

Practice: 614 - Watering Facility

Scenario # 1 Permanent Drinking/Storage <500 Gallons

Scenario Description:

Louisiana

A permanent watering facility for livestock and or wildlife constructed of approved materials with less than 500 gallons of capacity that stores 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. 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 installed 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:

Capacity in Gallons

Scenario Typical Size:	250	Gallon	Unit Cost	\$2.47
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Tank, Galvanized Steel Livestock, >75 - 300 gallon	250	Gallon	\$0.90	\$225.00
Materials	Aggregate, Gravel, Ungraded, Quarry Run	0.5	Cubic yard	\$17.44	\$8.72
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Equip./Install.	Backhoe, 80 HP	2	Hour	\$40.48	\$80.96
Equip./Install.	Excavation, Common Earth, side cast, small equipment	0.5	Cubic yard	\$1.80	\$0.90
Equip./Install.	Truck, Pickup	2	Hour	\$23.48	\$46.96
Labor	General Labor	2	Hour	\$18.57	\$37.14
Labor	Equipment Operators, Light	2	Hour	\$19.22	\$38.44
Mobilization	Mobilization, Light Equipment Operator	0.25	Hour	\$19.04	\$4.76
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, General labor	0.25	Hour	\$18.52	\$4.63
				Total Cost:	\$617.76

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Scenario # 2 Permanent Drinking/Storage 500-1000 Gallons

Louisiana

Scenario Description:

A permanent watering facility for livestock and or wildlife constructed of approved materials with 500 to 1,000 gallons of capacity that stores 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. 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 500 to 1,000 gallons is installed 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 habit. 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:

Capacity in Gallons

Scenario Typical Size:	750	Gallon	Unit Cost	\$1.92
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Ungraded, Quarry Run	2	Cubic yard	\$17.44	\$34.88
Materials	Tank, Galvanized Steel Livestock, > 300 - 1,000 gallon	750	Gallon	\$0.59	\$442.50
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Equip./Install.	Backhoe, 80 HP	6	Hour	\$40.48	\$242.88
Equip./Install.	Excavation, Common Earth, side cast, small equipment	2	Cubic yard	\$1.80	\$3.60
Equip./Install.	Truck, Pickup	6	Hour	\$23.48	\$140.88
Labor	Equipment Operators, Light	6	Hour	\$19.22	\$115.32
Labor	General Labor	6	Hour	\$18.57	\$111.42
Labor	Skilled Labor	6	Hour	\$26.82	\$160.92
Mobilization	Mobilization, General labor	0.25	Hour	\$18.52	\$4.63
Mobilization	Mobilization, Light Equipment Operator	0.25	Hour	\$19.04	\$4.76
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, Skilled labor	0.25	Hour	\$25.75	\$6.44
				Total Cost:	\$1,438.48

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Scenario # 3 Permanent Drinking/Storage >1000-5000 Gallons

Scenario Description:

Louisiana

A permanent watering facility for livestock and or wildlife constructed of approved materials with greater than 1,000 to 5,000 gallons of capacity that stores 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. 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 a capacity of greater than 1,000 to 5,000 gallons is installed 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

Scenario Feature Measure:

Capacity in Gallons

Scenario Typical Size:

2000	Gallon	Unit Cost	\$1.38
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Sand, Graded, Washed	7	Cubic yard	\$23.31	\$163.17
Materials	Tank, Galvanized Steel Bottomless Livestock, ≤ 6,000 gallon	2000	Gallon	\$0.26	\$520.00
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Equip./Install.	Backhoe, 80 HP	8	Hour	\$40.48	\$323.84
Equip./Install.	Concrete, CIP, slab on grade, reinforced	4	Cubic yard	\$209.92	\$839.68
Equip./Install.	Excavation, Common Earth, side cast, small equipment	7	Cubic yard	\$1.80	\$12.60
Equip./Install.	Truck, Pickup	8	Hour	\$23.48	\$187.84
Labor	Equipment Operators, Light	8	Hour	\$19.22	\$153.76
Labor	General Labor	8	Hour	\$18.57	\$148.56
Labor	Skilled Labor	8	Hour	\$26.82	\$214.56
Mobilization	Mobilization, General labor	0.5	Hour	\$18.52	\$9.26
Mobilization	Mobilization, Light Equipment Operator	0.5	Hour	\$19.04	\$9.52
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, Skilled labor	0.5	Hour	\$25.75	\$12.88
				Total Cost:	\$2,765.92

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Scenario # 4 Permanent Drinking/Storage >5000 Gallons

Scenario Description:

Louisiana

A permanent watering facility for livestock and or wildlife constructed of approved materials with more than 5,000 gallons of capacity that stores 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. 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 a capacity of more than 5,000 gallons is installed 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 must be protected by using Heavy Use Area Protection (561) as appropriate.

Scenario Feature Measure:

Capacity in Gallons

Scenario Typical Size:	10000	Gallon	Unit Cost	\$0.58
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Sand, Graded, Washed	13	Cubic yard	\$23.31	\$303.03
Materials	Tank, Galvanized Steel Bottomless Livestock, > 6,000 gallon	10000	Gallon	\$0.18	\$1,800.00
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Equip./Install.	Backhoe, 80 HP	12	Hour	\$40.48	\$485.76
Equip./Install.	Concrete, CIP, slab on grade, reinforced	7	Cubic yard	\$209.92	\$1,469.44
Equip./Install.	Excavation, Common Earth, side cast, small equipment	13	Cubic yard	\$1.80	\$23.40
Equip./Install.	Truck, Pickup	12	Hour	\$23.48	\$281.76
Labor	Equipment Operators, Light	12	Hour	\$19.22	\$230.64
Labor	General Labor	12	Hour	\$18.57	\$222.84
Labor	Skilled Labor	12	Hour	\$26.82	\$321.84
Labor	Supervisor or Manager	12	Hour	\$36.21	\$434.52
Mobilization	Mobilization, General labor	0.5	Hour	\$18.52	\$9.26
Mobilization	Mobilization, Light Equipment Operator	0.5	Hour	\$19.04	\$9.52
Mobilization	Mobilization, medium equipment	1	Each	\$133.51	\$133.51
Mobilization	Mobilization, Skilled labor	0.5	Hour	\$25.75	\$12.88
Mobilization	Mobilization, Supervisor or Manager	0.5	Hour	\$35.87	\$17.94
				Total Cost:	\$5,793.07

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Scenario # 5 Freeze Proof Conc. Tank

Scenario Description:

Louisiana

Freeze Proof Tank: The scenario is for the installation of a freeze proof concrete livestock watering tank with a capacity greater than 200 gallons. The tank is a manufactured or formed in place concrete tank with sloping sides designed to prevent freezing. It is installed in the ground or partially covered with soil to prevent freezing. The cost includes all field preparation, excavation, concrete or gravel base, and plumbing as needed to install the tank. It does not include the pipeline to deliver the water to the tank.. 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:

The typical installation is one single tank of 250 gallons. The tank may be installed in the back slope of a pond's embankment or backfilled by material obtained from the pasture. Typically a small backhoe or skidsteer is needed to prepare the foundation, place the gravel and place the tank. A laborer is required to assist the operator and make on-the-ground connections and adjustments. After the installation, livestock may easily obtain water from relatively short distances. Surface water is no longer used for watering livestock and livestock grazing is uniformly distributed, thereby preventing sediments from reaching the surface water. 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:

Capacity in Gallons

Scenario Typical Size:	250	Gallon	Unit Cost	\$4.04
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Ungraded, Quarry Run	0.5	Cubic yard	\$17.44	\$8.72
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Materials	Tank, Freeze Proof, concrete, ≥ 200 gallons	1	Each	\$717.50	\$717.50
Equip./Install.	Backhoe, 80 HP	2	Hour	\$40.48	\$80.96
Labor	General Labor	2	Hour	\$18.57	\$37.14
Labor	Equipment Operators, Light	2	Hour	\$19.22	\$38.44
Mobilization	Mobilization, small equipment	1	Each	\$91.12	\$91.12
				Total Cost:	\$1,010.62

Practice: 614 - Watering Facility

Scenario # 6 Tire Tank

Louisiana

Scenario Description:

This scenario is for the installation of a livestock watering tank fabricated from a heavy equipment or tractor tire in a condition acceptable for use as a livestock waterer. The cost includes all field preparation, excavation, sand, gravel and plumbing as needed to install the tank. The payment is based on the volume in gallons (gal) that the tank can store. It does not include the pipeline to deliver the water to a tank or trough. Cost estimates are based on a 8 foot diameter tire tank having a storage capacity of 630 gallons $((\text{Diameter}^2)/4 \times 3.14 \times \text{Water Depth} \times 7.48 \text{ gal/ft}^3)$

Before Practice Situation:

The typical location of this practice is a pasture which has limited or no access to water. Livestock concentrate in areas creating erosion and do not graze uniformly. This scenario is to address the Resource Concerns - Domestic Animals, Inadequate Stock Water and Water Quality, Excessive Nutrients and Excessive Sediments in Surface Water.

After Practice Situation:

The typical installation is one single tank of 630 gallons. A small backhoe or skid steer is needed to prepare the gravel foundation. Laborer is required to assist with on-the-ground connections. The tank will be located so that livestock may easily obtain water from relatively short distances. Surface water is no longer used for watering livestock and livestock grazing is uniformly distributed, thereby preventing sediments from reaching the surface water.

Scenario Feature Measure:

Capacity in Gallons

Scenario Typical Size:	630	Gallon	Unit Cost	\$1.32
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Materials	Aggregate, Gravel, Ungraded, Quarry Run	0.5	Cubic yard	\$17.44	\$8.72
Materials	Tank, Float Valve Assembly	1	Each	\$84.27	\$84.27
Materials	Wildlife Escape Ramp	1	Each	\$36.74	\$36.74
Materials	Tank, Tire, 8' diameter	1	Each	\$517.00	\$517.00
Equip./Install.	Backhoe, 80 HP	1	Hour	\$40.48	\$40.48
Labor	General Labor	2	Hour	\$18.57	\$37.14
Labor	Equipment Operators, Light	1	Hour	\$19.22	\$19.22
Mobilization	Mobilization, small equipment	1	Each	\$91.12	\$91.12
				Total Cost:	\$834.69