

Table 6-6a
Construction Cost Estimate for Soil Alternative No. 3a
Rolling Knolls Landfill Superfund Site - Feasibility Study
Chatham, New Jersey

Geosyntec Consultants

Component	Range Unit Cost			Unit	Quantity	Construction Cost Estimate
A - Design/Construction Oversight/Permits						
Pre-Design Investigation	3%	to	4%	% Construction ⁽²⁾	\$ 13,273,500	\$ 464,600
Remedial Design	3%	to	6%	% Construction ⁽²⁾	\$ 13,273,500	\$ 597,400
Remedial Oversight	5%	to	10%	% Construction ⁽²⁾	\$ 13,273,500	\$ 995,600
Subtotal						\$ 2,057,600
B - Construction Preparation						
Bonding, insurance etc.	0.10%	to	0.15%	% Construction ⁽²⁾	\$ 13,273,500	\$ 16,600
Mobilization/Demobilization	1%	to	2%	% Construction ⁽²⁾	\$ 13,273,500	\$ 199,200
Subtotal						\$ 215,800
C - General Construction and Site Management						
Site management and facilities	\$ 5,400	to	\$ 21,600	per mth	18	\$ 243,000
Survey (topo , wetlands, etc.)	\$ 80,800	to	\$ 107,700	est.	1	\$ 94,300
Britten Road entrance overlay	\$ 6	to	\$ 7	sft	35,000	\$ 227,500
Construction entrance	\$ 5,400	to	\$ 10,800	est.	1	\$ 8,100
Traffic management	\$ 2,200	to	\$ 10,800	mth	10	\$ 65,000
Demolition existing structures and place in LF	\$ 10,800	to	\$ 27,000	est.	1	\$ 18,900
25-ft wide construction access road	\$ 110	to	\$ 220	lin ft	5,600	\$ 924,000
15-ft wide permanent access road	\$ 65	to	\$ 130	lin ft	5,600	\$ 546,000
Structural BMP (bog turtle)	\$ 21,600	to	\$ 43,100	est.	1	\$ 32,400
Subtotal						\$ 2,159,200

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D - Areas of Particular Concern (APCs)					
APCs include POI-09, POI-14, SS-109 (i.e., TP-09), SS-90, SS-97, SS-103, and SS-118.					
Assumed 1-acre remediation for each APC.					
Remediation area:	7.0	acres			
Flood hazard area (FHA):	3.0	acres			
Surface Debris Area :	2.0	acres			
Wetland impact area:	4.8	acres			
Remediation area perimeter:	5,200	feet			
			including APCs POI-9, POI-14, and SS-118		
			including APCs POI-9 and POI-14		
			includes all APCs.		
Site Preparation					
Silt fence (perimeter of each APC)		\$ 6	lin ft	6,240	\$ 37,500
Turbidity curtain		\$ 11	lin ft	5,200	\$ 57,200
Clearing/grubbing		\$ 2,200	acre	8.4	\$ 18,500
Relocation of surface debris using LGP equipment		\$ 11	cyd	3,300	\$ 36,300
Consolidate Impacted Soil Under Selected 25-Acre Cap Area					
Remove/relocate 2-ft thick impacted soil		\$ 22	cyd	19,300	\$ 424,600
Backfill with offsite soil (e.g., loam)		\$ 44	cyd	19,300	\$ 849,200
Wetland restoration (re-vegetation)		\$ 3,300	acre	3.2	\$ 10,600
Excavate and Dispose Offsite (SS-109/TP-09)					
Excavate 2-ft thick impacted soil		\$ 22	cyd	3,300	\$ 72,600
Off-site transportation	\$ 6 to	\$ 11	ton	3,300	\$ 28,100
Off-site disposal (hazardous waste)	\$ 220 to	\$ 540	ton	1,650	\$ 627,000
Off-site disposal (non-hazardous waste)	\$ 44 to	\$ 76	ton	1,650	\$ 99,000
Backfill with offsite soil (e.g., loam)		\$ 44	cyd	3,300	\$ 145,200
Wetland 1:1 on-Site reconstruction		\$ 161,600	acre	1.0	\$ 161,600
Wetland restoration (re-vegetation)		\$ 3,300	acre	0.6	\$ 2,000
Subtotal					\$ 2,569,400
E - 25-Acre Selected Area (Functional Area 1)					
Remediation area:	25	acres			
Flood hazard area (FHA):	0	acres			
Wetland impact area:	3	acres			
Remediation area perimeter:	6,100	feet			
Site Preparation					
Silt fence		\$ 6	lin ft	7,320	\$ 44,000
Turbidity curtain		\$ 11	lin ft	1,525	\$ 16,800
Clearing/grubbing		\$ 2,200	acre	30	\$ 66,000
Regrade ground to design grades (including 3-ft soil/waste relocation in FHA)		\$ 11	cyd	121,000	\$ 1,331,000
Final Closure Cap					
Subtitle D cap		\$ 235,000	acre	25	\$ 5,875,000
Stormwater basin	\$ 21,600 to	\$ 43,100	est.	3	\$ 97,100
Perimeter anchor trench		\$ 3	lin ft	4,270	\$ 12,900
Landform plus enhanced AT		\$ 70	lin ft	1,830	\$ 128,100
Passive LFG control (vents or vents & trenches)	\$ 4,400 to	\$ 6,500	acre	25	\$ 136,300
Wetland 1:1 on-Site reconstruction		\$ 161,600	acre	3.0	\$ 484,800
Wetland restoration (re-vegetation)		\$ 3,300	acre	1	\$ 3,300
Subtotal					\$ 8,195,300

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Component		Range	Unit Cost	Unit	Quantity	Construction Cost Estimate
F - Vegetation of Non-Vegetated Areas						
Outside of FHA	2	acres				
Scarify, fertilize, and hydroseed			\$ 3,600	acre	1	\$ 3,600
2-ft soil (veg. support + topsoil) and hydroseed			\$ 120,000	acre	1	\$ 120,000
Subtotal						\$ 123,600
G - Site Controls (physical)						
7-ft high perimeter fence			\$ 33	lin ft	6,500	\$ 214,500
20-ft wide double access gates			\$ 4,400	each	2	\$ 8,800
3-ft wide man gates			\$ 870	each	3	\$ 2,700
Subtotal						\$ 226,000
H - Site Controls (administrative)						
Institutional controls			\$ 10,800	est.	1	\$ 10,800
Reporting to EPA			\$ 4,400	every 5-yr	6	\$ 26,400
Reporting to NJ			\$ 4,400	every 2-yr	15	\$ 66,000
Subtotal						\$ 103,200
I - Post-Remedy Operation & Maintenance						
Maintenance of Vegetation Areas (Item F)		\$ 1,300 to \$ 3,800		annual	30	\$ 112,000
Landfill monitoring/maintenance		\$ 21,600 to \$ 53,900		annual	30	\$ 1,657,400
Fence O&M		\$ 2,300 to \$ 6,800		annual	30	\$ 199,800
Wetland mitigation monitoring/maintenance		\$ 40,400 to \$ 53,900		annual	5	\$ 247,900
Subtotal						\$ 2,217,100
Total						\$ 17,868,000

Notes:

- (1) See Table 6-4 for cost estimate assumptions, notes, and limitations.
- (2) Construction cost to estimate these items include the costs of Items C through G.