

W. E. GILBERT & ASSOCIATES, INC.

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JOB CAMP LEJEUNE, N.C.

SHEET NO. 1A OF 23

CALCULATED BY PLG/SLW DATE 6-1-84

CHECKED BY _____ DATE _____

SCALE _____

BUILDING NUMBER A-1 AMPHIBIAN AREA (COURTHOUSE BAY)

FUNCTION OFFICE AREA

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 388 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 2451 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 388 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 151 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 39 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 3222 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 39 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 199 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. 4 TONS TOTAL

DESCRIPTION OF CONVERSION:

CONVERT FROM 4 WINDOW UNITS TO CENTRAL SYSTEM.

$$S = .38 \text{ KW/TON} \times 4 \text{ TONS} \times 1100 \text{ EQ FL. HRS} \times 11600 \text{ BTU/KWH}$$

$$S = 19.40 \text{ MBTU/YR}$$

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM. _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

BUILDING NUMBER A-1 Amphibian Area (Courthouse Bay)

FUNCTION Office Area

HEATING SOURCE Fuel Oil No. 2 (CEP # N/A)

COOLING SOURCE Window Units (4) #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 2,294

Roof 2,294

Walls - (Less Windows)

Glass -

N. 116 Sq. Ft. N. 144 Sq. Ft.

E. Partition Sq. Ft. E. Partition Sq. Ft.

S. 116 Sq. Ft. S. 144 Sq. Ft.

W. 723 Sq. Ft. W. 837 Sq. Ft.

Window Perimeter - 388 Lin. Ft.

Door Perimeter - 39 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type N/A

Wall Type E

Window Type A

Ceiling Type A

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2294 SF)	\$ 1949.90
B. SIOH	\$ 194.99
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1930.40
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1930.40

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	14.59	\$ 36.47	15.23	\$ 555.44
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	32.49	\$ 138.42	22.19	\$ 3071.54
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		47.08	\$ 174.89		----->\$ 3626.98

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 45.86		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 534.27		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 534.27		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1196.9
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 220.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 4161.25
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.16
7. E/C RATIO (2F2/(1F/1000))=	24.39 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (955 SF)	\$ 2473.45
B. SIOH	\$ 247.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2448.72
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2448.72

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	10.21	\$ 25.53	15.23	\$ 388.82
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	20.96	\$ 89.3	22.19	\$ 1981.57
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		31.17	\$ 114.83		----->\$ 2370.39

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 32.10
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 373.96

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 373.96

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 782.23
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 146.93
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2744.35
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.12
7. E/C RATIO (2F2/(1F/1000))=	12.73 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1125 SF)	\$ 5478.75
B. SIOH	\$ 547.88
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 5423.97
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5423.97

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	27.06	\$ 67.66001	15.23	\$ 1030.46
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	55.35	\$ 235.77	22.19	\$ 5231.74
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		82.41	\$ 303.43		----->\$ 6262.20

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65		\$ + 85.07
(2) DISCOUNTED SAVING/COST (3A X 3A1)			\$ 991.07

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 991.07

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 2066.53
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 388.5
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 7253.27
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.34
7. E/C RATIO (2F2/(1F/1000))=	15.19 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 411.28
B. SIOH	\$ 41.13
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 407.17
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 407.17

2. ENERGY SAVINGS (+)/COST (-) @

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.28	\$.71	15.23	\$ 10.81
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.43	\$ 18.86	22.19	\$ 418.5
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		4.71	\$ 19.57		----->\$ 429.31

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.90
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 10.49
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 10.49

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 141.67
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 20.47
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 439.8
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.08
7. E/C RATIO (2F2/(1F/1000))=	11.57 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 82.68
B. SIOH	\$ 8.27
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 81.85
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 81.85

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.38	\$.94	15.23	\$ 14.32
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.82	\$ 24.8	22.19	\$ 550.31
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.200001	\$ 25.74		----->\$ 564.63

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.18
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 13.75

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 13.75

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 186.33
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 26.92
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 578.38
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.07
7. E/C RATIO (2F2/(1F/1000))= 75.75 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008
PROJECT TITLE: H V A C MODIFICATIONS BUILDING A-1 (OFFICE) FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM
ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 7520.00
B. SIOH	\$ 752.00
C. DESIGN COST	\$ 752.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8121.60
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 956.00
F. TOTAL INVESTMENT (1D-1E)	\$ 7165.60

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	19.4	\$ 41.9	11.48	\$ 481.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		19.4	\$ 41.9		----->\$ 481.01

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 42.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)382.56

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)956.00	Yr. 10	.51	\$ (+)487.56
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)956.00			\$ (+)487.56

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 870.14

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 158.73
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$

5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=

7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING A-1 (OFFICE AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (2294 SF)	\$ 206.46
B. SIOH	\$ 20.65
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 204.40
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 204.40

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	9.45	\$ 40.25	14.08	\$ 566.72
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		9.45	\$ 40.25		----->\$ 566.72

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

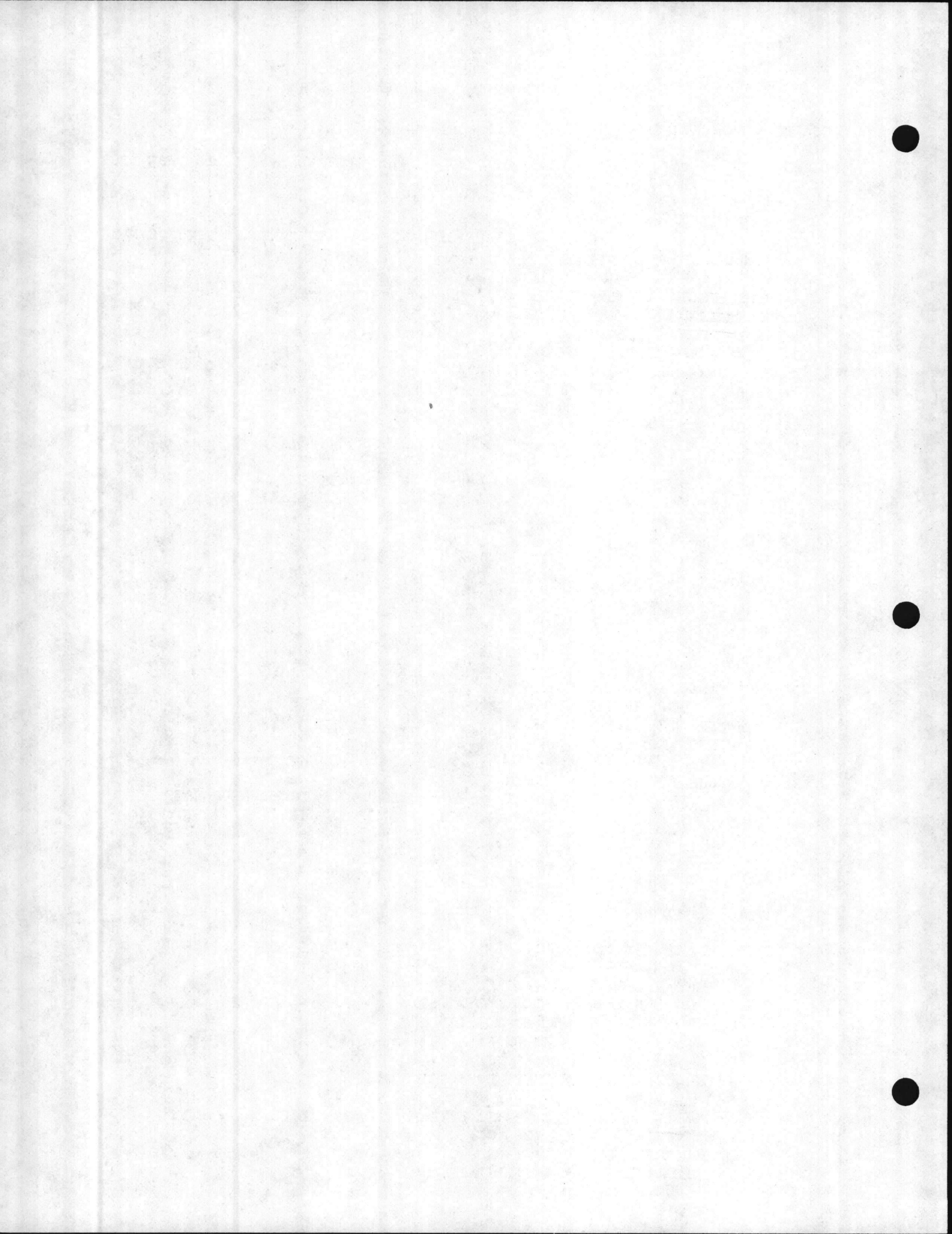
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 187.02
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 40.25
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 566.72
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.77
- 7. E/C RATIO (2F2/(1F/1000))= 46.23 MBTU/K\$



BUILDING NUMBER A-1 Amphibian Area (Courthouse Bay)

FUNCTION Shop Area

HEATING SOURCE Fuel Oil No. 2 (CEP # N/A)

COOLING SOURCE None

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 11,011

Roof 13,305

Walls - (Less Windows)

Glass -

N. 1,081 Sq. Ft. N. 376 Sq. Ft.

E. 2,516 Sq. Ft. E. 1,509 Sq. Ft.

S. 1,035 Sq. Ft. S. 422 Sq. Ft.

W. 1,490 Sq. Ft. W. 975 Sq. Ft.

Window Perimeter - 2728 Lin. Ft.

Door Perimeter - 130 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type C

Wall Type E

Window Type A

BUILDING NUMBER A-1 AMPHIBIAN AREA (COURTHOUSE RAY)
 FUNCTION SHOP AREA

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING.

$$Q = 2728 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 40.0 \text{ BTU/CFM}$$

$$Q = 14186 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 2728 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 130 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 40.0 \text{ BTU/CFM}$$

$$Q = 8840 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 130 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. 0 TONS TOTAL

DESCRIPTION OF CONVERSION: _____

NONE

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM. _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (SHOP AREAS) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (13305 SF)	\$18760.05
B. SIOH	\$ 1876.01
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$18572.45
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$18572.45

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	335.32	\$ 1428.46	22.19	\$ 31697.53
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		335.32	\$ 1428.46		----->\$31697.53

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 10460.19			
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1428.46
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 31697.53
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.71
7. E/C RATIO (2F2/(1F/1000))=	18.05 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (SHOP AREAS) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (6122 SF)	\$15855.98
B. SIOH	\$ 1585.60
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$15697.42
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$15697.42

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	134.38	\$ 572.47	22.19	\$ 12703.11
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		134.38	\$ 572.47		----->\$12703.11

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 4192.03
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 572.47
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 12703.11
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.81
7. E/C RATIO (2F2/(1F/1000))=	8.559999 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING A-1 (SHOP AREAS) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3282 SF)	\$15983.34
B. SIOH	\$ 1598.33
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$15823.50
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$15823.50

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	196.37	\$ 836.52	22.19	\$ 18562.38
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		196.37	\$ 836.52		----->\$18562.38

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$		\$	
2.	\$		\$	
3.	\$		\$	
4. TOTAL	\$		\$	
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 6125.59			
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 836.52
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 18562.38
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.17
7. E/C RATIO (2F2/(1F/1000))=	12.41 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING A-1 (SHOP AREAS)

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/26/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ -275.60
B. SIOH	\$ 27.56
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 272.84
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 272.84

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	19.42	\$ 82.75	22.19	\$ 1836.22
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		19.42	\$ 82.75		----->\$ 1836.22

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 605.95
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS $2F3+3A+(3B1b/YEARS\ ECONOMIC\ LIFE)$ \$ 82.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1836.22
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 6.73
7. E/C RATIO $(2F2/(1F/1000))= 71.18\ MBTU/KS$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING A-1 (SHOP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (11011 SF)	\$ 990.99
B. SIOH	\$ 99.10
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 981.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 981.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	55.16	\$ 234.99	14.08	\$ 3308.66
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		55.16	\$ 234.99		----->\$ 3308.66

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$ \$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1091.86
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 234.99
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3308.66
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	3.37
7. E/C RATIO (2F2/(1F/1000))=	56.22 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-2 FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (10374 SF)	\$ 5290.74
B. SIOH	\$ 529.07
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 5237.83
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5237.83

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	17.48	\$ 43.7	15.23	\$ 665.55
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	16.87	\$ 71.86	22.19	\$ 1594.57
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		34.35	\$ 115.56		----->\$ 2260.12

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 54.95
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 640.17

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 640.17

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 745.84
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 170.51
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2900.29
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.55
7. E/C RATIO (2F2/(1F/1000))= 6.56 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-2 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (10537 SF)	\$ 9061.82
B. SIOH	\$ 906.18
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8971.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 8971.20

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	66.66001	\$ 166.64	15.23	\$ 2537.93
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	162.76	\$ 693.37	22.19	\$ 15385.88
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		229.42	\$ 860.01		----->\$17923.81

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ + 209.53
		\$ 2441.02

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$2441.02

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 5914.86

1. IF 3D1 IS = OR >3C GO TO ITEM 4

2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=

3. IF 3D1b IS => 1 GO TO ITEM 4

4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1069.54
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 20364.83
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.27
7. E/C RATIO (2F2/(1F/1000))=	25.57 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-2 FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (285 SF)	\$-1387.95
B. SIOH	\$ 138.80
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1374.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1374.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	4.54	\$ 11.35	15.23	\$ 172.86
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	14.02	\$ 59.73	22.19	\$ 1325.41
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		18.56	\$ 71.08		----->\$ 1498.27

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 14.27
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 166.25

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 166.25

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 494.43
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 85.35
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1664.52
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.21
- 7. E/C RATIO (2F2/(1F/1000))= 13.51 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-2 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$	322.24
B. SICH	\$	32.22
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	319.01
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)	\$	319.01

2. ENERGY SAVINGS (+)/COST (-) \$

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.18	\$.44	15.23	\$ 6.7
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	3.47	\$ 14.78	22.19	\$ 327.97
D. NG	\$		\$		\$
E. CO/DISTS			\$		\$
F. TOTAL		3.65	\$ 15.22		----->\$ 334.67

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 0.55
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 6.41

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 6.41

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 110.44

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$	15.77
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$	341.08
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=		1.07
7. E/C RATIO (2F2/(1F/1000))=		11.44 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-2 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 767.44
B. SICH	\$ 76.74
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 759.76
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 759.76

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	2.73	\$ 6.82	15.23	\$ 103.87
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	54.03	\$ 230.18	22.19	\$ 5107.69
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		56.76	\$ 237		----->\$ 5211.56

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 8.58
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 99.96

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 99.96

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1719.82
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 245.58
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 5311.52
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 6.99
7. E/C RATIO (2F2/(1F/1000))= 74.71 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 007
PROJECT TITLE: LIGHTING MODIFICATIONS BUILDING BB-2 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE INCANDESCENT LIGHTS WITH FLUORESCENT LIGHTS
ANALYSIS DATE 8/6/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 1400.00
B. SIOH	\$ 140.00
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1386.00
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1386.00

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	58.85	\$ 127.12	15.23	\$ 1936.04
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	22.19	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		58.85	\$ 127.12		----->\$ 1936.04

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 638.89
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 127.12
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1936.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.4
7. E/C RATIO (2F2/(1F/1000))= 42.46 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-2

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10374 SF)	\$ 933.66
B. SIOH	\$ 93.37
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 924.33
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 924.33

2. ENERGY SAVINGS (+)/COST (-)

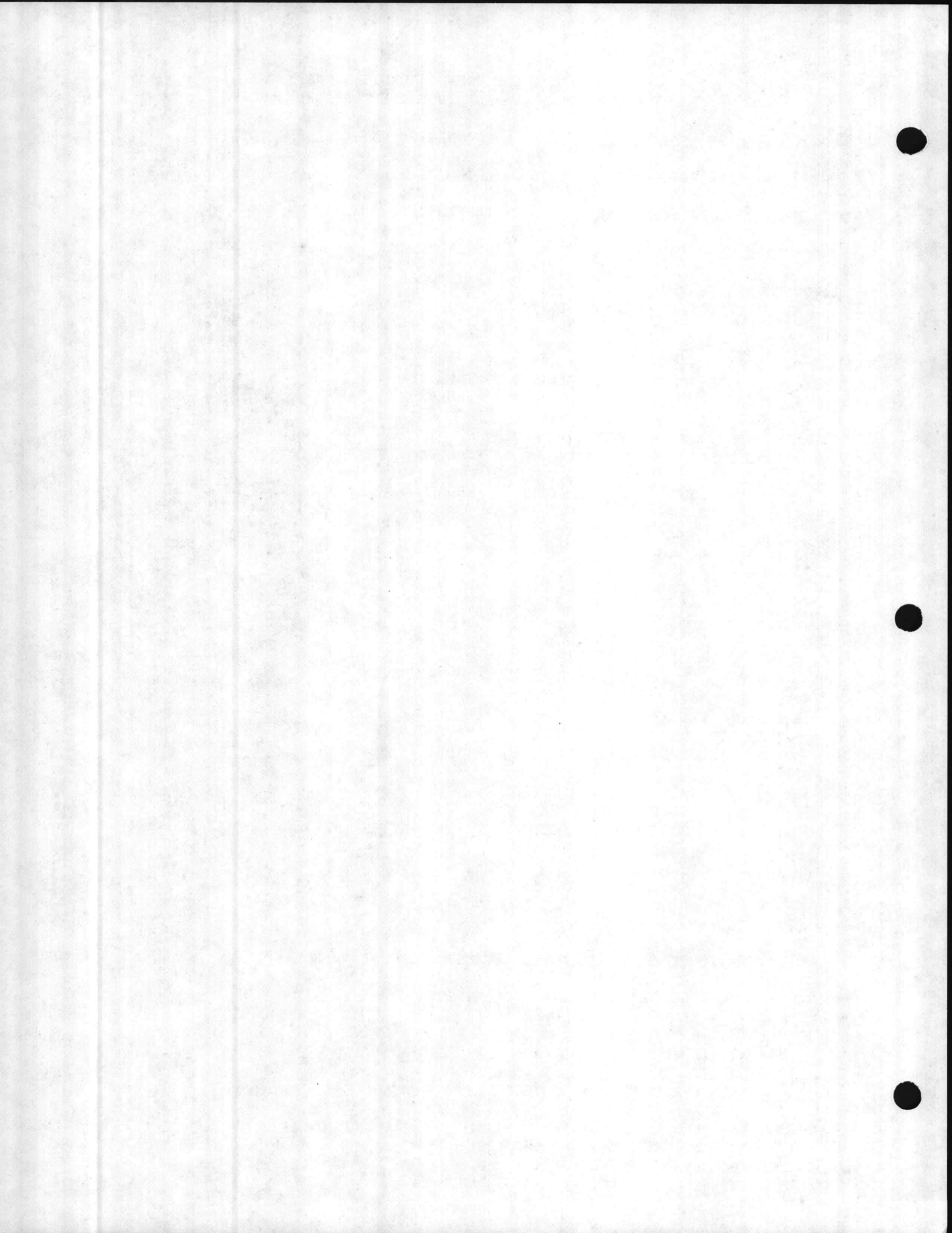
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	42.73	\$ 182.04	14.08	\$ 2563.12
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		42.73	\$ 182.04		----->\$ 2563.12

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$ \$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 845.83
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 182.04
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2563.12
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-6 (Courthouse Bay)

FUNCTION Armory

HEATING SOURCE Fuel Oil No. 2 (CEP # N/A)

COOLING SOURCE N/A

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 3,526

Roof 3,526

Walls - (Less Windows)

Glass -

N. 944 Sq. Ft. N. 70 Sq. Ft.

E. 262 Sq. Ft. E. 35 Sq. Ft.

S. 926 Sq. Ft. S. 88 Sq. Ft.

W. 262 Sq. Ft. W. 35 Sq. Ft.

Window Perimeter - 221 Lin. Ft.

Door Perimeter - 164 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type C

Window Type A

BUILDING NUMBER BB-6 (COURTHOUSE BAY)
FUNCTION ARMORY

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 221 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM} \text{ HEAT LOSS}$$

$$Q = 1396 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 221 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM} \text{ HEAT GAIN}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 164 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM} \text{ HEAT LOSS}$$

$$Q = 13550 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 164 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM} \text{ HEAT GAIN}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-6 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3526 SF)	\$ 1798.26
B. SIOH	\$ 179.83
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1780.28
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1780.28

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.97	\$ 29.7	22.19	\$ 659.04
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.97	\$ 29.7		----->\$ 659.04

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 217.48
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 29.7
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 659.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.37
7. E/C RATIO (2F2/(1F/1000))=	3.92 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-6 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/06/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2394 SF)	\$ 6200.46
B. SIOH	\$ 620.05
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6138.46
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 6138.46

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	58.39	\$ 248.74	22.19	\$ 5519.54
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		58.39	\$ 248.74		----->\$ 5519.54

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1821.45
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 248.74
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 5519.54
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))=	9.51 MBTU/K\$

BUILDING NUMBER BB-2 (Courthouse Bay)

FUNCTION Theater/Gym

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Chilled Water #5

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 10,374
Roof 10,374

Walls - (Less Windows)		Glass -	
N.	<u>1,817</u> Sq. Ft.	N.	<u>135</u> Sq. Ft.
E.	<u>3,399</u> Sq. Ft.	E.	<u>60</u> Sq. Ft.
S.	<u>1,952</u> Sq. Ft.	S.	<u>0</u> Sq. Ft.
W.	<u>3,369</u> Sq. Ft.	W.	<u>90</u> Sq. Ft.

Window Perimeter - 304 Lin. Ft.

Door Perimeter - 362 Lin. Ft.

CONSTRUCTION:

Floor Type B
Roof Type B
Wall Type A
Window Type A

BUILDING NUMBER BB-2 (COURTHOUSE BLDG)

FUNCTION THEATER/GYM

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 304 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 1971 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 304 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 119 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 362 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 29908 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 362 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 1846 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

$$10,374 \text{ FT}^2 \times 0.5 \text{ WATTS/FT}^2 = 5187 \text{ WATTS}$$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-6

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/06/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (228 SF)	\$ -1110.36
B. SIOH	\$ 111.04
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1099.26
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1099.26

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	13.64	\$ 58.11	22.19	\$ 1289.46
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		13.64	\$ 58.11		----->\$ 1289.46

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)				\$ 425.52
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 58.11
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1289.46
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.17
7. E/C RATIO (2F2/(1F/1000))=	12.41 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING 3B-6 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 234.26
B. SIOH	\$ 23.43
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 231.92
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 231.92

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	3.07	\$ 13.07	22.19	\$ 290.02
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		3.07	\$ 13.07		----->\$ 290.02

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 95.71
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- | | |
|---|----------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 13.07 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 290.02 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 1.25 |
| 7. E/C RATIO (2F2/(1F/1000))= | 13.24 MBTU/K\$ |

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-6 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 347.68
B. SIOH	\$ 34.77
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 344.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 344.20

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	29.77	\$ 126.83	22.19	\$ 2814.36
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		29.77	\$ 126.83		----->\$ 2814.36

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$		\$	
2.	\$		\$	
3.	\$		\$	
4. TOTAL	\$		\$	

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 928.74
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 126.83
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2814.36
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	8.18
7. E/C RATIO (2F2/(1F/1000))=	86.49 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-6

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (3526 SF)	\$ 317.34
B. SIOH	\$ 31.73
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 314.16
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 314.16

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	17.66	\$ 75.25	14.08	\$ 1059.52
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		17.66	\$ 75.25		----->\$ 1059.52

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	9.109	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)

\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 349.64
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 75.25

5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1059.52

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 3.37

7. E/C RATIO (2F2/(1F/1000))= 56.21 MBTU/K\$

BUILDING NUMBER BB-7 (Courthouse Bay)

FUNCTION Mess Hall

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx-Air Handler #4

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 22,097

Roof 22,097

Walls - (Less Windows)

Glass -

N. 3,110 Sq. Ft. N. 813 Sq. Ft.

E. 1,646 Sq. Ft. E. 361 Sq. Ft.

S. 3,068 Sq. Ft. S. 855 Sq. Ft.

W. 1,460 Sq. Ft. W. 547 Sq. Ft.

Window Perimeter - 1,825 Lin. Ft.

Door Perimeter - 323 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type 50% A/50% B

Wall Type A

Window Type A

BUILDING NUMBER BB-7 (COURTHOUSE BAY)
FUNCTION MESS HALL

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 1825 \text{ LIN. FT.} \times 0.41 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 36365 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 1825 \text{ LIN. FT.} \times 0.41 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 2245 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 323 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 26636 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 323 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 1647 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM. _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-7 (A) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/07/84. ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (11048 SF)	\$11158.48
B. SIOH	\$ 1115.85
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$11046.90
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$11046.90

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	234.37	\$ 585.92	15.23	\$ 8923.559
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	224.55	\$ 956.57	22.19	\$ 21226.29
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		458.92	\$ 1542.49		----->\$30149.85

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 736.73
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 8582.901

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$8582.90

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 9949.45
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 2279.22
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 38732.75
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 3.51
- 7. E/C RATIO (2F2/(1F/1000))= 41.54 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-7 (B)

FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (11048 SF)	\$ 5634.48
B. SIOH	\$ 563.45
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 5578.14
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5578.14

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	18.75	\$ 46.87	15.23	\$ 713.83
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	17.96	\$ 76.53	22.19	\$ 1698.2
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		36.71	\$ 123.4		----->\$ 2412.03

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 58.94
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 686.65

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 686.65

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 795.97
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 182.34
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3098.68
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.56
7. E/C RATIO (2F2/(1F/1000))=	6.58 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-7

FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9284 SF)	\$ 7984.24
B. SIOH	\$ 798.42
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 7904.39
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 7904.39

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	52.24	\$ 130.61	15.23	\$ 1989.19
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	143.41	\$ 610.92	22.19	\$ 13556.32
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		195.65	\$ 741.53		----->\$15545.51

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 164.22
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 1913.16

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1913.16

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 5130.02
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 905.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 17458.67
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.21
7. E/C RATIO (2F2/(1F/1000))=	24.75 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-7

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2576 SF)	\$12545.12
B. SIOH	\$ 1254.51
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$12419.67
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$12419.67

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	40.8	\$ 102.01	15.23	\$ 1553.61
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	126.73	\$ 539.85	22.19	\$ 11979.27
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		167.53	\$ 641.86		----->\$13532.88

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 128.26
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 1494.23
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$1494.23

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 4465.85
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 770.12
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 15027.11
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.21
7. E/C RATIO (2F2/(1F/1000))=	13.49 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-7 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$- 1934.50
B. SIOH	\$ 193.45
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1915.15
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1915.15

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	3.34	\$ 8.36	15.23	\$ 127.32
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	65.7	\$ 279.87	22.19	\$ 6210.32
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		69.04	\$ 288.23		----->\$ 6337.64

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 10.51			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 122.44			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 122.44			

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 2091.42
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 298.74
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 6460.08
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	3.37
7. E/C RATIO (2F2/(1F/1000))=	36.05 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-7 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 684.76
B. SIOH	\$ 68.48
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 677.92
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 677.92

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	2.45	\$ 6.13	15.23	\$ 93.36
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	48.21	\$ 205.38	22.19	\$ 4557.38
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		50.66	\$ 211.51		----->\$ 4650.74

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ + 7.71
(1) DISCOUNT FACTOR (TABLE A)			11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ 89.82
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)		DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$				\$
2.	\$				\$
3.	\$				\$
4. TOTAL	\$				\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)					\$ 89.82

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1534.74
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 219.22
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 4740.56
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.99
7. E/C RATIO (2F2/(1F/1000))=	74.73 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-7 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (22097 SF)	\$ 1988.73
B. SIOH	\$ 198.87
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1968.84
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1968.84

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	91.01999	\$ 387.75	14.08	\$ 5459.52
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		91.01999	\$ 387.75		----->\$ 5459.52

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

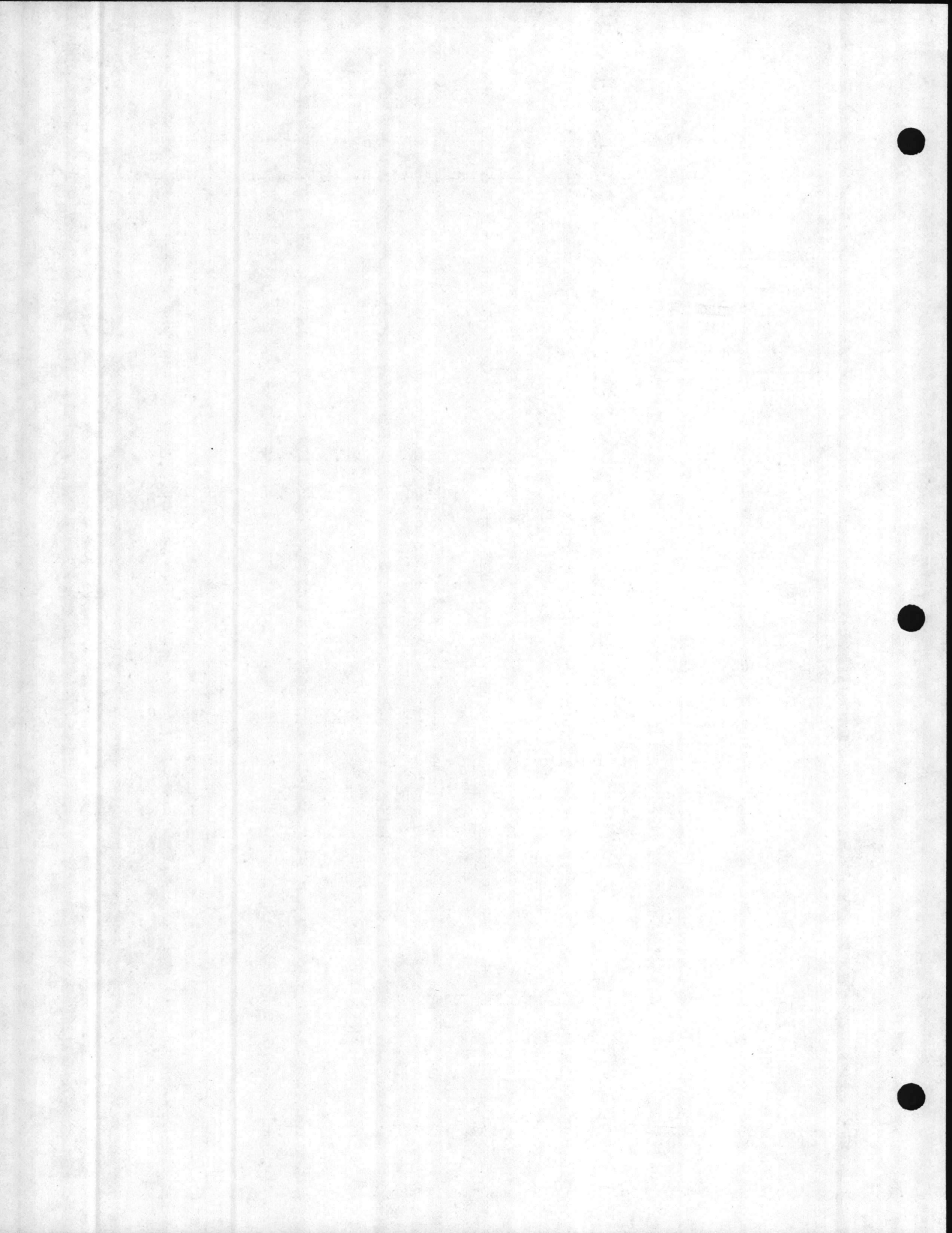
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1801.64
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 387.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 5459.52
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-8 (Courthouse Bay)

FUNCTION Fire Station (Kitchen & Sleeping Quarters)

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx 3 Window Units #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor , 1205

Roof 1205

Walls - (Less Windows)

Glass -

N. 270 Sq. Ft. N. 18 Sq. Ft.

E. Partition Sq. Ft. E. Partition Sq. Ft.

S. 349 Sq. Ft. S. 35 Sq. Ft.

W. 262 Sq. Ft. W. 35 Sq. Ft.

Window Perimeter - 85 Lin. Ft.

Door Perimeter - 44 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type C

Window Type A

BUILDING NUMBER BB-8 (COURTHOUSE BAY)
FUNCTION FIRE STATION (KITCHEN & SLEEPING QUARTERS)

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 85 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM} \text{ HEAT LOSS}$$

$$Q = 537 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 85 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM} \text{ HEAT GAIN}$$

$$Q = 33 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 44 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM} \text{ HEAT LOSS}$$

$$Q = 3635 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 44 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM} \text{ HEAT GAIN}$$

$$Q = 225 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. 3 TONS TOTAL

DESCRIPTION OF CONVERSION:

REPLACE 3 WINDOW UNITS WITH A CENTRAL SYSTEM

$$S = 38 \text{ KW/TON} \times 3 \text{ TONS} \times 1100 \text{ EQ. FL. HP} \times 11,600 \text{ BTU/WH}$$

$$1000,000 \text{ BTU/MBTU}$$

$$S = 14.55 \text{ MBTU/YR}$$

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (KIT.&SLEEP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1205 SF)	\$ 614.55
B. SIOH	\$ 61.46
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 608.41
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 608.41

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	2.6	\$ 6.5	15.23	\$ 99
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.96	\$ 8.350001	22.19	\$ 185.29
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		4.56	\$ 14.85		----->\$ 284.29

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 8.17
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 95.18

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 95.18

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 93.82
1. IF 3D1 IS = OR > 3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .62	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE)	\$ 23.02
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 379.47
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	
7. E/C RATIO (2F2/(1F/1000))=7.49 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (KIT. & SLEEP AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (881 SF)	\$ 2281.79
B. SIOH	\$ 228.18
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2258.97
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2258.97

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	9.57	\$ 23.93	15.23	\$ 364.45
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	21.49	\$ 91.54	22.19	\$ 2031.27
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		31.06	\$ 115.47		----->\$ 2395.72

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 30.09			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 350.55			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 350.55			

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 790.59
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 145.56
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 2746.27
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.22
7. E/C RATIO (2F2/(1F/1000))= 13.75 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (KIT.&SLEEP AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (88 SF)	\$ - 428.56
B. SIOH	\$ 42.86
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 424.28
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 424.28

2. ENERGY SAVINGS (+)/COST (-) \$

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.9	\$ 4.75	15.23	\$ 72.34
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.33	\$ 18.44	22.19	\$ 409.18
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.23	\$ 23.19		----->\$ 481.52

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 5.97
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 69.55

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 69.55

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 158.9
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 29.16
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 551.07
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.3
- 7. E/C RATIO (2F2/(1F/1000))= 14.68 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 005

PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (KIT.&SLEEP AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 90.10
B. SIOH	\$ 9.01
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 89.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 89.20

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.06	\$.16	15.23	\$ 2.44
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	.97	\$ 4.13	22.19	\$ 91.64
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.03	\$ 4.29		----->\$ 94.08

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.20
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 2.33

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 2.33

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 31.05
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 4.49
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 96.41001
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.08
7. E/C RATIO (2F2/(1F/1000))=	11.55 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (KIT.&SLEEP AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 93.28
B. SIOH	\$ 9.33
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 92.35
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 92.35

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.42	\$ 1.06	15.23	\$ 16.14
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.57	\$ 27.98	22.19	\$ 620.88
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.99	\$ 29.04		----->\$ 637.02

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65		\$ + 1.34
(2) DISCOUNTED SAVING/COST (3A X 3A1)			\$ 15.61

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 15.61

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 210.22
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 30.38
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 652.63
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.07
7. E/C RATIO (2F2/(1F/1000))= 75.69 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008
PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-8 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM
ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 5640.00
B. SIOH	\$ 564.00
C. DESIGN COST	\$ 564.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6091.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 717.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5374.20

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	14.55	\$ 31.43	11.48	\$ 360.82
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		14.55	\$ 31.43		----->\$ 360.82

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 31.50
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)286.93

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$ (+) 717.00	Yr. 10	.51	\$ (+)365.67
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+) 717.00			\$ (+)365.67

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 652.60

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 119.07
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-8 (KIT.&SLEEP AREA)

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (1205 SF)	\$ 108.45
B. SIOH	\$ 10.84
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 107.36
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 107.36

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.96	\$ 21.14	14.08	\$ 297.65
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		4.96	\$ 21.14		----->\$ 297.65

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

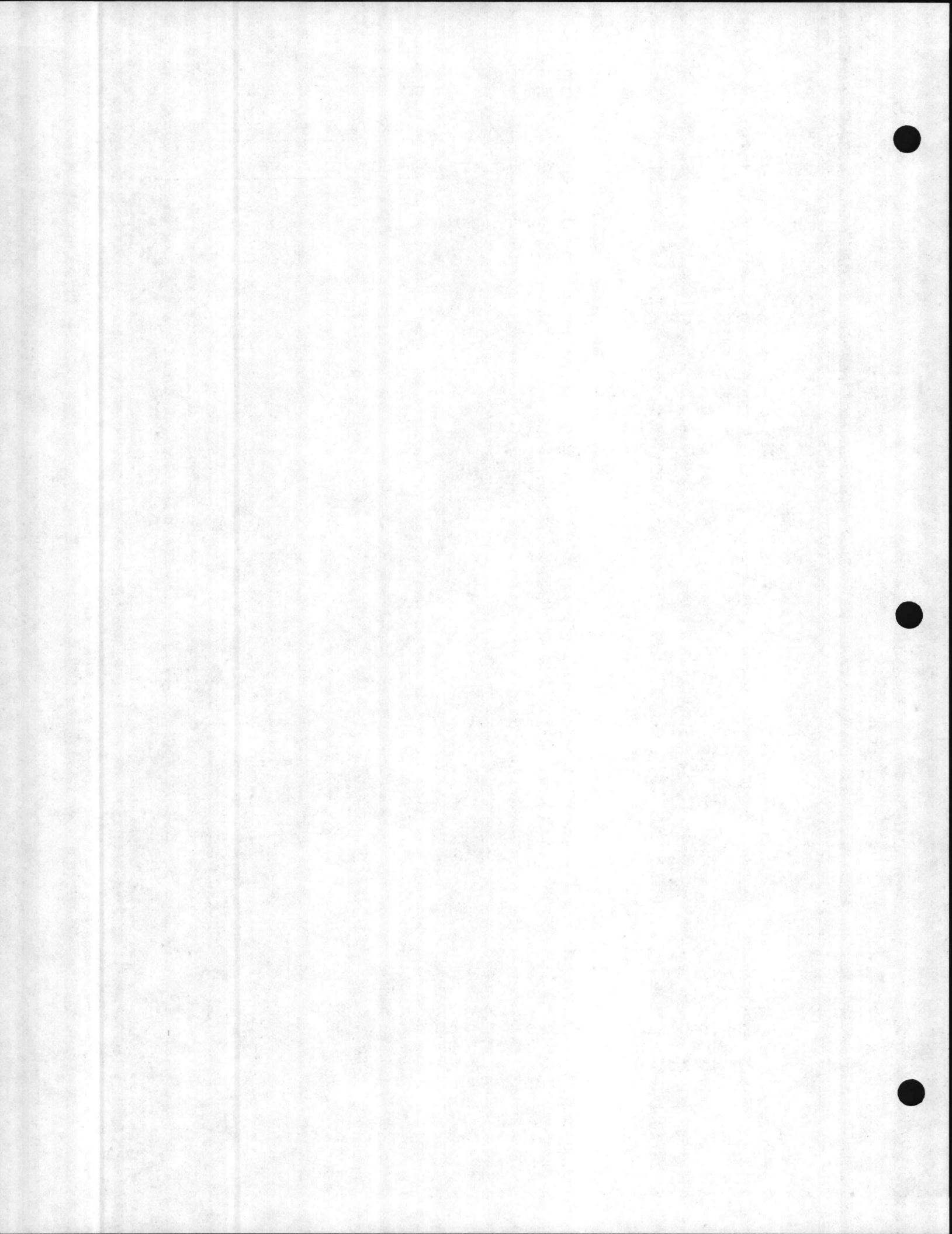
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 98.22
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 21.14
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 297.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.2 MBTU/K\$



BUILDING NUMBER BB-8 (Courthouse Bay)

FUNCTION Fire Station (Truck Area)

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE None

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 2321

Roof 2321

Walls - (Less Windows)

Glass -

N. 673 Sq. Ft. N. 53 Sq. Ft.

E. 262 Sq. Ft. E. 35 Sq. Ft.

S. 560 Sq. Ft. S. 70 Sq. Ft.

W. Partition Sq. Ft. W. Partition Sq. Ft.

Window Perimeter - 153 Lin. Ft.

Door Perimeter - 96 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type C

Window Type A

BUILDING NUMBER BB-8 (COURTHOUSE BAY)
 FUNCTION FIRE STATION (TRUCK AREA)

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 153 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6$ HEAT LOSS BTU/CFM

$Q = 967$ BTUH HEAT LOSS SAVINGS

$Q = 153 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 0$ HEAT GAIN BTU/CFM

$Q = 0$ BTUH HEAT GAIN SAVINGS

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 96 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6$ HEAT LOSS BTU/CFM

$Q = 7932$ BTUH HEAT LOSS SAVINGS

$Q = 96 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0$ HEAT GAIN BTU/CFM

$Q = 0$ BTUH HEAT GAIN SAVINGS

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (TRUCK AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2321 SF)	\$ 1183.71
B. SIOH	\$ 118.37
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1171.87
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1171.87

2. ENERGY SAVINGS (+)/COST (-) @

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	3.77	\$ 16.08	22.19	\$ 356.82
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		3.77	\$ 16.08		----->\$ 356.82

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)
(1) DISCOUNT FACTOR (TABLE A) 11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1) \$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 117.75
1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 16.08
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 356.82
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .3
7. E/C RATIO (2F2/(1F/1000))= 3.22 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (TRUCK AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1495 SF)	\$ 3872.05
B. SIOH	\$ 387.21
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3833.33
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3833.33

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	36.46	\$ 155.33	22.19	\$ 3446.77
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		36.46	\$ 155.33		----->\$ 3446.77

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1137.43
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 155.33
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 3446.77
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
7. E/C RATIO (2F2/(1F/1000))= 9.51 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (TRUCK AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (158 SF)	\$ 769.46
B. SIOH	\$ 76.95
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 761.77
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 761.77

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.77	\$ 33.11	22.19	\$ 734.71
D. NG	\$		\$		\$
E. CO/DISTS			\$		\$
F. TOTAL		7.77	\$ 33.11		----->\$ 734.71

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 242.45

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 33.11
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 734.71
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.96
7. E/C RATIO (2F2/(1F/1000))= 10.2 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (TRUCK AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ - 162.18
B. SIOH	\$ 16.22
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 160.56
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 160.56

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.75	\$ 7.44	22.19	\$ 165.09
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.75	\$ 7.44		----->\$ 165.09

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 54.48
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 7.44
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 165.09
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.03
7. E/C RATIO (2F2/(1F/1000))=	10.9 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-8 (TRUCK AREA)

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ -203.52
B. SIOH	\$ 20.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 201.48
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 201.48

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	14.33	\$ 61.05	22.19	\$ 1354.7
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		14.33	\$ 61.05		----->\$ 1354.70

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 447.05
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 61.05
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1354.7
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.72
7. E/C RATIO (2F2/(1F/1000))=	71.12 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-8 (TRUCK AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (2321 SF)	\$ 208.89
B. SIOH	\$ 20.89
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 206.80
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 206.80

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	9.559999	\$ 40.73	14.08	\$ 573.48
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		9.559999	\$ 40.73		----->\$ 573.48

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 189.25
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 40.73
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 573.48
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.77
7. E/C RATIO (2F2/(1F/1000))= 46.23 MBTU/K\$

BUILDING NUMBER BB-10 (Courthouse Bay)

FUNCTION Dental Clinic

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx Split System #3

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 3425

Roof 3425

Walls - (Less Windows)

Glass -

N. 605 Sq. Ft. N. 280 Sq. Ft.

E. 208 Sq. Ft. E. 53 Sq. Ft.

S. 640 Sq. Ft. S. 245 Sq. Ft.

W. 191 Sq. Ft. W. 70 Sq. Ft.

Window Perimeter - 648 Lin. Ft.

Door Perimeter - 38 Lin. Ft.

CONSTRUCTION:

Floor Type A

Roof Type B

Wall Type A

Window Type A

BUILDING NUMBER RR-10 (COURTHOUSE BLDG)
 FUNCTION DENTAL Clinic

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 648 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$
 $Q = 4094 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 648 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$
 $Q = 253 \text{ BTUH HEAT GAIN SAVINGS}$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 38 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$
 $Q = 314.0 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 38 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$
 $Q = 194 \text{ BTUH HEAT GAIN SAVINGS}$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-10 FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3425 SF)	\$ 1746.75
B. SIOH	\$ 174.68
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1729.29
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1729.29

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	6.77	\$ 16.92	15.23	\$ 257.69
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.57	\$ 23.72	22.19	\$ 526.35
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		12.34	\$ 40.64		----->\$ 784.04

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 21.27			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 247.8			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 247.80

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 258.73
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 61.91
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1031.84
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .6
7. E/C RATIO (2F2/(1F/1000))= 7.14 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-10

FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1644 SF)	\$ 1413.84
B. SIOH	\$ 141.38
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1399.70
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1399.70

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	10.37	\$ 25.93	15.23	\$ 394.91
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	25.39	\$ 108.18	22.19	\$ 2400.51
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		35.76	\$ 134.11		----->\$ 2795.42

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 32.60			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 379.79			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 379.79

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 922.49
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 166.71
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 3175.21
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.27
7. E/C RATIO (2F2/(1F/1000))= 25.55 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-10

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (648 SF)	\$ 3155.76
B. SIOH	\$ 315.58
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3124.21
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3124.21

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	11.33	\$ 28.33	15.23	\$ 431.47
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	31.88	\$ 135.8	22.19	\$ 3013.4
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		43.21	\$ 164.13		----->\$ 3444.87

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 35.62
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 414.97

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 414.97

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1136.81
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 199.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 3859.84
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.24
7. E/C RATIO (2F2/(1F/1000))= 13.83 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 004

PROJECT TITLE: WEATHERIZATION BUILDING BB-10 FISCAL YEAR 1986

DISCRETE PORTION NAME: FLOOR INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3425 SF)	\$ 4041.50
B. SIOH	\$ 404.15
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 4001.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 4001.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	45.05	\$ 191.9	22.19	\$ 4258.26
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		45.05	\$ 191.9		----->\$ 4258.26

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1405.23
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 191.9
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 4258.26
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.06
7. E/C RATIO (2F2/(1F/1000))= 11.26 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-10 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 686.88
B. SIOH	\$ 68.69
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 680.01
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 680.01

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.44	\$ 1.1	15.23	\$ 16.75
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.4	\$ 31.51	22.19	\$ 699.21
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.84	\$ 32.61		----->\$ 715.96

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.38			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 16.08			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 16.08

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 236.27
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 33.99
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 732.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08
7. E/C RATIO (2F2/(1F/1000))= 11.53 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-10

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 80.55
B. SIOH	\$ 8.06
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 79.75
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 79.75

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.34	\$.84	15.23	\$ 12.79
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.67	\$ 24.17	22.19	\$ 536.33
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.01	\$ 25.01		----->\$ 549.12

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.06
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 12.35

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 12.35

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 181.21
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 26.07
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 561.47
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.04
7. E/C RATIO (2F2/(1F/1000))= 75.36 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 010

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-10

FISCAL YEAR 1986

DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (3425 SF)	\$ 787.75
B. SIOH	\$ 78.78
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 779.88
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 779.88

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	11.76	\$ 50.08	14.08	\$ 705.13
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		11.76	\$ 50.08		----->\$ 705.13

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 232.69
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 50.08
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 705.13
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))=	15.08 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-10 FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (3425 SF)	\$ 308.25
B. SIOH	\$ 30.83
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 305.17
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 305.17

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	14.11	\$ 60.1	14.08	\$ 846.21
D. NG	\$		\$		\$
E. CO/DIST#	\$		\$		\$
F. TOTAL		14.11	\$ 60.1		----->\$ 846.21

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	9.109			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 279.25			
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 60.1
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 846.21
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.24 MBTU/K\$

BUILDING NUMBER BB-15 (Courthouse Bay)

FUNCTION Carpentry Shop

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE None

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 3526

Roof 3526

Walls - (Less Windows)

Glass -

N. 891 Sq. Ft. N. 123 Sq. Ft.

E. 262 Sq. Ft. E. 35 Sq. Ft.

S. 961 Sq. Ft. S. 53 Sq. Ft.

W. 262 Sq. Ft. W. 35 Sq. Ft.

Window Perimeter - 136 Lin. Ft.

Door Perimeter - 96 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type C

Window Type A

BUILDING NUMBER BB-15 (COURTHOUSE BAY)
 FUNCTION CARPENTRY SHOP

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING.

$Q = 136 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 800 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 136 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 0 \text{ HEAT GAIN BTU/CFM}$

$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 90 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 7932 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 90 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0 \text{ HEAT GAIN BTU/CFM}$

$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-15 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3526 SF)	\$ 1798.26
B. SIOH	\$ 179.83
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1780.28
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1780.28

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.73	\$ 24.42	22.19	\$ 541.88
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		5.73	\$ 24.42		----->\$ 541.88

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 178.82
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 24.42
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 541.88
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.3
7. E/C RATIO (2F2/(1F/1000))=	3.22 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-15 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2376 SF)	\$ 6153.84
B. SIOH	\$ 615.38
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6092.30
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 6092.30

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	57.95	\$ 246.87	22.19	\$ 5478.05
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		57.95	\$ 246.87		----->\$ 5478.05

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1807.76
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 246.87
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 5478.05
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
- 7. E/C RATIO (2F2/(1F/1000))= 9.51 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-15 FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (246 SF)	\$ 1198.02
B. SIOH	\$ 119.80
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1186.04
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1186.04

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	12.1	\$ 51.55	22.19	\$ 1143.89
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		12.1	\$ 51.55		----->\$ 1143.89

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 377.48
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 51.55
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1143.89
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.96
7. E/C RATIO (2F2/(1F/1000))= 10.2 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-15 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 144.16
B. SIOH	\$ 14.42
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 142.72
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 142.72

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.55	\$ 6.62	22.19	\$ 146.9
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.55	\$ 6.62		----->\$ 146.90

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00				
(1) DISCOUNT FACTOR (TABLE A)	11.65				
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0				
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)	
1.	\$			\$	
2.	\$			\$	
3.	\$			\$	
4. TOTAL	\$			\$	
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)					\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 48.48
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 6.62
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 146.9
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.03
- 7. E/C RATIO (2F2/(1F/1000))= 10.86 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-15 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 203.52
B. SIOH	\$ 20.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 201.48
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 201.48

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	14.33	\$ 61.05	22.19	\$ 1354.7
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		14.33	\$ 61.05		----->\$ 1354.70

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 447.05
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 61.05
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1354.7
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.72
7. E/C RATIO (2F2/(1F/1000))=	71.12 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-15 FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (1932 SF)	\$ 173.88
B. SIOH	\$ 17.39
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 172.14
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 172.14

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.96	\$ 33.9	14.08	\$ 477.31
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.96	\$ 33.9		----->\$ 477.31

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 157.51
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 33.9
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 477.31
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.77
7. E/C RATIO (2F2/(1F/1000))= 46.24 MBTU/K\$

BUILDING NUMBER BB-16 (Courthouse Bay)

FUNCTION Laundry

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 1594

Roof 1594

Walls - (Less Windows)

Glass -

N. Partition	Sq. Ft.	N. Partition	Sq. Ft.
E. 373	Sq. Ft.	E. 35	Sq. Ft.
S. 229	Sq. Ft.	S. 35	Sq. Ft.
W. 390	Sq. Ft.	W. 18	Sq. Ft.

Window Perimeter - 85 Lin. Ft.

Door Perimeter - 43 Lin. Ft.

CONSTRUCTION:

Floor Type B
Roof Type B
Wall Type C
Window Type A

BUILDING NUMBER BB-100 (COURTHOUSE BAY)
 FUNCTION LAUNDRY

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 85 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$
 $Q = 537 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 85 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$
 $Q = 33 \text{ BTUH HEAT GAIN SAVINGS}$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 43 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$
 $Q = 3552 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 43 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$
 $Q = 219 \text{ BTUH HEAT GAIN SAVINGS}$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (LAUNDRY) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1594 SF)	\$ 812.94
B. SIOH	\$ 81.29
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 804.81
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 804.81

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	3.44	\$ 8.600001	15.23	\$ 130.98
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	2.59	\$ 11.04	22.19	\$ 244.98
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.03	\$ 19.64		----->\$ 375.96

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

	\$ + 10.81
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 125.94

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 125.94

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 124.07
1. IF 3D1 IS = OR > 3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	.62
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE)	\$ 30.45
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 501.90
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	
7. E/C RATIO (2F2/(1F/1000))= 7.49 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (LAUNDRY) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (992 SF)	\$ 1398.72
B. SIOH	\$ 139.87
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1384.73
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1384.73

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	25.61	\$ 64.03	15.23	\$ 975.18
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	25	\$ 106.5	22.19	\$ 2363.24
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		50.61	\$ 170.53		----->\$ 3338.42

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 80.51			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 937.94			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 937.94

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1101.68
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 251.04
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 4276.36
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 3.09
7. E/C RATIO (2F2/(1F/1000))= 36.55 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (LAUNDRY) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (88 SF)	\$ 428.56
B. SIOH	\$ 42.86
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 424.28
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 424.28

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.86	\$ 4.65	15.23	\$ 70.82
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.33	\$ 18.44	22.19	\$ 409.18
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.19	\$ 23.09		----->\$ 480.00

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 5.84
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 68.04
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 68.04

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 158.4
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 28.93
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 548.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.29
7. E/C RATIO (2F2/(1F/1000))= 14.59 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (LAUNDRY) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$	90.10
B. SIOH	\$	9.01
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	89.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)	\$	89.20

2. ENERGY SAVINGS (+)/COST (-) \$

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.06	\$.16	15.23	\$ 2.44
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	.97	\$ 4.13	22.19	\$ 91.64
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.03	\$ 4.29		----->\$ 94.08

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ +	0.20
(1) DISCOUNT FACTOR (TABLE A)		11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$	2.33

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$		\$	
2.	\$		\$	
3.	\$		\$	
4. TOTAL	\$		\$	

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 2.33

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 31.05
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 4.49
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 96.41001
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08
7. E/C RATIO (2F2/(1F/1000))= 11.55 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (LAUNDRY)

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ - 91.16
B. SIOH	\$ 9.12
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 90.25
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 90.25

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.42	\$ 1.04	15.23	\$ 15.84
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.42	\$ 27.34	22.19	\$ 606.67
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.84	\$ 28.38		----->\$ 622.51

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 15.14	\$ + 1.30

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 15.14

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 205.43
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 29.68
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 637.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.07
7. E/C RATIO (2F2/(1F/1000))= 75.79 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-16 (LAUNDRY) FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (1594 SF)	\$ 143.46
B. SIOH	\$ 14.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 142.03
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 142.03

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.57	\$ 27.97	14.08	\$ 393.82
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.57	\$ 27.97		----->\$ 393.82

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 129.96
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 27.97
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 393.82
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.26 MBTU/K\$

BUILDING NUMBER BB-16 (Courthouse Bay)

FUNCTION Chapel

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx Window Units #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 1932

Roof 1932

Walls - (Less Windows)

Glass -

N. 229 Sq. Ft. N. 35 Sq. Ft.

E. 423 Sq. Ft. E. 70 Sq. Ft.

S. Partition Sq. Ft. S. Partition Sq. Ft.

W. 458 Sq. Ft. W. 35 Sq. Ft.

Window Perimeter - 136 Lin. Ft.

Door Perimeter - 43 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type T

Window Type A

BUILDING NUMBER BB-16 (COURTHOUSE BAY)
 FUNCTION CHAPEL

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING.

$Q = 136$ LIN. FT. \times 1.3 CFM/LIN. FT. \times 48.6 HEAT LOSS BTU/CFM
 $Q = 859$ BTUH HEAT LOSS SAVINGS

$Q = 136$ LIN. FT. \times 1.3 CFM/LIN. FT. \times 3.0 HEAT GAIN BTU/CFM
 $Q = 53$ BTUH HEAT GAIN SAVINGS

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 43$ LIN. FT. \times 1.7 CFM/LIN. FT. \times 48.6 HEAT LOSS BTU/CFM
 $Q = 3553$ BTUH HEAT LOSS SAVINGS

$Q = 43$ LIN. FT. \times 1.7 CFM/LIN. FT. \times 3.0 HEAT GAIN BTU/CFM
 $Q = 219$ BTUH HEAT GAIN SAVINGS

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM. _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1932 SF)	\$ 985.32
B. SIOH	\$ 98.53
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 975.47
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 975.47

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	4.17	\$ 10.42	15.23	\$ 158.7
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	3.14	\$ 13.38	22.19	\$ 296.9
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.31	\$ 23.8		----->\$ 455.60

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 13.10
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 152.61

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 152.61

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 150.35
- 1. IF 3D1 IS = OR > 3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .62
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE) \$ 36.90
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 608.21
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
- 7. E/C RATIO (2F2/(1F/1000))= 7.49 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1110 SF)	\$ 2064.60
B. SIOH	\$ 206.46
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2043.95
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2043.95

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	8.15	\$ 20.38	15.23	\$ 310.39
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	15.34	\$ 65.35	22.19	\$ 1450.12
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		23.49	\$ 85.72999		----->\$ 1760.51

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 25.62
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 298.47
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 298.47

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 580.97
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 111.35
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2058.98
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.01
7. E/C RATIO (2F2/(1F/1000))=	11.49 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (140 SF)	\$ 681.80
B. SIOH	\$ 68.18
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 674.98
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 674.98

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	2.91	\$ 7.27	15.23	\$ 110.72
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.89	\$ 29.34	22.19	\$ 651.05
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		9.8	\$ 36.61		----->\$ 761.77

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 9.14			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 106.48			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 106.48

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 251.38
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 45.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 868.25
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.29
7. E/C RATIO (2F2/(1F/1000))= 14.52 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 144.16
B. SIOH	\$ 14.42
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 142.72
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 142.72

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.1	\$.25	15.23	\$ 3.81
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.55	\$ 6.61	22.19	\$ 146.68
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.65	\$ 6.86		----->\$ 150.49

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.32
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 3.73

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 3.73

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 49.66
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- | | |
|--|----------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 7.18 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 154.22 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 1.08 |
| 7. E/C RATIO (2F2/(1F/1000))= | 11.56 MBTU/K\$ |

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$	91.16
B. SIOH	\$	9.12
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	90.25
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)		\$ 90.25

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.42	\$ 1.04	15.23	\$ 15.84
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.42	\$ 27.34	22.19	\$ 606.67
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.84	\$ 28.38		----->\$ 622.51

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ +	1.30
(1) DISCOUNT FACTOR (TABLE A)		11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$	15.14

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 15.14

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 205.43
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 29.68
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 637.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.07
7. E/C RATIO (2F2/(1F/1000))= 75.79 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 010
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-16 (CHAPEL) FISCAL YEAR 1986
DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (1932 SF)	\$ 444.36
B. SIOH	\$ 44.44
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 439.92
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 439.92

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.63	\$ 28.25	14.08	\$ 397.76
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.63	\$ 28.25		----->\$ 397.76

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 131.26
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 28.25
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 397.76
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
7. E/C RATIO (2F2/(1F/1000))= 15.07 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-16 (CHAPEL)

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (1932 SF)	\$ 173.88
B. SIOH	\$ 17.39
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 172.14
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 172.14

2. ENERGY SAVINGS (+)/COST (-)

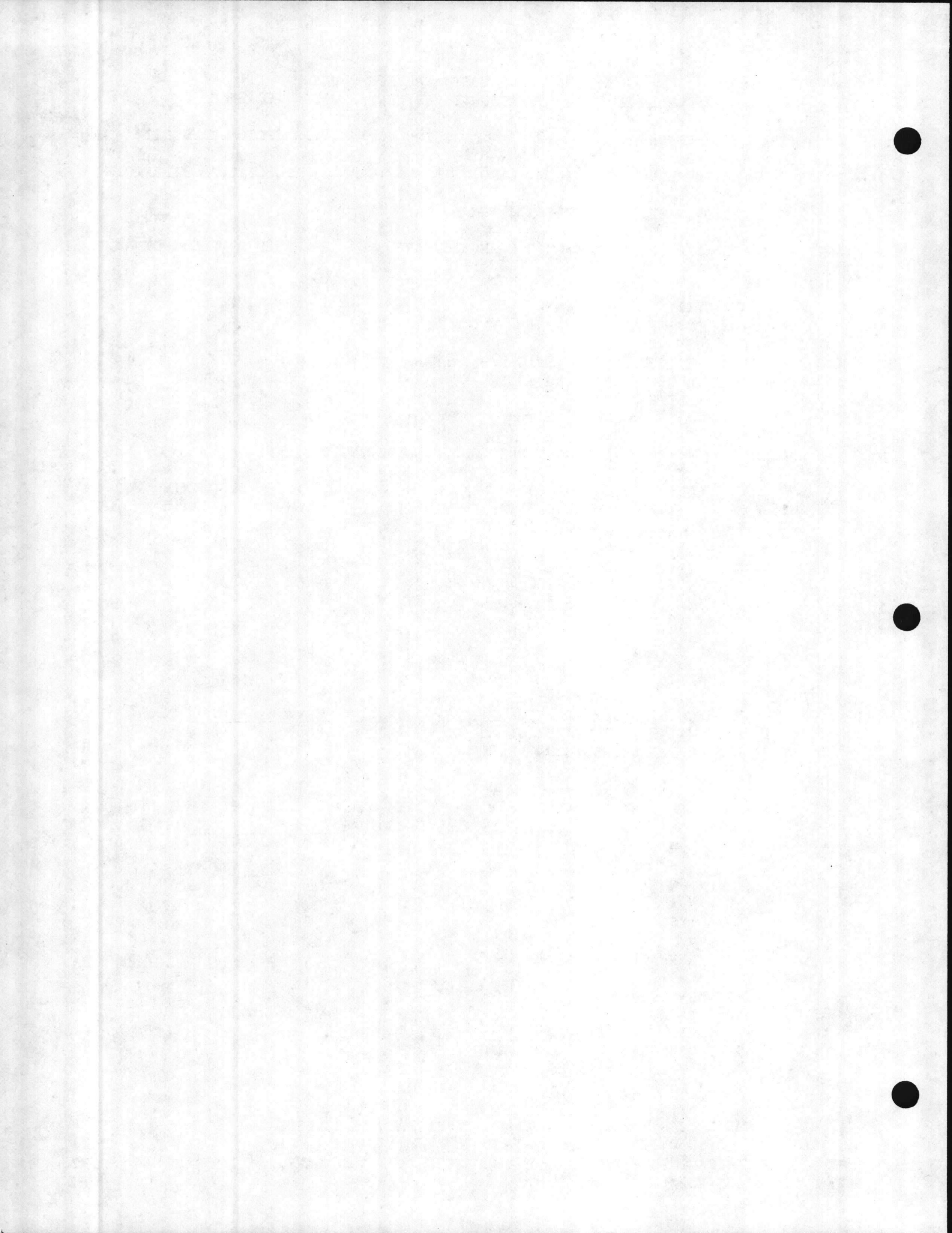
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.96	\$ 33.9	14.08	\$ 477.31
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.96	\$ 33.9		----->\$ 477.31

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)		9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)				\$ 157.51
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 33.9
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 477.31
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.24 MBTU/K\$



BUILDING NUMBER BB-27 (Courthouse Bay)

FUNCTION Staff NCO Club

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx-Water Cooled Unit #6

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 3244

Roof 3244

Walls - (Less Windows)

Glass -

N. 340 Sq. Ft. N. 30 Sq. Ft.

E. 845 Sq. Ft. E. 135 Sq. Ft.

S. 325 Sq. Ft. S. 45 Sq. Ft.

W. 860 Sq. Ft. W. 120 Sq. Ft.

Window Perimeter - 352 Lin. Ft.

Door Perimeter - 40 Lin. Ft.

CONSTRUCTION:

Floor Type A

Roof Type A

Wall Type T

Window Type A

BUILDING NUMBER BB-27 (COURTHOUSE BAY)
 FUNCTION 5/21/84 NCO CLUB

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING.

$Q = 357 \text{ LIN. FT.} \times 13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$ HEAT LOSS

$Q = 2224 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 357 \text{ LIN. FT.} \times 13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$ HEAT GAIN

$Q = 137 \text{ BTUH HEAT GAIN SAVINGS}$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 40 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$ HEAT LOSS

$Q = 3305 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 40 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$ HEAT GAIN

$Q = 204 \text{ BTUH HEAT GAIN SAVINGS}$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM. _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-27 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3244 SF)	\$ 3276.44
B. SIOH	\$ 327.64
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3243.67
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3243.67

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	54.56	\$ 136.4	15.23	\$ 2077.37
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	65.93	\$ 280.87	22.19	\$ 6232.51
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		120.49	\$ 417.27		----->\$ 8309.88

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 171.51
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 1998.09

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1998.09

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 2742.26
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 588.78
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 10307.97
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 3.18
7. E/C RATIO (2F2/(1F/1000))= 37.15 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-27 FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2370 SF)	\$ 4408.20
B. SIOH	\$ 440.82
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 4364.12
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 4364.12

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	10.96	\$ 27.41	15.23	\$ 417.45
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	32.76	\$ 139.54	22.19	\$ 3096.39
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		43.72	\$ 166.95		----->\$ 3513.84

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 34.47
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 401.58
B. NON RECURRING SAVING (+)/COST (-)	
ITEM SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-	
COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)	
1. \$	\$
2. \$	\$
3. \$	\$
4. TOTAL \$	\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 401.58

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1159.57

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 201.42
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 3915.42
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
7. E/C RATIO (2F2/(1F/1000))= 10.02 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-27

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (330 SF)	\$ 1607.10
B. SIOH	\$ 160.71
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1591.03
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1591.03

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	4.51	\$ 11.28	15.23	\$ 171.79
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	16.23	\$ 69.16001	22.19	\$ 1534.66
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		20.74	\$ 80.44		----->\$ 1706.45

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 14.18
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 165.2
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 165.20

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 563.13
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 94.62
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1871.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.18
7. E/C RATIO (2F2/(1F/1000))= 13.04 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 004

PROJECT TITLE: WEATHERIZATION BUILDING BB-27 FISCAL YEAR 1986

DISCRETE PORTION NAME: FLOOR INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3244 SF)	\$ 3827.92
B. SIOH	\$ 382.79
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3789.64
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3789.64

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	42.67	\$ 181.76	22.19	\$ 4033.25
D. NG	\$		\$		\$
E. CO/DIST\$			\$		\$
F. TOTAL		42.67	\$ 181.76		----->\$ 4033.25

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1330.97
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 181.76
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 4033.25
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.06
7. E/C RATIO (2F2/(1F/1000))=	11.26 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-27 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 373.12
B. SIOH	\$ 37.31
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 369.39
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 369.39

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.16	\$.4	15.23	\$ 6.09
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.02	\$ 17.12	22.19	\$ 379.89
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		4.18	\$ 17.52		----->\$ 385.98

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.51
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 5.94

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 5.94

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 127.37
- 1. IF 3D1 IS = OR >3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 18.03
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 391.92
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.06
- 7. E/C RATIO (2F2/(1F/1000))= 11.32 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-27

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 84.80
B. SIOH	\$ 8.48
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 83.95
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 83.95

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.24	\$.6	15.23	\$ 9.140001
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.97	\$ 25.44	22.19	\$ 564.51
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.21	\$ 26.04		----->\$ 573.65

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.76
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 8.850001

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 8.85

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 189.3
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 26.8
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 582.5
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.94
7. E/C RATIO (2F2/(1F/1000))= 73.97 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 010

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-27

FISCAL YEAR 1986

DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (3244 SF)	\$ 746.12
B. SIOH	\$ 74.61
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 738.66
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 738.66

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	11.14	\$ 47.44	14.08	\$ 667.96
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		11.14	\$ 47.44		----->\$ 667.96

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			9.109	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)				\$ 220.43
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 47.44
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 667.96
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))= 15.08 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-27 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (3244 SF)	\$ 291.96
B. SIOH	\$ 29.20
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 289.04
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 289.04

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	13.36	\$ 56.92	14.08	\$ 801.43
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		13.36	\$ 56.92		----->\$ 801.43

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$
2.	\$ \$
3.	\$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 264.47

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 56.92
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 801.43
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.22 MBTU/K\$

BUILDING NUMBER BB-28 (Courthouse Bay)

FUNCTION Administration

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx-Window Units #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 5363

Roof 5363

Walls - (Less Windows)

Glass -

N. 1350 Sq. Ft. N. 270 Sq. Ft.

E. 345 Sq. Ft. E. 30 Sq. Ft.

S. 1335 Sq. Ft. S. 285 Sq. Ft.

W. 345 Sq. Ft. W. 30 Sq. Ft.

Window Perimeter - 656 Lin. Ft.

Door Perimeter - 40 Lin. Ft.

CONSTRUCTION:

Floor Type A

Roof Type B

Wall Type A

Window Type A

BUILDING NUMBER BB-18 (COURTHOUSE PLAZA)
 FUNCTION ADMINISTRATION

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 656 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 4145 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 656 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 256 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 40 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 3305 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 40 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 204 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. 12 TONS TOTAL

DESCRIPTION OF CONVERSION:

REPLACE 12 WINDOW UNITS WITH CENTRAL SYSTEM
 $S = 38 \text{ KW/TON} \times 12 \text{ TONS} \times 1100 \text{ EQ. FL. HRS} \times 11,600 \text{ BTU/KWH}$
 $S = 52.19 \text{ MBTU/YR}$

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-28

FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (5363 SF)	\$ 2735.13
B. SIOH	\$ 273.51
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2707.78
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2707.78

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	11.57	\$ 28.93	15.23	\$ 440.6
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	8.72	\$ 37.15	22.19	\$ 824.36
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		20.29	\$ 66.08		----->\$ 1264.96

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 36.38
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 423.83

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 423.83

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 417.44
1. IF 3D1 IS = OR > 3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .62
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE) \$ 102.41
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 1688.79
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= 7.49 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-28 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3375 SF)	\$ 2902.50
B. SIOH	\$ 290.25
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2873.48
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2873.48

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	22.74	\$ 56.85	15.23	\$ 865.83
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	52.13	\$ 222.09	22.19	\$ 4928.18
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		74.87	\$ 278.94		----->\$ 5794.01

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 71.49
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 832.86

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 832.86

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1912.02
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 350.43
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 6626.87
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.31
7. E/C RATIO (2F2/(1F/1000))= 26.06 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-28 FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (615 SF)	\$ 2995.05
B. SIOH	\$ 299.51
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2965.10
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2965.10

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	11.49	\$ 28.72	15.23	\$ 437.41
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	30.26	\$ 128.89	22.19	\$ 2860.07
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		41.75	\$ 157.61		----->\$ 3297.48

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65		\$ + 36.12
(2) DISCOUNTED SAVING/COST (3A X 3A1)			\$ 420.8

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 420.80

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1088.17

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 193.73
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3718.28
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.25
7. E/C RATIO (2F2/(1F/1000))=	14.08 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 004

PROJECT TITLE: WEATHERIZATION BUILDING BB-28 FISCAL YEAR 1986

DISCRETE PORTION NAME: FLOOR INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (5363 SF)	\$ 6328.34
B. SIOH	\$ 632.83
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6265.05
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 6265.05

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	70.54	\$ 300.48	22.19	\$ 6667.65
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		70.54	\$ 300.48		----->\$ 6667.65

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 2200.32
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 300.48
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 6667.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.05
7. E/C RATIO (2F2/(1F/1000))=	11.26 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 005

PROJECT TITLE: WEATHERIZATION BUILDING BB-28

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 695.36
B. SIOH	\$ 69.54
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 688.41
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 688.41

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.48	\$ 1.21	15.23	\$ 18.43
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.49	\$ 31.9	22.19	\$ 707.86
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.97	\$ 33.11		----->\$ 726.29

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 1.52
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 17.71

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 17.71

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 239.68
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 34.63

5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 744

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08

7. E/C RATIO (2F2/(1F/1000))= 11.58 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-28

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST					
B. SICH					\$ 84.80
C. DESIGN COST					\$ 8.48
D. ENERGY CREDIT CALC (1A+1B+1C)X.9					\$ 0.00
E. SALVAGE VALUE OF EXISTING EQUIPMENT					\$ 83.95
F. TOTAL INVESTMENT (1D-1E)					-\$ 0.00
					\$ 83.95

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.39	\$.97	15.23	\$ 14.77
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.97	\$ 25.44	22.19	\$ 564.51
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.36	\$ 26.41		----->\$ 579.28

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 1.21
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 14.1

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 14.10

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 191.16
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 27.62
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 593.38
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	7.07
7. E/C RATIO (2F2/(1F/1000))=	75.76 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008
PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-28 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM
ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$22560.00
B. SIOH	\$ 2256.00
C. DESIGN COST	\$ 2256.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$24364.80
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 2868.00
F. TOTAL INVESTMENT (1D-1E)	\$21496.80

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	58.19	\$ 125.69	11.48	\$ 1442.92
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		58.19	\$ 125.69		----->\$ 1442.92

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+)126.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)1147.73

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)2868.00	Yr. 10	.51	\$ (+)1462.68
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)2868.00			\$ (+)1462.68

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 2610.41

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 476.16
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 010
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BUILDING BB-28 FISCAL YEAR 1986
DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (5363 SF)	\$ 1233.49
B. SIGH	\$ 123.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1221.16
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1221.16

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	18.41	\$ 78.42	14.08	\$ 1104.15
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		18.41	\$ 78.42		----->\$ 1104.15

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		
D. PROJECT NON ENERGY QUALIFICATION TEST			
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 364.37		
1. IF 3D1 IS = OR >3C GO TO ITEM 4			
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=			
3. IF 3D1b IS => 1 GO TO ITEM 4			
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY			

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 78.42
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1104.15
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))= 15.08 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-28

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (5363 SF)	\$ 482.67
B. SIOH	\$ 48.27
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 477.85
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 477.85

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	22.09	\$ 94.11	14.08	\$ 1325.07
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		22.09	\$ 94.11		----->\$ 1325.07

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	9.109	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)

\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 437.27
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)

\$ 94.11

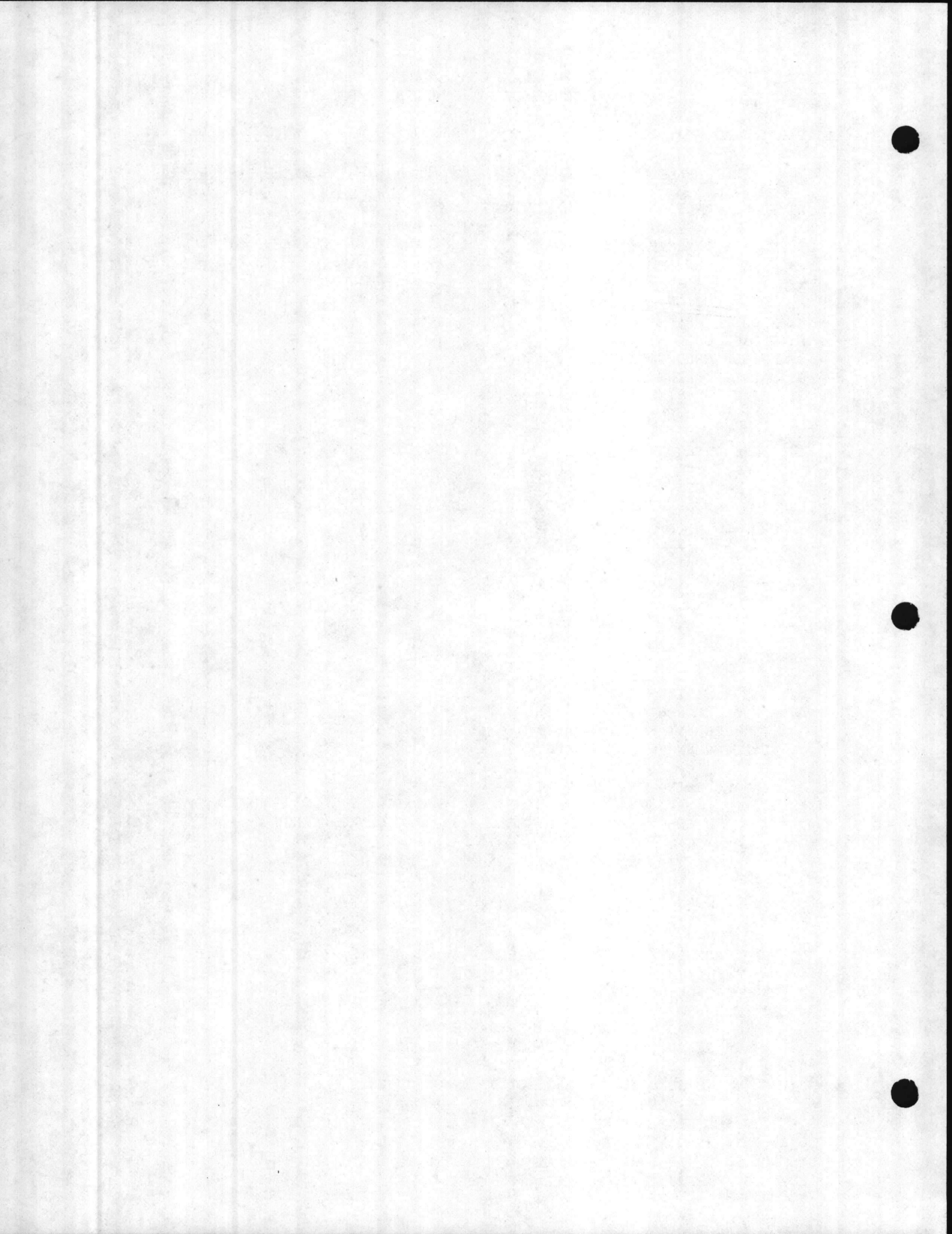
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)

\$ 1325.07

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY)

(SIR)=(5/1F)= 2.77

7. E/C-RATIO (2F2/(1F/1000))= 46.23 MBTU/K\$



BUILDING NUMBER BB-45 (Courthouse Bay)

FUNCTION Barracks/Officers Club

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx-Split System #3

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 20,817 1st-11,043/2nd-9774

Roof 11,043

Walls - (Less Windows)

Glass -

N. 3387 Sq. Ft. N. 703 Sq. Ft.

E. 2315 Sq. Ft. E. 334 Sq. Ft.

S. 3476 Sq. Ft. S. 614 Sq. Ft.

W. 2329 Sq. Ft. W. 320 Sq. Ft.

Window Perimeter - 2209 Lin. Ft.

Door Perimeter - 140 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type B

Wall Type A

Window Type A

BUILDING NUMBER BB-45 (CORNHOUSE BAY)

FUNCTION BARACKS / OFFICERS CLUB

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 2209 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 13956 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 2209 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 862 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 140 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 11367 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 140 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 714 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-45

FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (11043 SF)	\$ 5631.93
B. SIOH	\$ 563.19
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 5575.61
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5575.61

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	21.82	\$ 54.55	15.23	\$ 830.8
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	17.96	\$ 76.49	22.19	\$ 1697.31
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		39.78	\$ 131.04		----->\$ 2528.11

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 68.59
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 799.07

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 799.07

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 834.28
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 199.63
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3327.18
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.6
7. E/C RATIO (2F2/(1F/1000))= 7.13 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-45 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (11507 SF)	\$ 9896.02
B. SIOH	\$ 989.60
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 9797.06
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 9797.06

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	77.58	\$ 193.96	15.23	\$ 2954.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	177.75	\$ 757.2	22.19	\$ 16802.27
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		255.33	\$ 951.1601		----->\$19756.28

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ + 243.88
(1) DISCOUNT FACTOR (TABLE A)			11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ 2841.2
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)		DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$				\$
2.	\$				\$
3.	\$				\$
4. TOTAL	\$				\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)					\$2841.20

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 6519.57
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1195.04
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 22597.48
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.31
7. E/C RATIO (2F2/(1F/1000))=	26.06 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-45

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/07/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1971 SF)	\$ 9598.77
B. SIOH	\$ 959.88
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 9502.78
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 9502.78

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	35.6	\$ 88.99	15.23	\$ 1355.32
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	96.96	\$ 413.06	22.19	\$ 9165.8
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		132.56	\$ 502.05		----->\$10521.12

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 111.90
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 1303.64

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1303.64

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 3471.97
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 613.95
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 11824.76
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.24
7. E/C RATIO (2F2/(1F/1000))=	13.95 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-45 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2341.54
B. SIOH	\$ 234.15
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2318.12
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2318.12

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.5	\$ 3.74	15.23	\$ 56.96
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	25.21	\$ 107.41	22.19	\$ 2383.43
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		26.71	\$ 111.15		----->\$ 2440.39

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65		\$ + 4.70
(2) DISCOUNTED SAVING/COST (3A X 3A1)			\$ 54.75

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 54.75

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 805.33

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 115.85
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2495.14
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.08
7. E/C RATIO (2F2/(1F/1000))=	11.52 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-45

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ - 296.80
B. SIOH	\$ 29.68
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 293.83
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 293.83

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.24	\$ 3.09	15.23	\$ 47.06
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	20.9	\$ 89.01999	22.19	\$ 1975.35
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		22.14	\$ 92.10999		----->\$ 2022.41

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 3.89			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 45.32			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 45.32

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 667.4
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 96
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 2067.73
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 7.04
7. E/C RATIO (2F2/(1F/1000))= 75.35 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 010
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-45 FISCAL YEAR 1986
DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (20817 SF)	\$	4787.91
B. SIOH	\$	478.79
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	4740.03
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)		\$ 4740.03

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	71.46	\$ 304.4	14.08	\$ 4285.95
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		71.46	\$ 304.4		----->\$ 4285.95

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$	+ 0.00
(1) DISCOUNT FACTOR (TABLE A)		9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$	0
B. NON RECURRING SAVING (+)/COST (-)		
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)
		DISCOUNT FACTOR (3)
		DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$	\$
2.	\$	\$
3.	\$	\$
4. TOTAL	\$	\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)		\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1414.36

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$	304.4
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$	4285.95
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=		.9
7. E/C RATIO (2F2/(1F/1000))= 15.08 MBTU/K\$		

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-45 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (20817 SF)	\$ 1873.53
B. SIOH	\$ 187.35
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1854.79
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1854.79

2. ENERGY SAVINGS (+)/COST (-)

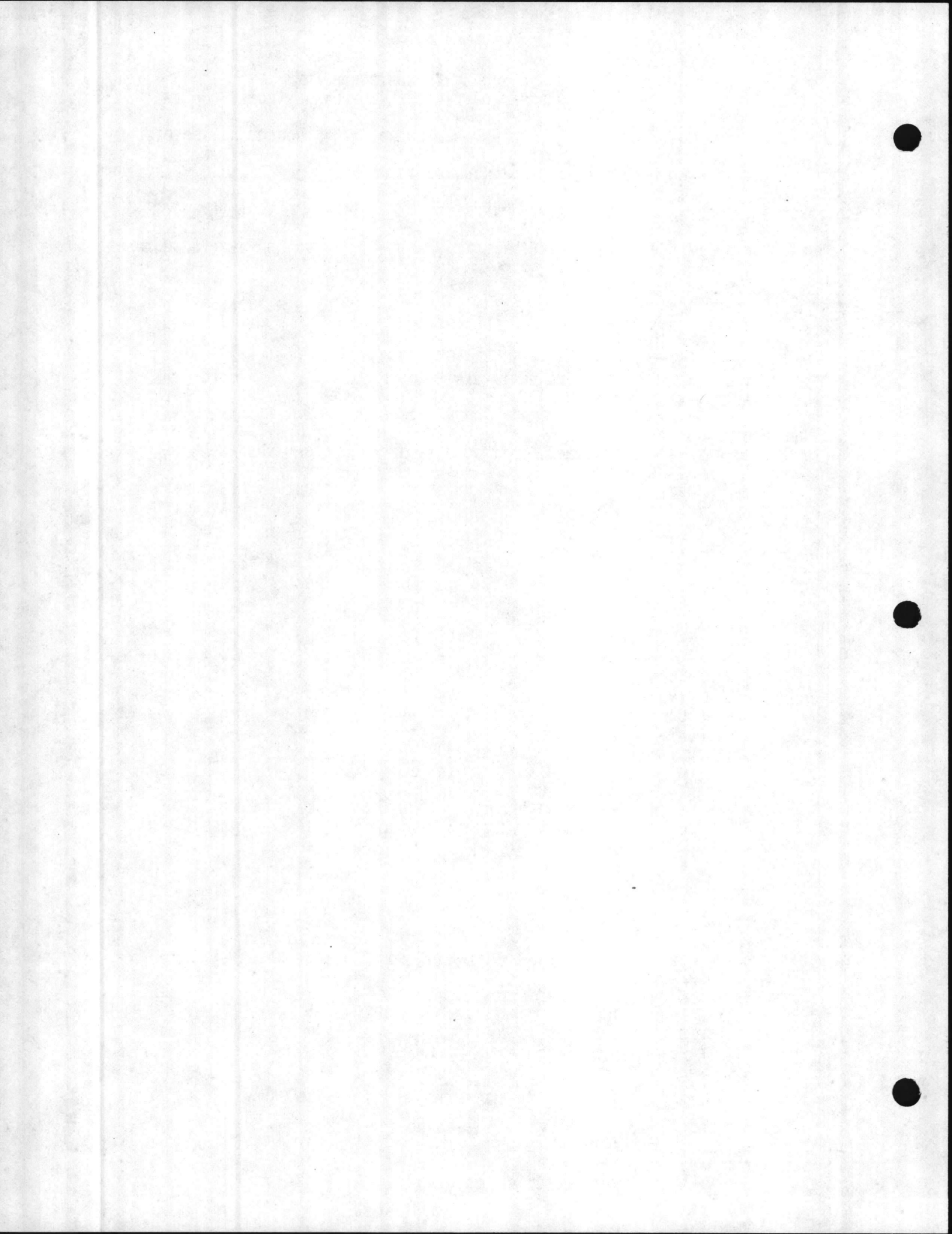
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	85.75	\$ 365.29	14.08	\$ 5143.28
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		85.75	\$ 365.29		----->\$ 5143.28

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	DISCOUNTED SAVINGS (+) COST (-)(4)
SAVINGS(+) YEAR OF DISCOUNT	
COST (-)(1) OCCURRENCE (2) FACTOR (3)	
1.	\$
2.	\$
3.	\$
4. TOTAL	\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1697.28
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 365.29
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 5143.28
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-48 (Courthouse Bay)

FUNCTION School

HEATING SOURCE Fuel Oil (CEP # N/A)

COOLING SOURCE Window Units & One Tactical AC Unit #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 10809

Roof 10809

Walls - (Less Windows)

Glass -

N. 3631 Sq. Ft. N. 171 Sq. Ft.

E. 1156 Sq. Ft. E. 44 Sq. Ft.

S. 3577 Sq. Ft. S. 225 Sq. Ft.

W. 1156 Sq. Ft. W. 44 Sq. Ft.

Window Perimeter - 447 Lin. Ft.

Door Perimeter - 740 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type G

Wall Type D

Window Type A

BUILDING NUMBER RB 48 (COURTHOUSE BAY)
FUNCTION SCHOOL

• WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 447 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$

$Q = 2824 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 447 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$

$Q = 174 \text{ BTUH HEAT GAIN SAVINGS}$

• DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 740 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$

$Q = 6139 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 740 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$

$Q = 3774 \text{ BTUH HEAT GAIN SAVINGS}$

• CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM: 13 TONS TOTAL

DESCRIPTION OF CONVERSION:

CONVERT 7 WINDOW UNITS & 1 (6 TON) MILITARY UNIT TO 1 CENTRAL SYSTEM

$S = .38 \text{ KW/TON} \times 13 \text{ TONS} \times 1100 \text{ EQ. EL. HRS} \times 11,600 \text{ BTU/KWH}$
 $S = 63.03 \text{ MBTU/YR}$
1000,000 BTU/MBTU

• CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-48 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9520 SF)	\$24656.80
B. SIOH	\$ 2465.68
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$24410.23
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$24410.23

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	85.76999	\$ 214.42	15.23	\$ 3265.62
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	193.49	\$ 824.27	22.19	\$ 18290.55
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		279.26	\$ 1038.69		----->\$21556.17

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 269.61
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 3140.96

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$3140.96

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 7113.54
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- | | |
|--|---------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 1308.3 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 24697.13 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 1.01 |
| 7. E/C RATIO (2F2/(1F/1000))= | 11.44 MBTU/KS |

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-48 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/07/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$24212.16
B. SIOH	\$ 2421.22
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$23970.04
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$23970.04

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	111.7	\$ 279.26	15.23	\$ 4253.13
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	61.51	\$ 262.04	22.19	\$ 5814.67
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		173.21	\$ 541.3001		----->\$10067.80

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 351.14
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 4090.78

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$4090.78

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 3322.37
1. IF 3D1 IS = OR > 3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	.56
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE)	\$ 892.44
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$14158.58
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	
7. E/C RATIO (2F2/(1F/1000))=7.23 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-48 FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #2
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9520 SF)	\$ 8187.20
B. SIOH	\$ 818.72
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8105.33
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 8105.33

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	72.08	\$ 180.19	15.23	\$ 2744.29
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	162.53	\$ 692.39	22.19	\$ 15364.14
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		234.61	\$ 872.58		----->\$18108.43

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 226.57		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 2639.54		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$2639.54		
D. PROJECT NON ENERGY QUALIFICATION TEST			
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 5975.78		
1. IF 3D1 IS = OR >3C GO TO ITEM 4			
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=			
3. IF 3D1b IS => 1 GO TO ITEM 4			
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY			

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1099.15
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 20747.97
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.56
7. E/C RATIO (2F2/(1F/1000))=	28.95 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-48

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (484 SF)	\$ 2357.08
B. SIOH	\$ 235.71
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2333.51
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2333.51

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	9.3	\$ 23.25	15.23	\$ 354.1
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	23.81	\$ 101.43	22.19	\$ 2250.73
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		33.11	\$ 124.68		----->\$ 2604.83

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 29.23
(1) DISCOUNT FACTOR (TABLE A)		11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 340.53
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 340.53

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 859.5899
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 153.91
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2945.36
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.26
7. E/C RATIO (2F2/(1F/1000))=	14.19 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-48 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 473.82
B. SIOH	\$ 47.38
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 469.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 469.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.33	\$.82	15.23	\$ 12.49
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.1	\$ 21.73	22.19	\$ 482.19
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		5.43	\$ 22.55		----->\$ 494.68

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.04
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 12.12

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 12.12

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 163.24
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 23.59
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 506.8
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08
7. E/C RATIO (2F2/(1F/1000))= 11.58 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-48 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 1568.80
B. SIOH	\$ 156.88
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1553.11
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1553.11

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	7.14	\$ 17.86	15.23	\$ 272.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	110.46	\$ 470.54	22.19	\$ 10441.28
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		117.6	\$ 488.4		----->\$10713.29

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 22.45
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 261.54

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 261.54

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 3535.39

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 510.85
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 10974.83
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	7.07
7. E/C RATIO (2F2/(1F/1000))=	75.72 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008

PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-48 FISCAL YEAR 1986

DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM

ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$24440.00
B. SIOH	\$ 2444.00
C. DESIGN COST	\$ 2444.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$26395.20
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 3107.00
F. TOTAL INVESTMENT (1D-1E)	\$23288.20

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	63.03	\$ 136.14	11.48	\$ 1562.89
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		63.03	\$ 136.14		----->\$ 1562.89

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 136.50
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)1243.38

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)3107.00	Yr. 10	.51	\$ (+) 1584.57
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)3107.00			\$ (+) 1584.57

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 2827.95

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 515.75
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 010

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-48

FISCAL YEAR 1986

DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$ 2486.07
B. SIOH	\$ 248.61
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2461.21
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2461.21

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	37.1	\$ 158.06	14.08	\$ 2225.48
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		37.1	\$ 158.06		----->\$ 2225.48

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 734.41
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 158.06
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2225.48
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))= 15.07 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-48

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$ 972.81
B. SIOH	\$ 97.28
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 963.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 963.08

2. ENERGY SAVINGS (+)/COST (-)

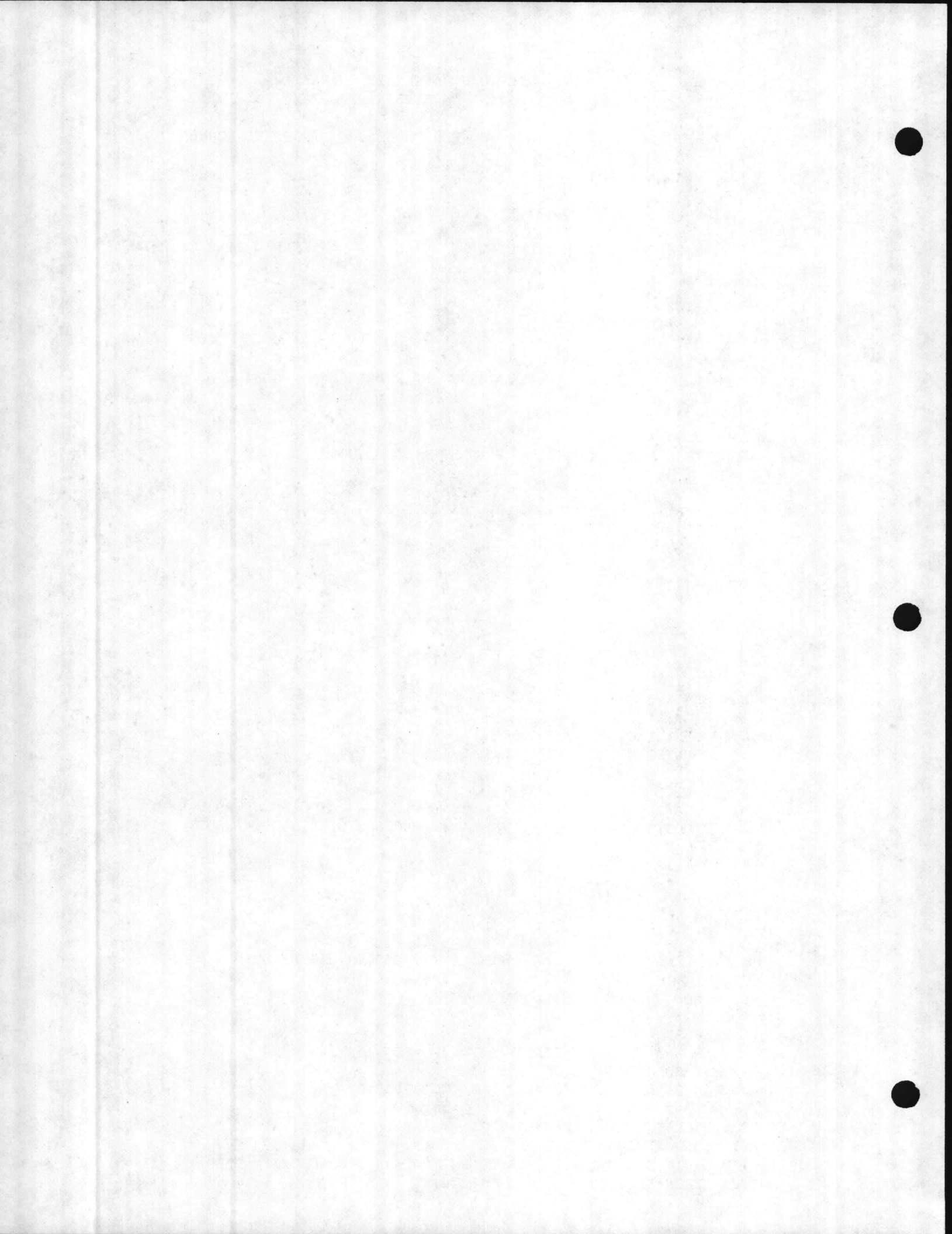
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	44.52	\$ 189.67	14.08	\$ 2670.55
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		44.52	\$ 189.67		----->\$ 2670.55

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 881.28
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 189.67
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2670.55
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-49 (Courthouse Bay)

FUNCTION School

HEATING SOURCE Fuel Oil (CEP # N/A)

COOLING SOURCE Window Units & Three Tactical AC Units #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 10809

Roof 10809

Walls - (Less Windows)

Glass -

N. 3631 Sq. Ft. N. 171 Sq. Ft.

E. 1156 Sq. Ft. E. 44 Sq. Ft.

S. 3577 Sq. Ft. S. 225 Sq. Ft.

W. 1156 Sq. Ft. W. 44 Sq. Ft.

Window Perimeter - 447 Lin. Ft.

Door Perimeter - 740 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type G

Wall Type D

Window Type A

BUILDING NUMBER BB-49 (COURTHOUSE BAY)

FUNCTION SCHOOL

• WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 447 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 2874 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 447 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$

$Q = 174 \text{ BTUH HEAT GAIN SAVINGS}$

• DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 740 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 6139 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 740 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$

$Q = 3774 \text{ BTUH HEAT GAIN SAVINGS}$

• CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM 22 TONS TOTAL

DESCRIPTION OF CONVERSION:

CONVERT 4 WINDOW UNITS & 3 (6TON) MILITARY UNIT TO CENTRAL SYSTEM
 $5 \times .38 \text{ KW/TON} \times 22 \text{ TONS} \times 1100 \text{ EQ. FL. HRS} \times 11,600 \text{ BTU/KWH}$
 $1000,000 \text{ MBTU}$

$S = 10,667 \text{ MBTU}$

• CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-49 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$24212.16
B. SIOH	\$ 2421.22
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$23970.04
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$23970.04

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	111.7	\$ 279.26	15.23	\$ 4253.13
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	61.51	\$ 262.04	22.19	\$ 5814.67
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		173.21	\$ 541.3001		----->\$10067.80

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 351.14
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 4090.78

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$4090.78

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 3322.37
- 1. IF 3D1 IS = OR > 3C GO TO ITEM 4
- 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .56
- 3. IF 3D1b IS => 1 GO TO ITEM 4
- 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE) \$ 892.44
- 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$14158.58
- 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
- 7. E/C RATIO (2F2/(1F/1000))= 7.23 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-49

FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9520 SF)	\$24656.80
B. SIOH	\$ 2465.68
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$24410.23
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$24410.23

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	85.76999	\$ 214.42	15.23	\$ 3265.62
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	193.49	\$ 824.27	22.19	\$ 18290.55
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		279.26	\$ 1038.69		----->\$21556.17

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 269.61
(1) DISCOUNT FACTOR (TABLE A)		11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 3140.96
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$3140.96

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 7113.54
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 1308.3
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 24697.13
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.01
7. E/C RATIO (2F2/(1F/1000))= 11.44 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-49 FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #2
ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9520 SF)	\$ -8187.20
B. SIOH	\$ 818.72
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8105.33
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 8105.33

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	72.08	\$ 180.19	15.23	\$ 2744.29
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	162.53	\$ 692.39	22.19	\$ 15364.14
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		234.61	\$ 872.58		----->\$18108.43

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 226.57
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 2639.54
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$2639.54
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 5975.78
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1099.15
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 20747.97
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.56
7. E/C RATIO (2F2/(1F/1000))=	28.95 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-49

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (484 SF)	\$ 2357.08
B. SIOH	\$ 235.71
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2333.51
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2333.51

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	9.3	\$ 23.25	15.23	\$ 354.1
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	23.81	\$ 101.43	22.19	\$ 2250.73
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		33.11	\$ 124.68		----->\$ 2604.83

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 29.23			
(1) DISCOUNT FACTOR (TABLE A)	11.65			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 340.53			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 340.53			

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 859.5899
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 153.91
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2945.36
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.26
7. E/C RATIO (2F2/(1F/1000))= 14.19 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-49 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 473.62
B. SIOH	\$ 47.38
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 469.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 469.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.33	\$.82	15.23	\$ 12.49
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	5.1	\$ 21.73	22.19	\$ 482.19
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		5.43	\$ 22.55		----->\$ 494.68

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.04
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 12.12

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 12.12

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 163.24
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 23.59
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 506.8
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08
7. E/C RATIO (2F2/(1F/1000))= 11.58 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-49 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT
- | | |
|--|------------|
| A. CONSTRUCTION COST | \$ 1568.80 |
| B. SIGH | \$ 156.88 |
| C. DESIGN COST | \$ 0.00 |
| D. ENERGY CREDIT CALC (1A+1B+1C)X.9 | \$ 1553.11 |
| E. SALVAGE VALUE OF EXISTING EQUIPMENT | -\$ 0.00 |
| F. TOTAL INVESTMENT (1D-1E) | \$ 1553.11 |

2. ENERGY SAVINGS (+)/COST (-)
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	7.14	\$ 17.86	15.23	\$ 272.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	110.46	\$ 470.54	22.19	\$ 10441.28
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		117.6	\$ 488.4		----->\$10713.29

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 261.54

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 261.54

- D. PROJECT NON ENERGY QUALIFICATION TEST
- | | |
|--|------------|
| (1) 25% MAX NON ENERGY CALC (2F5 X .33) | \$ 3535.39 |
| 1. IF 3D1 IS = OR >3C GO TO ITEM 4 | |
| 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= | |
| 3. IF 3D1b IS => 1 GO TO ITEM 4 | |
| 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY | |

- | | |
|--|-------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 510.85 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 10974.83 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 7.07 |
| 7. E/C RATIO (2F2/(1F/1000))= 75.72 MBTU/K\$ | |

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 008

PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-49

FISCAL YEAR 1986

DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM

ANALYSIS DATE 8/8/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$41360.00
B. SIOH	\$ 4136.00
C. DESIGN COST	\$ 4136.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$44668.80
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 5258.00
F. TOTAL INVESTMENT (1D-1E)	\$39410.80

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	106.67	\$ 230.41	11.48	\$ 2645.11
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		106.67	\$ 230.41		----->\$ 2645.11

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 231.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)2104.18

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)5258.00	Yr. 10	.51	\$ (+)2681.58
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)5258.00			\$ (+)2681.58

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)

\$ 4785.76

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 872.89
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 010

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-49 FISCAL YEAR 1986

DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)

ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$ 2486.07
B. SIOH	\$ 248.61
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2461.21
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2461.21

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	37.1	\$ 158.06	14.08	\$ 2225.48
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		37.1	\$ 158.06		----->\$ 2225.48

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$
2.	\$ \$
3.	\$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 734.41
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 158.06
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 2225.48
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
7. E/C RATIO (2F2/(1F/1000))= 15.07 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-49 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10809 SF)	\$ 972.81
B. SIOH	\$ 97.28
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 963.08
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 963.08

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	44.52	\$ 189.67	14.08	\$ 2670.55
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		44.52	\$ 189.67		----->\$ 2670.55

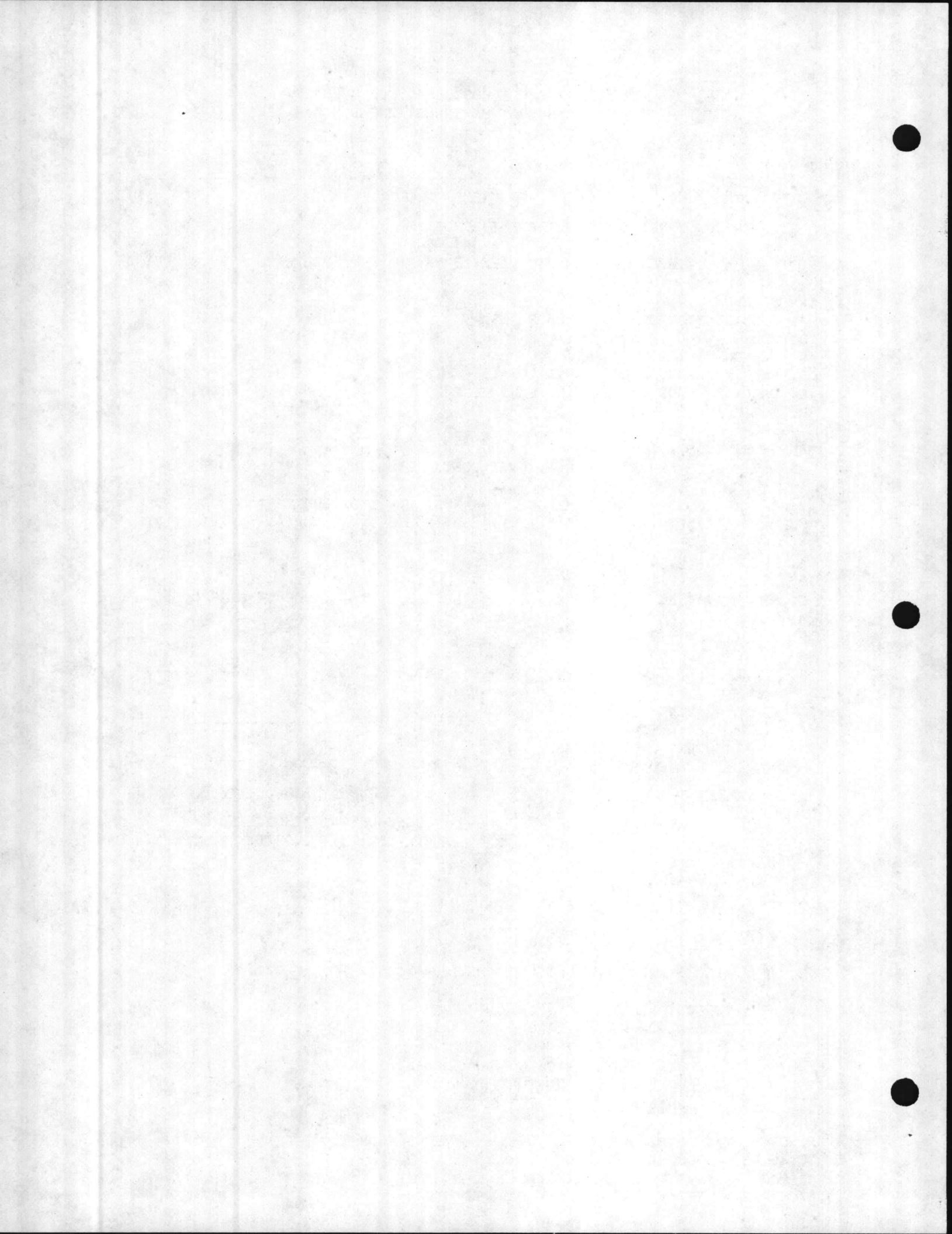
3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	9.109			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF COST (-)(1)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 881.28
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 189.67
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2670.55
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-50 (Courthouse Bay)

FUNCTION School

HEATING SOURCE Fuel Oil (CEP # N/A)

COOLING SOURCE Window Units #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 10652

Roof 10652

Walls - (Less Windows)

Glass -

N. 1180 Sq. Ft. N. 20 Sq. Ft.

E. 3552 Sq. Ft. E. 250 Sq. Ft.

S. 1180 Sq. Ft. S. 20 Sq. Ft.

W. 3680 Sq. Ft. W. 122 Sq. Ft.

Window Perimeter - 385 Lin. Ft.

Door Perimeter - 811 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type G

Wall Type D

Window Type A

W. E. GILBERT & ASSOCIATES, INC.

P. O. Box 17217, Sta. B

Greenville, S. C. 29606

(803) 233-3287

JOB CAMP LEJEUNE, N.C.

SHEET NO. 17A OF _____

CALCULATED BY RAH/SLW DATE 6-1-84

CHECKED BY _____ DATE _____

SCALE _____

BUILDING NUMBER BB-50 (COURTHOUSE BAY)

FUNCTION SCHOOL

• WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 385 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$ HEAT LOSS

$Q = 7436 \text{ BTUH}$ HEAT LOSS SAVINGS

$Q = 385 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$ HEAT GAIN

$Q = 150 \text{ BTUH}$ HEAT GAIN SAVINGS

• DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 811 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$ HEAT LOSS

$Q = 67005 \text{ BTUH}$ HEAT LOSS SAVINGS

$Q = 811 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$ HEAT GAIN

$Q = 4136 \text{ BTUH}$ HEAT GAIN SAVINGS

• CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. 6 TONS TOTAL

DESCRIPTION OF CONVERSION: _____

CONVERT 6 WINDOW UNITS TO CENTRAL SYSTEM
 $S = 33 \text{ KW/TON} \times 6 \text{ TONS} \times 1100 \text{ EQ. FL. HRS} \times 11,600 \text{ BTU/KWH}$
 $S = 29.09 \text{ MMBTU/YR}$

• CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-50

FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (10652 SF)	\$23860.48
B. SIOH	\$ 2386.05
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$23621.88
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$23621.88

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	110.08	\$ 275.2	15.23	\$ 4191.3
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	60.62	\$ 258.24	22.19	\$ 5730.35
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		170.7	\$ 533.44		----->\$ 9921.65

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ + 346.04
(1) DISCOUNT FACTOR (TABLE A)			11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ 4031.37
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)	
1.	\$			\$	
2.	\$			\$	
3.	\$			\$	
4. TOTAL	\$			\$	

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$4031.37

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 3274.14
1. IF 3D1 IS = OR > 3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .56
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B12/YEARS ECONOMIC LIFE) \$ 879.48

5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$1395.02

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=

7. E/C RATIO (2F2/(1F/1000))= 7.23 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-50 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9592 SF)	\$24843.28
B. SIOH	\$ 2484.33
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$24594.85
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$24594.85

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	106.02	\$ 265.06	15.23	\$ 4036.86
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	194.95	\$ 830.5	22.19	\$ 18428.8
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		300.97	\$ 1095.56		----->\$22465.66

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 333.29
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 3882.83

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$3882.83

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 7413.67

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 1428.85

5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 26348.49

6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.07

7. E/C RATIO (2F2/(1F/1000))= 12.24 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-50 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #2

ANALYSIS DATE 6/26/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (9592 SF)	\$ 8249.12
B. SIOH	\$ 824.91
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8166.63
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 8166.63

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	89.14	\$ 222.85	15.23	\$ 3394.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	163.76	\$ 697.62	22.19	\$ 15480.19
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		252.9	\$ 920.47		----->\$18874.20

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 280.21
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 3264.45

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$3264.45

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 6228.49
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 1200.68
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 22138.65
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.71
7. E/C RATIO (2F2/(1F/1000))= 30.97 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-50 FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (412 SF)	\$ 2006.44
B. SIOH	\$ 200.64
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1986.37
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1986.37

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	8.939999	\$ 22.34	15.23	\$ 340.24
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	20.27	\$ 86.33999	22.19	\$ 1915.88
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		29.21	\$ 108.68		----->\$ 2256.12

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 28.09		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 327.25		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 327.25		

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 744.52

1. IF 3D1 IS = OR >3C GO TO ITEM 4

2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=

3. IF 3D1b IS => 1 GO TO ITEM 4

4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 136.77
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2583.37
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.3
7. E/C RATIO (2F2/(1F/1000))=	14.71 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 005

PROJECT TITLE: WEATHERIZATION BUILDING BB-50

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 408.10
B. SIOH	\$ 40.81
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 404.02
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 404.02

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.28	\$.71	15.23	\$ 10.81
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	4.39	\$ 18.72	22.19	\$ 415.4
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		4.67	\$ 19.43		----->\$ 426.21

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65		\$ + 0.89
(2) DISCOUNTED SAVING/COST (3A X 3A1)			\$ 10.37

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 10.37

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 140.65
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 20.32
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 436.58
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.08
7. E/C RATIO (2F2/(1F/1000))= 11.56 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-50 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 1719.32
B. SIOH	\$ 171.93
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1702.13
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1702.13

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	7.83	\$ 19.57	15.23	\$ 298.05
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	121.05	\$ 515.69	22.19	\$ 11443.16
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		128.88	\$ 535.26		----->\$11741.21

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 24.61
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 286.71

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2,4) \$ 286.71

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 3874.6
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 559.87
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 12027.92
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	7.07
7. E/C RATIO (2F2/(1F/1000))=	75.72 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008

PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-50 FISCAL YEAR 1986

DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM

ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$11280.00
B. SIOH	\$ 1128.00
C. DESIGN COST	\$ 1128.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$12182.40
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 1434.00
F. TOTAL INVESTMENT (1D-1E)	\$10748.40

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	29.09	\$ 62.83	11.48	\$ 721.29
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		29.09	\$ 62.83		----->\$ 721.29

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ (+) 63.00
(1) DISCOUNT FACTOR (TABLE A)			9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ (+)573.87
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)		DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)1434.00	Yr. 10	.51		\$ (+)731.34
2.	\$				\$
3.	\$				\$
4. TOTAL	\$ (+)1434.00				\$ (+)731.34
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)					\$ 1305.21

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 238.03
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 010
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-50 FISCAL YEAR 1986
DISCRETE PORTION NAME: CONTROL SYSTEM MODIFICATIONS (HEATING SYSTEM)
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10652 SF)	\$ 2449.96
B. SIOH	\$ 245.00
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2425.46
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2425.46

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	36.56	\$ 155.76	14.08	\$ 2193.1
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		36.56	\$ 155.76		----->\$ 2193.10

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$
2.	\$ \$ \$
3.	\$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 723.72
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 155.76
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2193.1
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))=	15.07 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-50

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (10652 SF)	\$ 958.68
B. SIOH	\$ 95.87
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 949.10
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 949.10

2. ENERGY SAVINGS (+)/COST (-)

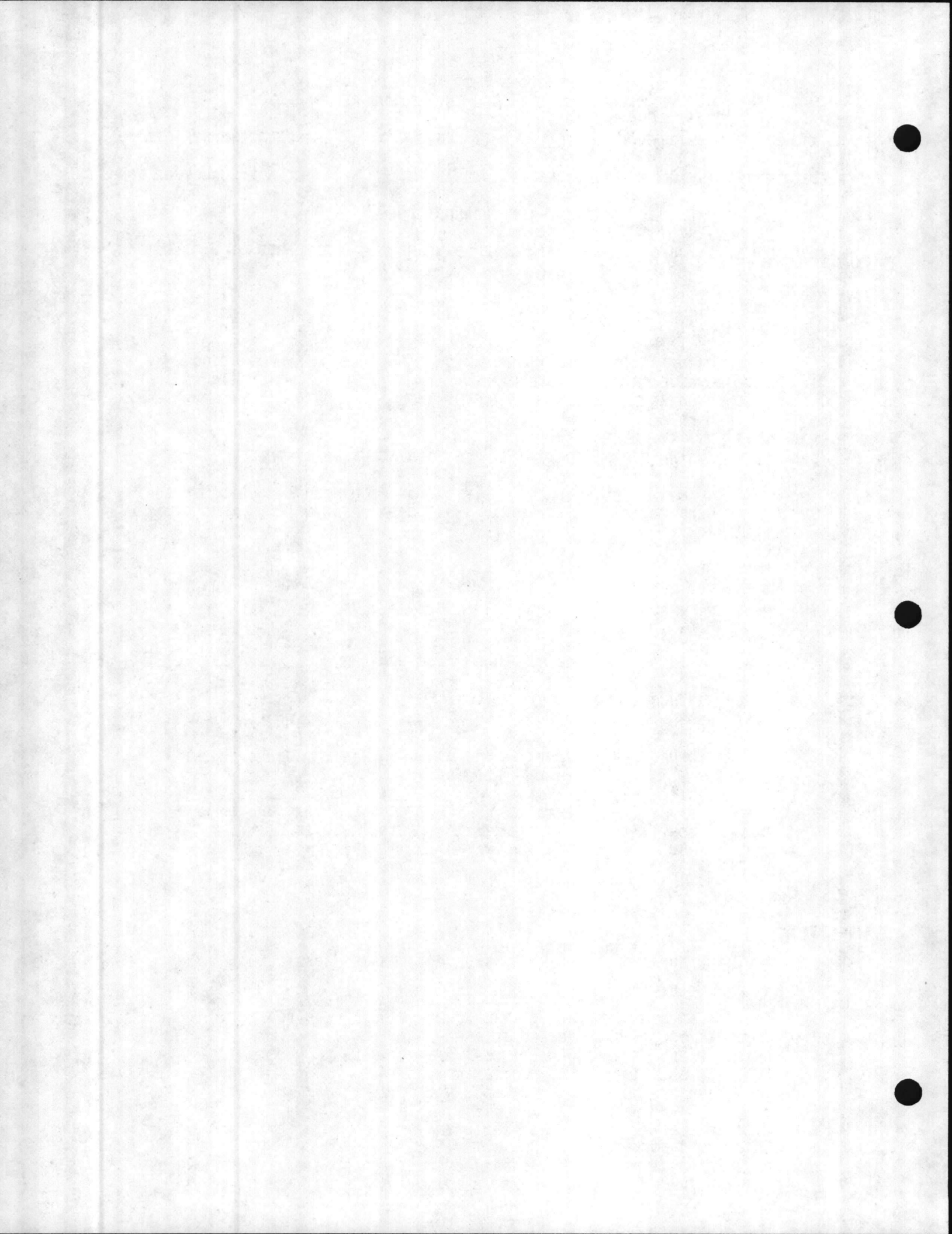
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	43.88	\$ 186.92	14.08	\$ 2631.83
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		43.88	\$ 186.92		----->\$ 2631.83

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00			
(1) DISCOUNT FACTOR (TABLE A)	9.109			
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0			
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+)	YEAR OF	DISCOUNT	DISCOUNTED SAV-
	COST (-)(1)	OCCURRENCE (2)	FACTOR (3)	INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00			
D. PROJECT NON ENERGY QUALIFICATION TEST				
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 868.5			
1. IF 3D1 IS = OR >3C GO TO ITEM 4				
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=				
3. IF 3D1b IS => 1 GO TO ITEM 4				
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY				

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 186.92
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2631.83
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$



BUILDING NUMBER BB-51 (Courthouse Bay)

FUNCTION Heavy Equipment Maintenance Shop

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE N/A

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 7424

Roof 7424

Walls - (Less Windows)

Glass -

N. <u>2370</u>	Sq. Ft.	N. <u>560</u>	Sq. Ft.
E. <u>458</u>	Sq. Ft.	E. <u>12</u>	Sq. Ft.
S. <u>2138</u>	Sq. Ft.	S. <u>460</u>	Sq. Ft.
W. <u>272</u>	Sq. Ft.	W. <u>112</u>	Sq. Ft.

Window Perimeter - 586 Lin. Ft.

Door Perimeter - 10 Lin. Ft.

CONSTRUCTION:

Floor Type B
Roof Type F
Wall Type M
Window Type A

BUILDING NUMBER BB-51 (GARAGE BLDG)

FUNCTION HEAVY EQUIPMENT MAINTENANCE SHOP

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING.

$$Q = 586 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 40.0 \text{ BTU/CFM}$$

$$Q = 3047 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 586 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 10 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 40.0 \text{ BTU/CFM}$$

$$Q = 680 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 10 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM. _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (SHOP AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (7424 SF)	\$10467.84
B. SIOH	\$ 1046.78
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$10363.16
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$10363.16

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	60.36	\$ 257.12	22.19	\$ 5705.49
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		60.36	\$ 257.12		----->\$ 5705.49

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$
2.	\$ \$ \$
3.	\$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1882.81

 1. IF 3D1 IS = OR >3C GO TO ITEM 4

 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=

 3. IF 3D1b IS => 1 GO TO ITEM 4

 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 257.12
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 5705.49
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.55
7. E/C RATIO (2F2/(1F/1000))= 5.82 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (SHOP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (5238 SF)	\$13566.42
B. SIOH	\$ 1356.64
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$13430.75
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$13430.75

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	89.43	\$ 380.96	22.19	\$ 8453.5
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		89.43	\$ 380.96		----->\$ 8453.50

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 2789.66

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 380.96
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 8453.5
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.63
7. E/C RATIO (2F2/(1F/1000))= 6.66 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (SHOP AREAS) FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1144 SF)	\$ 5571.28
B. SIOH	\$ 557.13
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 5515.57
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 5515.57

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	56.28	\$ 239.75	22.19	\$ 5320.05
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		56.28	\$ 239.75		----->\$ 5320.05

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1755.62
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 239.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 5320.05
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.96
7. E/C RATIO (2F2/(1F/1000))= 10.2 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (SHOP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 621.16
B. SIOH	\$ 62.12
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 614.95
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 614.95

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	6.69	\$ 28.52	22.19	\$ 632.86
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.69	\$ 28.52		----->\$ 632.86

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$		\$
2.	\$		\$
3.	\$		\$
4. TOTAL	\$		\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 208.84
 - 1. IF 3D1 IS = OR >3C GO TO ITEM 4
 - 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 - 3. IF 3D1b IS => 1 GO TO ITEM 4
 - 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 28.52
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 632.86
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.03
7. E/C RATIO (2F2/(1F/1000))=	10.88 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (SHOP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERDTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$	21.10
B. SIOH	\$	2.11
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	20.89
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)	\$	20.89

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.5	\$ 6.37	22.19	\$ 141.35
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.5	\$ 6.37		----->\$ 141.35

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ +	0.00		
(1) DISCOUNT FACTOR (TABLE A)		11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$	0		
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$	0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 46.65
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 6.37
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 141.35
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.77
7. E/C RATIO (2F2/(1F/1000))=	71.8 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-51 (SHOP AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (7424 SF)	\$ 668.16
B. SIOH	\$ 66.82
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 661.48
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 661.48

2. ENERGY SAVINGS (+)/COST (-)
ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	37.19	\$ 158.44	14.08	\$ 2230.84
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		37.19	\$ 158.44		----->\$ 2230.84

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			9.109	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 736.18
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 158.44
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2230.84
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	3.37
7. E/C RATIO (2F2/(1F/1000))=	56.22 MBTU/K\$

BUILDING NUMBER BB-51 (Courthouse Bay)

FUNCTION Offices

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx Window Unit #1

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,
65°Fdb , 40°Fdb

AREAS:

Floor 392

Roof 392

Walls - (Less Windows)		Glass -	
N. Partition	Sq. Ft.	N. Partition	Sq. Ft.
E. 86	Sq. Ft.	E. 0	Sq. Ft.
S. 284	Sq. Ft.	S. 48	Sq. Ft.
W. 160	Sq. Ft.	W. 12	Sq. Ft.

Window Perimeter - 70 Lin. Ft.

Door Perimeter - 60 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type F

Wall Type C

Window Type A

BUILDING NUMBER BB-51 (COURTHOUSE RAY)
FUNCTION OFFICES

• WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 70 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 442 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 70 \text{ LIN. FT.} \times 0.13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$

$Q = 27 \text{ BTUH HEAT GAIN SAVINGS}$

• DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 60 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$

$Q = 4957 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 60 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$

$Q = 306 \text{ BTUH HEAT GAIN SAVINGS}$

• CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM: 4 TONS TOTAL

DESCRIPTION OF CONVERSION:

Convert 4 window units to central unit
 $SE. 38 \text{ KW/TON} \times 4 \text{ TONS} \times 1100 \text{ EQ. FL. HRS} \times 11,600 \text{ BTU/KWH}$
 $1,000,000 \text{ BTU/MBTU}$

$S = 19.40 \text{ MBTU}$

• CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION:

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (392 SF)	\$ 552.72
B. SIOH	\$ 55.27
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 547.19
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 547.19

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	3.26	\$ 8.16	15.23	\$ 124.28
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	3.19	\$ 13.58	22.19	\$ 301.34
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		6.45	\$ 21.74		----->\$ 425.62

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 10.26
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 119.53

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 119.53

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 140.45

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 32
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 545.15
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1
7. E/C RATIO (2F2/(1F/1000))= 11.79 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (530 SF)	\$ 1372.70
B. SIOH	\$ 137.27
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1358.97
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1358.97

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	6.84	\$ 17.1	15.23	\$ 260.43
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	12.93	\$ 55.07	22.19	\$ 1222
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		19.77	\$ 72.17		----->\$ 1482.43

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ + 21.51
(1) DISCOUNT FACTOR (TABLE A)			11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ 250.59
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)		DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$				\$
2.	\$				\$
3.	\$				\$
4. TOTAL	\$				\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 250.59

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 489.2
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- | | |
|--|----------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 93.68 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 1733.02 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 1.28 |
| 7. E/C RATIO (2F2/(1F/1000))= | 14.55 MBTU/K\$ |

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-51 (OFFICE AREA) FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 127.20
B. SIOH	\$ 12.72
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 125.93
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 125.93

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.58	\$ 1.45	15.23	\$ 22.08
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	8.96	\$ 38.15	22.19	\$ 846.55
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		9.54	\$ 39.6		----->\$ 868.63

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.82
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 21.2

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 21.20

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 286.65
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 41.42
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 889.83
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	7.07
7. E/C RATIO (2F2/(1F/1000))=	75.76 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008
PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-51 (OFFICES) FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM
ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 7520.00
B. SIOH	\$ 752.00
C. DESIGN COST	\$ 752.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8121.60
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 956.00
F. TOTAL INVESTMENT (1D-1E)	\$ 7165.60

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	19.4	\$ 41.9	11.48	\$ 481.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		19.4	\$ 41.9		----->\$ 481.01

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 42.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)382.58

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)956.00	Yr. 10	.51	\$ (+)487.56
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)956.00			\$ (+)487.56

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 870.14

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 158.73
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F= .09
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-51 (OFFICE AREA) FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (392 SF)		\$	35.28
B. SIOH		\$	3.53
C. DESIGN COST		\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9		\$	34.93
E. SALVAGE VALUE OF EXISTING EQUIPMENT		-\$	0.00
F. TOTAL INVESTMENT (1D-1E)		\$	34.93

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	1.62	\$ 6.88	14.08	\$ 96.87
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		1.62	\$ 6.88		----->\$ 96.87

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	9.109	\$ +	0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$	0

B. NON RECURRING SAVING (+)/COST (-)

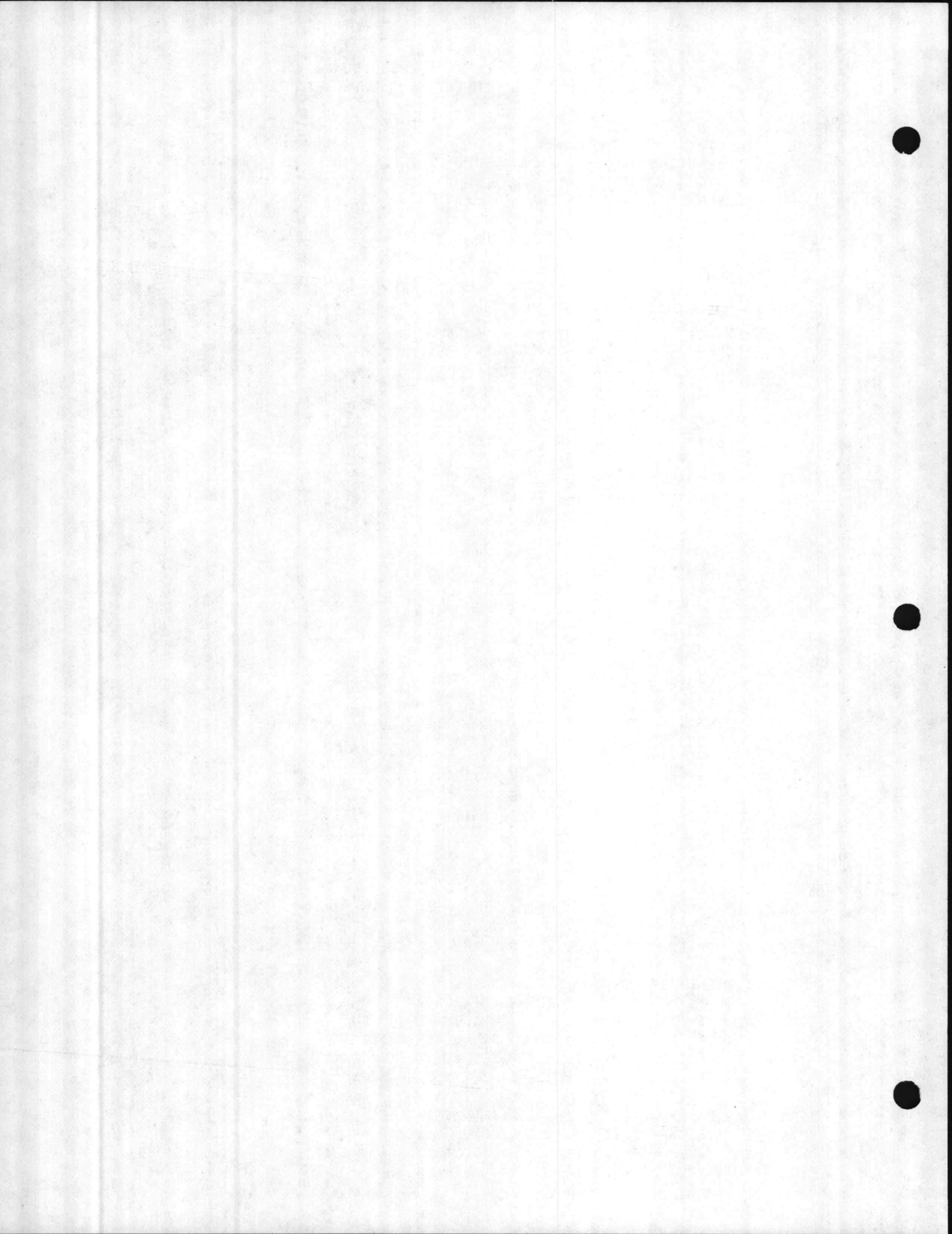
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 31.97
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 6.88
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 96.87
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.77
7. E/C RATIO (2F2/(1F/1000))= 46.38 MBTU/K\$



BUILDING NUMBER BB-52 (Courthouse Bay)

FUNCTION Classrooms

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE None

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 7556

Roof 7556

Walls - (Less Windows)

Glass -

N. 1602 Sq. Ft. N. 560 Sq. Ft.

E. 772 Sq. Ft. E. 168 Sq. Ft.

S. 1658 Sq. Ft. S. 504 Sq. Ft.

W. 744 Sq. Ft. W. 196 Sq. Ft.

Window Perimeter - 1122 Lin. Ft.

Door Perimeter - 182 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type H

Wall Type M

Window Type A

BUILDING NUMBER BB-52 (GARPHOUSE BAY)

FUNCTION CLASS ROOMS

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 1122 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 7089 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 1122 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 182 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 15037 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 182 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 0 \text{ BTU/CFM}$$

$$Q = 0 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

$$50 \text{ BULBS} \times 150 \text{ WATTS} = 7500 \text{ WATTS}$$

BULBS

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-52 FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (7556 SF)	\$16925.44
B. SIOH	\$ 1692.54
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$16756.18
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$16756.18

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	141.29	\$ 601.88	22.19	\$ 13355.72
D. NG	\$		\$		\$
E. CO/DIST\$			\$		\$
F. TOTAL		141.29	\$ 601.88		----->\$13355.72

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 4407.39
 - 1. IF 3D1 IS = OR >3C GO TO ITEM 4
 - 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 - 3. IF 3D1b IS => 1 GO TO ITEM 4
 - 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 601.88
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 13355.72
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.8
7. E/C RATIO (2F2/(1F/1000))=	8.43 MBTU/KS

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-52 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (4776 SF)	\$12369.84
B. SIOH	\$ 1236.98
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$12246.14
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$12246.14

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	81.54	\$ 347.36	22.19	\$ 7707.92
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		81.54	\$ 347.36		----->\$ 7707.92

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00		
(1) DISCOUNT FACTOR (TABLE A)	11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0		
B. NON RECURRING SAVING (+)/COST (-)			
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-		
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)		
1.	\$	\$	
2.	\$	\$	
3.	\$	\$	
4. TOTAL	\$	\$	
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00		

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 2543.61

1. IF 3D1 IS = OR >3C GO TO ITEM 4

2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=

3. IF 3D1b IS => 1 GO TO ITEM 4

4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 347.36
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 7707.92
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.63
7. E/C RATIO (2F2/(1F/1000))=	6.66 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-52 FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1428 SF)	\$ 6954.36
B. SIOH	\$ 695.44
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6884.82
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 6884.82

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	70.25	\$ 299.26	22.19	\$ 6640.58
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		70.25	\$ 299.26		----->\$ 6640.58

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 2191.39
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 299.26
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 6640.58
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.96
7. E/C RATIO (2F2/(1F/1000))= 10.2 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-52 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 1189.32
B. SICH	\$ 118.93
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 1177.42
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 1177.42

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	12.81	\$ 54.56	22.19	\$ 1210.69
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		12.81	\$ 54.56		----->\$ 1210.69

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 399.53
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 54.56
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1210.69
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.03
7. E/C RATIO (2F2/(1F/1000))=	10.88 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-52

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 385.84
B. SICH	\$ 38.58
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 381.98
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 381.98

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	15.23	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	27.17	\$ 115.73	22.19	\$ 2568.05
D. NG	\$		\$		\$
E. CO/DISTS			\$		\$
F. TOTAL		27.17	\$ 115.73		----->\$ 2568.05

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 847.46
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 115.73
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2568.05
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	6.72
7. E/C RATIO (2F2/(1F/1000))=	71.13 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 007
PROJECT TITLE: LIGHTING MODIFICATIONS BUILDING BB-52 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE INCANDESCENT LIGHTS WUTH FLUORESCENT LIGHTS
ANALYSIS DATE 8/6/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2025.00
B. SIOH	\$ 202.50
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2004.75
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2004.75

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	85.1	\$ 183.82	15.23	\$ 2799.58
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	22.19	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		85.1	\$ 183.82		----->\$ 2799.58

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	DISCOUNTED SAV-
SAVINGS(+) YEAR OF	INGS (+) COST (-)(4)
COST (-)(1) OCCURRENCE (2)	FACTOR (3)
1.	\$
2.	\$
3.	\$
4. TOTAL	\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 923.86
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 183.82
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2799.58
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.4
7. E/C RATIO (2F2/((1F/1000)))=	42.45 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-52

FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84

ECONOMIC LIFE 15 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (7556 SF)	\$ 680.04
B. SIOH	\$ 68.00
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 673.24
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 673.24

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	31.12	\$ 132.59	14.08	\$ 1866.87
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		31.12	\$ 132.59		----->\$ 1866.87

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

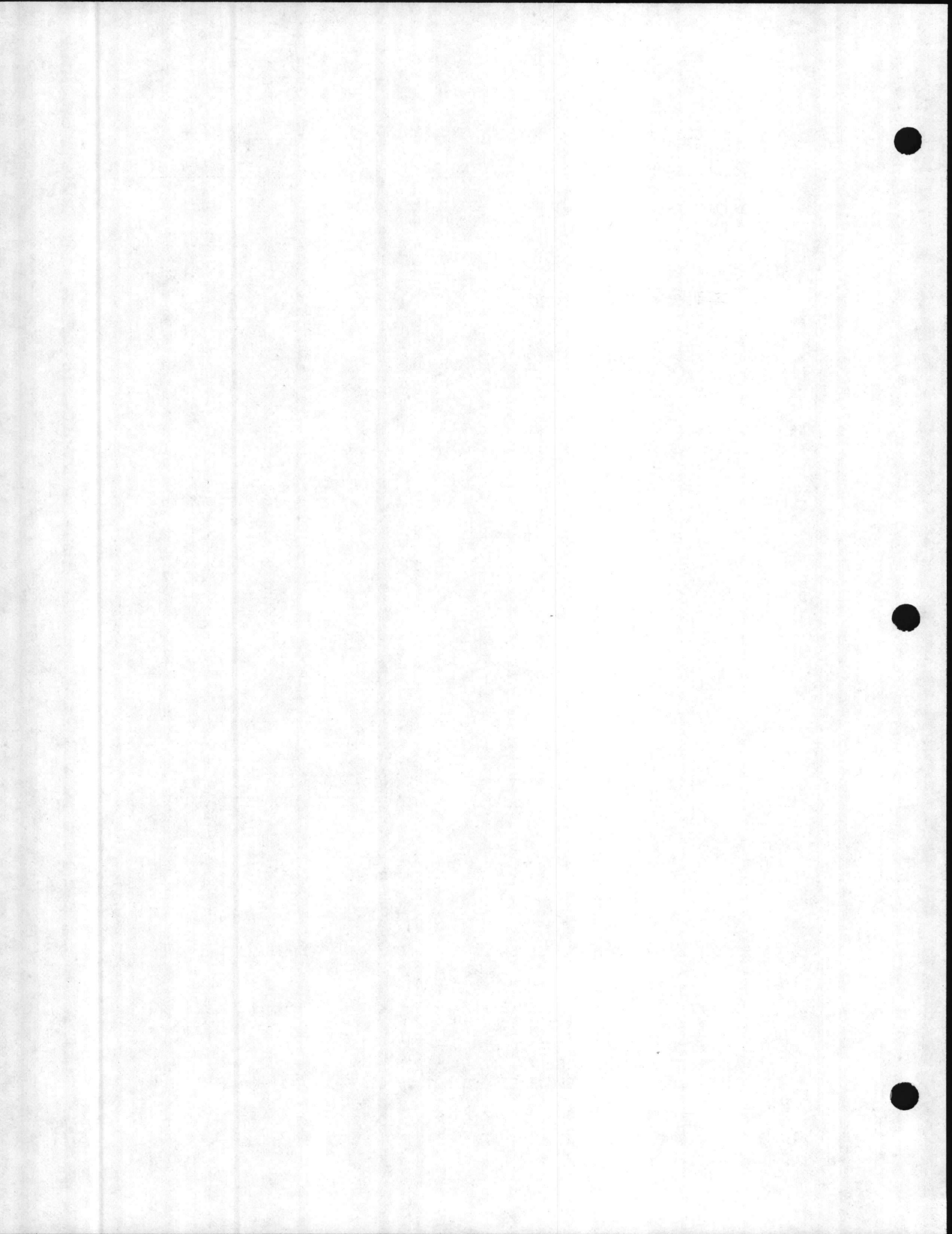
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 616.07
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

- | | |
|---|----------------|
| 4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) | \$ 132.59 |
| 5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) | \$ 1866.87 |
| 6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= | 2.77 |
| 7. E/C RATIO (2F2/(1F/1000))= | 46.22 MBTU/K\$ |



BUILDING NUMBER BB-54 (Courthouse Bay)

FUNCTION Club

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Dx Air Handling Unit #3

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 7520

Roof 7520

Walls - (Less Windows)

Glass -

N. 624 Sq. Ft. N. 0 Sq. Ft.

E. 1342 Sq. Ft. E. 210 Sq. Ft.

S. 564 Sq. Ft. S. 60 Sq. Ft.

W. 1237 Sq. Ft. W. 315 Sq. Ft.

Window Perimeter - 624 Lin. Ft.

Door Perimeter - 89 Lin. Ft.

CONSTRUCTION:

Floor Type A

Roof Type B

Wall Type T

Window Type A

BUILDING NUMBER BB-54 (COURTHOUSE BAY)

FUNCTION CLUB

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$Q = 624 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$

$Q = 3947 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 624 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$

$Q = 243 \text{ BTUH HEAT GAIN SAVINGS}$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$Q = 89 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$

$Q = 7353 \text{ BTUH HEAT LOSS SAVINGS}$

$Q = 89 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$

$Q = 454 \text{ BTUH HEAT GAIN SAVINGS}$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM: 4 TONS TOTAL

DESCRIPTION OF CONVERSION: _____

REPLACE 4 WINDOWS WITH CENTRAL UNITS
 $57.33 \text{ KW/TON} \times 4 \text{ TONS} \times 1100 \text{ EQ. FL. HR} \times 11,600 \text{ BTU/KWH}$
 $1000,000 \text{ MBTU}$

$S = 19.40 \text{ MBTU}$

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

18 PILLS $\times 100 \text{ WATTS} = 1800 \text{ WATTS}$
PILLS

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-54 FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (7520 SF)	\$ 3835.20
B. SIOH	\$ 383.52
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3796.85
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3796.85

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	14.86	\$ 37.15	15.23	\$ 565.79
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	12.23	\$ 52.09	22.19	\$ 1155.88
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		27.09	\$ 89.24001		----->\$ 1721.67

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 46.71
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 544.17
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 544.17
D. PROJECT NON ENERGY QUALIFICATION TEST	
(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 568.15
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 135.95
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 2265.84
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.6
7. E/C RATIO (2F2/(1F/1000))=	7.13 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (3767 SF)	\$ 7006.62
B. SIOH	\$ 700.66
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 6936.55
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 6936.55

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	25.33	\$ 63.33	15.23	\$ 964.52
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	52.06	\$ 221.79	22.19	\$ 4921.52
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		77.39	\$ 285.12		----->\$ 5886.04

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 79.63
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 927.69

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 927.69

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1942.39
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 364.75
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 6813.73
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.98
7. E/C RATIO (2F2/(1F/1000))=	11.16 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003
PROJECT TITLE: WEATHERIZATION BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (585 SF)	\$ 2848.95
B. SIOH	\$ 284.89
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2820.46
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2820.46

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	12.47	\$ 31.18	15.23	\$ 474.87
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	28.78	\$ 122.6	22.19	\$ 2720.49
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		41.25	\$ 153.78		----->\$ 3195.36

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 39.20
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 456.68

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 456.68

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1054.47
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 192.98
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3652.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.29
7. E/C RATIO (2F2/(1F/1000))=	14.63 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-54 FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 661.44
B. SIOH	\$ 66.14
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 654.82
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 654.82

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.42	\$ 1.05	15.23	\$ 15.99
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	7.12	\$ 30.34	22.19	\$ 673.24
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		7.54	\$ 31.39		----->\$ 689.23

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 1.32
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 15.38

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 15.38

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 227.45
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 32.71
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 704.61
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.08
7. E/C RATIO (2F2/(1F/1000))= 11.51 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 006
PROJECT TITLE: WEATHERIZATION BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP DOORS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 188.68
B. SICH	\$ 18.87
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 186.79
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 186.79

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	.79	\$ 1.97	15.23	\$ 30
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	13.28	\$ 56.59	22.19	\$ 1255.73
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		14.07	\$ 58.56		----->\$ 1285.73

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 2.47
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 28.78

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 28.78

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 424.29
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 61.03
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1314.51
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	7.04
7. E/C RATIO (2F2/(1F/1000))=	75.33 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 007
PROJECT TITLE: LIGHTING MODIFICATIONS BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE INCANDESCENT LIGHTS WITH FLUORESCENT LIGHTS
ANALYSIS DATE 8/6/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$	486.00
B. SIOH	\$	48.60
C. DESIGN COST	\$	0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$	481.14
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$	0.00
F. TOTAL INVESTMENT (1D-1E)		\$ 481.14

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	20.42	\$ 44.11	15.23	\$ 671.8
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	22.19	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		20.42	\$ 44.11		----->\$ 671.80

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$	+ 0.00
(1) DISCOUNT FACTOR (TABLE A)		11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$	0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$	221.69
1. IF 3D1 IS = OR >3C GO TO ITEM 4		
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=		
3. IF 3D1b IS => 1 GO TO ITEM 4		
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY		

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$	44.11
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$	671.8
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=		1.4
7. E/C RATIO (2F2/(1F/1000))=		42.44 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 008
PROJECT TITLE: H V A C MODIFICATIONS BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE WINDOW AC UNITS WITH CENTRAL SYSTEM
ANALYSIS DATE 8/8/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 7520.00
B. SIOH	\$ 752.00
C. DESIGN COST	\$ 752.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 8121.60
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 956.00
F. TOTAL INVESTMENT (1D-1E)	\$ 7165.60

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	19.4	\$ 41.9	11.48	\$ 481.01
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	14.08	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		19.4	\$ 41.9		----->\$ 481.01

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ (+) 42.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ (+)382.56

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$ (+)956.00	Yr. 10	.51	\$ (+)487.56
2.	\$			\$
3.	\$			\$
4. TOTAL	\$ (+)956.00			\$ (+)487.56

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 870.14

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 158.73
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	.09
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	
7. E/C RATIO (2F2/(1F/1000))= MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-54 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (7520 SF)	\$ 676.80
B. SIOH	\$ 67.68
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 670.03
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 670.03

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	30.98	\$ 131.96	14.08	\$ 1858
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		30.98	\$ 131.96		----->\$ 1858.00

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 613.14

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 131.96
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 1858
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.24 MBTU/K\$

BUILDING NUMBER BB-250 (Courthouse Bay)

FUNCTION Barracks

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Air Cooled Chiller #4

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 41,700 13,900 Per Floor

Roof 13,900

Walls - (Less Windows)

Glass -

N. 1370 Sq. Ft. N. 0 Sq. Ft.

E. 7271 Sq. Ft. E. 1080 Sq. Ft.

S. 1370 Sq. Ft. S. 0 Sq. Ft.

W. 7251 Sq. Ft. W. 1100 Sq. Ft.

Window Perimeter - 1962 Lin. Ft.

Door Perimeter - 332 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type F

Wall Type B/F

Window Type A

W. E. GILBERT & ASSOCIATES, INC.

P. O. Box 17217, Sta. B

Greenville, S. C. 29606

(803) 233-3287

JOB CAMP LEJEUNE, N.C.

SHEET NO. 11A OF _____

CALCULATED BY RAJ/SJW DATE 6-1-84

CHECKED BY _____ DATE _____

SCALE _____

BUILDING NUMBER B3-250 (COURT-HOUSE TRAY)

FUNCTION BARACKS

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 1902 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 12396 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 1902 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 763 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 332 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ HEAT LOSS BTU/CFM}$$

$$Q = 27430 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 332 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ HEAT GAIN BTU/CFM}$$

$$Q = 1193 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

100 BULBS X 100 WATTS = 10,000 WATTS
BULBS

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 001
PROJECT TITLE: WEATHERIZATION BUILDING BB-250 FISCAL YEAR 1986
DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (13900 SF)	\$19599.00
B. SIOH	\$ 1959.90
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$19403.01
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$19403.01

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	91.05	\$ 227.62	15.23	\$ 3466.65
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	113	\$ 481.4	22.19	\$ 10682.27
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		204.05	\$ 709.02		----->\$14148.92

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 286.20
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 3334.23
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$3334.23

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 4669.14
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 995.22
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 17483.15
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.9
7. E/C RATIO (2F2/(1F/1000))=	10.52 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-250 FISCAL YEAR 1986
DISCRETE PORTION NAME: WALL INSULATION MEASURE #1 (BLOCK CONST.)
ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (15626 SF)	\$40471.34
B. SIOH	\$ 4047.13
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$40066.62
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$40066.62

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	115.38	\$ 288.45	15.23	\$ 4393.09
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	215.96	\$ 920	22.19	\$ 20414.8
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		331.34	\$ 1208.45		----->\$24807.89

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 362.69
(1) DISCOUNT FACTOR (TABLE A)		11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 4225.34
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$4225.34

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 8186.6
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1571.14
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 29033.23
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.72
7. E/C RATIO (2F2/(1F/1000))=	8.270001 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 002

PROJECT TITLE: WEATHERIZATION BUILDING BB-250

FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1 (ALUM. MULLION CONST.)

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1636 SF)	\$ 4237.24
B. SIOH	\$ 423.72
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 4194.86
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 4194.86

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	36.53	\$ 91.33	15.23	\$ 1390.96
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	79.8	\$ 339.96	22.19	\$ 7543.71
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		116.33	\$ 431.29		----->\$ 8934.67

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 114.84
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 1337.89

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1337.89

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 2948.44
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 546.13
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 10272.56
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 2.45
7. E/C RATIO (2F2/(1F/1000))= 27.73 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-250

FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2180 SF)	\$10616.60
B. SIOH	\$ 1061.66
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$10510.43
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$10510.43

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	39.66	\$ 99.14	15.23	\$ 1509.9
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	107.24	\$ 456.86	22.19	\$ 10137.72
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		146.9	\$ 556		----->\$11647.62

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)					\$ + 124.66
(1) DISCOUNT FACTOR (TABLE A)			11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)					\$ 1452.29
B. NON RECURRING SAVING (+)/COST (-)					
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)		DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$				\$
2.	\$				\$
3.	\$				\$
4. TOTAL	\$				\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1452.29

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 3843.72
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 680.66
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 13099.91
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.25
7. E/C RATIO (2F2/(1F/1000))=	13.98 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 005
PROJECT TITLE: WEATHERIZATION BUILDING BB-250 FISCAL YEAR 1986
DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS
ANALYSIS DATE 6/27/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2079.72
B. SICH	\$ 207.97
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2058.92
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2058.92

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.14	\$ 2.85	15.23	\$ 43.41
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	22.39	\$ 95.4	22.19	\$ 2116.93
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		23.53	\$ 98.25		----->\$ 2160.34

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 3.58
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 41.71

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 41.71

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 712.91
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 101.83
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 2202.05
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.07
7. E/C RATIO (2F2/(1F/1000))= 11.43 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 006

PROJECT TITLE: WEATHERIZATION BUILDING BB-250

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP DOORS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ - 703.84
B. SIOH	\$ 70.38
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 696.80
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 696.80

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	2.52	\$ 6.3	15.23	\$ 95.95
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	49.56	\$ 211.11	22.19	\$ 4684.53
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		52.08	\$ 217.41		----->\$ 4780.48

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 7.92
(1) DISCOUNT FACTOR (TABLE A)			11.65	
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 92.26999
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2,4) \$ 92.27

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1577.56
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 225.33
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 4872.75
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 6.99
7. E/C RATIO (2F2/(1F/1000))= 74.74 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 007
PROJECT TITLE: LIGHTING MODIFICATIONS BUILDING BB-250 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE INCANDESCENT LIGHTS WITH FLUORESCENT LIGHTS
ANALYSIS DATE 8/6/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2700.00
B. SIOH	\$ 270.00
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2673.00
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2673.00

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	113.47	\$ 245.1	15.23	\$ 3732.87
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	22.19	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		113.47	\$ 245.1		----->\$ 3732.87

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65	\$ + 0.00
(2) DISCOUNTED SAVING/COST (3A X 3A1)		\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 1231.85
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 245.1
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 3732.87
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.4
7. E/C RATIO (2F2/(1F/1000))= 42.45 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011
PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-250 FISCAL YEAR 1986
DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT
ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (41700 SF)	\$ 3753.00
B. SIOH	\$ 375.30
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3715.47
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3715.47

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	171.77	\$ 731.73	14.08	\$ 10302.76
D. NG	\$		\$		\$
E. CO/DISTS	\$		\$		\$
F. TOTAL		171.77	\$ 731.73		----->\$10302.76

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)		9.109		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 0
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAVINGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 3399.91
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 731.73
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 10302.76
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$

BUILDING NUMBER BB-255 (Courthouse Bay)

FUNCTION Barracks

HEATING SOURCE Steam (CEP # BB-26)

COOLING SOURCE Air cooled chiller #4

MAINTAINED TEMPERATURES:

Summer -

Ambient , 78°Fdb , Other

Winter -

Ambient , 60°Fdb , 68°Fdb ,

65°Fdb , 40°Fdb

AREAS:

Floor 41700

Roof 13900

Walls - (Less Windows)

Glass -

N. 7271 Sq. Ft. N. 1080 Sq. Ft.

E. 1370 Sq. Ft. E. 0 Sq. Ft.

S. 7251 Sq. Ft. S. 1100 Sq. Ft.

W. 1370 Sq. Ft. W. 0 Sq. Ft.

Window Perimeter - 1962 Lin. Ft.

Door Perimeter - 332 Lin. Ft.

CONSTRUCTION:

Floor Type B

Roof Type F

Wall Type B/F

Window Type A

BUILDING NUMBER BB-255 (COURTHOUSE BAY)
FUNCTION BARACKS

- WINDOW PERIMETER OF WINDOWS NEEDING WEATHERSTRIPPING

$$Q = 1902 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 12396 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 1902 \text{ LIN. FT.} \times .13 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 765 \text{ BTUH HEAT GAIN SAVINGS}$$

- DOOR PERIMETER OF DOORS NEEDING WEATHERSTRIPPING

$$Q = 332 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 48.6 \text{ BTU/CFM}$$

$$Q = 27430 \text{ BTUH HEAT LOSS SAVINGS}$$

$$Q = 332 \text{ LIN. FT.} \times 1.7 \text{ CFM/LIN. FT.} \times 3.0 \text{ BTU/CFM}$$

$$Q = 1693 \text{ BTUH HEAT GAIN SAVINGS}$$

- CONVERSION TO A MORE EFFICIENT BUILDING COOLING SYSTEM: _____ TONS TOTAL

DESCRIPTION OF CONVERSION: _____

- CONVERSION TO A MORE EFFICIENT BUILDING HEATING SYSTEM _____ BTUH TOTAL

DESCRIPTION OF CONVERSION: _____

$$100 \text{ BULB} \times 100 \text{ WATTS} = 10,000 \text{ WATTS}$$

BULB

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C.

REGION NO. 4

PROJECT NUMBER 001

PROJECT TITLE: WEATHERIZATION BUILDING BB-255

FISCAL YEAR 1986

DISCRETE PORTION NAME: ROOF/CEILING INSULATION MEASURE #1

ANALYSIS DATE 6/12/84

ECONOMIC LIFE 25 YEARS

PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (13900 SF)	\$19599.00
B. SIOH	\$ 1959.90
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$19403.01
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$19403.01

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	91.05	\$ 227.62	15.23	\$ 3466.65
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	113	\$ 481.4	22.19	\$ 10682.27
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		204.05	\$ 709.02		----->\$14148.92

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)				\$ + 286.20
(1) DISCOUNT FACTOR (TABLE A)		11.65		
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 3334.23
B. NON RECURRING SAVING (+)/COST (-)				
ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)				\$3334.23

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 4669.14
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 995.22
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 17483.15
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= .9
7. E/C RATIO (2F2/(1F/1000))= 10.52 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-255 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1 (BLOCK CONST.)

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (15626 SF)	\$40471.34
B. SIOH	\$ 4047.13
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$40066.62
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$40066.62

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	96.07	\$ 240.18	15.23	\$ 3657.94
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	215.96	\$ 920	22.19	\$ 20414.8
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		312.03	\$ 1160.18		----->\$24072.74

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 302.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 3518.3

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$3518.30

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 7944
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 1462.18
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 27591.04
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	.69
7. E/C RATIO (2F2/(1F/1000))=	7.79 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 002
PROJECT TITLE: WEATHERIZATION BUILDING BB-255 FISCAL YEAR 1986

DISCRETE PORTION NAME: WALL INSULATION MEASURE #1 (ALUM. MULLION CONST.)

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (1636 SF)	\$ 4237.24
B. SIOH	\$ 423.72
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 4194.86
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 4194.86

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	24.84	\$ 62.1	15.23	\$ 945.78
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	79.8	\$ 339.96	22.19	\$ 7543.71
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		104.64	\$ 402.06		----->\$ 8489.49

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 78.09
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 909.75
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$ \$ \$
2.	\$ \$ \$ \$
3.	\$ \$ \$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 909.75

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 2801.53
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 480.15
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 9399.24
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.24
7. E/C RATIO (2F2/(1F/1000))=	24.94 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N. C. REGION NO. 4 PROJECT NUMBER 003

PROJECT TITLE: WEATHERIZATION BUILDING BB-255 FISCAL YEAR 1986

DISCRETE PORTION NAME: ADD STORM WINDOWS

ANALYSIS DATE 6/12/84 ECONOMIC LIFE 25 YEARS PREPARED BY R. A. GILLIAM

1. INVESTMENT

A. CONSTRUCTION COST (2180 SF)	\$10616.60
B. SIOH	\$ 1061.66
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$10510.43
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$10510.43

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	31.16	\$ 77.89	15.23	\$ 1186.26
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	107.24	\$ 456.86	22.19	\$ 10137.72
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		138.4	\$ 534.75		----->\$11323.98

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)

(1) DISCOUNT FACTOR (TABLE A)	11.65			\$ + 97.93
(2) DISCOUNTED SAVING/COST (3A X 3A1)				\$ 1140.88

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$1140.88

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 3736.91
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 632.68
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 12464.86
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.19
7. E/C RATIO (2F2/(1F/1000))= 13.17 MBTU/K\$	

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C.

REGION NO. 4

PROJECT NUMBER 005

PROJECT TITLE: WEATHERIZATION BUILDING BB-255

FISCAL YEAR 1986

DISCRETE PORTION NAME: WEATHERSTRIP WINDOWS

ANALYSIS DATE 6/27/84

ECONOMIC LIFE 25 YEARS

PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2079.72
B. SIOH	\$ 207.97
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2058.92
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2058.92

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	1.14	\$ 2.85	15.23	\$ 43.41
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	22.39	\$ 95.4	22.19	\$ 2116.93
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		23.53	\$ 98.25		----->\$ 2160.34

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 3.58
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 41.71

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 41.71

D. PROJECT NON ENERGY QUALIFICATION TEST

- (1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 712.91
1. IF 3D1 IS = OR >3C GO TO ITEM 4
 2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
 3. IF 3D1b IS => 1 GO TO ITEM 4
 4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE) \$ 101.83
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C) \$ 2202.05
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)= 1.07
7. E/C RATIO (2F2/(1F/1000))= 11.43 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 007
PROJECT TITLE: LIGHTING MODIFICATIONS BUILDING BB-255 FISCAL YEAR 1986
DISCRETE PORTION NAME: REPLACE INCANDESCENT LIGHTS WITH FLUORESCENT LIGHTS
ANALYSIS DATE 8/6/84 ECONOMIC LIFE 25 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST	\$ 2700.00
B. SIOH	\$ 270.00
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 2673.00
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 2673.00

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.16	113.47	\$ 245.1	15.23	\$ 3732.87
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	0	\$ 0	22.19	\$ 0
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		113.47	\$ 245.1		----->\$ 3732.87

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	11.65
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0

B. NON RECURRING SAVING (+)/COST (-)

ITEM	SAVINGS(+) COST (-)(1)	YEAR OF OCCURRENCE (2)	DISCOUNT FACTOR (3)	DISCOUNTED SAV- INGS (+) COST (-)(4)
1.	\$			\$
2.	\$			\$
3.	\$			\$
4. TOTAL	\$			\$

C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4) \$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33)	\$ 1231.85
1. IF 3D1 IS = OR >3C GO TO ITEM 4	
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=	
3. IF 3D1b IS => 1 GO TO ITEM 4	
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY	

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 245.1
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 3732.87
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	1.4
7. E/C RATIO (2F2/(1F/1000))=	42.45 MBTU/K\$

LIFE CYCLE COST ANALYSIS SUMMARY
ENERGY CONSERVATION INVESTMENT PROGRAM (ECIP)

LOCATION: CAMP LEJEUNE N.C. REGION NO. 4 PROJECT NUMBER 011

PROJECT TITLE: HVAC MODIFICATIONS BUILDING BB-255 FISCAL YEAR 1986

DISCRETE PORTION NAME: NIGHT SETBACK THERMOSTAT

ANALYSIS DATE 11/28/84 ECONOMIC LIFE 15 YEARS PREPARED BY P.C. PUTNAM

1. INVESTMENT

A. CONSTRUCTION COST (41700 SF)	\$ 3753.00
B. SIOH	\$ 375.30
C. DESIGN COST	\$ 0.00
D. ENERGY CREDIT CALC (1A+1B+1C)X.9	\$ 3715.47
E. SALVAGE VALUE OF EXISTING EQUIPMENT	-\$ 0.00
F. TOTAL INVESTMENT (1D-1E)	\$ 3715.47

2. ENERGY SAVINGS (+)/COST (-)

ANALYSIS DATE ANNUAL SAVINGS, UNIT COST & DISCOUNTED SAVINGS

FUEL	COST \$/MBTU(1)	SAVINGS MBTU/YR(2)	ANNUAL \$ SAVINGS(3)	DISCOUNT FACTOR(4)	DISCOUNTED SAVING(5)
A. ELEC	\$ 2.5	0	\$ 0	11.48	\$ 0
B. DIST	\$		\$		\$
C. RESID	\$ 4.26	171.77	\$ 731.73	14.08	\$ 10302.76
D. NG	\$		\$		\$
E. CO/DIST	\$		\$		\$
F. TOTAL		171.77	\$ 731.73		----->\$10302.76

3. NON ENERGY SAVINGS (+)/COST (-)

A. ANNUAL RECURRING (+/-)	\$ + 0.00
(1) DISCOUNT FACTOR (TABLE A)	9.109
(2) DISCOUNTED SAVING/COST (3A X 3A1)	\$ 0
B. NON RECURRING SAVING (+)/COST (-)	
ITEM	SAVINGS(+) YEAR OF DISCOUNT DISCOUNTED SAV-
	COST (-)(1) OCCURRENCE (2) FACTOR (3) INGS (+) COST (-)(4)
1.	\$ \$
2.	\$ \$
3.	\$ \$
4. TOTAL	\$ \$
C. TOTAL NON ENERGY DISCOUNTED SAVINGS (+)/COST(-) (3A2+3B2.4)	\$ 0.00

D. PROJECT NON ENERGY QUALIFICATION TEST

(1) 25% MAX NON ENERGY CALC (2F5 X .33) \$ 3399.91

1. IF 3D1 IS = OR >3C GO TO ITEM 4
2. IF 3D1 IS < 3C CALC SIR=(2F5+3D1)/1F=
3. IF 3D1b IS => 1 GO TO ITEM 4
4. IF 3D1b IS < 1 PROJECT DOES NOT QUALIFY

4. FIRST YEAR DOLLAR SAVINGS 2F3+3A+(3B1b/YEARS ECONOMIC LIFE)	\$ 731.73
5. TOTAL NET DISCOUNTED SAVINGS (2F5+3C)	\$ 10302.76
6. DISCOUNTED SAVINGS RATIO (IF < 1 PROJECT DOES NOT QUALIFY) (SIR)=(5/1F)=	2.77
7. E/C RATIO (2F2/(1F/1000))=	46.23 MBTU/K\$