

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	10
Scenario Name	PE Pipe <= 1" Dia., Above Ground
Scenario Description	Description: Install 1" dia. polyethylene pipe, above ground to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed above ground. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$888.80	\$0.89
Equipment/Installation	\$0.00	\$0.00
Labor	\$128.55	\$0.13
Mobilization	\$274.33	\$0.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,291.68	\$1.29

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	997	Pipe, PE, 1", DR 9	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.60	1100	\$660.00
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	1	\$274.33

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	12
Scenario Name	PE Pipe >= 2" Dia., Above Ground
Scenario Description	Description: Install 2" dia. polyethylene pipe, above ground to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 2 inch, Polyethylene (PE) pipeline with appurtenances, installed above ground. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,396.50	\$2.40
Equipment/Installation	\$0.00	\$0.00
Labor	\$128.55	\$0.13
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,073.71	\$3.07

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	818	\$2,167.70
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

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Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	11
Scenario Name	1 < PE Pipe < 2" Dia., Above Ground
Scenario Description	Description: Install 1.5" dia. polyethylene pipe, above ground to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1.5 inch, Polyethylene (PE) pipeline with appurtenances, installed above ground. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,614.75	\$1.61
Equipment/Installation	\$0.00	\$0.00
Labor	\$128.55	\$0.13
Mobilization	\$274.33	\$0.27
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,017.63	\$2.02

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	523	\$1,385.95
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	1	\$274.33

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	1
Scenario Name	PE Pipe <= 1 in. Dia., Buried 4 feet Deep
Scenario Description	Description: Install 1" dia. polyethylene pipe, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$888.80	\$0.89
Equipment/Installation	\$365.68	\$0.37
Labor	\$396.88	\$0.40
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,200.02	\$2.20

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	997	Pipe, PE, 1", DR 9	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.60	1100	\$660.00
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	8	\$365.68
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	8	\$191.20
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	\$25.71	8	\$205.68
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	4
Scenario Name	PE Pipe <= 1" Dia., Buried ~4 feet Deep w/sand bedding
Scenario Description	Description: Install 1" dia. polyethylene pipe with sand bedding, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,915.92	\$1.92
Equipment/Installation	\$1,780.00	\$1.78
Labor	\$0.00	\$0.00
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,244.58	\$4.24

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	997	Pipe, PE, 1", DR 9	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.60	1100	\$660.00
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$27.76	37	\$1,027.12
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	\$1.78	1000	\$1,780.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	3
Scenario Name	PE Pipe >= 2" Dia., Buried ~4 feet Deep
Scenario Description	Description: Install 2" dia. polyethylene pipe, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,396.50	\$2.40
Equipment/Installation	\$365.68	\$0.37
Labor	\$396.88	\$0.40
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,707.72	\$3.71

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	818	\$2,167.70
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	8	\$365.68
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	8	\$191.20
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	\$25.71	8	\$205.68
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	6
Scenario Name	PE Pipe >= 2" Dia., Buried ~4 feet Deep w/ sand bedding
Scenario Description	Description: Install 2" dia. polyethylene pipe with sand bedding, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$3,423.62	\$3.42
Equipment/Installation	\$1,780.00	\$1.78
Labor	\$0.00	\$0.00
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$5,752.28	\$5.75

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	818	\$2,167.70
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$27.76	37	\$1,027.12
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	\$1.78	1000	\$1,780.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	2
Scenario Name	1" < PE Pipe, < 2 in Dia., Buried ~4feet Deep
Scenario Description	Description: Install 1.5" dia. polyethylene pipe, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1.5 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,614.75	\$1.61
Equipment/Installation	\$365.68	\$0.37
Labor	\$396.88	\$0.40
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,925.97	\$2.93

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	523	\$1,385.95
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	8	\$365.68
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	8	\$191.20
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	\$25.71	8	\$205.68
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	5
Scenario Name	1" < PE Pipe, < 2" Dia., Buried ~4 feet Deep w/ sand bedding
Scenario Description	Description: Install 1.5" dia. polyethylene pipe with sand bedding, buried below frost depth to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1.5 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground a minimum 4 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,641.87	\$2.64
Equipment/Installation	\$1,780.00	\$1.78
Labor	\$0.00	\$0.00
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$4,970.53	\$4.97

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	523	\$1,385.95
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
Materials	46	Aggregate, Gravel, Graded	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	\$27.76	37	\$1,027.12
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	\$1.78	1000	\$1,780.00
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	S16 - Pipeline
Scenario ID	7
Scenario Name	PE Pipe <= 1" Dia., Buried ~2 feet Deep
Scenario Description	Description: Install 1" dia. polyethylene pipe, buried less than 2 feet below the ground surface to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground with less than 2 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$888.80	\$0.89
Equipment/Installation	\$228.55	\$0.23
Labor	\$248.05	\$0.25
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$1,914.06	\$1.91

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	997	Pipe, PE, 1", DR 9	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.60	1100	\$660.00
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	5	\$228.55
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	5	\$119.50
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	516 - Pipeline
Scenario ID	9
Scenario Name	PE Pipe >= 2" Dia., Buried ~2 feet Deep
Scenario Description	Description: Install 2" dia. polyethylene pipe, buried less than 2 feet below the ground surface to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 2 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground with less than 2 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$2,396.50	\$2.40
Equipment/Installation	\$228.55	\$0.23
Labor	\$248.05	\$0.25
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$3,421.76	\$3.42

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	818	\$2,167.70
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	5	\$228.55
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	5	\$119.50
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66

Scenario Worksheet

Practice and Scenario Description:

Information Type	Data
Region	New England
State	Connecticut
Discipline Group	Water Management Engineering
Practice Code/Name	516 - Pipeline
Scenario ID	8
Scenario Name	1" < PE Pipe < 2" Dia., Buried ~2 feet Deep
Scenario Description	Description: Install 1.5" dia. polyethylene pipe, buried less than 2 feet below the ground surface to supply water for livestock watering facility. Practice is installed in conjunction with 614 - Watering Facility. Construct 1000 FT of 1.5 inch, Polyethylene (PE) pipeline with appurtenances, installed below ground with less than 2 feet of ground cover. Appurtenances include: couplings, fittings, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and Frost free hydrant. Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pumping Plant (533), and Watering Facility (614).
Before Practice Situation	Water supplies need to be conveyed through pipelines for use by livestock or wildlife.
After Practice Situation	Pipeline(s) convey and/or distribute water to storage and/or watering facilities, for use by livestock or wildlife.
Scenario Feature Measure	Length of Pipe
Scenario Unit	Linear Foot
Scenario Typical Size	1,000

Cost Summary:

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$1,614.75	\$1.61
Equipment/Installation	\$228.55	\$0.23
Labor	\$248.05	\$0.25
Mobilization	\$548.66	\$0.55
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
Total	\$2,640.01	\$2.64

Cost Details:

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Materials	1379	Pipe, HDPE, smooth wall, weight priced	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.65	523	\$1,385.95
Materials	240	Freeze Proof Hydrant	Freeze Proof Hydrant, 3 ft bury	Each	\$57.20	4	\$228.80
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	\$45.71	5	\$228.55
Labor	232	Equipment Operators, Light	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$23.90	5	\$119.50
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	\$25.71	5	\$128.55
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	2	\$548.66