

FOR REFERENCE  
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FROM THIS ROOM

MLM-MU-91-72-0007

**PART III: SUPPLEMENTAL INFORMATION**

**CONCEPTUAL DESIGN REPORT  
FOR THE  
FACILITIES CAPABILITY ASSURANCE PROGRAM  
ROADS AND PARKING LOT REPLACEMENTS  
FY 1994 LINE ITEM**

**JANUARY 6, 1992**

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 **EG&G MOUND APPLIED TECHNOLOGIES**

P.O. BOX 3000 MIAMISBURG, OHIO 45343-3000 513-865-4020

operated for the **UNITED STATES DEPARTMENT OF ENERGY**  
Contract No. DE-AC04-88-DP43495



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**MASTER**

 **EG&G MOUND APPLIED TECHNOLOGIES**

P.O. BOX 3000 MIAMISBURG, OHIO 45343-3000 • TEL (513)865-4020

January 06, 1992

Mr. James A. Morley, Area Manager  
U. S. Department of Energy  
Dayton Area Office  
P. O. Box 66  
Miamisburg, Ohio 45343

Dear Mr. Morley:

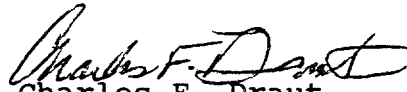
**FY 1994 Budget Submission  
Conceptual Design Report  
Facilities Capability Assurance Program (FCAP):  
Roads and Parking Lot Replacements  
EG&G Mound, Miamisburg, Ohio**

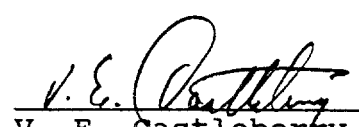
Attached are eighteen (18) copies (fifteen required AL copies plus three DAO copies) of the subject Conceptual Design Report for your information and further action.

This line item was last submitted in November, 1989 as a FY 1992 Line Item. In a memorandum, dated November 27, 1990, from J. M. Barr, Rear Admiral, U. S. Navy, Deputy Assistant Secretary for Military Applications, Defense Programs on the subject of Capital Asset Management Process (CAMP)/Reconfiguration Projects, Mound was informed that this line item was not accommodated in the FY 1992/FY 1993 OMB Budget. Thus Mound is resubmitting this required project as a FY 1994 line item.

The TEC for this FCAP line item remains at \$2,200,000 because the escalation factors decreased and thus off-set the two years delay in the line item.

Yours very truly,

  
Charles F. Draut,  
Project Management and  
Planning Manager

Approved:   
V. E. Castleberry  
Director, Engineering

Attachment  
CFD:nac

xc: J. A. Morley, DAO (2)

roadscpds\_104b

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## PART III - SUPPLEMENTAL INFORMATION

### SUPPORTING APPENDICES

1. PRELIMINARY COST ESTIMATE
2. CONTINGENCY ANALYSIS  
Engineering Design and Inspection  
Construction Activities

### **DISCLAIMER**

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APPENDIX 1

PRELIMINARY COST ESTIMATE

PROJECT SUMMARY

DATE: DECEMBER 16, 1991

PROJECT NAME: ROADS & PARKINGS LOTS

PROJECT MANAGER: ALAN SPESARD

TYPE OF ESTIMATE: CDR

NOTE:

A. ENG., DESIGN, & INSPECTION	TITLE I	TITLE II	TITLE III	
1. A/E		105,000	75,000	180,000
2. MOUND		15,000		15,000

B. CONSTRUCTION COST				1,444,000
1. ROADS	1,261,000			
2. CONST & PROJ MGMT	183,000			

C. ESCALATION				
A. ED&I	31,000	1.9%	10/95	
B. Construction	311,000	18.9%	5/96	
TOTAL ESCALATION	342,000	20.8%		342,000

D. SUBTOTAL OF ESTIMATED COST				\$1,981,000
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E. CONTINGENCY	12.20%			241,000
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F. T.E.C.				\$2,222,000
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ROUNDED T.E.C.				\$2,200,000
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PROJECT SUMMARY SHEET  
ROADS & PARKING LOTS

(\$ in thousands)

A. ED&I	TITLE I	TITLE II	TITLE III	TOTAL
1. A/E	IN III	IN III	210	210
2. MOUND	IN II	16	IN ABOVE	16
B. CONSTRUCTION COST				1755
1. ROADS			1533	
2. MANAGEMENT			222	
C. CONTINGENCY @ 12.2%				<u>241</u>
			TOTAL	\$ 2,222
			ROUNDED TOTAL	\$ 2,200 =====

12/16/91

ROADS & PARKING LOTS

CONTINGENCY SUMMARY  
(\$ in thousands)

ELEMENT OF COST	ESCALATED \$	CONTINGENCY %	TOTAL \$
A. Engineering, Design & Inspection			
1. A/E	210	7.5%	16
2. MOUND	16	7.5%	1
B. Construction			
a. ROADS	1533	12.8%	196
b. MANAGEMENT	222	12.8%	28
C. CONTINGENCY @ 12.2%	1981		241

12/16/91

## ROADS &amp; PARKING LOTS

## ESCALATION

(\$ in thousands)

ELEMENT OF COST	ESTIMATED \$	FY YEAR	%	ESCALATED \$
A. ED & I				
1. A/E				
a. TITLE I				
b. TITLE II	105	94/MAR.	1.132	119
c. TITLE III	75	95/OCT.	1.212	91
2. Mound				
a. TITLE I				
b. TITLE II	15	94/MAR.	1.075	16
c. TITLE III				
B. CONSTRUCTION				
a. GEN & MOB.	83	95/OCT.	1.213	101
b. ITEM H	346	96/MAY	1.248	432
c. ITEM G	97	95/AUG.	1.203	117
d. ITEM F	30	94/NOV.	1.162	35
e. ITEM E	32	94/NOV.	1.162	37
f. ITEM D	96	94/NOV.	1.162	112
g. ITEM C	113	96/MAY	1.248	141
h. ITEM B	53	95/AUG.	1.203	64
i. ITEM A	411	95/AUG.	1.203	494
j. SUBTOTAL	1261			1533
MANAGEMENT	183	95/OCT.	1.212	222

ESCA  
12/16/91

ROADS AND PARKING LOT REPLACEMENTS

DETAILED ED&I COSTS

ELEMENT OF COSTS	MANMONTHS	@\$/MONTH	COSTS	TOTAL
TITLE I				
Structual/Civil Engineer	1	6100	6100	
Estimating	.1	6100	600	
Drafting/Etc.	.2	6100	1200	
Total Mound Costs			7900	
TITLE II				
Structual/Civil Engineer	1	6100	6100	
Estimating	.1	6100	600	
Drafting/Etc	.1	6100	600	
Total Mound Costs			7300	
TITLE III				
Use A/E's estimate				

12/10/91  
9214edi

EG&G MOUND APPLIED TECHNOLOGIES  
FACILITIES CAPABILITY ASSURANCE PROGRAM  
ROADS AND PARKING LOTS

ENGINEERING COST ESTIMATE

DIRECT COST

<u>Position</u>	<u>Rate</u>	<u>Hours</u>	<u>Amount</u>
Principal	\$27.00	250	\$ 6,750.00
Project Engineer	20.00	600	12,000.00
Technician	12.00	400	4,800.00
Drafter	10.00	400	4,000.00
Survey Crew	25.00	400	10,000.00
Clerical	8.00	160	1,280.00
		TOTAL LABOR	\$ 38,830.00

INDIRECT LABOR

Employee Fringes and General and Administrative (134.59%) (38,830.00)	\$ 52,261.30	
Fixed Fee	\$ 13,658.70	
	TOTAL ENGINEERING	\$104,750.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS

CONSTRUCTION INSPECTION

DIRECT COST

<u>Position</u>	<u>Rate</u>	<u>Hours</u>	<u>Amount</u>
Principal	\$27.00	50	\$ 1,350.00
Project Engineer	20.00	150	3,000.00
Inspector	12.00	1672	20,064.00
Clerical	8.00	160	1,280.00
		TOTAL LABOR	\$ 25,694.00

INDIRECT LABOR

Employee Fringes and General and Administrative (134.59%) (25,694.00)			\$ 34,581.55
Misc.			
Travel and Lodging			\$ 10,000.00
Fixed Fee			\$ 4,724.45
		TOTAL CONSTRUCTION INSPECTION	\$ 75,000.00

EG&G MOUND APPLIED TECHNOLOGIES  
FACILITIES CAPABILITY ASSURANCE PROGRAM  
ROADS AND PARKING LOTS

PROJECT MANAGEMENT COST ESTIMATE

DIRECT COST

<u>POSITION</u>	<u>RATE</u>	<u>HOURS</u>	<u>AMOUNT</u>
Project Manager	\$ 22.00	1880	\$ 41,360.00
Construction Manager	22.00	3320	<u>73,040.00</u>
		Total Labor	114,400.00

INDIRECT COST

Overhead @ 60%			<u>68,640.00</u>
		Total Labor + OH	183,040.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

SUMMARY

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Pavement Removed	13,074 cu.yd.	\$ 4.00	\$ 52,296.00
202	Scarify Asphalt	13,617 sq.yd.	2.00	27,234.00
202	Joint Repair	4,768 ln.ft.	25.00	119,200.00
202	Subgrade Compaction	12,996 sq.yd.	1.00	12,996.00
202	Guard Rail Removed	650 ln.ft.	5.00	3,250.00
202	Fence Removed	400 ln.ft.	5.00	2,000.00
203	Remove Truck Scales	1 ea.	Lump Sum	7,500.00
304	Aggregate Base	342 cu.yd.	30.00	10,260.00
305	Portland Cement Concrete Base	11,808 cu.yd.	25.00	295,200.00
310	Aggregate Base	2,006 cu.yd.	30.00	60,180.00
402	Asphalt Intermediate Course	552 cu.yd.	85.00	46,920.00
404	Asphalt Wearing Course	1,124 cu.yd.	100.00	112,400.00
407	Tack Coat w/Cover Aggregate	3,376 gal.	4.00	13,504.00
408	Prime Coat	510 gal.	2.00	1,020.00
517	Bridge Rail	120 ln.ft.	83.00	9,960.00
603	12" Reinforced Concrete Pipe	5,100 ln.ft.	20.00	102,000.00
604	Type "A" Manhole	1 ea.	1500.00	1,500.00
604	Type 3A Catch Basin	65 ea.	1000.00	65,000.00
604	Storm Inlet	1 ea.	685.00	685.00
604	Adjust Inlet to Grade	1 ea.	200.00	200.00
606	Type 5 Guardrail	650 ln.ft.	10.00	6,500.00
607	Chain Link Fence	400 ln.ft.	15.00	6,000.00
608	5' Sidewalk	18,750 sq.ft.	2.00	37,500.00
609	6" Concrete Barrier Curb	14,820 ft.	12.00	177,840.00
614	Traffic Maintenance	1 ea.	Lump Sum	10,000.00
619	Field Office	1 ea.	Lump Sum	6,000.00
621	Pavement Marking	1 ea.	Lump Sum	5,000.00
624	Mobilization	1 ea.	Lump Sum	10,000.00
Special	6" Trench Drain	50 ln.ft.	55.00	2,750.00
Special	6" Slotted Drain	60 ln.ft.	55.00	3,300.00
Special	Dump Fee	1 ea.	Lump Sum	50,000.00
Special	Signs	1 ea.	Lump Sum	2,000.00

TOTAL CONSTRUCTION COST \$1,260,195.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

ITEM A - Roadway from Guard Post #5 to WD Building

SKETCH #2 (REMOVE & REPLACE ASPHALT OVER CONCRETE)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
404	Asphalt Wearing Course	300 cu.yd.	\$ 100.00	\$ 30,000.00
407	Tack Coat w/Cover Aggregate	1413 gal.	4.00	5,652.00
402	Asphalt Intermediate Course	297 cu.yd.	85.00	25,245.00
305	Portland Cement Concrete Base	7064 cu.yd.	25.00	176,600.00
310	Aggregate Base	1200 cu.yd.	30.00	36,000.00
202	Pavement Removed	7064 cu.yd.	4.00	28,256.00
202	Subgrade Compaction	7064 sq.yd.	1.00	7,064.00
608	5' Sidewalk	8025 sq.ft.	2.00	16,050.00
609	6" Concrete Barrier Curb	3687 ft.	12.00	44,244.00
604	Type 3A Catch Basin	14 ea.	1000.00	14,000.00
604	Adjust Inlet to Grade	1 ea.	200.00	200.00
603	12" Reinforced Concrete Pipe	1400 ln.ft.	20.00	28,000.00
			<b>TOTAL</b>	<b>\$411,311.00</b>

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

ITEM B - Roadway to Building #45 and #46

SKETCH #3 (REMOVE & REPLACE ASPHALT)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
404	Asphalt Wearing Course	50 cu.yd.	\$ 100.00	\$ 5,000.00
407	Tack Coat w/Cover Aggregate	119 gal.	4.00	476.00
402	Asphalt Intermediate Course	50 cu.yd.	85.00	4,250.00
408	Prime Coat	475 gal.	2.00	950.00
304	Aggregate Base	321 cu.yd.	30.00	9,630.00
202	Pavement Removed	1188 sq.yd.	4.00	4,752.00
202	Subgrade Compaction	1188 sq.yd.	1.00	1,188.00
604	Type 3A Curb Inlet	1 ea.	1000.00	1,000.00
609	6" Concrete Barrier Curb	681 ln.ft.	12.00	8,172.00
517	120 ft. Bridge Rail	120 ln.ft.	83.00	9,960.00
607	Chain Link Fence	400 ln.ft.	15.00	6,000.00
202	Fence Removed	400 ln.ft.	5.00	2,000.00
TOTAL				\$ 53,378.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Cost Estimate)

SKETCH #4 (SCARIFY, REPAIR JOINTS, ASPHALT OVERLAY)

ITEM C - Roadway from Guard Post #1 to A Building

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Scarify Asphalt	4196 sq.yd.	\$ 2.00	\$ 8,392.00
202	Joint Repair	1500 ln.ft.	25.00	37,500.00
404	Asphalt Wearing Course	176 cu.yd.	100.00	17,600.00
407	Tack Coat w/Cover Aggregate	420 gal.	4.00	1,680.00
604	Type 3A Catch Basin	3 ea.	1000.00	3,000.00
609	6" Concrete Barrier Curb	2130 ft.	12.00	25,560.00
608	5' Sidewalk	2700 sq.ft.	2.00	5,400.00
603	12" Reinforced Concrete Pipe	300 ln.ft.	20.00	6,000.00
203	Remove Truck Scales	1 ea.	Lump Sums	7,500.00
TOTAL				\$112,632.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

SKETCH #5 (SCARIFY, REPAIR JOINTS, ASPHALT OVERLAY)

ITEM D - Roadway from W Building to M Building

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Scarify Asphalt	3900 sq.yd.	\$ 2.00	\$ 7,800.00
202	Joint Repair	1404 ln.ft.	25.00	35,100.00
404	Asphalt Wearing Course	163 sq.yd.	100.86	16,300.00
407	Tack Coat w/Cover Aggregate	390 gal.	4.00	1,560.00
604	Type 3A Catch Basin	6 ea.	1000.00	6,000.00
609	6" Concrete Barrier Curb	1412 ft.	12.00	16,944.00
603	12" Reinforced Concrete Pipe	600 ln.ft.	20.00	12,000.00
TOTAL				\$ 95,704.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

ITEM E - Roadway between M Building and C Building  
 SKETCH #6 (SCARIFY, REPAIR JOINTS, ASPHALT OVERLAY)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Scarify Asphalt	1121 sq.yd.	\$ 2.00	\$ 2,242.00
202	Joint Repair	279 ln.ft.	25.00	6,975.00
404	Asphalt Wearing Course	47 cu.yd.	100.00	4,700.00
604	Type 3A Catch Basin	4 ea.	1000.00	4,000.00
609	6" Concrete Barrier Curb	430 ft.	12.00	5,160.00
603	12" Reinforced Concrete Pipe	400 ln.ft.	20.00	8,000.00
407	Tack Coat w/Cover Aggregate	112 gal.	4.00	448.00
			TOTAL	\$ 31,525.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

ITEM F - Roadway between Water Tower and Cooling Tower  
 SKETCH #7 (SCARIFY REPAIR JOINTS, ASPHALT OVERLAY)

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Scarify Asphalt	1023 sq.yd.	\$ 2.00	\$ 2,046.00
202	Joint Repair	370 ln.ft.	25.00	9,250.00
404	Asphalt Wearing Course	43 cu.yd.	100.00	4,300.00
407	Tack Coat w/Cover Aggregate	102 gal.	4.00	408.00
604	Storm Inlet	1 ea.	685.00	685.00
609	6" Concrete Barrier Curb	700 ft.	12.00	8,400.00
Special	12" Slotted Drain	60 ln.ft.	55.00	3,300.00
603	12" Reinforced Concrete Pipe	100 ln.ft.	20.00	2,000.00
			<b>TOTAL</b>	<b>\$ 30,389.00</b>

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

SKETCH #8 (SCARIFY, REPAIR JOINTS, ASPHALT OVERLAY)

ITEM G - Roadway from M Building to OSW Building

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
202	Scarify Asphalt	3377 sq.yd.	\$ 2.00	\$ 6,754.00
202	Joint Repair	1215 ln.ft.	25.00	30,375.00
404	Asphalt Wearing Course	145 cu.yd.	100.00	14,500.00
407	Tack Coat w/Cover Aggregate	346 gal.	4.00	1,384.00
609	6" Concrete Barrier Curb	2220 ft.	12.00	26,640.00
604	Type 3A Catch Basin	14 ea.	1000.00	14,000.00
604	Type A Manhole	1 ea.	1500.00	1,500.00
402	Asphalt Intermediate Course	5 cu.yd.	85.00	425.00
408	Prime Coat	35 gal.	2.00	70.00
304	Aggregate Base	21 cu.yd.	30.00	630.00
202	Pavement Removed	78 cu.yd.	4.00	312.00
TOTAL				\$ 96,590.00

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

SKETCH #9 (REMOVE & REPLACE ASPHALT OVER CONCRETE)

ITEM H - Roadway from OSW Building to COS Building

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>Cost/Unit</u>	<u>Amount</u>
404	Asphalt Wearing Course	200 cu.yd.	\$ 100.00	\$ 20,000.00
407	Tack Coat w/Cover Aggregate	474 gal.	4.00	1,896.00
402	Asphalt Intermediate Course	200 cu.yd.	85.00	17,000.00
305	Portland Cement Concrete Base	4744 sq.yd.	25.00	118,600.00
310	Aggregate Base	806 cu.yd.	30.00	24,180.00
202	Pavement Removed	4744 sq.yd.	4.00	18,976.00
609	6" Concrete Barrier Curb	3560 ft.	12.00	42,720.00
604	Type 3A Catch Basin	23 ea.	1000.00	23,000.00
606	Type 5 Guardrail	650 ln.ft.	10.00	6,500.00
608	5' Sidewalk	8025 sq.ft.	2.00	16,050.00
Special	6" Trench Drain	50 ln.ft.	55.00	2,750.00
202	Subgrade Compaction	4744 sq.yd.	1.00	4,744.00
603	12" Reinforced Concrete Pipe	2300 ln.ft.	20.00	46,000.00
202	Guard Rail Removed	650 ln.ft.	5.00	3,250.00
<b>TOTAL</b>				<b>\$345,666.00</b>

EG&G MOUND APPLIED TECHNOLOGIES  
 FACILITIES CAPABILITY ASSURANCE PROGRAM  
 ROADS AND PARKING LOTS  
 (Preliminary Construction Cost Estimate)

GENERAL AND MOBILIZATION

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>COST/UNIT</u>	<u>AMOUNT</u>
614	Traffic Maintenance	1 ea.	Lump Sum	\$ 10,000.00
619	Field Office	1 ea.	Lump Sum	6,000.00
621	Pavement Marking	1 ea.	Lump Sum	5,000.00
624	Mobilization	1 ea.	Lump Sum	10,000.00
Special	Dump Fee	1 ea.	Lump Sum	50,000.00
Special	Signs	1 ea.	Lump Sum	2,000.00
			Total	\$ 83,000.00

DEPARTMENTAL PRICE CHANGE INDEX

FY 1993 GUIDANCE

ANTICIPATED ECONOMIC ESCALATION RATES

DOE CONSTRUCTION PROJECTS

FISCAL YEAR	ENERGY RESEARCH AND NUCLEAR		FOSSIL		CONSERVATION/SOLAR		DEFENSE PROGRAMS, EP & GENERAL CONSTRUCTION	
	INDEX	%CHANGE	INDEX	% CHANGE	INDEX	% CHANGE	INDEX	%CHANGE
1991	1.000	NA	1.000	NA	1.000	NA	1.000	NA
1992	1.025	2.5	1.022	2.2	1.023	2.3	1.023	2.3
1993	1.065	3.9	1.064	4.1	1.062	3.8	1.061	3.7
1994	1.115	4.7	1.115	4.8	1.111	4.6	1.106	4.2
1995	1.168	4.8	1.168	4.7	1.164	4.7	1.157	4.6
1996	1.225	4.9	1.225	4.9	1.220	4.8	1.211	4.7
1997	1.286	4.9	1.286	4.9	1.280	4.9	1.267	4.6

Based on the materials and labor data contained in the Energy Supply Planning Model and appropriate escalation rates forecasted by Data Resources, Incorporated, it would be expected that DOE projects conform to those rates shown above. DOE Order 5700.3C requires that any local rates different from those above be submitted to the ICE Office for approval, prior to their use. Additional advice and assistance can be obtained from the Office of Procurement, Assistance and Program Management, Program/Project Management Division (FTS 896-1190).

APPENDIX 2

CONTINGENCY ANALYSIS

CONTINGENCY ANALYSIS FOR CONSTRUCTION ESTIMATES

Proj. Title ROADS & PARKING LOTS

Page 1 of 2

Total Est Cost  
without cont'y  
Ref. File No.

Date Prep'd: DEC. 16, 1

Type of Estimate: Item:	Relative Weight 0 to 10	Probab'ty Score 1 to 10	Weighted Score
	A	B	AxB
	0=not app 10 =impor	1=low risk 2=hi risk	
Engineering Design & Inspection			
Design Completeness	2	3	6
Site Selection/Conditions	2	2	4
Design Complexity	6	4	24
Specification Complexity	2	1	2
Design Schedule	5	3	15
Life Safety/Security	5	3	15
Construction			
Types of Construction			0
Construction Complexity			0
Design Completeness			0
Market Conditions			0
Method of Accomplishment			0
Special Facilities/Equipment			
Requester's Specs.			0
Maturity of Technology			0
Design Completeness			0
Method of Accomplishment			0
Standard Equipment			
Specification Completeness			0
Quantity Accuracy			0
Price Accuracy			0
Method of Accomplishment			0
Project Management			
Complexity			0
Schedule			0
Quality Assurance/Control			0
Totals	22	-	66

Total Possible Score = Total  
Relative Wt. x

10

220

Score Ratio = Tot. Weighted Score/Total Possible Score = D/C = 0.30

Normal Maximum Contingency place "x" beside appropriate %

Planning/Feasibility	30.0%	
Budget Conceptual	25.0%	x
Title I	20.0%	
Title II	15.0%	
Above Low Bid Portion	10.0%	

Base Contingency = Score Ratio

0.30

x Normal Max.  
Contingency

( x% =

25.0% )

7.5%

=====

CONTINGENCY ANALYSIS FOR CONSTRUCTION ESTIMATES

Proj. Title

Page 2 of 2

Date Prep'd:

BASE CONTINGENCY FOR ESTIMATE (from page 1 of 2)

7.5%

TYPES OF CONSTRUCTION

- o Quality Assurance Level I, II or III add 0 TO 10%  
(underline level above)
- o Underground lines not clearly defined, add 2 to 5%
- o Contaminated Area (describe), add 5 to 10%
- o Other Special Requirements (explain). add
- o Design Uncertainty (explain), add

o Total Project Contingency

=====  
7.5%

Scored by: Cost Engineer *Margaret Amos* Date *12/17/91*  
 Project Engineer *S. Alan Bryant* Date *12/17/91*  
 Reviewed by: Project Manag't *Charles F. Dunt* Date *12/17/91*  
 (Supervisory)  
 Approved by: Cost Engineering *Steve C. Brady* Date *12/17/91*  
 (Supervisory)

Notes:

CONTINGENCY ANALYSIS FOR CONSTRUCTION ESTIMATES

Proj. Title ROADS & PARKING LOTS

Total Est Cost  
without cont'y  
Ref. File No.

Date Prep'd: DEC. 16, 1

Type of Estimate: Item: CONSTRUCTION	Relative Weight 0 to 10	Probab'ty Score 1 to 10	Weighted Score
	A	B	AxB
	0=not app 10 =impor	1=low risk 2=hi risk	
Engineering Design & Inspection			
Design Completeness			0
Site Selection/Conditions			0
Design Complexity			0
Specification Complexity			0
Design Schedule			0
Life Safety/Security			0
Construction			
Types of Construction	4	2	8
Construction Complexity	3	1	3
Design Completeness	6	5	30
Market Conditions			0
Method of Accomplishment	7	3	21
Special Facilities/Equipment			
Requester's Specs.			0
Maturity of Technology			0
Design Completeness			0
Method of Accomplishment			0
Standard Equipment			
Specification Completeness			0
Quantity Accuracy			0
Price Accuracy			0
Method of Accomplishment			0
Project Management			
Complexity			0
Schedule			0
Quality Assurance/Control			0
Totals	20	-	62

Total Possible Score = Total  
Relative Wt. x 10

200

Score Ratio = Tot. Weighted Score/Total Possible Score = D/C = 0.31

Normal Maximum Contingency	place "x" beside appropriate %
Planning/Feasibility	30.0%
Budget Conceptual	25.0% X
Title I	20.0%
Title II	15.0%
Above Low Bid Portion	10.0%
Base Contingency = Score Ratio	
0.31 x Normal Max. Contingency	( x% = 25.0% ) 7.8%

## CONTINGENCY ANALYSIS FOR CONSTRUCTION ESTIMATES

Proj. Title ROADS &amp; PARKING LOTS

Page 2 of 2

Date Prep'd: DEC. 16, 1

BASE CONTINGENCY FOR ESTIMATE (from page 1 of 2) 7.8%

## TYPES OF CONSTRUCTION

- o Quality Assurance Level I, II or III add 0 TO 10%  
(underline level above)
- o Underground lines not clearly defined, add 2 to 5%
- o Contaminated Area (describe), add 5 to 10% 2.0%
- o Other Special Requirements (explain). add
- o Design Uncertainty (explain), add 3.0%
- o Total Project Contingency ===== 12.8%

Scored by: Cost Engineer *Sherid Ginos* Date 12/17/91Project Engineer *S. Allen Spear* Date 12/17/91Reviewed by: Project Manag't. *Charles F. Dault* Date 12/17/91  
(Supervisory)Approved by: Cost Engineering *Joe C. Brady* Date 12/17/91  
(Supervisory)

## Notes:

1. WHILE THE PROJECT DOES NOT ANTICIPATE FINDING CONTAMINATION DURING CONSTRUCTION, THE POTENTIAL EXISTS TO UNCOVER AREAS OF CONTAMINATION. IF ENCOUNTER, RUBBLE AND EXCAVATION MATERIALS WILL HAVE TO BE BOXED & SH OFF SITE FOR DISPOSAL.

2. BASED ON PAST REPAIRS MADE TO THE ORIGINAL ROAD AREAS, THERE IS A HIGH PROBABILITY THAT THE AREAS OF DETERIORATED CONCRETE WILL BE MORE THAN JUST THE JOINTS TO BE REMOVED AND REPAIRED.