## Practice: 608 - Surface Drainage, Main or Lateral

## Scenario: #1 - Main or Lateral Drainage Ditch - Tail Water Recovery System

### Scenario Description:

A new lateral ditch is constructed to collect the excess irrigation water of a series of fields creating a collection system so that the water can be recovered and reused. Typical ditch size is trapezoidal ditch with 8 ft bottom x 5 ft depth x 1950 ft length with 2:1 side slopes. The total yardage of earthwork is 6,500 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:** 6,500

**Scenario Cost:** $12,897.53 **Scenario Cost/Unit:** $1.98

### 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 | 6500 | $12,740.00 |
| ***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 |