

Practice: 638 - Water & Sediment Control Basin

Scenario # 1 WASCOB > 100 LF Embankment

Scenario Description: Actual Scenario # 1

New York

An earth embankment or a combination ridge and channel constructed across the slope of minor watercourses to form a sediment trap and water detention basin with a stable outlet. The typical scenario is for the construction of an embankment with sufficient capacity to control the runoff from a 10-year frequency, 24-hour duration storm using a combination of flood storage and discharge through the outlet. Sediment removal from the basin will be handled by an Operation and Maintenance Plan. The typical embankment is 150 feet long, 4 foot high, 3 foot top width, 5:1 side slopes, constructed from on-site fill, compacted by the construction equipment. A core trench is used to intercept seepage. The outlet is typically a standpipe with underground outlet. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices.

Associated Practices: Critical Area Planting (342), Underground Outlet (620)

Before Practice Situation:

Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concern addressed includes soil erosion and water quality by trapping sediment and/or reduce erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) to be transported into the riparian areas and water bodies downstream.

After Practice Situation:

A 150 foot long embankment is constructed with 755 CY of excavation/earthfill with a dozer to build a Water and Sediment Control Basin . Rill and/or gully erosion is reduced.

Scenario Feature Measure:

Length of WASCOB Embankment in LF

Scenario Typical Size:	150	Foot	Tot Unit Cost	\$25.75
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Mobilization	Mobilization, medium equipment	1	Each	\$282.78	\$282.78
Forgone Incom	FI, Corn Dryland	0.075	Acre	\$313.51	\$23.51
Forgone Incom	FI, Soybeans Dryland	0.0375	Acre	\$340.36	\$12.76
Forgone Incom	FI, Wheat Dryland	0.0375	Acre	\$239.62	\$8.99
Equip./Install.	Dozer, 140 HP	20	Hour	\$136.36	\$2,727.20
Equip./Install.	Stripping and stockpiling, topsoil	81	Cubic Yard	\$0.95	\$76.95
Labor	Equipment Operators, Heavy	20	Hour	\$36.55	\$731.00

Total Cost: \$3,863.19

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$19.39	EQIP-HU	\$23.21
WHIP	\$0.00	WHIP-HU	\$0.00

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Scenario # 2 WASCOB ≤ 100 Feet of Embankment

New York

Scenario Description: Actual Scenario # 2

An earth embankment or a combination ridge and channel constructed across the slope of minor watercourses to form a sediment trap and water detention basin with a stable outlet. The typical scenario is for the construction of an embankment with sufficient capacity to control the runoff from a 10-year frequency, 24-hour duration storm using a combination of flood storage and discharge through the outlet. Sediment removal from the basin will be handled by an Operation and Maintenance Plan. The typical embankment is 75 feet long, 3 foot high, 3 foot top width, 5:1 side slopes, constructed from on-site fill, compacted by the construction equipment. A core trench is used to intercept seepage. The outlet is typically a standpipe with underground outlet. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices.

Associated Practices: Critical Area Planting (342), Underground Outlet (620)

Before Practice Situation:

Farming fields with excessive slope length has resulted in multiple rills and/or ephemeral gullies that will continue to worsen over time. The excessive erosion may lead to deterioration of receiving waters due to excessive sedimentation and nutrient transport. Resource concern addressed includes soil erosion and water quality by trapping sediment and/or reduce erosion in a field to protect riparian areas and water bodies from sediment deposition. Surface water causes erosion and the sediment (and potentially pesticides) to be transported into the riparian areas and water bodies downstream.

After Practice Situation:

A 75 foot long embankment is constructed with 300 CY of excavation/earthfill with a dozer to build a Water and Sediment Control Basin . Rill and/or gully erosion is reduced.

Scenario Feature Measure:

Length of WASCOB Embankment in LF

Scenario Typical Size:	75	Foot	Tot Unit Cost	\$32.23
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Equip./Install.	Dozer, 140 HP	12	Hour	\$136.36	\$1,636.32
Equip./Install.	Stripping and stockpiling, topsoil	39	Cubic Yard	\$0.95	\$37.05
Labor	Equipment Operators, Heavy	12	Hour	\$36.55	\$438.60
Mobilization	Mobilization, medium equipment	1	Each	\$282.78	\$282.78
Forgone Incom FI, Corn Dryland		0.037	Acre	\$313.51	\$11.60
Forgone Incom FI, Soybeans Dryland		0.019	Acre	\$340.36	\$6.47
Forgone Incom FI, Wheat Dryland		0.019	Acre	\$239.62	\$4.55

Total Cost: \$2,417.37

Payment types:

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$24.25	EQIP-HU	\$29.04
WHIP	\$0.00	WHIP-HU	\$0.00