

Practice: 516 - Livestock Pipeline

Scenario: #1 - PE Pipe less than or equal to 1 in. Dia., Buried 4 ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$2,931.21

Scenario Cost/Unit: \$2.93

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	16	\$415.33
General Labor	231	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	\$26.15	8	\$209.22

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, PE, 1", DR 9	997	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.53	1100	\$586.85

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	16	\$894.91
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #2 - PE Pipe between 1 and 2 in. Dia., Buried 4 ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$3,523.09

Scenario Cost/Unit: \$3.52

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	16	\$415.33
General Labor	231	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	\$26.15	8	\$209.22

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	523	\$1,178.74

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	16	\$894.91
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #3 - PE Pipe greater or equal to 2 in. Dia., Buried 4ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$4,187.97

Scenario Cost/Unit: \$4.19

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	16	\$415.33
General Labor	231	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	\$26.15	8	\$209.22

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	818	\$1,843.61

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	16	\$894.91
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #4 - PE Pipe less than or equal to 1 in. Dia., Buried 4ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$8,085.94

Scenario Cost/Unit: \$8.09

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic Yard	\$36.06	74	\$2,668.58
Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, PE, 1", DR 9	997	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.53	1100	\$586.85

Labor

General Labor	231	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	\$26.15	8	\$209.22
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Equipment Installation

Trenching, Earth, 24" x 60"	1460	Trenching, earth, 24" wide x 60" depth, includes equipment and labor for trenching and backfilling.	Foot	\$3.80	1000	\$3,796.39
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Practice: 516 - Livestock Pipeline

Scenario: #5 - 1 to 2 in. Dia. PE Pipe, Buried 4ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$8,677.83

Scenario Cost/Unit: \$8.68

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic Yard	\$36.06	74	\$2,668.58
Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	523	\$1,178.74

Labor

General Labor	231	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	\$26.15	8	\$209.22
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Equipment Installation

Trenching, Earth, 24" x 60"	1460	Trenching, earth, 24" wide x 60" depth, includes equipment and labor for trenching and backfilling.	Foot	\$3.80	1000	\$3,796.39
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Practice: 516 - Livestock Pipeline

Scenario: #6 - PE Pipe greater than or equal to 2in Dia., Buried 4ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$9,342.70

Scenario Cost/Unit: \$9.34

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Materials

Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic Yard	\$36.06	74	\$2,668.58
Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	818	\$1,843.61

Labor

General Labor	231	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	\$26.15	8	\$209.22
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Equipment Installation

Trenching, Earth, 24" x 60"	1460	Trenching, earth, 24" wide x 60" depth, includes equipment and labor for trenching and backfilling.	Foot	\$3.80	1000	\$3,796.39
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Practice: 516 - Livestock Pipeline

Scenario: #7 - PE Pipe less than or equal to 1in. Dia., Buried 2ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$1,951.97

Scenario Cost/Unit: \$1.95

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	5	\$129.79
General Labor	231	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	\$26.15	5	\$130.76

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, PE, 1", DR 9	997	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.53	1100	\$586.85

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	5	\$279.66
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #8 - PE Pipe between 1 and 2 in. Dia., Buried 2ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$2,543.85

Scenario Cost/Unit: \$2.54

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	5	\$129.79
General Labor	231	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	\$26.15	5	\$130.76

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	523	\$1,178.74

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	5	\$279.66
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #9 - PE Pipe greater or equal to 2in. Dia., Buried 2ft 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$3,208.72

Scenario Cost/Unit: \$3.21

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

Equipment Operators, Light	232	Includes: Skid Steer Loaders, Hydraulic Excavators <50 HP, Trenchers <12", Ag Equipment <150 HP, Pickup Trucks, Forklifts, Mulchers	Hour	\$25.96	5	\$129.79
General Labor	231	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	\$26.15	5	\$130.76

Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	818	\$1,843.61

Equipment Installation

Backhoe, 80 HP	926	Wheel mounted backhoe excavator with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$55.93	5	\$279.66
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Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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Practice: 516 - Livestock Pipeline

Scenario: #10 - PE Pipe less than or equal to 1in. 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$1,287.24

Scenario Cost/Unit: \$1.29

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

General Labor	231	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	\$26.15	5	\$130.76
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Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, PE, 1", DR 9	997	Materials: - 1" - PE - 160 psi - ASTM D3035 DR 9	Foot	\$0.53	1100	\$586.85

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	1	\$255.27
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Practice: 516 - Livestock Pipeline

Scenario: #11 - PE Pipe between 1 and 2 in. 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$1,879.13

Scenario Cost/Unit: \$1.88

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

General Labor	231	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	\$26.15	5	\$130.76
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Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	523	\$1,178.74

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	1	\$255.27
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Practice: 516 - Livestock Pipeline

Scenario: #12 - PE Pipegreater or equal 2in. 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 Situation: Water supplies need to be conveyed through pipelines for use by livestock or wildlife.

After 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: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$2,799.28

Scenario Cost/Unit: \$2.80

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Labor

General Labor	231	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	\$26.15	5	\$130.76
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Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	4	\$314.36
Pipe, HDPE, smooth wall, weight priced	1379	High Density Polyethylene (HDPE) compound manufactured into smooth wall pipe. Materials only.	Pound	\$2.25	818	\$1,843.61

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$255.27	2	\$510.55
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