

Practice: 362 - Diversion

Scenario: #1 - Diversion

Scenario Description: An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff away from farmsteads, agricultural waste systems, gullies, critical erosion areas, construction areas or other sensitive areas. Outlet may be waterway, underground outlet, or other suitable outlet. Typical diversion is, 1000 feet long installed on a field slope of 5 percent and requires 1 CY excavation per LF. Channel may be level or gradient and ridge may be vegetated or farmed. The quantity of excavation and fill is balanced.

Before Situation: Excessive sedimentation and soil erosion as a result of gully, rill or sheet erosion which exceeds "T" from farm fields and other locations. Also, roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated.

After Situation: Diversion is 1000 feet long installed using a dozer. Field system meets "T" or "clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606).

Scenario Feature Measure: Length of Diversion

Scenario Unit: Foot

Scenario Typical Size: 1000

Total Scenario Cost: \$2,346.77

Scenario Cost/Unit: \$2.35

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

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	\$1.97	1000	\$1,966.05
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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	\$20.52	2	\$41.05
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$40.68	2	\$81.36

Mobilization

Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$258.32	1	\$258.32
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Practice: 362 - Diversion

Scenario: #2 - Concrete Curb

Scenario Description: A reinforced concrete (RC) curb constructed across the slope to divert runoff away from farmsteads, gullies, critical erosion areas, construction areas, agricultural waste system, other sensitive areas, or to a waste storage facility. Outlet may be a waterway, underground outlet, or other suitable outlet. Typical 1.0 ft. high, 6 inch thick RC curb diversion is approximately 50 feet long with a 2.0 ft wide footing and requires approximately 0.056 CY of RC per linear ft. The curb will be placed on 6" of compacted sand. Concrete diversion is necessary due to limited footprint availability.

Before Situation: Excessive roof runoff or surface runoff that becomes contaminated with agricultural wastes that significantly contributes to the amount of runoff that has to be stored or treated. Also, contaminated lot runoff that needs to be diverted to a waste storage facility so it doesn't pollute surface water or ground water.

After Situation: The 1.0 ft. high, 6 inch thick RC curb diversion is approximately 50 feet long. "Clean" storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Polluted water is diverted to a waste storage facility for proper storage. Associated practices are Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Waste Storage Facility (313).

Scenario Feature Measure: Length of concrete diversion

Scenario Unit: Foot

Scenario Typical Size: 50

Total Scenario Cost: \$1,431.31

Scenario Cost/Unit: \$28.63

Cost Details

Component Name	Id	Description	Unit	Cost	Qty	Total
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Equipment Installation

Concrete, CIP, formed reinforced	38	Steel reinforced concrete formed and cast-in-placed in formed structures such as walls or suspended slabs by chute placement. Typical strength is 3000 to 4000 psi. Includes materials, labor and equipment to transport, place and finish.	Cubic Yard	\$392.93	2.8	\$1,100.21
Earthfill, Manually Compacted	50	Earthfill, manually compacted, includes equipment and labor	Cubic Yard	\$4.90	3.7	\$18.14
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	\$1.97	2.15	\$4.23

Materials

Aggregate, Sand, Graded, Washed	45	Sand, typical ASTM C33 gradation, includes materials, equipment and labor to transport and place	Cubic Yard	\$39.89	1.85	\$73.80
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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	\$20.52	1	\$20.52
Supervisor or Manager	234	Labor involving supervision or management activities. Includes crew supervisors, foremen and farm/ranch managers time required for adopting new technology, etc.	Hour	\$40.68	1	\$40.68

Mobilization

Mobilization, small equipment	1138	Equipment <70 HP but can't be transported by a pick-up truck or with typical weights between 3,500 to 14,000 pounds.	Each	\$173.74	1	\$173.74
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