

Practice: 516 - Livestock Pipeline

Scenario: #1 - Buried Pipeline, all diameters

Scenario Description: Description: Buried installation of PVC or HDPE (Iron Pipe Size & Tubing) pipeline. Scenario is for 1000 feet of 1½-inch, Sch 40 PVC, ASTM D1785 (0.52#/ft) or (SIDR-PR) ASTM D2239 (PE 3408) HDPE pipe weighs 0.43 lb/ft. Appurtenances include: couplings, fittings, anchors, thrust blocks, gate valves (2), air release valves (2), drain valve (1), and pressure relief valve (1), and are included in the cost of pipe material (additional 5% of pipe material quantity). Revegetation is not included. Resource Concerns: Inadequate Livestock Water, Inefficient Energy Use. Associated Practices: Critical Area Planting (342), Pond (378), Pumping Plant (533), Watering Facility (614), and Water Harvesting Catchment (636).

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: \$2,708.30

Scenario Cost/Unit: \$2.71

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

Trenching, Earth, 12" x 48"	53	Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$1.11	1000	\$1,107.89
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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	\$20.07	12	\$240.84
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Materials

Pipe, PVC, 1 ½", SCH 40	975	Materials: - 1 1/2" - PVC - SCH 40 - ASTM D1785	Foot	\$1.05	1050	\$1,105.70
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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	\$253.88	1	\$253.88
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Practice: 516 - Livestock Pipeline

Scenario: #6 - Freeze Proof Hydrant

Scenario Description: Provide an adequate amount and quality of drinking water for livestock and address the associated resource concerns such as excessive nutrient buildup, grazing management, poor plant diversity and quality and soil/water quality. This scenario is for a pasture rotation or enhanced pasture management and utilization by installing freeze proof hydrants or quick connect couplers to support small portable water troughs (100 gallon) which provide a water supply. Because the system does not flow continuously a float is needed to maintain the water level within the portable trough. Trough is moved from paddock to paddock as needed.

Before Situation: The setting takes place where livestock have open access to existing natural water supplies and/or poor grazing mgt. results in: poor water quality from soil erosion and manure deposit, poor grazing distribution and plant health, overgrazing, poor manure distribution, and poor animal health.

After Situation: Improved: water/soil quality, grazing management, plant diversity and quality, manure distribution, water quality, and animal health. A hydrant is located in the pasture and is protected from trampling by a wooden post. A portable heavy duty polyethylene trough is part of an intensive rotational grazing management system. The trough is connected to a water supply system via quick coupler or frost free hydrant. The trough is secured to wooden posts to prevent overturning.

Scenario Feature Measure: Number of Freeze Proof Hydrants Installed

Scenario Unit: Each

Scenario Typical Size: 1

Total Scenario Cost: \$152.46

Scenario Cost/Unit: \$152.46

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

Trenching, Earth, 12" x 48"	53	Trenching, earth, 12" wide x 48" depth, includes equipment and labor for trenching and backfilling	Foot	\$1.11	10	\$11.08
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	\$21.62	1	\$21.62

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	\$20.07	1	\$20.07
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Materials

Freeze Proof Hydrant, <= 3' Bury	240	Freeze Proof Hydrant, 3 foot or less bury. Materials only.	Each	\$78.59	1	\$78.59
Pipe, PVC, 3/4", SCH 40	972	Materials: - 3/4" - PVC - SCH 40 - ASTM D1785	Foot	\$0.44	10	\$4.45
Pipe, steel, smooth wall, galvanized, weight priced	1381	Steel manufactured into galvanized smooth wall pipe	Pound	\$1.54	10.79	\$16.66