

Practice: 436 - Irrigation Reservoir

Scenario: #1 - Underground Tank

Scenario Description: A 1,500 gallon, HDPE plastic tank, is installed below ground to store water from a reliable source for irrigation of a small area. Resource Concern: Insufficient Water - Inefficient use of irrigation water. Associated Practices: 430 - Irrigation Pipeline; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 533 - Pumping Plant; 447 - Irrigation System, Tailwater Recovery, 558 - Roof Runoff Structure

Before Situation: Insufficient volume of water to complete an irrigation cycle at the required flow rate.

After Situation: A 1500 gallon HDPE tank (dimensions: 111"L X 98"W X 48"H) installed 2 ft below ground as a means to store water collected from building/surface runoff and/or irrigation tailwater recovery. Scenario describes excavation of pit, placement of tank and backfilling of material over tank including spreading of spoil.

Scenario Feature Measure: Volume of Storage Tank

Scenario Unit: Gallon

Scenario Typical Size: 1500

Total Scenario Cost: \$2,383.02

Scenario Cost/Unit: \$1.59

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

Dozer, 80 HP	929	Track mounted Dozer with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$65.04	4	\$260.18
Excavation, Common Earth, side cast, small equipment	48	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic Yard	\$2.16	17	\$36.66
Skidsteer, 80 HP	933	Skidsteer loader with horsepower range of 60 to 90. Equipment and power unit costs. Labor not included.	Hour	\$43.87	4	\$175.47

Labor

Equipment Operators, Heavy	233	Includes: Cranes, Hydraulic Excavators >=50 HP, Dozers, Paving Machines, Rock Trenchers, Trenchers >=12", Dump Trucks, Ag Equipment >=150 HP, Scrapers, Water Wagons.	Hour	\$28.82	4	\$115.26
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	\$21.71	4	\$86.84

Materials

Tank, Poly Enclosed Storage, >1,000	1075	Water storage tanks. Includes materials and shipping only.	Gallon	\$0.93	1500	\$1,387.50
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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	\$251.62	1	\$251.62
Mobilization, very small equipment	1137	Equipment that is small enough to be transported by a pick-up truck with typical weights less than 3,500 pounds. Can be multiple pieces of equipment if all hauled simultaneously.	Each	\$69.48	1	\$69.48