Grade Stabilization Structure (410) **OKLAHOMA**

Cost Data

Typical Implementation Scenario

410.1 Grade Stabilization Structure Earthen Embankment with Mechanical Principal Spillway

An earthen embankment construct near a head cut or in an unstable drain to control erosion. The typical structure quantities are 2830 CY of excavation/fill plus 80 ft of 18" CSP conduit (which is equivalent to 1570 CY of earthwork. The total cost for the typical structure is $6,732.00.

Geographic Area: Statewide

Unit for Cost Estimate: ECY
Practice Life (Years): 15
Discount Rate (%/Year): 5%

Data Source: 2006-2007 actual cost data	Cost/Unit
Materials Includes Cost of Equipment/Installation, Labor and Mobilization	$1.53
Equipment/Installation Included in Materials cost	$0.00
Labor Included in Materials cost	$0.00
Mobilization Included in Materials Cost	$0.00
Operation & Maintenance (Annual) One percent of materials, equipment and labor	$0.02
Acquisition of Technical Knowledge N/A	$0.00
Forgone Income (Annual) None	$0.00
Risk Reduced risk, can better manage runoff water and materials	$0.00
Administration & Permit Costs Paperwork required to designs, meetings with engineers, travel	$0.00
Total Cost Estimate:	$1.55

Grade Stabilization Structure (410) **OKLAHOMA**

Cost Data

Typical Implementation Scenario

410.2 Grade Stabilization Structure with Concrete Open Weir Spillway (Formless Concrete Chute)

Constructed near a head cut to control erosion. Minor excavation and embankment is required to install the concrete structure. Typical quantities is 40 cubic yards of concrete.

Geographic Area: Statewide

Unit for Cost Estimate: ECY
Practice Life (Years): 15
Discount Rate (%/Year): 5%

Data Source: 2006-2007 actual cost data	Cost/Unit
Materials Includes Equipment/Installation, Labor and Mobilization Costs Note: Rock was not included in cost since all jobs do not require rock.	$457.44
Equipment/Installation Included in Materials cost	$0.00
Labor Included in Materials cost	$0.00
Mobilization Included in Materials Cost	$0.00
Operation & Maintenance (Annual) One percent of materials, equipment and labor	$4.57
Acquisition of Technical Knowledge N/A	$0.00
Forgone Income (Annual) None	$0.00
Risk Reduced risk, can better manage runoff water and materials	$0.00
Administration & Permit Costs Paperwork required to designs, meetings with engineers, travel	$0.00
Total Cost Estimate:	$462.01

Grade Stabilization Structure (410) **OKLAHOMA**

Cost Data

Typical Implementation Scenario

410.3 Grade Stabilization Structure with Concrete Open Weir Spillway requiring foundation stabilization.

Constructed near a head cut to control erosion. This foundation must be stabilized with rock. Typical quantity is 40 cubic yards of concrete.

Geographic Area:	Statewide	
Unit for Cost Estimate:	Cubic Yard (CY)	
Practice Life (Years):	15	
Discount Rate (%/Year):	5%	
Data Source: 2006-2007 actual cost data		**Cost/Unit**
Materials		$134.38
Materials Concrete 40 CY @ 95.00/CY	3800	
Foundation Stabilization 70 Ton @ 22.5/	1,575	
Equipment/Installation		$362.63
Includes Labor	14,505	
Labor		$0.00
Labor included in Equipment cost.		
Mobilization		$0.00
Included in Materials, Equipment and Installation Costs.		
Operation & Maintenance		$4.97
One percent of Materials, Equipment, Labor Costs		
Acquisition of Technical Knowledge		$0.00
N/A		
Forgone Income		$0.00
Little or none land taken out of production.		
Risk		$0.00
None		
Administration & Permit Costs		$0.00
Paperwork required to designs, meetings with engineers, travel		
Total Cost Estimate:		**$501.97**

Grade Stabilization Structure (410) **OKLAHOMA**

Cost Data

Typical Implementation Scenario

410.4 Galvanized Steel Toe Structure

Installed to control erosion consisting of a galvanized steel toe wall structure. The typical structure with 160 ac drainage area and 3.92 ft drop consist of 301 sq ft of galvanized steel at a total cost of $6900.00

Geographic Area:	Statewide	
Unit for Cost Estimate:	Square Foot (SF)	
Practice Life (Years):	15	
Discount Rate (%/Year):	5%	
Data Source: 2006-2007 actual cost data		**Cost/Unit**
Materials		$22.92
Galvanized Steel	301 sq ft	
Concrete (reinforced)	10.6 CY	
Filter C-33 Sand	1.3 CY	
Drain Pipe	35 LF	
Rip Rap	3.9 CY	
Excavation/Fill	variable CY	
Equipment/Installation		$0.00
Includes Labor		
Labor		$0.00
Labor included in Equipment cost.		
Mobilization		$0.00
Included in Materials, Equipment and Installation Costs.		
Operation & Maintenance		$0.23
One percent of Materials, Equipment, Labor Costs		
Acquisition of Technical Knowledge		$0.00
N/A		
Forgone Income		$0.00
Little or none land taken out of production.		
Risk		$0.00
None		
Administration & Permit Costs		$0.00
Paperwork required to designs, meetings with engineers, travel		
Total Cost Estimate:		**$23.15**