Practice: 607 - Surface Drainage, Field Ditch

Scenario: #1 - Field Drainage Ditch

Scenario Description:

A new field ditch is constructed to collect the excess irrigation water of a single field and direct it to a collection system so that the water can be recovered and reused. Typical ditch size is trapezoidal ditch with 4ft bottom x 3ft depth x 1760 ft length with 2:1 side slopes. The total yardage of earthwork is 1956 cy.

Resource concerns that will be addressed: Excess/Insufficent Water - inefficient use of irrigation water; Water Quality Degradation - excessive sediments in surface waters; Water Quality Degradation - Excess nutrients in surface and ground water; Degradation Plant Condition - undesireable plant prductivity and health.

Assoicated practices: 533 - Pumping Plants; 410 - Grade Stabilization Structure; 587 - Structure for water control; 449 - Irrigation Water Management

Before Situation:

Excess irrigation water collects at lower ends of field and backs up into crops and causes plant stress or causes erosion and travels off farm in a drainage ditch causing water quality issues in lower watersheds.

After Situation:

Excess irrigation water is collected and directed into a recovery system where the water can be recycled and reused for irrigation. Sedimentation has a chance to settle out of the water allowing for less sediment to travel down stream.

Scenario Feature Measure: Volume of Earth Excavated

Scenario Unit: Cubic Yard

Scenario Typical Size: 1,956

Scenario Cost: $3,991.29 **Scenario Cost/Unit:** $2.04

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
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	$1.96	1956	$3,833.76
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	$157.53	1	$157.53