

**Scenario Worksheet**

**Practice and Scenario Description:**

<b>Information Type</b>	<b>Data</b>
Region	New England
State	Connecticut
Discipline Group	Engineering General
Practice Code/Name	S21D - Pond Sealing or Lining, Compacted Clay Treatment
Scenario ID	2
Scenario Name	Material haul > 1 mile
Scenario Description	Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and protection of the finished liner. Material haul > 1 mile. Associated practices include PS378, PS313, & other waste water impoundments.
Before Practice Situation	In-place soils at site exhibit seepage rates in excess of acceptable limits. An adequate quantity of soil suitable for constructing a clay liner without amendments is available at an economical haul distance.
After Practice Situation	Water conservation and environmental protection provided by limiting seepage losses from ponds or waste storage impoundments.
Scenario Feature Measure	Volume of Liner Material (including volume of soil cover, as needed)
Scenario Unit	Cubic Yard
Scenario Typical Size	2420 Typical pond liner 12" thick & 6" thick soil cover x 1 acre in area

**Cost Summary:**

Cost Category	Scenario Cost	Scenario Cost/Unit
Materials	\$0.00	\$0.00
Equipment/Installation	\$25,538.60	\$10.55
Labor	\$665.76	\$0.28
Mobilization	\$2,327.83	\$0.96
Acquisition of Technical Knowledge	\$0.00	\$0.00
Foregone Income	\$0.00	\$0.00
<b>Total</b>	<b>\$28,532.19</b>	<b>\$11.79</b>

**Cost Details:**

Cost Category	Component ID	Component Name	Component Description	Unit	Price (\$/unit)	Quantity	Cost
Equipment/Installation	49	Earthfill, Roller Compacted	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	\$4.04	2420	\$9,776.80
Equipment/Installation	1223	Excavation, common earth, large equipment, 150 ft	Bulk excavation of common earth including sand and gravel with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	\$3.39	2420	\$8,203.80
Equipment/Installation	1615	Hauling, bulk, highway truck	Hauling of bulk earthfill, rockfill, waste or debris. One-way travel distance using fully loaded highway dump trucks (typically 16 CY or 20 TN capacity). Includes equipment and labor for truck only. Does not include cost for loading truck.	Cubic Yard Mile	\$0.28	8065	\$2,258.20
Equipment/Installation	48	Excavation, Common Earth, side cast, small equipment	Bulk excavation and side casting of common earth with hydraulic excavator with less than 1 CY capacity. Includes equipment and labor.	Cubic yard	\$2.19	2420	\$5,299.80
Labor	235	Consultant Services	Consultant services to assist in resource inventory, plan development, site surveys, site monitoring, installation of practices, etc.	Hour	\$83.22	8	\$665.76
Mobilization	1140	Mobilization, large equipment	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	\$513.10	3	\$1,539.30
Mobilization	1139	Mobilization, medium equipment	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	\$274.33	1	\$274.33
Mobilization	1146	Mobilization, Consultant Services	Management of consultant services to assist in resource inventory, plan development, site surveys, site monitoring, etc.	Hour	\$85.70	6	\$514.20