Alternative 5
Option A

Bunker Hill
Acid Mine Drainage
Disposal of Raw Sludge in CIA Disposal Beds
Order of Magnitude Cost Opinion (Quantity reduced by 20%)

DATE: 11/22/2000
PROJECT NO.: 152215.FS.02
ESTIMATE BY: D. Bunte
N. Gulensoy

DESCRIPTION	QTY	QTY Reduced by 20%	UNIT	TOTAL UNIT COST	TOTAL COST
Subgrade Stabilization	10,500	8,400	C. Y.	4.00	$33,600
Liner Protection Sand	8250	6,600	C. Y.	10.00	$66,000
Drain Rock	1,950	1,560	C. Y.	18.00	$28,080
Ditch Lining Geotextile	21,200	16,960	S. Y.	1.65	$27,984
G C L	18,100	14,480	S. Y.	4.05	$58,644
H D P E Geomembrane	18,100	14,480	S. Y.	5.40	$78,192
H D P E Pipe, 10"	550	440	L. F.	23.00	$10,120
Erosion Control Matting	11800	9,440	S.Y.	1.50	$14,160
Perf Pipe, 4"	2000	1,600	L. F.	2.00	$3,200
Perf Pipe, 6"	580	464	L. F.	3.00	$1,392
HDPE Pipe, 6"	130	104	L. F.	2.50	$260
Strip Drains	700	560	L. F.	1.75	$980
Valves, 6" Knife Gate	2		Each	700.00	$1,400
Valves, 10" Knife Gate	6		Each	1,000.00	$6,000
Air/Vacuum Release Valve	1		Each	2,000.00	$2,000
Valve Vault	6		Each	1,950.00	$11,700
Water Tight Manhole	1		Each	3,500.00	$3,500
Vertical Filtrate Drains	6		Each	4,000.00	$24,000
Cleanouts	2		Each	750.00	$1,500
Perimeter Road Embankment (not reduced)	28275	28,275	C. Y.	10	$282,750
Chain Link Fence and Gates (not reduced)	1000	1,000	L.F.	12	$12,000
Crushed Rock Surfacing (not reduced)	1500	1,500	C. Y.	15	$22,500
SUBTOTAL					**$926,212**
MISC ALLOWANCE	**10%**				**$92,621**
SUBTOTAL					**$1,018,833**
CONTINGENCY	**30%**				**$305,650**
SUBTOTAL					**$1,324,483**
MOBILIZATION	**15%**				**$198,672**
CONSTRUCTION TOTAL					**$1,523,156**
SALES TAX ON MATERIALS	**5.0%**				**$25,622**
ENGINEERING AND SUPPORT	**20%**				**$304,631**
CONSTRUCTION MANAGEMENT	**8%**				**$121,852**
CAPITAL COST SUBSEQUENT BEDS TOTAL (ROUNDED)					**$1,980,000**
ANNUAL O&M COST FOR OPERATING BED				**$38,000**	
NPV OF ANNUAL O&M COSTS (30 YEARS @ 7% INTEREST)					**$471,000**
NPV OF INITIAL AND SUBSEQUENT BEDS & CLOSURES CAPITAL COSTS @ 7% INTEREST					**$6,321,000**
TOTAL 30-YEAR PRESENT WORTH COST @ 7% INTEREST					**$6,792,000**

NOTES:
Misc Allowance markup is to include items known to exist but cannot be quantified at this time.
Contingency is for scope changes that are presently unforeseen.
Mobilization includes bonds, insurance, temporary facilities, health & safety, demobilization, etc.

NOTE: The above cost opinion is in November 2000 dollars and does not include escalation. The order of magnitude cost opinion shown has been prepared for guidance in project evaluation at the time of preparation. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope, final schedule and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.