

# Bechtel

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CLEAN II Program  
Bechtel Job No. 22214  
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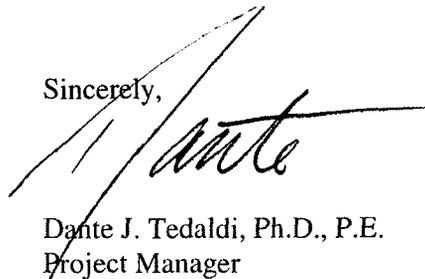
Subject: Revised Cost Estimates for the OU-3A Proposed Plan, Site 8 Unit 3 Alternatives 2 through 5, and Sites 11 and 12 Alternative 4  
Marine Corps Air Station, El Toro, California

Dear Mr. Selby:

It is our pleasure to submit this copy of Revised Cost Estimates for the OU-3A Proposed Plan, Site 8 Unit 3 Alternatives 2 through 5, and Sites 11 and 12 Alternative 4, Marine Corps Air Station, El Toro, California, prepared under Contract Task Order (CTO) 0161 and Contract No. N68711-92-D-4670. Based on the Technical Memorandum on Risk Management Considerations for OU-3A Sites 8, 11, and 12 at Marine Corps Air Station (MCAS) El Toro, the BCT approved reclassification of Units 1 and 4 of Site 8, from cleanup action to no further action. As a result of this decision, the original cost estimates prepared for the cleanup action at Site 8 Units 1 through 4 (which included cleanup action at Units 1, 3, and 4) presented in the "Draft Final Phase II Feasibility Study OU-3A Sites, MCAS El Toro" needed to be revised to include only cleanup at Unit 3. Because the cost estimates for Alternative 4 at Site 11 (Unit 1 and 2) and Site 12 (Unit 3) were calculated in conjunction with Site 8 Units 1, 3, and 4, the costs for Alternative 4 for these two sites needed to be revised along with the costs for all alternatives at Site 8.

The enclosed tables present revised cost estimates for inclusion in the "Proposed Plan for Cleanup at Three Shallow Soil Sites at MCAS El Toro". These cost estimates were developed in compliance with the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) and the Remedial Action Costing Procedures Manual (U.S. EPA 1987) using the Remedial Action Cost Engineering and Requirements (RACER) System, Version 3.2 (DR 1996) as were the original cost estimates presented in the Draft Final Phase II Feasibility Study OU-3A Sites, MCAS El Toro. We gratefully acknowledge the high level of cooperation and team work demonstrated by personnel from Southwest Division in preparation of this document. We appreciate the opportunity to be of service to you on this project. If you have any questions or would like further information, please contact me at (619) 744-3080 or the CTO Leader John Scholfield at (619) 744-3030.

Sincerely,



Dante J. Tedaldi, Ph.D., P.E.  
Project Manager

DJT/sp

Enclosures: Revised Cost Estimates for the OU-3A Proposed Plan, Site 8 Unit 3 Alternatives 2 through 5, and Sites 11 and 12 Alternative 4



**Bechtel National, Inc.** Systems Engineers-Constructors



**TABLE 4-3**

**Cost Estimate for Site 8, Unit 3, Alternative 3  
EXCAVATION & ON-STATION RECYCLING (Net Present Value)**

Description	COST
<b>DIRECT COSTS:</b>	
Clear and Grub	not required
Excavation of Buried Waste ( 362 bcy)	\$4,800
Load and Haul (to on-site, 452 lcy)	\$1,700
Excavation, Cut and Fill (backfill from on-site, 362 bcy/452 lcy)	\$2,100
Load and Haul (to on-site, 452 lcy)	\$1,700
Fencing	not required
Sampling and Analysis (5 soil samples)	\$10,400
Professional Labor (Project Oversight)	\$5,500
Remedial Design	\$1,800
<b>Total Direct Cost</b>	<b>\$28,000</b>
<b>INDIRECT COSTS:</b>	
Contractor's Indirect, Overhead, Profit	\$29,300
<b>Total Indirect Cost</b>	<b>\$29,300</b>
<b>OTHER COSTS:</b>	
Escalation (January, 1995 to mid point of construction)	\$6,900
Contingency (~20%)	\$12,800
<b>Total Other Costs</b>	<b>\$19,700</b>
<b>CAPITAL COST (as of January, 1999)</b>	<b>~2 mos.constr.</b>
	<b>\$77,000</b>
<b>O &amp; M COSTS ( Expressed in Present Worth Dollars ) :</b>	
Monitoring	not required
<b>Total O &amp; M Costs ( as of January, 1999 )</b>	<b>\$0</b>
<b>TOTAL PRESENT VALUE (as of January, 1999)</b>	<b>\$77,000</b>

**TABLE 4-4**

**Cost Estimate for Site 8, Unit 3, Alternative 4  
EXCAVATION, SOIL WASH & INCINERATION (Net Present Value)**

Description	COST
<b>DIRECT COSTS:</b>	
Excavation of Buried Waste (362 bcy)	\$4,800
Load and Haul (to on-site soil washing area, 452 lcy)	\$1,700
Soil Washing (452 lcy)	\$411,400
Load and Haul (from on-site soil washing area, 294 lcy)	\$1,500
Excavation, Cut and Fill(65%backfill fr.soil wash area, 235 bcy/294 lcy)	\$1,500
Excavation, Cut and Fill(35%backfill from on-site, 127 bcy/158 lcy)	\$800
On-Site Incineration (35% from soil wash area, 158 lcy prorated @ ~\$953/lcy)	\$150,800
Transportation (15% from incineration to landfill disposal, 24 lcy)	\$1,300
Landfill Disposal (Cl.1 @ ~\$64/cy, 24 cy/30 tn )	\$3,100
Sampling and Analysis (5 soil samples & 1 incineration sample)	\$12,700
Load & Haul (from on-site, 158 lcy)	\$800
Professional Labor (Project Oversight)	\$53,900
Remedial Design	\$16,300
<b>Total Direct Cost</b>	<b>\$660,600</b>
<b>INDIRECT COSTS:</b>	
Contractor's Indirect, Overhead, Profit	\$354,000
<b>Total Indirect Cost</b>	<b>\$354,000</b>
<b>OTHER COSTS:</b>	
Escalation (January, 1995 to mid point of construction)	\$124,700
Contingency (~20%)	\$227,900
<b>Total Other Costs</b>	<b>\$352,600</b>
<b>CAPITAL COST (as of January, 1999)</b>	<b>~3 mos.constr.</b>
	<b>\$1,367,200</b>
<b>O &amp; M COSTS ( Expressed in Present Worth Dollars ) :</b>	
Monitoring	not required
***Unit Cost for INCINERATION is based on total quantity of ~2,955 lcy and prorated between site 8, 11, and 12 at ~ \$953/lcy	
<b>Total O &amp; M Costs ( as of January, 1999 )</b>	<b>\$0</b>
<b>TOTAL PRESENT VALUE (as of January, 1999)</b>	<b>\$1,367,200</b>

**TABLE 4-5**

**Cost Estimate for Site 8, Unit 3, Alternative 5  
EXCAVATION, SOIL WASH & OFF-SITE DISPOSAL (Net Present Value)**

Description	COST
<b>DIRECT COSTS:</b>	
Excavation of Buried Waste (362 bcy)	\$4,800
Load and Haul (to on-site soil washing area, 452 lcy)	\$1,700
Soil Washing (452 lcy)	\$411,400
Load and Haul (from on-site soil washing area, 294 lcy)	\$1,500
Excavation, Cut and Fill(65%backfill fr.soil wash area, 235 bcy/294 lcy)	\$1,500
Excavation, Cut and Fill(35%backfill from on-site, 126 bcy/158 lcy)	\$800
Load and Haul (from on-site, 158 lcy)	\$800
Transportation (35% waste from soil wash to landfill disposal, 158 lcy)	\$6,300
Landfill Disposal (Cl.1 @ ~\$64/cy, 158 lcy)	\$16,400
Sampling and Analysis (5 soil samples)	\$13,600
Professional Labor (Project Oversight)	\$19,400
Remedial Design	\$12,400
<b>Total Direct Cost</b>	<b>\$490,600</b>
<b>INDIRECT COSTS:</b>	
Contractor's Indirect, Overhead, Profit	\$259,400
<b>Total Indirect Cost</b>	<b>\$259,400</b>
<b>OTHER COSTS:</b>	
Escalation (January, 1995 to mid point of construction)	\$93,100
Contingency (~20%)	\$168,600
<b>Total Other Costs</b>	<b>\$261,700</b>
<b>CAPITAL COST (as of January, 1999)</b>	<b>\$1,011,700</b>
<b>O &amp; M COSTS ( Expressed in Present Worth Dollars ) :</b>	
Monitoring	not required
<b>Total O &amp; M Costs ( as of January, 1999 )</b>	<b>\$0</b>
<b>TOTAL PRESENT VALUE (as of January, 1999)</b>	<b>\$1,011,700</b>

**TABLE 4-4**

**Cost Estimate for Site 11, Units 1&2, Alternative 4  
EXCAVATION, SOIL WASH & INCINERATION (Net Present Value)  
(Numbers have been adjusted for Remedial Design)**

Description	COST
<b>DIRECT COSTS:</b>	
Excavation of Buried Waste ( 237 bcy )	\$4,200
Load and Haul (to on-site soil washing area, 296 lcy)	\$1,500
Soil Washing (Allow. 296 lcy; performed w/Site 8)	\$15,400
Load and Haul (from on-site soil washing area, Allow. 192 lcy)	\$400
Excavation, Cut and Fill(65%backfill fr.soil wash area, 154bcy/192lcy)	\$500
Excavation, Cut and Fill(35%backfill from on-site, 83bcy/104lcy)	\$400
Load and Haul (from on-site soil washing area, Allow. 40 lcy)	\$200
On-Site Incineration (35% from soil wash area, 104 lcy); prorated 102 lcy @ ~\$	<b>\$97,200</b>
Transportation (15% from incineration to landfill disposal, 16 lcy)	\$700
Landfill Disposal (Cl.1 @ ~\$64/cy, 16 cy/20 tn )	\$1,800
Sampling and Analysis	\$5,500
Professional Labor (Project Oversight)	\$34,500
Remedial Design	Allow. \$3,000
<b>Total Direct Cost</b>	<b>\$165,300</b>
<b>INDIRECT COSTS:</b>	
Contractor's Indirect, Overhead, Profit	\$155,600
<b>Total Indirect Cost</b>	<b>\$155,600</b>
<b>OTHER COSTS:</b>	
Escalation (January, 1995 to mid point of construction)	\$37,600
Contingency (~20%)	\$71,700
<b>Total Other Costs</b>	<b>\$109,300</b>
<b>CAPITAL COST (as of January, 1999)</b>	<b>\$430,200</b> ~2 mos.constr.
<b>O &amp; M COSTS ( Expressed in Present Worth Dollars ) :</b>	
Monitoring	not required
<b>COSTS BASED ON WORK PERFORMED WITH SITE 8</b>	
<b>Total O &amp; M Costs ( as of January, 1999 )</b>	<b>\$0</b>
<b>TOTAL PRESENT VALUE (as of January, 1999)</b>	<b>ALLOW.--&gt; \$430,200</b>

**TABLE 4-4**

**Cost Estimate for Site 12, Unit 3, Alternative 4  
EXCAVATION, SOIL WASH & INCINERATION (Net Present Value)  
(Numbers have been adjusted for Remedial Design)**

Description	COST
<b>DIRECT COSTS:</b>	
Excavation of Buried Waste (423bcy & 5,762bcy)	\$52,500
Load and Haul (to on-site soil washing area, 528lcy & 7,202lcy)	\$15,600
Soil Washing (7,730 lcy)	\$589,500
Load and Haul (from on-site soil washing area, 343 lcy & 4,681 lcy)	\$10,600
Excavation, Cut and Fill(65%backfill fr.soil wash area, 274bcy/3,745bcy)	\$12,800
Excavation, Cut and Fill(35%backfill from on-site, 149bcy & 2,017bcy)	\$11,300
Load and Haul (from on-site soil washing area, 186 lcy & 2,521 lcy)	\$9,900
Capping (upper ditch ~381lf/~0.07 acres & lower ditch ~846lf/~0.37 acres)	\$71,700
Storm Sewer (upper ditch, 381lf & lower ditch, 846lf)	\$27,200
On-Site Incineration (35% from soil wash area, 2,706 lcy); prorated 2,695 lcy @	\$2,568,300
Transportation (15% from incineration to landfill disposal, 406 lcy)	\$14,800
Landfill Disposal (Cl.1 @ ~\$64/cy, 406 cy/508 tn )	\$42,200
Sampling and Analysis	\$108,500
Professional Labor (Project Oversight)	\$131,600
Remedial Design	\$100,800
<b>Total Direct Cost</b>	<b>\$3,767,300</b>
<b>INDIRECT COSTS:</b>	
Contractor's Indirect, Overhead, Profit	\$1,439,600
<b>Total Indirect Cost</b>	<b>\$1,439,600</b>
<b>OTHER COSTS:</b>	
Escalation (January, 1995 to mid point of construction)	\$676,600
Contingency (~20%)	\$1,176,700
<b>Total Other Costs</b>	<b>\$1,853,300</b>
<b>CAPITAL COST (as of January, 1999)</b>	<b>\$7,060,200</b>
~6 mos.constr.	
<b>O &amp; M COSTS ( Expressed in Present Worth Dollars ) :</b>	
Monitoring	not required
Capping for 30 years	\$15,100
<b>Total O &amp; M Costs ( as of January, 1999 )</b>	<b>\$15,100</b>
<b>TOTAL PRESENT VALUE (as of January, 1999)</b>	<b>\$7,075,300</b>



BECHTEL NATIONAL INC.

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1220 Pacific Highway
San Diego, CA. 92132-5190

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CTO #: 0161
LOCATION: MCAS El Toro

FROM: [Signature]
Program/Project Manager

Operations Manager

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