

Practice: 614 - Watering Facility**Scenario # 1 Permanent Tank, Standard****Missouri****Scenario Description:**

A permanent watering facility for livestock constructed of approved materials with less than 500 gallons of capacity that provides adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materials and labor costs for installing the watering tank, float valve, wildlife escape ramp, and freeze proof hydrant. Overflow pipe and stabilized area under and around the watering facility is not included and must be addressed through associated practices pipeline (516) and Heavy Use Area Protection (561). This watering facility will address the resource concerns of inadequate supply of water for livestock and or wildlife, habitat degradation, water quality, and undesirable plant productivity and health.

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 typically installed for 30 animal units 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:

Number

Scenario Typical Size:

1	Each	Tot Unit Cost	\$634.43
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Freeze Proof Hydrant	1	Each	\$57.20	\$57.20
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Materials	Tank, Galvanized, 400 gallon	1	Each	\$213.73	\$213.73
Materials	Post, Wood, CCA Treated, 4-5" X 7'	2	Each	\$11.30	\$22.60
Materials	Dimension Lumber, Treated	8	Board Foot	\$0.72	\$5.76
Materials	Tank, Float Valve Assembly	1	Each	\$84.27	\$84.27
Equip./Install.	Truck, Pickup	2	Hour	\$27.28	\$54.56
Labor	General Labor	2	Hour	\$21.56	\$43.12
Mobilization	Mobilization, General labor	0.25	Hour	\$21.81	\$5.45
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00

Payment types:

Total Cost: \$634.43

<u>PayType</u>	<u>Unit Payment</u>	<u>PayType</u>	<u>Unit Payment</u>
EQIP	\$475.82	EQIP-HU	\$570.99
EQIP-NOI	\$475.82	EQIP-HUNOI	\$570.99
EQIP-MRBI	\$475.82	EQIP-HUMRBI	\$570.99
EQIP-CCPI	\$475.82	EQIP-HUCCPI	\$570.99

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Scenario # 2 Portable Tank

Missouri

Scenario Description:

Establishment of a watering facility for livestock as part of an intensively managed grazing system where the livestock are frequently moved. Payment includes materials and labor costs for installing the watering tank, float valve, and freeze proof hydrant. If needed, an overflow pipe and stabilized area under and around the watering facility is not included and must be addressed through associated practices pipeline (516) and Heavy Use Area Protection (561).

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:

This practice is typically installed for 30 animal units. It consists of a portable trough of either durable plastic, steel, or rubber that provides adequate water and access for the livestock. The trough materials include floats, and appurtenances for inflow and outflow of water. 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. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Associated practices: Pipeline (516), Critical Area Planting (342), Water Harvesting Catchment (636), Water Well (642), Pumping Plant (533), Spring Development (574), and Heavy Use Area Protection (561).

Scenario Feature Measure:

Number

Scenario Typical Size:	4	Each	Tot Unit Cost	\$271.26
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Freeze Proof Hydrant	4	Each	\$57.20	\$228.80
Materials	Post, Wood, CCA Treated, 4-5" X 7'	8	Each	\$11.30	\$90.40
Materials	Dimension Lumber, Treated	32	Board Foot	\$0.72	\$23.04
Materials	Tank, Polyethylene, 100 gallon	2	Each	\$82.38	\$164.76
Materials	Tank, Float Valve Assembly	2	Each	\$84.27	\$168.54
Equip./Install.	Truck, Pickup	6	Hour	\$27.28	\$163.68
Labor	General Labor	6	Hour	\$21.56	\$129.36
Mobilization	Mobilization, General labor	0.25	Hour	\$21.81	\$5.45
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00

Total Cost: \$1,085.03

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$203.44	EQIP-HU	\$244.13
EQIP-NOI	\$203.44	EQIP-HUNOI	\$244.13
EQIP-MRBI	\$203.44	EQIP-HUMRBI	\$244.13
EQIP-CCPI	\$203.44	EQIP-HUCCPI	\$244.13

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Scenario # 3 Fountain or Large Permanent Tank

Missouri

Scenario Description:

Establishment of a large permanent watering facility for livestock using materials such as a large concrete trough or fountain type waterers. Payment includes materials and labor costs for installing the watering tank, float valve, wildlife escape ramp, and freeze proof hydrant . Overflow pipe and stabilized area under and around the watering facility is not included and must be addressed through associated practices pipeline (516) and Heavy Use Area Protection (561).

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:

This practice is typically installed for 50 animal units. It consists of a necessarily large permanent concrete trough, or fountain type waterer that provides adequate water and access for the livestock. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Associated practices: Pipeline (516), Critical Area Planting (342), Water Harvesting Catchment (636), Water Well (642), Pumping Plant (533), Spring Development (574), and Heavy Use Area Protection (561).

Scenario Feature Measure:

Number

Scenario Typical Size:	1	Each	Tot Unit Cost	\$1,725.88
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Freeze Proof Hydrant	1	Each	\$57.20	\$57.20
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Materials	Post, Wood, CCA Treated, 4-5" X 7'	2	Each	\$11.30	\$22.60
Materials	Tank, Concrete, 500 gallon	1	Each	\$1,207.50	\$1,207.50
Materials	Dimension Lumber, Treated	8	Board Foot	\$0.72	\$5.76
Materials	Tank, Float Valve Assembly	1	Each	\$84.27	\$84.27
Equip./Install.	Truck, Pickup	4	Hour	\$27.28	\$109.12
Labor	General Labor	4	Hour	\$21.56	\$86.24
Mobilization	Mobilization, General labor	0.25	Hour	\$21.81	\$5.45
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00

Total Cost: \$1,725.88

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1,294.41	EQIP-HU	\$1,553.29
EQIP-NOI	\$1,294.41	EQIP-HUNOI	\$1,553.29
EQIP-MRBI	\$1,294.41	EQIP-HUMRBI	\$1,553.29
EQIP-CCPI	\$1,294.41	EQIP-HUCCPI	\$1,553.29

Practice: 614 - Watering Facility

Scenario # 4 Above Ground Storage, Standard

Missouri

Scenario Description:

A permanent watering facility for livestock constructed of approved materials having 1,000 to 3,000 gallons of water storage capacity for an adequate quantity and quality of water in situations where a lower capacity water supply source such as a spring or solar pump is the only feasible water source and backup capacity is needed during peak water demand periods. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materials and labor costs for installing the storage tank. Overflow pipe and stabilized area under and around the watering facility is not included and must be addressed through associated practices pipeline (516) and Heavy Use Area Protection (561). This watering facility will address the resource concerns of inadequate supply of water for livestock, habitat degradation, water quality, and undesirable plant productivity and health.

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 water storage capacity of 1,000 to 3,000 gallons is typically installed for 30 animal units to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage. Installation facilitates 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:

Number

Scenario Typical Size:	1	Each	Tot Unit Cost	\$2,650.91
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tank, Poly Enclosed Storage, >1,000	2500	Gallon	\$0.76	\$1,900.00
Equip./Install.	Truck, Pickup	2	Hour	\$27.28	\$54.56
Equip./Install.	Backhoe, 80 HP	2	Hour	\$47.04	\$94.08
Labor	General Labor	2	Hour	\$21.56	\$43.12
Labor	Equipment Operators, Light	2	Hour	\$20.92	\$41.84
Mobilization	Mobilization, General labor	0.25	Hour	\$21.81	\$5.45
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00

Total Cost: \$2,650.91

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$1,988.18	EQIP-HU	\$2,385.82
EQIP-NOI	\$1,988.18	EQIP-HUNOI	\$2,385.82
EQIP-MRBI	\$1,988.18	EQIP-HUMRBI	\$2,385.82
EQIP-CCPI	\$1,988.18	EQIP-HUCCPI	\$2,385.82

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Scenario # 5 Above Ground Storage, Large

Missouri

Scenario Description:

Establishment of a large permanent watering facility for livestock having 3,001 to 5,000 gallons of water storage capacity for an adequate quantity and quality of water in situations where a lower capacity water supply source such as a spring or solar pump is the only feasible water source and backup capacity is needed during peak water demand periods. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materials and labor costs for installing the storage tank. Overflow pipe and stabilized area under and around the watering facility is not included and must be addressed through associated practices pipeline (516) and Heavy Use Area Protection (561). This watering facility will address the resource concerns of inadequate supply of water for livestock, habitat degradation, water quality, and undesirable plant productivity and health.

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 water storage capacity of 3,001 to 5,000 gallons is typically installed for 50 animal units to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage. Installation facilitates 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:

Number

Scenario Typical Size:	1	Each	Tot Unit Cost	\$4,287.71
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tank, Poly Enclosed Storage, >1,000	4500	Gallon	\$0.76	\$3,420.00
Equip./Install.	Truck, Pickup	3	Hour	\$27.28	\$81.84
Equip./Install.	Backhoe, 80 HP	3	Hour	\$47.04	\$141.12
Labor	General Labor	3	Hour	\$21.56	\$64.68
Labor	Equipment Operators, Light	3	Hour	\$20.92	\$62.76
Mobilization	Mobilization, General labor	0.25	Hour	\$21.81	\$5.45
Mobilization	Mobilization, medium equipment	2	Each	\$200.43	\$400.86
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00

Total Cost: \$4,287.71

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$3,215.78	EQIP-HU	\$3,858.94
EQIP-NOI	\$3,215.78	EQIP-HUNOI	\$3,858.94
EQIP-MRBI	\$3,215.78	EQIP-HUMRBI	\$3,858.94
EQIP-CCPI	\$3,215.78	EQIP-HUCCPI	\$3,858.94

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Scenario # 6 Underground Storage Tank

Missouri

Scenario Description:

A precast concrete tank used for storing water for livestock watering system. The storage tank will consist of 1 storage tank (2500 gal.) adequate base material and backfill around the tank, access riser with lid, and 20 ft of 4 inch PVC for overflow pipe.

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 for livestock constructed of approved materials with a 2,500 gallons of additional storage capacity for adequate quantity and quality of water for storage when backup capacity is needed peak water demand periods. 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). Any needed water source installation will use Water Well (642), Pumping Plant (533), Spring Development (574), or Livestock Pipeline (516) as appropriate.

Scenario Feature Measure:

Number

Scenario Typical Size:	1	Each	Tot Unit Cost	\$4,406.36
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tank, Concrete, 2500 gallon	1	Each	\$2,721.00	\$2,721.00
Materials	Pipe, PVC, dia. < 18", weight priced	40	Pound	\$1.36	\$54.40
Materials	Aggregate, Gravel, Ungraded, Quarry Run	2	Cubic yard	\$17.82	\$35.64
Equip./Install.	Hydraulic Excavator, 1 CY	5	Hour	\$96.78	\$483.90
Labor	General Labor	5	Hour	\$21.56	\$107.80
Labor	Equipment Operators, Heavy	5	Hour	\$27.22	\$136.10
Mobilization	Mobilization, large equipment	2	Each	\$374.89	\$749.78
Mobilization	Mobilization, very small equipment	2	Each	\$55.50	\$111.00
Mobilization	Mobilization, Heavy Equipment Operator	0.25	Hour	\$26.97	\$6.74

Total Cost: \$4,406.36

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$3,304.77	EQIP-HU	\$3,965.73
EQIP-NOI	\$3,304.77	EQIP-HUNOI	\$3,965.73
EQIP-MRBI	\$3,304.77	EQIP-HUMRBI	\$3,965.73
EQIP-CCPI	\$3,304.77	EQIP-HUCCPI	\$3,965.73