and wildlife product harvest plan which is intended to restore, improve or create increased wildlife productivity for species and the quality and quantity of their habitats.</p> <p>Develop and implement a plan which defines a strategy of controlled harvest and disturbance, access and use of species specific or habitat specific areas, through the use of alternately rested and use rotations, according to the needs of the species and habitat features to improve species populations and the quantity and quality of their habitat.</p> <p>Rotation Harvest incorporates human requirements and utilization of wildlife species and habitats (including plant and animal forage sources) in a way that promotes the acquisition of human food resources, improves and sustains wildlife populations and the quality and quantity of habitat, in a defined conservation treatment area. The establishment of access and use areas and areas of no disturbances or harvest within a seasonal and year-to-year timing strategy on a broad landscape area is a core implementation requirement.</p> <p>Landscape resource inventories are coupled with rural community wildlife and wildlife product use patterns to identify potential sub-unit treatment area polygons. Locations of Threatened and Endangered, Federal and State Sensitive species populations and habitat will have priority considerations in the harvest and disturbance</p>
Before Practice Situation	Subsistence plant and animal resources exist on the landscape in scattered defined patches and availability and require a rotational use plan to promote sustainable harvest of native plant and animal resources. Currently indiscriminant and overuse of native plant and animal resources have depleted sensitive wildlife populations, habitats and food availability for remote village and community locations.
After Practice Situation	Planned and controlled use and disturbance of wildlife ecosystems according to the established rotational harvest plan will provide less impacted and more sustainable wildlife populations, habitats and use of native plant and animal resource for human consumption, and will guide community residents in the use of wildlife species, habitats and their forage plants.
Scenario Feature Measure	Acres of wildlife and resource management applied
Scenario Unit	Acre
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$88.48	\$0.09
Equipment/Installation	\$3,944.40	\$3.94
Labor	\$17,316.28	\$17.32
Mobilization	\$0.00	\$0.00
Acquisition of Technical Knowledge	\$466.68	\$0.47
Foregone Income	\$0.00	\$0.00
Total	\$21,815.84	\$21.82

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	967	Rangeland/grassland field monitoring kit	Miscellaneous tools needed to complete rangeland/grassland monitoring. Materials may include camera, clippers, plot frame, scale, tape measure, etc. Includes equipment costs only.	Each	\$44.24	2	\$88.48
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	120	\$3,944.40
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	\$74.46	6	\$446.76
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	20	\$1,197.20
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	\$30.61	512	\$15,672.32
Acquisition of Technical Knowledge	294	Training, Workshops	Educational seminar or series of meetings emphasizing interaction and exchange of information among a usually small number of participants.	Each	\$116.67	4	\$466.68

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	2
Scenario Name	Pruning
Scenario Description	Windbreak is pruned by hand (hand tools + chainsaw) to improve shape and form of trees and/or shrubs so that the overall effectiveness of the windbreak will improve. Slash is treated to prevent potential insect, disease, fire and operability problems.
Before Practice Situation	The windbreak tree and or shrub species have become to 'leggy' (grown to tall) or are growing beyond the bounds of the designated windbreak area. Overall density of windbreak is lower than desired optimum. Resource concern is Degrade plant condition- undesirable plant productivity and health; Livestock Production- Inadequate livestock shelter.
After Practice Situation	Integrity of windbreak restored; impacts of wind reduced. 1,000 feet of windbreaks or shelterbelts
Scenario Feature Measure	Area of Renovation
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$20.00	\$20.00
Labor	\$306.10	\$306.10
Mobilization	\$123.00	\$123.00
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$449.10	\$449.10

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	10	\$20.00
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.	Hour	\$30.61	10	\$306.10
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	8
Scenario Name	Supplemental Plantings-Bare Root
Scenario Description	Parts of the windbreak being renovated have died. Supplemental plantings of bare root trees/shrubs will improve the effectiveness and longevity of the windbreak. Resource concerns include Soil erosion - Wind erosion, Degraded plant condition - Inadequate structure and composition, and Livestock production limitation - Inadequate livestock shelter.
Before Practice Situation	Dead trees/shrubs are inhibiting windbreak effectiveness. A one (1.0) acre windbreak/shelterbelt is expanded through the planting of bare root tree and shrub seedlings at a average spacing of 8' (shrubs 4'-6', deciduous/conifer trees 8'-12') within row and 15'-20' between rows. Planting is achieved through hand planting.
After Practice Situation	The integrity and function of the windbreak is restored.
Scenario Feature Measure	Area of Renovation
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$219.29	\$219.29
Equipment/Installation	\$158.04	\$158.04
Labor	\$122.44	\$122.44
Mobilization	\$30.75	\$30.75
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$530.52	\$530.52

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	334	Herbicide, Glyphosate	A broad-spectrum, non-selective systemic herbicide. Product is typically used in these practices 340, 645, 314, 666, and 512. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$11.04	1	\$11.04
Materials	1594	Fertilizer, tree, slow release, premix packet or spike	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8) or Fertilizer Spike	Each	\$0.75	175	\$131.25
Materials	1586	Wire flags	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.08	175	\$14.00
Materials	1516	Tree, conifer, seedling, containerized, 4 cu. in.	Containerized conifer stock, 4 cubic inches (e.g., "4a" plug), 1.1" x 5.2". Materials only.	Each	\$0.36	175	\$63.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only.	Hour	\$9.44	4	\$37.76
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	\$30.61	4	\$122.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	1	\$30.75

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	5
Scenario Name	Supplemental Planting-Container
Scenario Description	Parts of the windbreak being renovated have died. Supplemental plantings of containerized trees/shrubs will improve the effectiveness and longevity of the windbreak. Resource concerns include Soil erosion - Wind erosion, Degraded plant condition -Inadequate structure and composition, and Livestock production limitation - Inadequate livestock shelter.
Before Practice Situation	Dead trees/shrubs are inhibiting windbreak effectiveness. A one (1.0) acre windbreak/shelterbelt is expanded through the planting of containerized tree and shrub seedlings at a average spacing of 8' (shrubs 4'-6', deciduous/conifer trees 8'-12') within row and 15'-20' between rows. Planting is achieved through hand planting.
After Practice Situation	The integrity and function of the windbreak is restored.
Scenario Feature Measure	Area of Renovation
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,153.79	\$1,153.79
Equipment/Installation	\$158.04	\$158.04
Labor	\$91.83	\$91.83
Mobilization	\$30.75	\$30.75
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,434.41	\$1,434.41

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	334	Herbicide, Glyphosate	A broad-spectrum, non-selective systemic herbicide. Product is typically used in these practices 340, 645, 314, 666, and 512. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$11.04	1	\$11.04
Materials	1536	Tree, conifer, seedling or transplant, potted, 1 gal.	Potted conifer, 1 gal. Materials only.	Each	\$5.70	175	\$997.50
Materials	1594	Fertilizer, tree, slow release, premix packet or spike	Slow release fertilizer to gradually apply nutrients over time for tree establishment. 2.0 Oz Packet (Premixed: 16-16-16 or 16-8-8) or Fertilizer Spike	Each	\$0.75	175	\$131.25
Materials	1586	Wire flags	Small vinyl flags attached to wire stakes, typically, 36" in length, for marking tree rows	Each	\$0.08	175	\$14.00
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	4	\$120.28
Equipment/Installation	1590	Hand tools, tree planting	Various hand tools for digging holes and planting trees such as augers, dibble bars, planting shovel, hoe-dad. Equipment only.	Hour	\$9.44	4	\$37.76
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	\$30.61	3	\$91.83
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	1	\$30.75

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	2
Scenario Name	Thinning
Scenario Description	Windbreak is thinned by hand w/chainsaw. Associated practice to remove slash and debris will be applied seperately. Selection of the trees to be retained or remove is included.
Before Practice Situation	Windbreak functionality has decreased. Windbreak tree and/or shrub species are overly dense and do not provide the desired wind protection. Resouce concern is Degrade plant condition- undesirable plant productivity and health.
After Practice Situation	Integrity of windbreak restored, function and health improved.
Scenario Feature Measure	Area of Renovation
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$62.10	\$62.10
Labor	\$496.38	\$496.38
Mobilization	\$92.48	\$92.48
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$650.96	\$650.96

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	10	\$62.10
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	\$30.61	10	\$306.10
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	\$47.57	4	\$190.28
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	3
Scenario Name	Tree/Shrub Removal
Scenario Description	Windbreak renovation requires the removal of degraded or inappropriate trees or shrubs within a windbreak. This may include removal (includes removal from the windbreak of trees)of entire rows, or selected trees/shrubs in order to prepare for the necessary planting of a replacement row or segment within the windbreak, which willimprove the health of the remaining rows, and/or allow for supplemental planting to expand the windbreak. Resource concerns: Degrade plant condition-undesirable plant productivity and health; Livestock Production-Inadequate livestock shelter, Soil erosion-wind.
Before Practice Situation	Plant (trees and/or shrubs) health has degraded decreasing the effectiveness of the original windbreak design. Plants lack leaf cover, have dead branches, gaps of no live green material and some are completley dead. Wind now moves freely thru areas that lack any leaves.
After Practice Situation	Integrity and function of windbreak restored. 1,000 feet of windbreak/shelterbelt renovated.
Scenario Feature Measure	Area of renovation
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$454.52	\$454.52
Labor	\$496.38	\$496.38
Mobilization	\$132.21	\$132.21
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,083.11	\$1,083.11

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	8	\$49.68
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	4	\$160.28
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	2	\$4.00
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.	Hour	\$30.61	10	\$306.10
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	\$47.57	4	\$190.28
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	\$28.17	1	\$28.17
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	1	\$30.75
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	1	\$73.29

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	650 - Windbreak/Shelterbelt Renovation
Scenario ID	4
Scenario Name	Windbreak Removal
Scenario Description	Windbreak renovation requires the removal of degraded or inappropriate trees or shrubs within a windbreak or the removal of legacy windbreaks from pioneer farming parcels. This may include removal of entire rows, including stumps or roots, or selected trees/shrubs in order to prepare for the necessary planting of a replacement row within the windbreak, associated reshaping and realignment of the windbreaks, and/or allow for supplemental planting to expand the windbreak. Resource concerns include Degraded plant condition- undesirable plant productivity and health; Livestock Production-Inadequate livestock shelter, Soil erosion-wind.
Before Practice Situation	Reduce wind impacts by renovating 1,000 foot windbreaks or shelterbelts using heavy equipment to remove selected trees with average DBH > 8 inches. Typically trees and shrubs are cleared by dozer (D-6 or equivalent) using a brush rake or blade. All slash material from cutting and pruning is either scattered and crushed, piled and crushed, chipped or removed from the treatment area.
After Practice Situation	Integrity and function of windbreak restored.
Scenario Feature Measure	Area of Removal
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,078.46	\$1,078.46
Labor	\$396.66	\$396.66
Mobilization	\$1,622.27	\$1,622.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,097.39	\$3,097.39

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	6	\$640.08
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	6	\$378.24
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	6	\$170.58
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	\$37.68	6	\$226.08
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	\$28.17	1	\$28.17
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	\$495.05	2	\$990.10
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	2	\$529.34
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	1
Scenario Name	Constructed - Light Equipment
Scenario Description	Installation of a bare-ground firebreak of a minimum width of 12' along a forested or scrub brush cover type. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation.
Before Practice Situation	Forest or scrub shrub cover with enough biomass to carry a combination of crown and ground fire. Understory vegetation is flammable through most of the fire season and its removal to bare soil will slow the spread of a ground fire.
After Practice Situation	The property is adequately protected from the spread of wildfire.
Scenario Feature Measure	Length of firebreak
Scenario Unit	Feet
Scenario Typical Size	500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$685.48	\$1.37
Labor	\$273.16	\$0.55
Mobilization	\$1,917.40	\$3.83
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,876.04	\$5.75

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	4	\$131.48
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	8	\$504.32
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	8	\$49.68
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	\$37.68	4	\$150.72
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	\$30.61	4	\$122.44
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	4	\$1,058.68
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	\$180.64	4	\$722.56
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	2
Scenario Name	Non Flamable Vegetation
Scenario Description	Installation of a bare-ground firebreak of a minimum width of 12' along a forested or scrub brush cover type. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation. Removal of overstory vegetation, Trees, shrub, herbaceous plants leaving a mossy or short stand of non flamable vegetation. Application is where the need for removal of the duff layer will be problematic in reference to permafrost, wetlands and erosion issues.
Before Practice Situation	Forest or scrub shrub cover with enough biomass to carry a combination of crown and ground fire. Understory vegetation does not contain many grasses and is composed of duff materials that remains moist throughout the fire season.
After Practice Situation	The area will be relatively free for highly flammable vegetation with little to no maintenance for the life span of the practice. Duff or vegetation shall remain wet or succulent during the fire season with little to no maintenance.
Scenario Feature Measure	Length of firebreak
Scenario Unit	Feet
Scenario Typical Size	500

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$181.16	\$0.36
Labor	\$734.64	\$1.47
Mobilization	\$416.16	\$0.83
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,331.96	\$2.66

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	4	\$131.48
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	8	\$49.68
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	\$30.61	24	\$734.64
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	4	\$293.16
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	1
Scenario Name	Road/Trail Subsurfacing, Naturally Seeded
Scenario Description	Application is typically done on secondary haul roads/logging spurs that have a foot or less of gravel, stone or shot rock placed over A or B Horsions. Minimal re-shaping to natural conditions using light equipment and the establishment of permanent vegetation by natural regrowth. This scenario includes using smaller equipment to disturb the road surface and bring up sub soil that will allow natural growth to establish itself. Natural drainage patterns are restored by the removal of road material or drainage structures. The site is re-vegetated by native seed through natural dispersion. Water control structures are removed from road bed when present and normal drainage patterns are restored. Spur roads are used to harvest a single or group of harvest units in one harvest season.Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	Abandoned secondary roads and trails that are covered with Gravel stone or rock with water control structures that need maintenance. The road/trail will not be used for the next harvest cycle. Minimum inputs will improve wildlife habitat, improve water quality and improve the stocking and plant diversity for the forest stand.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements, and by natural re-seeding to native grasses.
Scenario Feature Measure	length
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,165.74	\$1.17
Labor	\$251.94	\$0.25
Mobilization	\$1,601.00	\$1.60
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,018.68	\$3.02

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	8	\$853.44
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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	\$37.68	2	\$75.36
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
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	\$180.64	2	\$361.28
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	\$28.17	2	\$56.34
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
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	\$495.05	2	\$990.10

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	3
Scenario Name	Road/Trail Subsurfacing Seeded
Scenario Description	Application is typically done on secondary haul roads/logging spurs that have a foot or less of gravel, stone or shot rock placed over A or B Horsions. Minimal re-shaping to natural conditions using light equipment and the establishment of permanent vegetation by natural regrowth. This scenario includes using smaller equipment to disturb the road surface and bring up sub soil that will allow natural growth to establish itself. The site is re-vegetated by hydro seeding. Water control structures are removed from road bed when present and normal drainage patterns are restored. Spur roads are used to harvest a single or group of harvest units in one harvest season. Resource Concerns addressed are sedimentation excess in surface waters. habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	Abandoned secondary roads and trails that are covered with stone or rock with water control structures that need maintenance. The road/trail will not be used for the next harvest cycle. Minimun inputs will improve wildlife habitat, improve water quality and improve the stocking and plant diversity for the forest stand.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements, and by re-seeding to grasses.
Scenario Feature Measure	length
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$161.26	\$0.16
Equipment/Installation	\$1,235.55	\$1.24
Labor	\$641.15	\$0.64
Mobilization	\$1,840.06	\$1.84
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,878.02	\$3.88

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	176	Ryegrass, Annual (Lolium multiflorum)	Annual Grasses, Cover Crops and shipping.	Pound	\$1.25	1	\$1.25
Materials	105	Alsike Clover (Trifolium hybridum)	Introduced Legumes and shipping.	Pound	\$3.06	1	\$3.06
Materials	96	Redtop (Agrostis gigantea)	Introduced Perennial Grasses and shipping.	Pound	\$9.45	1	\$9.45
Materials	69	Nitrogen (N), Ammonium Nitrate	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.00	15	\$0.00
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$1.64	10	\$16.40
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.93	10	\$9.30
Materials	87	Fescue, Tall (Festuca arundinacea)	Introduced Perennial Grasses and shipping.	Pound	\$1.80	1	\$1.80
Materials	1237	Straw	Small grain straw (non organic and certified organic). Materials and shipping only.	Ton	\$120.00	1	\$120.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	4	\$252.16
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	8	\$853.44
Equipment/Installation	959	Seeding Operation, Broadcast, Ground	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	\$23.27	3	\$69.81
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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	\$37.68	4	\$150.72
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	3	\$85.29
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	\$47.57	6	\$285.42
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	\$180.64	2	\$361.28

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	\$28.17	2	\$56.34
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48
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	\$495.05	2	\$990.10
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	2
Scenario Name	Road/Trail Subsurfacing: Naturally Seeded Remote
Scenario Description	Application is typically done on secondary haul roads/logging spurs that have a foot or less of gravel, stone or shot rock placed over A or B Horizons. Minimal re-shaping to natural conditions using light equipment and the establishment of permanent vegetation by natural regrowth. This scenario includes using smaller equipment to disturb the road surface and bring up sub soil that will allow natural growth to establish itself. Natural drainage patterns are restored by the removal of road material or drainage structures. The site is re-vegetated by native seed through natural dispersion. Water control structures are removed from road bed when present and normal drainage patterns are restored. Spur roads are used to harvest a single or group of harvest units in one harvest season. Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp. Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	Abandoned secondary roads and trails that are covered with Gravel stone or rock with water control structures that need maintenance. The road/trail will not be used for the next harvest cycle. Minimum inputs will improve wildlife habitat, improve water quality and improve the stocking and plant diversity for the forest stand.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements, and by natural re-seeding to native grasses.
Scenario Feature Measure	length
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$2,271.34	\$2.27
Labor	\$251.94	\$0.25
Mobilization	\$1,601.00	\$1.60
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,124.28	\$4.12

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	8	\$504.32
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	16	\$1,706.88
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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	\$37.68	2	\$75.36
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	2	\$56.86
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	\$180.64	2	\$361.28
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	\$28.17	2	\$56.34
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
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	\$495.05	2	\$990.10

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	4
Scenario Name	Road/Trail Subsurfacing Seeded Remote
Scenario Description	Application is typically done on secondary haul roads/logging spurs that have a foot or less of gravel, stone or shot rock placed over A or B Horizons. Minimal re-shaping to natural conditions using light equipment and the establishment of permanent vegetation by natural regrowth. This scenario includes using smaller equipment to disturb the road surface and bring up sub soil that will allow natural growth to establish itself. The site is re-vegetated by hydro seeding. Water control structures are removed from road bed when present and normal drainage patterns are restored. Spur roads are used to harvest a single or group of harvest units in one harvest season. Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp. Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	Abandoned secondary roads and trails that are covered with stone or rock with water control structures that need maintenance. The road/trail will not be used for the next harvest cycle. Minimum inputs will improve wildlife habitat, improve water quality and improve the stocking and plant diversity for the forest stand.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements, and by re-seeding to grasses.
Scenario Feature Measure	length
Scenario Unit	Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$161.26	\$0.16
Equipment/Installation	\$2,410.96	\$2.41
Labor	\$641.15	\$0.64
Mobilization	\$1,840.06	\$1.84
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,053.43	\$5.05

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	176	Ryegrass, Annual (Lolium multiflorum)	Annual Grasses, Cover Crops and shipping.	Pound	\$1.25	1	\$1.25
Materials	105	Alsike Clover (Trifolium hybridum)	Introduced Legumes and shipping.	Pound	\$3.06	1	\$3.06
Materials	96	Redtop (Agrostis gigantea)	Introduced Perennial Grasses and shipping.	Pound	\$9.45	1	\$9.45
Materials	69	Nitrogen (N), Ammonium Nitrate	Price per pound of N supplied by Ammonium Nitrate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.00	15	\$0.00
Materials	73	Phosphorus, P2O5	Price per pound of P2O5 supplied by Superphosphate. Price is not per pound of total product applied, no conversion is needed.	Pound	\$1.64	10	\$16.40
Materials	74	Potassium, K2O	K2O supplied by Muriate Of Potash. Price is not per pound of total product applied, no conversion is needed.	Pound	\$0.93	10	\$9.30
Materials	87	Fescue, Tall (Festuca arundinacea)	Introduced Perennial Grasses and shipping.	Pound	\$1.80	1	\$1.80
Materials	1237	Straw	Small grain straw (non organic and certified organic). Materials and shipping only.	Ton	\$120.00	1	\$120.00
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	8	\$504.32
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	16	\$1,706.88
Equipment/Installation	959	Seeding Operation, Broadcast, Ground	Broadcast seed via ground operation. May require post tillage operation to incorporate seed. Includes equipment, power unit and labor costs.	Acre	\$23.27	6	\$139.62
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	2	\$60.14
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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	\$37.68	4	\$150.72
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	3	\$85.29
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	\$47.57	6	\$285.42
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	\$180.64	2	\$361.28

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	\$28.17	2	\$56.34
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
Mobilization	1141	Mobilization, Skilled labor	Mobilization of skilled labor: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	\$46.24	2	\$92.48
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	\$495.05	2	\$990.10
Mobilization	1137	Mobilization, very small equipment	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$73.29	2	\$146.58

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	8
Scenario Name	Closure by Structure Removal, Large Structure/segments
Scenario Description	Typical culvert removal is greater than a 3 ft pipe with a minimum of 6 feet of fill graded to 1 to 1.5 slopes Removal of road drainage structures as part of road closures. This includes the removal of culverts and bridges, disposal of the structures to a local site, grading and armoring of the water course as needed. This is paid based on the top length of the road/trail surface removed. Intent of the practice is to have a permanent removal of the structure with the potential for a redevelopment of the road in the distant future. Used to address Water Quality, Sedimentation, fish passage and wildlife management by limiting uncontrolled or desired human access. Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp.Resource Concerns addressed are sedimentation excess in surface waters. habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	The legacy trail/road is severely affecting wetlands, riparian areas, slope stability, water quality and possibly T&E species and other species. The trail/road is no longer serving its intended use and future installation of the water structure poses a long term risk to environmental quality. Alternative access is possible through ATV access or portable temporary bridges. Therefore abandonment and site restoration are the best approaches to address the resource concerns and problems that are being created.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements.
Scenario Feature Measure	length of road removed
Scenario Unit	Foot
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.97
Equipment/Installation	\$2,465.16	\$49.30
Labor	\$666.04	\$13.32
Mobilization	\$2,353.60	\$47.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,533.30	\$110.67

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	50	\$91.00
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	20	\$2,133.60
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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. Labor performed using basic tools such as	Hour	\$37.68	8	\$301.44
Labor	231	General Labor	power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.61	8	\$244.88
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
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	\$495.05	4	\$1,980.20
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	7
Scenario Name	Closure by Structure Removal, larger structures/segments
Scenario Description	Typical culvert removal is greater than a 3 ft pipe with a minimum 6 feet of fill graded to 1 to 1.5 slopes Removal of road drainage structures as part of road closures. This includes the removal of culverts and bridges, disposal of the structures to a local site, grading and armoring of the water course as needed. This is paid based on the top length of the road/trail surface removed. Intent of the practice is to have a permanent removal of the structure with the potential for a redevelopment of the road in the distant future. Used to address Water Quality, Sedimentation, fish passage and wildlife management by limiting uncontrolled or desired human access.Resource Concerns addressed are sedimentation excess in surface waters, habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	The legacy trail/road is severely affecting wetlands, riparian areas, slope stability, water quality and possibly T&E species and other species. The trail/road is no longer serving its intended use and future installation of the water structure poses a long term risk to environmental quality. Alternative access is possible through ATV access or portable temporary bridges. Therefore abandonment and site restoration are the best approaches to address the resource concerns and problems that are being created.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements,
Scenario Feature Measure	length of road removed
Scenario Unit	Foot
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.97
Equipment/Installation	\$1,398.36	\$27.97
Labor	\$666.04	\$13.32
Mobilization	\$2,353.60	\$47.07
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,466.50	\$89.33

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	50	\$91.00
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	10	\$1,066.80
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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	\$37.68	8	\$301.44
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	\$30.61	8	\$244.88
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
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	\$495.05	4	\$1,980.20
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	6
Scenario Name	Closure by removal of structures or excavation in remote area for small structure/segments
Scenario Description	Typical culvert removal is less than or equal to 3 ft dia. pipe with a maximum of 6 feet of fill graded to 1 to 1.5 slopes Removal of road drainage structures as part of road closures. This includes the removal of culverts and bridges, disposal of the structures to a local site, grading and armoring of the water course as needed. This is paid based on the top length of the road/trail surface removed. Intent of the practice is to have a permanent removal of the structure with the potential for a redevelopment of the road in the distant future. Used to address Water Quality, Sedimentation, fish passage and wildlife management by limiting uncontrolled or desired human access. Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp. Resource Concerns addressed are sedimentation excess in surface waters. habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	The legacy trail/road is severely affecting wetlands, riparian areas, slope stability, water quality and possibly T&E species and other species. The trail/road is no longer serving its intended use and future installation of the water structure poses a long term risk to environmental quality. Alternative access is possible through ATV access or portable temporary bridges. Therefore abandonment and site restoration are the best approaches to address the resource concerns and problems that are being created.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements.
Scenario Feature Measure	length of road removed
Scenario Unit	Foot
Scenario Typical Size	30

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$1.62
Equipment/Installation	\$1,611.72	\$53.72
Labor	\$590.68	\$19.69
Mobilization	\$1,363.50	\$45.45
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,614.40	\$120.48

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	50	\$91.00
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	12	\$1,280.16
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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. Labor performed using basic tools such as	Hour	\$37.68	6	\$226.08
Labor	231	General Labor	power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.61	8	\$244.88
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
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	\$495.05	2	\$990.10
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	654 - Road / Trail / Landing Closure and Treatment
Scenario ID	5
Scenario Name	Closure by removal of structures or excavation, small structure/segments
Scenario Description	Typical culvert removal is less than or equal to 3 ft dia. pipe with a maximum of 6 feet of fill graded to 1 to 1.5 slopes Removal of road drainage structures as part of road closures. This includes the removal of culverts and bridges, disposal of the structures to a local site, grading and armoring of the water course as needed. This is paid based on the top length of the road/trail surface removed. Intent of the practice is to have a permanent removal of the structure with the potential for a redevelopment of the road in the distant future. Resource Concerns addressed are sedimentation excess in surface waters. habitat degradation, Undesirable plant productivity and health, Plant structure and composition
Before Practice Situation	The legacy trail/road is severely affecting wetlands, riparian areas, slope stability, water quality and possibly T&E species and other species. The trail/road is no longer serving it intended use and future installation of the water structure poses a long term risk to environmental quality. Alternative access is possible through ATV access or portable temporary bridges. Therefore abandonment and site restoation are the best approaches to address the resource concerns and problems that are being created.
After Practice Situation	The resource concerns are addressed by the abandonment of the road and its drainage elements.
Scenario Feature Measure	length of road removed
Scenario Unit	Foot
Scenario Typical Size	30

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$1.62
Equipment/Installation	\$971.64	\$32.39
Labor	\$590.68	\$19.69
Mobilization	\$1,363.50	\$45.45
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,974.32	\$99.14

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	50	\$91.00
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	6	\$640.08
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	2	\$119.72
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. Labor performed using basic tools such as	Hour	\$37.68	6	\$226.08
Labor	231	General Labor	power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.61	8	\$244.88
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
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	\$495.05	2	\$990.10
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	655 - Forest Trails and Landings
Scenario ID	4
Scenario Name	Trail Erosion Control
Scenario Description	Rehabilitation of existing forest access trail segments by addressing legacy resource issues from 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 by a resource professional. Other practices such as Stream Crossing, and Critical Area Planting, Access Road, and Structure for Water Control can be adjacent/apurtenant 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. Remote inlets that the project is being installed in an area where equipment is not
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
Scenario Unit	Feet
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.05
Equipment/Installation	\$1,960.45	\$1.96
Labor	\$1,266.73	\$1.27
Mobilization	\$2,506.96	\$2.51
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,782.64	\$5.78

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	125	\$227.50
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	8	\$504.32
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	4.5	\$27.95
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	9	\$960.12
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	\$30.61	9	\$275.49
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. Labor requiring a specialized skill set. Includes	Hour	\$37.68	16	\$602.88
Labor	235	Specialist Labor	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	\$74.46	2	\$148.92
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
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	\$495.05	4	\$1,980.20
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36

Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
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Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	655 - Forest Trails and Landings
Scenario ID	3
Scenario Name	Trail Erosion Control
Scenario Description	Rehabilitation of existing forest access trail segments by addressing legacy resource issues from 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 by a resource professional. Other practices such as Stream Crossing, and Critical Area Planting, Access Road, and Structure for Water Control can be adjacent/apurtenant 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. Lengths are measure from the point where the first action is needed to the last.
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
Scenario Unit	Feet
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.05
Equipment/Installation	\$1,960.45	\$1.96
Labor	\$1,266.73	\$1.27
Mobilization	\$1,516.86	\$1.52
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,792.54	\$4.79

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	125	\$227.50
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	8	\$504.32
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	4.5	\$27.95
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	8	\$240.56
Equipment/Installation	931	Hydraulic Excavator, 1 CY	Track mounted hydraulic excavator with bucket capacity range of 0.8 to 1.5 CY. Equipment and power unit costs. Labor not included.	Hour	\$106.68	9	\$960.12
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	\$30.61	9	\$275.49
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	\$37.68	16	\$602.88
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	\$74.46	2	\$148.92
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
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	\$495.05	2	\$990.10
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	4	\$237.24
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36

Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
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Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	655 - Forest Trails and Landings
Scenario ID	2
Scenario Name	Trail and Landing Installation
Scenario Description	Construction of forest trails and landings for the purpose of providing access to a forested tract. Access will allow the application of other conservation practices, monitoring and the removal of forest products if deemed necessary to attain the purpose of the supported practice. Installation will include removal of trees and brush as needed, a minimum amount of blading and soil disturbance, and the installing of water control measures such as water bars, broad-based dips, wing ditches, etc. It will not include measures more common to access roads such as graveling or ditching. Installation will be supervised by a forester, land manager, or other resource professional and will be part of a planned forest that meets the standards and specifications of AK NRCS Forest Stand Improvement Practice 666. Resource concerns include Excessive sediment in surface waters, Sheet & rill erosion, and Concentrated flow erosion
Before Practice Situation	Access to the tract is not available for occasional travel by the landowner or manager for the purposes of monitoring, installing conservation practices and/or the removal of forest products under the specifications of AK NRCS practice 666. Improperly installed trails and landings will cause soil erosion and water quality problems.
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
Scenario Unit	Feet
Scenario Typical Size	2000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.02
Equipment/Installation	\$3,461.90	\$1.73
Labor	\$1,866.40	\$0.93
Mobilization	\$1,313.46	\$0.66
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$6,690.26	\$3.35

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	225	\$409.50
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	40	\$2,521.60
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	8	\$49.68
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	16	\$481.12
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	\$30.61	16	\$489.76
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	40	\$1,137.20
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	4	\$1,058.68
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization or heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	655 - Forest Trails and Landings
Scenario ID	1
Scenario Name	Trail and Landing Installation
Scenario Description	Construction of forest trails and landings for the purpose of providing access to a forested tract. Access will allow the application of other conservation practices, monitoring and the removal of forest products if deemed necessary to attain the purpose of the supported practice. Installation will include removal of trees and brush as needed, a minimum amount of blading and soil disturbance, and the installing of water control measures such as water bars, broad-based dips, wing ditches, etc. It will not include measures more common to access roads such as graveling or ditching. Installation will be supervised by a forester, land manager, or other resource professional and will be part of a planned forest that meets the standards and specifications of AK NRCS Forest Stand Improvement Practice 666. Resource concerns include Excessive sediment in surface waters, Sheet & rill erosion, and Concentrated flow erosion
Before Practice Situation	Access to the tract is not available for occasional travel by the landowner or manager for the purposes of monitoring, installing conservation practices and/or the removal of forest products under the specifications of AK NRCS practice 666. Improperly installed trails and landings will cause soil erosion and water quality problems.
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
Scenario Unit	Feet
Scenario Typical Size	2000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$48.50	\$0.02
Equipment/Installation	\$2,853.96	\$1.43
Labor	\$1,695.82	\$0.85
Mobilization	\$880.73	\$0.44
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,479.01	\$2.74

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	43	Silt Fence	Silt Fence with support post, includes materials, equipment and labor	Foot	\$0.97	50	\$48.50
Equipment/Installation	929	Dozer, 80 HP	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$63.04	24	\$1,512.96
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	16	\$481.12
Equipment/Installation	933	Skidsteer, 80 HP	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$40.07	10	\$400.70
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	8	\$49.68
Equipment/Installation	1500	Water Bars	Installation of graded trail water controlling structures such as water bars, broad based dips for erosion control. Typical cross section is 1.5 feet high with 4:1 side slopes yielding about 0.33 CY/ft of length.	Foot	\$1.82	225	\$409.50
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	34	\$966.62
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	\$30.61	16	\$489.76
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	4	\$239.44
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	1	\$264.67
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	\$180.64	2	\$361.28
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
Mobilization	1144	Mobilization, Heavy Equipment Operator	Mobilization of heavy equipment operators: Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$37.33	2	\$74.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	657 - Wetland Restoration
Scenario ID	4
Scenario Name	WetRest_Ditchplug
Scenario Description	This scenario would install a compacted earthen ditchplug in a surface drain to hold or retard surface water flows, improve soil saturations and make possible the regrowth or enhanced growth of wetland vegetation. It is expected the typical application of this scenario use would be in a surface drain up to about 12' wide and 3' deep calling for approximately 40 cu. yd.s of compacted fill. This scenario is based upon a site where a surface drain or contour (s) have removed surface water hydrology and/ or subsurface saturation and water content.
Before Practice Situation	A previous wetland site where excavation of surface soil and gravel left a steep sided, deep, gravel bottom contour condition which does not support native emergent plants and provides limited benefits for feeding and brood rearing after nesting or during migration.
After Practice Situation	Depending on area served by drainage ditch acreage may range from 3-10 acres. Surface water ponding and/ or soil saturation will be restored to promote wetland vegetation re-establishment and other wetland functions.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,493.02	\$1,493.02
Labor	\$734.72	\$734.72
Mobilization	\$495.05	\$495.05
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,722.79	\$2,722.79

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1320	Dozer, 105 HP	Track mounted Dozer with horsepower range of 90 to 125. Equipment and power unit costs. Labor not included.	Hour	\$86.34	8	\$690.72
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	5	\$254.50
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$5.02	60	\$301.20
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	60	\$246.60
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	\$37.68	13	\$489.84
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	\$30.61	8	\$244.88
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	\$495.05	1	\$495.05

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	657 - Wetland Restoration
Scenario ID	3
Scenario Name	WetRest_Land Deleveling
Scenario Description	Farmland or other site without heavy woody vegetation growth, with 4% or less slope which requires soil surface removal and/or deleveling to remove fill and restore wetland hydrology. Cost of stripping sod to 0.2 ft depth. Move sod material away, excavate micro-topography/ponds to varying depths, haul excavated subsoil material to spoils placement site and replace sod over site appropriate exposed soil areas. Project scenario is based on a site size of 20 acres. Resource concern addressed are Fish and Wildlife Inadequate habitat.
Before Practice Situation	A previous wetland site where excavation of surface soil and gravel left a steep sided, deep, gravel bottom contour condition which does not support native emergent plants and provides limited benefits for feeding and brood rearing after nesting or during migration.
After Practice Situation	Designed to treat approximately 20 acre units to restore wetland hydrologic features, shallow surface water areas and provide a suitable environment for reestablishing wetland plant and ecological communities and functions.
Scenario Feature Measure	Acres delevelled
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$89,543.40	\$4,477.17
Labor	\$12,414.20	\$620.71
Mobilization	\$1,485.15	\$74.26
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$103,442.75	\$5,172.14

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1223	Excavation, common earth, large equipment, 150 ft	Bulk excavation of common earth including sand and gravel with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	\$3.84	10000	\$38,400.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	60	\$3,054.00
Equipment/Installation	927	Dozer, 140 HP	Track mounted Dozer with horsepower range of 125 to 160. Equipment and power unit costs. Labor not included.	Hour	\$116.49	60	\$6,989.40
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor. Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Cubic yard	\$4.11	10000	\$41,100.00
Labor	232	Equipment Operators, Light	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$28.43	160	\$4,548.80
Labor	233	Equipment Operators, Heavy	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	\$37.68	160	\$6,028.80
Labor	231	General Labor	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Hour	\$30.61	60	\$1,836.60
Mobilization	1140	Mobilization, large equipment	This is a place holder component for foregone income. The existence of this component indicates that the practice is eligible for foregone income payment. The component will be replaced when the actual FI components become available.	Each	\$495.05	3	\$1,485.15
Foregone Income	1276	Foregone income, place holder		Acre	\$0.00	1	\$0.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	657 - Wetland Restoration
Scenario ID	1
Scenario Name	Wet_Rest_PitExcavation
Scenario Description	This scenario restores sites such as gravel pit's or other excavations that were previously native shallow emergent or surface saturated wetlands. Sites are not expected to be restored to their pre-excavated conditions, but can be biologically enhanced by placing soil fill in the ponded areas to provide growing medium for plants and facilitate biological activity. Side slopes will be no steeper than 20:1 within 50' of pond margins during the wettest season of the year. This scenario expects movement of around 15,000 yds. The maximum pre-treatment allowable site depth is 10'. Typical finished project surface area is expected to be about 6 acres. Use companionvegetative practices to enhance/ restore native polant communities to provide habitat for relevant upland and wetland wildlife species.
Before Practice Situation	A previous wetland site where excavation of surface soil and gravel left a steep sided, deep, gravel bottom contour condition which does not support native emergent plants and provides limited benefits for feeding and brood rearing after nesting or during migration.
After Practice Situation	The treated area should restore hbottom contour and mineral soil conditions and plant availability to approximately 6 acres. The site will supply a surface water component and soil saturation for the re-establishment of hydrophytic plant communities.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$110,410.80	\$18,401.80
Labor	\$11,824.20	\$1,970.70
Mobilization	\$1,485.15	\$247.53
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$123,720.15	\$20,620.03

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1400	Truck, dump, 18 CY	Dump truck for moving bulk material. Typically capacity is 25 ton or 18 cubic yards. Includes equipment only.	Hour	\$106.17	40	\$4,246.80
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$5.02	17,000	\$85,340.00
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	\$51.85	60	\$3,111.00
Equipment/Installation	928	Dozer, 200 HP	Track mounted Dozer with horsepower range of 160 to 250. Equipment and power unit costs. Labor not included.	Hour	\$177.13	100	\$17,713.00
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	60	\$1,705.80
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	\$37.68	140	\$5,275.20
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	40	\$2,394.40
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	\$30.61	80	\$2,448.80
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	\$495.05	3	\$1,485.15

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	657 - Wetland Restoration
Scenario ID	2
Scenario Name	Wet_Rest_PitExcavation Remote
Scenario Description	This scenario restores sites such as gravel pit's or other excavations that were previously native shallow emergent or surface saturated wetlands. Sites are not expected to be restored to their pre-excavated conditions, but can be biologically enhanced by placing soil fill in the ponded areas to provide growing medium for plants and facilitate biological activity. Side slopes will be no steeper than 20:1 within 50' of pond margins during the wettest season of the year. This scenario expects movement of around 15,000 yds. The maximum pre-treatment allowable site depth is 10'. Typical finished project surface area is expected to be about 6 acres. Use companionvegetative practices to enhance/ restore native polant communities to provide habitat for relevant upland and wetland wildlife species.
Before Practice Situation	A previous wetland site where excavation of surface soil and gravel left a steep sided, deep, gravel bottom contour condition which does not support native emergent plants and provides limited benefits for feeding and brood rearing after nesting or during migration.
After Practice Situation	The treated area should restore hbottom contour and mineral soil conditions and plant availability to approximately 6 acres. The site will supply a surface water component and soil saturation for the re-establishment of hydrophytic plant communities.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$110,410.80	\$18,401.80
Labor	\$11,824.20	\$1,970.70
Mobilization	\$7,425.75	\$1,237.63
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$129,660.75	\$21,610.13

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1400	Truck, dump, 18 CY	Dump truck for moving bulk material. Typically capacity is 25 ton or 18 cubic yards. Includes equipment only.	Hour	\$106.17	40	\$4,246.80
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$5.02	17,000	\$85,340.00
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	\$51.85	60	\$3,111.00
Equipment/Installation	928	Dozer, 200 HP	Track mounted Dozer with horsepower range of 160 to 250. Equipment and power unit costs. Labor not included.	Hour	\$177.13	100	\$17,713.00
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	60	\$1,705.80
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	\$37.68	140	\$5,275.20
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	40	\$2,394.40
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	\$30.61	80	\$2,448.80
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	\$495.05	15	\$7,425.75

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	658 - Wetland Creation
Scenario ID	1
Scenario Name	WetCreate Remote 1-3 ac
Scenario Description	The site is considered a remote location where equipment or material components must be moved/ transported or additional shipping charges are required due to logistical demands. Create a new wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water through excavation. This scenario reflects installations for sites of 1-3 surface acre (s). To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland features or surface water wetland conditions do not currently exist at the location. The desired wetland and aquatic species habitat resource needs are not being met.
After Practice Situation	Waterfowl, migratory wildlife and aquatic species habitat conditions and benefits as defined in the conservation plan will be created to improve species populations and distribution through development of wetland functions.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	1.45

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$29,964.95	\$20,665.48
Labor	\$4,391.85	\$3,028.86
Mobilization	\$5,940.60	\$4,096.97
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$40,297.40	\$27,791.31

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	3000	\$12,330.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	24	\$1,221.60
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	3545	\$16,413.35
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	\$30.61	45	\$1,377.45
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	\$37.68	80	\$3,014.40
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	\$495.05	12	\$5,940.60

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	658 - Wetland Creation
Scenario ID	3
Scenario Name	WetCreate Remote Sm Yard
Scenario Description	The site is considered a remote location where equipment or material components must be moved/ transported or additional shipping charges are required due to logistical demands. Create a new wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water through excavation. This scenario reflects sites typical of installations up to 1 surface acre to an average depth of 1.5'. Projects must range between 750-1000 cu. yd. To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland features or surface water wetland conditions do not currently exist at the location. The desired wetland and aquatic species habitat resource needs are not being met.
After Practice Situation	Waterfowl, migratory wildlife and aquatic species habitat conditions and benefits as defined in the conservation plan will be created to improve species populations and distribution through development of wetland functions.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	0.6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$9,147.20	\$15,245.33
Labor	\$3,638.25	\$6,063.75
Mobilization	\$3,960.40	\$6,600.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$16,745.85	\$27,909.75

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	1000	\$4,110.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	8	\$407.20
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	1000	\$4,630.00
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.	Hour	\$30.61	45	\$1,377.45
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	\$37.68	60	\$2,260.80
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	\$495.05	8	\$3,960.40

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	658 - Wetland Creation
Scenario ID	2
Scenario Name	WetCreate 1-3 ac
Scenario Description	This scenario is does not apply in a remote location. Create a new wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water through excavation. This scenario reflects installations for sites of 1-3 surface acre (s). To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland features or surface water wetland conditions do not currently exist at the location. The desired wetland and aquatic species habitat resource needs are not being met.
After Practice Situation	Waterfowl, migratory wildlife and aquatic species habitat conditions and benefits as defined in the conservation plan will be created to improve species populations and distribution through development of wetland functions.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	1.75

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$25,854.95	\$14,774.26
Labor	\$4,391.85	\$2,509.63
Mobilization	\$990.10	\$565.77
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$31,236.90	\$17,849.66

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	2000	\$8,220.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	24	\$1,221.60
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	3545	\$16,413.35
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	\$30.61	45	\$1,377.45
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	\$37.68	80	\$3,014.40
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	\$495.05	2	\$990.10

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	658 - Wetland Creation
Scenario ID	4
Scenario Name	WetCreate_Sm Yard
Scenario Description	The site is not considered in a remote location. Create a new wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water through excavation. This scenario reflects sites typical of installations up to 1 surface acre to an average depth of 1.5'. Projects must range between 750-1000 cu. yd. To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland features or surface water wetland conditions do not currently exist at the location. The desired wetland and aquatic species habitat resource needs are not being met.
After Practice Situation	Waterfowl, migratory wildlife and aquatic species habitat conditions and benefits as defined in the conservation plan will be created to improve species populations and distribution through development of wetland functions.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	0.6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$8,736.20	\$14,560.33
Labor	\$3,638.25	\$6,063.75
Mobilization	\$495.05	\$825.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$12,869.50	\$21,449.17

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	900	\$3,699.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	8	\$407.20
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	1000	\$4,630.00
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.	Hour	\$30.61	45	\$1,377.45
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	\$37.68	60	\$2,260.80
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	\$495.05	1	\$495.05

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	659 - Wetland Enhancement
Scenario ID	1
Scenario Name	WetEnhance Remote_ 1-3 Ac.
Scenario Description	The site is considered a remote location where equipment or material components must be moved/ transported or additional shipping charges are required due to logistical demands. Existing wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water through excavation. This scenario reflects installations for sites of 1-3 surface acre (s). To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetland system by related species.
After Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetland system by related species.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	1.45

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$29,964.95	\$20,665.48
Labor	\$4,391.85	\$3,028.86
Mobilization	\$5,940.60	\$4,096.97
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$40,297.40	\$27,791.31

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	3545	\$16,413.35
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	24	\$1,221.60
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	3000	\$12,330.00
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.	Hour	\$30.61	45	\$1,377.45
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	\$37.68	80	\$3,014.40
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	\$495.05	12	\$5,940.60

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	659 - Wetland Enhancement
Scenario ID	3
Scenario Name	WetEnhance Remote_SmYard
Scenario Description	The site is considered a remote location where equipment or material components must be moved/ transported or additional shipping charges are required due to logistical demands. Existing wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water by excavation. This scenario reflects sites typical of installations up to 1 surface surface acre to an average depth of 1.5'. Projects must range between 750-1000 cu. yd. To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
After Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	0.6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$9,147.20	\$15,245.33
Labor	\$3,638.25	\$6,063.75
Mobilization	\$3,960.40	\$6,600.67
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$16,745.85	\$27,909.75

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	1000	\$4,630.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	8	\$407.20
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	1000	\$4,110.00
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.	Hour	\$30.61	45	\$1,377.45
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. Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Hour	\$37.68	60	\$2,260.80
Mobilization	1140	Mobilization, large equipment		Each	\$495.05	8	\$3,960.40

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	659 - Wetland Enhancement
Scenario ID	2
Scenario Name	WetEnhance_1-3 Ac.
Scenario Description	This scenario is does not apply in a remote location. Existing wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water by excavation. This scenario reflects installations for sites of 1-3 surface acre (s). To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
After Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	1.75

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$25,854.95	\$14,774.26
Labor	\$4,391.85	\$2,509.63
Mobilization	\$990.10	\$565.77
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$31,236.90	\$17,849.66

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	3545	\$16,413.35
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	24	\$1,221.60
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	2000	\$8,220.00
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.	Hour	\$30.61	45	\$1,377.45
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	\$37.68	80	\$3,014.40
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	\$495.05	2	\$990.10

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Wildlife Wetland
Practice Code/Name	659 - Wetland Enhancement
Scenario ID	4
Scenario Name	WetEnhance_SmYard
Scenario Description	This scenario is does not apply in a remote location. Existing wetland area on flat to nearly-flat grade enhanced for wildlife habitat by providing surface water by excavation. This scenario reflects sites typical of installations up to 1 surface surface acre to an average depth of 1.5'. Projects must range between 750-1000 cu. yd. To include a vegetative planting or additional habitat features, use a companion practice that best reflects the resource need or conservation interest.
Before Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
After Practice Situation	Wetland functions and values now include an open or larger surface water component and/ or the availability of connecting watercourses and movement in the wetladn system by related species.
Scenario Feature Measure	Excavated surface area to specification depth
Scenario Unit	Acre
Scenario Typical Size	0.6

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$8,736.20	\$14,560.33
Labor	\$3,638.25	\$6,063.75
Mobilization	\$495.05	\$825.08
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$12,869.50	\$21,449.17

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1228	Excavation, common earth, wet, side cast, large equipment	Bulk excavation and side casting of wet common earth with hydraulic excavator or dragline with greater than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$4.63	1000	\$4,630.00
Equipment/Installation	1401	Truck, dump, 8 CY	Dump truck for moving bulk material. Typically capacity is 12 ton or 8 cubic yards. Includes equipment only.	Hour	\$50.90	8	\$407.20
Equipment/Installation	51	Earthfill, Dumped and Spread	Earthfill, dumped and spread without compaction effort, includes equipment and labor	Cubic yard	\$4.11	900	\$3,699.00
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.	Hour	\$30.61	45	\$1,377.45
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	\$37.68	60	\$2,260.80
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	\$495.05	1	\$495.05

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	660 - Tree Pruning
Scenario ID	1
Scenario Name	Pruning-Fire Hazard
Scenario Description	Pruning trees of branches in a forest stand where wildfires are considered a high and very high hazard. Stand should be isolated from adjoining stands that have the potential to carry a crown fire into the treated stand. Hand tools and power tools are used to cut branches from trees. Resource concerns include Degraded plant condition-wildfire hazard and Undesirable plant productivity and health.
Before Practice Situation	The forest stand is well to over-stocked, generally with 200+ trees per acre. Branches are touching understory vegetation or are in close proximity to forest floor where a ground fire can ignite the lower branches and move into the upper canopy. Wildfire hazard is very high.
After Practice Situation	The typical forest pruning treatment is 10 acres. Trees are pruned to the desirable height (generally 8-10') based on desired separation space between ground vegetation and tree crown. Pruned branches are treated if they are a hazard, see Woody Residue Treatment standard.
Scenario Feature Measure	area of treatment
Scenario Unit	Acre
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,436.75	\$143.68
Labor	\$5,835.63	\$583.56
Mobilization	\$935.73	\$93.57
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$8,208.11	\$820.81

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	175	\$1,086.75
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	175	\$350.00
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.	Hour	\$30.61	175	\$5,356.75
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	8	\$478.88
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	15	\$461.25
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	8	\$474.48

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	660 - Tree Pruning
Scenario ID	2
Scenario Name	Pruning-Low Height
Scenario Description	Pruning is done by hand with chain saws, tree loppers, hand shears, or hand saws. Trees are identified for pruning (75 to 100 trees per acre are selected for pruning). Conducted to improve wildlife forage and also improve the quality of the stem wood, branches are pruned from the trees, while retaining 50% or more of the stem in live canopy.
Before Practice Situation	Trees are retaining lower limbs along the entire tree bole, reducing wood quality. Pruning height will be based on overall stand diameter and height. Stand has been thinned and crop trees are identified for pruning. Degrade plant condition- undesirable plant productivity and health is the resource concern.
After Practice Situation	The typical forest pruning treatment is 20 acres. Trees are pruned to the desirable height of 8-10 feet. Pruned branches are treated if they are a hazard, see Woody Residue Treatment standard.
Scenario Feature Measure	area of treatment
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$598.90	\$29.95
Labor	\$3,652.80	\$182.64
Mobilization	\$935.73	\$46.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,187.43	\$259.37

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	20	\$40.00
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	90	\$558.90
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	15	\$897.90
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	\$30.61	90	\$2,754.90
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	15	\$461.25
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	8	\$474.48

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	660 - Tree Pruning
Scenario ID	4
Scenario Name	Pruning-MultiStory Cropping-Overstory
Scenario Description	Overstory tree crowns are pruned to increase sunlight to understory shrubs and low growing trees that have been purposely established or managed to grow on the same acre of ground. Resource concern is degraded plant condition - undesirable plant productivity and health.
Before Practice Situation	The overstory trees are expanding their crowns, providing too much shade on the understory plants. Stocking is typically around 350 trees per acre and trees are small pole size. The shade is affecting the growth and production of the understory plants. Pruning of branches, leaves, frawns, etc. are needed to maintain the desired amount of sunlight reaching the understory.
After Practice Situation	Pruning of the overstory tree crowns is completed, allowing the proper amount of sunlight to reach the understory vegetation, maintaining their growth, health and vigor, and wildlife benefits.
Scenario Feature Measure	Overstory Trees Pruned
Scenario Unit	Acre
Scenario Typical Size	5

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$50.20	\$10.04
Equipment/Installation	\$236.42	\$47.28
Labor	\$1,649.76	\$329.95
Mobilization	\$333.48	\$66.70
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,269.86	\$453.97

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	313	Tree Marking Paint	Trees to be cut through tree marking are physically identified through the application of paint on the tree. Typically one quart of paint is used to mark one acre of trees.	Acre	\$5.02	10	\$50.20
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	28	\$56.00
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	2	\$12.42
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	28	\$168.00
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	\$74.46	5	\$372.30
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	6	\$359.16
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	2	\$118.62
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36
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	\$30.61	30	\$918.30
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	660 - Tree Pruning
Scenario ID	3
Scenario Name	Pruning- High Height
Scenario Description	Pruning is done by hand with chain saws, tree loppers, hand shears, or hand saws. Trees are identified for pruning (75 to 100 trees per acre are selected for pruning). Conducted to improve wildlife forage and also improve the quality of the stem wood, branches are pruned from the trees, while retaining 50% or more of the stem in live canopy.
Before Practice Situation	Trees are retaining limbs mostly along the mid to upper section of the tree bole, reducing quality. Lower branches (0-8 feet) may have already been pruned, have naturally self pruned to differing heights. Pruning height is no more than (18) feet above the ground. Degrade plant condition- undesirable plant productivity and health is the resource concern.
After Practice Situation	The typical forest pruning treatment is 20 acres. Trees are pruned to no more than 17 feet. Pruned branches are treated so they do not become a fire or health hazard.
Scenario Feature Measure	area of treatment
Scenario Unit	Acre
Scenario Typical Size	20

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$1,308.42	\$65.42
Labor	\$7,618.50	\$380.93
Mobilization	\$1,480.47	\$74.02
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$10,407.39	\$520.37

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	1318	Pruning tools, hand tools	Pruning tools, hand tools, shears, loppers, pole saw, handsaw Equipment costs only. Labor not included.	Hour	\$2.00	198	\$396.00
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	2	\$12.42
Equipment/Installation	1319	Pruning tool, pole saw	Gasoline powered pole chainsaw. Labor not included.	Hour	\$6.00	150	\$900.00
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	25	\$1,496.50
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	\$30.61	200	\$6,122.00
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	25	\$768.75
Mobilization	1145	Mobilization, Supervisor or Manager	Mobilization of supervisors or management. Includes crew supervisors, foremen and farm/ranch managers, etc.	Hour	\$59.31	12	\$711.72

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	6
Scenario Name	Creating Patch Clearcuts
Scenario Description	Creating 2 acre patches in over-mature and/or degraded stands using hand tools such as chainsaws, or the creation of patches greater than 1.5 acres in pole or over mature commercial stands. Resource concerns include: Undesirable plant productivity and health, inadequate structure and composition, and habitat degradation. Material maybe removed for use or treated with Wood residue treatment on site.
Before Practice Situation	The existing stand is overly mature and/or has been degraded in value by past harvesting practices. The level of acceptable growing stock is too low to justify managing this stand in its present condition. The present form, species composition and structure cannot meet the resource concerns and landowner objectives. Creating small openings by cutting all trees greater than 2" in diameter will foster the regeneration of high-value shade intolerant species. The work will be done with chainsaws.
After Practice Situation	A new, young stand of desirable species is established. In addition, early successional wildlife habitat as well as forest type diversity are created.
Scenario Feature Measure	Area where trees were removed
Scenario Unit	Acre
Scenario Typical Size	2

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$124.20	\$62.10
Labor	\$910.04	\$455.02
Mobilization	\$276.36	\$138.18
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,310.60	\$655.30

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	20	\$124.20
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	\$74.46	4	\$297.84
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	\$30.61	20	\$612.20
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	4	\$123.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	7
Scenario Name	Creating Patch Clearcuts
Scenario Description	Creating 1 acre patches in precommercial stands. Does not include wood residue treatment. Resource concerns include: Undesirable plant productivity and health, inadequate structure and composition, and habitat degradation.
Before Practice Situation	The existing stand is overly mature and/or has been degraded in value by past harvesting practices. The level of acceptable growing stock is too low to justify managing this stand in its present condition. The present form, species composition and structure cannot meet the resource concerns and landowner objectives. Creating small openings by cutting all trees greater than 2" in diameter will foster the regeneration of high-value shade intolerant species. The work will be done with chainsaws.
After Practice Situation	A new, young stand of desirable species is established. In addition, early successional wildlife habitat as well as forest type diversity are created.
Scenario Feature Measure	Area where trees were removed
Scenario Unit	Acre
Scenario Typical Size	1

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$37.26	\$37.26
Labor	\$481.50	\$481.50
Mobilization	\$214.86	\$214.86
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$733.62	\$733.62

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	6	\$37.26
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	\$74.46	4	\$297.84
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	\$30.61	6	\$183.66
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	2	\$61.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	1
Scenario Name	Pre-commercial Thinning - Hand tools
Scenario Description	Adjusting the stocking of a young, non-merchantable stand of trees. The operation is supervised by a forester and is carried out using hand tools such as chainsaws. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition. Location is within a commuting range for workers and technical staff using ATVs and or on road vehicles.
Before Practice Situation	The stocking of a stand of trees that are too small to make a commercial thinning exceeds the recommended fully stocked level for the species and site. The effect is much slower growth than is reasonable or expected for the site, increased susceptibility to insects and disease, and an unacceptable devastating wildfire risk.
After Practice Situation	After adjusting the stocking to an acceptable level, stand growth, condition, and overall quality is improved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.
Scenario Feature Measure	Area treated
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$3,376.30	\$67.53
Labor	\$13,399.90	\$268.00
Mobilization	\$1,689.30	\$33.79
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$18,465.50	\$369.31

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	350	\$2,173.50
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	40	\$1,202.80
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	\$74.46	20	\$1,489.20
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	\$30.61	350	\$10,713.50
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	20	\$1,197.20
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	10	\$766.80
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	30	\$922.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	2
Scenario Name	Pre-commercial Thinning - Hand tools Remote site of operations
Scenario Description	Adjusting the stocking of a young, non-merchantable stand of trees. The operation is supervised by a forester and is carried out using hand tools such as chainsaws. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition. Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp.
Before Practice Situation	The stocking of a stand of trees that are too small to make a commercial thinning exceeds the recommended fully stocked level for the species and site. The effect is much slower growth than is reasonable or expected for the site, increased susceptibility to insects and disease, and an unacceptable devastating wildfire risk.
After Practice Situation	After adjusting the stocking to an acceptable level, stand growth, condition, and overall quality is improved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.
Scenario Feature Measure	Area treated
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$6,117.90	\$122.36
Labor	\$13,399.90	\$268.00
Mobilization	\$3,378.60	\$67.57
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$22,896.40	\$457.93

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	120	\$3,944.40
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	350	\$2,173.50
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	\$74.46	20	\$1,489.20
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	\$30.61	350	\$10,713.50
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	20	\$1,197.20
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	20	\$1,533.60
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	60	\$1,845.00

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	3
Scenario Name	Thinning, multistory crops
Scenario Description	Adjusting the stocking of a young, non-merchantable stand of trees and shrubs. The operation is supervised by a forester and is carried out using hand tools such as chainsaws. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition. Location is off road requiring either water or aircraft to reach the site. It may or may not include the development of a temporary worker camp.
Before Practice Situation	The stocking of a stand of trees that are too small to make a commercial thinning exceeds the recommended fully stocked level for the species and site. The effect is much slower growth than is reasonable or expected for the site, increased susceptibility to insects and disease, and an unacceptable devastating wildfire risk.
After Practice Situation	After adjusting the stocking to an acceptable level, stand growth, condition, and overall quality is improved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.
Scenario Feature Measure	Area treated
Scenario Unit	Acre
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$704.94	\$70.49
Labor	\$2,605.06	\$260.51
Mobilization	\$706.86	\$70.69
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,016.86	\$401.69

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	965	All terrain vehicles, ATV	Includes equipment, power unit and labor costs.	Hour	\$32.87	12	\$394.44
Equipment/Installation	937	Chainsaw	Equipment and power unit costs. Labor not included.	Hour	\$6.21	50	\$310.50
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	\$74.46	8	\$595.68
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	\$30.61	50	\$1,530.50
Labor	234	Supervisor or Manager	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$59.86	8	\$478.88
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36
Mobilization	1142	Mobilization, General labor	Mobilization of general labor: Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	\$30.75	18	\$553.50

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	5
Scenario Name	Competition Control - Mechanical, Heavy Equipment
Scenario Description	Using equipment such as a masticator or mulcher to control vegetation that is competing with desirable trees and species or to reduce the stocking level of a stand of desirable trees. The trees to be retained are identified and removed under the direction of a forester. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition.
Before Practice Situation	A stand of desirable trees is adversely affected by competition either from undesirable species, cull trees, or because the stand is overstocked. The vegetation to be controlled is too large to be mowed or shredded. Therefore other mechanical methods such as using masticators or mulchers is necessary.
After Practice Situation	The released stand of trees contains the composition and quality needed to meet the landowner's objectives and address the resource concerns.
Scenario Feature Measure	Area treated
Scenario Unit	Acre
Scenario Typical Size	50

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$20,344.50	\$406.89
Labor	\$5,306.94	\$106.14
Mobilization	\$418.03	\$8.36
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$26,069.47	\$521.39

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	943	Mechanical cutter, chopper	Masticator, flail shredder, hydro axe, brush cutter, etc. Equipment and power unit costs. Labor not included.	Hour	\$135.63	150	\$20,344.50
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$28.43	150	\$4,264.50
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	\$74.46	14	\$1,042.44
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	2	\$153.36
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$264.67	1	\$264.67

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	Alaska
State	Alaska
Discipline Group	Forestry
Practice Code/Name	666 - Forest Stand Improvement
Scenario ID	4
Scenario Name	Timber Stand Improvement - Single Stem Treatment
Scenario Description	Altering the composition and stocking of a stand of trees by means of individual stem treatment. The trees to be retained are identified and removed under the direction of a forester. Resource concerns include Undesirable plant productivity and health; Wildlife habitat degradation; Wildfire hazard; and Inadequate structure and composition.
Before Practice Situation	The existing condition of the stand cannot meet the landowners objectives because the composition consists of unwanted species and the stocking exceeds the recommended level. The species and quality of the trees to be controlled makes a commercial operation unfeasible. Therefore the stand improvement will be carried out with single stem treatment such as injection or basal bark spraying.
After Practice Situation	The composition of the stand can meet the landowners objectives and the growth, condition and quality of the remaining trees is improved.
Scenario Feature Measure	Acres treated
Scenario Unit	Acres
Scenario Typical Size	10

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$126.30	\$12.63
Equipment/Installation	\$1,297.82	\$129.78
Labor	\$1,489.20	\$148.92
Mobilization	\$613.44	\$61.34
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,526.76	\$352.68

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	337	Herbicide, Picloram	A systemic herbicide used for general woody plant control. Product is typically used in these practices 314, 595, 666, and 645. Refer to WIN-PST for product names and active ingredients. Materials only.	Acre	\$12.63	10	\$126.30
Equipment/Installation	964	Chemical, spot treatment, single stem application	Ground applied chemical to individual plants or group of plants, e.g., backpack sprayer treatment. Equipment and labor cost included.	Hour	\$55.87	20	\$1,117.40
Equipment/Installation	939	Truck, Pickup	Equipment and power unit costs. Labor not included.	Hour	\$30.07	6	\$180.42
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	\$74.46	20	\$1,489.20
Mobilization	1146	Mobilization, Specialist Labor	Mobilization of Specialist Labor. Includes Agronomists, Foresters, Biologists, etc.	Hour	\$76.68	8	\$613.44