

Practice: 574 - Spring Development

Scenario # 1 Collection Structure

Missouri

Scenario Description:

Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the water source at the spring/seep (typically on a hillside) and installing a water collection structure. Payment includes excavation and labor to expose the spring, concrete for collection box, lid and gravel backfill. Resource Concern: Livestock production limitation - Inadequate livestock water. Associated Practices: 516-Livestock Pipeline; 614-Watering Facility; 533 Pumping Plant

Before Practice Situation:

Livestock operation with inadequate fresh water for livestock and an on-site undeveloped spring/seep.

After Practice Situation:

Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Site is excavated with a backhoe to expose the seep, a concrete collection box (3'x3'x4') is installed and gravel is backfilled between the spring source and collection box.

Scenario Feature Measure:

Number of Developments

Scenario Typical Size:	1	Each	Tot Unit Cost	\$1,342.00
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Spring Collection Box Cover, steel, 4' diameter	1	Each	\$170.50	\$170.50
Materials	Aggregate, Gravel, Graded	1	Cubic yard	\$24.76	\$24.76
Equip./Install.	Concrete, CIP, formed reinforced	0.75	Cubic yard	\$402.08	\$301.56
Equip./Install.	Backhoe, 80 HP	4	Hour	\$47.04	\$188.16
Labor	General Labor	8	Hour	\$21.56	\$172.48
Labor	Equipment Operators, Light	4	Hour	\$20.92	\$83.68
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$1,342.00

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1,006.50	EQIP-HU	\$1,207.80
EQIP-NOI	\$1,006.50	EQIP-HUNOI	\$1,207.80
EQIP-CCPI	\$1,006.50	EQIP-HUCCPI	\$1,207.80

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Scenario # 2 Horizontal Collection Pipe

Missouri

Scenario Description:

Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the water source at the spring/seep (typically on a hillside) and installing a horizontal water collection system. The collection system is commonly composed of perforated drainage pipe placed in an excavated collection trench that runs across the slope, and is piped directly to watering facilities (implemented through associated practice 614). Resource Concern: Livestock production limitation - Inadequate livestock water. Associated Practices: 516-Livestock Pipeline; 614-Watering Facility

Before Practice Situation:

Livestock operation with inadequate fresh water for livestock and an on-site undeveloped spring/seep.

After Practice Situation:

Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Horizontal water collection system is a 50 ft long, 4 inch diameter HDPE perforated pipe enclosed in a sand/gravel envelope overlaid by 2 ft wide filter fabric (50 ft long).

Scenario Feature Measure:

Length of Development

Scenario Typical Size:	50	Foot	Tot Unit Cost	\$20.78
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Pipe, HDPE, 4", PCPT, Single Wall	50	Foot	\$0.48	\$24.00
Materials	Aggregate, Sand, Graded, Washed	3	Cubic yard	\$23.82	\$71.46
Materials	Aggregate, Gravel, Graded	3	Cubic yard	\$24.76	\$74.28
Equip./Install.	Geotextile, woven	11	Square Yard	\$2.18	\$23.98
Equip./Install.	Backhoe, 80 HP	4	Hour	\$47.04	\$188.16
Labor	General Labor	8	Hour	\$21.56	\$172.48
Labor	Equipment Operators, Light	4	Hour	\$20.92	\$83.68
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$1,038.90

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$15.58	EQIP-HU	\$18.70
EQIP-NOI	\$15.58	EQIP-HUNOI	\$18.70
EQIP-CCPI	\$15.58	EQIP-HUCCPI	\$18.70

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Scenario # 3 Horizontal Pipe with Collection Box

Missouri

Scenario Description:

Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the water source at the spring/seep (typically on a hillside) and installing a horizontal water collection system and a water storage structure. The collection system is commonly composed of perforated 4 inch diameter drainage pipe placed in an excavated collection trench that runs across the slope into the collection box. Resource Concern: Livestock production limitation - Inadequate livestock water. Associated Practices: 516-Livestock Pipeline; 614-Watering Facility; 533 Pumping Plant

Before Practice Situation:

Livestock operation with inadequate fresh water for livestock and an on-site undeveloped spring/seep.

After Practice Situation:

Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Water is collected in a spring box (48 inch diameter x 6 ft long CMP). Horizontal water collection system is a 50 ft long, 4 inch diameter HDPE perforated pipe enclosed in a sand/gravel envelope overlaid by 2 ft wide filter fabric (50 ft long).

Scenario Feature Measure:

Number of Developments

Scenario Typical Size:	1	Each	Tot Unit Cost	\$3,583.52
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Sand, Graded, Washed	2	Cubic yard	\$23.82	\$47.64
Materials	Aggregate, Gravel, Graded	2	Cubic yard	\$24.76	\$49.52
Materials	Pipe, PVC, 4", SCH 40	20	Foot	\$3.02	\$60.40
Materials	Pipe, HDPE, 4", PCPT, Single Wall	50	Foot	\$0.48	\$24.00
Materials	Pipe, CMP, 48", 14 Gauge	6	Foot	\$37.53	\$225.18
Materials	Spring Collection Box Cover, steel, 4' diameter	1	Each	\$170.50	\$170.50
Equip./Install.	Concrete, CIP, formed reinforced	2	Cubic yard	\$402.08	\$804.16
Equip./Install.	Geotextile, woven	11	Square Yard	\$2.18	\$23.98
Equip./Install.	Backhoe, 80 HP	16	Hour	\$47.04	\$752.64
Labor	Equipment Operators, Light	16	Hour	\$20.92	\$334.72
Labor	General Labor	32	Hour	\$21.56	\$689.92
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$3,583.52

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$2,687.64	EQIP-HU	\$3,225.17
EQIP-NOI	\$2,687.64	EQIP-HUNOI	\$3,225.17
EQIP-CCPI	\$2,687.64	EQIP-HUCCPI	\$3,225.17

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Scenario # 4 Vertical Collection & Storage Pipe

Missouri

Scenario Description:

Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. Typically installed at the point source of a spring and provides for collection and storage of water. Payment includes the vertical excavation of the spring source, placement of vertical collection pipe and gravel around the pipe. Resource Concern: Livestock production limitation - Inadequate livestock water. Associated Practices: 516-Livestock Pipeline; 614-Watering Facility; 533 Pumping Plant

Before Practice Situation:

Livestock operation with inadequate fresh water for livestock and an on-site undeveloped spring/seep.

After Practice Situation:

Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Water is collected in a vertical 48 inch diameter x 12 ft tall CMP.

Scenario Feature Measure:

Number of Developments

Scenario Typical Size:	1	Each	Tot Unit Cost	\$1,984.64
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Spring Collection Box Cover, steel, 4' diameter	1	Each	\$170.50	\$170.50
Materials	Pipe, CMP, 48", 14 Gauge	12	Foot	\$37.53	\$450.36
Materials	Aggregate, Gravel, Graded	3	Cubic yard	\$24.76	\$74.28
Equip./Install.	Backhoe, 80 HP	8	Hour	\$47.04	\$376.32
Labor	General Labor	16	Hour	\$21.56	\$344.96
Labor	Equipment Operators, Light	8	Hour	\$20.92	\$167.36
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86

Total Cost: \$1,984.64

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1,488.48	EQIP-HU	\$1,786.18
EQIP-NOI	\$1,488.48	EQIP-HUNOI	\$1,786.18
EQIP-CCPI	\$1,488.48	EQIP-HUCCPI	\$1,786.18