Appendix G

Detailed Cost Estimates for Remedial Alternatives for the Surface and Near-Surface Soil Remediation Zone (0 to 3 Feet bgs)

TABLE G1 - DETAILED COST SUMMARY FOR REMEDIAL ALTERNATIVE N2
SOIL COVER/REVEGETATION
SURFACE AND NEAR-SURFACE SOIL REMEDIATION ZONE

Treatment System Equipment and Installation

Item No.	Description	Quantity	Unit	Unit Rate	Total Cost	Source
Equipment, Materials, and Subcontractors						
1	Geophysical Clearance	1	lump sum	$2,200.00	$2,200	Spectrum Geophysics
2	Concrete Demolition, leave in place	1,450	sq. yard	$11.00	$15,950	RS Means
3	Fence Demolition and Haul (445 linear feet)	1	lump sum	$2,144.00	$2,144	RS Means
4	Vegetative Stripping and Subgrade Preparation	481	cubic yard	$1.34	$645	RS Means
5	Dust Control, light	4	day	$755.00	$3,020	RS Means
6	Vegetative Haul plus 30% LA traffic markup	481	cubic yard	$3.74	$1,801	RS Means
7	Backfill - delivered (1-ft. depth)	4,550	cubic yard	$22.50	$102,375	TN&A - quote for similar work
8	Grading - spread from pile to finish grade	4,550	cubic yard	$4.33	$19,702	RS Means
9	Geotextile barrier - Incl. materials and installation	9,717	sq. yard	$2.13	$20,697	RS Means
10	Surveying 2 crew, estab. grade, slope & cover thickness	8	day	$2,000.00	$16,000	RS Means
11	Top Soil - deliver/spread (4-in. depth)	1,080	cubic yard	$22.50	$24,300	TN&A - quote for similar work
12	Temp. Subsurface Irrigation System - 1spr. hd./ 225 s.f.	388	per head	$38.00	$14,744	RS Means
13	Grass Cover- via hydroseeding	87,454	sq. feet	$0.07	$6,122	RS Means
14	Heavy Equipment Mob/Demob	4	each	$250.00	$1,000	TN&A - quote for similar work
15	Misc. Landscaping and Erosion Control	1	lump sum	$25,153.00	$25,153	RS Means
16	Handling Fees (3%)	1	lump sum	$7,675.56	$7,676	T N & Associates
17	Contingency (10%)	1	lump sum	$25,585.19	$25,585	RS Means
	Subtotal (Equipment, Materials, and Subs)				**$289,113**	
TN&A Labor						
18	Construction Management	250	hour	$85.00	$21,250	T N & Associates
19	Engineering, Design, and Inspection	300	hour	$100.00	$30,000	T N & Associates
20	Project Management	160	hour	$110.00	$17,600	T N & Associates
	Subtotal (TN&A Labor)				**$68,850**	
TOTAL TREATMENT SYSTEM EQUIPMENT, INSTALLATION, SUBS, AND LABOR:					**$357,963**	

Assumptions:

1. Refer to the conceptual design for Alternative N2 (Section 3.4.1.2) for additional design information and assumptions.
2. There will be no disposal costs for fencing since it can be sold to recycler or reused by the City of Maywood.
3. There will be no disposal costs for stripped vegetation, since it can be composted and reused by the City of Maywood.
4. Hydroseeding was selected over sod for an estimated savings of approximately $35,000.
5. A geotextile barrier was selected to separate cover soil from underlying contaminants.

TABLE G1 - DETAILED COST SUMMARY FOR REMEDIAL ALTERNATIVE N2
SOIL COVER/REVEGETATION

SURFACE AND NEAR-SURFACE SOIL REMEDIATION ZONE

Annual Operation and Maintenance

Item No.	Description	Quantity	Unit	Unit Rate	Total Cost	Source
O&M - Utilities, Materials, and Subs						
1	Vegetative Cover Maintenance and Repair	1	lump sum	$3,148.00	$3,148	RS Means
2	Brush Clearing - medium density	4	each	$1,100.00	$4,400	RS Means
3	Handling Fees (3%)	1	lump sum	$226.44	$226	T N & Associates
4	Contingency (10%)	1	lump sum	$754.80	$755	RS Means
	Subtotal (Equipment, Materials, and Subs)				**$8,529**	
TN&A Labor						
5	Quarterly Inspection	80	hours	$85.00	$6,800	T N & Associates
6	Monitoring and Reporting	50	hours	$100.00	$5,000	T N & Associates
7	Management of O&M	40	hours	$110.00	$4,400	T N & Associates
	Subtotal (TN&A Labor)				**$16,200**	
TOTAL ANNUAL OPERATION AND MAINTENANCE					**$24,729**	

Present Worth of Annual Operation and Maintenance

	Cost	Interest Rate	Years	**Present Worth**	
Total Present Worth of Annual O&M	24,729	4.25%	30	**$414,957**	Calculated using uniform series present worth factor.

ssumptions:

1. Establishment of native vegetative cover is included in installation. Long-term irrigation is not planned.
2. Assumes that 5% of the cover surface (approx. 4,400 s.f.) will require fill and replanting (annually) due to erosional forces. Backfill for the repair area at a three inch depth is assumed (40 c.y.).
3. Brush cutting is assumed to take place quarterly.
4. Quarterly inspections would be performed and reported in conjunction with well monitoring. A memo report identifying areas of wear or erosion would be issued.
5. A 30-year project term was assumed for comparison purposes. The interest rate of 4.25% is the reported Prime Rate (Nov. 2002). Backfill for the repair area at a three inch depth is assumed (40 c.y.).

TABLE G2 - DETAILED COST SUMMARY FOR REMEDIAL ALTERNATIVE N3
EXCAVATION AND OFFSITE DISPOSAL
SURFACE AND NEAR-SURFACE SOIL REMEDIATION ZONE

Treatment System Equipment and Installation

Item No.	Description	Quantity	Unit	Unit Rate	Total Cost	Source
Equipment, Materials, and Subcontractors						
1	Geophysical Clearance	1	lump sum	$2,200.00	$2,200	Spectrum Geophysics
2	Concrete Demo, Haul, and Disposal	250	c.y.	$160.00	$40,000	Advance Industrial Recycling
3	Fence Demolition and Haul (445 linear feet)	1	lump sum	$2,144.00	$2,144	RS Means
4	Vegetative Stripping, Subgrade Prep., and Haul	481	cubic yard	$5.08	$2,443	RS Means
5	Excavation	2,900	cubic yard	$88.00	$255,200	Advance Industrial Recycling
6	Soil Disposal as Non-RCRA Hazardous (State Reg.)	1,885	cubic yard	$125.00	$235,625	Advance Industrial Recycling
7	Soil Disposal as RCRA Hazardous	1,885	cubic yard	$225.00	$424,125	Advance Industrial Recycling
8	Dust Control, light	10	day	$755.00	$7,550	RS Means
9	Post-Excav. Confirmation Sampling (1 per 25' x 25' grid)	37	sample suite	$562.00	$20,794	Calscience
10	Backfill - to replace same volume removed (+ topsoil)	3,000	cubic yard	$22.50	$67,500	TN&A - quote for similar work
11	Grading - spread from pile to finish grade	3,000	cubic yard	$4.33	$12,990	RS Means
12	Surveying Grade Checker	4	day	$500.00	$2,000	RS Means
13	Top Soil - deliver/spread (4-in. depth)	700	cubic yard	$22.50	$15,750	TN&A - quote for similar work
14	Grass Cover- via hydroseeding	43,727	sq. feet	$0.07	$3,061	RS Means
15	Heavy Equipment Mob/Demob	6	each	$250.00	$1,500	TN&A - quote for similar work
16	Handling Fees (3%)	1	lump sum	$32,786.47	$32,786	T N & Associates
17	Contingency (10%)	1	lump sum	$109,288.24	$109,288	RS Means
	Subtotal (Equipment, Materials, and Subs)				**$1,234,957**	
TN&A Labor						
18	Construction Management	360	hour	$85.00	$30,600	T N & Associates
19	Engineering, Design, and Inspection	200	hour	$100.00	$20,000	T N & Associates
20	Project Management	180	hour	$110.00	$19,800	T N & Associates
	Subtotal (TN&A Labor)				**$70,400**	
TOTAL TREATMENT SYSTEM EQUIPMENT, INSTALLATION, SUBS, AND LABOR:					**$1,305,357**	

Assumptions:

1. Refer to the conceptual design for Alternative N4 (Section 3.4.1.3) for additional design information and assumptions.
2. There will be no disposal costs for fencing since it can be sold to recycler or reused by the City of Maywood.
3. There will be no disposal costs for stripped vegetation, since it can be composted and reused by the City of Maywood.
4. Due to lead concentrations, the most likely disposal scenario is that 50% of the excavated soil would be disposed as RCRA Haz. Waste and 50% would be disposed as Non-RCRA Haz. Waste.
5. Hydroseeding was selected over sod for an estimated savings of approximately $35,000.
6. Annual O&M is not included with Alternative N4, since the obligation to maintain surface cover would be eliminated once the contaminants are removed from the site.