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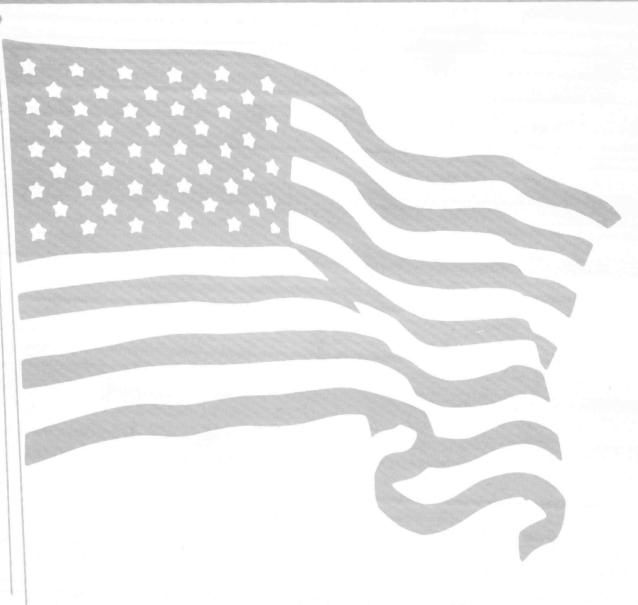


L-Z ASSOCIATES, INC. Consulting Engineers and Value Specialists Rockville, Maryland

### **Department of the Navy**

Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia 23511
Contract N62470-83-B-6001

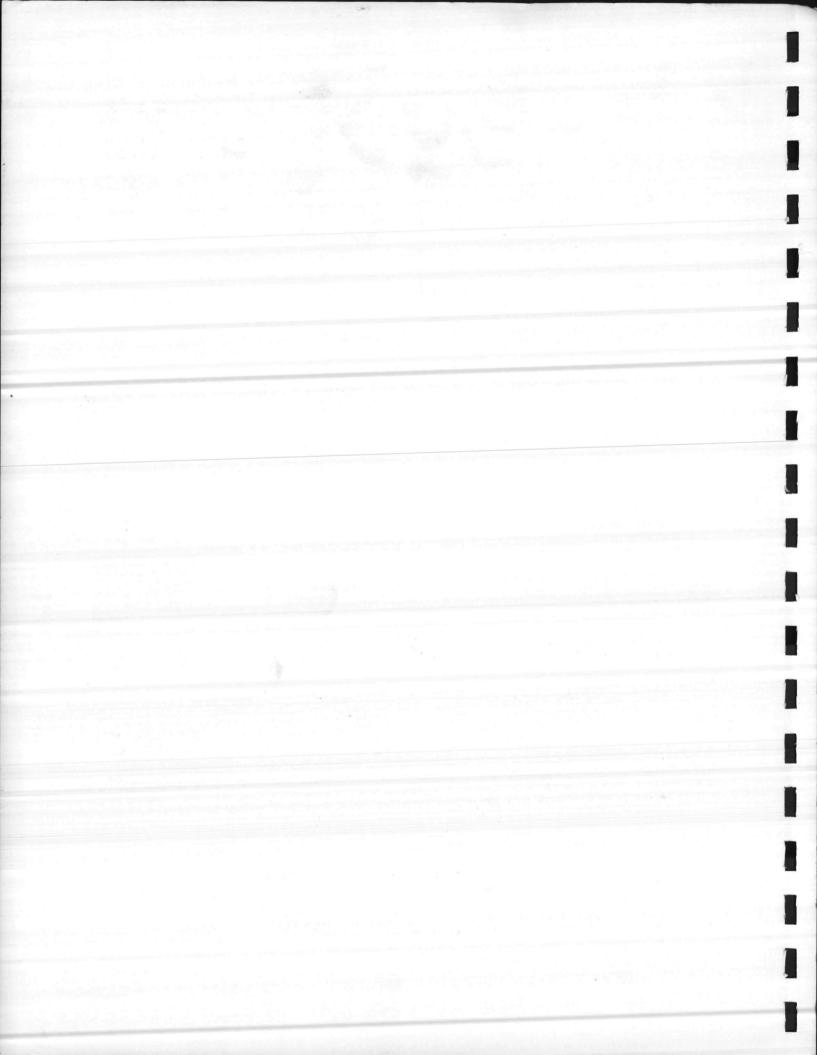




### VALUE ENGINEERING STUDY REPORT GYMNASIUMS

PROJECT P-065 Marine Corps Base Camp LeJeune, North Carolina PROJECT P-133
Marine Corps Air Station [H]
New River, Jacksonville, North Carolina

AUGUST 1984





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852

301/984-9590

September 7, 1984

Department of the Navy Atlantic Division Naval Facilities Engineering Command Gilbert Street, Building N-26 Norfolk, Virginia 23511

Attention: Code 09A21

Mr. Maxey Bryant, Program Manager

Reference: Contract N62470-83-B-6001

Value Engineering Study for Projects P-065 and P-133

Gymnasiums Marine Corps Base Camp LeJeune

and Marine Corps Air Station (H)

New River, Jacksonville, North Carolina

#### Gentlemen:

L-Z Associates, Inc. is pleased to submit herewith our Value Engineering Team Study Report for the above referenced projects. This report includes the results of the VE study conducted during the week of August 27-31, 1984 in Wilmington, North Carolina.

We have again enjoyed this opportunity to be of service to the Department of the Navy and we feel that the recommendations included herein will be helpful towards the successful completion of the designs within budget while maintaining a functional and cost effective facility at each location.

We appreciate the assistance and cooperation of of Mr. Jack Claywell and his design team from Boney Architects during the study effort, as well as the support and cooperation provided by Mr. Jim Baldwin of your Value Engineering staff. We wish to compliment the design team on their approach to the project and hope that the facilities will prove to be most useful and an asset to the Marine Corps. We look forward to future opportunities to assist NAVFAC in its value engineering program.

Sincerely yours,

L-Z ASSOCIATES, INC.

Bernard W. Stainton, CVS

Vice Presient

BWS:rk

AUGUST 1984

#### STATEMENT OF VE STUDY FORMAT AND CONCEPT

This Value Engineering Study, of 40 hours duration, has been prepared under my direct supervision, follows the principles and format of the Value Engineering Job Plan.

Signed:

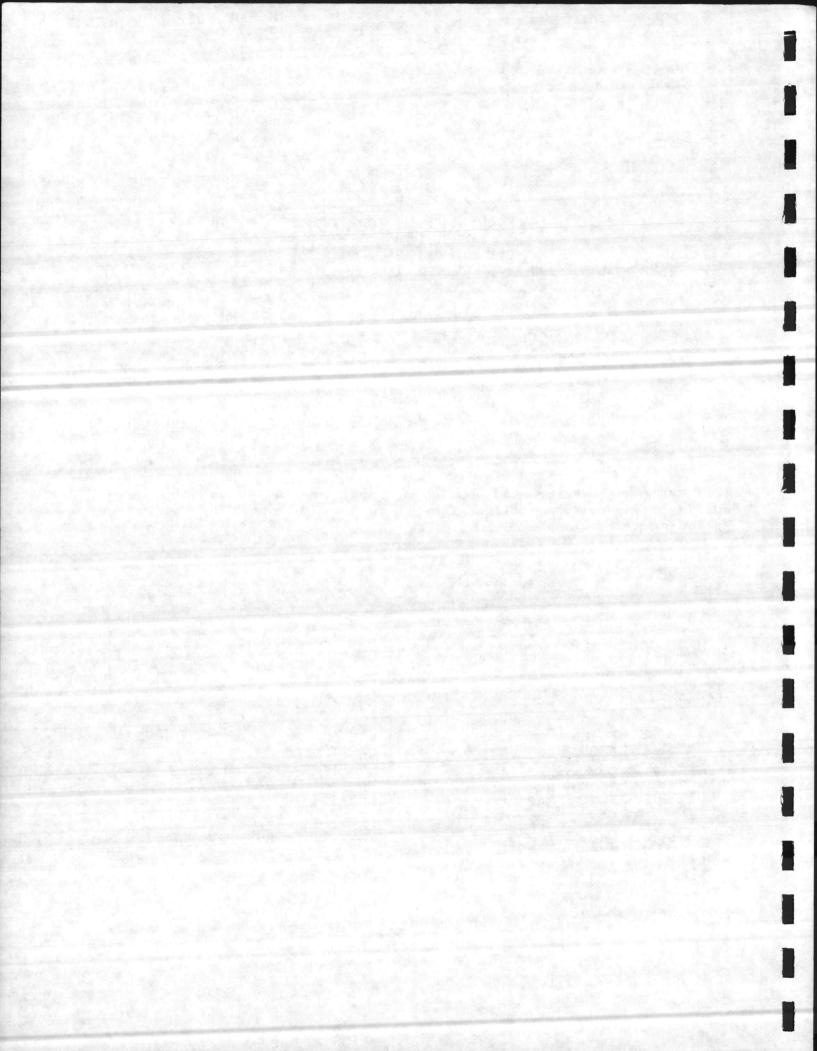
No. 821203

Bernard W. Stainton, CVS Certified Value Specialist

Date: August 1984

CVS Seal





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**INTRODUCTION** 

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VALUE ENGINEERING ANALYSIS PROCEDURE

SUMMARY OF RESULTS

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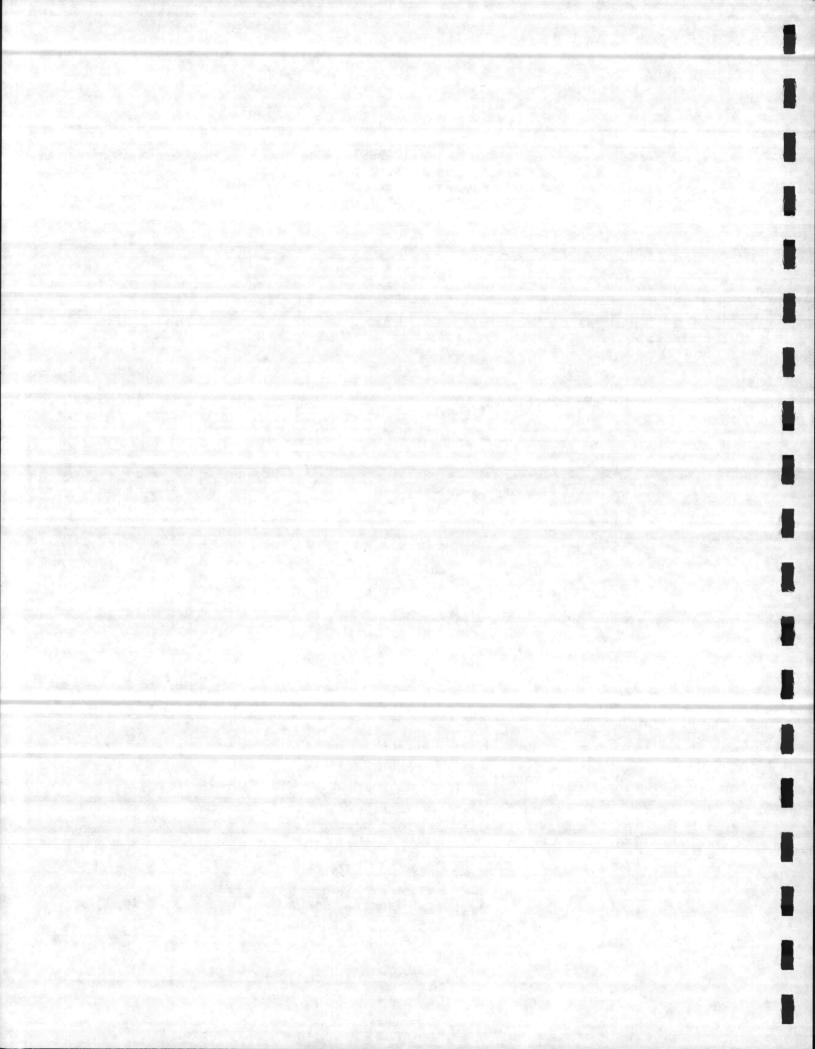


NORTH CAROLINA

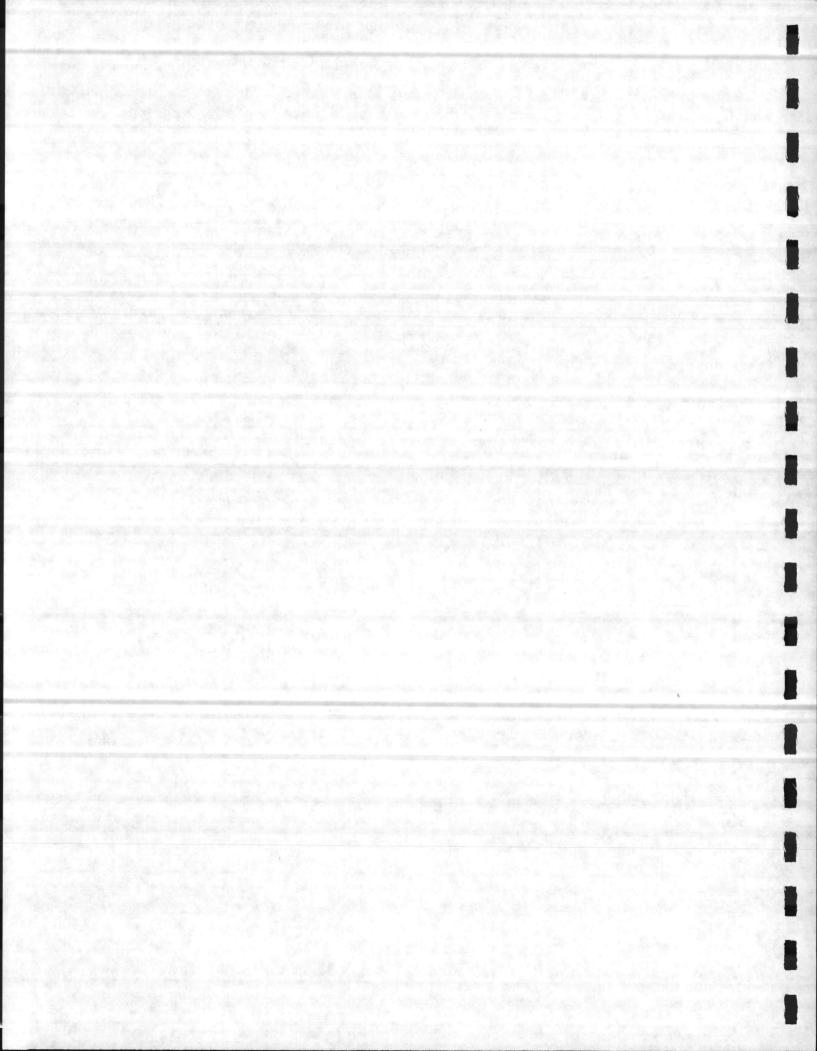
#### AUGUST 1984

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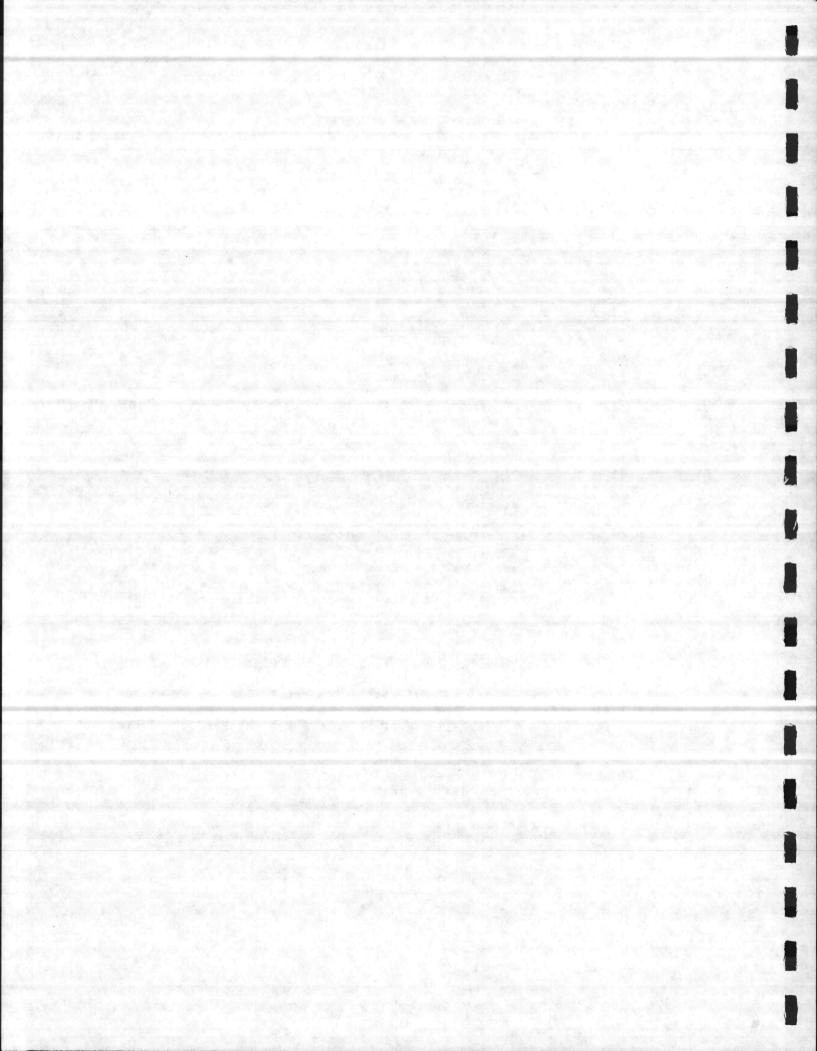
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#### AUGUST 1984

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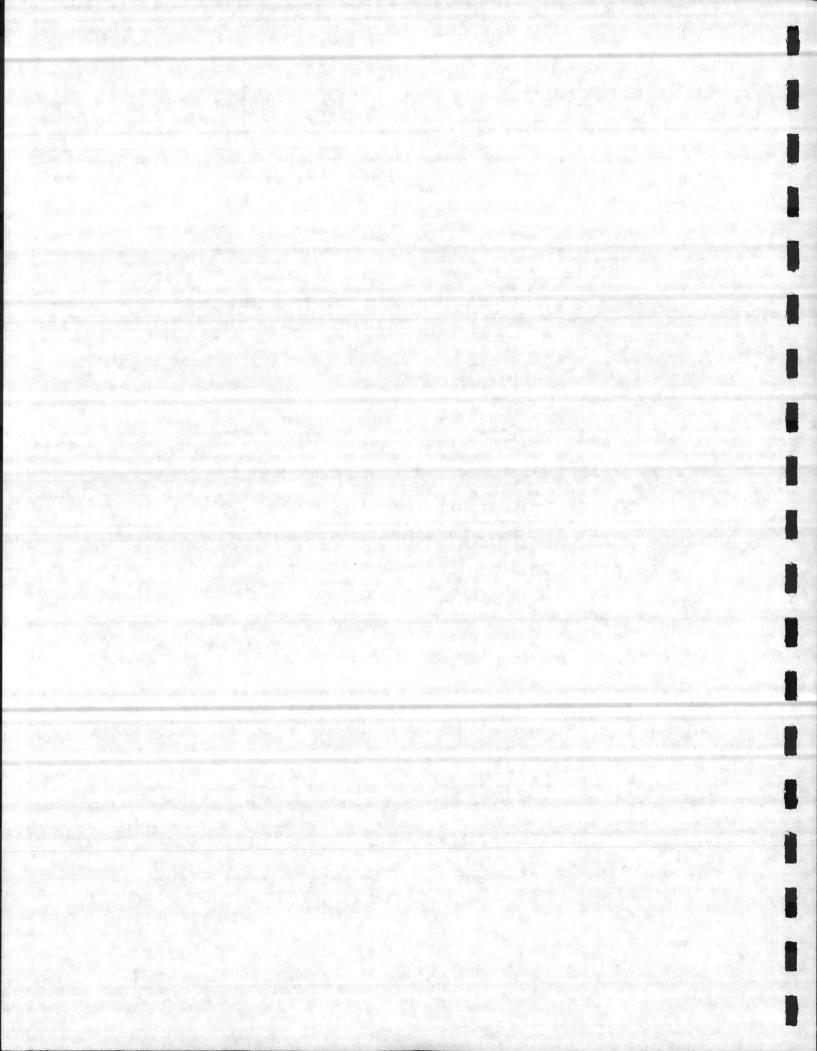
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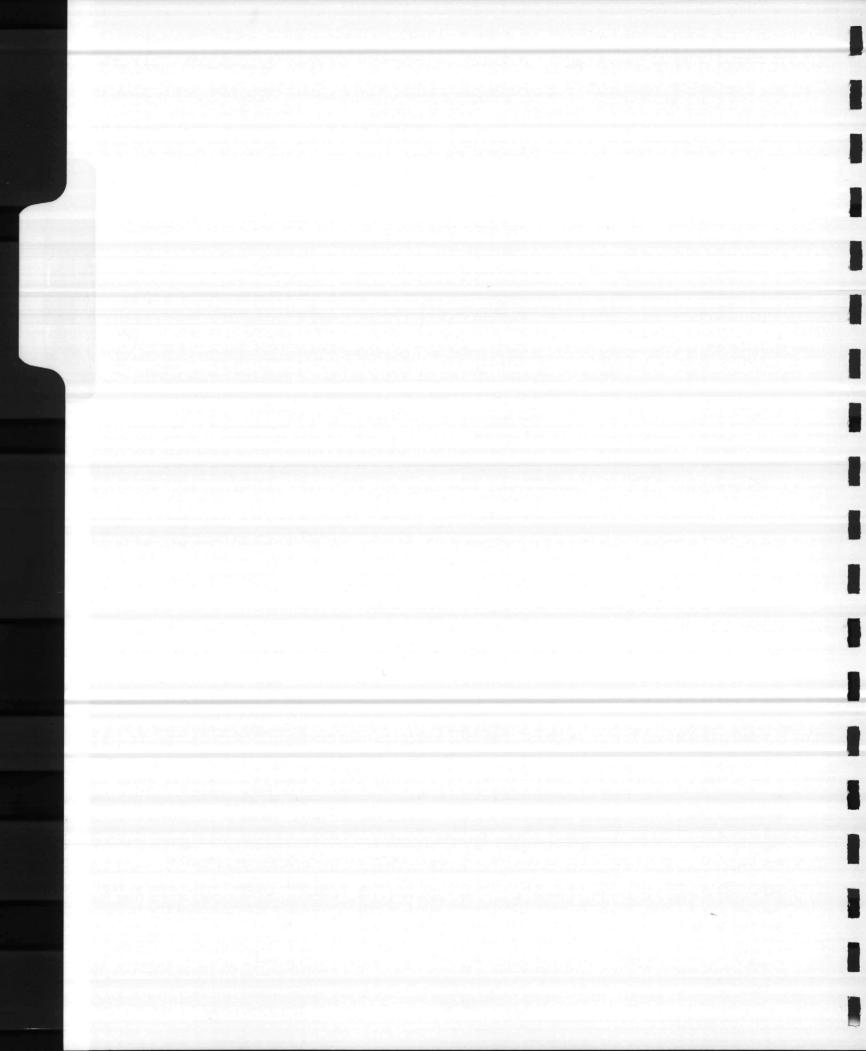
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EXECUTIVE SUMMARY



AUGUST 1984

#### EXECUTIVE SUMMARY

The new gymnasiums and support facilities are designated as Project P-065 at the Marine Corps Base, Camp LeJeune, North Carolina and Project P-133 at the Marine Corps Air Station (H) New River, Jacksonville, North Carolina.

The facilities are needed to support the Marine Corps' athletic and fitness programs at each location, thus contributing to the base's personnel moraleand welfare requirements.

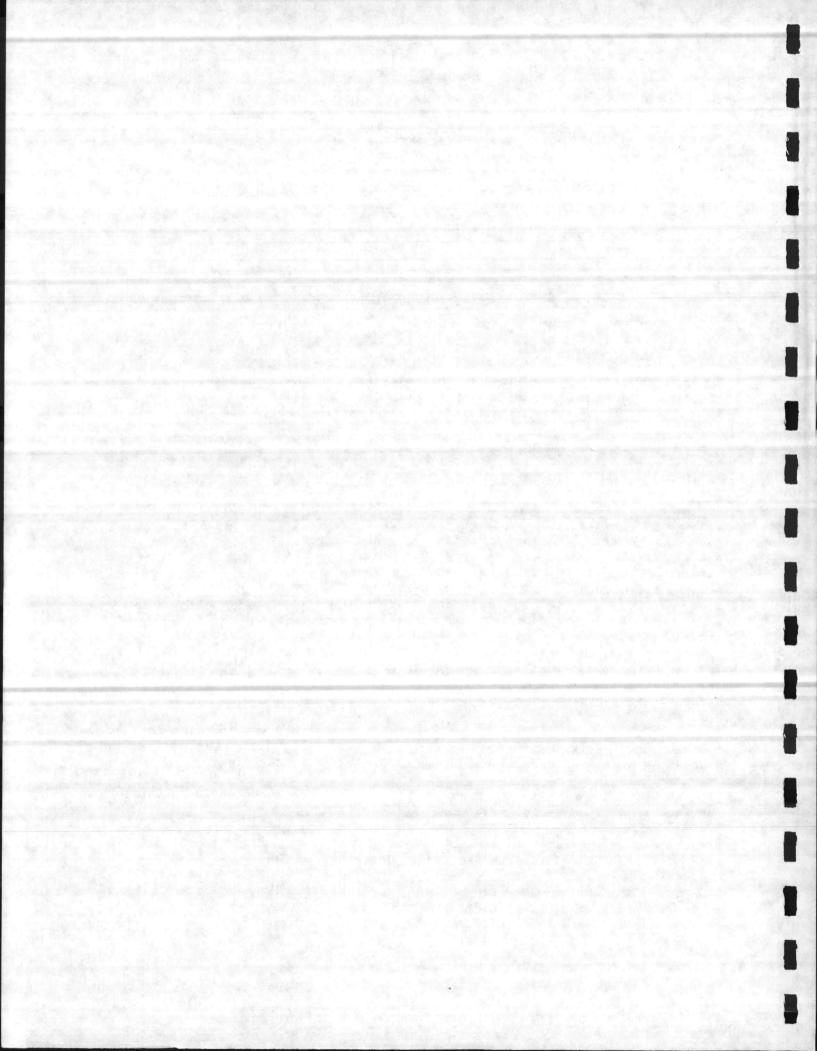
The new facilities consist of a gymnasium arranged for competitive basketball and training, an exercise room and three racquetball courts. Shower, locker room and toilet rooms are provided for service personnel and visitors. The sites for each project are arranged to provide access roadway, sidewalks, paved parking areas and site utilities including water, storm and sanitary sewers, steam service and electrical service. The gymnasium buildings each consist of 21,600 square feet single story brick and block bearing wall and structural steel construction, with a metal deck roof system. The buildings are provided with plumbing, steam to hot water heating, air conditioning in selected areas, and electrical power for lighting and equipment motivation. The buildings are designed to meet fire protection requirements without the need for an automatic fire protection sprinkler system. Exterior fire hydrants are provided.

Support facilities for each project include new roadways, parking lot, new overhead power service, new hot water main including fire line, storm and sanitary sewers, new underground steam service, and landscaping.

The Design Architect's estimate of construction costs dated 13 August 1984 for each project is as follows:

Project P-065 Gymnasium Camp LeJeune, NC \$1,817,000 Project P-113 Gymnasium New River, Jacksonville, NC \$2,014,000

The cost estimates include all appropriate mark-ups, escalation, and contingency percentages. These costs are about three percent over the costs indicated on DD Form 1391, dated 1 June 1984, for each project.



Cost overruns appear to be mostly associated with the support facilities, especially for Project P-133 where some site preparation work was omitted. The objective of the VE Study was to bring the project costs within the funding allowance. It appears that by reducing the building construction costs without compromising the intended function, and redistributing the funds to the support facilities construction, it should be possible to achieve the VE team objective. Recommendations in the areas of building finishes and sub-systems, and site preparation work are made to support this goal.

This report summarizes the results of the value engineering study conducted during the week of August 27-31, 1984 in Wilmington, North Carolina. Both new gymnasium facilities are being designed by Boney Architects of Wilmington, North Carolina. The construction documents were presented to the VE team at the 35% design completion stage.

The VE team generated 59 ideas associated with the gymnasium building and 16 ideas for each individual site for alternative design suggestions during the function analysis/creative idea listing phases of the study. From these ideas 37 recommendations are made for each gymnasium building, plus some 21 recommendations for the associated facilities support and sitework. Several design suggestions were developed and are presented to NAVFAC and Boney Architects for consideration. They represent meaningful savings in construction and follow-up operating costs. It should be noted that the proposals submitted are recommendations. Final acceptance rests with the Navy, facility users, and the Design Architect.

Selected recommendations presented for consideration could amount to an estimated potential present worth savings of \$156,000 for Project P-065 and \$192,000 for Project P-133 for construction and operating costs. The savings indicated do not include the contingency and SIOH markups.

The major areas of cost savings are:

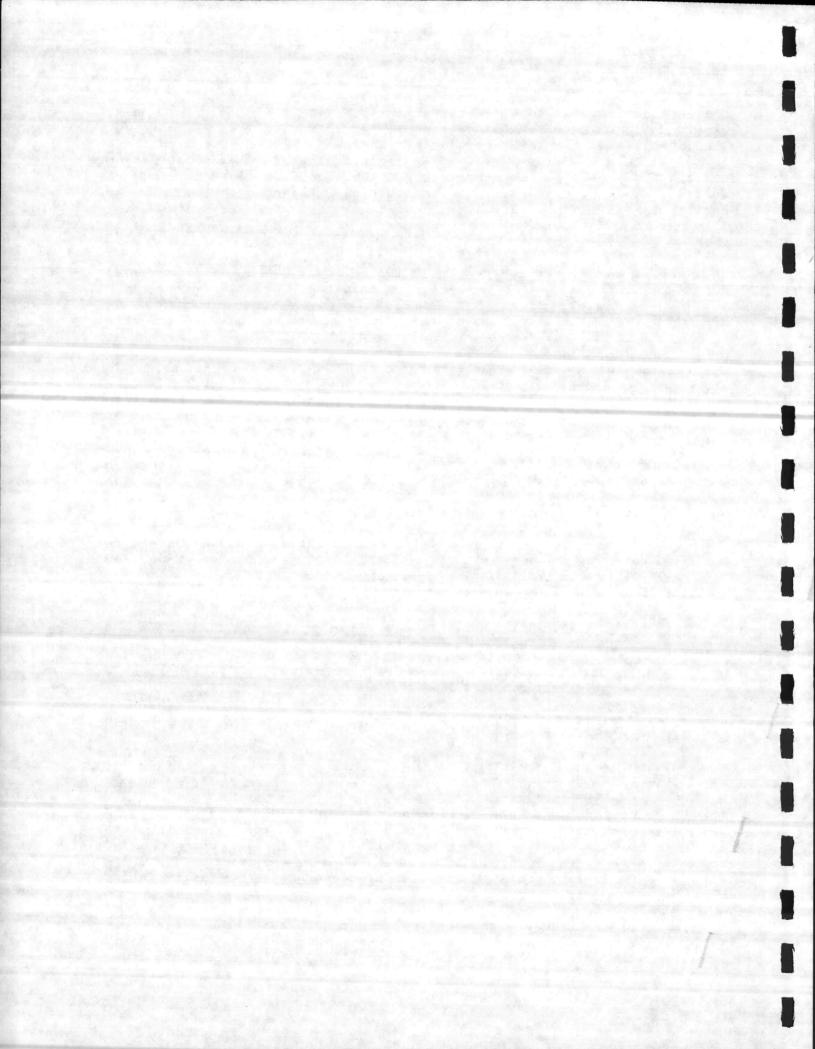
<u>Building Construction</u> (Both projects) Exterior enclosure, gymnasium floor, gymnasium divider curtain, roof system, ceiling finishes, HVAC systems, and electrical service.

Sitework (Project P-065) Parking lot, storm water drainage, outside lighting, and orientation of building.

Sitework (Project P-133) Parking lot, storm water drainage, and outside lighting. Reduce undercut for parking area and rearrange pile grouping.

The VE team reviewed the project cost estimates and found them to be generally appropriate for the scope of work now shown on the documents, with the exception of the site preparation work for Project P-133. Redistribution of costs in some areas could result as more definitive construction documents are developed, particularly in the roof construction, interior walls, plumbing, and electric system areas.

Some concern was expressed during the VE workshop about the uncertainty associated with the cut and fill and pile foundation requirements for Project P-133. No definitive direction is given regarding specific requirements for

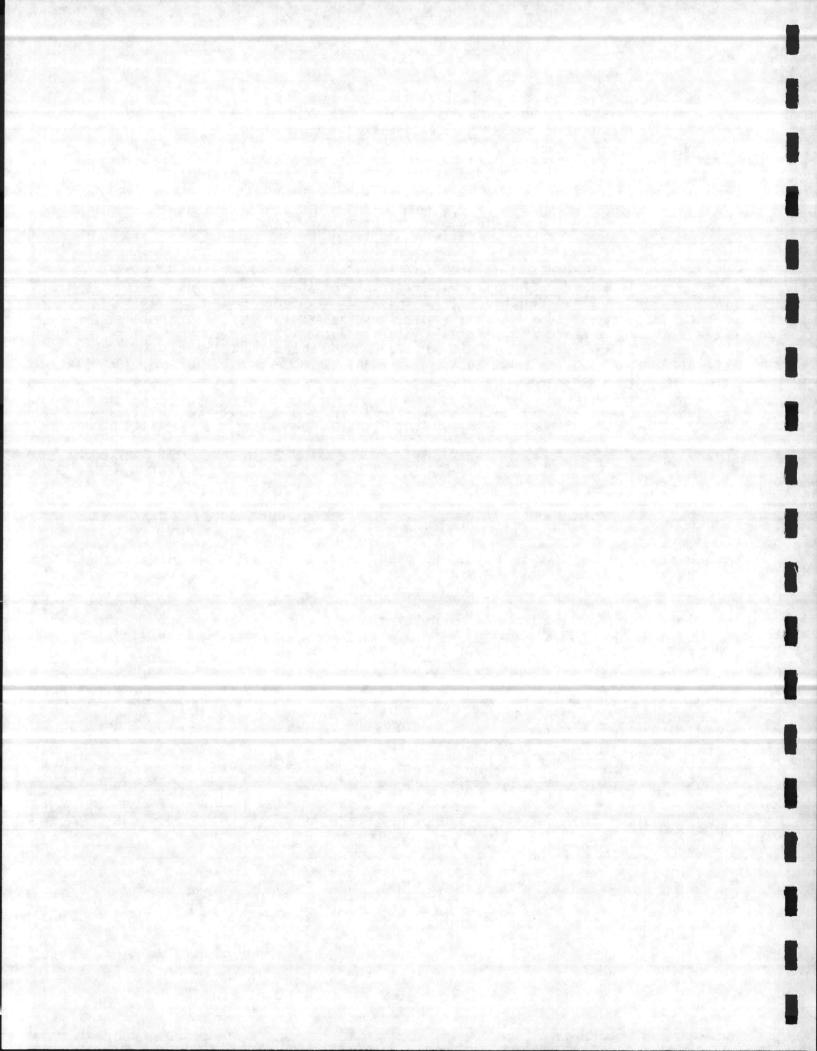


optional fill and the need for piles. This should be clarified as it could affect the construction cost quite appreciably.

Additional cost savings could be realized by reorienting the gymnasium building as recommended for Project P-065. It is believed that additional savings would be derived by not removing the existing tree formations and thus, to a degree, reducing the planned landscaping as a consequence of this action. The savings were not computed by the VE team due to time constraints.

The VE team respectfully suggests that Naval Facilities Engineering Command, LANTDIV should make an effort to coordinate the design work and construction that is and will be required in the southwest area of the site for Project P-133. It is the VE team's understanding that the development plan for this area is being performed concurrently with Project P-133. A concerted effort to consolidate the total site storm water runoff problem would result in an improved project, an improved total site, and reduced costs for the projected scope of work in this area.

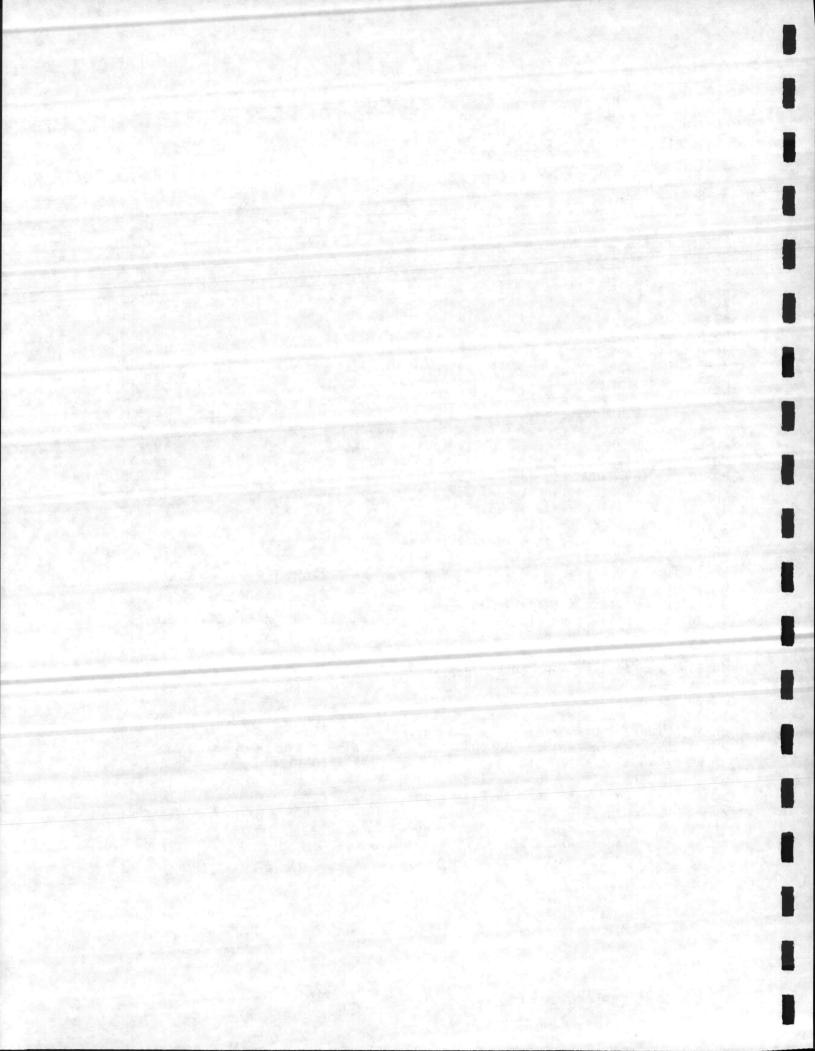
An abbreviated list of recommedation titles and their respective potential present worth costs savings for each project, taken from Section 4, follows.



#### EXECUTIVE SUMMARY OF POTENTIAL COST SAVINGS

#### PROJECT P-065 CAMP LEJEUNE, NORTH CAROLINA

Recomm	endation Description	Present Worth Cost Savings Dollars
Gymnas	ium Building (BC)	
P.C-1 A	Use surewall material for exterior walls	17,696
BC-1A BC-1B	Use brick and surewall material for exterior wa	
BC-1B	Use brick, block with surewall material for ext	1971 C.
BC-1E	Use oversize brick for exterior walls	4,340
BC-1E	Delete venetian blinds	1,147
BC-4	Question number of bleachers required	14,287
BC-4 BC-5	[1] : [1] - [1] :	4,500
	Question need for two training rooms	Improve function
BC-6	Reconfigure entrance to locker room	750
BC-7	Lower shower stall walls	13,119
BC-8A	Use synthetic sheet for gymnasium flooring	
BC-8B	Use monolithic pour for gymnasium flooring	18,025
BC-8C	Use edge grain maple for gymnasium flooring	10,913
BC-9	Use Progym floor finish in exercise room	3,430
BC-10	Reduce number of scoreboards	11,200
BC-11	Use vinyl, nylon divider curtain in gymnasium	17,700
BC-12	Epoxy paint needs scheduling	645
BC-13	Reduce ceramic tile in bathrooms and sauna	5,997
BC-15	Delete ceramic tile and use ceramic pavers	182
BC-16	Provide single slope on high roof	5,249
BC-17	Provide built-up roof instead of ballast roof s	
BC-18	Delete south inset on building	2,230
BC-19	Use different soffit finish	2,869
BC-20	Use alternative finish for ceiling in locker ro	
BC-22	Eliminate low roof	5,999
BC-28	Use vaportight flourescent lighting fixture in	
BC-33	Provide face and bypass dampers for H&V units	4,080
BC-34	Provide separate steam PRV stations	10,270
BC-36	Provide main duct header and round duct in gym	4,466
BC-37	Locate outside air intake to low roof area	Improve function
BC-38	Provide outside entrance to equipment mezzanine	(1,000)
BC-39	Provide two combination OSD/FD in mezzanine equ	ipment room 875
BC-44	Change building electrical service to 277/480 v	olt 32,723
BC-47	Delete ceiling in exercise room	2,669
BC-49	Heat and ventilate exercise room similar to gym	2,358
BC-51	Rearrange AHU's in equipment mezzanine	1,539
BC-52	Reduce number of lights in racquetball courts	2,760
BC-53	Consider changing lighting layout in gym	(2,080)

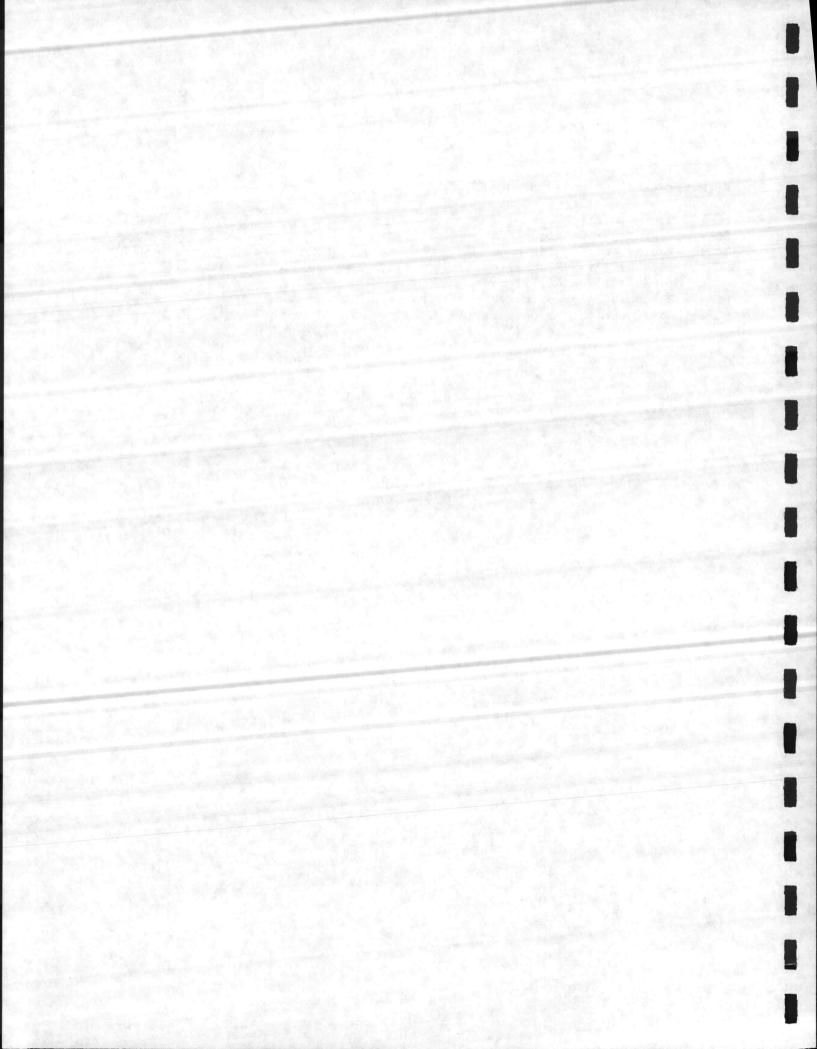


Recommendation Present Worth Cost
Number Description Savings Dollars

#### SUPPORT FACILITIES

#### Sitework (SC)

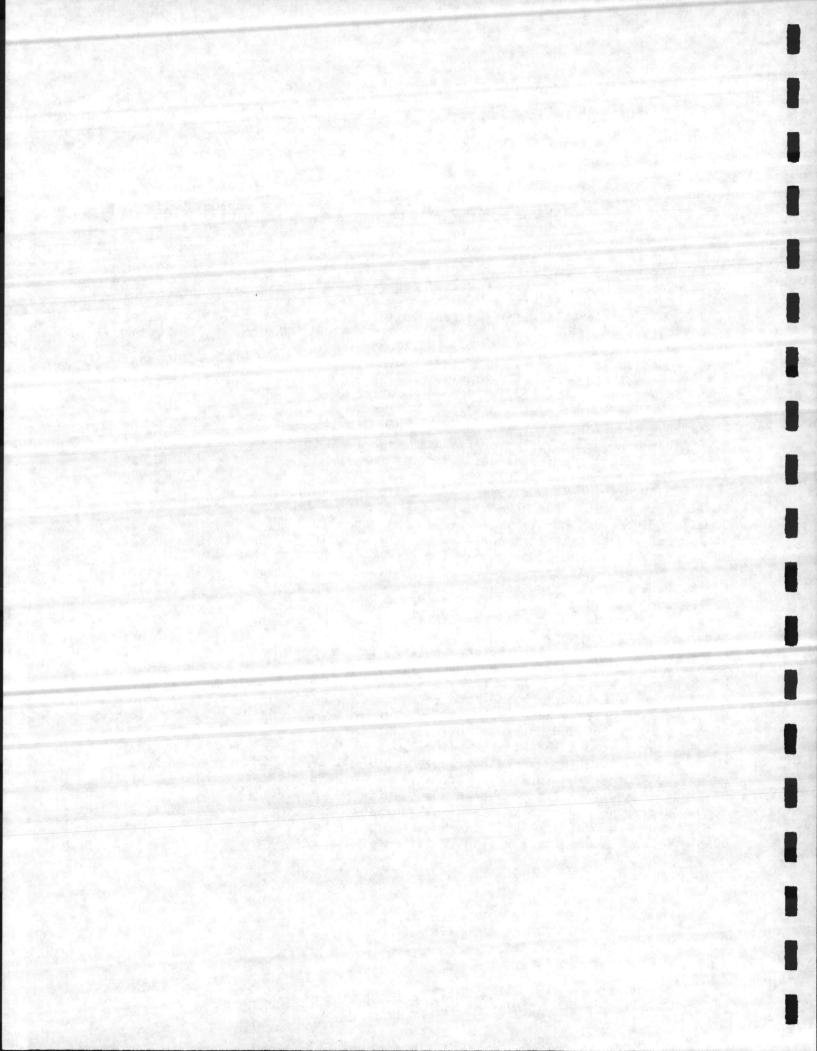
SC-1	Revise parking lot	30,300
SC-7	Regrade ditch along roadway and eliminate stormwater pipe	17,981
	Revise outside lighting	7,820
SC-11	Turn building 90 degrees, reduce elevation one foot to reduce	
	total fill and settlement	6,851
SC-13	Reduce size of primary conductors on overhead lines	1,586
SC-16	Obtain primary electrical service from "A" Street	



#### EXECUTIVE SUMMARY OF POTENTIAL COST SAVINGS

#### PROJECT P-133 - NEW RIVER, JACKSONVILLE, NORTH CAROLINA

			Worth Cost
Number	Description	Savings	Dollars
Gymnas	ium Building (BC)		
BC-1A	Use surewall material for exterior walls		17,696
BC-1B	Use brick and surewall material for exterior walls		2,362
BC-1C	Use brick, block with surewall material for exterior	walls	4,043
BC-1E	Use oversize brick for exterior walls		4,340
BC-3	Delete venetian blinds		1,147
BC-4	Question number of bleachers required		14,287
BC-5	Question need for two training rooms		4,500
BC-6	Reconfigure entrance to locker room	Improve	function
BC-7	Lower shower stall walls		750
BC-8A	Use synthetic sheet for gymnasium flooring		13,119
BC-8B	Use monolithic pour for gymnasium flooring		18,025
BC-8C	Use edge grain maple for gymnasium flooring		10,913
BC-9	Use Progym floor finish in exercise foom		3,430
BC-10	Reduce number of scoreboards		11,200
BC-11	Use, vinyl, nylon divider for curtain in gymnasium		17,700
BC-12	Epoxy paint needs scheduling		645
BC-13	Reduce ceramic tile in bathrooms and sauna		5,997
BC-15	Delete ceramic tile and use ceramic pavers		182
BC-16	Provide single slope on high roof		5,249
BC-17	Provide built-up roof instead of ballast roof system		12,500
BC-18	Delete south inset on building		2,230
BC-19	Use different soffit finish		2,869
BC-20	Use alternative finish for ceiling in locker room and	d toilet	16,229
BC-22	Eliminate low roof		5,999
BC-28	Use vaportight fluorescent lighting fixture in women	shower	s 80
BC-33	Provide face and bypass dampers for H&V units		4,080
BC-34	Provide separate steam PRV stations		27,055
BC-36	Provide main duct header and round duct in gym		4,466
BC-37	Locate outside air intake to low roof area	Improve	function
BC-38	Provide outside entrance to equipment mezzanine		(1,000
BC-39	Provide two combination OSD/FD in mezzanine equipmen	t room	875
BC-44	Change building electrical service 277/480 volt		32,723
BC-47	Delete ceiling in exercise room		2,669
BC-49	Heat and ventilate exercise room similar to gym		2,358
BC-51	Rearrange AHU's in equipment mezzanine		1,539
BC-52	Reduce number of lights in racquetball courts		2,760
BC-53	Consider changing lighting layout in gym		(2,080



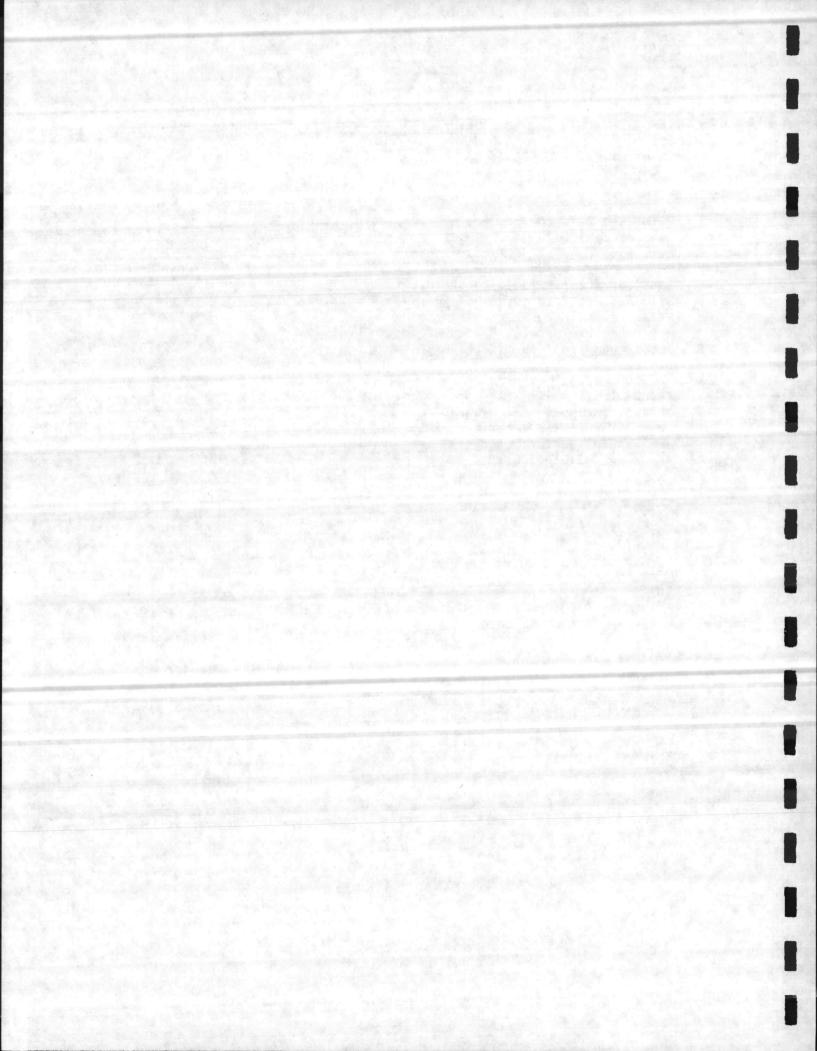
Worth Cost Dollars

#### SUPPORT FACILITIES

### Sitework (SJ)

SJ-1	Eliminate 24' wide roadway and provide 6' wide walkway at	
	rear of building	4,270
SJ-2	Eliminate concrete islands in parking lot	10,922
SJ-3	Provide parking spaces for compact cars	
SJ-4	Add concrete pad for motorcycle parking	(590)
SJ-5	Eliminate certain curbs and gutters in parking lot	16,700
SJ-6	Widen sidewalk to provide access	(567)
SJ-7	Move handicap parking spaces closer to building	
SJ-8	Reduce number of outside lights	11,450
SJ-9	Reduce size of overhead primary conductors	3,465
SJ-10	Reduce undercut on parking lot and provide wire mesh	32,700
SJ-12	Reduce length of walkway to proposed Campbell Street	72
SJ-13	Revise storm water management	8,780
SJ-14	Leave 2" existing water line in place and install new fire	
	and water line for building	DS
SJ-16	Rearrange pile grouping	11,000

DS = Design Suggestion



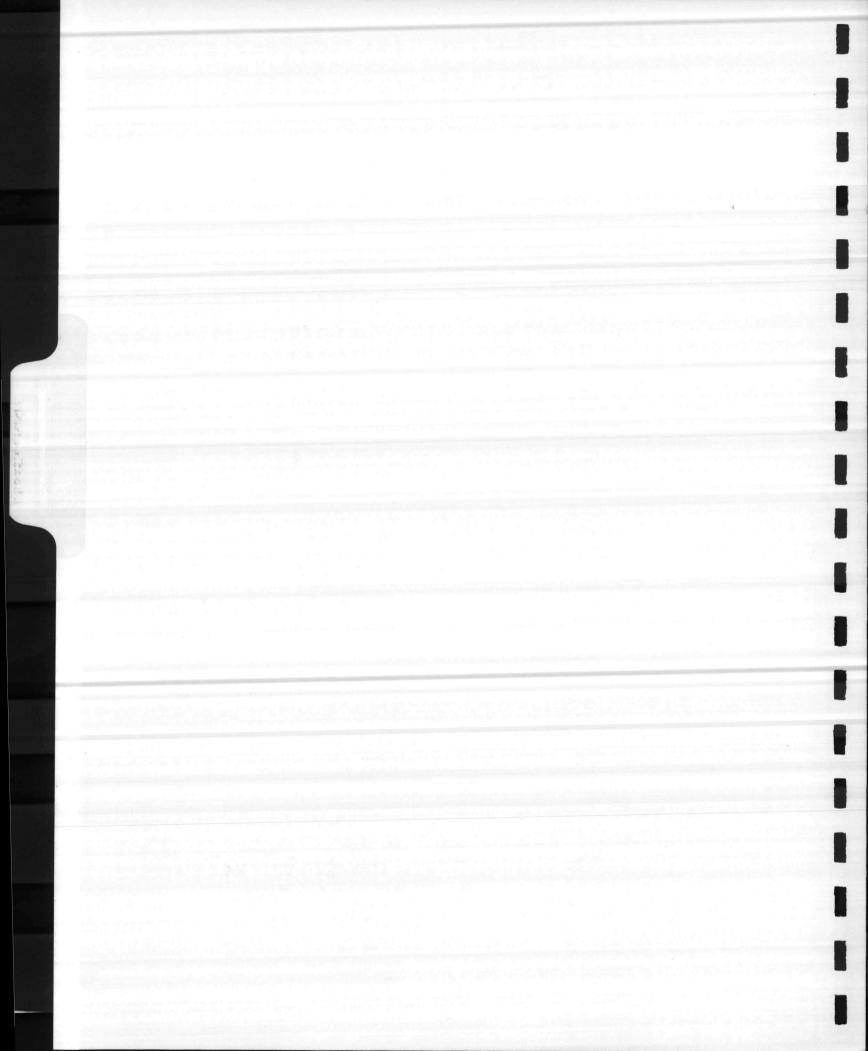
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INTRODUCTION



# VALUE ENGINEERING TEAM STUDY REPORT GYMNASIUMS CAMP LEJEUNE (P-065) NEW RIVER JACKSONVILLE (P-133) NORTH CAROLINA

AUGUST 1984

SECTION 1 - INTRODUCTION

### INTRODUCTION

This report summarizes the results of the value engineering study workshop conducted for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia. The VE study was conducted under Navy Contract No. N62470-83-B-6001 for projects P-065 and P-133, gymnasiums located at Camp LeJeune and New River, Jacksonville, North Carolina, respectively. Both facilities are for use by the Marine Corps.

The study was conducted in Wilmington, North Carolina during the week of August 27-31, 1984 at the 35 percent design completion stage. The project architect is Boney Architects of Wilmington, North Carolina.

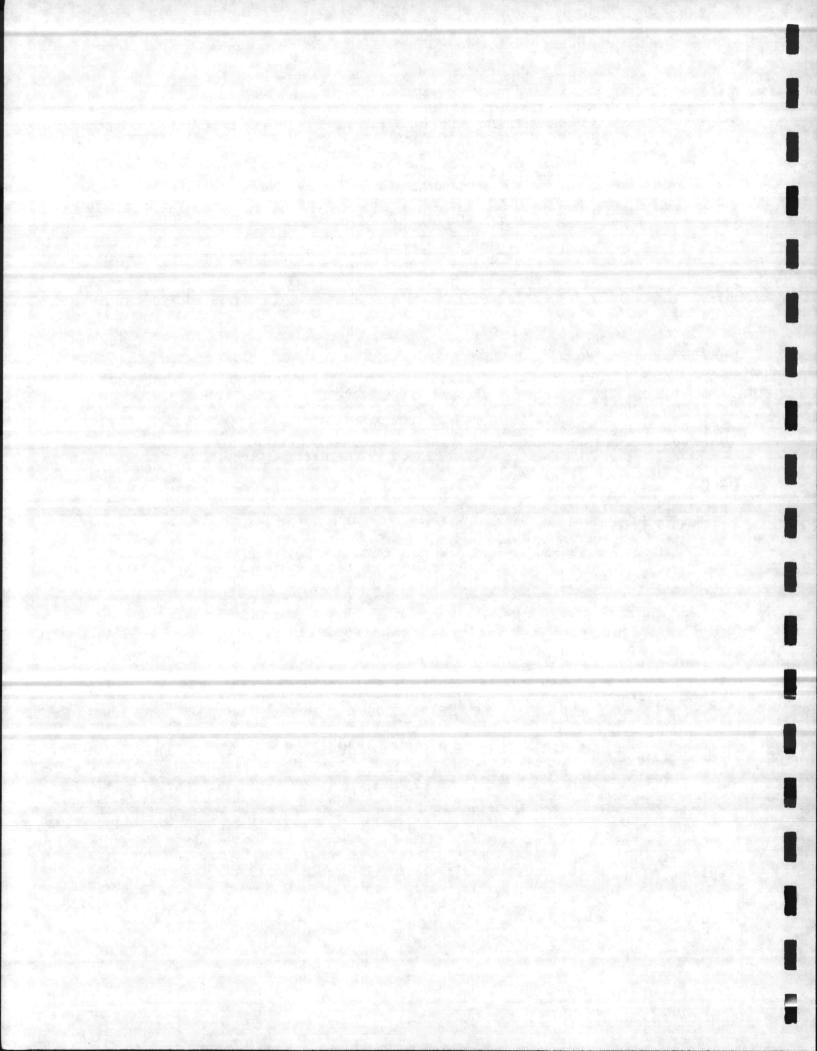
The project design consists of new construction and site preparation for two gymnasiums, one at the Marine Corps Base, Camp LeJeune, and one at the Marine Corps Air Station (H) New River, Jacksonville, North Carolina.

The architect's estimate of construction costs is \$1,441,000 for each project building. This does not include the physical training and exercise equipment.

The sitework and facility costs are different for each project, mostly due to site conditions. The site and facility support estimate of construction costs for Camp LeJeune (P-065) is \$203,000 and for New River, Jacksonville (P-133) it is \$381,000. Contingency costs and SIOH costs bring the total estimated construction costs to \$1,817,000 for Project P-065 and \$2,014,000 for Project P-133.

The facilities are needed to support the Marine Corps' athletic and physical fitness programs at each location.

The major cost areas of the facilities in terms of construction costs are associated with the exterior walls, interior finishes, specialties, and HVAC system. Supporting facilities reflect high cost areas associated with site preparation, new roadwork, parking, and distribution of utilities.



Design data and information prepared for the 35% Design Review and VE study for both projects includes:

· Map showing site location

• 35% design submittal dated August 13, 1984 (including Basis of Design, soils information, and outline specifications)

Preliminary cost estimate dated August 13, 1984

Preliminary drawings dated August 13, 1984

• User furnished floor plan (architects guideline)

• Copy of letter from Boney Architects to Mr. M.L. Bryant (NAVFAC) dated February 24, 1984

• Copy of PED dated June 1, 1984 including DD Form 1391

The VE workshop was held at the Wilmington Hilton, Wilmington, North Carolina during the week of August 27-31, 1984. The study was a scheduled 40-hour workshop.

The project presentation was made by Mr. Jack Claywell of Boney Architects, and four members of the design team who provided the VE team with the project background and design material at the beginning of the workshop. Photographs of the proceedings are shown as Figure 1-1.

Throughout the study, a free exchange of information took place with Boney Architects regarding special requirements and the proposed alternatives.

### THE PROJECT DESIGN TEAM

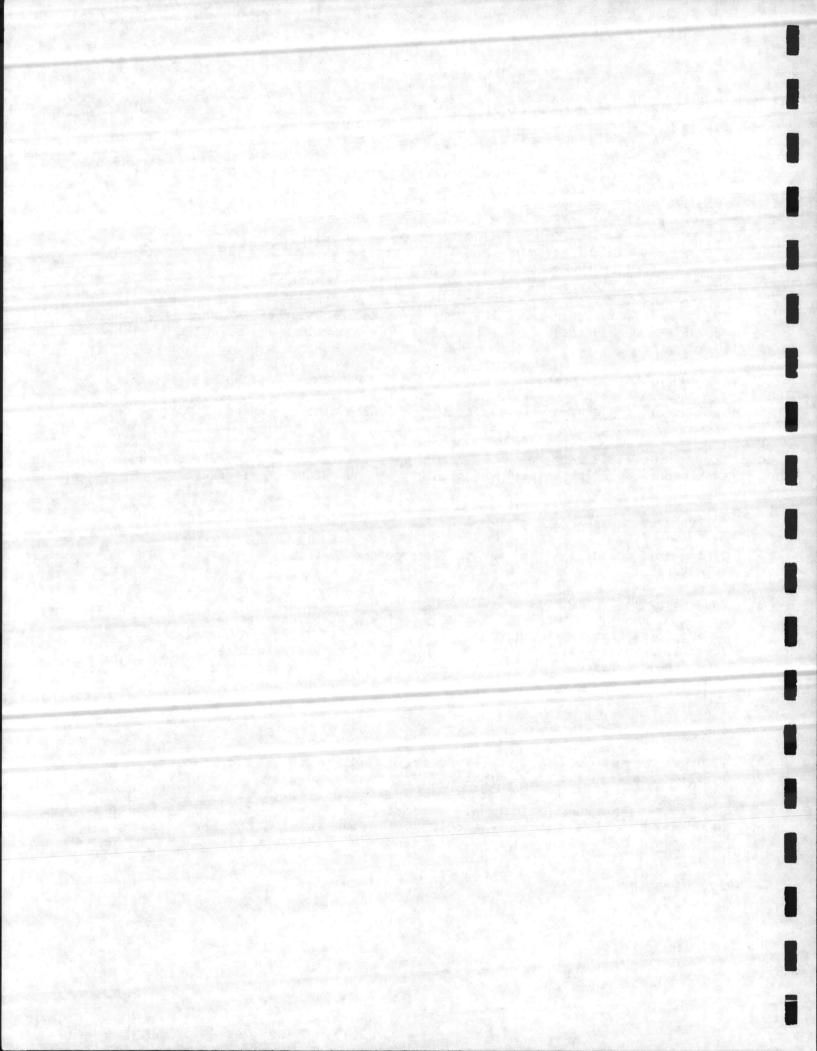
Members of the design team who participated in the project briefing to the VE team were:

Jack Claywell
Leslie N. Boney, Jr.
Glenna Hayes
James H. Cheatham, Jr.
John (Tom) Morrison
Ben L. Roach

Boney Architects
Boney Architects
Marvin C. Baldwin & Associates
Cheatham and Associates
McKim & Creed Engineers
Talbert, Cox & Associates

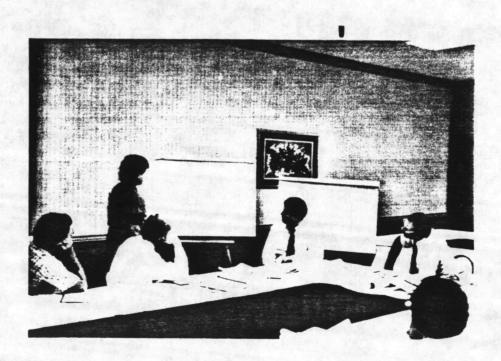
### THE VALUE ENGINEERING TEAM

Team members for the VE study were selected to provide expertise in facilities design and construction. The members' experience includes the fields of civil, structural, mechanical, and electrical engineering, architecture, and cost estimating. Emphasis was placed on the high cost of mechanical and electrical services, keeping in mind the operation and maintenance implications of each recommendation and the useful life of the facility.

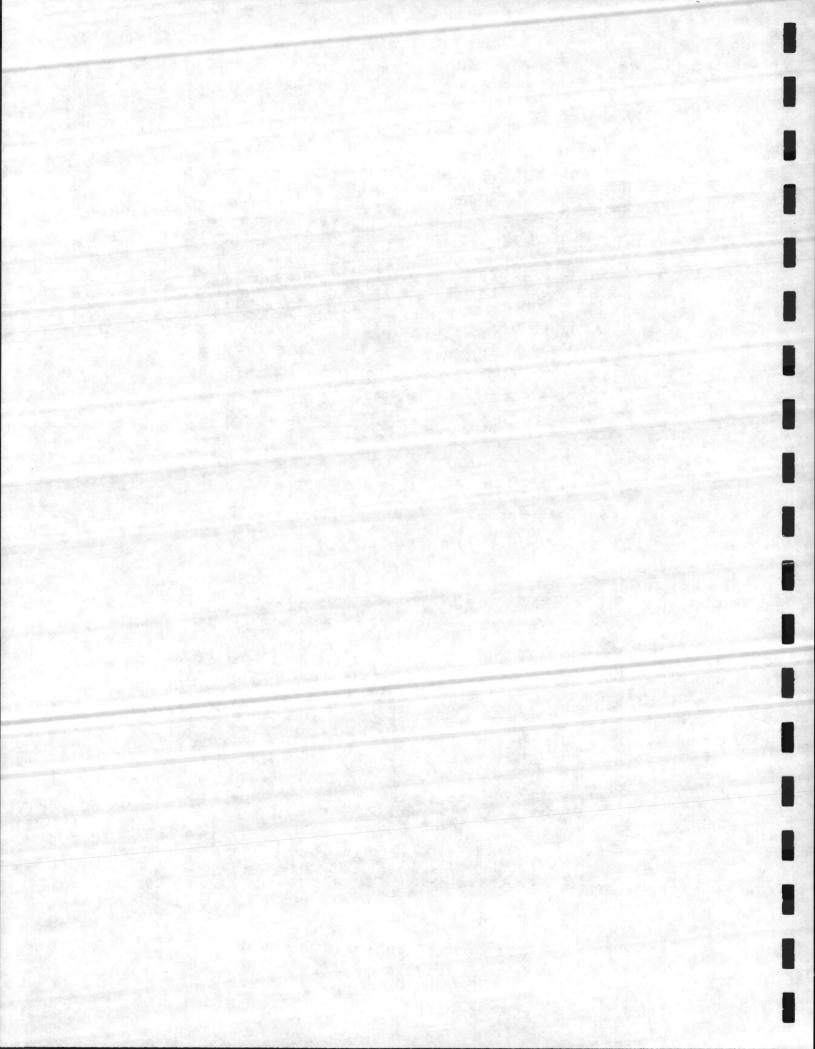




Presentation Attendees



Ms. Glenna Hayes presents the electrical design.



The value engineering participants and their related areas of expertise were:

L-Z Associates, Inc. Bernard Stainton VETC/Mechanical-Energy L-Z Associates, Inc. Robert Mochi Civil Structural Saeed Associates Anwar Saeed Ballard McKim & Sawyer Architects Architect E.J. Marsh Jere LeGwin Construction Co. Cost/Construction Jere LeGwin Henry von Oesen & Associates D.E. Rouse Mechanical/Electrical

Mr. Jim Baldwin, LANTDIV (VE) attended the design team's project presentation and provided valuable input to the VE team on behalf of the owner/user agencies during the first two days of the study.

We would like to thank Boney Architects for their assistance during the project, and for outlining specific requirements of the facilities in response to VE team questions.

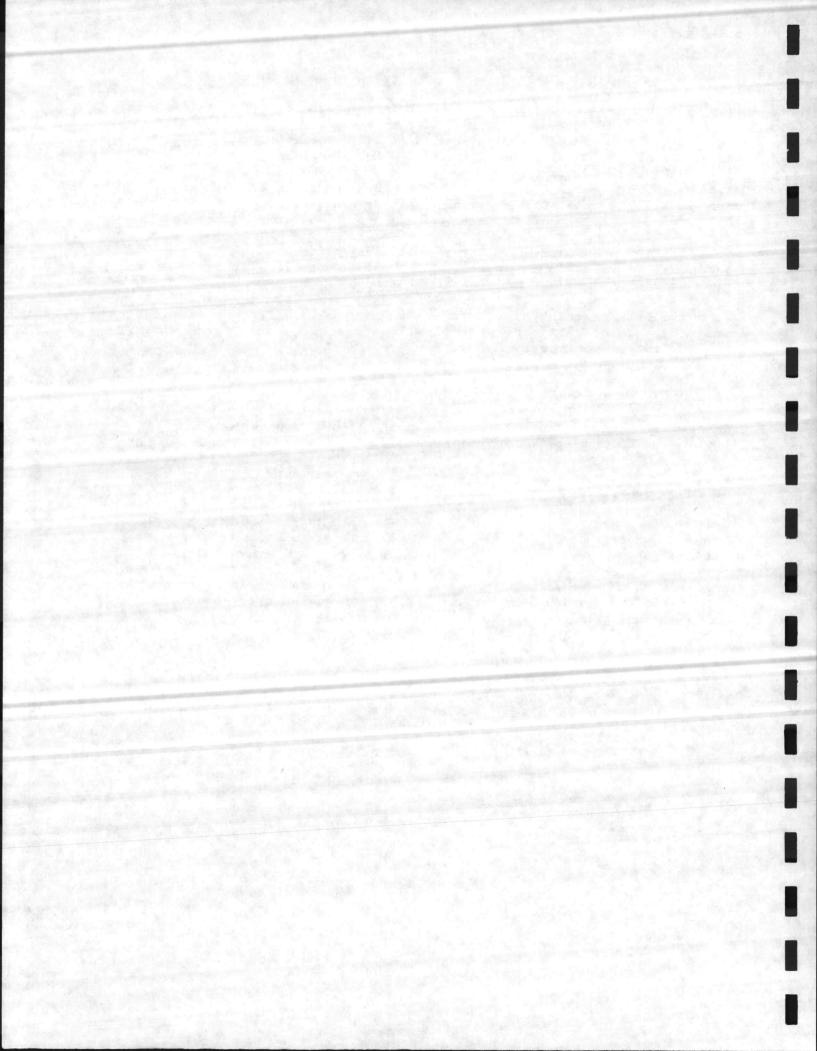
### RESULTS OF THE VE STUDY

An oral presentation of the results of the VE study was given on August 31, 1984 by the VE team to the following individuals:

Jack Claywell
Leslie N. Boney, Jr.
Glenna Hayes
James H. Cheatham, Jr.
John (Tom) Morrison
Ben L. Roach

Boney Architects
Boney Architects
Marvin C. Baldwin & Associates
Cheatham and Associates
McKim & Creed Engineers
Talbert, Cox & Associates

Preparation of the Value Engineering Team Study Report incorporating the recommendations developed in the VE workshop, forms part of the Post-Study Procedures which immediately follow the 40-hour workshop.

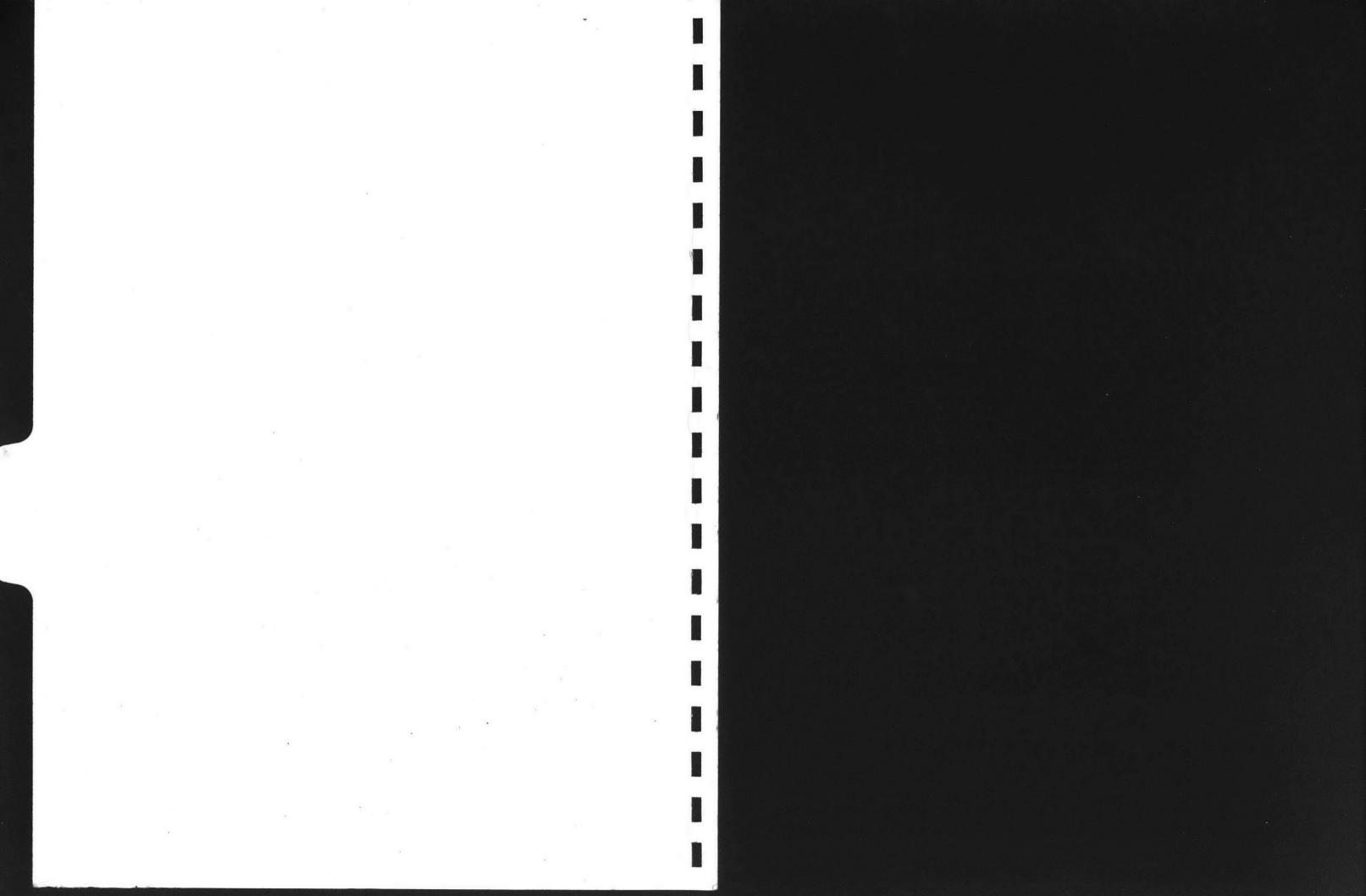


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Confidential Records Management, Inc. New Bern, NC 1-888-622-4425 9/08

PROJECT DESCRIPTION



# VALUE ENGINEERING TEAM STUDY REPORT GYMNASIUMS CAMP LEJEUNE (P-065) NEW RIVER, JACKSONVILLE (P-133) NORTH CAROLINA

AUGUST 1984

### SECTION 2 - PROJECT DESCRIPTION

### GENERAL

The project consists of the design and construction of new gymnasium facilities under FY 1986 MCON. One gymnasium (P-065) will be located at the Marine Corps Base, Camp LeJeune, North Carolina and one gymnasium (P-133) will be located at the Marine Corps Air Station (Helicopter), New River, Jacksonville, North Carolina. Each gymnasium will be provided with a parking area on site. The facilities are needed to support the Marine Corps' athletic and fitness programs at each location, thus contrubuting to the base's personnel morale and welfare requirements.

For the purpose of describing each project, the VE team has assumed that the gymnasiums will be the same at each location. Differences between the projects are due to the site work and support facilities required.

The focus of this value engineering study was the analysis of building construction and materials, mechanical and electrical subsystems, new on site power and steam services, and site improvements including roadways, parking, water distribution, storm and sanitary sewers, and landscaping.

### Gymnasium (P-065) Camp LeJeune, North Carolina

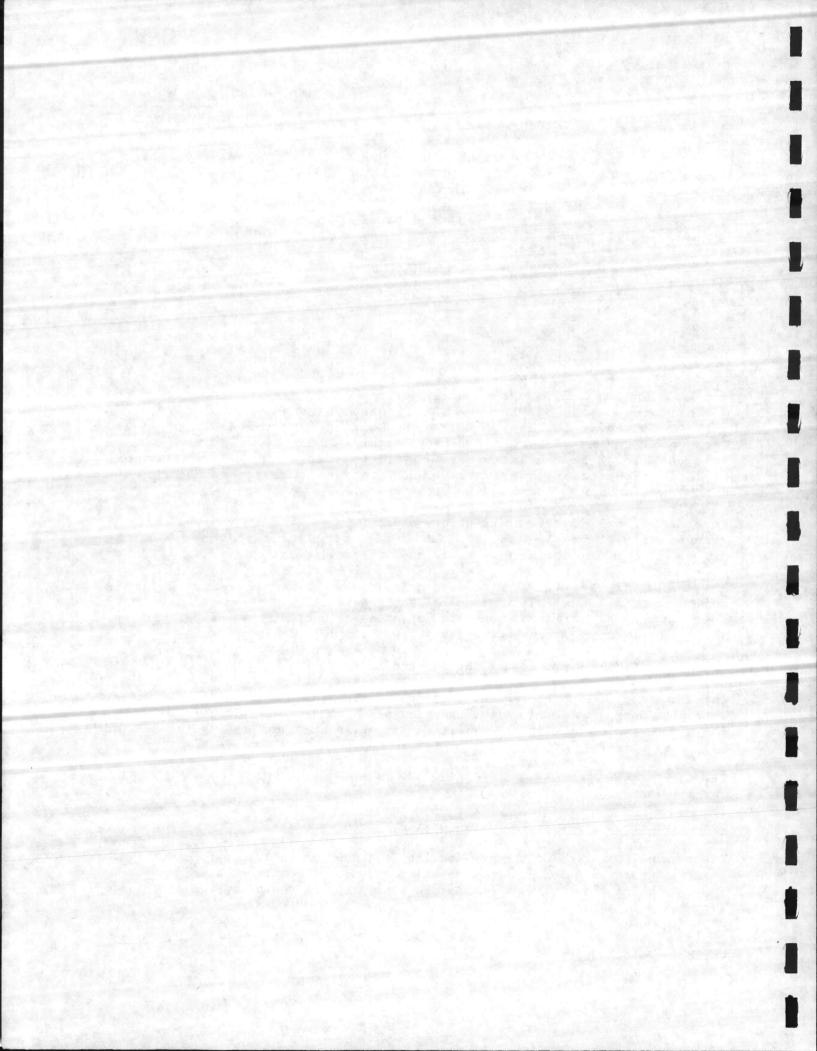
The general location of the new facility is shown on the vicinity map, Figure 2-1, with more detailed imformation being shown on the site plan, Figure 2-2. The gymnasium floor plan and utilities site plan are shown as Figures 2-3 and 2-4, respectively.

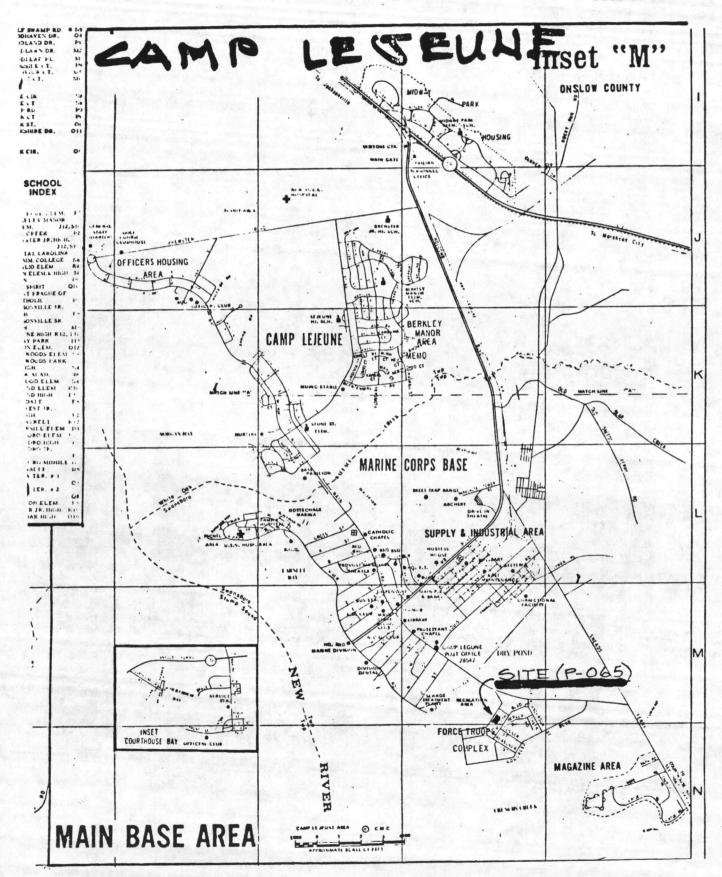
The project guidelines are identified on DD Form 1391 dated 1 June 1984, which is attached as Table 2-1.

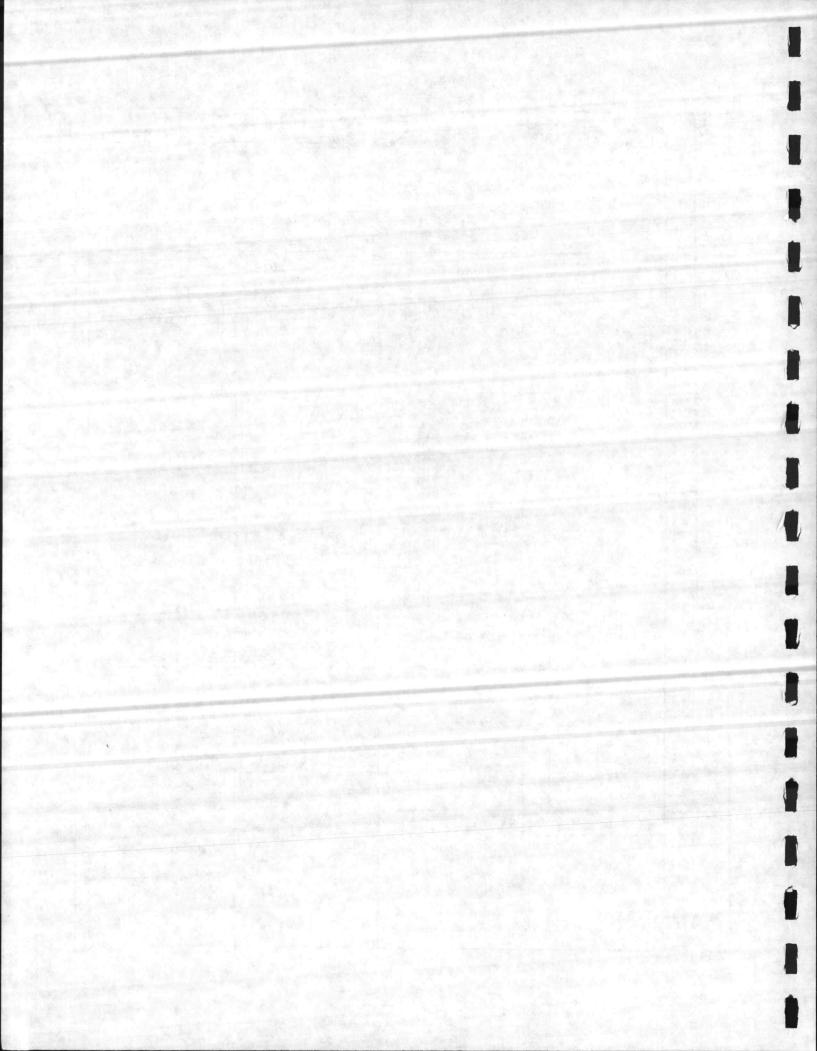
### Gymnasium (P-133) New River, Jacksonville, North Carolina

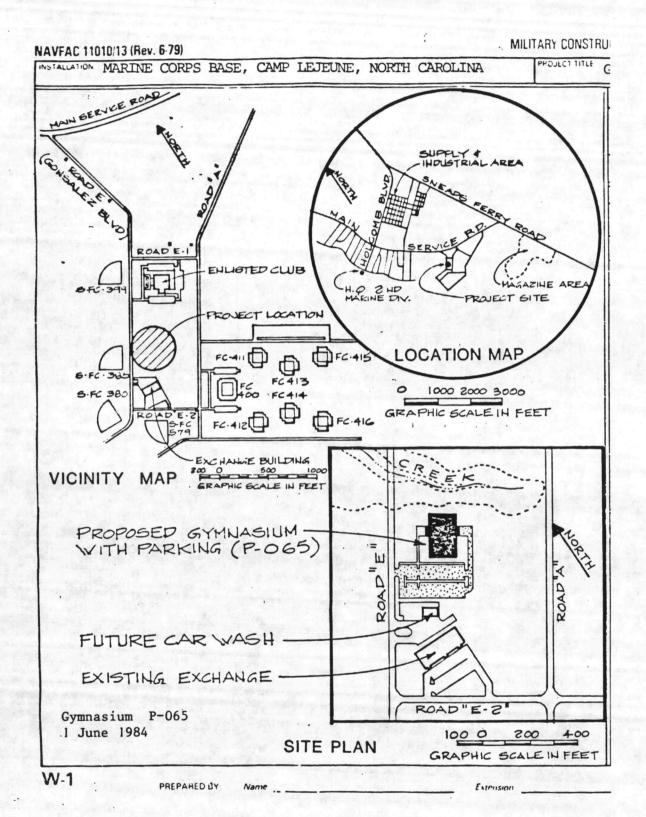
The general location of the new facility is shown on the vicinity map, Figure 2-5, with more detailed information being shown on the site plan, Figure 2-6. The gymnasium floor plan and utilities site plan are shown as Figures 2-7 and 2-8, respectively.

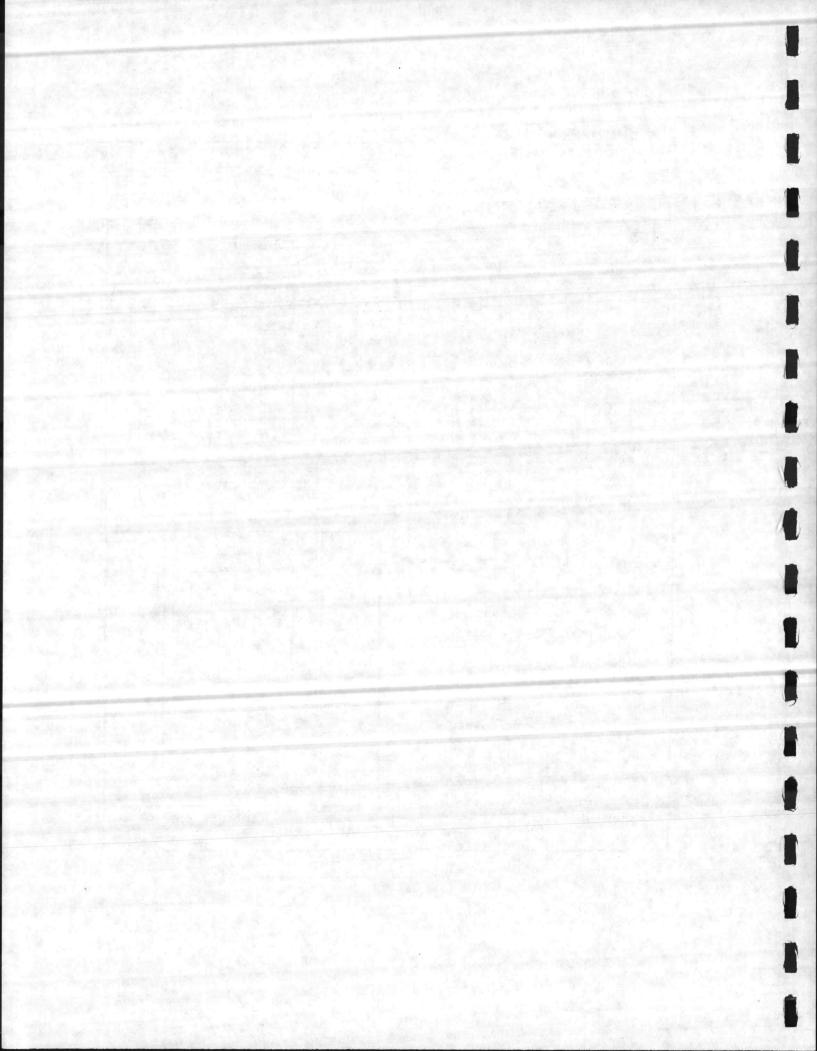
The project guidelines are identified on DD Form 1391 dated 1 June 1984, which is attached as Table 2-2.



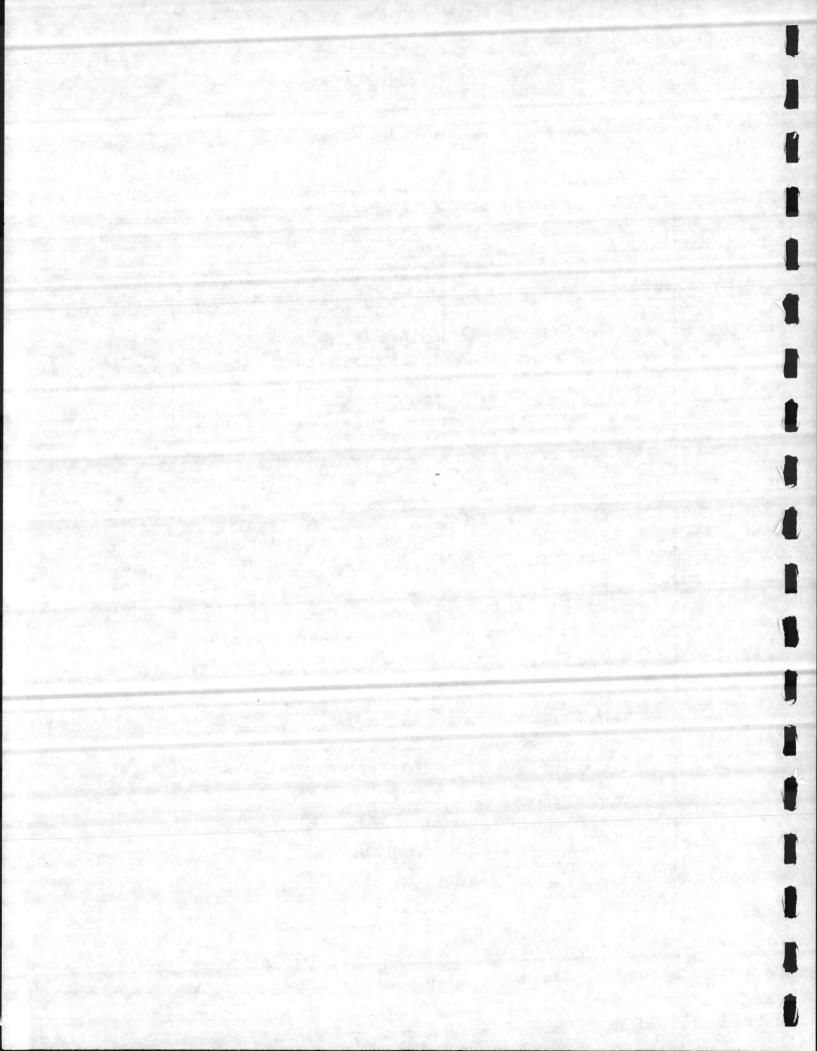


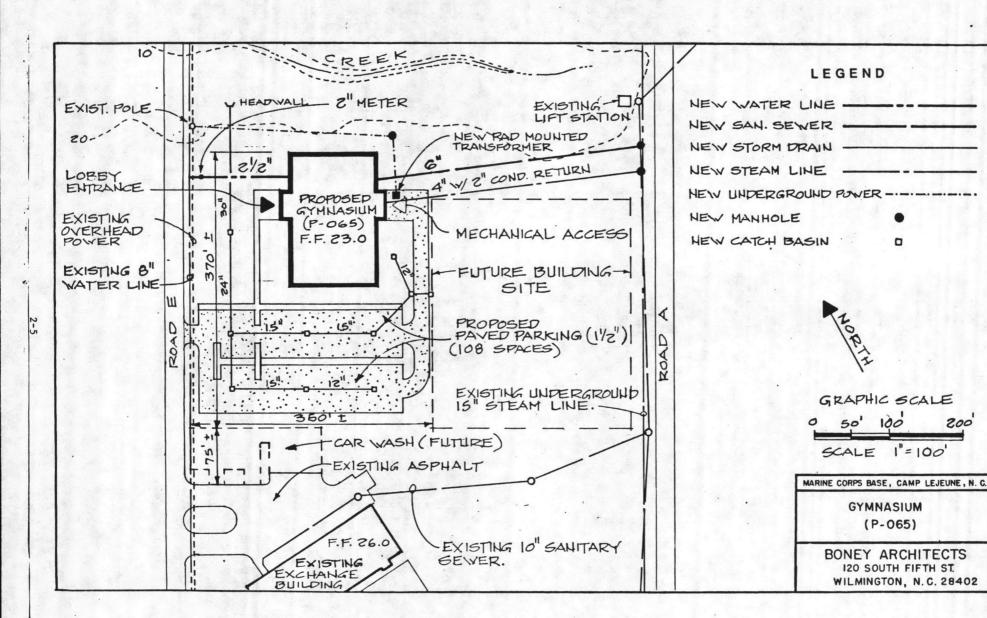




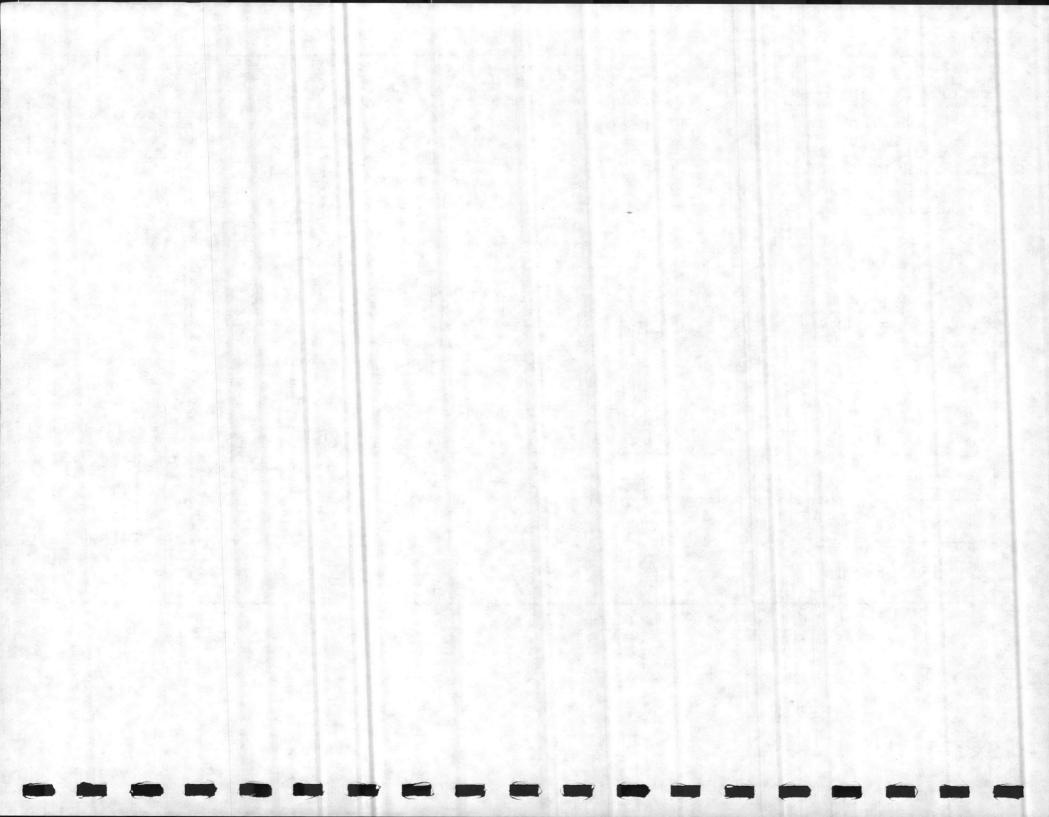


NAVFAC 11010/13 (Rev. 6-79) MILITARY CONSTRI PHOJECI TITLE MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA SILL IN AFEA 179'-0" LEGEND I EXERCISE ROOM 2 HANDBALL COURT 3 ELECTRICAL 4 MECHANICAL 5 WOMEN'S LOCKER RM.
6 WOMEN'S TOILET
7 MEN'S LOCKER RM. 14 14 8 MEN'S TOILET 9 ISSUE RM. 13 10 LAUNDRY 11 OFFICE 12 LOBBY 13 GYMNASIUM 14 STORAGE FLOOR PLAN SECTION NORTH ELEVATION BRICK Gymnasium P-065 1 June 1984 GLASS WEST ELEVATION W-1 . PREPARED BY Extension





IGURE



I. COMPONENT NAVY	FY	1986_ MILITARY CO		the state of the s			JUNE 1984
MARTNE CORE	S BAS	EATION E RIH CAROLINA			NASIUM	ECT COST	,
5. PROGRAM ELEM		6. CATEGORY CODE 740-43	7. PROJECT	TNUMBER		750	(\$000)
		9. CC	OST ESTIMAT	ES			
Escalation:	11 %	Escalated 1 April	to date		QUANTITY	COST	(\$000)
GYMMASIUM Building Built-in E SUPPORTING F Utilities Roads, Par Site Impro SUB-TOTAL CONTINGENCY TOTAL CONTRA SUPERVISION, TOTAL REQUES	quipme ACILI king, vemen (5%) CT CO INSP	ries Sidewalks ts ST ECTION & OVERHEAD		SF SF LS LS LS LS 	21,550 21,550 - - - - - - - - - - -	64.77 54.90	1,396 (1,183) (213) 194 ( 76) ( 50) ( 68) 1,590 80 1,670 92 1,762 1,750 ( 35)

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Single story physical fitness facility with one regulation basketball gym; exercise room, handball courts, and locker rooms. Structure shall consist of reinforced concrete footings, masonry walls and built-up roof over metal deck on long span steel trusses. Parking and utility connections shall be included. No demoltion is required. (Air Conditioning - 111/2 tons)

ADEQUATE:

48,000 S.F. 11. REQUIREMENT:

PROJECT: Provide a physical fitness facility. REQUIREMENT: Physical fitness facility for 2d FSSG (FMF) personnel.

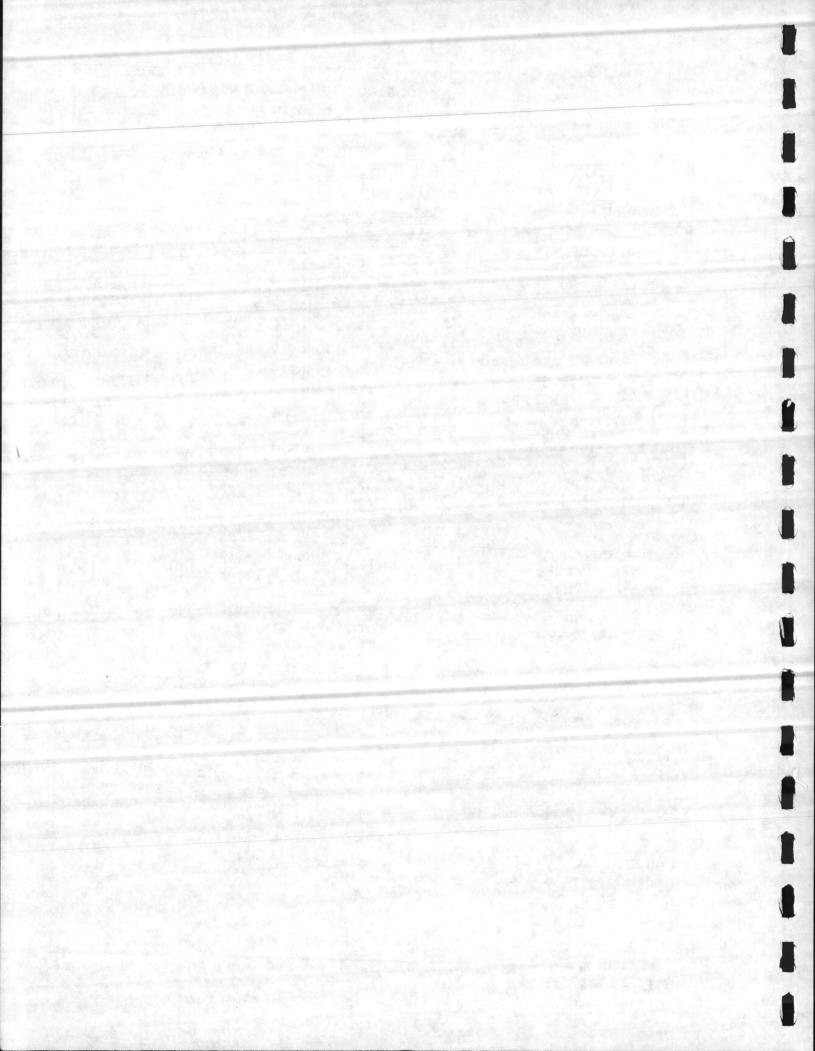
CURRENT SITUATION: There is no physical fitness facility currently located or under construction in the 2d FSSG French Creek Area. The nearest gymnasium is over two miles away in the 2d MARDIV, 5th Area, which is currently in support of 7 battalions.

EMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 8,000 plus personnel assigned to the 2d FSSG Forces.

DD1 FORM 1391 S/N 0102 LF-001-3910

0 S.F.

SUBSTANDARD: 0 S.F.



1. COMPONENT NAVY	FY 19 86 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 1 JUNE 1984
3. INSTALLATION MARINE COL CAMP LEJE	RPS BASE	JECT NUMBER
4. PROJECT TITLE GYMNASIUM	P-0	

### ENVIRONMENTAL PROTECTION

The project Preliminary Environmental Assessment has been reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.

# PRESERVATION OF HISTORICAL SITES AND STRUCTURES

The project facilities do not directly or indirectly affect a district, site, building, structure, object or setting which is listed in the National Register or otherwise possesses a significant quality of American history.

# FLOODPLAIN MANAGEMENT AND WETLANDS PROTECTION

### FOOD HAZARDS EVALUATION

Requirement of Executive Order No. 11988 (Floodplain Management) and Executive Order No. 11990 (Protection of Wetlands) are not applicable.

### COASTAL ZONE MANAGEMENT

In accordance with the Coastal Zone Management Act of 1972 (as amended), this project will not directly affect the coastal zone and a coastal consistency determination is not required.

### POLLUTION ABATEMENT

This project will not cause additional air or water pollution.

# DESIGN FOR ACCESSIBILITY OF PHYSICALLY HANDICAPPED PERSONNEL

Provisions for physically handicapped personnel provided in this facility as required by Design Manual DM-1, Architecture.

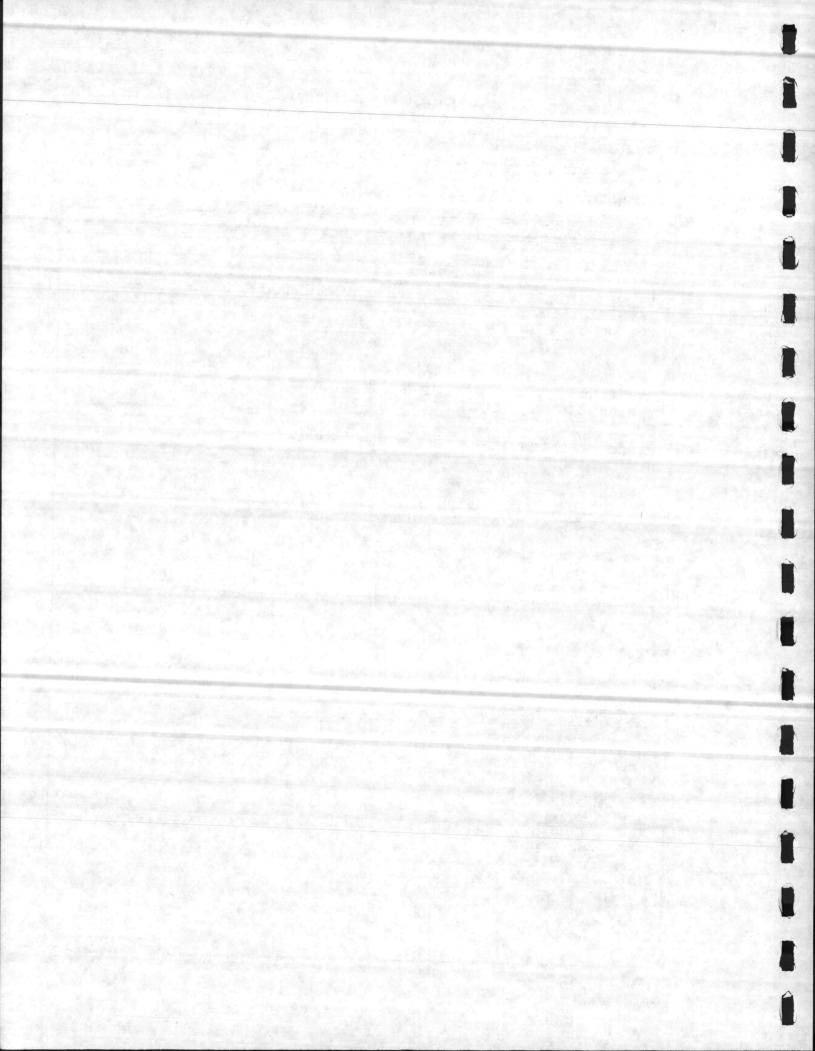
## ENDANGERED SPECIES PROTECTION

This project will not jeopardize conservation of endangered or threatened species.

### INTERGOVERNMENTAL COORDINATION

No intergovernmental coordination is required.

DD 1 DEC 76 1391C



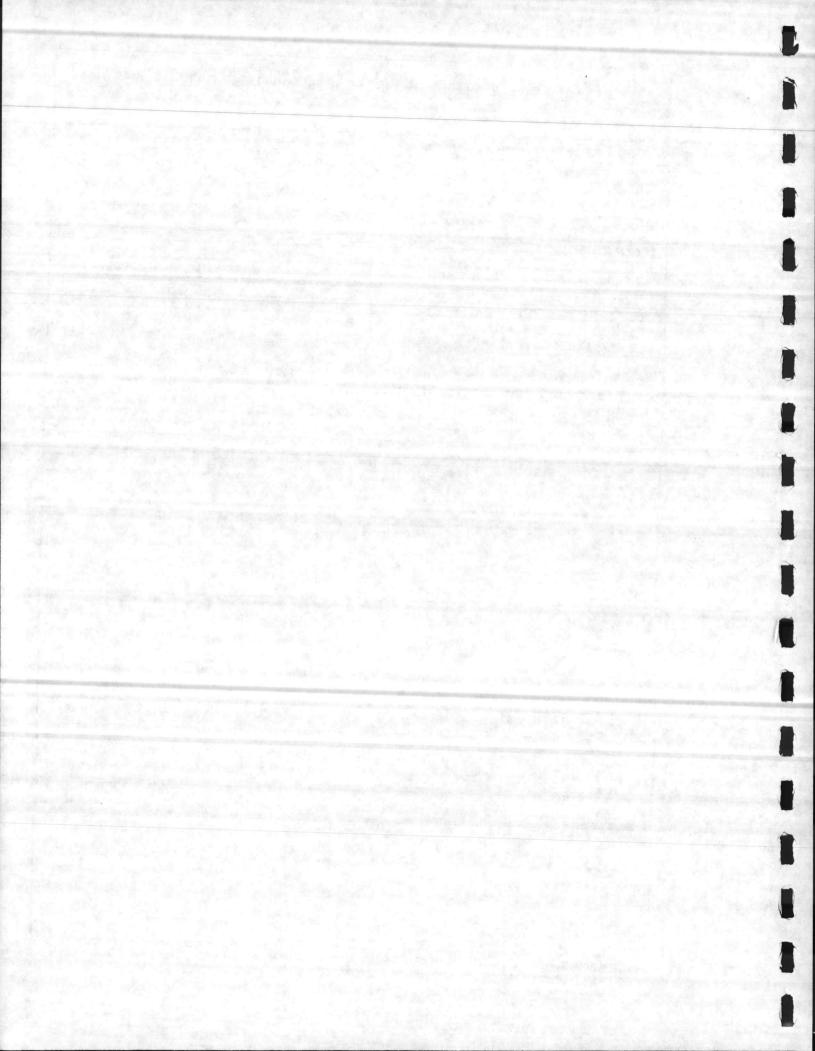
1. COMPONENT NAVY	FY 19.86_MILITARY CONSTRUCTION PROJECT DATA	1 JUNE 1984
3. INSTALLATION MARINE COR CAMP LEJEU	PS BASE	OJECT NUMBER
4. PROJECT TITLE GYMNASIUM		065

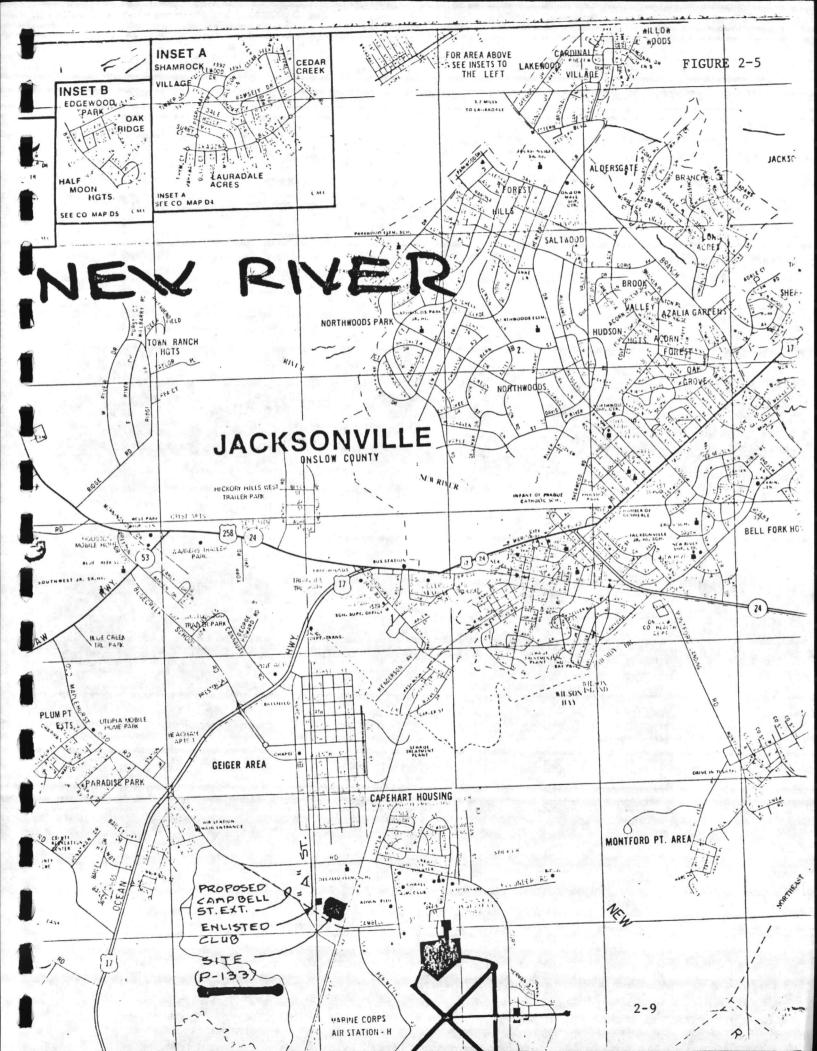
### ECONOMIC ANALYSIS

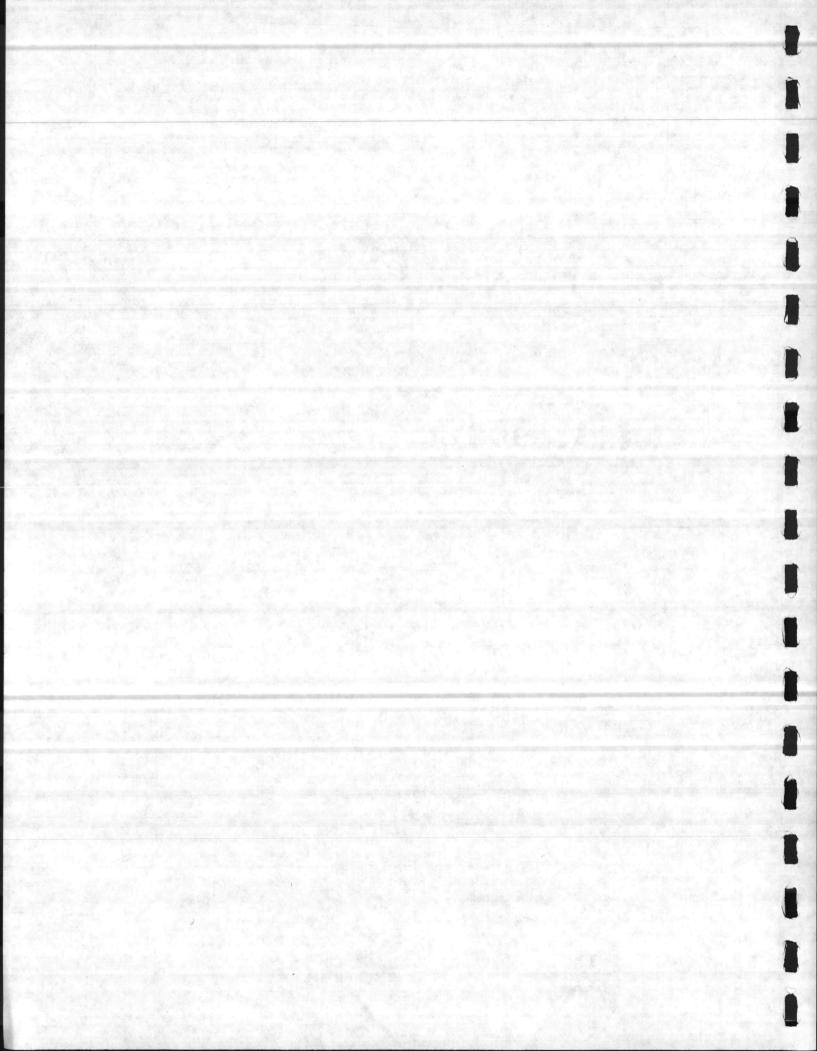
A secondary economic analysis of alternative HVAC systems and zones is being prepared and will be incorporated into the Design Concepts portion of the 35% submittal.

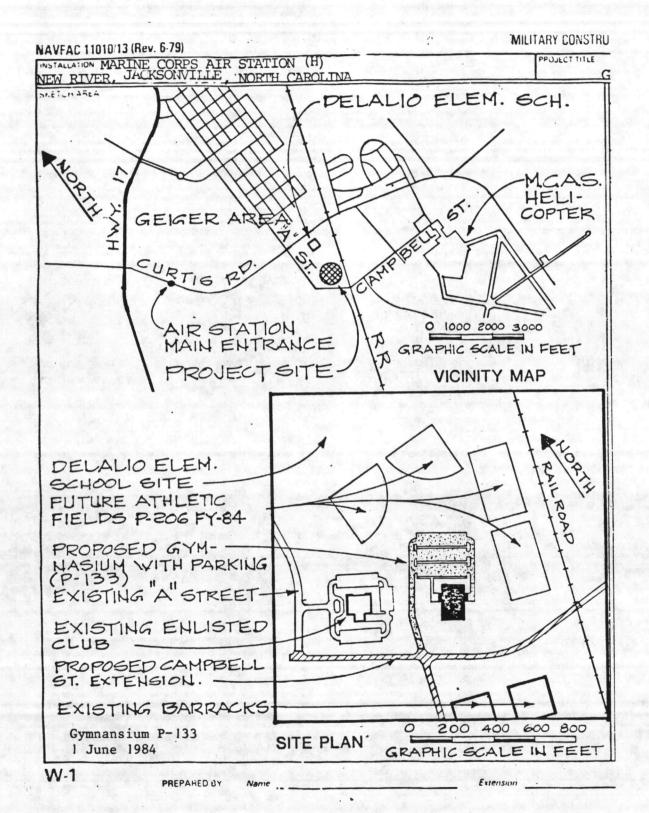
### ENERGY CONSERVATION

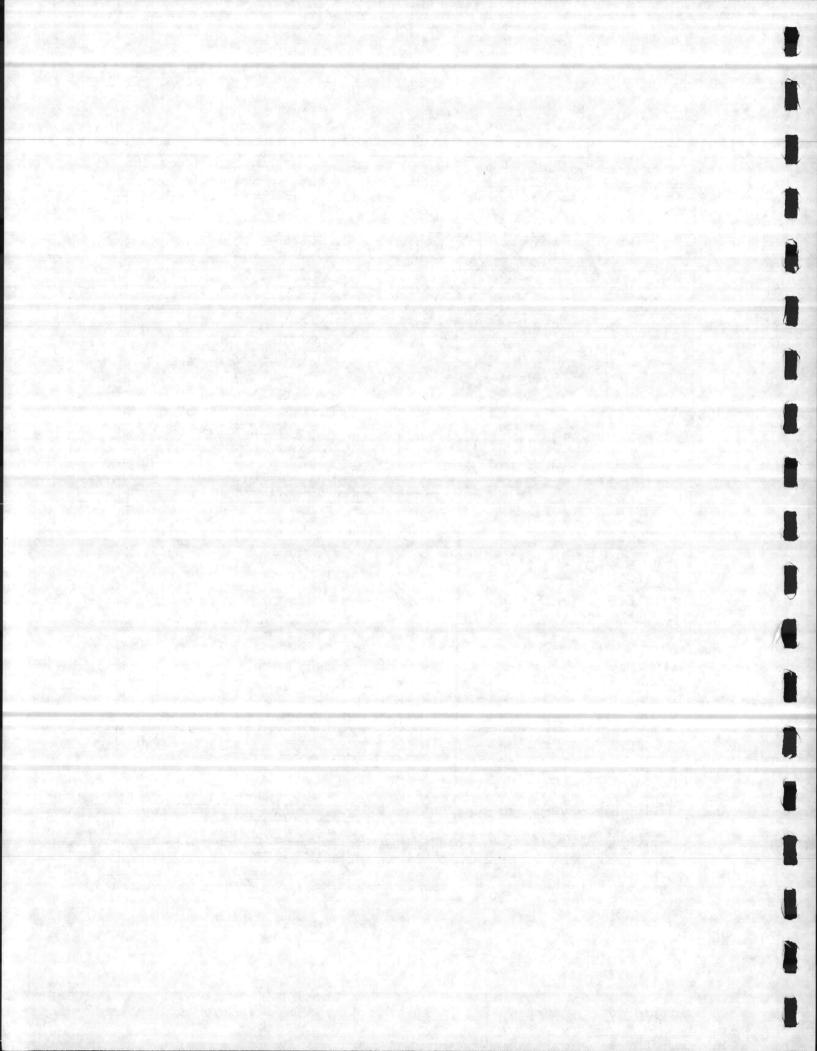
This project has been developed, reviewed and selected by priority based on energy savings per investment cost.

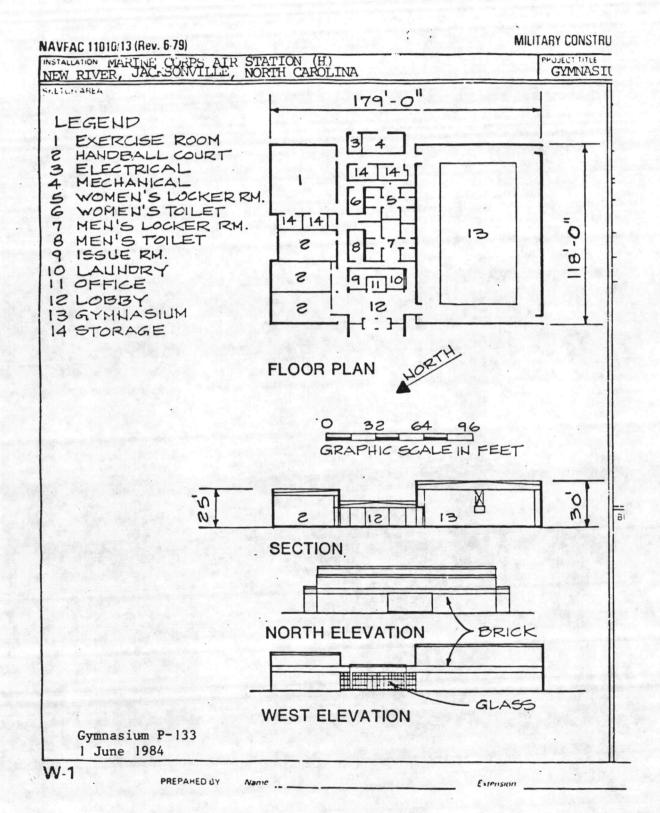


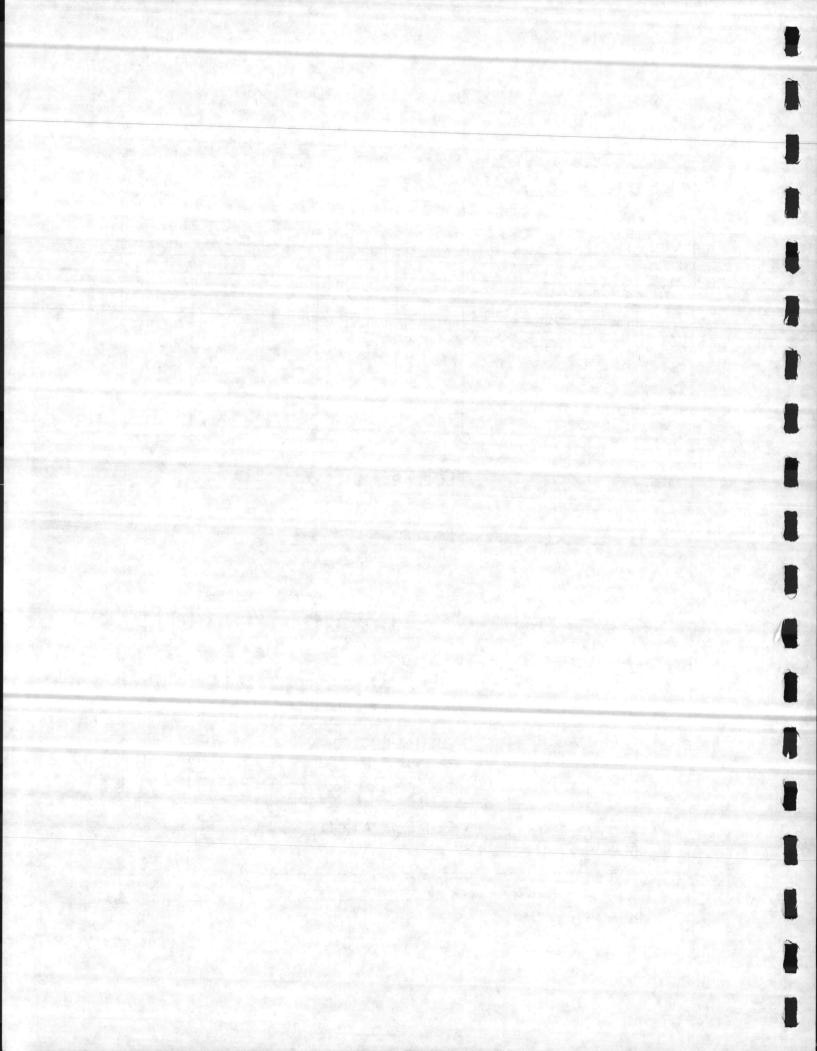


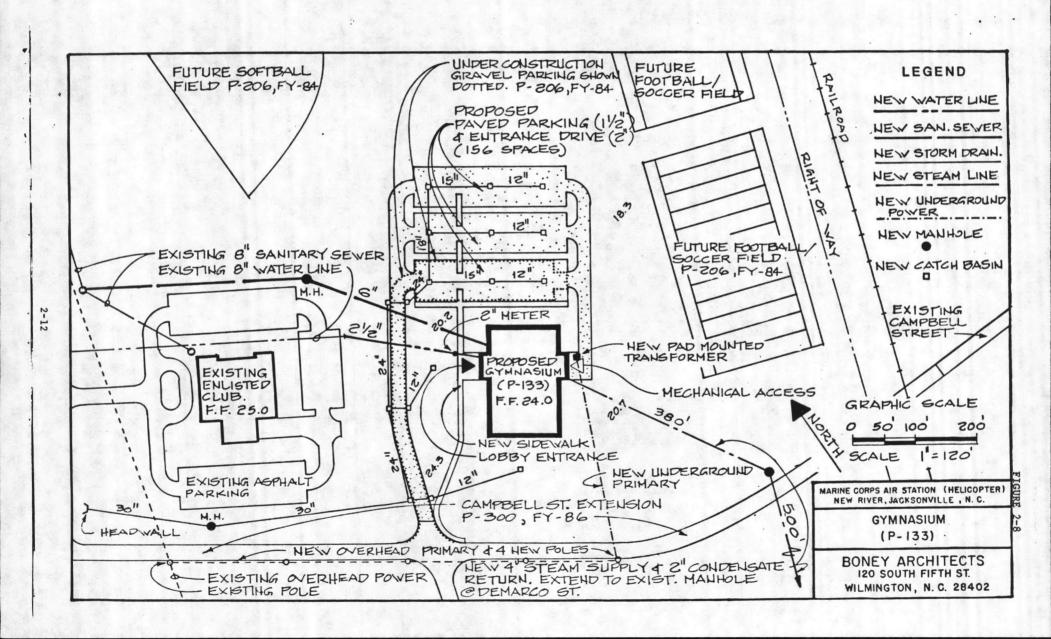


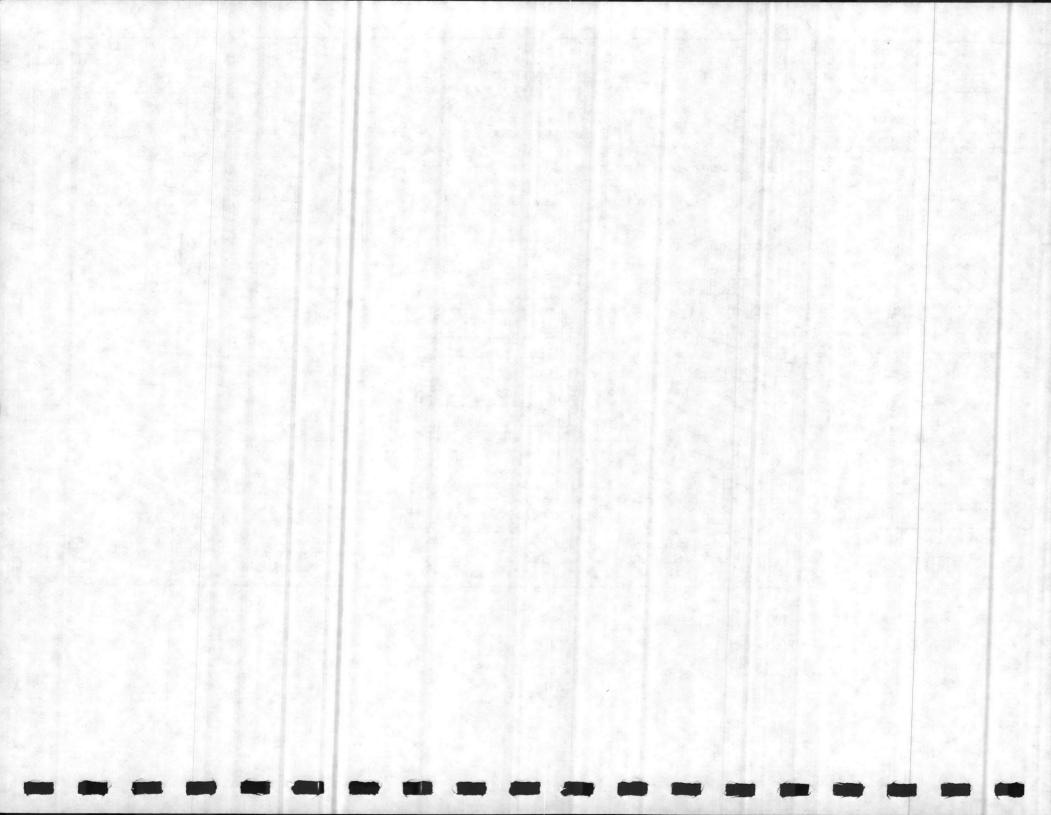












1. COMPONENT NAVY	FY	19_86 MILITARY CO		A 1 JUNE 1984				
3. INSTALLATION A MARINE CORP NEW RIVER,		STATION (H) DNVILLE, N. C.		MNASIUM				
5. PROGRAM ELEMENT 6. CATEGORY CODE 7. PROJECT N 740-43 P-133					B. PROJECT COST (\$000) 1,950			
		9. CC	OST ESTIMATE	S		1 20 1		
Escalation:	11	Escalated 1 April 1		U/M	QUANTITY	UNIT	COST (\$000)	
Utilities Roads, Par Site Impro SUB-TOTAL CONTINCENGY TOTAL CONTR SUPERVISION TOTAL REQUE TOTAL REQUE	rking ovement (5%) ACT CO , INS ST ST (R	ITIES uction Features , Sidewalks nts  OST PECTION & OVERHEA		SF SF LS	21,550 21,550 - - - - - - - - - - - - - - - -	67.02		

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Single story physical fitness facility with one regulation basketball gym; exercise room, handball courts, and locker rooms. Structure shall consist of reinforced concrete footings on piles, masonry walls and built-up roof over metal deck on long span steel trusses. Parking and utility connections shall be included. No demolition is required.

(Air Conditioning - 11½ tons)

REQUIREMENT: 40,000 S.F. ADEQUATE: O.S.F. SUBSTANDARD: 18,246 S.F.

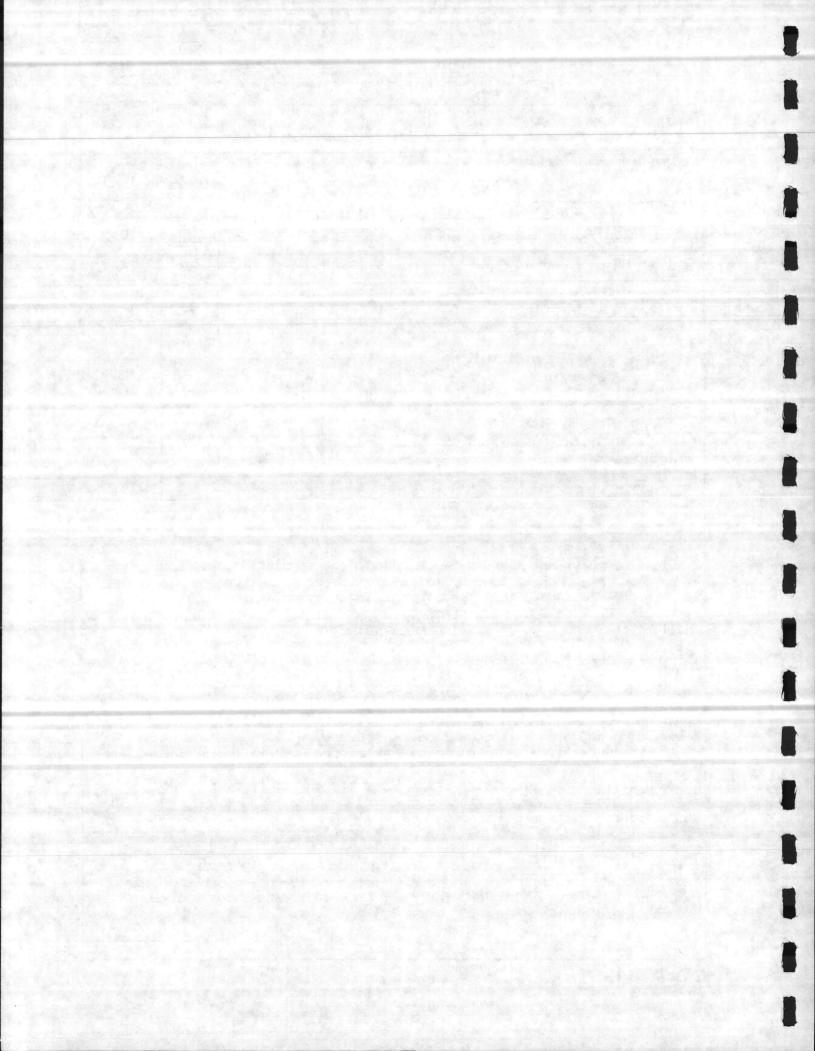
PROJECT: Provide station gymnasium complete with handball courts, exercise room, men's and women's locker rooms, and lobby.

RECOUREMENT: Facility is required to support the Air Station's planned athletic program and personnel assigned.

CURRENT SITUATION: The existing facilities are extremely overcrowded. Many organized activities are curtailed due to lack of available gym time. Free time for usage is limited in order to derive maximum effective usage.

Personnel wanting to exercise at random times are in many cases not permitted

to do so.
IMPACT IF NOT PROVIDED: Morale and welfare of military personnel and their dependents will suffer. New River will not be able to support the activities required and encouraged by CMC for the physical development of personnel assigned here and Camp Geiger.



1. COMPONENT NAVY	FY 19_86_MILITARY CONSTRUCTION PROJECT DATA	2. DATE 1 JUNE 1984
	AND LOCATION PS AIR STATION (H) JACKSONVILLE, N. C.	
4. PROJECT TITLE GYMNASIUM	5. PROJ P-1	33

## ENVIRONMENTAL PROTECTION

The project Preliminary Environmental Assessment has been reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.

# PRESERVATION OF HISTORICAL SITES AND STRUCTURES

The project facilities do not directly or indirectly affect a district, site, building, structure, object or setting which is listed in the National Register or otherwise possesses a significant quality of American history.

## FLOODPLAIN MANAGEMENT AND WETLANDS PROTECTION

## FOOD HAZARDS EVALUATION

Requirement of Executive Order No. 11988 (Floodplain Management) and Executive Order No. 11990 (Protection of Wetlands) are not applicable.

#### COASTAL ZONE MANAGEMENT

In accordance with the Coastal Zone Management Act of 1972 (as amended), this project will not directly affect the coastal zone and a coastal consistency determination is not required.

#### POLLUTION ABATEMENT

This project will not cause additional air or water pollution.

# DESIGN FOR ACCESSIBILITY OF PHYSICALLY HANDICAPPED PERSONNEL

Provisions for physically handicapped personnel provided in this facility as required by Design Manual DM-1, Architecture.

#### ENDANGERED SPECIES PROTECTION

This project will not jeopardize conservation of endangered or threatened species.

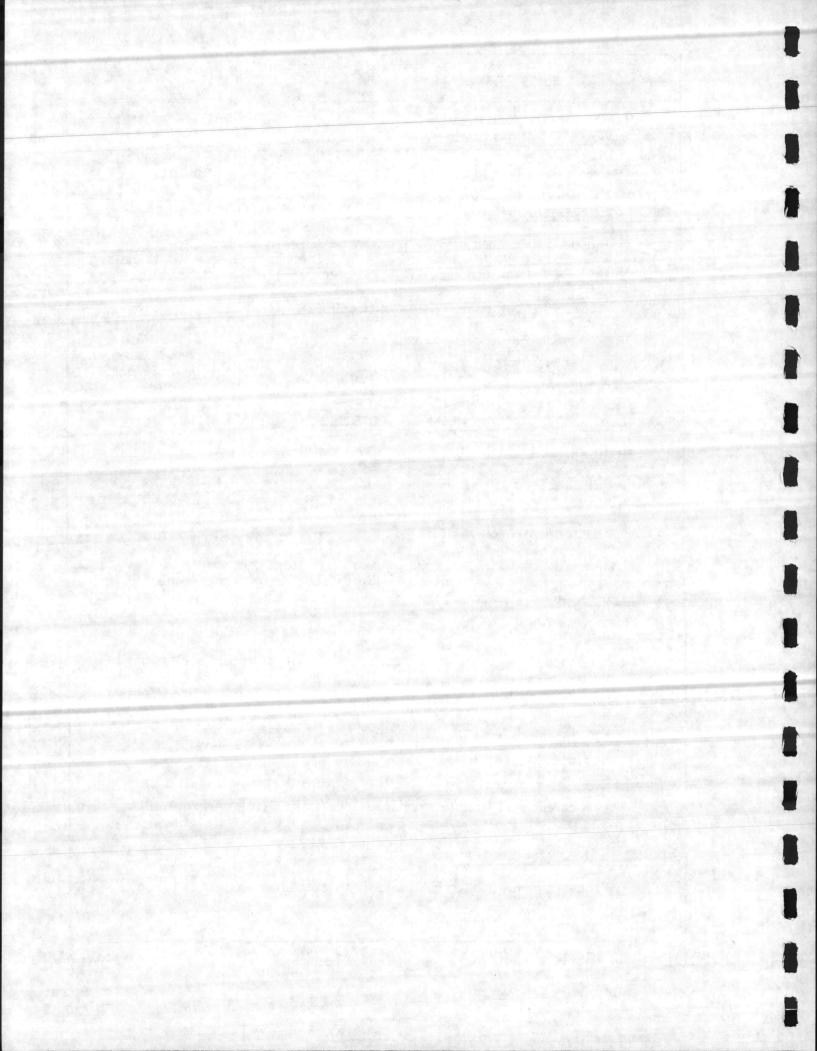
#### INTERGOVERNMENTAL COORDINATION

No intergovernmental coordination is required.

DD 1 DEC 76 1391c

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO. 20F3



1. COMPONENT
NAVY

FY 19 86 MILITARY CONSTRUCTION PROJECT DATA

3. INSTALLATION AND LOCATION
MARINE CORPS AIR STATION (H)
NEW RIVER, JACKSONVILLE, N. C.

4. PROJECT TITLE
GYMNASIUM

2. DATE
1 JUNE 1984

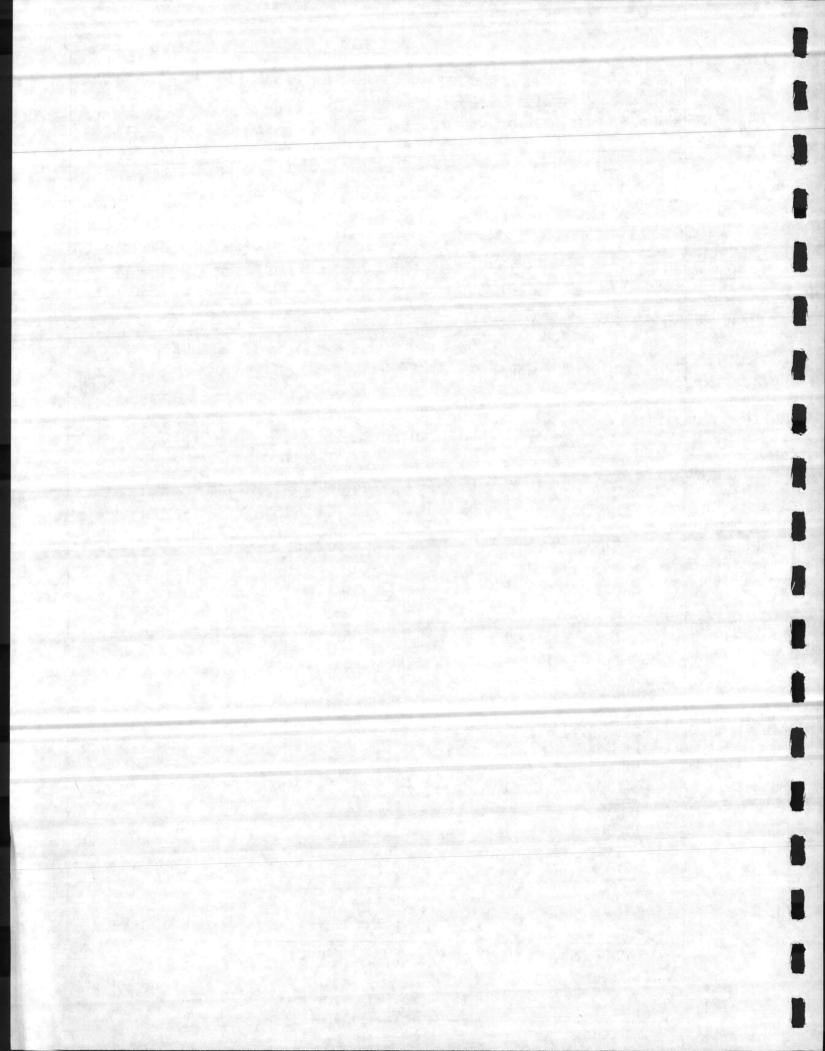
1 JUNE 1984

## ECONOMIC ANALYSIS

A secondary economic analysis of alternative HVAC systems and zones is being prepared and will be incorporated into the Design Concepts portion of the 35% submittal.

# ENERGY CONSERVATION

This project has been developed, reviewed and selected by priority based on energy savings per investment cost.



The project description has been taken from the Project Engineering Documentation (PED) and Basis of Design, prepared by Boney Architects. The VE study results and recommendations for both projects are based on information and assumptions provided in the Basis of Design and the PED, dated 1 June 1984.

## PROJECT DESCRIPTION

The new facilities consist of a gymnasium building which includes a gymnasium, exercise room, three racquetball courts, locker room facilities, toilet rooms, storage room, and an administrative office with supply and support areas. An access road, paved parking area, and sidewalks are provided. Site work includes a new electric service, steam service, water service, and storm water and sewer system.

The facilities are located and arranged on two different sites: Project P-065 Marine Corps Base, Camp LeJeune, North Carolina and Project P-133 Marine Corps Air Station (Helicopter) New River, Jacksonville, North Carolina.

The gymnasium buildings are essentially the same with only minor differences to suit the location of each site's utility services. The building description is as follows:

### Gymnasium

## Architectural

1. The building shall be constructed as follows:

Foundation - reinforced concrete spread footings. (Note: Timber piles will be required for Project P-133)

Floor System - concrete slab-on-grade with wire mesh reinforcing and vapor barrier.

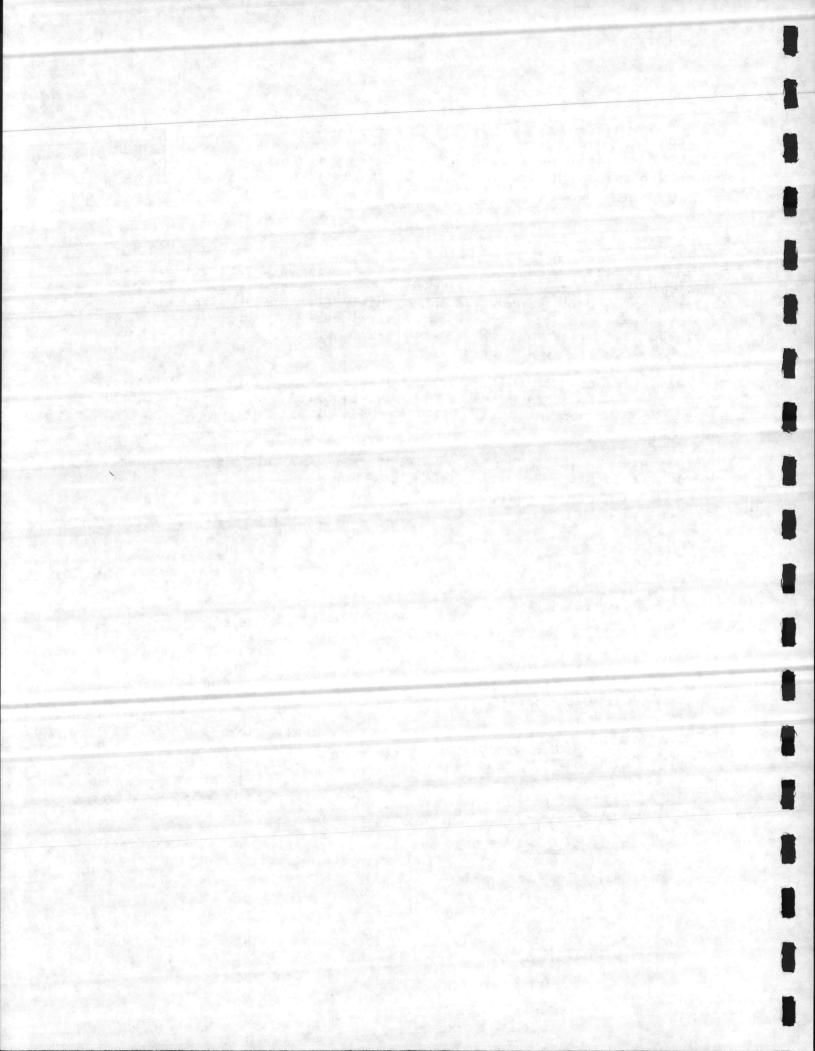
Exterior Walls - brick and concrete block cavity wall construction with rigid cavity insulation (U = .1). Exterior walls shall be load bearing.

Interior Walls - concrete block. Some interior walls shall be load bearing.

Roof System - steel bar joists supporting metal deck, roof insulation (U = .05) and ballasted flexible sheet roofing. Roofs shall slope to roof drains at 1/4" per foot slope.

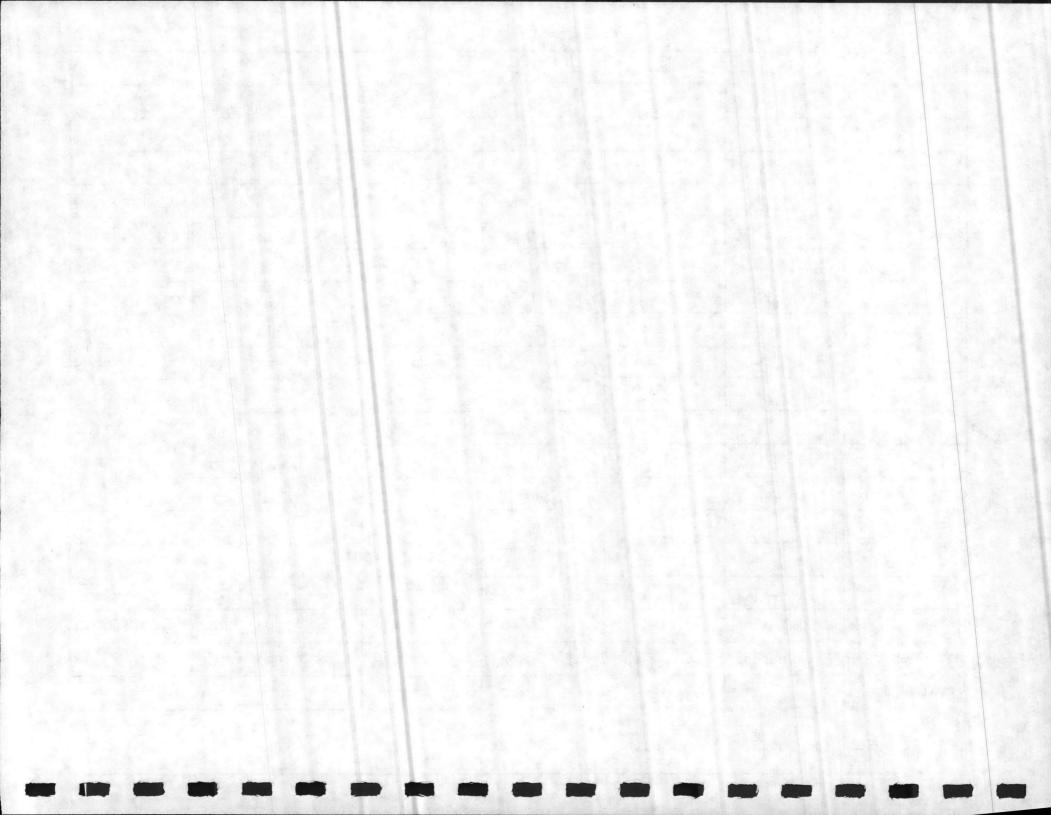
Finishes - see room finish schedule, Table 2-3.

Exterior Glass - insulating glass in aluminum frames. Operable units shall be out-swinging, top-hinged.



ROOM FINISH SCHEDULE

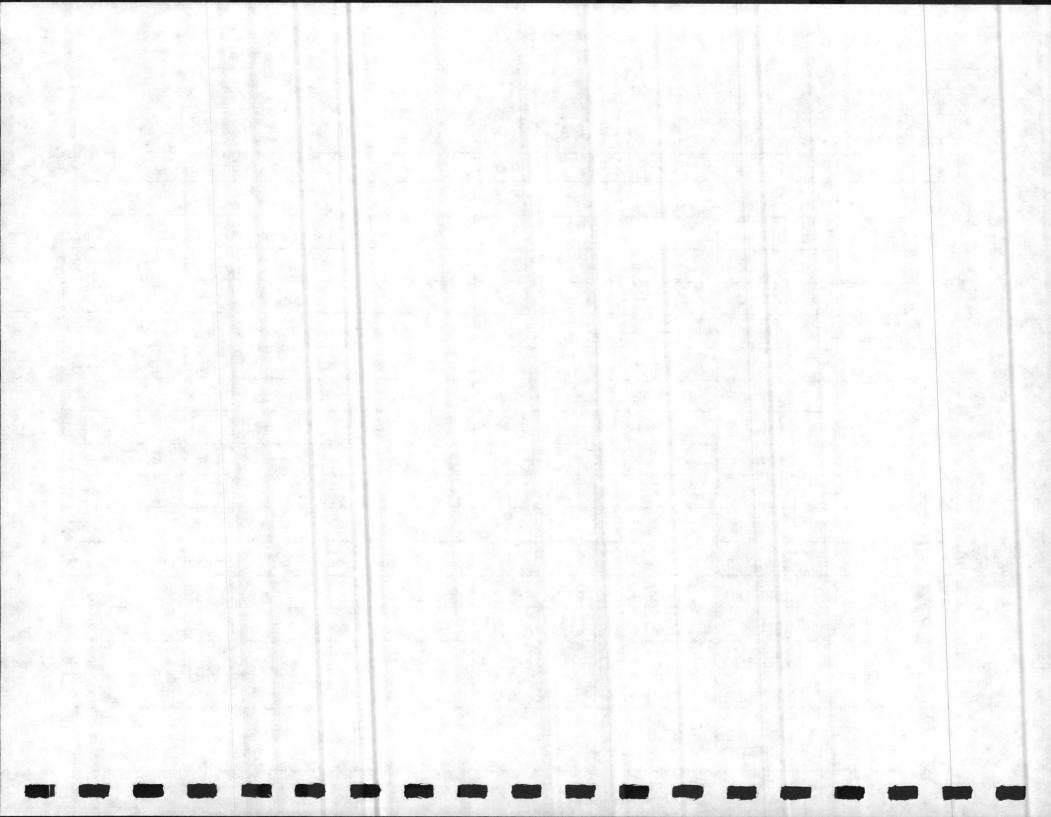
ROOM NAME	NO.			WAINSCOT	CEILING (HEIGHT)	REMARKS	
GYMNASIUM	101	Wd/Nat	Wd/Nat	CMU/P		ES (*)	*24' to struct.
MECHANICAL	102	Conc	Rub	CMU/P	-	GWB/P (*)	*Hold to struct
ELECTRICAL	103	Conc	Rub	CMU/P		GWB/P (*)	*Hold to struct
CORRIDOR	104	VAT	Rub	CMU/P		SAT (10')	
STORAGE	105	VAT	Rub	CMU/P		SAT (9')	
STORAGE	106	VAT	Rub	CMU/P		SAT (9')	
CORRIDOR	107	CT	CT	CMU/P	-	CP (9')	
SAUNA	108	CT W/RDF	1-22	Wd on CMU		Wd (7')	
TOILET	109	CT	CT	CMU/P		CP (9')	
W.LOCKER RM.	110	CT	CT	CMU/P		CP (9')	
SHOWERS	111	CT	CT	CT on CMU	<b>—</b>	CP (9')	
TRAIN. RM.	112	CT	CT	CMU/P		CP (9')	
W.PUBLIC TOI	. 113	CT	CT	CMU/P	-	GWB/P (9')	
SHOWERS	114	CT	CT	CT on CMU		CP (9')	
TRAIN. RM.	115	CT	CT	CMU/P		CP (9')	
M.LOCKER RM.	116	CT	CT	CMU/P		CP (9')	
SAUNA	117	CT w/RDF		Wd on CMU		Wd (7')	
TOILET	118	CT	CT	CMU/P		CP (9')	
M. PUBLIC TO	1.119	CT	CT	CMU/P		GWB/P (9')	
CORRIDOR	120	CT	CT	CMU/P		CP (9')	



ROOM FINISH SCHEDULE

ROOM NAME	NO.	FLOOR	BASE	WALLS	WAINSCOT	CEILING	REMARKS
LAUNDRY	121	VCT	Rub	CMU/P	3 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GWB/P (9°)	-
ISSUE RM.	122	VCT	Rub	CMU/P		GWB/P (9')	
OFFICE	123	VCT	Rub	CMU/P		SAT (9')	
LOBBY	124	VCT	Rub	CMU/P & Brk	CMU/P & Brk SAT (10		
VESTIBULE	125	VCT	Rub	Brk	GWB/P (8')		
CORRIDOR	126	VCT	Rub	CMU/P		SAT (10')	
JAN.	127	CT	CT.	CMU/P		GWB/P (9')	
EXERCISE RM.	128	VCT	Rub	CMU/P		SAT (20')	
ALCOVE	129	VCT	Rub	CMU/P		SAT (10')	
STORAGE	13.0	VCT	Rub	CMU/P		SAT (9')	
STORAGE	131	VCT	Rub	CMU/P	-	SAT (9')	
MECHANICAL	132	Conc	Rub	CMU/P	-	(*)	* Open to Mezzanine
R/H.CT. NO. 3	133	Wd/Nat		SC		SC (20')	- Freddings
R/H.CT. NO. 2	134	Wd/Nat	-	SC	-	SC (20')	
R/H.CT. NO. 1	135	Wd/Nat		SC		SC (20')	
ENTRY	136	VCT	Rub	CMU/P	-	GWB/P (9')	
MEZZANINE	201	Conc.	Rub	CMU/P		GWB/P (9')	88

Brk brick **GWB** gypsum wall board special construction (parto of court package) vinyl composition tile SC Nat Conc concrete Natural concrete masonry unit cement plaster QMU P painted VCT CP RDF removable duckboard floor wood CT ceramic tile Wd (part of sauna package) ES Rub exposed structure rubber



<u>Interior Doors and Frames</u> - solid wood doors in hollow metal frames.

Gymnasium Floor - maple on nailer strips.

2. Items which are not a permanent part of the structure but included in the design of the building are as follows:

Basketball Backstops - both competition and practice. All backstops shall be forward swinging type supported from the roof structure.

Bleachers - folding wood type (seating capacity: 7 rows at 60 and 7 rows at 70 = 910).

Lockers - steel in double tier arrangement, 12" x 12" x 30".

Locker Room Benches - wood type attached to floor.

Shelving - wood.

Trophy Cases - wood shelves with sliding glass doors.

Racquetball/Handball Courts - special construction including wall and ceiling panels, spectator viewing windows, doors, and hardwood flooring.

Saunas - redwood panels installed on 2 x 4 studs with batt insulation attached to concrete block walls. Saunas shall include redwood ceiling, benches, removable duckwood floor, doors and heaters. Ceiling shall be insulated above sauna.

- 3. The building design complies with Chapter 3, Section 4 Architectural Acoustics-of Design Manual DM-1. Some of the noise reducing features include the use of masonry walls extending to the roof deck between spaces, acoustical ceilings, and acoustical deck in the gymnasium.
- 4. Accessibility to the handicapped is provided through the following features:

Curb cuts and handicapped parking spaces.

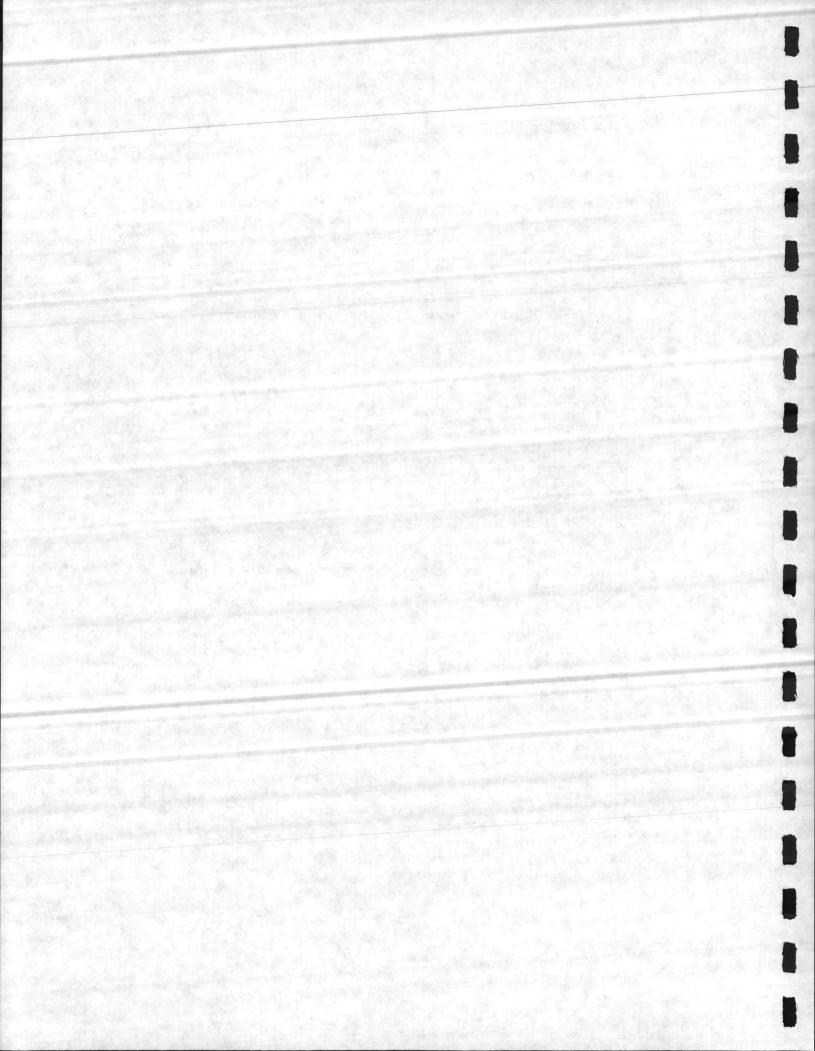
Grade level entrances.

3'0" doors minimum used throughout (except at racquetball courts where standard 2'6" doors are used).

Accessible toilets.

Handicapped showers.

Accessible water coolers.



5. Gross Floor Area:

Total enclosed floor area = 21,060 Roof overhangs = 730 x 1/2 = 365 Mechanical mezzanine = 350 x 1/2 =  $\frac{175}{21,600}$  square feet

6. This building complies with NFPA 101 and Uniform Building Code requirements as follows:

Occupancy Classification

Gymnasium (Room 101)

Class A - Assembly (from NFPA 101)

Group A - Division 2.1 (from UBC)

Remainder of Building

Class C - Assembly (from NFPA 101)

Group A - Division 3 (from UBC)

Type of Construction

Gymnasium (Room 101)

Type II - One Hour (from UBC)

Remainder of Building Type II - N (from UBC)

Occupant Load
Gymnasium
910 (bleacher seats at 18" per person)
Exercise Room
38 (area divided by 50 sq. ft)
Locker Rooms (combined)
24 (area divided by 50 sq. ft.)

Locker Rooms (combined) 24 (area divided by 50 sq. ft.)
Racquetball Courts 12 (4 per court maximum)

Office, Issue Room,
Laundry & Traintin Rooms \_\_5 (1 per room)

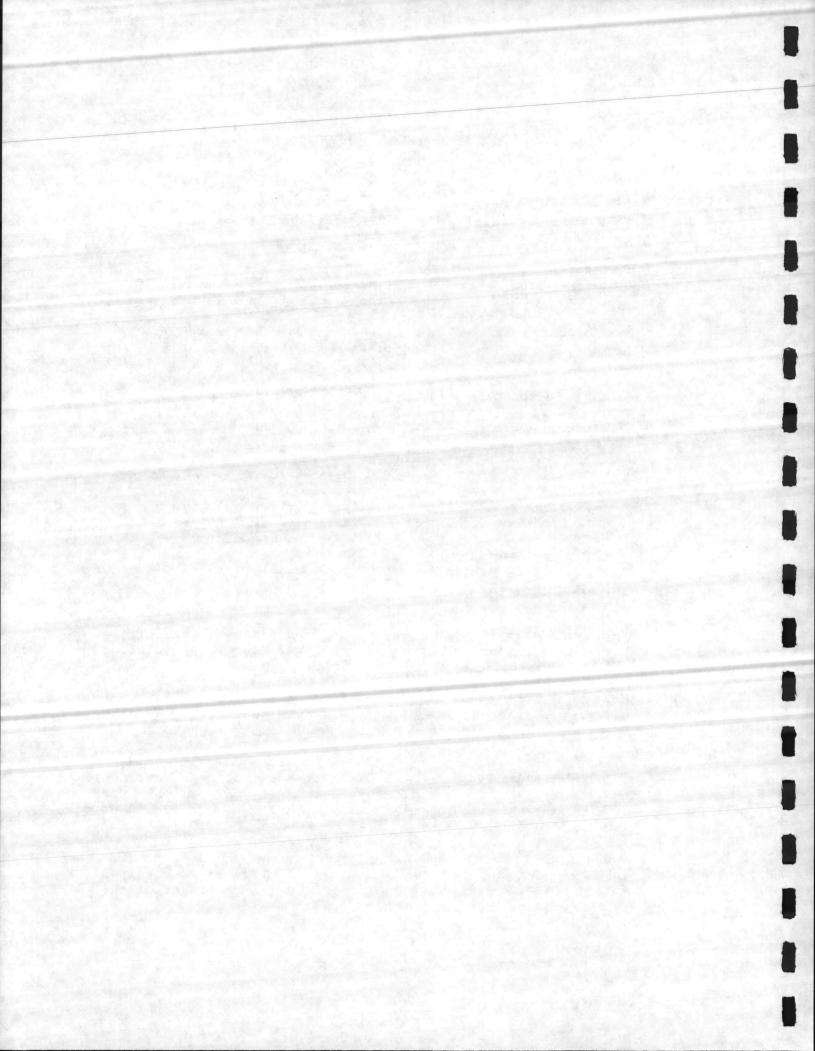
Total 989

The gymnasium shall be separated from the remainder of the building by 2-hour construction and  $1\ 1/2$  hour rated interior doors with smoke detector actuated closing devices.

Fourteen exit units shall be provided for the gymnasium (8 directly to the outside plus 6 horizontal exits). Nine exit units shall be provided to serve the remainder of the building.

Neither rated ceilings nor rated roof ceiling assemblies will be required because Type II - N construction does not require them and the gymnasium (Type II - One Hour) will have an open roof framing system in accordance with Section 602. (a) exception 2 of the UBC.

Mechanical Rooms 102 and 132, Electrical Room 103, Storage Rooms 105, 106, 130, and 131, Mechanical Access 132, and Mechanical Mezzanize 201 will be separated from the remainder of the building by one hour construction.



Corridors 104 and 126 and Lobby 124 shall also be separated from the rest of the building by one hour rated construction with 20 minute doors and 3/4 hour windows.

## Structural

1. Foundation: (Project P-065)

The foundation will be spread footings to support columns and continuous footings to support masonry bearing walls. A subsurface investigation was performed by Soil and Materials Engineers, Inc. of Raleigh, North Carolina and a maximum allowable soil bearing pressure of 2500 psf was recommended.

Foundation: (Project P-133)

Subsurface conditions at this site will require deep foundation support. The foundation will consist of continuous grade beams spanning between pile caps which will be supported on timber piling. Based on soil test boring data by Soil and Materials Engineers, Inc. of Raleigh, North Carolina. Pile design capacities of 20 tons compression and 10 tons tension will be obtained at embedment depths in the range of 25 to 40 feet beneath existing ground surface. It is recommended that the above capacities should be confirmed by a pre-construction test pile program performed prior to ordering of production length piling.

## 2. Roof System:

The high roof over the gymnasium area will be metal roof deck on longspan steel joists supported by masonry bearing walls. The high roof over the racquetball and exercise areas will be metal roof deck on standard open web steel joists supported by masonry bearing walls. Masonry shear walls will provide lateral stability.

The low roof over the locker room area will be metal roof deck on standard open web joists supported on the gymnasium side by masonry bearing walls and by steel columns and beams on the racquetball court side. Masonry shear walls will provide lateral stability.

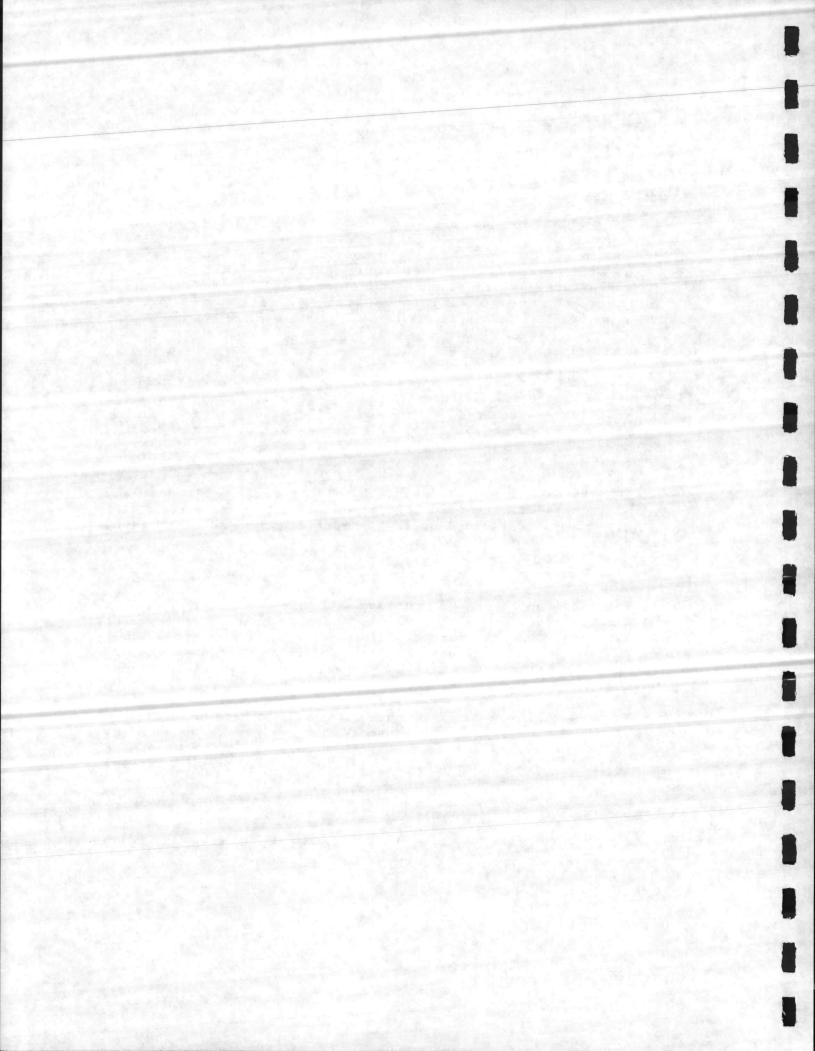
#### 3. Lateral Force Resisting System:

Horizontal wind forces will be transmitted to shear walls by diaphragm action of metal roof deck.

## 4. Design Loads:

Roof 20 PSF Mechanical Mezzanine 125 PSF

Wind Load 115 MPH (NAVFAC DM 2.2)



## Electrical

1. Secondary Distribution:

The 208/120 volt, 3 phase - 4W secondary service will be run underground to a main distribution panel with a main circuit breaker. The MDP will be located in the electric equipment room. Major equipment, power and lighting branch circuit panelboards will be fed from the MDP. Branch circuit panelboards will be provided as necessary for lighting and receptacle power.

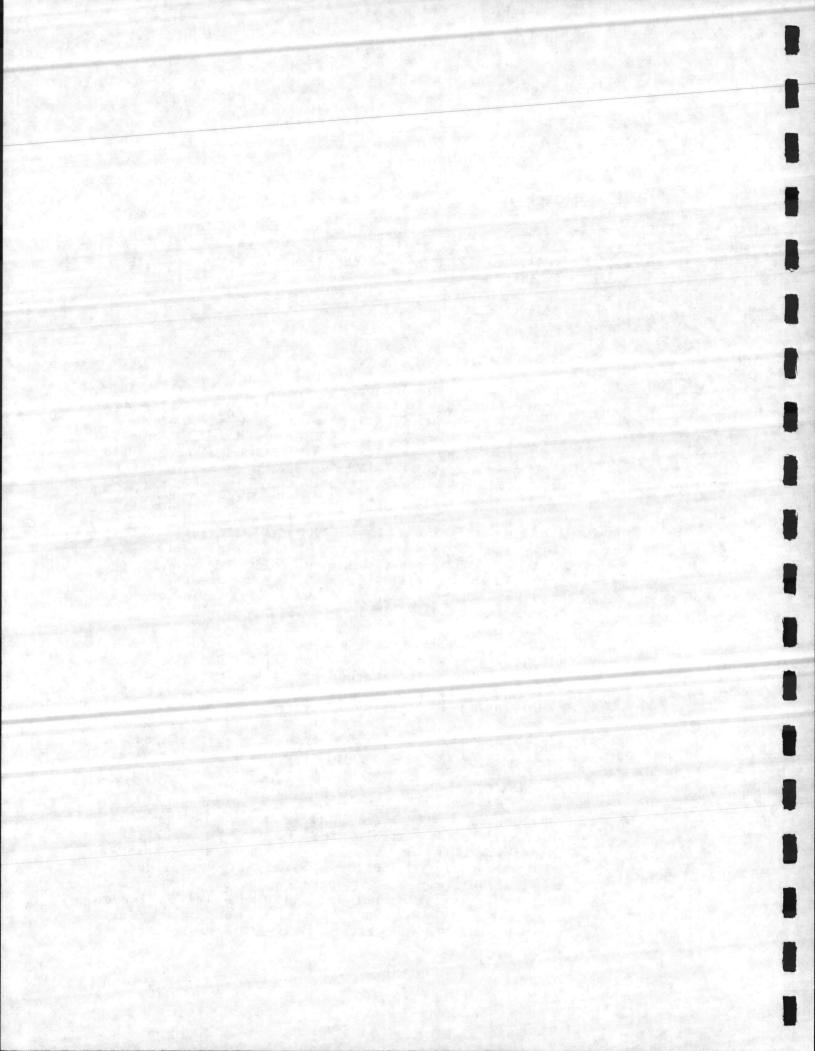
## Interior Electrical System:

## A. Wiring Systems:

- 1. Conduit Systems: A complete conduit system to include boxes, fittings, and supports will be provided. All empty conduits will be left with a pull wire. Conduits will be concealed except in unfinished spaces such as equipment rooms. Rigid conduits installed above ground shall be galvanized steel and in direct contact with the earth shall be nonmetallic. Nonrigid conduit shall be electrical metallic tubing (EMT).
- 2. Conductors 600 Volts: Feeders and branch circuit conductors will be copper type THNN/THWN. Feeders and branch circuit conductors will be color coded as provided for in Federal Specification 16WI. Not more than three branch circuits of opposite phases will be installed in any one conduit for 3 phase 4W system.
- 3. Grounding: Each building electrical system shall be grounded wye supplemented with equipment grounding systems. The neutral conductor of the wye system shall be bonded to the cold water system, building steel, and supplemented with a ground rod system.
- Flexible Conduit: Flexible conduit shall be used for connection to vibrating equipment and rotating machinery.

## B. Distribution Equipment:

1. Panelboards: All panels shall be safety dead front type and U.L. labeled. Circuit breakers will be quick-make, quick-break, thermal magnetic type bolted to the bus. Each panelboard shallcontain a copper equipment grounding terminal bar brazed or riveted to enclosure. Circuit breaker interrupting ratings shall be based on fault calculations. Panelboards will be surface or flush mounted type. Panelboards are designed to meet U.L. 67,



U.L. 50, 1981 N.E.C., NEMA PB-1, Federal Specification WP-115a, and Federal Specification W-C 275b (Molded Case Breakers).

- Disconnect Switches: Fusible disconnect switches shall be provided for all motors located out of sight of the motor controller. Disconnect switches shall be heavy duty, type HD.
- 3. Magnetic Starters: Magnetic starters shall be provided for all three phase motors not controlled by starters provided as an integral component of a specific piece of equipment. Magnetic starters shall be across the line combination type.
- 4. Manual Motor Starters: Each fractional horsepower, single phase motor shall be protected by a manual motor starter unless the motor has inherent thermal protection.

## 3. Interior Lighting System

Room Title	Fixture Type	F.C. 1	Level
Lobby	2 x 2 Fluorescent troffer 2-U-lamp	20	FC
Corridors	2 x 4 Fluorescent troffer 2-lamp	20	FC
Office	2 x 4 Fluorescent troffer 2-lamp	50	FC
Locker Rooms & Toilets Mens Showers	<pre>1 x 4 Fluorescent - Recessed 2-lamp 1 x 4 Fluorescent - Recessed vaportight</pre>	20	FC
Hens bhowers	2-lamps	20	FC
Sauna	Packaged unit w/heat lamps included		
Womens Showers	Incandescent vaportight light - 75W	20	FC
Exercise Room Racquetball	175W 2 x 2 recessed metal halide	30	FC
Courts	400W recessed metal halide	115	FC
Gym Equipment	400W metal halide	30	FC
Storage Rooms	1 x 4 Fluorescent Industrial 2-lamp	20	FC

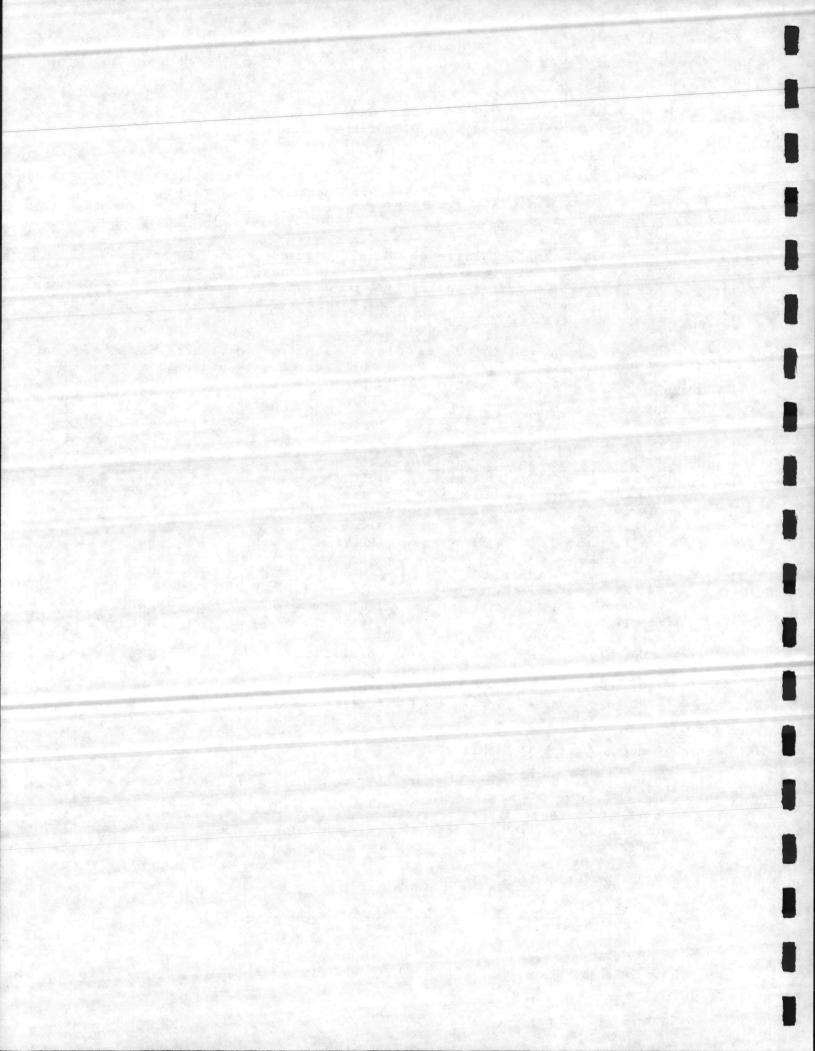
Emergency and Exit Lighting:

Self-contained emergency lighting unit with battery will be provided.

Exit lights shall be self-contained, battery operated. Requirements to meet DOD 4270.1-M. Emergency Ltg. and NFPA No. 101 Life Safety Code.

## 4. Exterior Lighting System

FIXTURE TYPE
Recessed HPS - 100W
150W HPS on 16' Poles
250W HPS on 20' Poles
250W HPS on 25' Poles



## 5. Fire Alarm

The fire alarm system shall be supervised low-voltage, noncoded in conformance with NFPA 720-1979.

Audible alarms shall be grill type horns. Manual alarm stations shall be break-glass rod pull lever type.

Control panel shall be single zone and shall contain power-on pilot switch, re-set switch, trouble lamp, 4" trouble bell and battery stand-by power.

Transmitters shall be supervisory coding type compatible with the local alarm equipment. Contract drawing will show location of all fire alarm equipment. Schematic diagram of system will be provided on contract drawings.

Exterior fire alarm horn will also be provided.

### 6. Telephone System

Service will be provided by the local telephone company. An empty conduit system will be provided for installation of telephone wiring. The 3/4" plywood terminal board will be located in the electrical room. Backboard will be grounded and have a 2" PVC conduit underground to a point 5'0" from the building for local telephone company use. Telephone outlets will be located on the contract drawings and provided by the contractor.

#### 7. Scoreboard

The scoreboard will be 120V with buzzer, period indicator, 99 minutes of play time and time-out indicator, score, timer for two-team play.

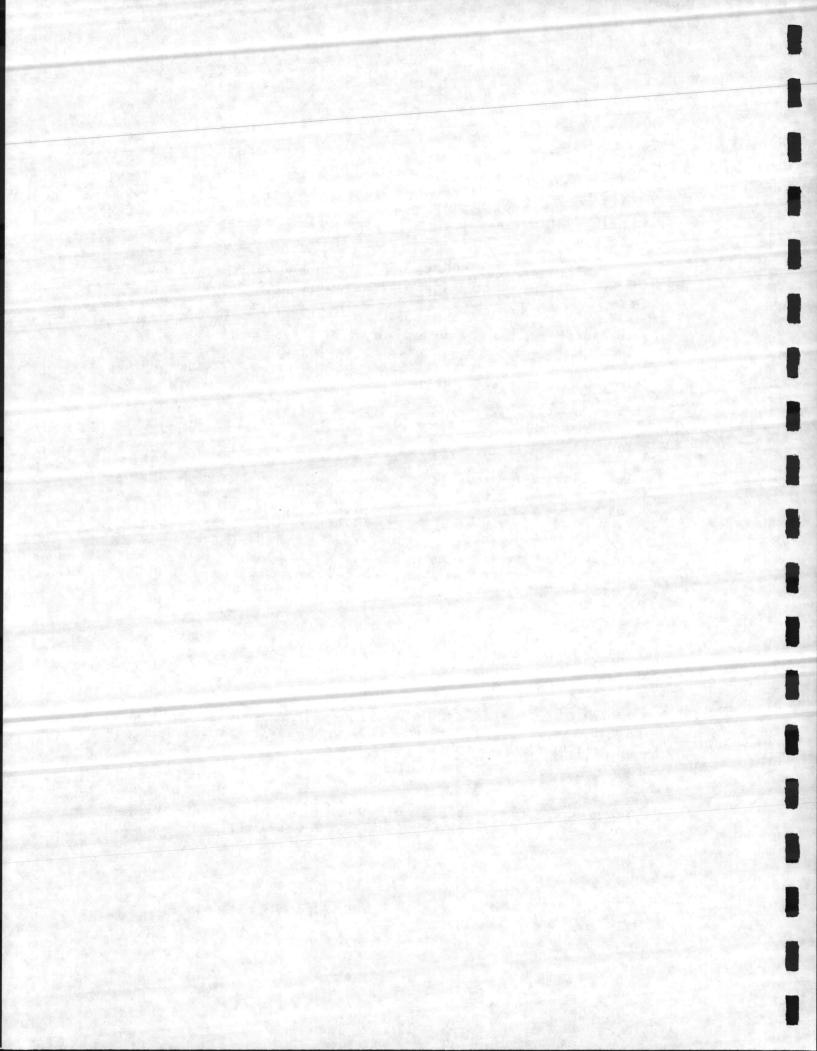
Transformer included in scoreboard for remote console controlled by 4W series transmission. Plug in connection for console located in floor.

#### 8. Public Address System

The public address system will be located in the gym basketball court only. Speaker locations as shown on floor plan with plug-in connection in floor for microphone.

## Plumbing

1. Plumbing System Loading:



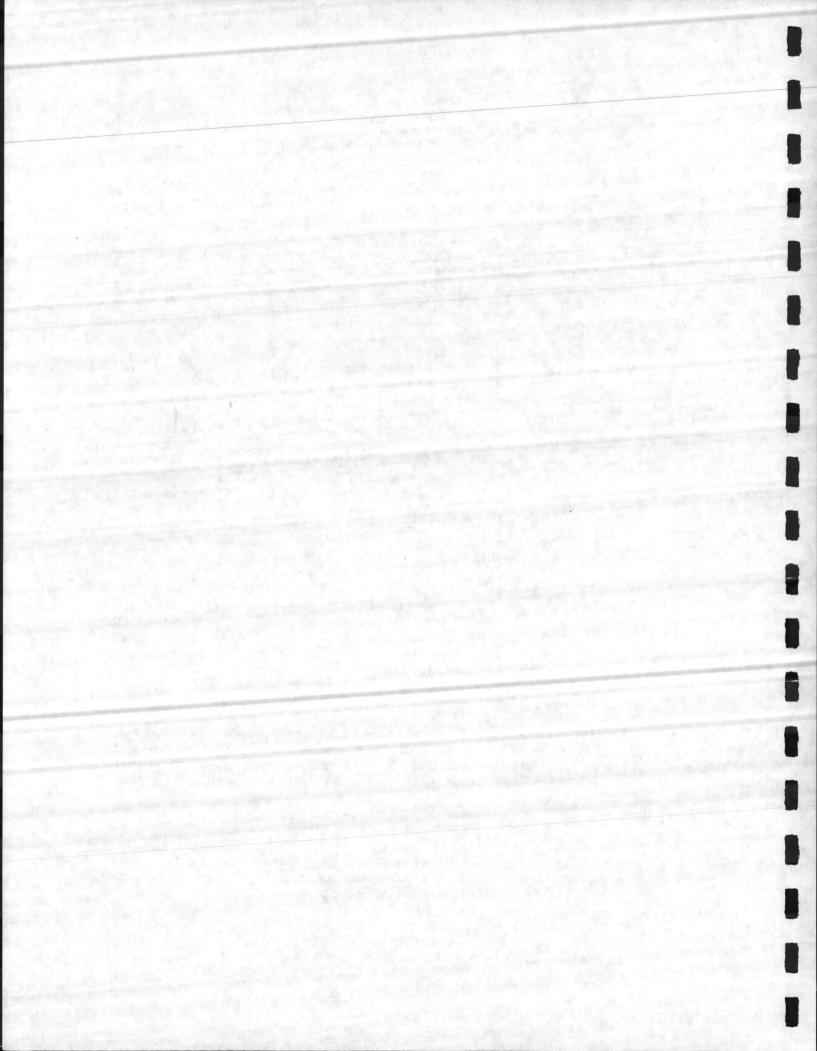
- A. Total estimated cold water demand is based on fixture quantities and fixture unit loading per NAVFAC Design Manual DM-3. The total cold water demand load is estimated to be 178 fixture units or a 87 GPM demand load.
- B. All water closets, urinals, lavatories and showers shall be of the water saving type. (See Plumbing Fixture Schedule, Table 2-4.)
- C. The estimated minimum flow pressure at the building will be 50 PSIG and the maximum pressure will be 60 PSIG. A minimum pressure of 20 PSI flow pressure will be provided at all flush valve operated fixtures.

# 2. Hot Water System:

- A. The gymnasium locker room area will be provided with 120° water from a steam heater and storage tank system with a recirculation system installed in the mechanical room.
  - A thermostatically controlled water mixing valve with thermometer and cabinet will be installed adjacent to the men's gang shower room to provide tempered water to each shower head thru a single compression valve. Mixing valve outlet temperature will be set at approximately 100°F.
  - 2) Individual pressure balance shower valves will be installed in the women's shower room.
  - 3) Pressure balance shower valves with thermometers and hand held shower heads will be installed in handicapped shower stalls.
- B. Recirculation Systems: the recirculation pump will be controlled with an aquastat and a 7 day time clock. Four hour timer will override the time clock to provide hot water for special activities.
- C. Hot Water Demand: the total estimated hot water demand for the complex is 301 GPH of 140° hot water in accordance with Design Manual NAVFAC DM-3. The storage tank capacity will be nominal 300 gallons. (See Plumbing Fixture Schedule, Table 2-4).

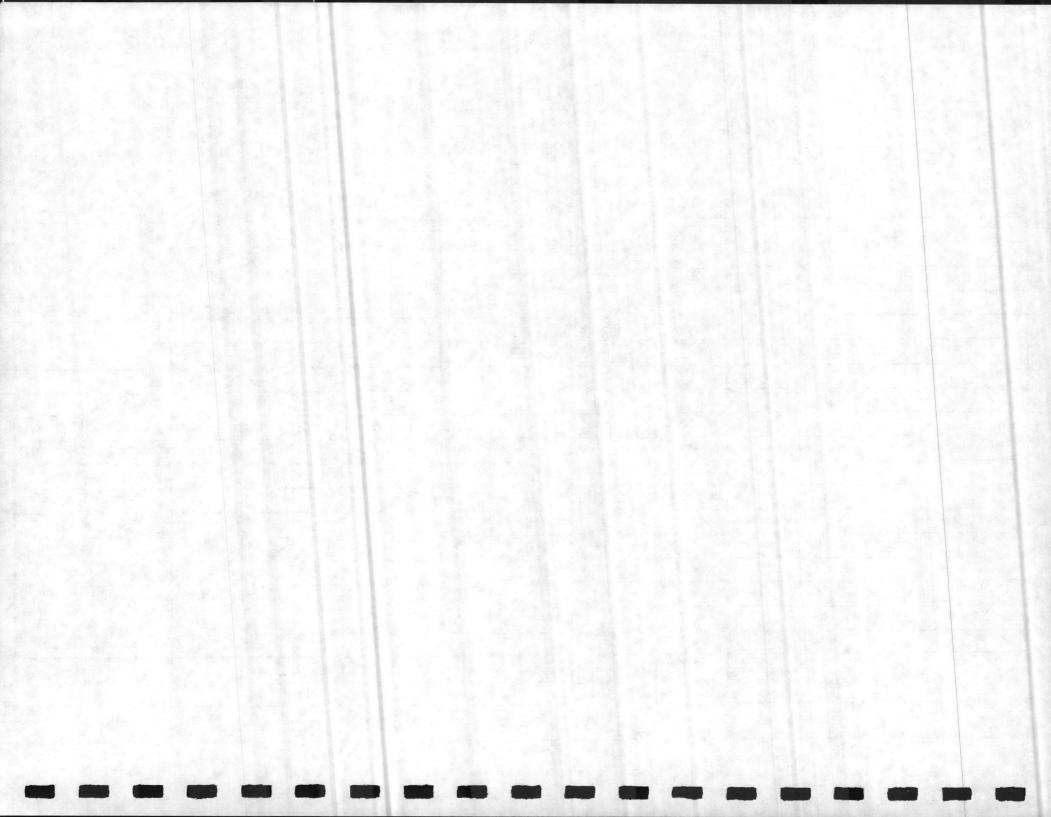
## 3. Piping Systems:

- A. Waste and vent piping system below slab on grade will be bell and plain end piping with neoprene push joint cast iron piping conforming to ASTM A74-75.
- B. Waste and vent piping system above slab on grade will be hubless cast iron soil pipe and fittings conforming to Cast-Iron Soil Pipe Institute Publication 301-78.



FIXTURE DESCRIPTION QUAN		F. U. /FI	XTURE	SYSTEM F.U. LOADING			GPH H.W.	GPH H. W.	HOT WATER SYSTEM		
	QUANTITY	WASTE		W.	C.W.	H.W.	DEMAND AT	DEMAND AT	GPH PER		REMARKS
Water Closet	8	6	10	48	80						See Note 1
Urinal	5	2	5	10	25						See Note 2
Lavatory	9	1	1	9	9	6	8		72		See Note 3
Service Sink	1	3	4	3	. 4	3	20	V 2	20		
Shower	10	F.D.	4	16	40	27	40		400		See Note 4
Clothes Washer	2	2	4	4	8	5	20		40		
Laundry Sink	1	2	4	2	4	3	20		20		
El. Water Cool	er 2	1	1	2							
Drink. Fountain	n 2	1.	1	2							
Whirlpool	2	F.D.	4	6	8	6	0100		200		
Floor Drains	7	3		21							Mechanical Rooms
							40	100			<del></del>
2-26											
.6								-			
		ТО	TALS	123	178	50		TOTALS	752		

- NOTES:
  1. Flush valve volume limited to 3.5 gal. per flush.
  2. Flush valve volume limited to 1.025 gal. per flush
  3. Hot water supply limited to 0.5 G.P.M.
  4. Shower head restricted to 2.0 G.P.M. total flow



- C. Domestic water piping systems will be routed above ceiling utilizing copper piping in sizes 3" and smaller conforming to ASTM B88-78. All piping will be insulated.
- D. Roof drainage piping below slab on grade will be the same as for waste piping.
- E. Roof drainage piping above slab on grade will be schedule 40, ASTM A-120 galvanized steel with threaded drainage pattern fittings.

# Heating and Air Conditioning

- 1. Design Conditions:
  - A. Summer:

Inside: 78 degrees F.D.B. and 50% RH

Outside: 90 degrees F.D.B. and 79 degrees F.W.B.

B. Winter:

Inside: 68 degrees F.D.B. Outside: 23 degrees F.D.B.

2. Building Mechanical Systems:

Air conditioning systems as described in "Heating and Air Conditioning System" will be provided for the following areas of the gymnasiums:

- A. Handball Courts
- B. Office and Lobby

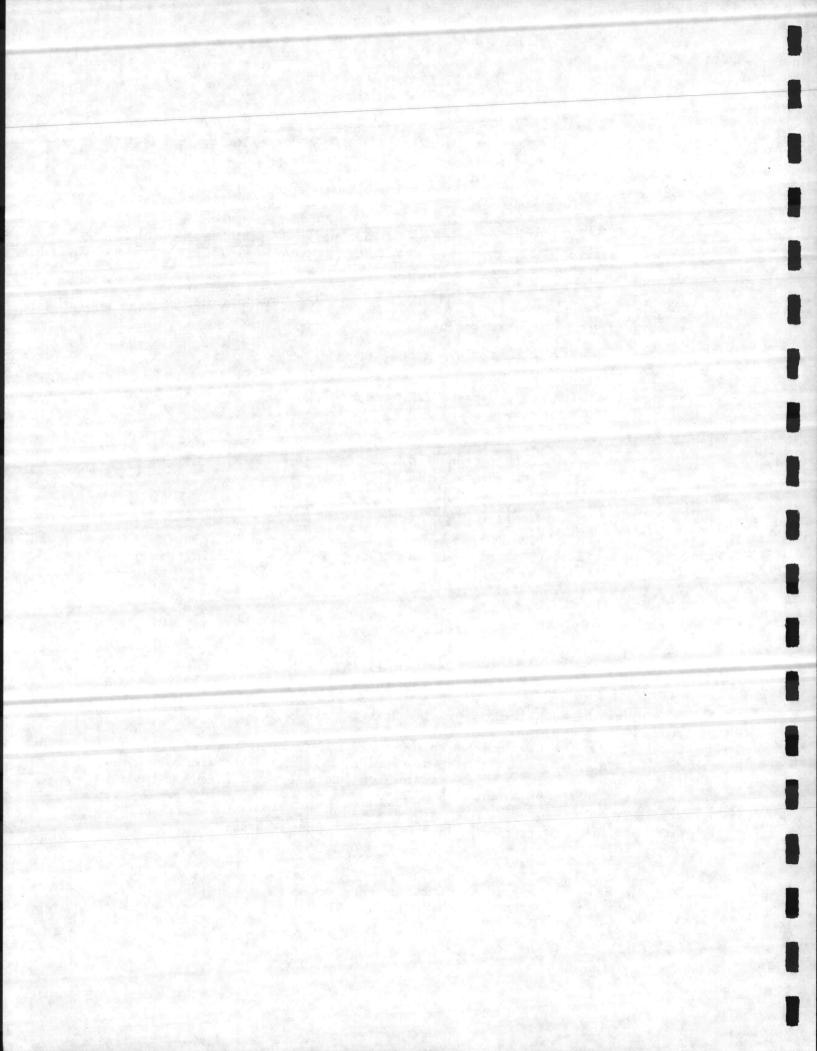
All other areas will be heated and ventilated as described in "Ventilation Systems".

Heating and Air Conditioning System:

The areas designated to have air conditioning systems will each have a single zone air handling unit with a hot water heating coil and a direct expansion cooling coil. A remote mounted air cooled condensing unit will be provided for each system. The condensing units will be located on the ground outside of the building as close to the air handling unit as possible.

4. Ventilation Systems:

Areas of the gymnasium that are not to be air conditioned will be ventilated mechanically at the following rates:



- A. Toilets 2 C.F.M./FT<sup>2</sup>
- B. Showers & Lockers 2 C.F.M./FT2
- C. General Storage 4 air changes / Hr.
- D. Gymnasium 6 air changes/ Hr.

Outside air will be brought into these areas by air handling units with hot water coils for heating.

### 5. Heating System:

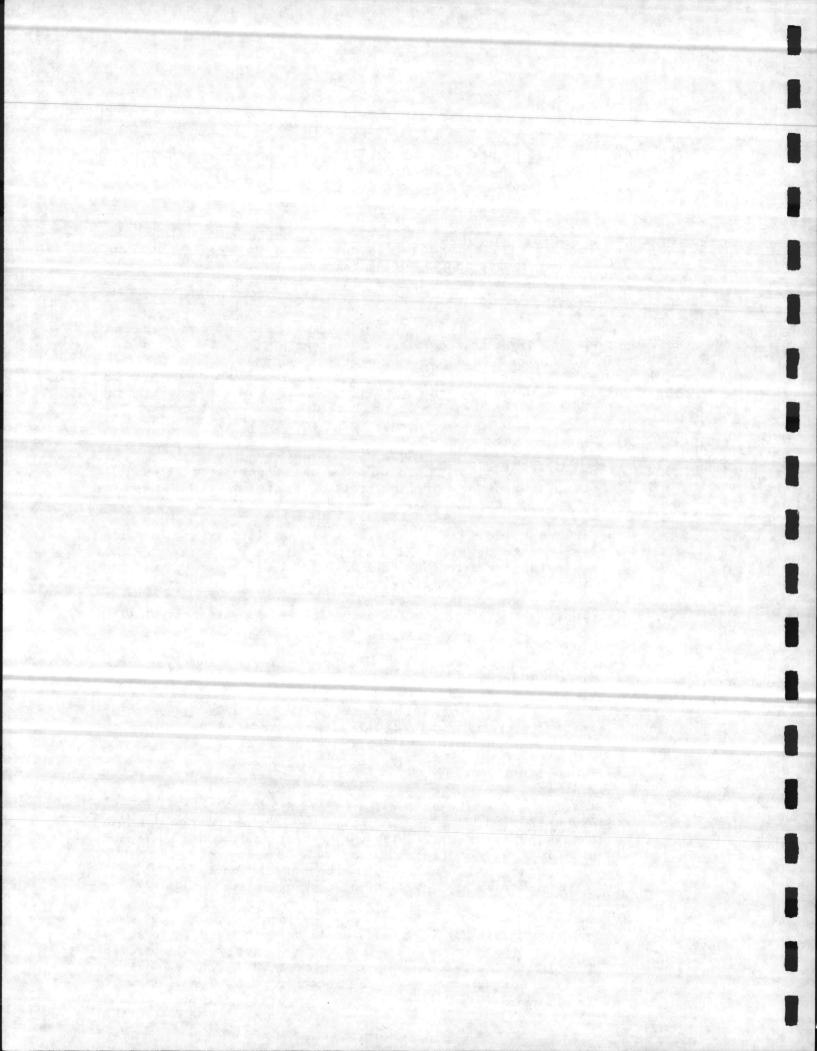
Heat for the gymnasiums will be provided by the central underground steam at each site. The steam piping will enter the main mechanical room of the building and pass thru a pressure reducing station. Steam will be provided to a converter to supply hot water for the heating coils in the air conditioning units and the air handling units being used for ventilation.

#### 6. Air Distribution:

- A. Concealed ductwork will be externally insulated galvanized steel. Exposed ductwork will be internally insulated galvanized steel.
- B. U.L. approved fire dampers will be installed at any location where ducts penetrate a fire protection membrane. U.L. approved fire detectors will be installed in the air handling units as required by N.F.P.A.
- C. Supply air diffusers will be adjustable air pattern type with opposed blade dampers.
- D. Supply air registers will be double deflection type with opposed blade dampers.
- E. Return air grilles will be either 1/2" or 1/2" egg crate or gymnasium type (reinforced) sidewall grilles depending on their location in the building.

#### 7. Control and EMCS Systems:

- A. Heating and Cooling Room Thermostat Sequence: During normal day operation, the indoor fans shall be selected to run continuously or cycle with the heating coil. On a continued rise in the room temperature, the cooling stage of the thermostat shall energize the condensing unit for cooling. The thermostats shall be automatic change-over.
- B. Locker Room Heating Sequence: The locker room exhaust fans and make up air handling units shall be energized by a seven (7) day program clock with a timer override. Heating thermostats located in the locker area will control valves for the hot water coils in the locker room air handling units to maintain the 68° indoor design temperature in the locker



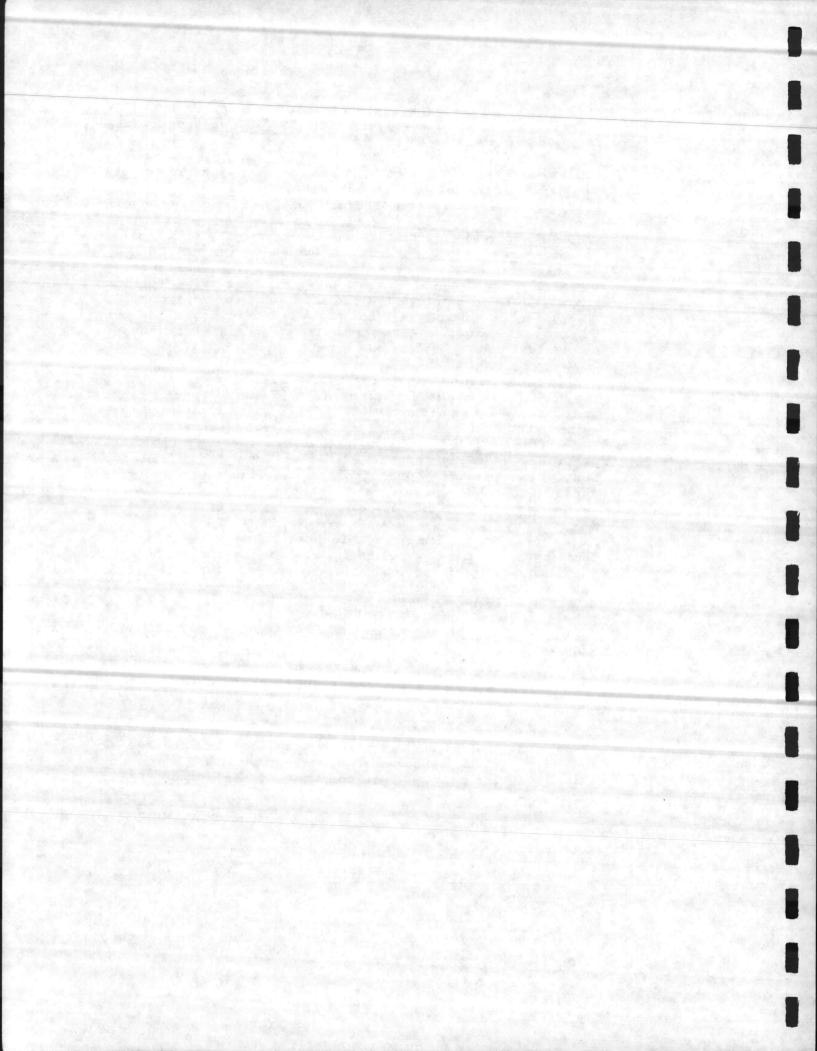
area. A night setback thermostat for the locker area will override the time clock to maintain a 55° indoor temperature during unoccupied periods.

- C. Gymnasium Heating Thermostat Sequence: The gymnasium supply air handling units will be energized by a seven (7) day program clock with a timer override. Heating thermostats located in the gymnasium will, on a drop in temperature, close the outside air dampers and relief dampers to a minimum position and open the return air damper to its maxium open position. On a further drop in temperature, the heating thermostat shall open the hot water control valve for the heating coil to maintain the 680 indoor design temperature in the gymnasium. A night setback thermostat will override the time clock for these systems to maintain a 550 indoor temperature during unoccupied periods.
- D. Heating and Air Conditioning System Night Set Back: During periods of night setback, the seven (7) day program clock shall de-energize the air handling unit control circuit. The system will then remain off until the temperature drops to the setting where the night setback thermostat shall then override the relay and the system will be energized for heating. A manually operated ten hour timer will override the time clock to provide full heating or cooling during periods of normal night setback.
- E. Clock Control: Time clock for each zone will index air handling unit control circuits for day or night operation in the automatic position. Night setback thermostat will return the air handling units to the day operation in order to maintain a night low limit temperature.
- F. Hot Water Control: The hot water circulating pump will be controlled by an outdoor thermostat. An indoor/outdoor reset controller will be used to control the steam to the converter to reset the heating water temperature based on the outside air temperature.
- G. Energy Monitoring and Control System: All of the necessary sensors and control devices will be provided for interfacing the major system components (converter, pumps and condensing units) with either a central computer system or an on site computer.

# Site work & Site Utilities

- Project (P-065) Camp LeJeune, North Carolina
  - 1. Water Supply

Water shall be provided by a new cast iron line, supplying the building and a new fire hydrant.



Water supply will be provided to the new gymnasium by a new 2-1/2" line, approximately 120 feet long, and a new 8" line approximately 290 feet long, connected to an existing 8" line along Road "E". Results from a fire test flow given over phone by Charles Hilton, NAVFAC, Atlantic Division, at a fire hydrant adjacent to the Exchange Building south of the new gymnasuim site are as follows: Static Pressure - 47 psig

Residual Pressure - 40 psig at a flow of 1600 gpm.

These pressures indicate that water supply should be adequate for the new gymnasium.

#### 2. Sewers and Sewage Disposal Systems

Sanitary sewer collection will be provided by a new 6" cast iron gravity line, approximately 356 feet long, that ties into an existing manhole adjacent to Lift Station No. 135. Information on the lift station furnished by NAVFAC, Atlantic Division, indicates that the lift station is capable of handling the additional flow from the proposed gymnasium.

The storm drainage system shall consist of catch basins and curb inlets with reinforced concrete pipe extending to outfalls.

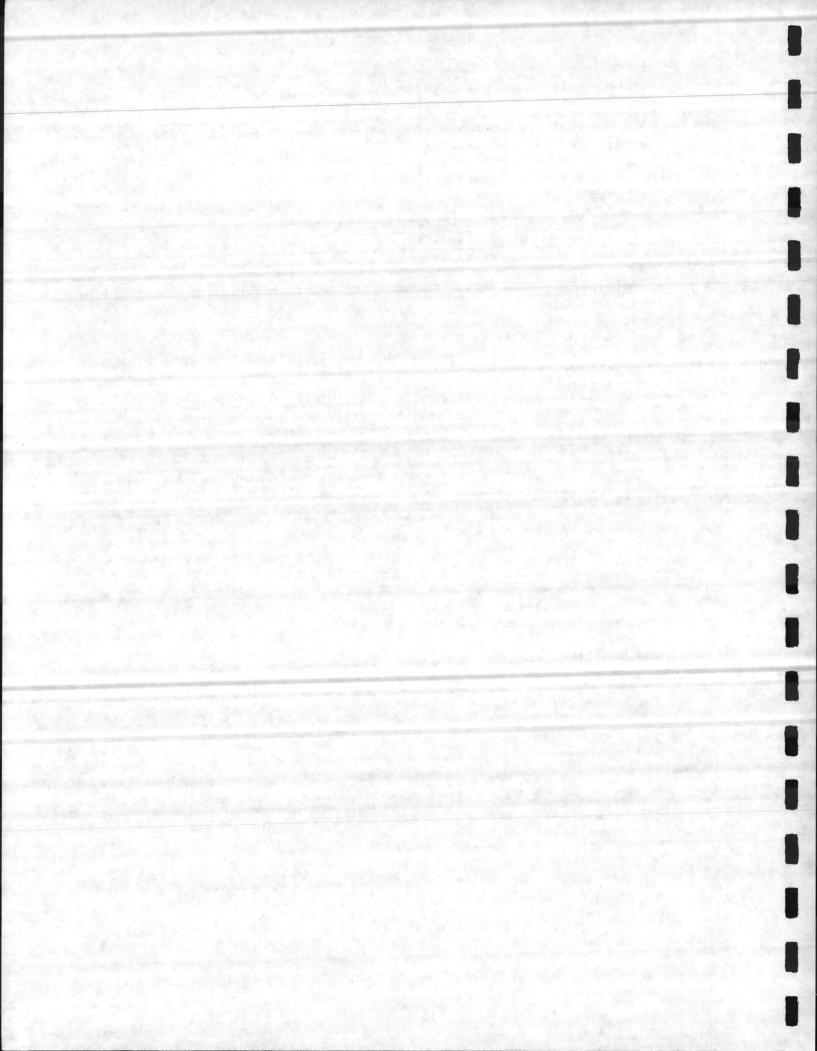
#### 3. Roads, Driveways, Parking Areas, and Walks

Soil exploration included a site reconnaissance by a geotechnical engineer and 5 soil test borings drilled across the proposed site. The borings ranged from 56.0 to 71.0 feet deep beneath existing ground surface and were performed in accordance with ASTM D-1586. Generally the borings encountered 3 to 4 inches of topsoil overlying alternating layers of sand and clay to depths ranging from 40.0 to 53.0 feet below existing ground surface. Ground water levels at the time of investigation were 3.0 to 4.0 feet beneath existing ground surface.

Note: The preceding information was taken from the subsurface investigation report for the French Creek Gymnasium by Soil & Material Engineers, Inc.

The vehicular traffic will consist primarily of passenger cars and we have assumed no heavy loads from large trucks. A preliminary pavement design indicates a section consisting of 6 inches of crushed aggregate base course overlain by 2 inches of asphaltic concrete surface course will be sufficient.

All pedestrian walks will consist of 4" non-reinforced concrete on compacted subgrade.



# 4. Electrical Primary Distribution

An available aerial primary service - 12,470 volt, 3 phase, 4W on "E" Street will be tapped for primary service. See Electrical Utility Site Plan for route of new primary service.

Aerial primary service with #1/0 cu and #1/0 neutral will extend from an existing pole on "E" Street southeast for approximately 310' including 2 new poles. Then the aerial primary will continue southwest for 70' to a new pole with a conduit riser for an underground primary feed to a 150 KVA, 12,470 - 208Y/120 volt, 3 phase, 4W pad mounted transformer.

The transformer will be provided with:

- A. External tap changer within high voltage compartment
- B. Secondary circuit breaker
- C. Secondary metering mounted on transformer
- D. Surge arrestors
- E. Radial feed primary switching
- F. Terminators

#### 5. Steam Line

New underground steam and condensate return lines with expansion loop shall be provided tying into the existing steam line at a new manhole.

# • Project (P-133) New River, Jacksonville, North Carolina

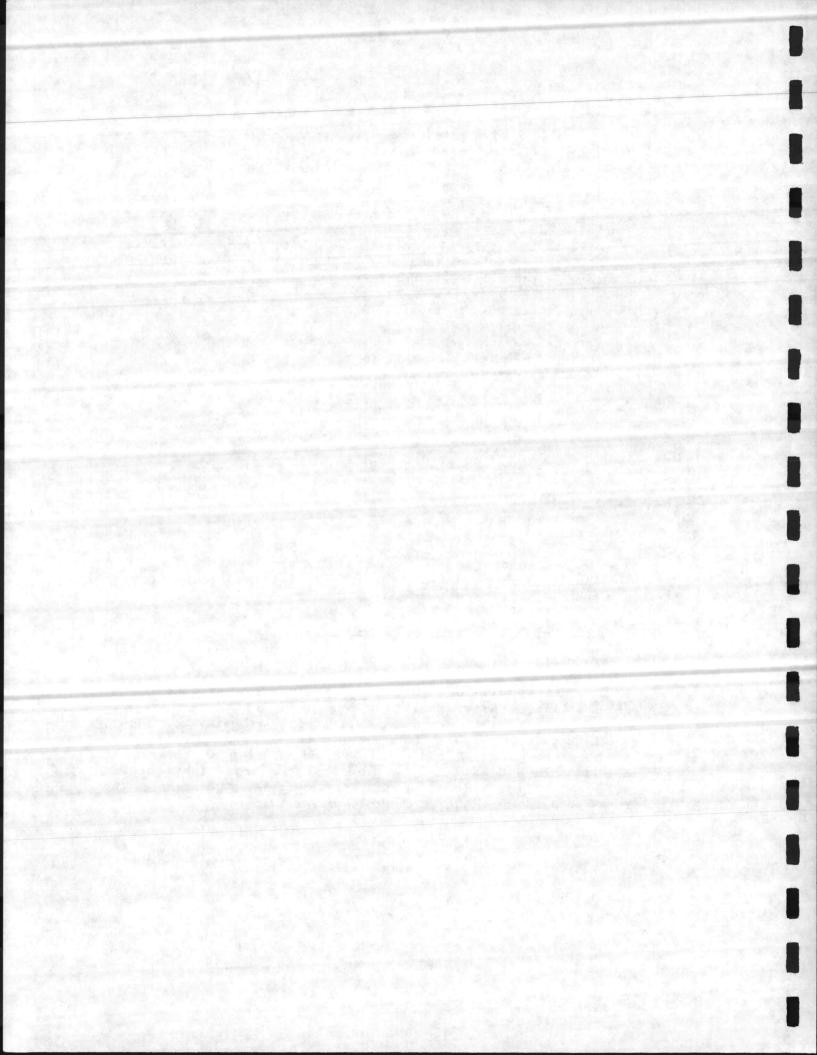
#### 1. Water Supply

Water supply will be provided to the new gymnasium by a new 2-1/2" line, approximately 135 feet long and a new 8" line approximately 350 feet long, connected to an existing 8" line, which is part of a branch line serving the Enlisted Men's Club, west of the project, and a new Exchange Building, north of the Enlisted Men's Club. A fire flow test performed in September 1983, at a fire hydrant on "A" Street extension adjacent to the Exchange Building produced the following results:

- A. Static Pressure 70 psig
- B. Residual Pressure 20 psig at 1100 gpm flow

Note: Fire flow results given over telephone by Charles Hilton, NAVFAC, Atlantic Division.

A preliminary analysis indicates pressures and flows, including fire flows, will be satisfactory for the new gymnasium.



#### 2. Sewers and Sewage Disposal Systems

Sanitary sewer collection will be provided by a new 8" cast iron gravity line, approximately 678 feet long, that ties into an existing 8" gravity line at Manhole No. 3 of the Enlisted Men's Club contract. This existing 8" line empties into an existing lift station east of the Exchange Building. Information on the lift station furnished by NAVFAC, Atlantic Division, indicates that the lift station will probably handle the additional flow from the proposed gymnasium but a more in-depth analysis should be conducted to verify the existing flows and any additional flows from proposed new development. The evaluation of the sewer outfall beyond the gymnasium project site is not within the scope of this design.

The storm drainage system shall consist of catch basins and curb inlets with reinforced concrete pipe extending to outfalls.

#### 3. Roads, Driveways, Parking Areas, and Walks

The near surface soils at this site are soft, very plastic clays. These clays have a moderate swell potential and become unstable when exposed to moisture and/or repeated loads. Ground water levels at the time of investigation were at ground surface to 1.0 foot below ground surface. These high levels may be attributed partially to rainwater perching above the near surface clay stratum.

Five soil test borings were drilled in the building area to depths ranging from 46 to 61 feet beneath existing ground surface. Sampling procedures were performed in accordance with ASTM D-1586.

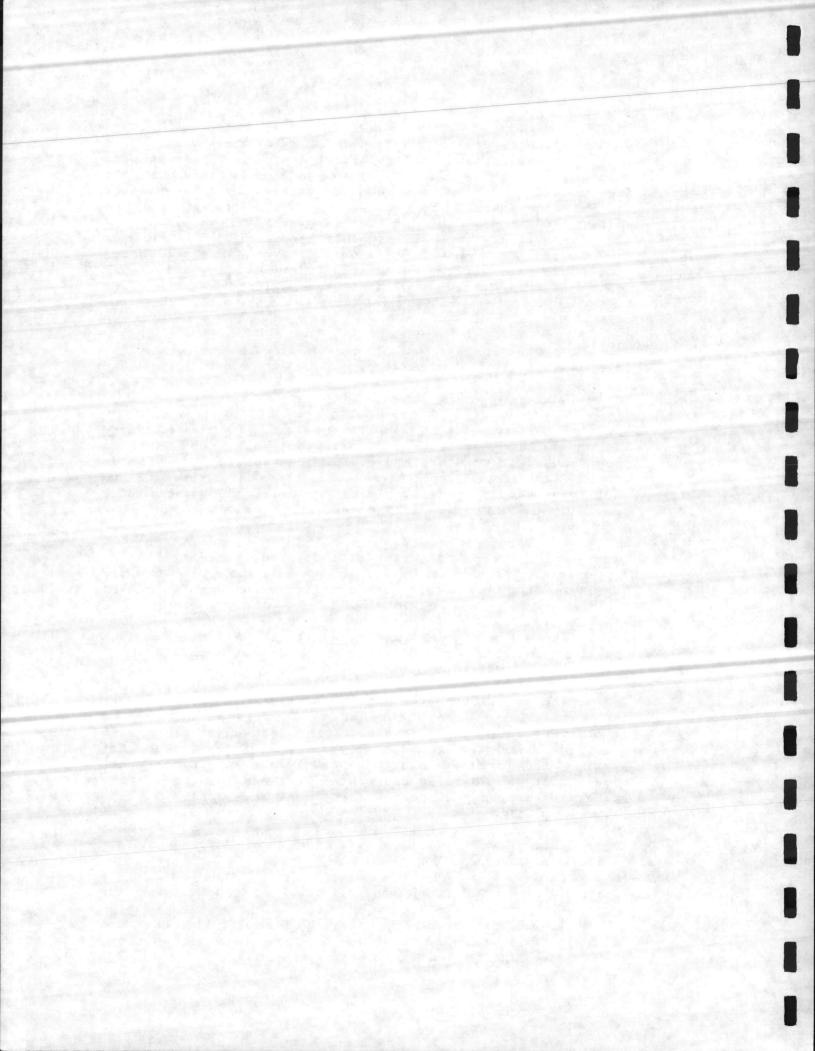
Note: The preceding information was taken from the subsurface investigation report for the New River Gymnasium (P-133) by Soil & Material Engineers, Inc.

The vehicular traffic will consist primarily of passenger cars and we have assumed no heavy loads from large trucks. A preliminary pavement design indicated a section consisting of 6 inches of crushed aggregate base course overlain by 2 inches of asphaltic concrete surface course will be sufficient. All pavement areas should be undercut 3 feet and then brought to grade with properly compacted structural fill before the base course is placed.

All pedestrain walks will consist of 4" non-reinforced concrete on compacted subgrade.

#### 4. Electrical Primary Distribution

An available aerial primary service - 12,470 volt, 3 phase, 4W on "A" Street will be tapped for primary service. See Electrical Utility Site Plan for route of new primary service.



Aerial primary service with #1/0 cu and #1/0 neutral will extend from an existing pole on "A" Street southeast for approximately 685' including 5 new poles. Then the aerial primary will continue northeast for 240' to a new pole with a conduit riser for an underground primary feed to a 150 KVA, 12,470 - 208Y/120 volt, 3 phase, 4W pad mounted transformer.

The transformer will be provided with:

- A. External tap changer within high voltage compartment
- B. Secondary circuit breaker
- C. Secondary metering mounted on transformer
- D. Surge arrestors
- E. Radial feed primary switching
- F. Terminators

#### 5. Steam Line

New underground steam and condensate return lines with expansion loop shall be provided tying into the existing steam line at a new manhole.

#### Outline Specifications

### • Site Work: (Project P-065)

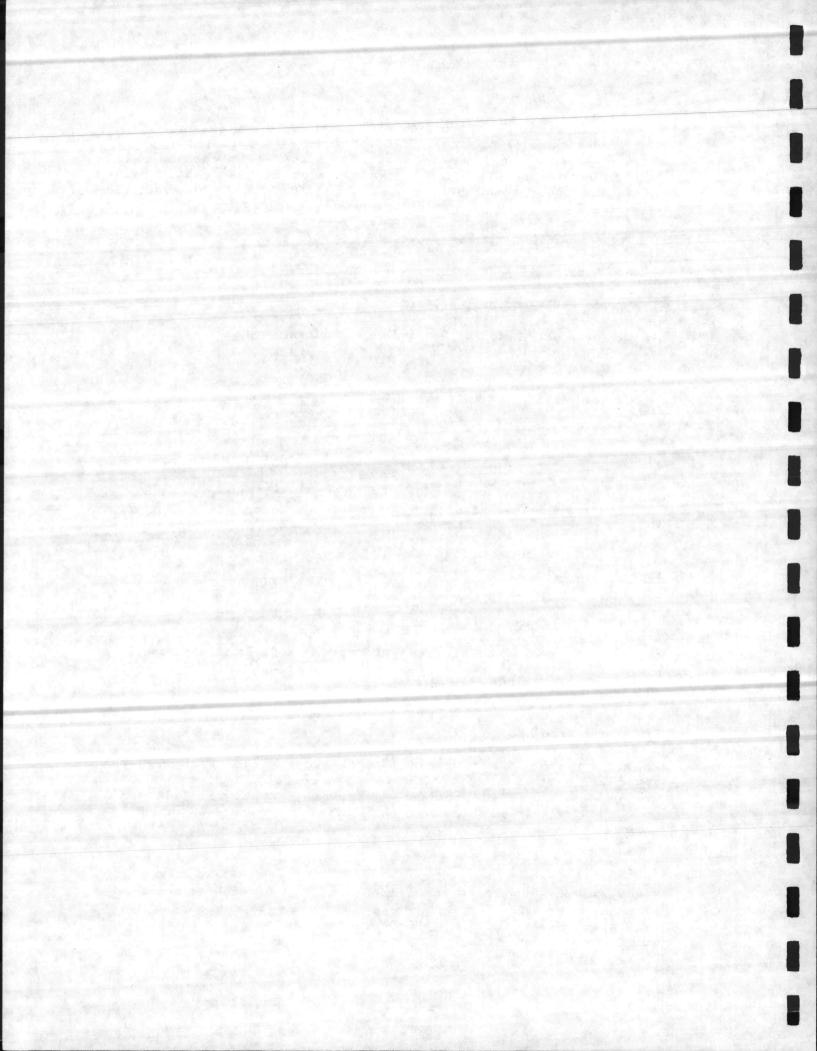
Site shall be cleared of trees and shrubs and all topsoil shall be stripped and stockpiled in preparation for compacting of subgrade under building, roads, and walks.

#### • Site Work: (Project P-133)

Topsoil shall be stripped and stockpiled. Floor slab area and vehicular pavement areas shall be undercut three feet and then brought to grade with properly compacted structural fill. All pedestrian walk areas shall be undercut twelve inches and brought to grade with compacted structural fill.

#### Roads and Parking Areas:

Roads and parking areas shall consist of 2" of asphaltic concrete surface course over 6" stabalized aggregate base course on compacted subgrade. Walks shall be 4" non-reinforced concrete on compacted subgrade.



## • Foundations: (Project P-065)

Foundation shall be reinforced concrete spread footings.

#### Foundations: (Project P-133)

Foundation shall be reinforced concrete subgrade beams spanning between pile caps on timber piles.

#### • Frame:

Some steel columns and beams will be required.

#### • Wall Construction:

Typical exterior walls shall consist of brick and concrete block construction with rigid plastic cavity wall insulation. Walls shall be reinforced with horizontal masonry reinforcing.

## • Floor Construction:

Main floor shall be concrete slab on grade with wire mesh reinforcing and vapor barrier. Mechanical mezzanine floor shall be concrete on metal deck supported by bar joists.

#### • Roofing:

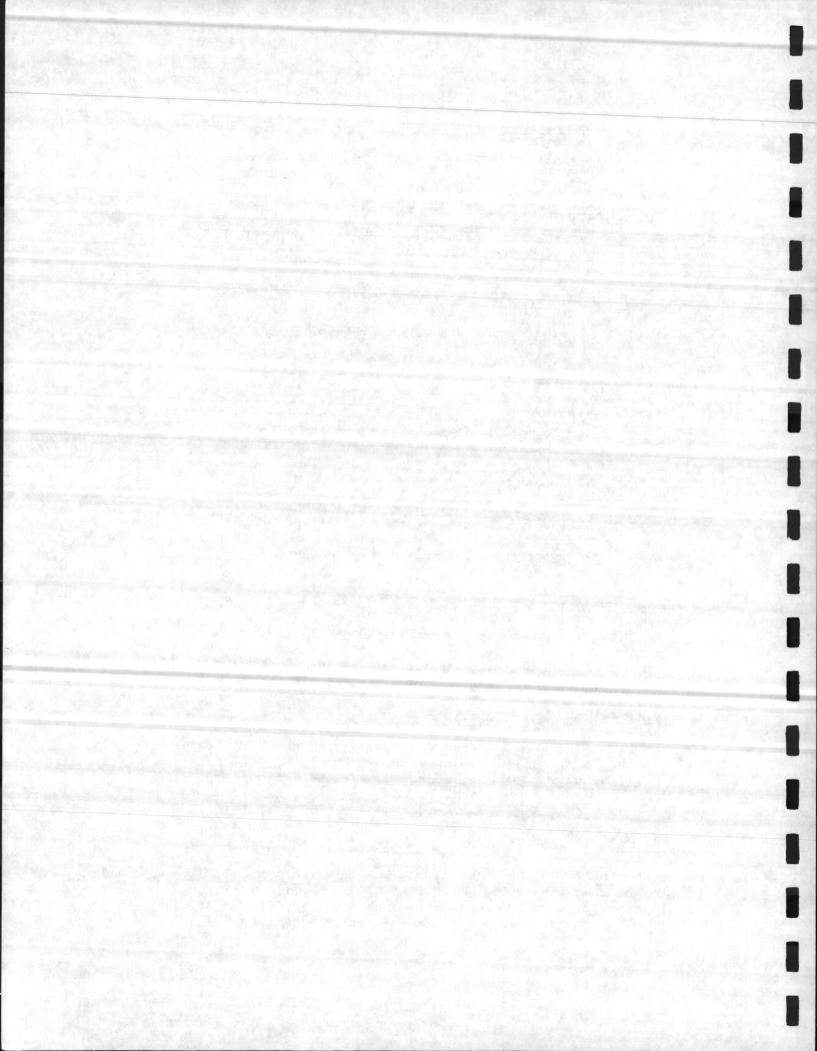
Roof shall be ballasted flexible sheet roofing with rigid plastic insulation on metal deck supported by bar joists. Metal deck over gymnasium shall be perforated acoustical type.

#### • Windows:

Exterior windows shall consist of insulating glass in aluminum frames. Operable units shall be out-swinging, top-hinged. Interior glass shall be wire glass in hollow metal frames. Tempered glass shall be used in handball/ racquetball court view windows.

#### • Doors:

Exterior doors shall be aluminum. Interior doors shall be wood and hollow metal in hollow metal frames. All doors shall be 20 minute except for doors between gymnasium and remainder of building which shall 1-1/2 hour rated with smoke detector actuated closing device.



#### • Interior Finishes:

Finish materials shall be exposed concrete, ceramic tile, vinyl tile, carpet, and wood floors (gymnasium and racquetball courts); rubber and ceramic tile bases; concrete block and ceramic tile walls; and plaster, gypsum board or lay-in acoustical tile ceilings.

#### • Partitions:

Most partitions shall be concrete block. Some wood framing will be required in the saunas. Metal studs will be required as part of the racquetball court wall construction.

#### • Plumbing:

Waste and vent piping below slab on grade shall be bell and plain end piping with neoprene push joint cast iron piping. Waste and vent piping above slab on grade shall be hubless cast iron soil pipe. Roof drainage piping above slab on grade shall be Schedule 40 galvanized steel. Domestic water piping will be routed above ceiling using insulated copper piping.

The hot water system for the locker rooms shall provide 1200 water from a steam heater and storage tank with recirculation system.

Plumbing fixtures shall include water closets, urinals, lavatories, shower heads, water coolers, water fountains, whirlpools, service sinks, hose bibs, and floor drains.

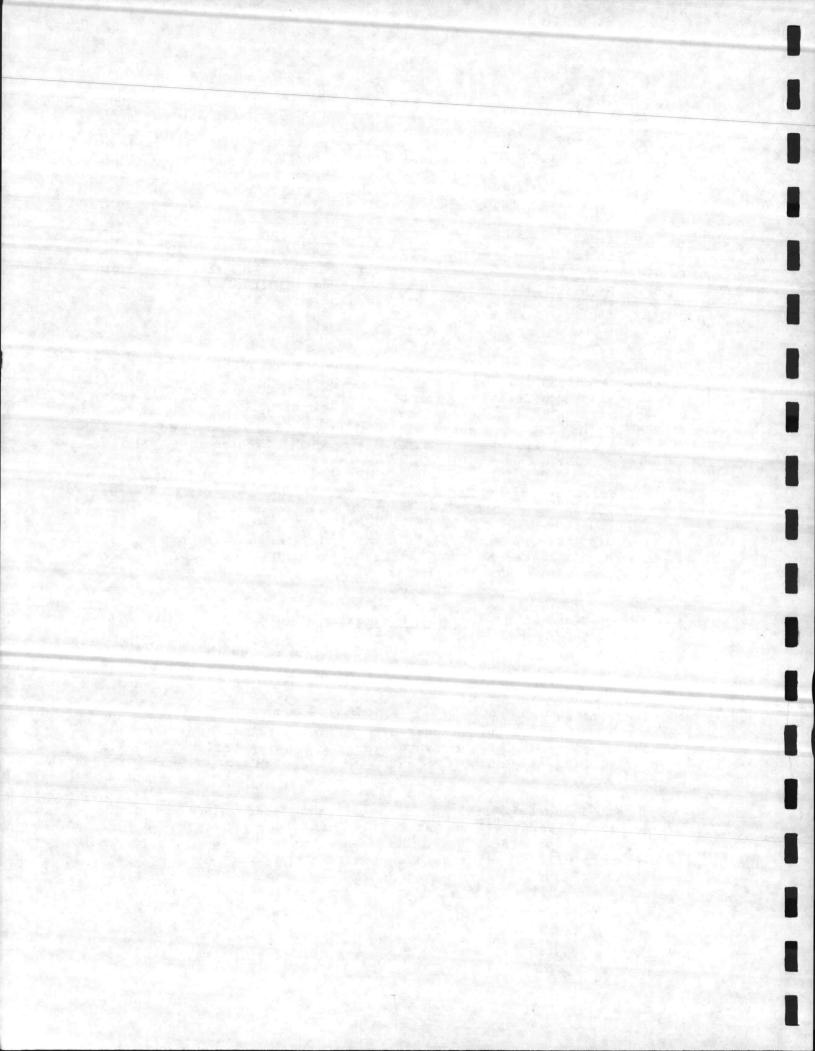
# Heating, Ventilation, and Air Conditioning:

Air conditioning will be provided for the racquetball/handball courts, office and lobby. All other areas will be heated and ventilated only.

Heat will be provided from the central underground steam system. The steam will pass through a pressure reducing station and then to a converter to supply hot water for the heating coils in the air conditioning units and the air handling units being used for ventilation.

Concealed ductwork will be externally insulated galvanized steel. Exposed ductwork will be internally insulated. UL approved fire dampers and fire detectors will be used as required. Supply air diffusers will be adjustable air pattern type with opposed blade dampers. Supply air registers will be double deflection type. Return air grilles will be egg crate or gymnasium type (reinforced) sidewall grilles.

Areas designated to have air condidtioning will each have a single zone air handling unit with a hot water heating coil and a direct



expansion cooling coil. Each system shall have a remote mounted air cooled condensing unit.

Sensors and control devices will be provided for interfacing converter, pumps, and condensing units with a central computer system or an on-site computer.

#### • Electrical:

The 208/120 volt, 3 phase - 4W secondary service will be fed underground to a main distribution panel with main circuit breaker. Branch circuit panelboards will be provided as necessary for lighting and receptacle power.

A complete conduit system will be provided. Rigid conduits shall be non-metallic or galvanized steel. Non-rigid conduit shall be electrical metallic tubing (EMT). Feeders and branch circuit conductors will be copper type THNN/THWN.

Distribution equipment shall include panelboards, disconnect switches, magnetic starters and manual motor starters.

Interior and exterior lighting shall be provided by a combination of fluorescent, incandescent, metal halide, and high pressure sodium fixtures.

Empty conduit, plywood terminal board, and telephone outlets will be provided. The local telephone company shall provide service.

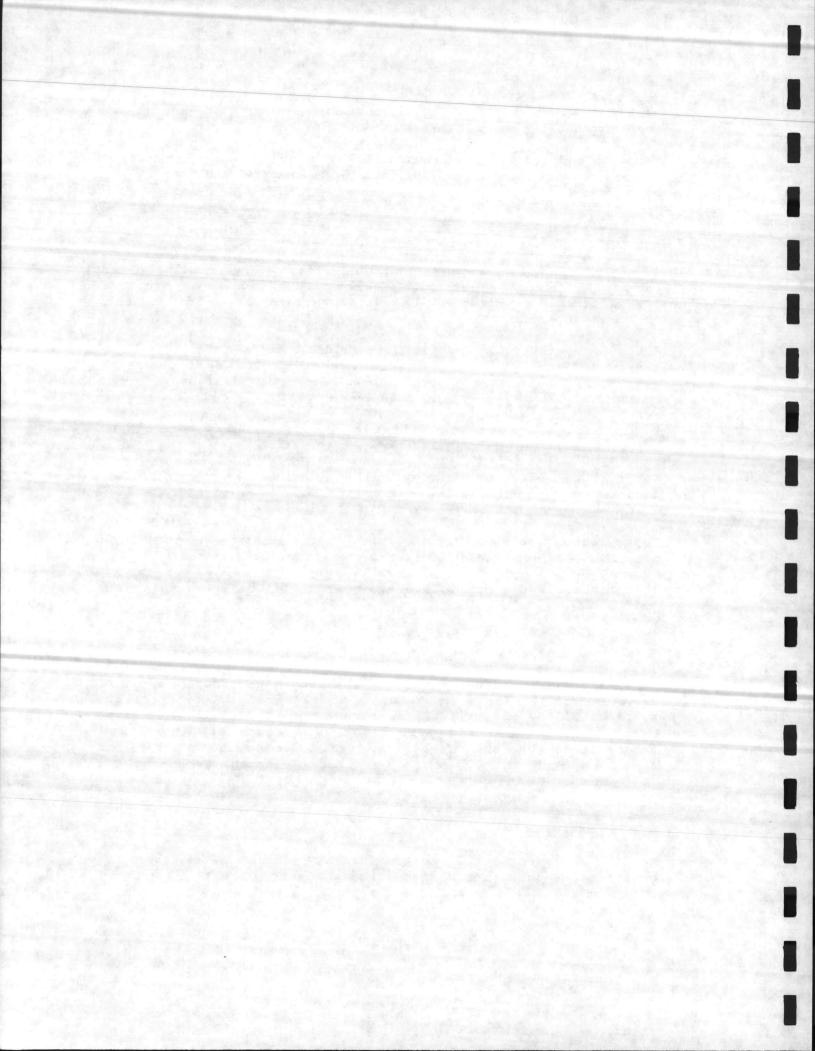
A scoreboard and a public address system will be provided in the gymnasium.

#### • Fire Protection:

An on-site fire hydrant shall be provided. Fire dampers and fire detectors will be installed in ducts as required. The fire alarm system shall be supervised low-voltage, non-coded with grill type horns, break-glass rod pull lever type alarm stations, and transmitter. One and one-half hour rated doors with smoke detector actuated closing devices will be installed between the gymnasium and the remainder of the building.

#### Special Equipment:

Special equipment shall include folding wood bleachers, basketball backstops, saunas, roof hatch, trophy cases, lockers, benches, racquetball/handball courts, shelving, and millwork.



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VALUE ENGINEERING ANALYSIS PROCEDURE



# VALUE ENGINEERING TEAM STUDY REPORT GYMNASIUMS CAMP LEJEUNE (P-065) NEW RIVER, JACKSONVILLE (P-133) NORTH CAROLINA

AUGUST 1984

#### SECTION 3 - VALUE ENGINEERING ANALYSIS PROCEDURE

#### GENERAL

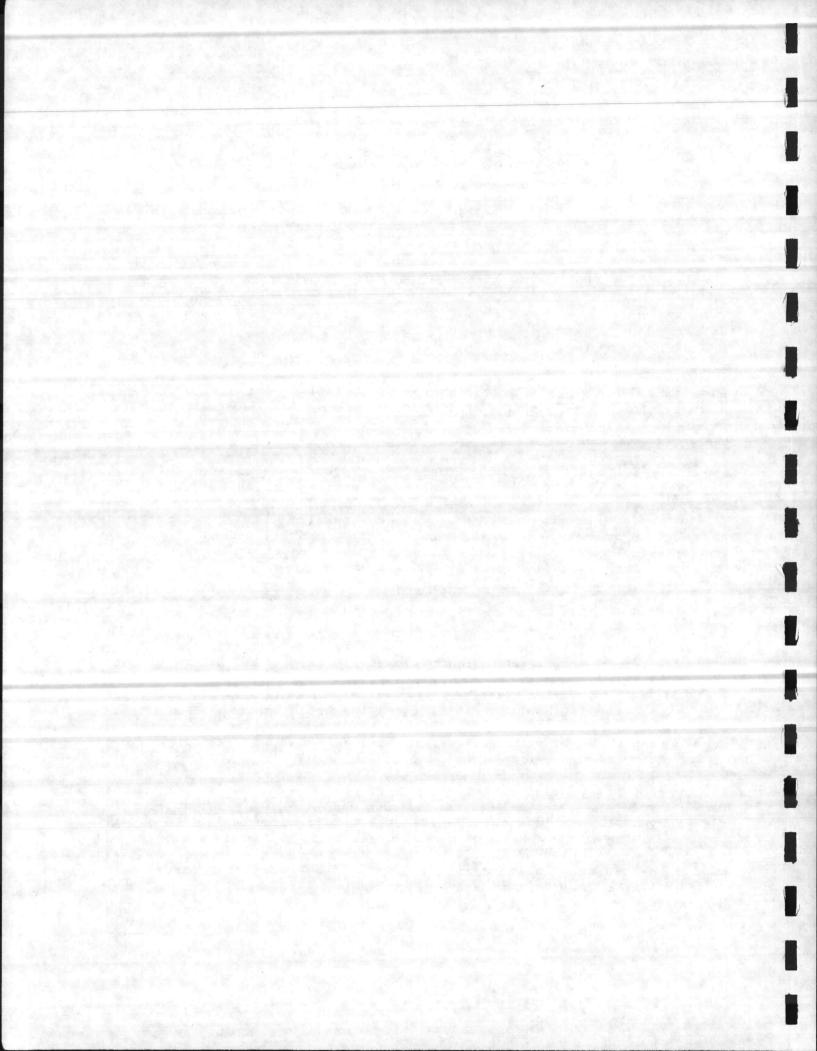
This section provides a description of the value engineering analysis procedures followed during the study. It is included to allow the reader to: follow the thought processes of the VE team and understand the reasons for the recommendations.

The study followed the primary format of the Value Engineering Job Plan. Each step in this plan plays an important part in achieving results and assuring eventual savings to the owner. A systematic approach is used in a VE study and the key procedures followed are organized into three distinct parts: 1) pre-study preparation: 2) VE workshop; and 3) post-study procedures. Figure 3-1 is a Task Flow Diagram which outlines each of the procedures included in a value engineering study.

#### PRE-STUDY PREPARATION

Pre-study preparation for a value engineering study consists of scheduling study participants and tasks; gathering necessary background information on the facility; and compiling project data into cost, energy and life cycle cost models. Information relating to the design, construction and operation of the facility is important as it forms the basis of comparison for the study effort. Information relating to funding, project planning, operating needs, comparisons of system evaluations, basis of cost, soils conditions and construction of the facility must be part of the analysis.

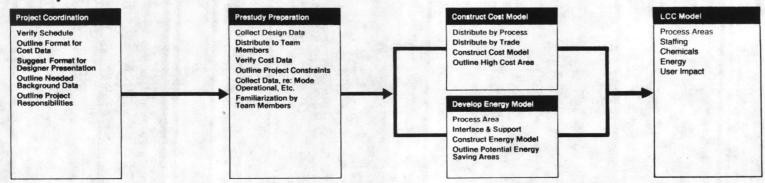
The project information generated by the Design Team was reviewed by the VE team. A graphical function analysis and cost models were prepared prior to the study based upon the information received from the Designer. An oral presentation by Mr. Jack Claywell of Boney Architects, assisted by members of the design team, allowed the team members to become familiar with the site conditions and the functional requirements of the project. Information provided to the VE team is outlined in Section 1 of this report.



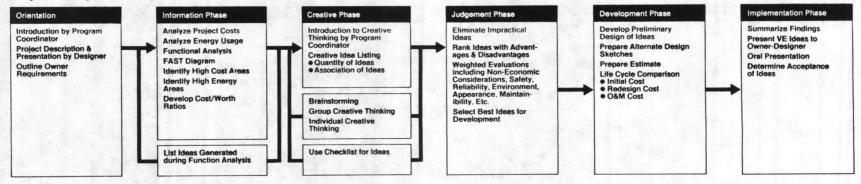


#### Value Engineering Studies Task Flow Diagram

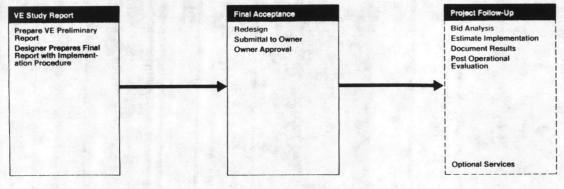
#### **Prestudy Phase**

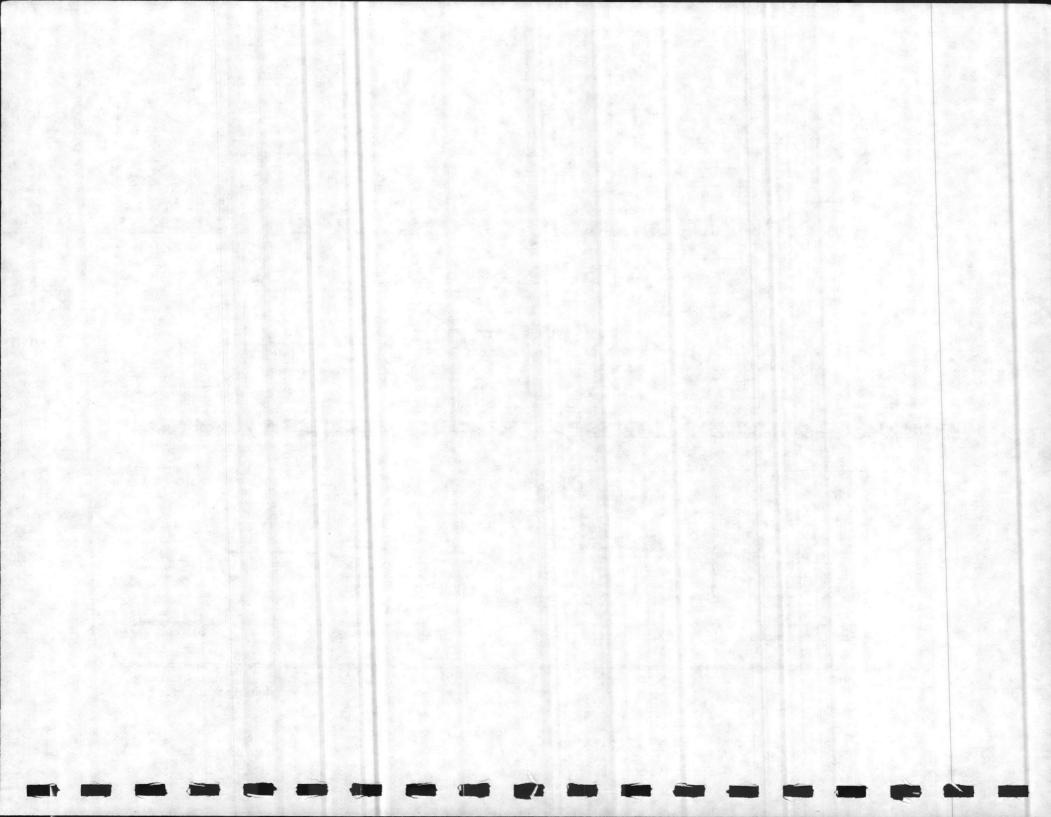


#### **Project Study Workshop**



#### **Post VE Study Procedure**





#### Project Constraints

The project constraints for the VE study were:

- 1. Program definition.
- 2. A project life of 25 years is to be used.
- 3. An interest rate of 10% is to be used.
- 4. Separate toilets are required for general public use.
- 5. Site location is not to be changed.

#### Cost and Economic Data

Cost estimates for the two projects which are the topic of this VE study were prepared and provided by Boney Architects. The projects are as follow:

- P-065 Gymnasium, Marine Corps Base Camp LeJeune, North Carolina
- P-133 Gymnasium, Marine Corps Air Station (H) New River, Jacksonville, North Carolina

Each cost estimate included the estimated construction cost for a new gymnasium building, supporting facilities, sitework, and utilities. The estimates are based on similar projects in the area, quotations, price catalogs, and other estimating guides and procedures. The VE team used the same unit prices in their analysis of the Designer's estimate except as noted on the validated estimates.

The Architect's Building Cost Summary of estimated costs for construction elements and systems included mark-ups for sales and payroll taxes, overhead, profit, and escalation to April 1986.

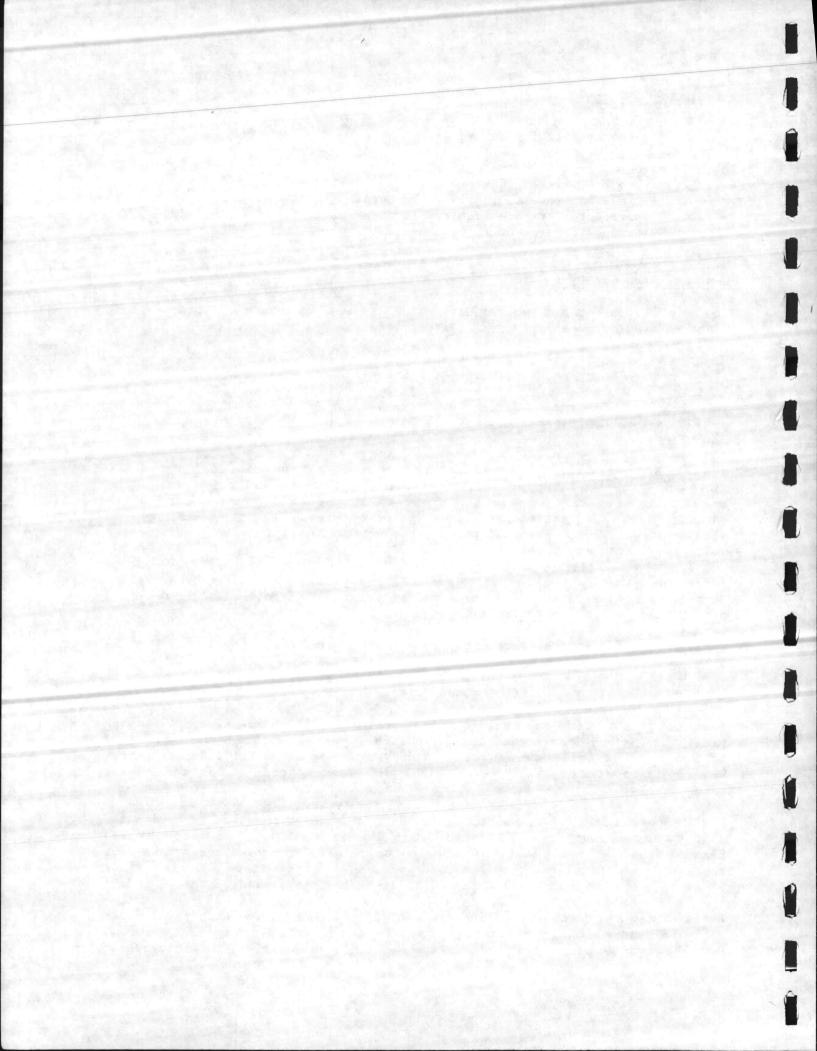
The total estimated construction cost for each project is as follows:

P-065 \$1,817,000 P-113 \$2,014,000

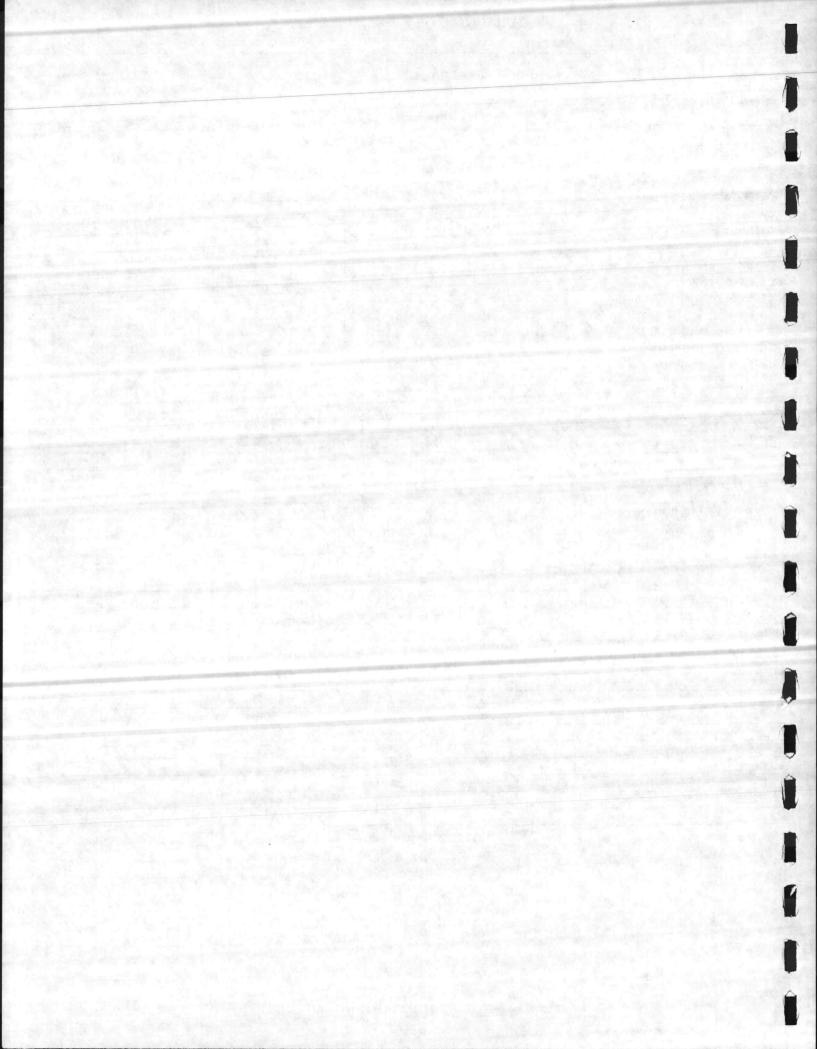
These totals include the building and support facilities associated with each project. The cost indicated also includes a 5 percent contingency and SIOH of 5.5 percent for each project. A copy of Boney Architect's Building Cost Summary is shown as Table 3-1 and Table 3-2 for Projects P-065 and P-133, respectively.

The VE team reviewed the cost estimates during the process of preparing the cost model and function analysis for each facility. The team also checked detailed parts of the estimates where unit costs and costs per square foot appeared disproportionate for the construction or function of the system or element. This review utilized the multi-discipline expertise of the VE team.

The VE team cost validation indicated that, in general, the architect's cost estimates and allowances were appropriate for the building construction. Some redistribution of funds within the construction elements would appear



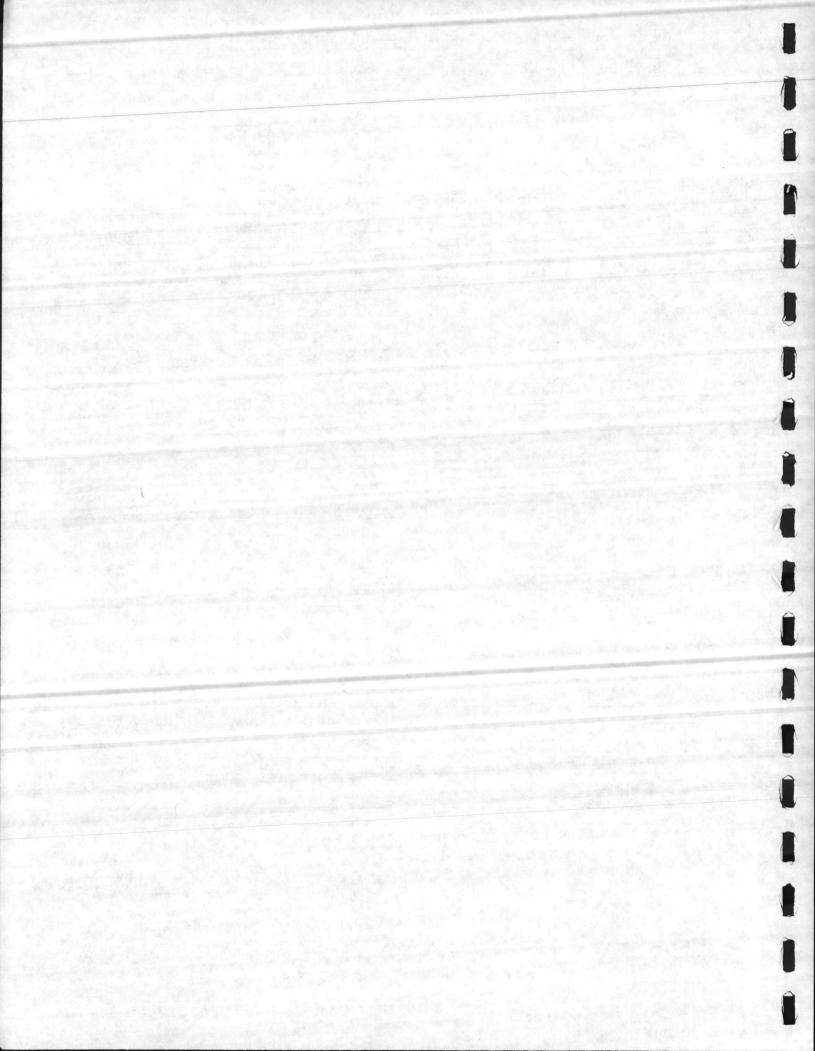
Gymnasium - Marine Corps Base, Camp LeJeune, North Carolina Estimator John Gibson \_\_\_\_ Type of Estimate (check) \_\_\_\_\_ No Design X Preliminary \_\_\_\_\_ Final Contract No.N62470-84-B-6808 \_\_ Escalated to: April 1986 Gross \_\_ 21,600 Prepared by: (A & E firm) Boney Architects 13 August 1984 Date Prepared COST/SF SYS COST/SYS TOTAL INDEX UNIT QUAN UNIT GROSS COST 1. BUILDING 38,000 1.75 1.75 21,600 01 Foundation System SF 2 20,900 2.15 2.08 45,000 02 Slab on Grade SF 3 3.78 82,000 21,284 3.85 SF 03 Structural System .25 5,400 4 396 13.64 04 Supported Flor Sys SF \_ 05 Stair System EA 4.29 4.22 91,400 5 21,300 06 Roof System SF 19,810 9.87 10.80 6 214,000 SF 07 Exterior Wall System 5.44 5.58 22,253 SF 121,000 08 Interior Wall System 8 9.27 9.27 21,600 201,000 09 Interior Finishes Sys SF 9 30.58 2,420 3.41 74,000 10 Doors & Windows Sys SF 10 6.50 6.50 21,600 141,000 11 Specialties System SF 1265.63 3.74 11 64 81,000 12 Plumbing-Domestic EA 12 18 666.67 .55 12,000 13 Roof Drainage Ea 12 6.37 50 2760.00 15 HVAC TON 138,000 12 28 Fire Alarm .42 SF 21,600 .42 9,000 12 31 Power KW 250 276.00 3.18 69,000 13 SF 21,600 60,000 2.77 32 Lighting 2.77 14 SF 21,600 .09 .09 2,000 Telephone 14 21,600 .14 SF .14 3,000 42 Intercom 15 2.49 54,000 09 Racquetball Courts Ea 3 18,000 SUBTOTAL BUILDING 66.46 1,440,800 SUPPORTING FACILITIES SYS UNIT SYS QUAN COST/SYS UNIT TOTAL COST LF 50 Elec. Distribution 445 69.66 31,000 52 Area Lighting EA 15 1,066.66 16,000 58 Steam Supply LF 370 62.16 23,000 LF 60 Sanitary Sewer 8,000 355 22.54 62 Water Distribution LF 480 28.13 13,500 73 Roads 900 SY 12.22 11,000 74 Parking 3,920 SY 7.39 29,000 75 Sidewalks 9,655 SY 10.36 10,000 78 Storm Drainage LF 1,055 29.38 31,000 79 Site Excavation CY 3.50 7,000 2,000 CY 80 Borrow 6.20 18,000 2,900 81 Topsoil SY 7.725 .51 4,000 82 Landscape SY 350 6.00 2,100 TOTAL SUPPORT COST ... 203,600 Base Bid Item a ....... Item b ...... ....... Item c Base Bid ..... 1,644,400 TOTAL CONTRACT COST ...... 82,220 Additive Item #1 Contingency 5% 90,440 Additive Item #2 SIOH 5.5% Additive Item #3 ..... Additive Item #4 ..... TOTAL ESTIMATED CONTRACT COST Rounded 1,817,000



#### **BUILDING COST SUMMARY**

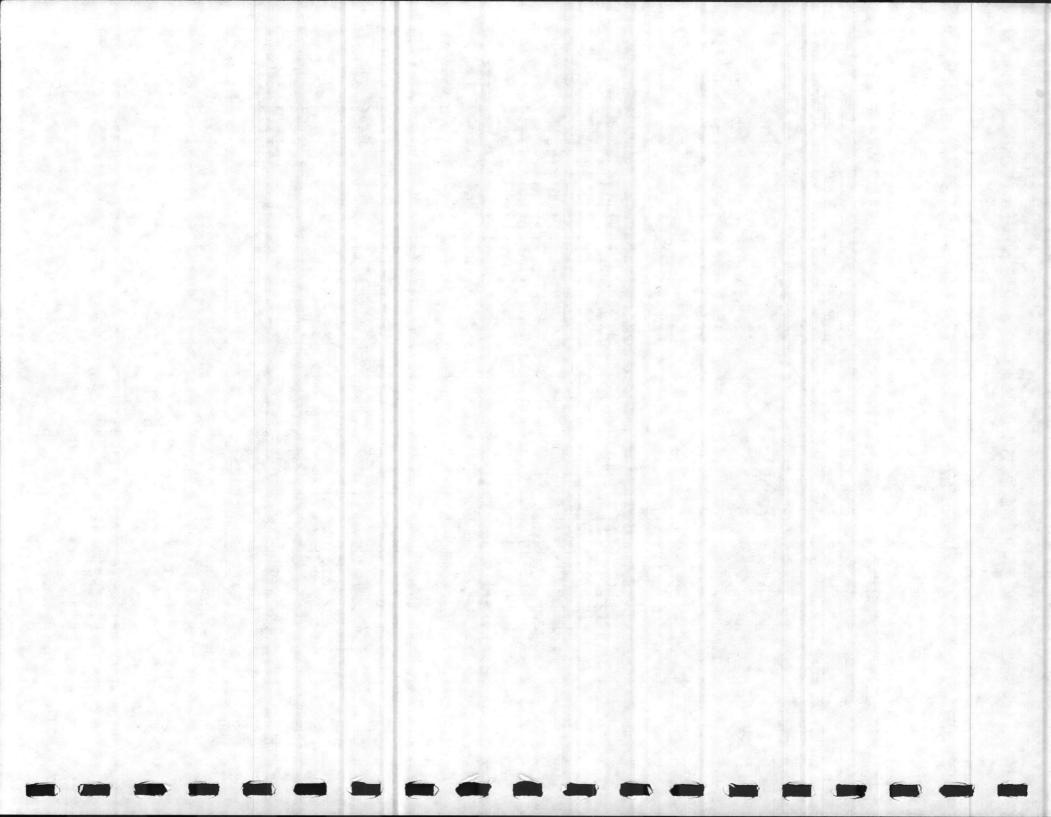
TABLE 3-2 PROJECT P-133

Gymnasium - Marine Corps Air Station (H), New River, Jacksonville, N. C. Estimator John Gibson \_\_\_\_ Type of Estimate (check) \_\_\_\_\_ No Design \_\_\_ X Preliminary Final ontract No.N62470-84-B-6808 Escalated to: April 1986 Bldg Gross \_ 21,600 SF \_\_\_ Date Prepared \_\_\_ 13 August 1984 Prepared by: (A & E firm) Boney Architects COST/SYS PAGE SYS SYS COST/SF TOTAL INDEX QUAN UNIT GROSS UNIT COST 1. BUILDING 1.80 1.80 39,000 1 21,600 SF 01 Foundation System 2 2.08 45,000 2.15 20,900 SF 02 Slab on Grade 3.78 3 21,284 3.85 82,000 SF 03 Structural System 4 13.64 .25 396 5,400 04 Supported Flor Sys SF \_\_\_ 05 Stair System EA 21,300 4.29 4.22 91,400 5 06 Roof System SF 9.87 19,810 10.80 6 214,000 SF 07 Exterior Wall System 5.44 5.58 22,253 121,000 08 Interior Wall System SF 8 9.27 9.27 21,600 201,000 SF 09 Interior Finishes Sys 9 30.58 2,420 3.41 74,000 SF 10 Doors & Windows Sys 10 6.50 6.50 21,600 141,000 11 Specialties System SF 1265.63 3.74 64 81,000 11 12 Plumbing-Domestic EA 666.67 12 18 .55 12,000 13 Roof Drainage Ea 12 15 HVAC 50 2760.00 6.37 TON 138,000 12 .42 28 Fire Alarm 21,600 .42 SF 9,000 31 Power 12 250 KW 276.00 3.18 69,000 13 SF 21,600 2.77 32 Lighting 60,000 2.77 .09 .09 14 SF 21,600 Telephone 2,000 14 SF 21,600 .14 .14 3,000 42 Intercom 2.49 15 18,000 54,000 09 Racquetball Courts Ea 3 SUBTOTAL BUILDING 66.50 1,441,800 SUPPORTING FACILITIES SYS UNIT TOTAL COST 62,000 5895 COST/SYS UNIT 88 Piling LF 50 Elec. Distribution LF 450 71.11 32,000 FA 52 Area Lighting 23 1043.48 24,000 58 Steam Supply LF 880 60.22 53,000 LF 60 Sanitary Sewer 973 26.72 26,000 62 Water Distribution LF 475 27.37 13,000 73 Roads 2230 28,000 SY 12.56 74 Parking 5270 8.34 44,000 SY 75 Sidewalks SY 1370 10.21 14,000 78 Storm Drainage LF 1328 37.65 50,000 79 Site Excavation CY 3000 3.33 10,000 CY 80 Borrow 2900 6.20 18,000 81 Topsoil SY 8300 .59 4,900 350 82 Landscape 6.00 2,100 381,000 TOTAL SUPPORT COST ..... Base Bid Item a ...... Item b ...... Base Bid ..... 1,822,800 TOTAL CONTRACT COST ..... 91,100 Additive Item #1 Contingency 5% 100,200 Additive Item #2 SIOH 5.5% Additive Item #3 ..... Additive Item #4 ..... 2,014,000 TOTAL ESTIMATED CONTRACT COST Rounded



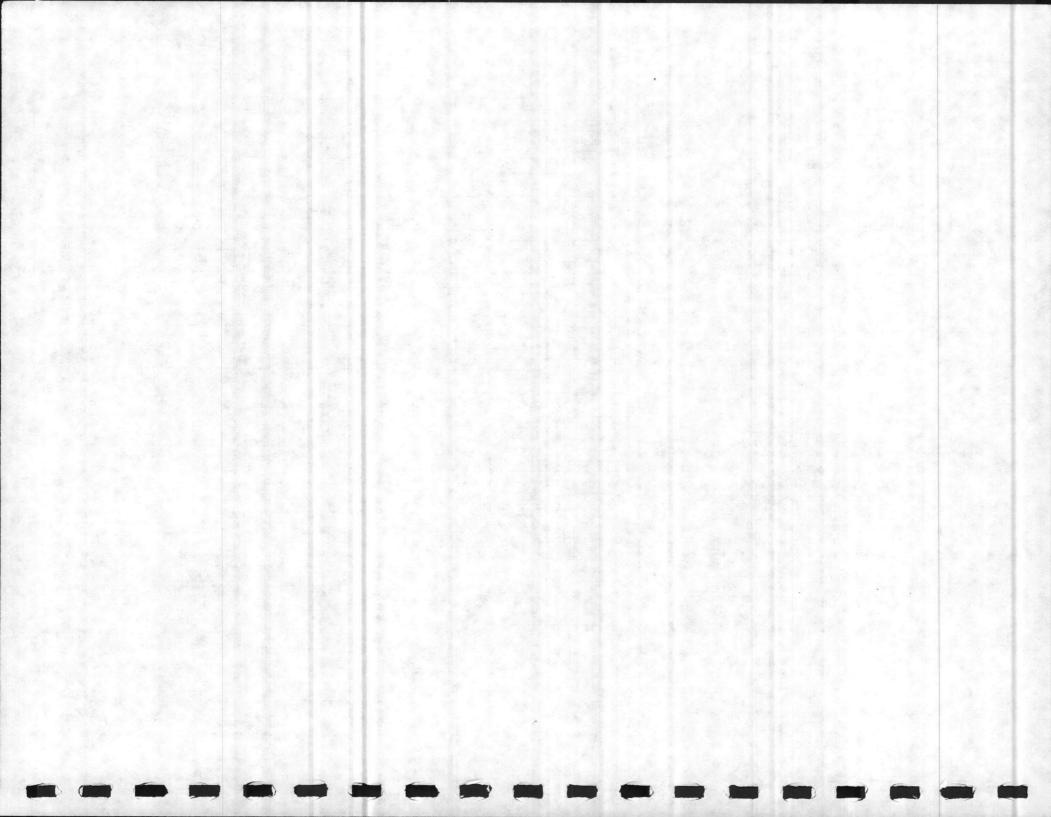
#### **BUILDING COST SUMMARY**

Title and Location Gymnasium	n - Marine	Corps	Base, C	amp LeJeune	e, North Carolu	na		
Estimator John Gibson Type of Estimate (check) No Design X Prelimina			minary Fina		TABLE 3-3			
Contract No.N62470-84-B-680			to: Apri	1 1986	Bldg SF C	Gross		PROJECT P-065
Prepared by: (A & E firm) Boney	Architect	s		Dat	e Prepared 13 AL	gust 1984		
	PAGE	SYS	SYS	COST/SYS	COST/SF GROSS	TOTAL	VE TEAM COST VALIDATION	
1. BUILDING	1			1.75	1.75	38,000	38,000	
01 Foundation System	2	SF	21,600 20,900	2.15	2.08	45,000	45,000	<del>물이</del> 되면됐다면서 살아가 있다면 그런 시스트를 되면 했다. 그는 그 그리다
02 Slab on Grade	3	SF	21,284	3.85	3.78	82,000	82,000	<del> </del>
03 Structural System	4	SF SF	396	13.64	.25	5,400	5,400	### : 전문에 가장 보면 보다 보는 사람들이 되었습니다. 그런 그리다.
04 Supported Flor Sys		EA	==-		- 10 m - 10 m			
05 Stair System	5	SF	21,300	4.29	4.22	91,400	101,400	See New River
06 Roof System 07 Exterior Wall System	6	SF	19,810	10.80	9.87	214,000	219,000	See New River
08 Interior Wall System	7	SF	22,253	5.44	5.58	121,000	75,000	See New River
09 Interior Finishes Sys	8	SF	21,600	9.27	9.27	201,000	197,000	Same as New River, See Appendix, Sheet Finish-1
10 Doors & Windows Sys	9	SF	2,420	30.58	3.41	74,000	74,000	
11 Specialties System	10	SF	21,600	6.50	6.50	141,000	141,000	
12 Plumbing-Domestic	11	EA	64	1265.63	3.74	81,000	68,700	Same as New River, See Appendix P-1
13 Roof Drainage	12	Ea	18	666.67	.55	12,000	12,000	
15 HVAC	12	TON	50	2760.00	6.37	138,000	132,100	Same as New River, See Appendix, Sheets 1-4, Alternate C
28 Fire Alarm	12	SF	21,600	.42	.42	9,000	9,000	
31 Power	12	KW SF	250 21,600	276.00	3.18	69,000	34,500	Same as New River
32 Lighting	13		21,600	2.77	.09		51,000	Same as New River
41 Telephone	14		21,600	14	.14	2,000 3,000	2,000 3,000	<del>내는</del> 위험들이 하셨습니다는 것 같아요? 이 네트리아 보고 없이 더 없는 것이다.
42 Intercom	-				2.49	54,000	54,000	<del>보고</del> 있다면서 바다 가게 하는 사람들이 되었다. 그 사람들이 되었다.
09 Racquetball Courts	_15_	Ea		18,000	2.43	34,000	34,000	<del> </del>
			SUBTOTA	L BUILDING	66.46	1,440,800	1,344,100	
SUPPORTING FACILITIES		SYSU	NIT	BYS QUAN	COST/SYS UNIT	TOTAL COST		#####################################
							17,600	See New River Comment
50 Elec. Distribution		LF		445	69.66	31,000	16.000	
52 Area Lighting		EA LF		15	1.066.66	16,000	23,000 8,000	<del> </del>
58 Steam Supply 60 Sanitary Sewer		LF		370	62.16	23,000 8,000	17,500	Add for 91 has als 6 and 2 1/2 60 and
62 Water Distribution	TON THE RES	LF		355 480	28.13	13,500	9,000	Add for 8" tap. sle. & val., 2 1/2 x 6" x 8" tee, & Hydrant 900SY @ 10/SY Specs. say 6 & 2
73 Roads	_	SY	_	900	12.22	11,000	39,200	Used 10/SY specs. say 6 & 2
74 Parking		SY		3,920	7.39	29,000	3,440	332 SY @ 10.36
75 Sidewalks		SY	-	9,655	10.36	10,000	34,000	Add 3000 for roof drain under floor
78 Storm Drainage		LF		1,055	29.38	31,000	7,000	and soot 131 1301 draft midel 11001
79 Site Excavation	1000	CY		2,000	3.50	7,000	18,000	
80 Borrow		CY		2,900	6.20	18,000	4,000	
81 Topsoil		SY		7.725	.51	4,000	2,100	
82 Landscape		SY		350	6.00	2,100	20,000	74 A Add curb & gutter 2000' @ 10
	- A	T	OTAL SUPP	ORT COST		. 203,600	218,840	
		B	ase Bid Item			• • • • • • • • • • • • • • • • • • • •		<del> </del>
			Iten			• —		<del>경기</del> 경기 경기 있다면 하는 것이 되었다. 그는 것이 없는 것이 없는 것이 없는 것이 없다. 그 없는 것이 없는 것이 없는 것이 없다면
			Iten				57	<del>사용</del> 에 가게 되었습니다. 이번 사람들은 이번 가게 되었습니다. 바로 보다는 경기를 보고 있다.
		916					1,562,940	<del>경우</del> (2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
					gency 5%	82,220	78,147	<del> </del>
			dditive Item		5.5%	90,440	85,962	
			dditive Item					나는 사람들이 얼마나 되었다면 하는 것이 없는 것이었다면 없는 없는 것이었다면 없었다면 없었다면 없었다면 없었다면 없었다면 없었다면 없었다면 없
				#4		1 2 7 3 7 10 7 2 1 2 1		
					RACT COST Rounde	d 1,817,000	1,727,049 = 1,	727,000 rounded 3-7
LANTDIY NORVA 3-11012/14-1 (REV. 5/8)	3)	da.	O.AL LUTTI	ED CONT				



# BUILDING COST SUMMARY

Estimator <u>John Gibson</u> Type of Estimate (check) No Design X Preliminary Final					nary Final		TABLE 3-4
Contract No.N62470-84-B-6808	Escalate			Bldg SF Gr	oss <u>21,600</u>		PROJECT P-133
Prepared by: (A & E firm) Boney Ar	chitects		Dat	e Prepared13 Aug	ust 1984	VE TEAM COST	
	PAGE SYS	SYS	COST/SYS	COST/SF GROSS	TOTAL COST	VALIDATION	REMARKS
1. BUILDING	INDEX UNIT				39,000	54,000	\$15,000 more concrete, excavation, backfill, forms
01 Foundation System	1 SF		1.80	2.08	45,000	45,000	413,000 more concrete, excavacion, backriff, forms
02 Slab on Grade	2 SF	20,900	2.15	3.78	82,000	82,000	<del> </del>
03 Structural System	Sr	206	3.85	.25	5,400	5,400	<del></del>
04 Supported Flor Sys	4 SF	396	13.64				<del> </del>
05 Stair System	EA	21 200	4.29	4.22	91,400	101,400	Add 10,000 for roof inslation
06 Roof System	5 SF	10 010	10.80	9.87	214,000	219,000	18,300 12" block & 8,000 8" block
07 Exterior Wall System	6 SF		5.44	5.58		75,000	2,000 square foot, 12" 11,000 square foot 8" 1,000 square foot
08 Interior Wall System	SF		9.27	9.27	121,000	197,000	See Sheet Finish-1, Appendix
09 Interior Finishes Sys	SF	2 420		3.41	201,000	74,000	
10 Doors & Windows Sys	5 SF 6 SF 7 SF 8 SF 9 SF 10 SF			6.50	74,000 141,000	141,000	[14] (14) [14] [15] [15] [15] [15] [15] [15] [15] [15
11 Specialties System		CA.		3.74	81,000	68,000	
12 Plumbing-Domestic	11 EA			.55	12,000	12,000	<del>경우,</del> : (100명) 120명 (1995) - 120R (1995) -
13 Roof Drainage	12 Ea	18 50		6.37	138,000	132,100	See Sheets 1-4, Alternative C Appendix
15 HVAC	12 TO	21,600		.42	9,000	9,000	See Sheets 1-4, Arternative C, approxim
28 Fire Alarm	12 SF 12 KW	250		3.18	69,000	34,500	125 KW @ 276 40 250 KW
31 Power	13 SF	21,600		2.77	60,000	51,000	Reduced racketball lights to 12 ea., red gym lights to 410.
32 Lighting	13 SF	21,600		.09	2,000	2,000	emergency lights to 450
41 Telephone		21,600	The state of the s	.14	3,000	3,000	emergency rights to 450
42 Intercon	14 SF	-	-	2.49	54,000	54,000	<del>교통</del> 경영 경영 경영 경영 등 보고 있다. 경영 경영 경영 경영 경영 등 보고 있다. 그는 경영 경영 경영 등 기업
09 Racquetball Courts	_15_ Ea	3	18,000 AL BUILDING	2.47	347000	31,000	<del>교통</del> 사람들은 전혀 있다면 되는 것이 없는 것이 얼마나 되었다.
		SUBTUI	AL BUILDING	66.50	1,441,800	1,360,100	
SUPPORTING FACILITIES	sys		SYS QUAN 5895	COST/SYS UNIT	TOTAL COST 62,000	62,000	
88 Piling			450	71.11	32,000	23,500	Overhead pole line cost estimate, apparently figured undergroun
50 Elec. Distribution 52 Area Lighting	E		23	1043.48	24,000	24,000	
58 Steam Supply			880	60.22	53,000	53,000	<del> </del>
60 Sanitary Sewer	L		973	26.72	26,000	16,800	383' too much 8" pipe @ \$24 = \$9,192 to much use 9,200
62 Water Distribution	L		475	27.37	13,000	14,000	Add hydrant
73 Roads	S		2230	12.56	28,000	29,000	2900 SY @ 10, 6&2 in specs.
74 Parking	S		5270	8.34	44,000	52,700	5,270 SY @ 10,662 in specs.
75 Sidewalks		Y	1370	10.21	14,000	4,700	467 SY @ 10.21
78 Storm Drainage	L		1328	37.65	50,000	50,000	내용하는 경우 아이들이 되었다. 그리고 있는 사람들은 그는 그들은 사람들이 되었다.
79 Site Excavation		Y	3000	3.33	10,000	84,400	Add 12,000 CY under cut @ 6.20 = 74,400
80 Borrow	C	Y	2900	6.20	18,000	73,800	Add 9,000 CY borrow @ 6.20 = 55,800
81 Topsoil	S	Y	8300	.59	4,900	4,900	
82 Landscape	S	Y	350	6.00	2,100	2,100	
	- No. 12/01					39,000	74 A add curb and gutter 3900 @ \$10 = \$39,000
		TOTAL SUP	PORT COST .		381,000	533,900	
		Base Bid Ite					gai (2011년) 124년 전 전통과 스타일은 122일 경기 (2011년) - 122일 - 122일 (2011년) - 122일 - 122일 (2011년) - 122일 (2011년) - 122일
							그는 생생님이 얼마나 나를 내려가 살아 보는 것이 없었다. 그리고 얼마나 나를 다 먹었다.
							프랑스 시간 이 경기를 받는 것이 되는 것이 없었다. 그런 가장이 하고 있다면 되었다.
					1,822,800	1,894,000	ang 1993 (1997) - 12 19 19 19 19 19 19 19 19 19 19 19 19 19
				gency 5%	91,100	94,700	
				5.5%	100,200	104,170	### #################################
		Additive Iten			AND RESIDENCE		
				RACT COST Rounded	2,014,000	2.092.870 = \$2	2,093,000 rounded 3-8



necessary as the design is further developed. Areas such as the roof, interior wall systems, electrical power, and lighting may warrent some attention.

The architect's cost estimate for the supporting facilities appears satisfactory for Project P-065 with some cost readjustment to include the curb and gutter associated with paved areas.

The cost estimate for the supporting facilities for Project P-133 is lower than would be expected for the intended scope of work. Areas of concern include the site preparation work, cut and fill, and the curb and gutter work associated with the paved areas.

Copies of the original cost estimate summary sheets, together with the VE team's cost validation, are shown as Tables 3-3 and 3-4 for projects P-065 and P-133, respectively.

The objective of the VE study workshop is to focus on alternative design solutions that offer opportunities for initial cost savings and improved value for the buildings. Savings resulting from the implemented recommendations for the building work can help offset the cost of the supporting facilities, in an effort to hold this area of the projects within budget.

Consideration may also be warranted for bidding both projects together in an effort to optimize construction costs.

The following economic parameters were used:

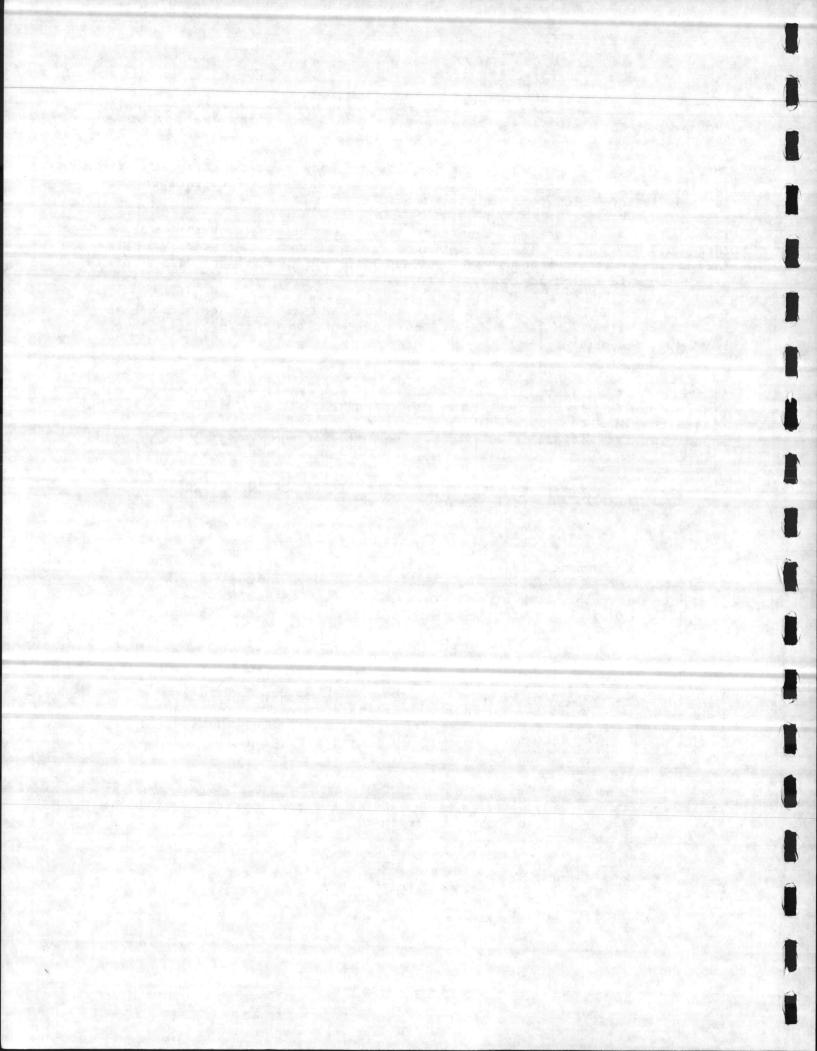
Economic planning life	25 years		
Interest rate	10%		
Uniform Present Worth (UPW-25 yrs.)	9.077		
Uniform Capital Recovery Factor (UCR-25 yrs.)	0.1101		

#### VE WORKSHOP

The value engineering workshop was a 40-hour study effort for analysis of the preliminary design of two gymnasium facilities, projects P-065 and P-133 located at Camp LeJeune and New River, Jacksonville, North Carolina, respectively, and their site supporting facilities. During the workshop portion of the study, the Job Plan was followed.

The Job Plan is an organized approach for searching out high cost areas in the design and developing alternative solutions for consideration. The job plan includes five key groupings of effort:

- Information Phase
- · Creative Phase
- Judgement Phase
- Development Phase
- · Recommendation Phase



#### Information Phase

At the beginning of the VE study, it is important to understand the back-ground and decisions that have influenced the development of the design. For this reason, an oral overview of the design is presented. Mr. Jack Claywell of Boney Architects and members of the design team presented a description of the project design, cost estimates, supporting data, and the operational requirements for the facility. Based on this data and the project submittal information, a cost model of the total facility construction program and a function analysis for each major construction element were prepared.

#### Cost Model

The cost model is used as a method of distributing costs by building system to use as a comparison to historical data. The model also serves as a basis of comparison for alternative building systems.

Cost models were prepared for the facilities as follows:

Gymnasium	Facility	P-065	Total Costs	- Table	3-5	
Gymnasium			Square Foot	Costs -	Table	3-6
Gymnasium		P-133	Total Costs			
Gymnasium			Square Foot	Costs -	Table	3-8

The target costs are the amount for which the VE team believes the project might be constructed. The estimated construction costs of the building by system, subsystem and total cost are presented in the lower block in the cost model.

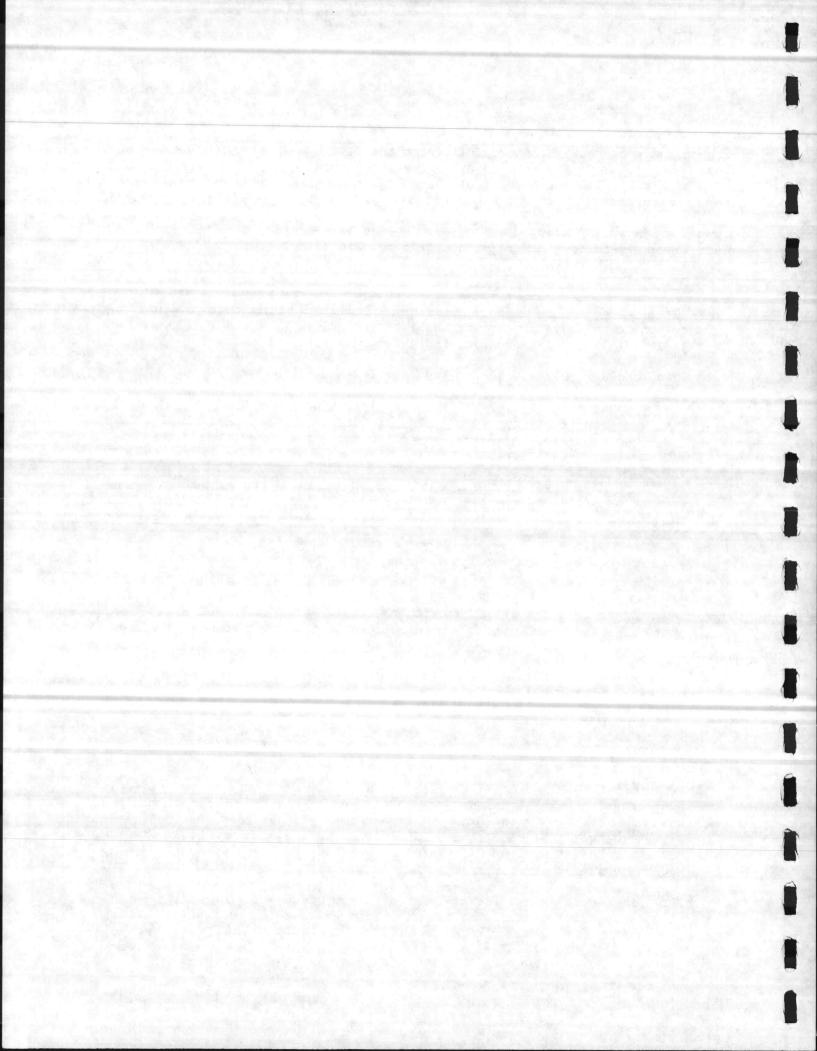
The difference represents a potential savings, provided valid recommendations are presented and implemented into the design. For the facilities in projects P-065 and P-133, the major areas of potential savings occur in the sitework, architectural, mechanical, and electrical work. Further analysis of cost follows in the function analysis stage of the study.

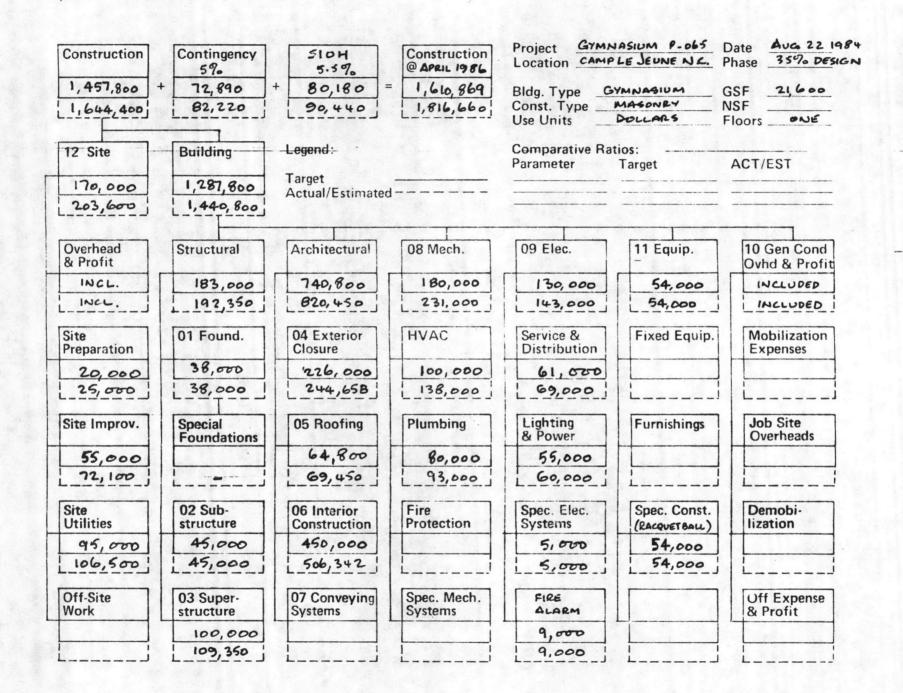
When reviewing the project the reader would benefit by reading the Project Cost Estimate and Economic Analysis of select system alternatives.

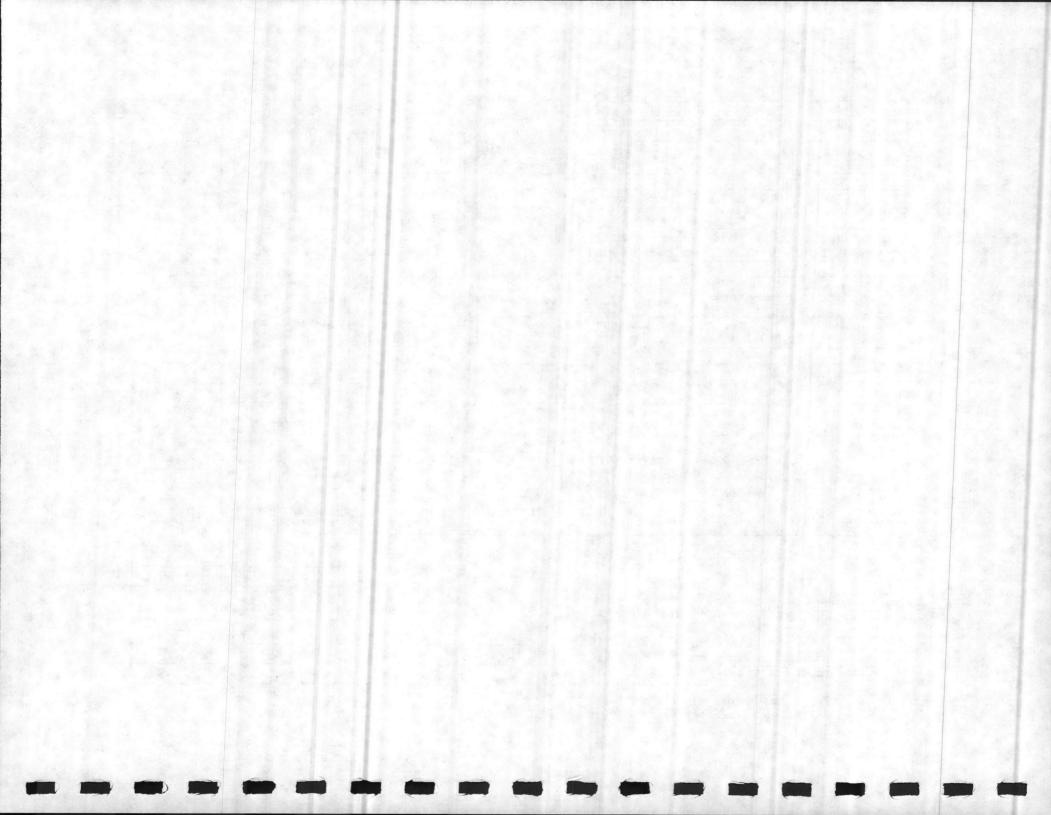
# Function Analysis

Functional requirements in a facility design are the key to assuring the owner that the facilities have been designed to meet his criteria. The analysis of these functions in terms of the actual costs (as designed) versus the worth of the required functions, is the primary element in a value engineering study used to analyze the facility without removing necessary items.

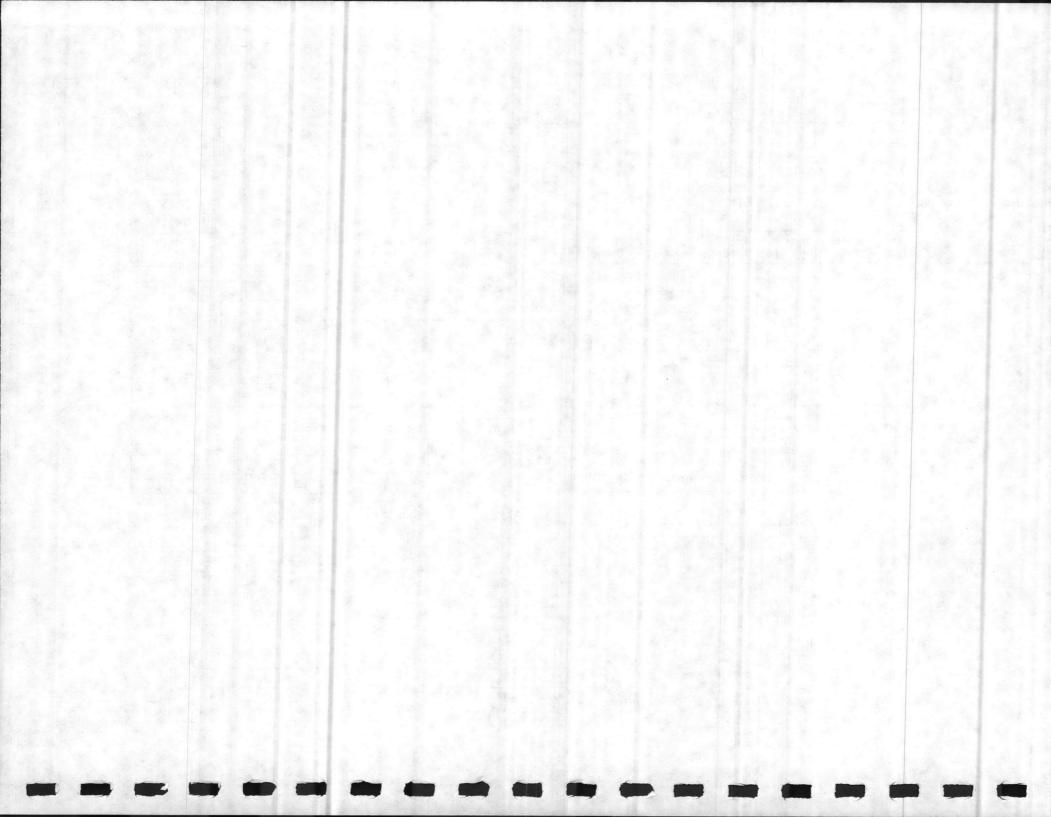
This procedure is beneficial to the VE team because it forces the participants to think in terms of function and the cost related to that function. It facilitates a comprehensive analysis of building design. Preparing the function analysis also helps to generate many of the ideas

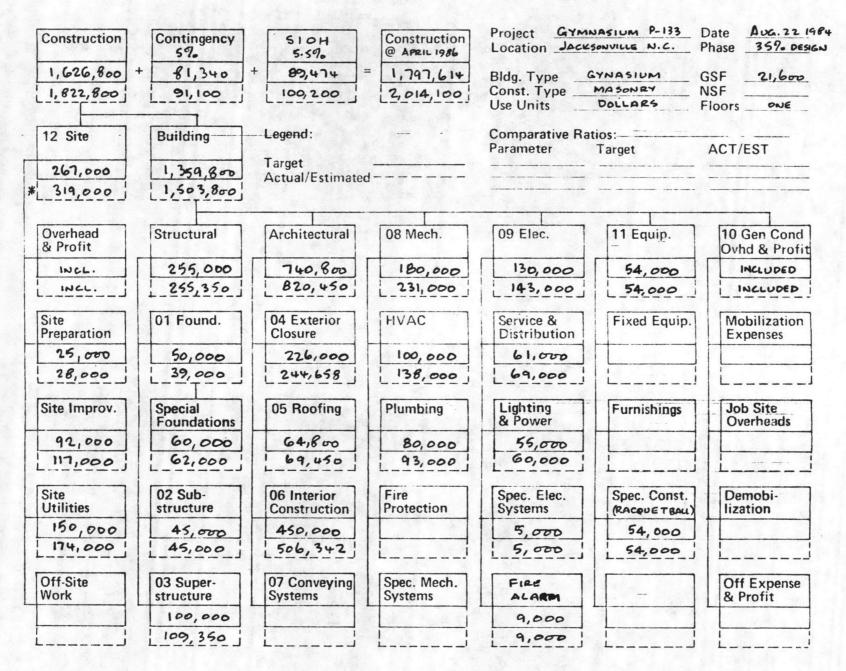


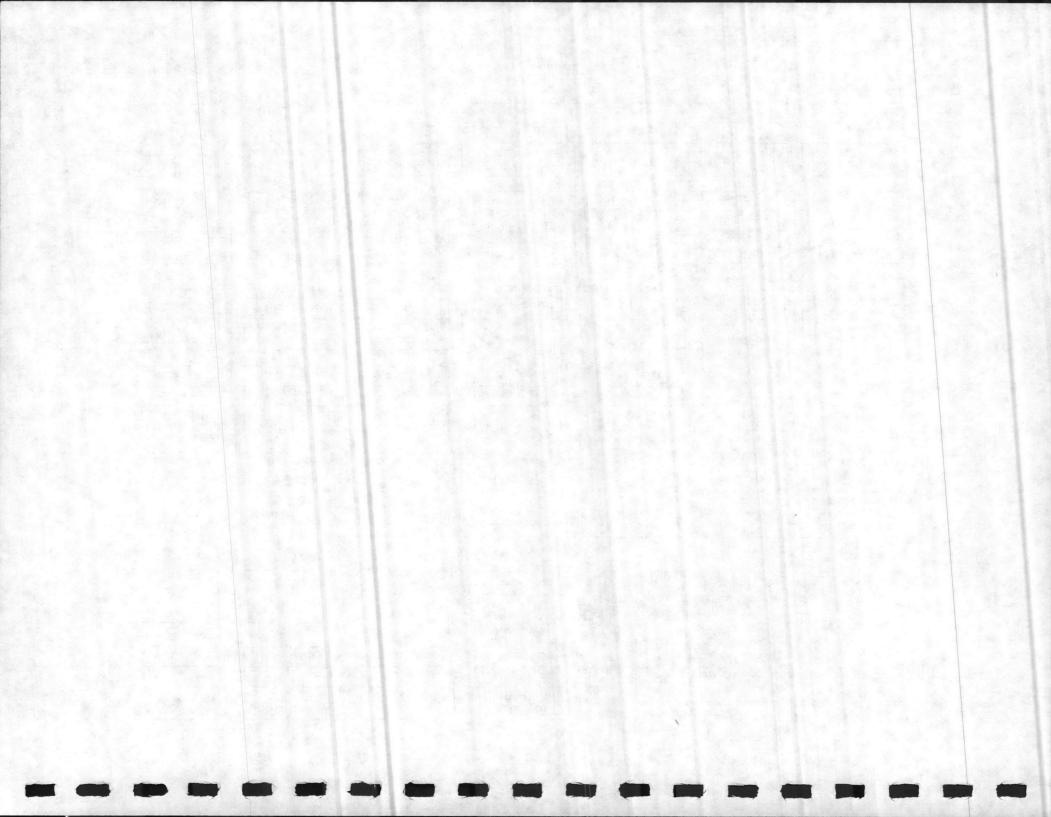


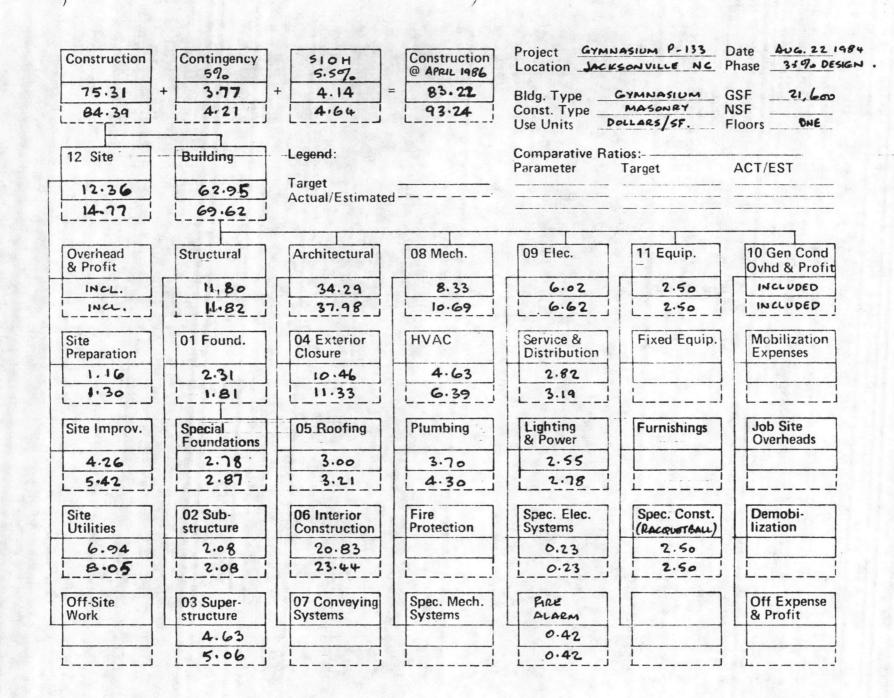


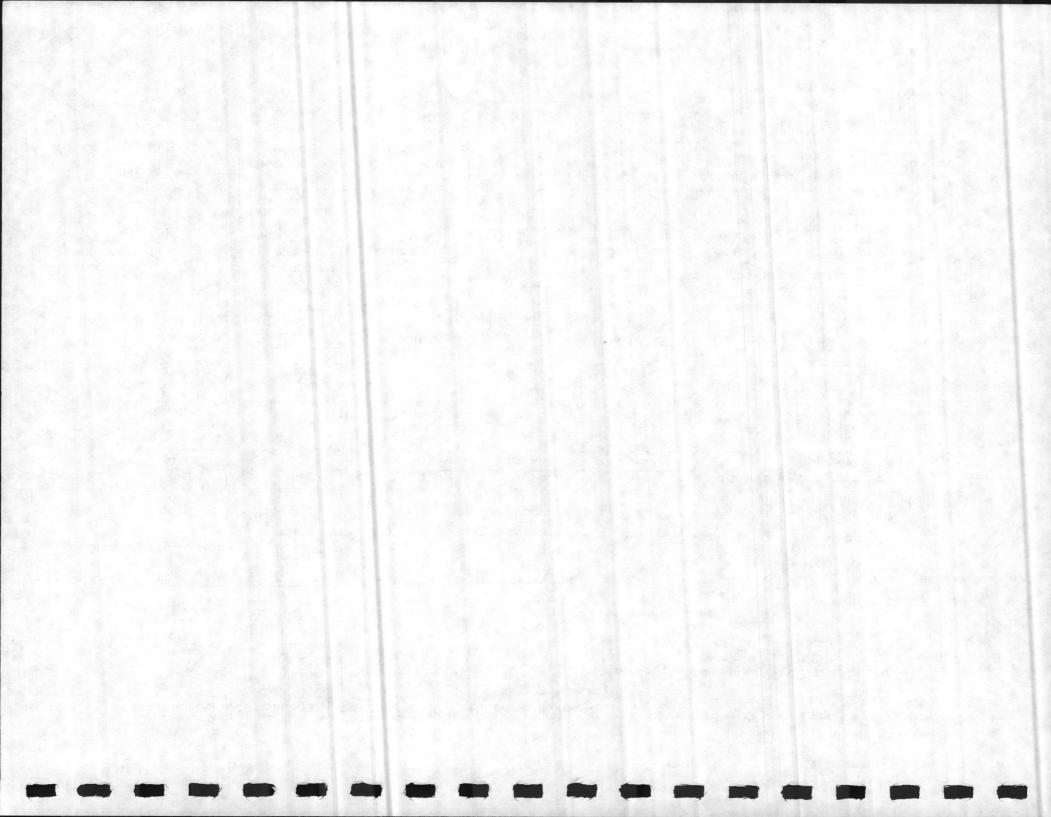
Construction	Contingency 5%	510H 6.590	Construction @ APRIL 1986	Project GYMN Location CAMP	LEJEUNE N.C.	Date AUG 22 198 Phase 35% DESIG
67.48	+ 3.37	+ 3.72	= 74.57	Bldg. Type Gy	MNASIUM	GSF 21,600
76.13	3.80	4-17	84.10	Const. Type	MA SONRY	NSF
-				Use Units C	COLLARS/SF.	Floors
12 Site	Building	Legend:	_	Comparative Ra Parameter	tios:	ACT/EST
7.87	59.61	Target Actual/Estimate	d			The second real real residence and the second secon
9.43	66.70	Actual/Estimate	<b>u</b>			
Overhead & Profit	Structural	Architectural	08 Mech.	09 Elec.	11 Equip.	10 Gen Cond Ovhd & Profit
INCL	8.47	34.29	8.33	6.02	2.50	INCLUDED
INCL }	8.90	37.98	10.69	6.62	2.50	INCLUDED
Site Preparation	01 Found.	04 Exterior Closure	HVAC	Service & Distribution	Fixed Equip.	Mobilization Expenses
0.92	1.76	10.46	4.63	2.82		
1.16	1.76	11.33	6.39	3.19		
Site Improv.	Special Foundations	05 Roofing	Plumbing	Lighting & Power	Furnishings	Job Site Overheads
2.55		3.00	3.70	2.55		
3.34	L	3.21	4.30	2.78		
Site Utilities	02 Sub- structure	06 Interior Construction	Fire Protection	Spec. Elec. Systems	Spec. Const.	Demobi- lization
4.40	2.08	20.83		0.23		
4.93	2.08	23.44		0.23	2.50	
Off-Site Work	03 Super- structure	07 Conveying Systems	Spec. Mech. Systems	FIRE		Off Expense & Profit
	4.63			0.42		
;	5.06			0.42		











that eventually result in recommendations for cost savings. To attempt to isolate the high cost areas, the facility was analyzed with cost/worth ratios computed. The higher the ratio, the greater the potential for savings. The function analysis worksheets are included as Table 3-9.

Each project element is studied to determine and verify the cost. Elements leading to high cost such as poor soils conditions are also high-lighted. The team defines each building component to determine what it is, how it functions and what it costs. Having defined the function and its related cost, the next step is to determine worth, which is the least cost to perform the function. Again, gaps between the cost and worth indicate areas of potential cost savings. The costs used in the function analysis are based on the project estimate. The amount used as worth is an approximate, intuitive figure based on the VE team members' experience. Its purpose is to stimulate alternate ideas to perform the required function at the lowest cost.

Worth is defined as the least cost to provide the required function. This forces the VE team to speculate on alternative solutions to the proposed design.

### Graphical Function Analysis

Graphical function analysis is a pictorial presentation of the cost breakdown to show the elements of cost in descending order. Its purpose is, therefore, to identify the high cost areas. This approach follows the theory of Pareto's law: identifying 80 percent of the cost in 20 percent of the components. Graphic cost/function charts for major construction cost elements of projects P-065 and P-133 were prepared prior to the workshop. The charts have been arranged to display the total Project Construction Elements and the Supporting Facilities. Figure 3-2 is for project P-065 and Figure 3-3 is for project P-133.

From the graphic function analysis charts indications are that opportunities exist for initial cost savings in the following areas:

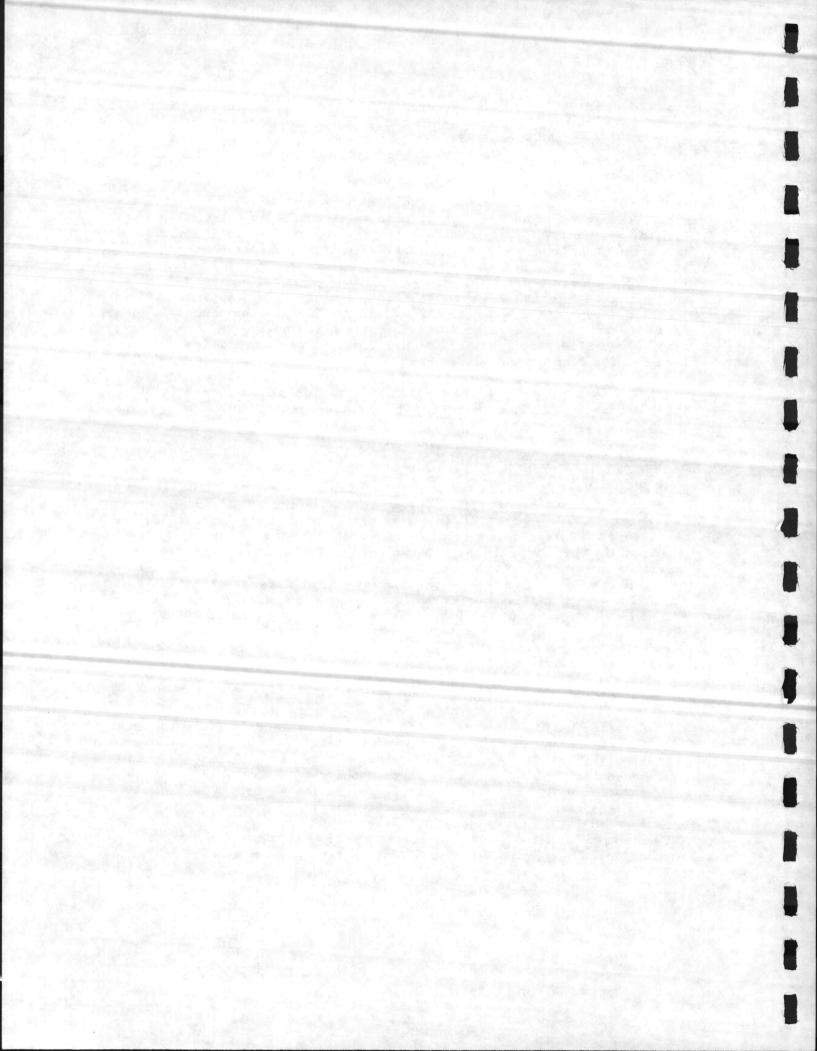
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R 11	7		d	7	n	a	
Bu	_	_	u	-	TT	8	

Exterior Wall Interior Finishes Specialities Mechanical HVAC Interior Walls Roof System

#### Supporting Facilities

Site Utilities (Electric Distribution)
Storm Drainage
Parking
Steam Supply
Site Preparation
Area Lighting

The VE team used these cost/function charts to further isolate the construction costs associated with major cost areas, such as the brick facing for the exterior wall.



PROJECT P-133 & P-065

LOCATION Jacksonville & Camp

CLIENT NAVFAC

August 27-31, 1984 DATE \_ PAGE \_ 1 OF \_

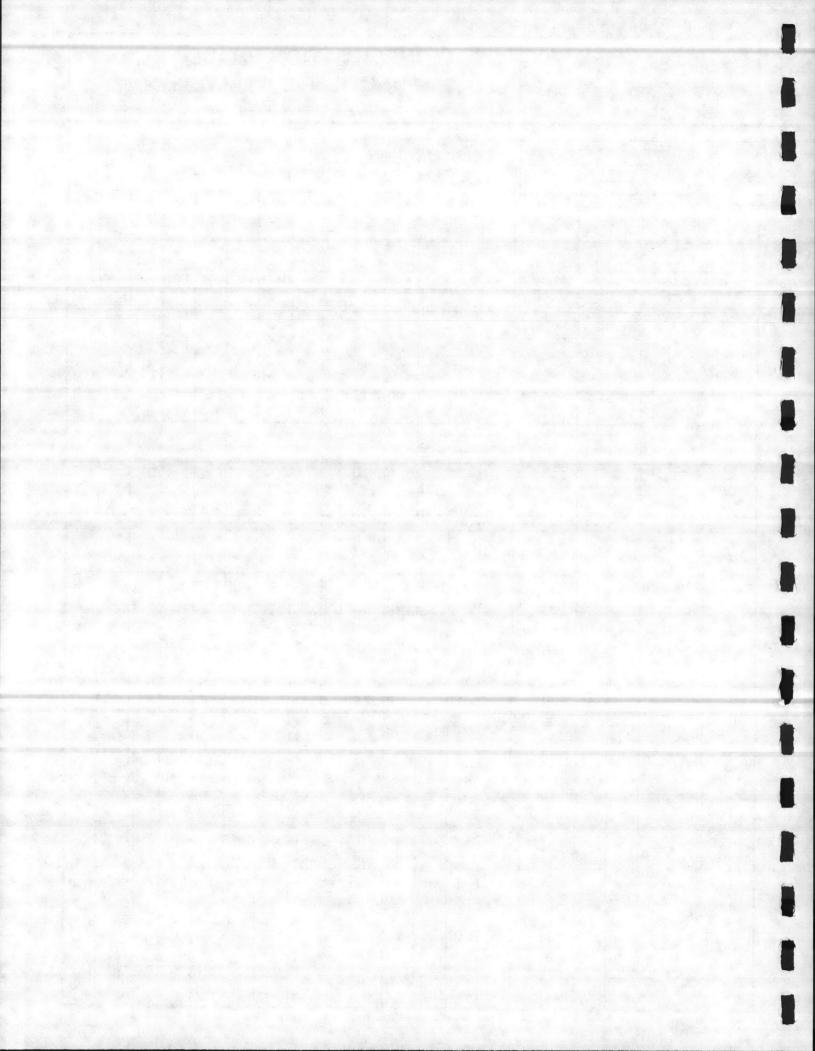
### **INFORMATION PHASE ANALYSIS FUNCTION**

LeJeune, NC GYMNASIUM

**FUNCTION:** HOUSE EQUIPMENT

(TO SUPPORT FITNESS PROGRAM)

*	Ho		FUNCTION		Taga	MODTU	COMMENTS
m Z	DESCRIPTION	VERB	NOON	KIND	800	T L L	COMMENTS
-	Foundation	Support	Load	В	38,000	38,000	File cap costs lo for P-133 in addi fies to adding
2	Sub Structure	Support	Load	В	45,000	45,000	
3	Superstructure	Support	Roof	В	109,350	100,000	
4	Exterior Closure	Control	Environment	8	244,658	200,000	
5	Roofing	Cover	Spaces	В	69,450	000,09	
9	Interior Construction	Finish	Spaces	RS	506,342	400,000	High est.
7	HVAC	Control	Environment	E RS	138,000	95,000	Lump Sum Minimal air cond.
00	Plumbing	Provide Convey	Convenienc Wastewater	RS	93,000	80,000	
6	Service & Distribution(Eled)	) Convey	Energy	RS	000,69	000.09	High est.
10	Lighting & Power	Illuminate	Space	RS	000,09	55,000	
=	Special Elect. Systems	Provide	Communic.	RS	2,000	5,000	
12	Fire Alarm	Provide	Warning	RS	000,6	9,000	
13	Special Const (Racquet.Ct.	Provide	Recreation	В	54,000	54,000	
	TOTAL				1,440,800	1,201,000	
	ACTION VERB	Z	-B=		(Basic P	(Basic Function Only)	9
	MEASURABLE NOUN	QNIX	-S-	SECONDARY	Cost/W	Cost/Worth Ratio =	1.19



WORKSHEET NO. 2

Z

PROJECT P-065 Gymnasium
LOCATION Camp LeJeune, NC
CLIENT NAVFAC

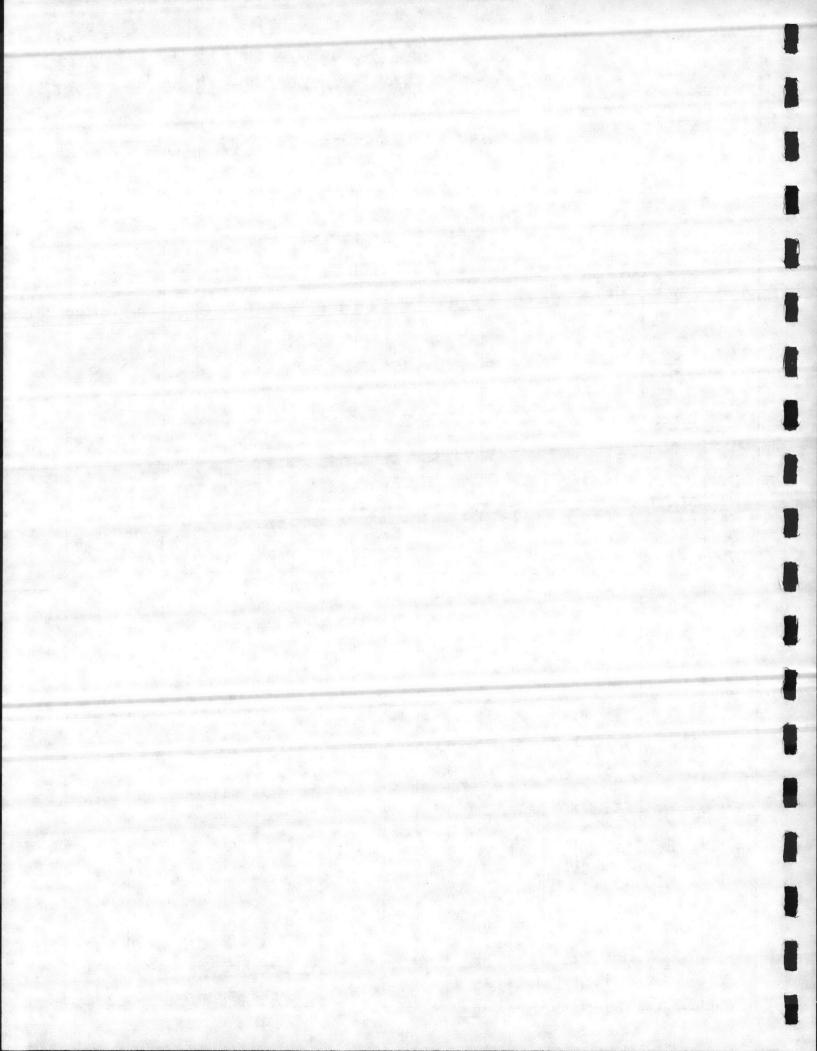
DATE August 27-31, 1984
PAGE 2 OF 9

INFORMATION PHASE FUNCTION ANALYSIS

ITEM: SITE (P-065 GYMNASIUM)

FUNCTION: SUPPORT PROJECT CONSTRUCTION

*	NO. PERSONAL PROPERTY OF THE P		FUNCTION		Taga	LTGOW	COMMENTS
<sub>w</sub> ≥	DESCRIPTION	VERB	NOON	KIND	500		COMMENT
1	Electrical Distribution	Convey		RS	31,000	35,000	Add Htg.
2	Area Lighting	Illuminate Provide	Area Security	S	16,000	12,000	
3	Steam Supply	Convey	Energy	S	23,000	0	Use electric
4	Sanitary Sewer	Convey	Wastewater	RS	8,000	8,000	
5	Water Distribution	Convey	Potable Water	RS	13,500	10,000	
9	Roads	Provide	Access	RS	11,000	7,800	
7	Parking	Support	Load	RS	29,000	20,000	
80	Sidewalks	Provide	Access	RS	10,000	12,000	
6	Storm Drainage	Direct Convey	Water Water	RS	31,000	18,000	
01	Site Excavation	Prepare	Space	S	7,000	5,000	
=	Borrow	Raise	Site	S	18,000	12,000	
12	Topsoil	Finish	Site	S	4,000	3,000	
13	Landscape	Finish	Site	S	2,100	2,000	
	TOTAL				203,600	144,800	
				P. 5			
							203 600
							110,800
	ACTION VERB	KIND	B = BASIC	VAAON	(Basic F	(Basic Function Only)	1.83





P-133 Gymnasium Jacksonville, NC PROJECT LOCATION\_ NAVFAC CLIENT .

August 27-31, 1984 DATE \_

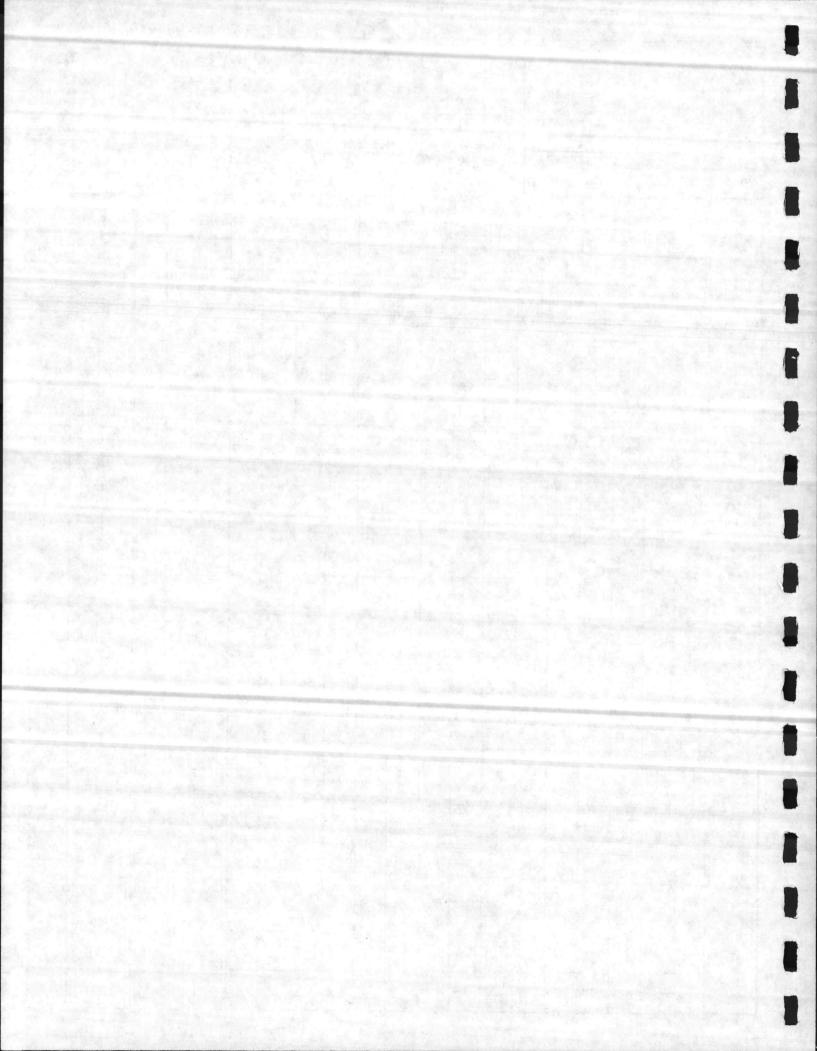
PAGE\_ \_ OF \_\_\_9\_

### **INFORMATION PHASE** ANALYSIS **FUNCTION**

ITEM: **FUNCTION:**  SITE (P-133 GYMNASIUM)

SUPPORT PROJECT CONSTRUCTION

*			FUNCTION		1900	UTOOM	COMMENTS
<sub>w</sub> ≥	DESCRIPTION	VERB	NOON	KIND	COS	NOW I	COMMENTS
-	Piling	Support	Load	В	62,000	000,09	Reduce Number
2	Elect. Distribution	Convey	Energy	RS	32,000	36,000	Lump Sum Add Htg.
3	Area Lighting	Illuminate Provide Se	ite Area Security	S	24,000	20,000	
4	Steam Supply		Energy	S	53,000	0	Use Electric Lump Sum
2	Sanitary Sewer	Convey	Wastewater	RS	26,000	26,000	
9	Water Distribution	Convey	Potable Water	RS	13,000	10,000	
7	Roads	Provide	Access	RS	28,000	24,000	Lump Sum
00	Parking	Support	Load	RS	44,000	30,000	Change Construct. Lump Sum
6	Sidewalks	Provide	Access	RS	14,000	16,000	Lump Sum
10	Storm Drainage	Direct	Water Water	RS	20,000	25,000	
=	Site Excavation	Prepare	Space	S	10,000	7,000	Lump Sum
12	Borrow	Raise	Site	S	18,000	15,000	Lump Sum CY
13	Topsoil	Finish	Site	S	4,900	3,500	Lump Sum SY
14	Landscape	Finish	Site	S	2,100	2,000	Lump Sum SY
	TOTAL				381,000	274,500	
							381,000 227,000
	ACTION VERB	MIND	B = BASIC S = SECONDABY	NDARY	(Basic F	(Basic Function Only) Cost/Worth Ratio =	1.67



Gymnasium

PROJECT P-133 & P-065

LOCATIONJacksonville & Camp LeJeune NAVFAC

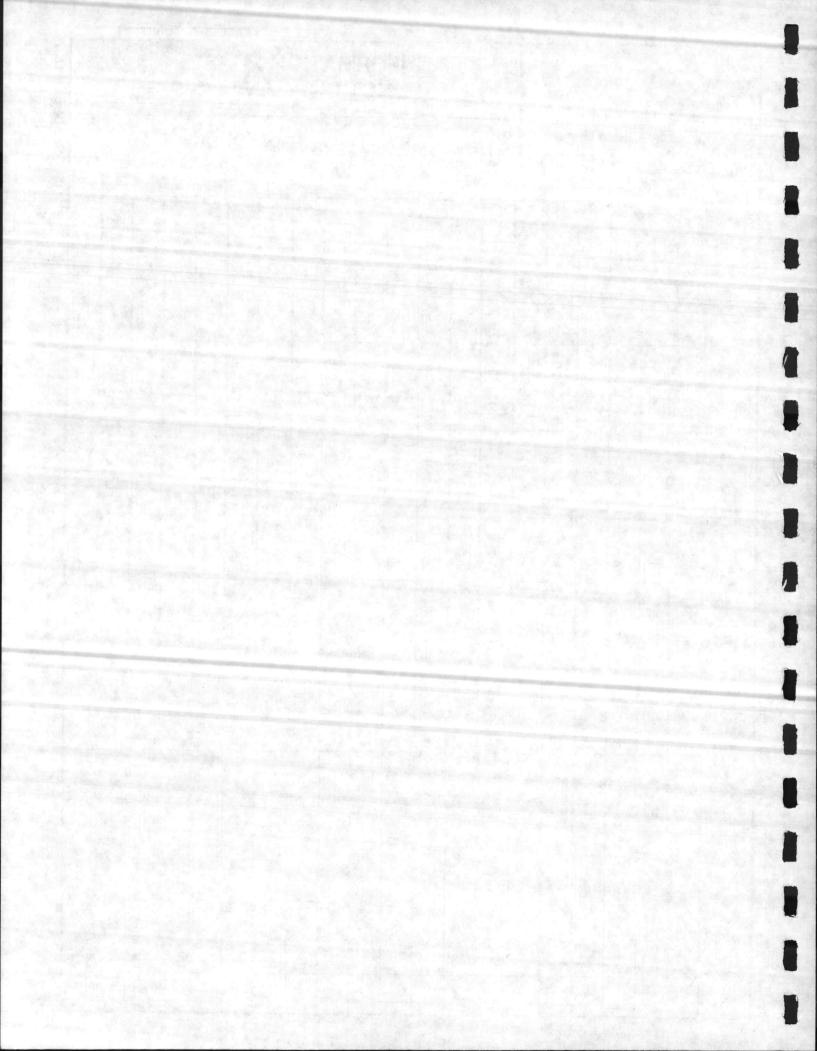
CLIENT \_ August 27-31, 1984 DATE

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## **INFORMATION PHASE ANALYSIS FUNCTION**

ITEM: **FUNCTION:**  EXTERIOR CLOSURE CONTROL ENVIRONMENT

*			FUNCTION		1000	uraow.	COMMENTS
w Z	DESCRIPTION	VERB	NOON	KIND	SOO	NOW I	COMMENTS
1	CMU 12"	Support	Load	В	45,713	42,000	
2	CMU 8"	Support	Load	В	1,908	1.750	
3	CMU 4"	Support	Load	В	1,77.1	1,500	
4	Brick (exterior walls)	Enclose	Building	RS	69,010	20,000	Use Alt, Material
5	Morter & Fill	Support	Load	RS	15,312	12,500	
9	16" Dur-o-wall	Support	Load	RS	7,840	7,000	
7	Soldier Courses	Decorate	Building	S	3,780	0	Premium Mark-up
8	Rigid Insulation	Control	Environ,	В	11,040	11,000	
6	Clean Brick	Finish	Work	S	1,365	1,000	
10	Clean Block	Finish	Work	S	1,075	1,000	
=	Scaffolding	Support	Construct.	S	4,800	4,500	
12	Flashing	Control	Moisture	RS	2,695	2,600	
13	Misc. Equipment et al	Suport	Construct.	RS	11,800	11,800	
14	Mark-ups	Support	Construct.	S	31,511	25,000	
	SUB-TOTAL				214,000	171,650	
15	Windows & Doors	Provide Control	Access Environ.	В	30,658	32,000	Add door to mezz. from outside
	TOTAL				244,658	203,650	
	ACTION VERB	KIND	B = BASIC	NOARY	(Basic F	(Basic Function Only)	$\frac{244,658}{172,150} = 1.42$



Gymnasium

PROJECT P-133 & P-065
LOCATION Jacksonville& Camp LeJeune, NC NAVFAC

CLIENT August 27-31, 1984 DATE .

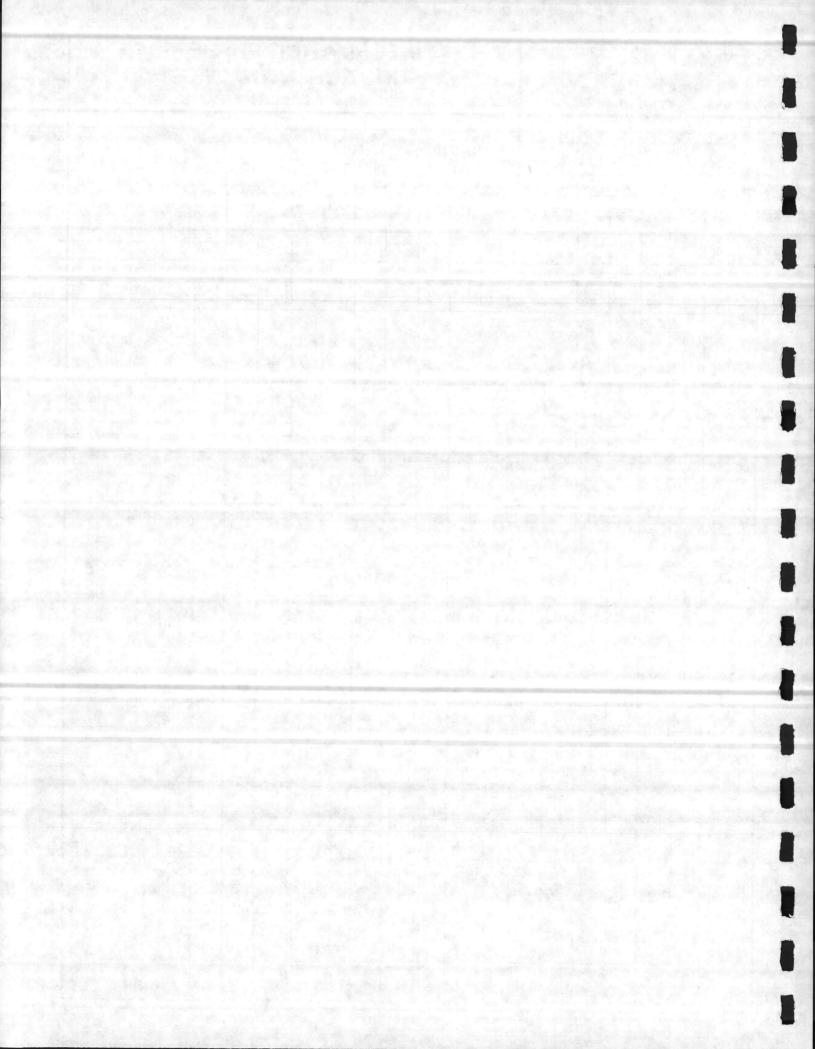
9 OF\_ PAGE\_

# **INFORMATION PHASE** FUNCTION ANALYSIS

ITEM: **FUNCTION:**  SUPERSTRUCTURE

SUPPORT ROOF

*			FUNCTION		1900	UTGOW	COMMENTS
m Z	DESCRIPTION	VERB	NOON	KIND	500		
- 38	STEELWORK	75.5					
IA	Bar Joist	Support	Roof	В	36,960	32,000	Per Ton Basis
18	Bridging	Stabilize	Roof	RS	1,430	1,430	
21	Tube Steel (cols)	Support	Roof	В	6,240	4,500	Use Walls
10	Misc. Angles, Shapes	Support	Construct.	RS	6,200	000,9	
E	Bond Beams (conc)	Support	Roof	В	7,200	7,200	
표	Re Bars in Bearing Wall	Stabilize	Walls	RS	5,580	5,500	
6-204	SUB-TOTAL				63,610	56,630	
lug fr	Sub OH&P				9,541	8,500	
100	SUB-TOTAL				73,151	65,130	
198	Gen OH&P				8,778	7,815	
	TRADE SUB-TOTAL				82,000	72,945	Rounded
	SUPPORTED FLOOR						
2A	Floor (Conc or MD)	Support	Load	RS	1,426	1,426	Equip Room
2B	Bar Joist	Support	Floor	RS	1,683	1,683	Equip Room
2C	Ladder	Provide	Access	RS	1,100	1,100	Equip Room
	SUB-TOTAL				4,209	4,209	
	ACTION VERB	MIND	B = BASIC S = SECONDARY	NDARY	(Basic F Cost/Wo	(Basic Function Only) Cost/Worth Ratio =	



WORKSHEET NO.

GYMNASIUM

P-133 & P-065

**PROJECT** LOCATIONJacksonville & Camp LeJeune

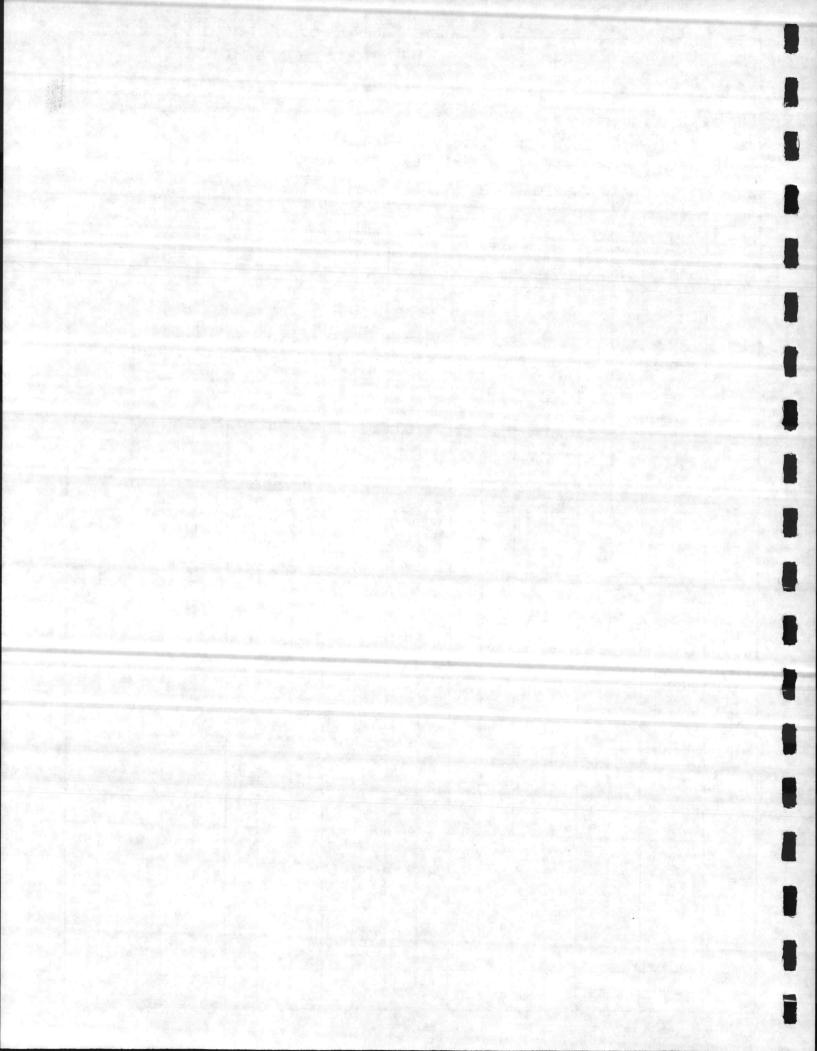
NAVFAC CLIENT \_ August 27-31, 1984 DATE . PAGE\_

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### **INFORMATION PHASE ANALYSIS FUNCTION**

ITEM: SUPERSTRUCTURE FUNCTION: SUPPORT ROOF

*			FUNCTION		1000	UTOOM.	311111111111111111111111111111111111111
E	DESCHIPTION	VERB	NOON	KIND	- SO3		COMMENTS
	Sub OH&P				631	631	
1 17 17 18	SUB-TOTAL				4,840	4,840	
	Gen OH&P				580	580	
	TRADE SUB-TOTAL				5,400	5,400	Rounded out
	METAL DECK	Support	Built-up Roof	В	21,950	21,950	Incl. Mark-ups
	SIIMMARY						
30	Steelwork et al	Support	Roof	В	82,000	72,945	
	Supported Floor	Support	Load	RS	5,400	5,400	
	Metal Deck	Support	Built-up Roof	В	21,950	21,950	
	TOTAL				109,350	100,295	
D. R. S. S.							
					provide the second		
1							
SZ SZ	ACTION VERB MEASURABLE NOUN	KIND	B = BASIC S = SECONDARY	NDARY	(Basic F	(Basic Function Only) Cost/Worth Ratio =	1.09



GYMNASIUM

P-133 & P-065

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NAVFAC CLIENT \_ August 27-31, 1984 DATE \_

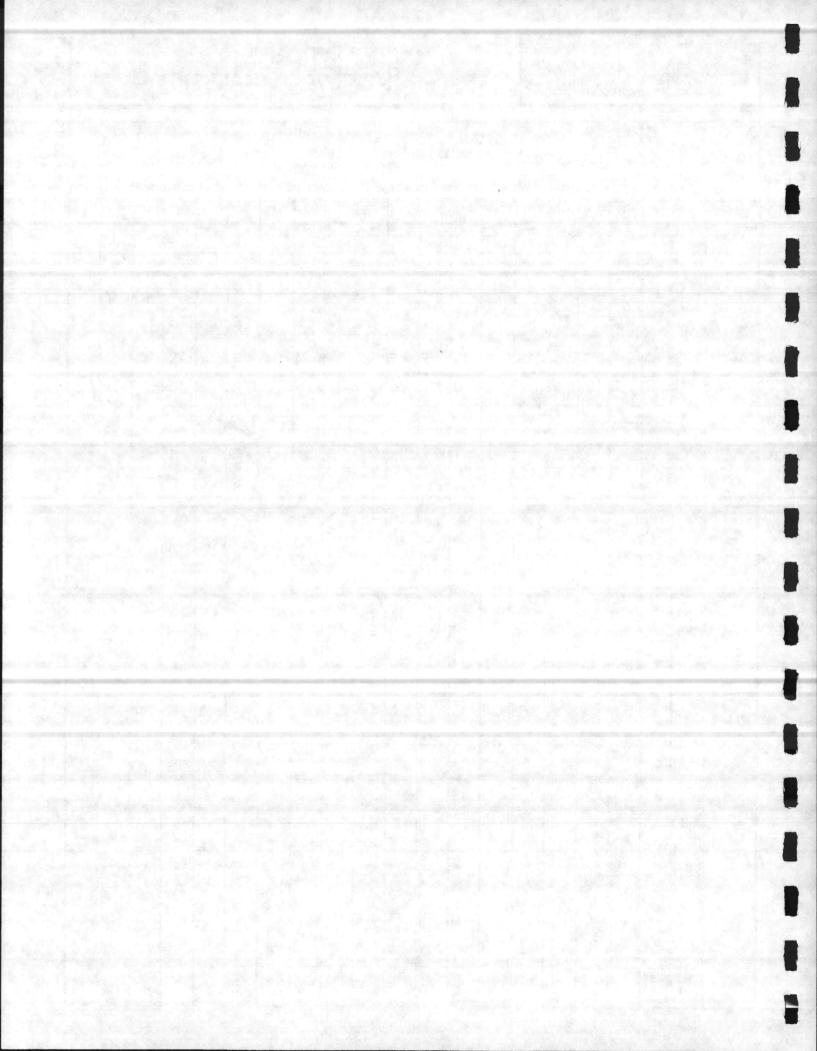
PAGE\_ 7 OF 9

## **INFORMATION PHASE FUNCTION ANALYSIS**

ITEM: **FUNCTION:**  INTERIOR CONSTRUCTION

SEPARATE SPACE FINISH SPACE

*_			FUNCTION		1000	THOOM.	OT ILLE
m Z	DESCRIPTION	VERB	NOON	KIND	1800	NOW HE	COMMENTS
	INTERIOR WALLS						
IA	12" CMU	Support Separate	Load Spaces	В	29,754	27,500	
118	8" CMU	Separate	Spaces	В	83,271	70,000	Use Drywall Selective Areas
10	4" CMU	Separate	Spaces	В	7,975	6,500	
	SUB-TOTAL		en de Film		121,000	104,000	Incl. Mark-ups
2	CEILING & WALL FINISHES						
2A	Acoustic Tile Ceiling	Finish	Space	S	15,859	10,000	Delete from Exercise Room
2B	Stucco Soffit	Finish	Space	S	3,328	1,500	Delete 0/S Recess
2C	Ceramic Tile Floor	Protect Finish	Surface Floor	S	8,731	7.500	Use Alt. Material
2D	Ceramic Tile Walls	Protect Finish	Surface Walls	S	33,623	27,500	Use Alt. Material Reduce Scope
	SUB-TOTAL				61,541	46,500	W/O mark-ups
3	FLOORING						
3A	Wood in Gym	Provide	Surface	RS	186,44	35,000	Use Alt Material
38	Vinyl with Base	Protect	Surface	RS	4,979	4,500	
30	Special Floor in Exerc. Rm	Provide	Surface	RS	7,942	6,500	Use Alt. Material
30	Mat in Vestibule	Collect	Dirt	S	975	975	
3E	Seal Concrete Floor	Prevent	Dust	RS	1,212	1,212	
F. W	ACTION VERB MFASURABLE NOUN	KIND	B = BASIC S = SECONDARY	CONDARY	(Basic F Cost/Wo	(Basic Function Only) Cost/Worth Ratio =	



GYMNASIUMS

P-133 & P-065

**PROJECT** LOCATION Jacksonville& Camp LeJeune

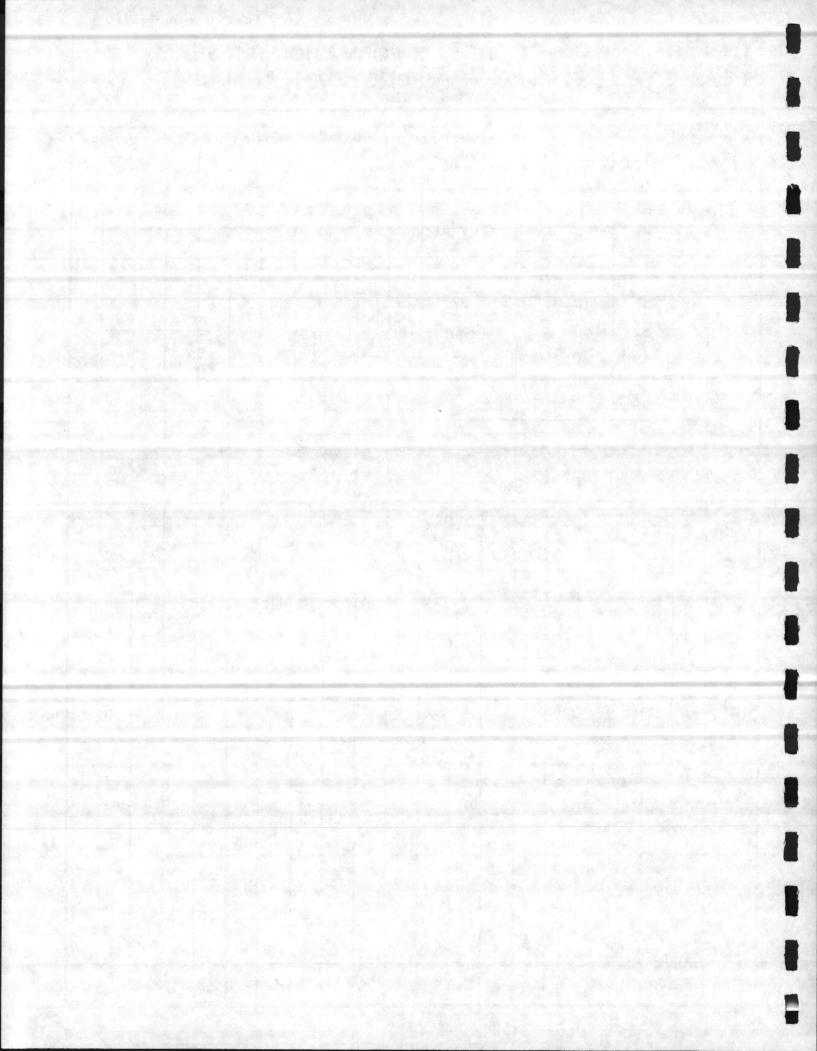
NAVFAC CLIENT \_ August 27-31, 1984 DATE .

# **INFORMATION PHASE** FUNCTION ANALYSIS

ITEM: **FUNCTION:**  INTERIOR CONSTRUCTION SEPARATE SPACE

FINISH SPACE

		FUNCTION		ANALYSIS	SIS		
*			FUNCTION		1000	TEGOW.	STATEMENTS
E	DESCRIPTION	VERB	NOON	KIND	800	E COM	COMMEN
	SUB-TOTAL				60,089	47,309	W/O Mark-ups
4	WALL & FLOOR FINISHES						
4A	Paint CMU	Protect	Surface	S.	4,941	4,941	
48	Epoxy Paint	Protect	Surface	S	3,124	3,124	
4C	Misc. & Metals	Finish	Work	S	4,550	4,550	
	SUB-TOTAL				12,615	12,615	W/O Mark-ups
5	MARK-UPS		- 10				
	Material & Labor	Support	Construct.	- V	15,051	4	
	Subs OH&P	Support	Construct.		29,859		
	Gen C. OH&P	Support	Construct.		21,499		
	SUB-TOTAL				66,405	54,700	P6
	SUMMARY INTERIOR WORK						
_	Interior Walls	Separate	Spaces	В	121,000	104,000	
2	Ceiling & Wall Finishes	Finish	Space	S	61,541	46,500	
3	Flooring	Provide	Surface	RS	680,09	47,309	
4	Wall & Floor Finishes	Protect	Surface	S	12,615	12,615	
	ACTION VERB MEASURABLE NOUN	MIND	D B = BASIC S = SECONDARY	NDARY	(Basic I Cost/W	(Basic Function Only) Cost/Worth Ratio =	



WORKSHEET NO.

CLIENT \_ DATE \_

GYMNASIUMS P-133 & P-065

LOCATIONJacksonville&Camp LeJeune

NAVFAC August 27-31, 1984

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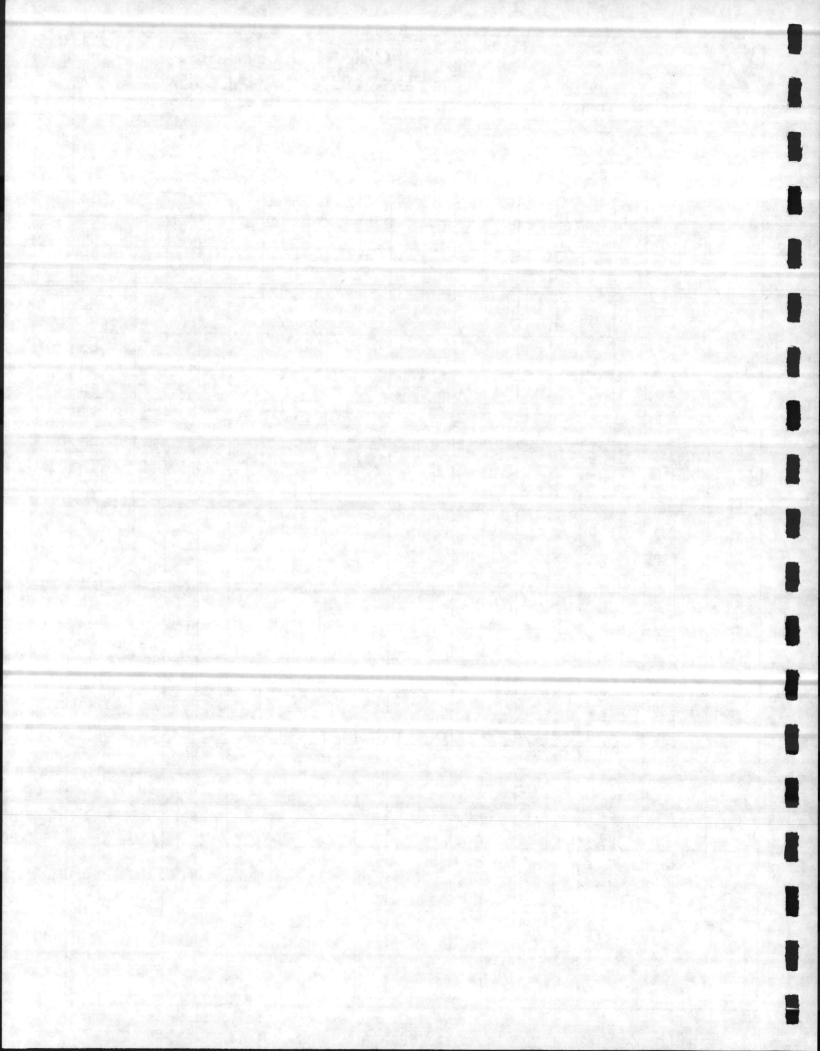
## **INFORMATION PHASE FUNCTION ANALYSIS**

ITEM: INTERIOR CONSTRUCTION

FUNCTION: SEPARATE SPACE

FINISH SPACE

*_w							
			FUNCTION		1000	Hack	STIME
5	DESCRIPTION	VERB	NOON	KIND	1800		
1	Mark-ups	Support	Construct.	S	66,405	54,700	
D	Doors & Windows	Provide Provide	View Access	RS	43,342	43,342	Interior
S	Specialities	Provide	Surface	RS	141,000	130,000	See Separate Anal
	GRAND TOTAL INTERIOR				506,342	438,466	
100,4							
de ye							
20 P (2)							
				100			
— A A	ACTION VERB	KIND	D B BASIC	NDARY	(Basic Cost/W	(Basic Function Only)	

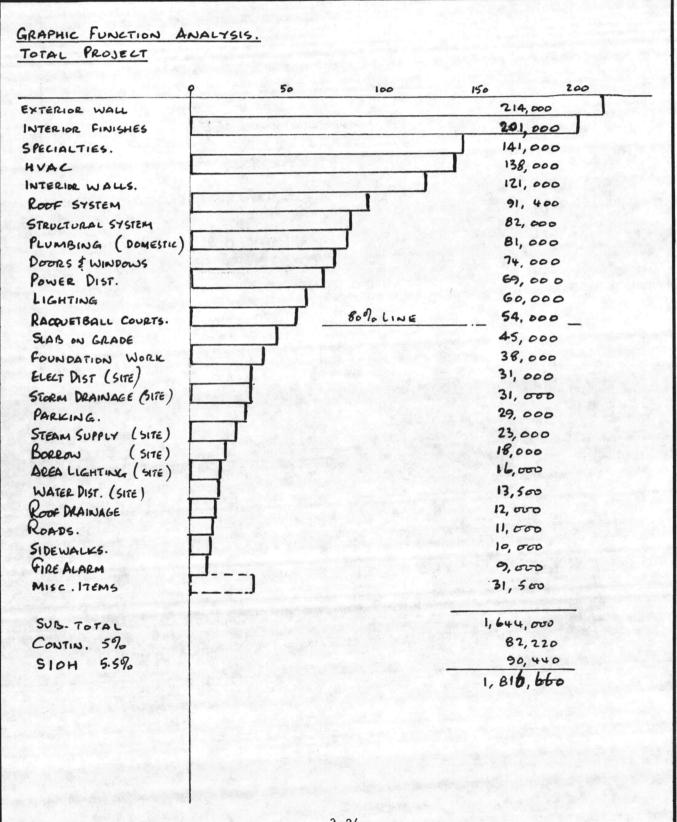


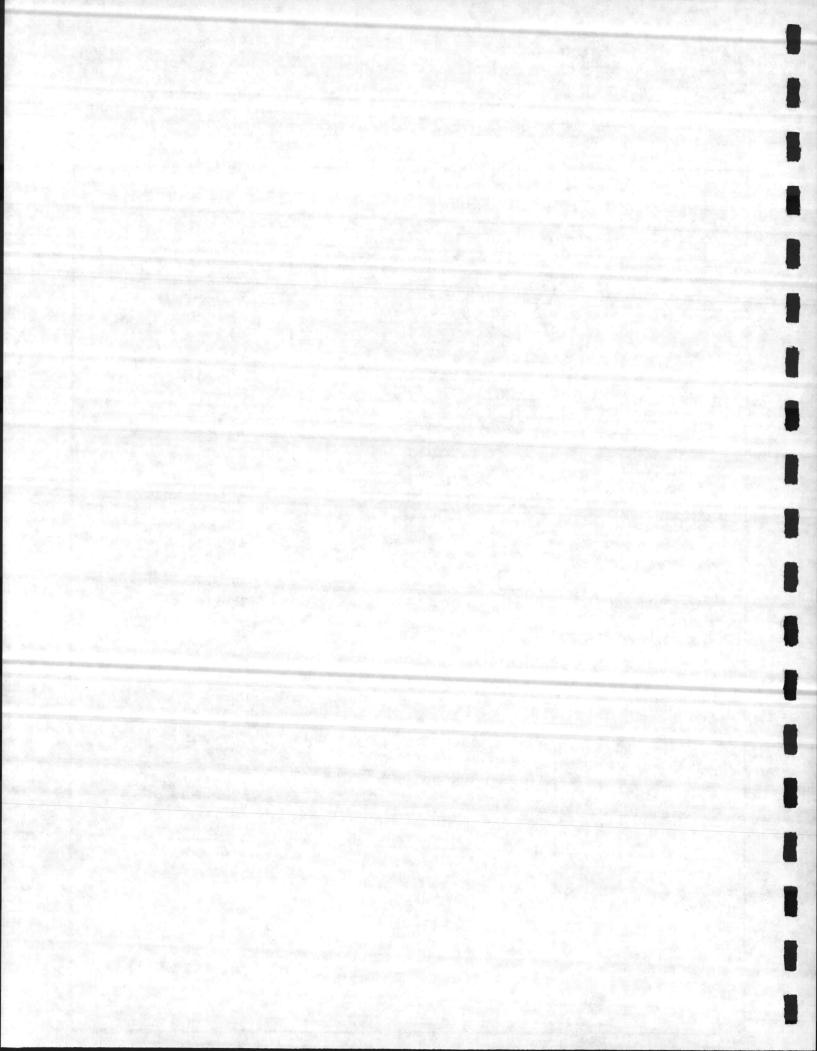


GYMNASIUM P-065 MARINE CORPS BASE CAMP LE JEUNE

AUG. 22 1984 Project No.

Drawn By







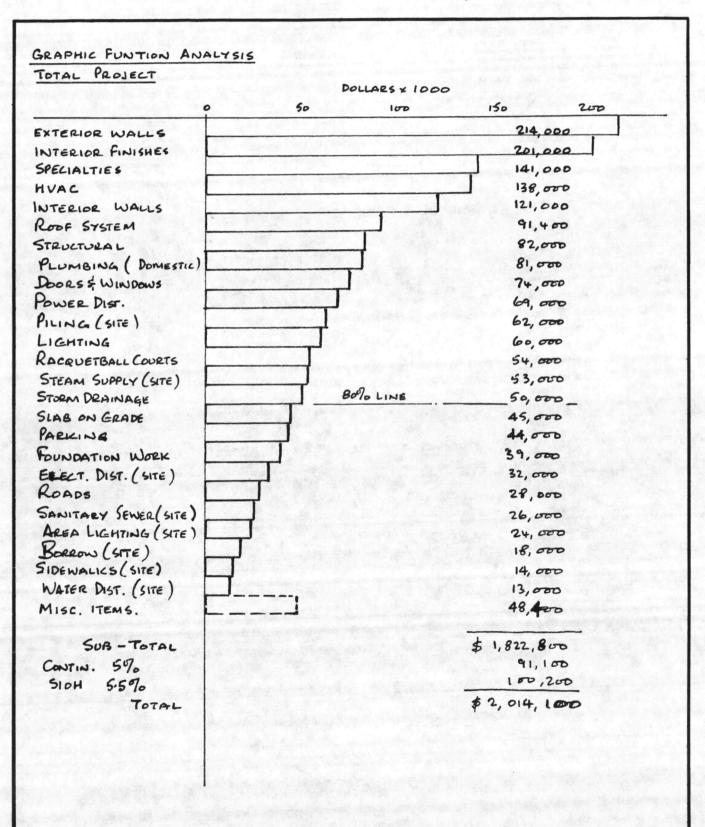
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

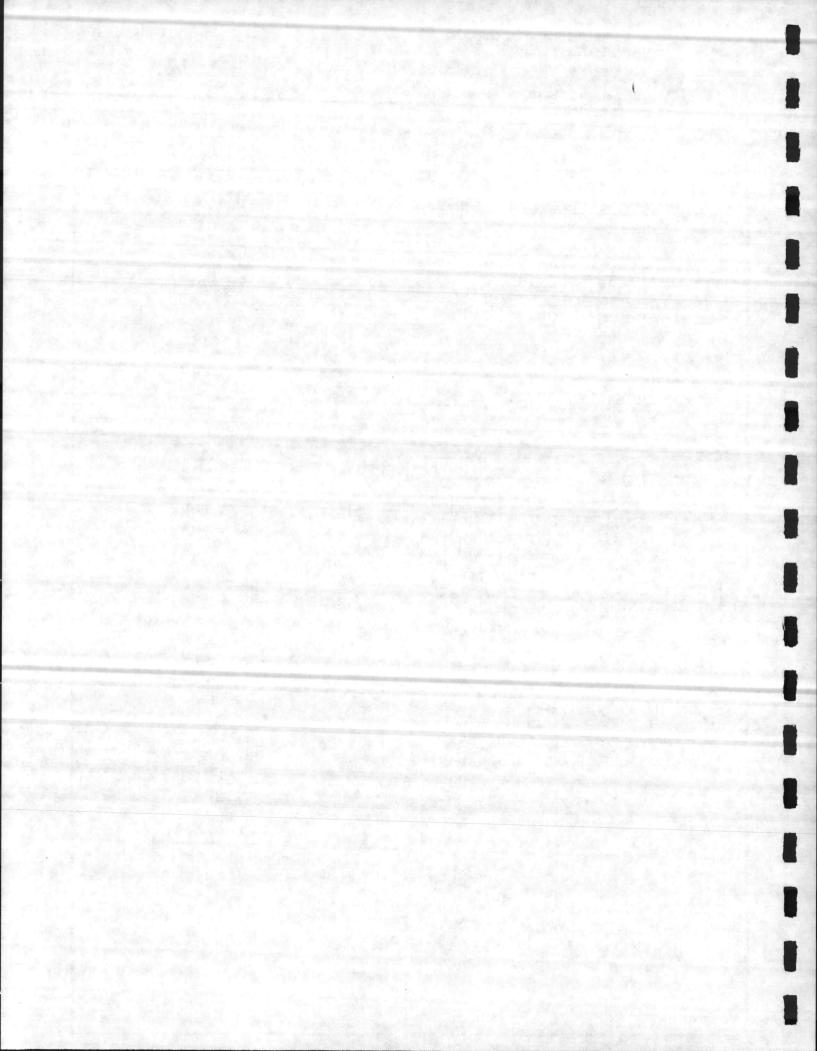
GYNASIUM	P-133	MARINE	CORPS	A.S
Subject				
100000				

AUG. 22 1984

Date Project No.

Drawn By





#### Creative Phase

This step in the value engineering study involves the listing of creative ideas. The worksheets have been organized for the gymnasium building (both are similar) and the individual site work for each project. During this time, the value engineering team thinks of as many ways as possible to provide the necessary functions within the project at a lesser cost to the owner; or with an improvement to the quality of the job. We also generate many of the project ideas during function analysis by determining the worth for each project cost element. Determining the worth forces the VE team to think of alternatives to the original design. Worksheet No. 3 (Table 3-10) shows the creative idea listing produced by the team. During the creative phase, judgment of the ideas is restricted. The value engineering team is looking for quantity and association of ideas which are to be screened in the next phase of the study. This list should be reviewed as there may be ideas which can be further evaluated and used in the design.

#### Judgment Phase

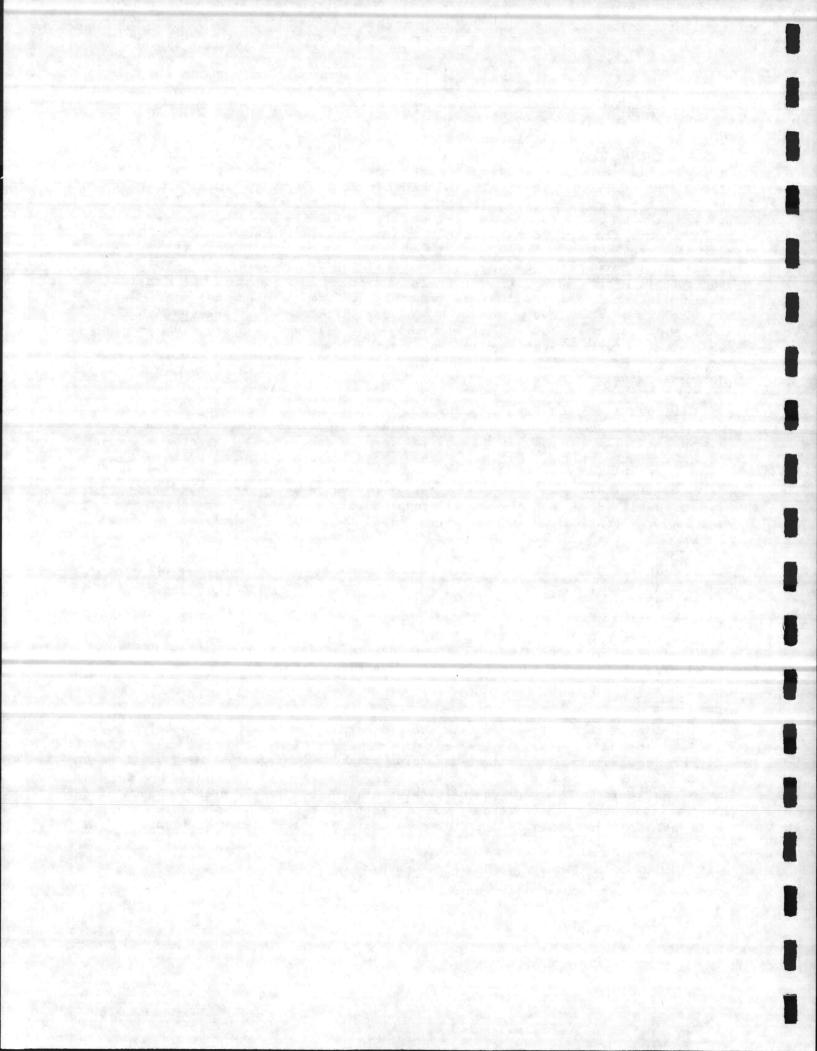
In this phase of the project, the value engineering team judges the ideas resulting from the creative phase. Advantages and disadvantages of each idea are discussed to find the best ideas for development. Ideas found to be irrelevant or not worthy of additional study are disregarded and those ideas that represent the greatest potential for costs savings or improvement to the project are then developed further. Ideally, the value engineers would like to evaluate all ideas, but time constraints usually limit the number that can be developed. The remainder of Worksheet No. 3 (Table 3-10) is used for this phase.

The ideas are rated on a scale of 1 to 10 with the best ideas being 10's. Normally, ideas rated 8 and above are evaluated. In cases where there was little cost impact, but an improvement to the project, the designation DS for Design Suggestion is used. The designer should review this listing for possible use. Please note that not all of the ideas rated 8 or above are presented as recommendations. Some were determined not to be cost effective; and some were combined to make one recommendation.

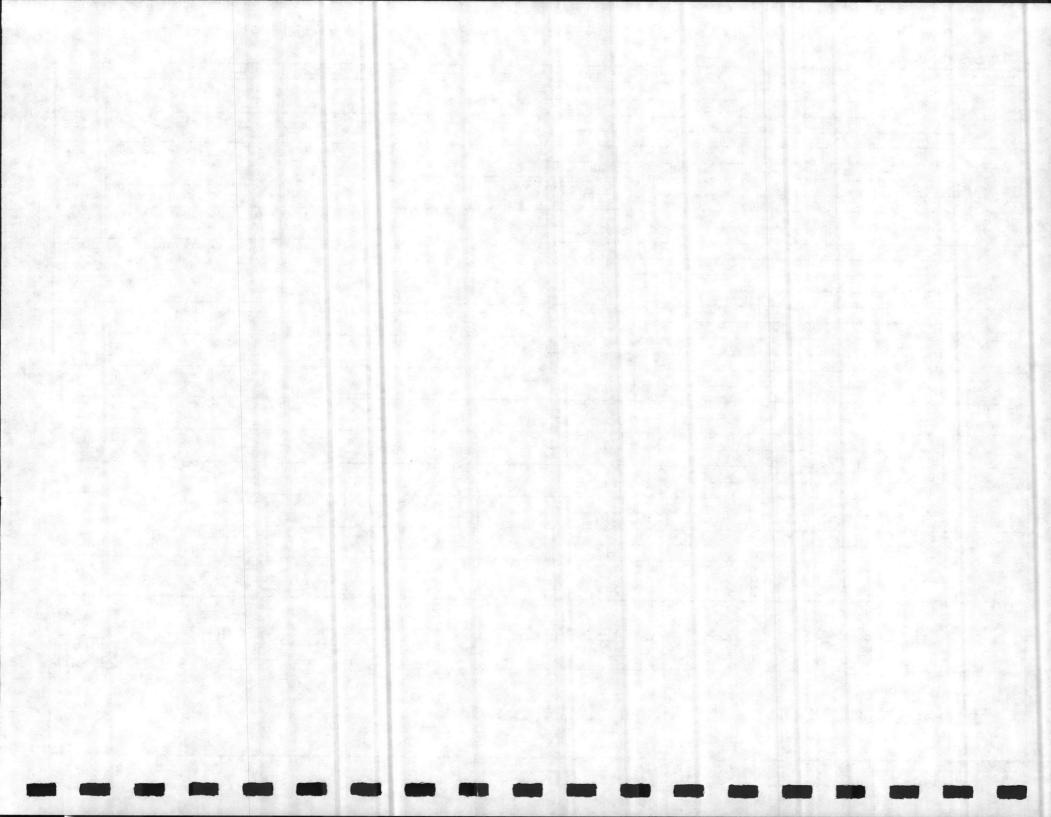
#### Development Phase

During the development phase, each idea is expanded into a workable solution. The development consists of the recommended design, life cycle cost comparisons, and a descriptive evaluation of the advantages and disadvantages of the proposed recommendations. Each recommendation is presented with a brief narrative to compare the original design method to the proposed change. Sketches and design calculations, where appropriate, are also presented in this part of the study. The VE recommendations are included in Section 4 - Summary of Results.

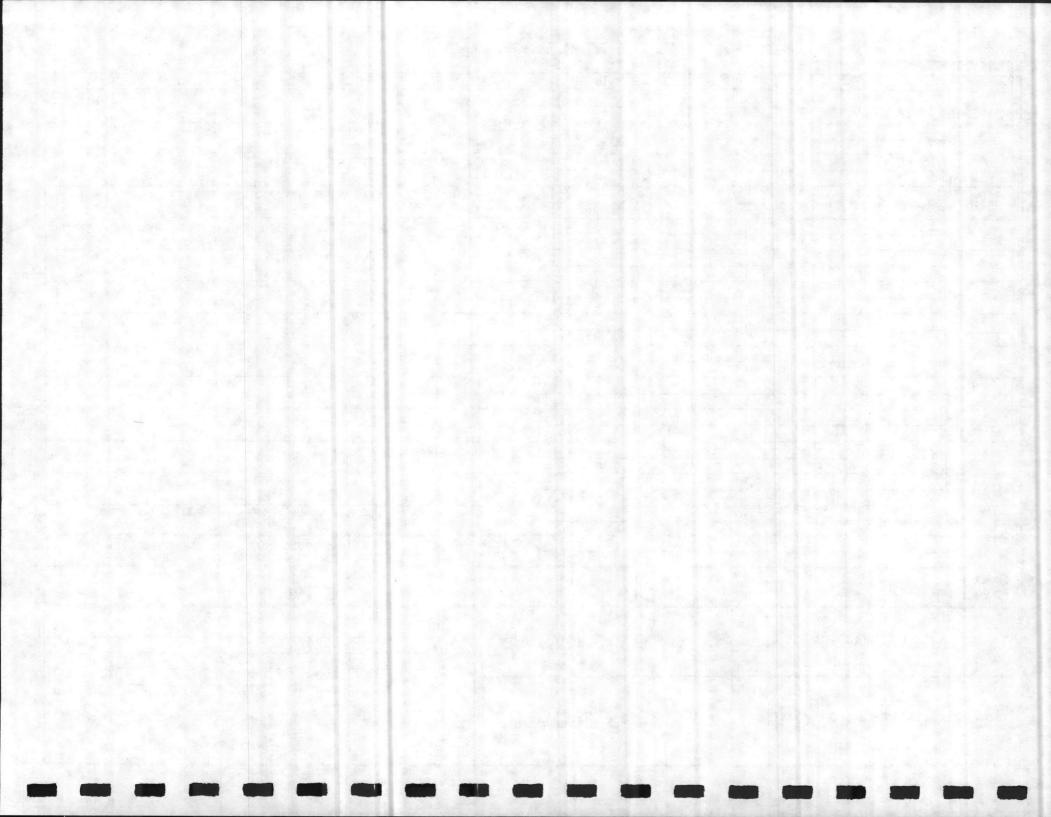
Redesign costs have <u>not</u> been included in the cost comparison of VE recommendations, as the responsibility for negotiation of these costs lies with the A/E and the owner. The impact of these costs should be addressed by the A/E in his response report.



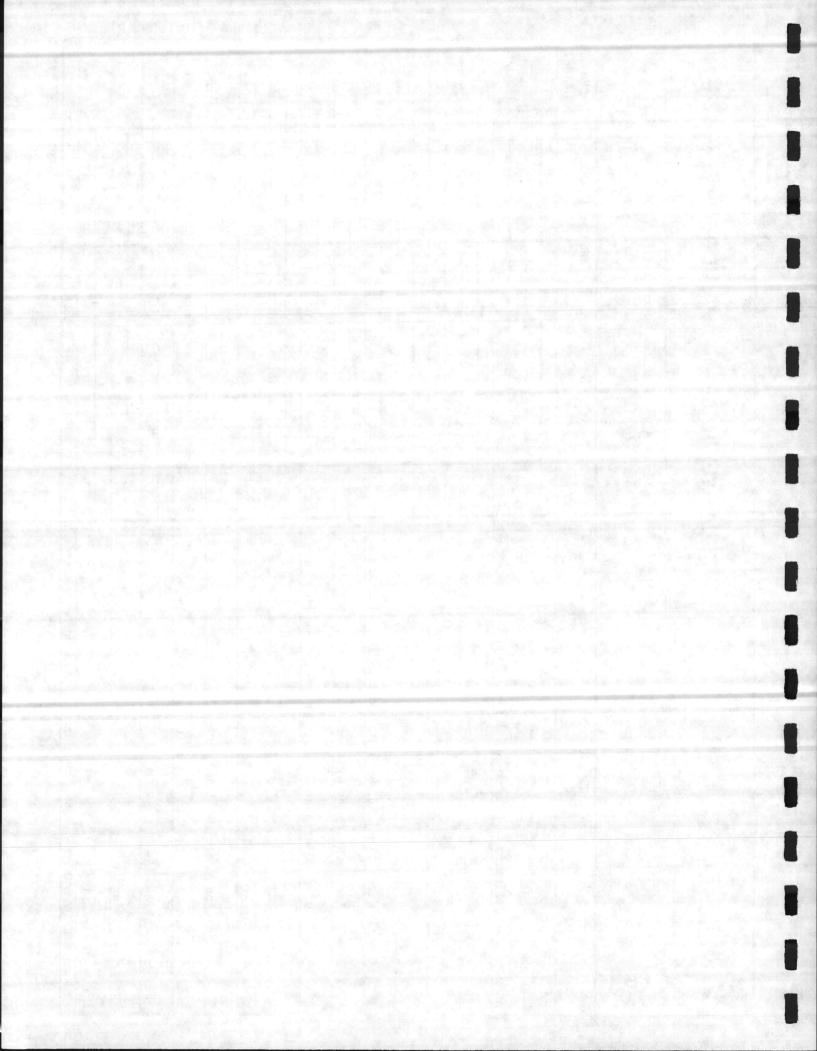
PROJECT GYMNASIUMS P-065 and P-133		CREATIVE PHASE		JUDGEMENT PHASE	
			TIVE IDEA LISTING	IDEA EVALUATION	
NO (1)	CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
	BUILDING CONSTRUCTION (BC)			A	
BC-1	Use Different Material For Exterior Walls  a. Surewall Material		Reduces Cost	Aesthetics, Potential Abuse & Damage	8
	b. Brick & Surewall	lant I	Reduces Cost Compatible Appearance Reduces Cost		8
	c. Brick & Block with Surewall Panels		Compatible Appearance Reduce Cost	Aesthetics	10
	d. Split Face Block e. Oversized Brick		Reduces Cost Saves Labor		9
BC-2	Prefinished Shower Partition (Plastic Core)		Reduce Cost Less Maintenance Not Called For	Potential Abuse	7
BC-3	Eliminate Blinds		Reduce Cost		DS 8
BC-4	Question Number of Bleachers Required  Question Need of Two Training Rooms		Reduce Cost	Scheduling	8
вс-6	Re-do Entrance to Locker Room		Improve Function Reconfigure Showers		DS
BC-7	Common Walls for Plumbing in Showers		Reduce Maintenance		8
BC-8	Gym Flooring  a. Synthetic Sheet  LL CREATIVE IDEAS BEFORE PROCEEDING TO JUDGEMEN		Reduce Cost Save Energy		9



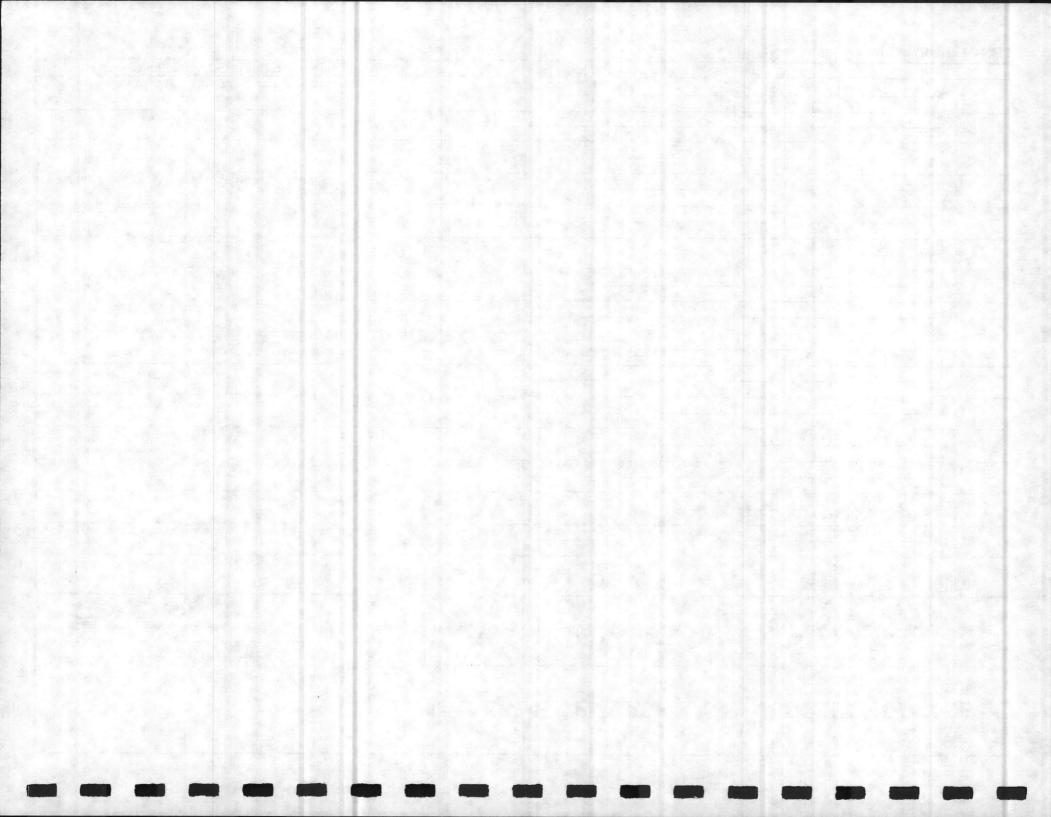
PROJEC		CREATIVE PHASE	JUDGEMENT PHASE	
LOCATION CAMP LEJEUNE AND JACKSONVILLE, N.C.  CLIENT NAVFAC  DATE AUGUST 27-31, 1984  PAGE 2 OF 6		CREATIVE IDEA LISTING	IDEA EVALUATION	
NO (1)	CREATIVE IDEA (2)	ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
	BUILDING CONSTRUCTION (BC) CONTINUED			-
	b. Monolithic Pour	Reduce Cost Save Energy		- 8
	c. Edge Grain Maple	Reduce Cost	Refininshing	10
BC-9	Finish In Exercise Room Should Be Checked			
	a. Progym	Improve Function Reduce Cost		- 8
BC-10	Scoreboard Costs Seemed High	Reduce Cost		DS
BC-11	Curtain Cost Seemed High	Reduce Cost	Acoustics	DS
	Epoxy Paint Not Scheduled	Control Cost		DS
BC-13	Reduce Ceramic Tile In Bathrooms And Sauna	Reduce Cost		8
BC-14	Delete Ceramic Tile Use Epoxy Finishes	Reduce Cost	More Maintenance	8
BC-15	Use Ceramic Pavers In Lieu Of Ceramic Tiles On	Reduce Cost		9
BC-16	Provide Single Slope On High Roofs	Reduce Cost		9
	Use Built-Up-Roof Instead Of Ballast Roof Syste	Reduce Cost		9
	Delete Inset Of Building At South Side Of Build	Reduce Cost		9
BC-19	Use Different Soffit Material L CREATIVE IDEAS BEFORE PROCEEDING TO JUDGEMENT PH	Reduce Cost		7



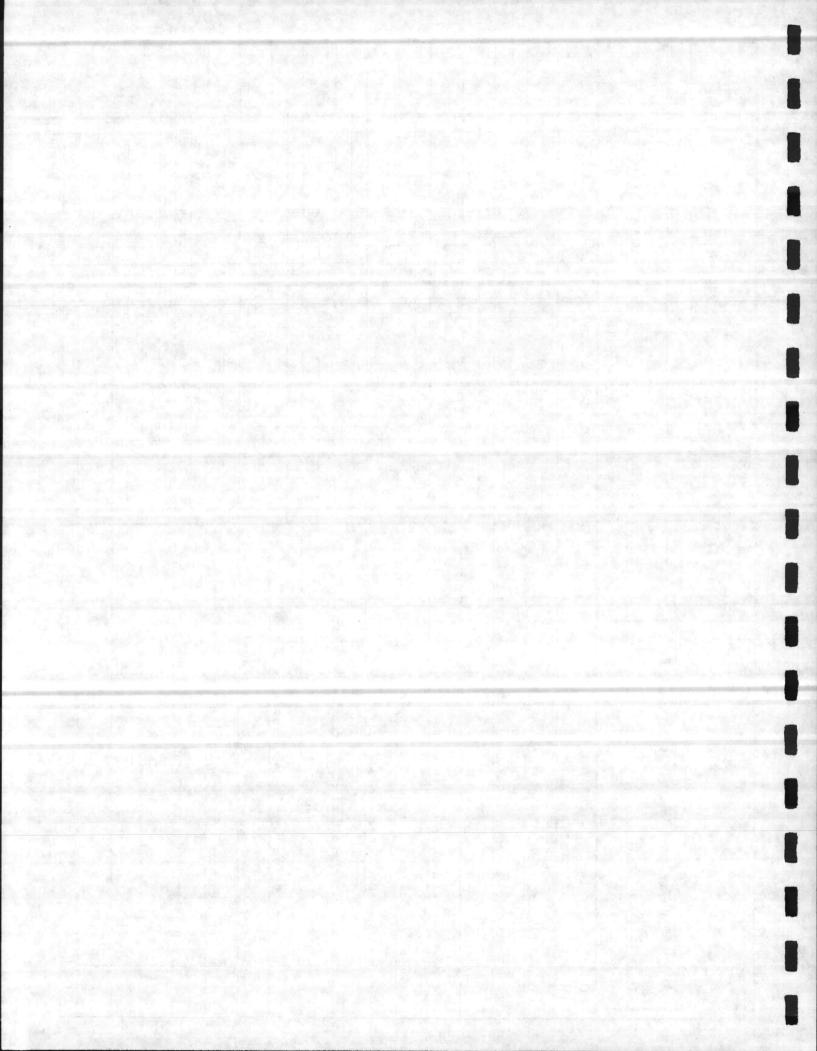
PROJECTION		CRE	EATIVE PHASE	JUDGEMENT PI	HASE
CLIENT DATE _	LIENT NAVFAC		ATIVE IDEA LISTING	IDEA EVALUATIO	ON
NO (1)	CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
BC-20	BUILDING CONSTRUCTION (BC) CONTINUED  Use Different Material For Ceiling In Locke	er Room	Reduce Cost		
	And Toilet				8
BC-21	Look At Columns Along Racquetball Courts Co	orridor			See BC-18
BC-22	Eliminate Low Roof Between Main Building		Reduce Cost Future Space	Adds Volume	9
BC-23	Reduce Height Of Building And Add Sprinkler	r System			7
BC-24	Revise Window To Reduce Conflict With Soldi	ler	Improve Constructibili	tу	DS
BC-25	Add Series Of Windows Along Length Of Build	ling	Avoid Soldier Courses		
	Instead Of One Big Window			<del> </del>	DS
BC-26	Eliminate Window Above Doors (Transoms)		Reduce Maintenance	Adds Cost	6
BC-27	Question Style Of Windows		Cost & Maintenance		DS
BC-28	Womens Toilet Lower Partitions And Use Fluor	rscent	Reduce Cost Improve Function		
	Lighting				8
BC-29	Wall Section Why Carry Insolation Cavity To	Rottom	Improve Construction	Re-Design	
	Of Footing  CREATIVE IDEAS BEFORE PROCEEDING TO JUDGEMENT				5



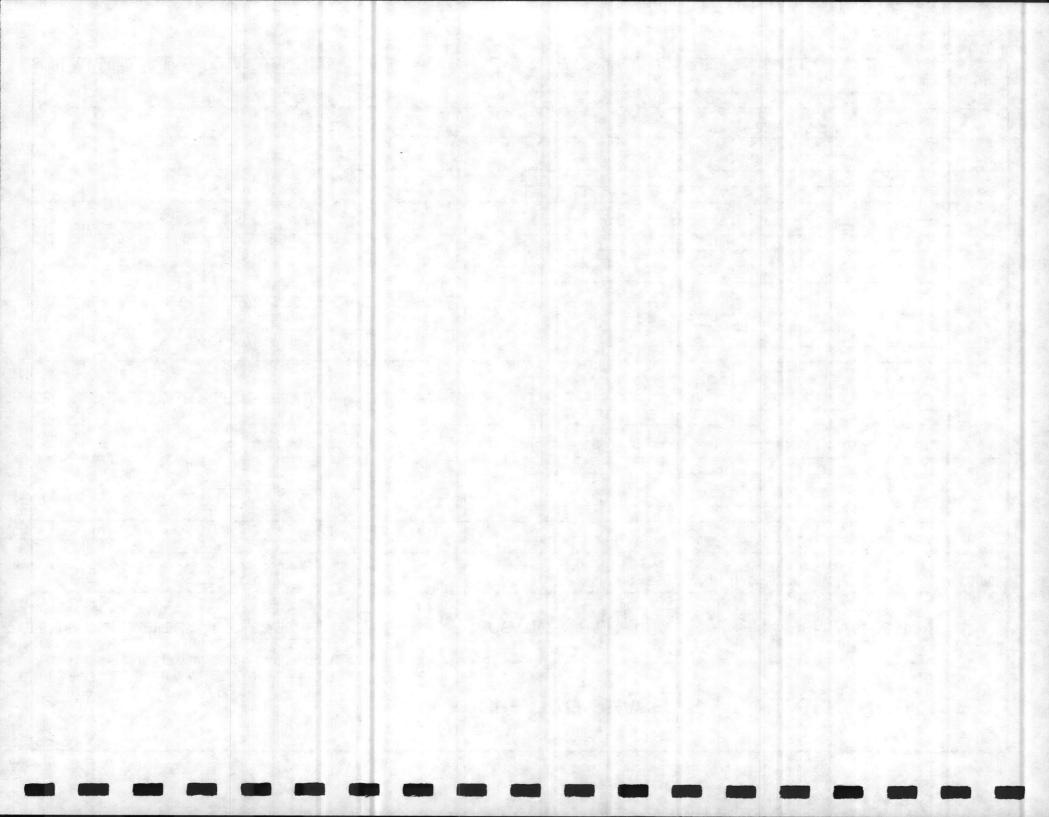
PROJECT			TIVE PHASE	JUDGEMENT PHASE		
	N CAMP LEJEUNE AND JACKSONVILLE, N.C.  NAVFAC  AUGUST 27-31, 1984  4 OF 6	CREATI	VE IDEA LISTING	IDEA EVALUATION	١	
NO (1)	CREATIVE IDEA (2)	1.00	ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING	
BC-30	BUILDING CONSTRUCTION (BC) CONTINUED  Bring Two High Roof Sections Together		Consolidated Construction	Re-Design	5	
BC-31	Why Two Different Size Joists (30 & 24) Fo	or Same Span	Question Investigate			
BC-32	In Service Area And Racquetball Courts?  Rearrange Pile Group System Of New River	Building	Reduce Cost		6	
	Only				9	
BC-33	Provide Face And Bypass Damper On Coil Of	AHU's Of	Save Energy Improves L.C.C.	Adds Initial Cost		
	Gym And Exercise Room	+	Saves Energy		9	
BC-34	Use Separate Reducing Stations In Mechanic	cal Room	Improves Operation			
BC-35	On Steam System  Provide Two Pumps For Heating System		Reliability Improved	Adds Cost	9 DS	
BC-36	Use Duct Header System In Gym With Diffus	er System	Reduce Cost Improve Energy			
	(4 Runners)		Reduce Cost		8	
BC-37	Delete One Grille In Mezzanine AHU Move I	ntake To	Actual Cost			
LISTALL	Inside Wall With Larger Grille  CREATIVE IDEAS BEFORE PROCEEDING TO JUDGEMEN	NT PHASE 10 MC	OST DESIRABLE 1 LEAST DESIRAE	RI F	8	



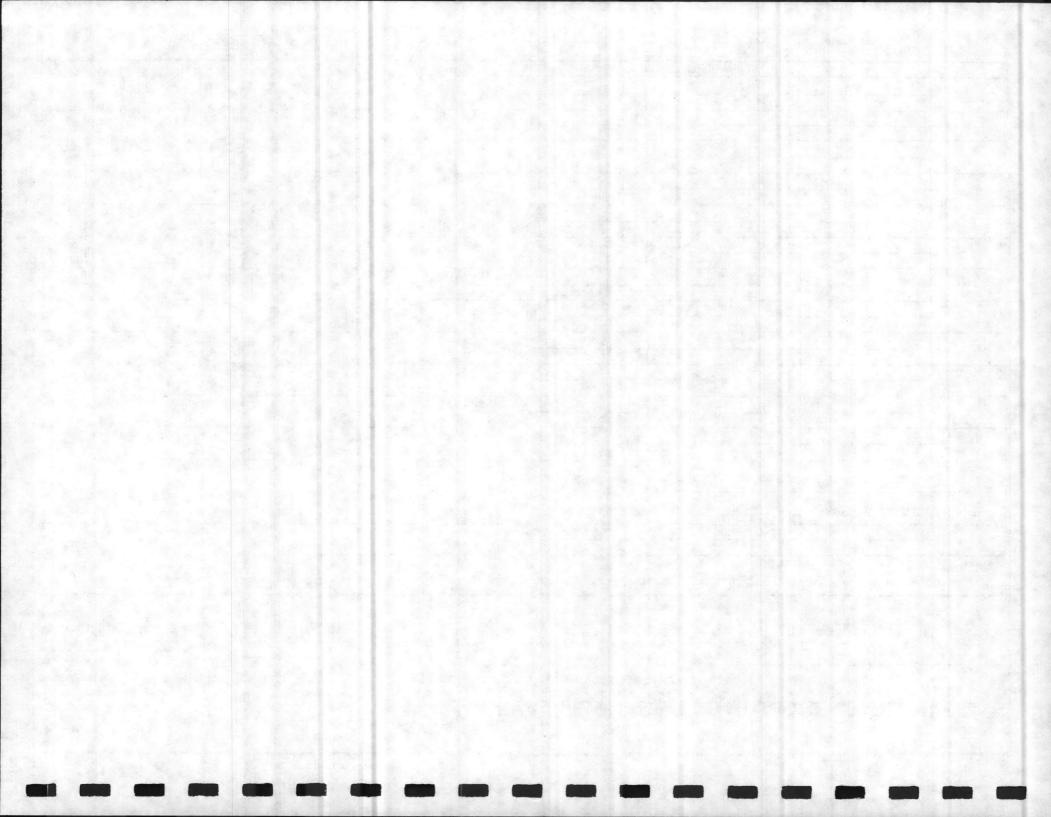
ROJECT GYMNASIUMS P-065 and P-133  COCATION CAMP LEJEUNE AND JACKSONVILLE, N.C.  NAVFAC		TIVE PHASE	JUDGEMENT PHASE	
		IVE IDEA LISTING	IDEA EVALUATION	
NO CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
BUILDING CONSTRUCTION (BC) CONTINUED	-			-
			Adds Cost	9
	Use 2 Combination Drains On Mezzanine Floor Instead			
Of Outside Drains	1			8
BC-40 Provide Drain Pan Under Drain Piping (	а дип	Improved Safety Avoid Damage	Adds Cost	DS
bo 40 Hovide Blain Ian Chael Blain Hiping	G MIIO	Reduce Cost	Less Flexibility	1 20
BC-41 Delete One Scoreboard				9
BC-42 If Providing Two Scoreboards Put One	Control System	Improve Function		
On Each Side Of Curtain				DS
		Improve Function		
BC-43 Add Lights In Gym To Cover Practice C	ourts			9
70 // 01 71 1 0	0.077//00 11.1	Reduces Cost	Re-Design	10
BC-44 Change Electrical Service To Building	(a 2///480 Volt	Improves Function Reduce Initial Cost	Installation Of	10
BC-45 Buy Bleachers And Fixed Sports Equipm	ent Through	Reduce Initial Cost	Some Equipment	-
20 15 Bay Breachers and Frace operes Equipm	2		Could Damage Some	
Collateral Equipment Contract			Finishes	DS
BC-46 Use Double Tee Roof System		Faster Construction		6
20 TO USE DOUBLE LEE ROOT BYSEEM		Reduce Cost	Aesthetics	
BC-47 Eliminate Ceiling In Exercise Room				8



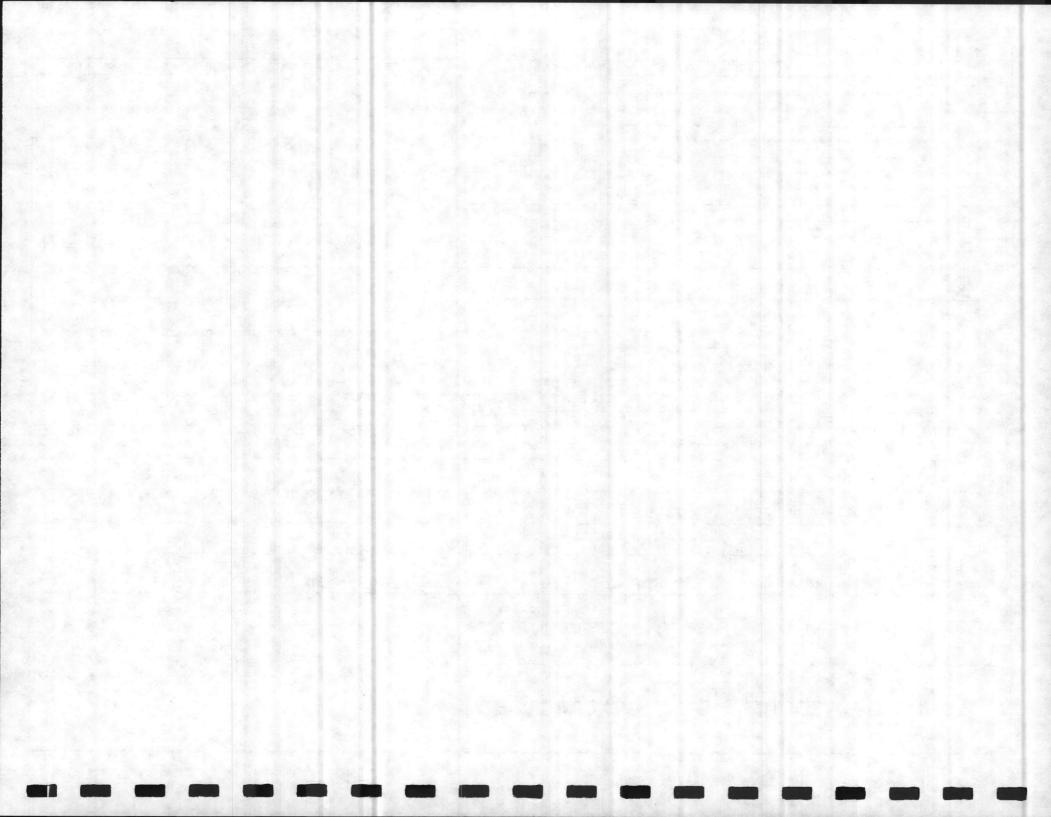
PROJECT GYMNASIUMS P-065 and P-133 LOCATION CAMP LEJEUNE AND JACKSONVILLE, N.C.		CAMP LEJEUNE AND JACKSONVILLE, N.C.		JUDGEMENT PHASE	
DATE	DATE AUGUST 27-31, 1984 PAGE6 OF 6		ATIVE IDEA LISTING	IDEA EVALUATIO	N
NO (1)	CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
BC-48	BUILDING CONSTRUCTION (BC) CONTINUED  Check For Conflict Of Lighting And Diffus	ers In	Comment		
	Exercise Room		Reduce Cost	Exposed Unit	DS
BC-49 BC-50	Heat And Ventilate Exercise Room Same Way Use Drywall Construction In Selected Area		Simplify Construction	Exposed Unit	9
	Building				7
BC-51	Rearrange H&V Units And Ducts In Mezzanin	e	Reduce Cost Save Energy Reduce Energy		9
BC-52	Reduce Number Of Lighting Fixtures In Rac	quetball			9
BC-53	Consider Changing Lighting Layout In Gym		Better Lighting Distribution	None	9
LIST AL	L CREATIVE IDEAS BEFORE PROCEEDING TO JUDGEMEN	NT PHASE. 10	MOST DESIRABLE 1 LEAST DESIRAB	BLE	



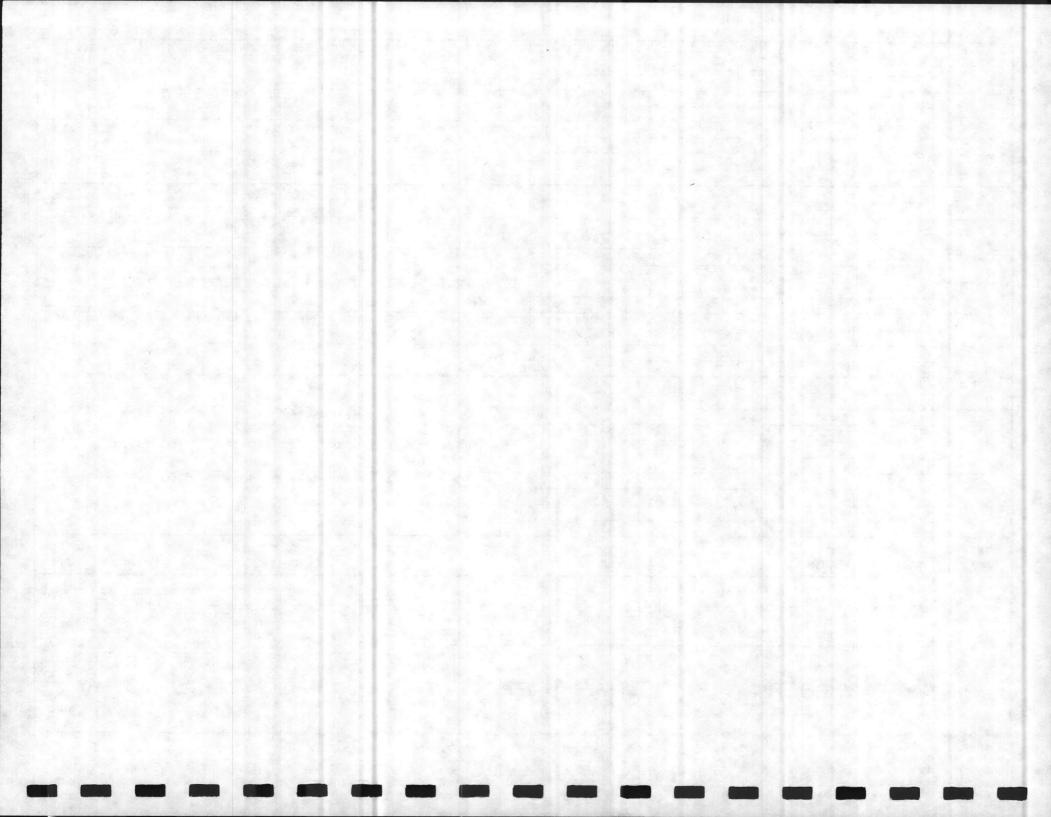
ROJECT GYMNASIUM P-065	CREA	TIVE PHASE	JUDGEMENT PHASE	
OCATION CAMP LEJEUNE, N.C.  CLIENT NAVFAC  DATE AUGUST 27-31, 1984  PAGE 1 OF 2		VE IDEA LISTING	, IDEA EVALUATION	
NO CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
SITEWORK (SC)				
C-1 Eliminate 24' Wide Road, Provide 6' Walk		Cost Savings	Equipment Delivery	10
C-2 Eliminate Concrete Island In Parking Lot		Cost Savings	None Apparent	- 10
Square Area	A ROUGE			10
C-3 Make Area Of Parking Lot For Economy Car	Parking	Cost Savings, Reduced Area	None Apparent	
(8' wide x 16' long)				9
C-4 Make Area Of Parking Lot For Motorcycle	Parking	Increased Function		
(3' wide x 8' long)				9
C-5 Eliminate Curb And Gutter, Except Along	The Building	Cost Savings	None Apparent	
Sidewalk Use A Curb				8
C-6 Increase Sidewalk Along Building To 6' W	lide	Safety	Cost Increase	9
C-7 Regrade Ditch Along West Side Of Roadway	, And	Cost Savings	Erosion Of Ditch	
Eliminate Stormwater Pipe	-			9
		Cost Savings	None Apparent	



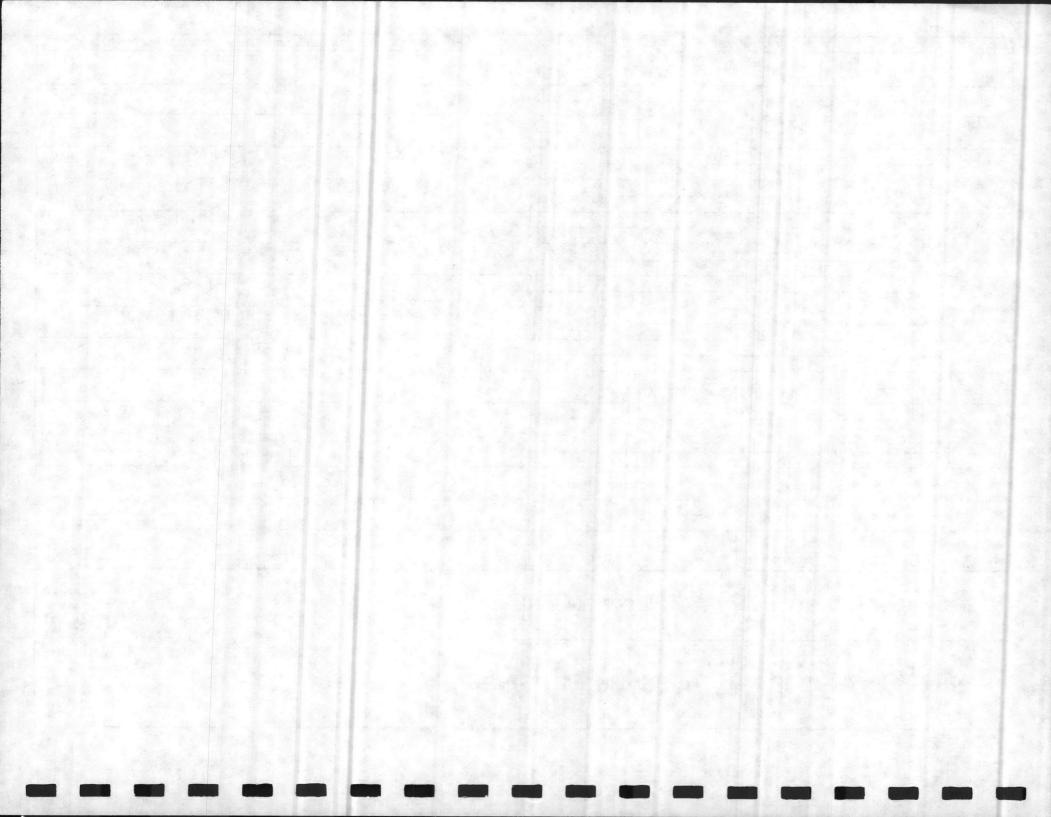
PROJECT GYMNASIUM P-065		CREATIVE PHASE		JUDGEMENT PHASE		
CLIENT DATE _	OCATION CAMP LEJEUNE, N.C.  CLIENT NAVFAC  PAGE 2 OF2 CR		IVE IDEA LISTING	IDEA EVALUATION		
NO (1)	CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING	
	SITEWORK (SC)					
sc-9	Move Handicap Parking Spaces Closer To Building	у То	Cost Savings, Safety	None Apparent		
	Eliminate Ramps	-			9	
SC-10			Reduce Cost	None Apparent		
		educe	Reduce Settlement Reduce Fill	None Apparent		
	Total Fill And Settlement		Better Connection to Utilities	Additional Laurah	10	
SC-12	Move Steam And Condensate Line North To Provide	e More	Better Use Of Area	Additional Length Required	1	
	Area For Future Use				DS	
sc-13			Cost Savings	None Apparent	10	
SC-14	Place Steam Line And Sanitary In Same Trench		Cost Savings	None Apparent	DS	
SC-15	Turn Building 90° And Tap In Once For Fire Hydr	rants	Cost Savings	None Apparent	6	
		-	Save Trees Better Construction		-	
SC-16	Rework Electric Service From The West With The	Kest	better construction			
	Of The Utilities				8	



PROJECT GYMNASIUM P-133 LOCATION JACKSONVILLE, N.C.	CREA	ATIVE PHASE	JUDGEMENT PH	HASE
LIENT NAVFAC		TIVE IDEA LISTING	IDEA EVALUATION	
NO CREATIVE IDEA (2)		ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING
SITEWORK (SJ) CONTINUED		May Reduce Cost	None Apparent	
SJ-10 Reduce Undercutting In Parking Lot  Instead Of 3 Feet And Use Fabric In			N	10
SJ-11 Reduce Roadway Length By Bringing I	n The Roadway At	Cost Savings	Non e Apparent	10
SJ-12 Modify Walkway Path		Cost Savings	None Apparent None Apparent	9
SJ-13 Revise Stormwater Management		Cost Savings	None Apparent	10
SJ-14 Leave 2" Existing Waterline In Plac  Fire And Waterline For Building Onl				9
SJ-15 Move Road East And Construct With S	idewalk	Easier Constructon		8



PROJECT GYMNASIUM P-133 LOCATION JACKSONVILLE, N.C.		CREATIVE PHASE	JUDGEMENT PHASE		
CLIENT DATE _ PAGE _	NAVFAC	CREATIVE IDEA LISTING	IDEA EVALUATION		
NO (1)	CREATIVE IDEA (2)	ADVANTAGES (3)	DISADVANTAGES (4)	IDEA (5) RATING	
SJ-1	SITEWORK (SJ)  Eliminate 24' Wide Road, Provide 6' Walk	Cost Savings	Equipment	10	
SJ-2	Eliminate Concrete Island In Parking Lot And Re	Cost Savings	None Apparent		
SJ-3	Square Area  Make Area Of Parking Lot For Economy Car Parkin	Cost Savings, Reduced Area	None Apparent	10	
SJ-4	8' Wide x 16' Long  Make Area Of Parking Lot For Motorcycle Parking	Increased Function		9	
	3' Wide x 8' Long			9	
SJ-5	Eliminate Curb And Gutter, Except Along The Bui	Cost Savings	None Apparent		
	Sidewalk Use A Curb	0.6.		8	
SJ-6	Increase Sidewalk Along Building To 6' Wide	Safety	Cost Increase	9	
SJ-7	Move Handicap Parking Spaces Closer To Building	Cost Savings, Safety	None Apparent		
	Eliminate Ramps			9	
SJ-8	Revise Outside Parking Lot Lighting	Reduce Cost	None Apparent	9	
SJ-9	Reduce Electric Service #1 1/0 to #6	Cost Savings	None Apparent	10	



#### Recommendation Phase

The last phase of the value engineering study is the presentation of recommendations. The VE recommendations were screened by the VE team before the results were outlined in general to the NAVFAC Value Engineer prior to completion of the study.

The VE recommendations have been arranged in the same order as the idea listing sheets to provide continuity:

BS = Building Construction

SC = Sitework: Camp LeJeune (P-065)

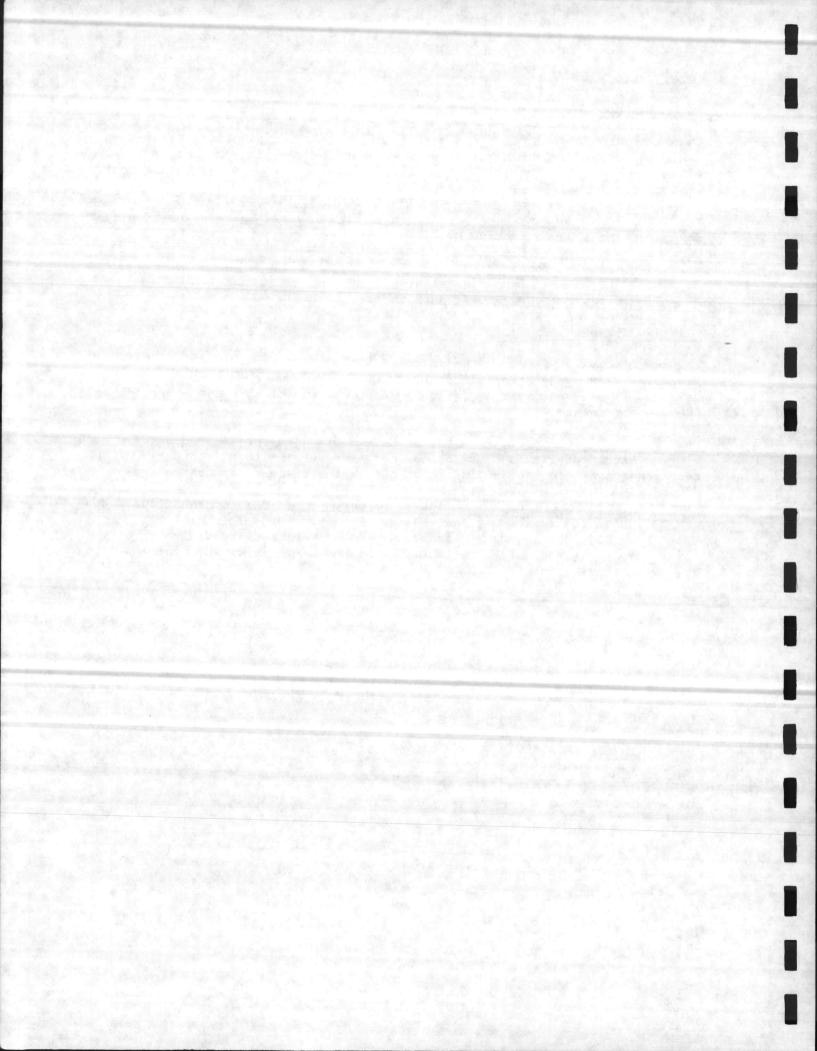
SJ = Sitework: New River, Jacksonville (P-133)

#### POST-STUDY PROCEDURES

The post-study portion of the VE study includes preparation of the Value Engineering Team Study Report incorporating the recommendations developed in the workshop; and the review and implementation of VE recommendations into the project design.

The designer, upon receipt of the VE Team Study Report, should analyze each VE team recommendation and prepare a short response, either incorporating the recommendation into the design or presenting the reasons for its rejection.

The Navy will make an independent review of the VE recommendations. Upon completion of the reviews by the designer, the Navy and the facility user, a resolution by the Atlantic Division's NAVFAC design and VE groups will be made. Implementation of VE recommendations is made in conjuction with the 35% Design Review for the project.



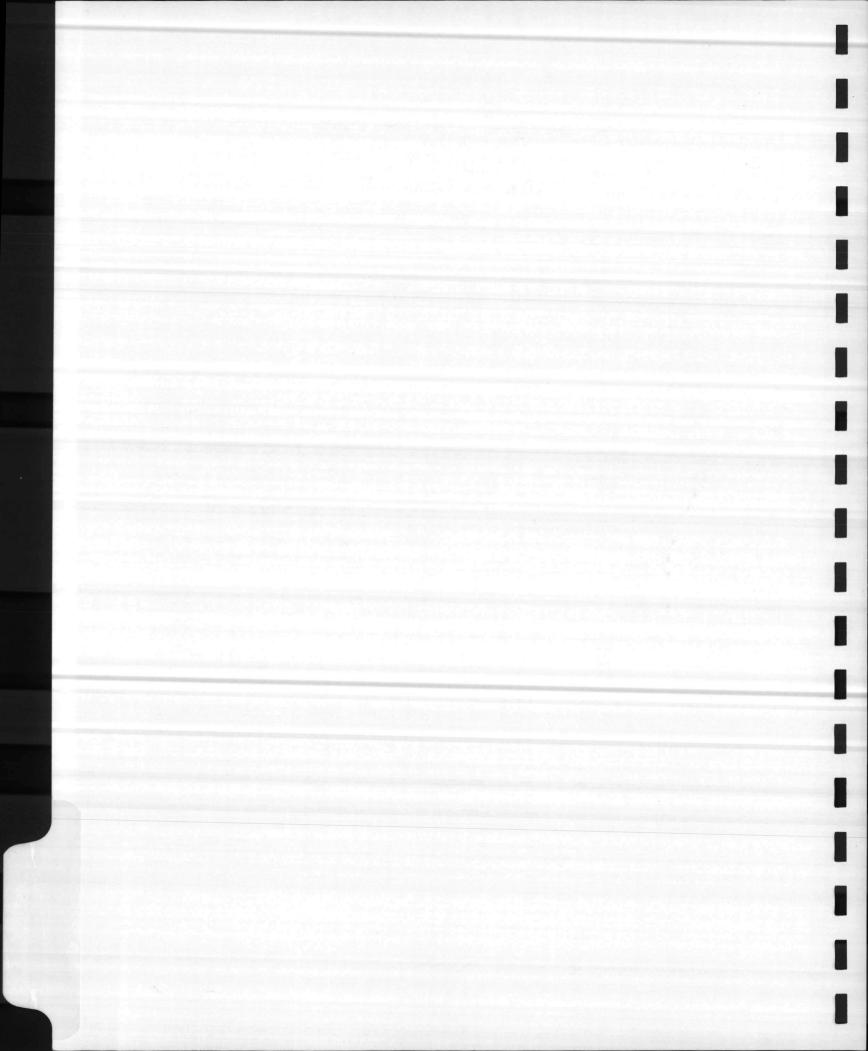
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	Summary of Results
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SUMMARY OF RESULTS



# VALUE ENGINEERING TEAM STUDY REPORT GYMNASIUMS CAMP LEJEUNE (P-065) NEW RIVER, JACKSONVILLE (P-133) NORTH CAROLINA

AUGUST 1984

#### SECTION 4 - SUMMARY OF RESULTS

#### GENERAL

The results are the focal point of a VE study since they represent the benefits which can be realized by the Navy on this project. The Designer has an obvious interest also, as the results will directly affect the project design and will require coordination between himself, the Navy's design staff, and the facility user to determine the ultimate acceptance of each proposal.

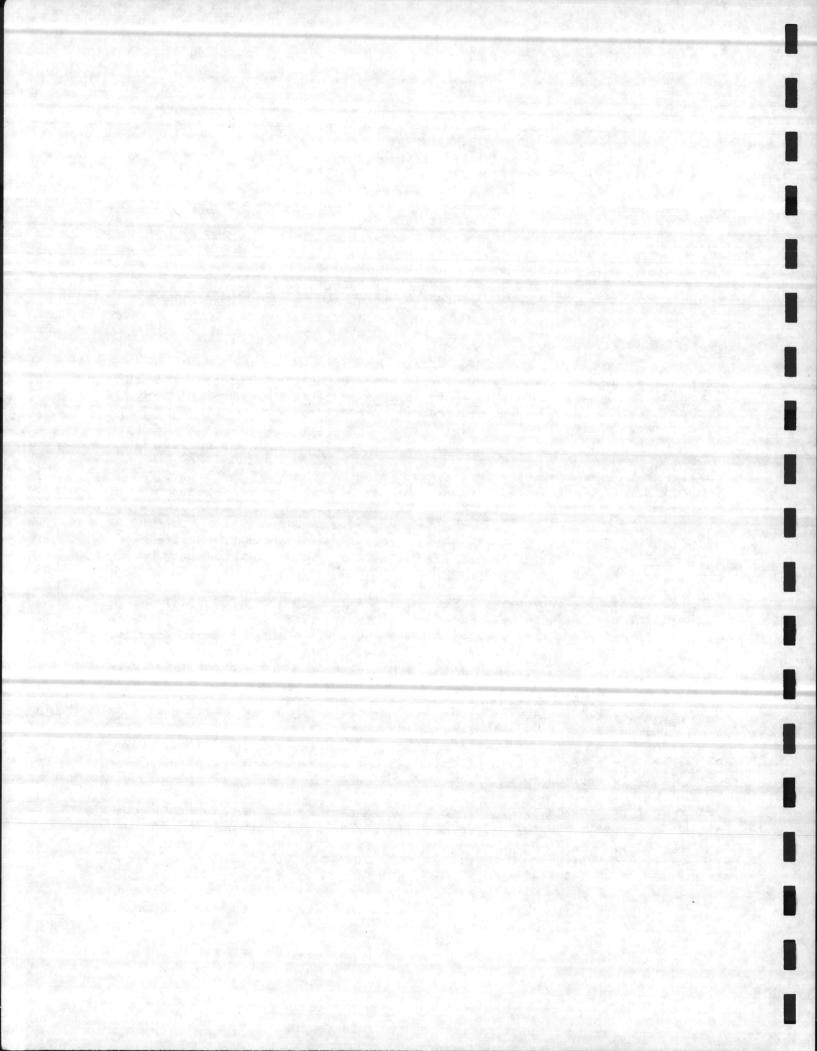
This section summarizes the results and recommendations of the study. Ideas that were developed are submitted as recommendations for acceptance. Each recommendation has been formulated as a workable alternate solution.

The development of ideas consists of the preliminary design, a life cycle cost comparison, and a descriptive evaluation of the advantages and disadvantages of the proposed recommendations.

Each recommendation includes a brief narrative to compare the original design method to the proposed change. Sketches, where appropriate, are also presented. Before and after cost comparisons are included to show the cost savings. We have presented the comparisons to reflect unit quantities, where possible, as well as overall cost. A breakdown of costs is given and the life cycle cost savings are shown.

When reviewing the results of a VE study, it is important to review each part of a recommendation. There is often a tendency to disregard a recommendation because of concern about one portion of it. Consideration should be given, however, to the areas within a recommendation that are acceptable, and those parts should be applied to the final design.

Cost is the primary basis of comparison of alternate designs. To ensure comparability of cost between the original design and the recommendations proposed by the VE team, we have used the project cost estimate as the basis of cost. Our observation is that the overall cost may be high, based on our spot checks of unit costs.



The major areas resulting in recommendations are:

#### Gymnasium Building (Both Projects Similar)

- Modify Exterior Walls
- Reduce Number of Bleachers
- Modify Gymnasium Floor Finish
- Modify Exercise Room Floor Finish
- Modify Gymnasium Divider Curtain
- Reduce Number of Scoreboards
- Change Roof System
- Provide Different Ceiling Finish in Locker Rooms and Toilets
- Change Building Electrical Service Voltage

Note: The building pile grouping for Project P-133 is included with the sitework for that project, as noted below.

#### Sitework (Project P-065)

- Revise Parking Lot
- Modify Stormwater Drainage
- Revise Site Lighting
- Turn Building 90 Degrees to Optimize Site Preparation Work

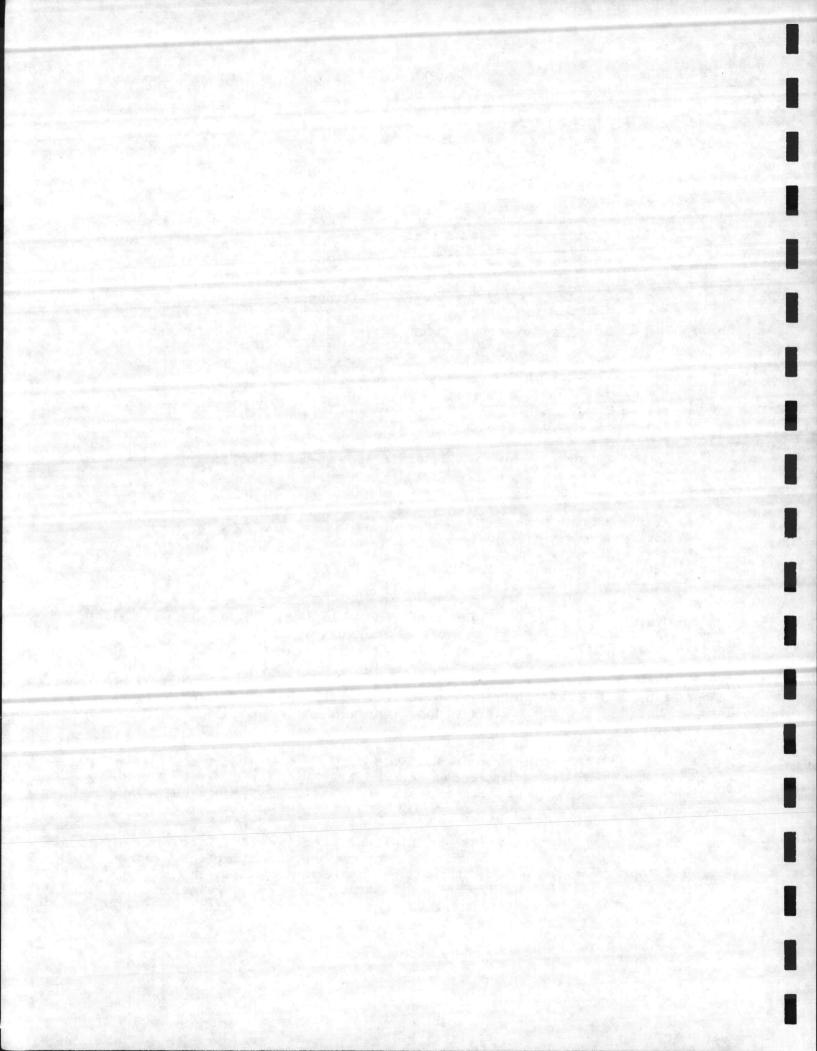
#### Sitework (Project P-133)

- Revise Parking Lot
- · Modify Stormwater Drainage
- · Revise Site Lighting
- · Optimize Site Preparation Work
- · Rearrange Pile Grouping

Potential cost savings are summarized on Table 4-1, which follows this general introduction. The recommendations are organized to show the recommendation and potential cost savings for each of the two projects: P-065 Gymnasium, Camp LeJeune, North Carolina and Project P-133, Gymnasium, New River, Jacksonville, North Carolina. The item numbers refer to the same numbers used in the creative idea listing. The same nomenclature has been used so that continuity will exist between the idea listing in Section 3 and the Summary of Results.

Not all of the ideas generated were developed, as some were not cost effective and others were found to be counterproductive in terms of the Navy's requirements. Many of the recommendations are also interrelated, so the acceptance of one would preclude the acceptance of another.

Eighty-four ideas were listed as part of the creative idea listing. Of these, 37 are presented as recommendations for consideration for the gymnasium building at each location. In addition, six recommendations are made for the Supporting Facilities for Project P-065 and fifteen recommendations are made for the Supporting Facilities for Project P-133. (Some of the ideas were combined.)



Design suggestions are included in the creative idea listing. Design suggestions are recommendations which may have limited cost benefit but can provide operations and maintenance benefits. We encourage the reviewer to consider these design suggestions, which are presented at the end of this section.

#### PAGE NUMBERING

The VE team recommendations are organized by building within the facility and by idea number. Building construction and sitework for each project are designated as follows:

BC = Building Construction

SC = Sitework: Camp LeJeune (P-065)

SJ = Sitework: New River, Jacksonville (P-133)

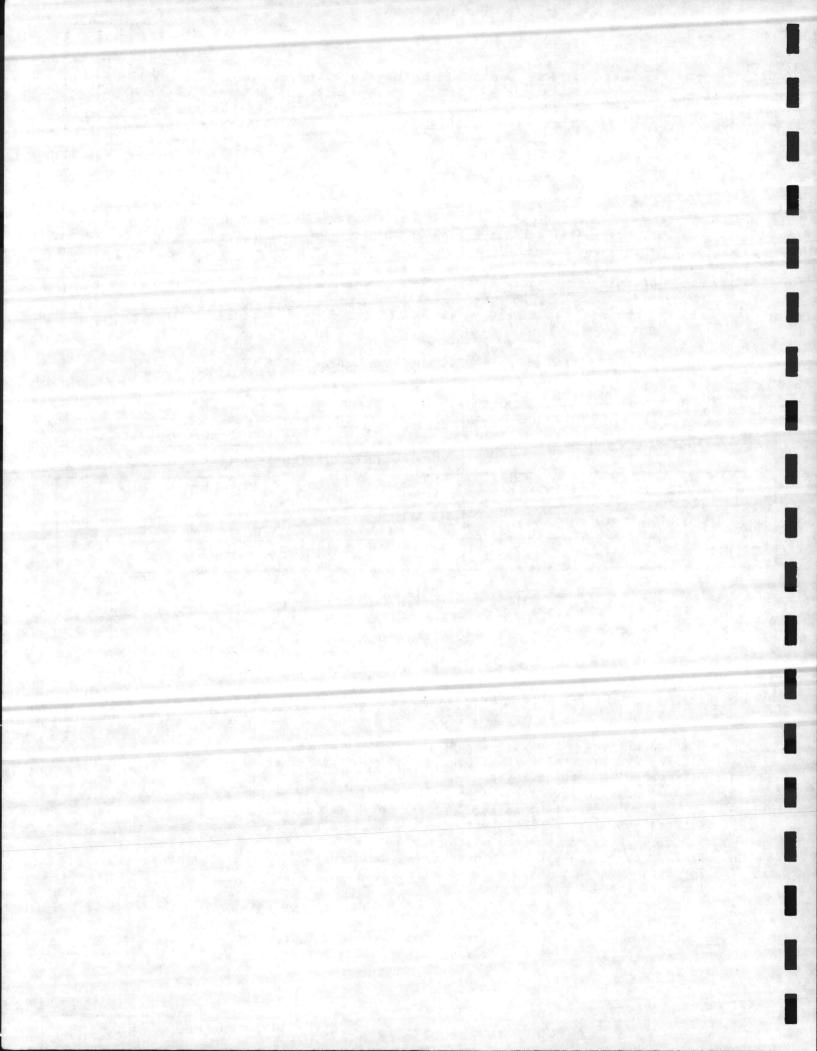
#### EXPLANATION OF DEVELOPMENT AND RECOMMENDATION PHASE LIFE CYCLE COST SUMMARY

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	1.	4.	7.			
PROPOSED CHANGE	2.	5.	8.			
SAVINGS	3.	6.	9.			

NOTE: All costs shown on the life cycle cost summary are present worth values.

- 1. Original Design Designer's cost estimate of system or element.
- 2. Alternative Design VE team cost estimate of system or element.
- 3. Difference in cost estimate = savings or (additional cost).
- 4. Original Design Designer's estimate of annual operating and maintenance costs x uniform present worth factor (UPW)
- Alternate Design VE team estimate of annual operating & maintenance costs x uniform present worth factor (UPW).
- 6. Difference in present worth operating & maintenance costs (savings).
- 7. Total of items 1 and 4.
- 8. Total of items 2 and 5.
- 9. Total of items 3 and 6. Present worth life cycle cost savings.

NOTE: See Section 3 of this report for economic criteria information used for annualization and present worth analysis factors.



PROJECT Gymnasium P-065

LOCATION Camp LeJeune, NC

CLIENT NAVFAC

DATE August 27-31, 1984

### VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS

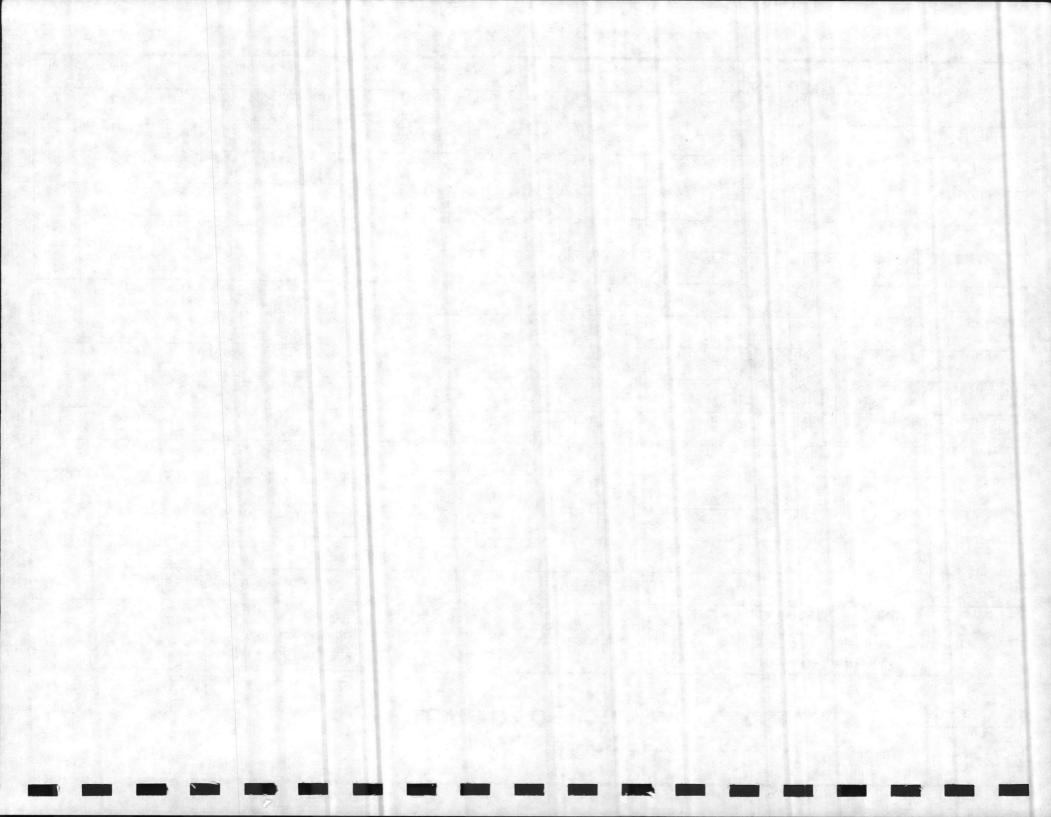
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OF \_\_\_\_8

		PRESENT WORTH COST SAVINGS				
ITEM NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS
	GYMNASIUM BUILDING (BC)					
BC-1A	Use surewall material for exterior walls	99,596	81,900	17,696		17,696
BC-1B	Use brick and surewall material for exterior walls	42,019	39,657	2,362		2,362
BC-1C	Use brick, block with surewall material for ext. walls	27,223	23,180	4,043		4,043
BC-1E	Use oversize brick for exterior walls	69,000	64,660	4,340		4,340
вс-3	Delete venetian blinds	1,147	0	1,147	Improved	1,147
BC-4	Question number of bleachers required	28,574	14,287	14,287		14,287
BC-5	Question need for two training rooms	9,000	4,500	4,500		4,500
вс-6	Reconfigure entrance to locker room		-	_		Improve Function
BC-7	Lower shower stall walls	750	_	750		750
BC-8A	Use synthetic sheet for gymnasium flooring	60,454	47,335	13,119	Improved	13,119
вс-8в	Use monolithic pour for gymnasium flooring	60,454	42,429	18,025	Improved	18,025
BC-8C	Use edge grain maple for gymnasium flooring	60,454	49,541	10,913		10,913
вс-9	Use progym floor finish in exercise room	10,674	7,244	3,430	Improved	3,430
BC-10	Reduce number of scoreboards	18,200	7,000	11,200		11,200
BC-11	Use vinyl, nylon divider curtain in gymnasium	24,000	6,300	17,700		17,700
BC-12	Epoxy paint needs scheduling	1,207	562	645		645

4-4



PROJECT GYMNASIUM P-065

LOCATION Camp LeJeune, NC

CLIENT NAVFAC

DATE August 27-31, 1984

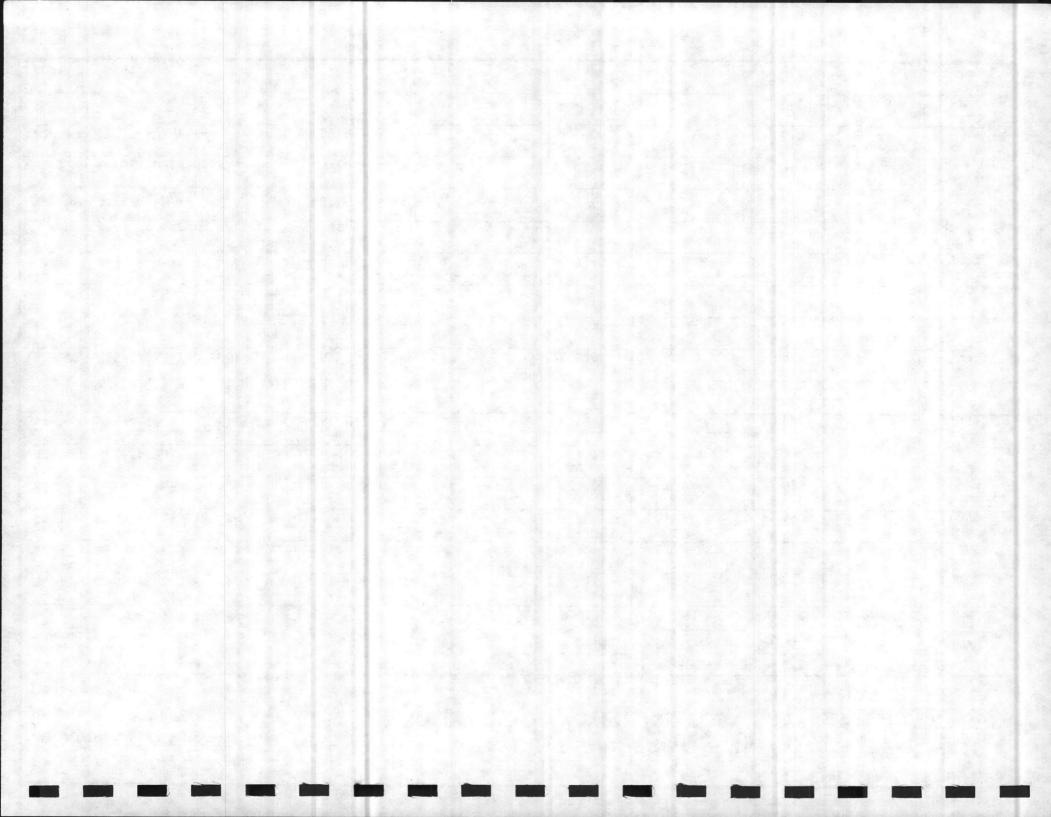
### VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS



AGE 2

	_
OF	8

ITEM NO.	DESCRIPTION	PRESENT WORTH COST SAVINGS					
		ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS	
BC-13	Reduce ceramic tile in bathrooms & sauna	9,051	3,054	5,997		5,997	
BC-15	Delete ceramic tile and use ceramic pavers	13,124	12,942	182		182	
BC-16	Provide single slope on high roof	7,166	1,917	5,249		5,249	
BC-17	Provide built-up roof instead of ballast roof system	61,300	48,800	12,500		12,500	
BC-18	Delete south inset on building	2,752	522	2,230		2,230	
BC-19	Use different soffit finish	4,463	1,594	2,869		2,869	
BC-20	Use alternative finish for ceiling in locker rm. & toile	t 20,805	4,576	16,229		16,229	
BC-22	Eliminate low roof	26,816	20,817	5,999	Improved	5,999	
BC-28	Use vaportight fluorescent lighting fixture in	520	440	80	Improved Value	80	
	women's showers	VQL 17.75					
BC-33	Provide face & bypass dampers for H&V units	(2,700)	0	(2,700)	6,780	4,080	
BC-34	Provide separate steam PRV stations	-	-		10,270	10,270	
BC-36	Provide main duct header & round duct in gym	15,776	11,310	4,466	Improved	4,466	
BC-37	Locate outside air intake to low roof area					Improve Function	
BC-38	Provide outside entrance to equipment mezzanine	2,600	3,600	(1,000)	Improves Function	(1,000)	
BC-39	Provide two combination OSD/FD in mezz.equipment room	2,000	1,125	875	Improved	875	
BC-44	Change building electrical service to 277/480 volt	104,276	71,553	32,723	Improved	32,723	



PROJECT	Gymnasium P-065
LOCATION	Camp LeJeune, NC
CLIENT	NAVFAC
DATE	August 27-31, 1984

## VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS

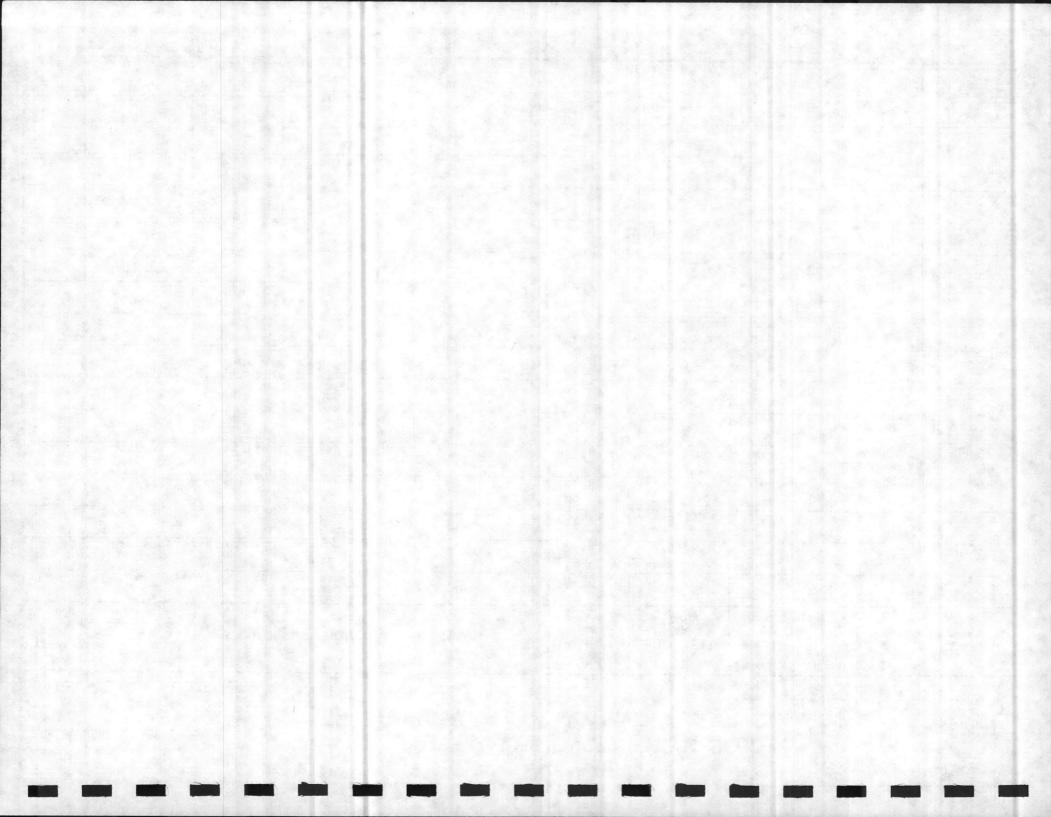
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PAGE 3

OF \_\_\_8

		PRESENT WORTH COST SAVINGS					
NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS	
BC-47	Delete ceiling in exercise room	3,254	585	2,669	Improved	2,669	
BC-49	Heat & ventilate exercise room similar to gym	7,642	5,284	2,358	Improved	2,358	
BC-51	Rearrange AHU's in equipment mezzanine	5,350	3,811	1,539	Improved	1,539	
BC-52	Reduce number of lights in racquetball courts	8,280	5,520	2,760	Improved	2,760	
BC-53	Consider changing lighting layout in gym	22,400	24,480	(2,080)	Improve Value	(2,080)	
V 3-8							

4-6



PROJECT Gymnasium P-065					
LOCATION	Camp LeJeune, NC				
CLIENT	NAVFAC				
	August 27-31, 1984				

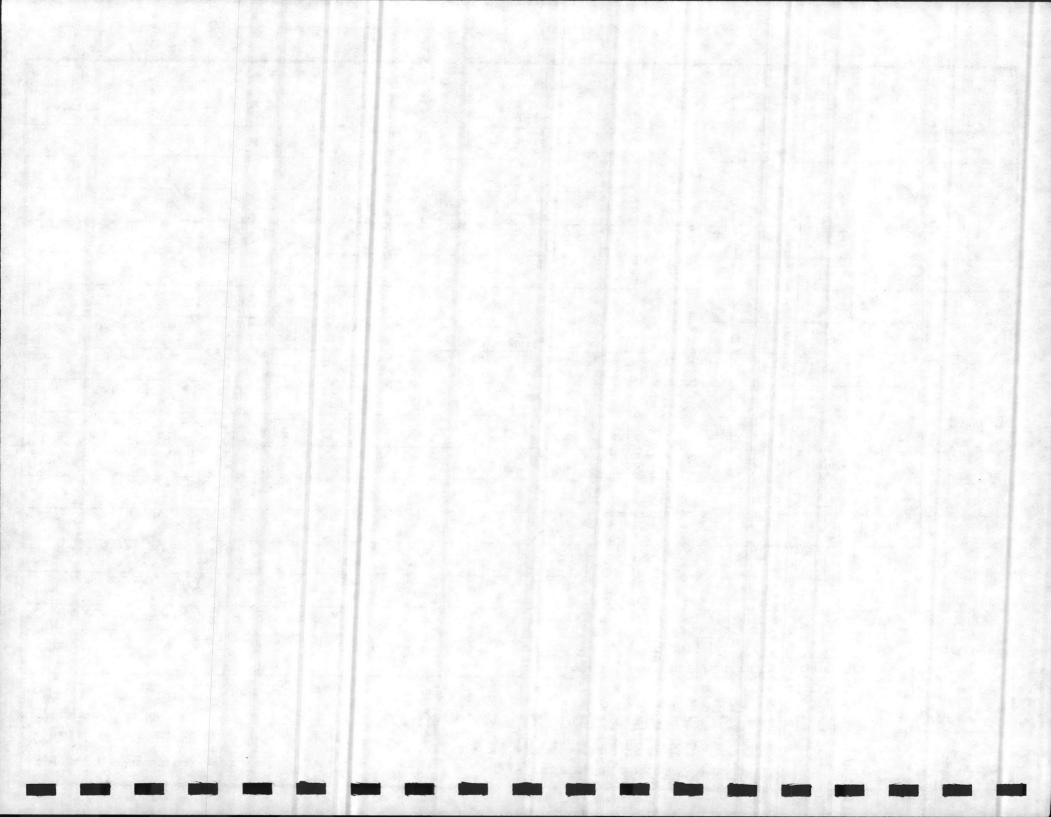
# VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS



PAGE 4

DATEAugust 27-31, 1984			OF8_			
NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS
	SITEWORK (SC)					
sc-1	Revise parking lot	70,000	39,700		_	30,300
sc-7	Regrade ditch along roadway and eliminate	31,210	13,229	-	-	17,981
	stormwater pipe					
sc-10	Outside lighting	16,000	8,180			7,820
SC-11	Turn building 90°, reduce elevation one foot to reduce	9,387	2,536		-	6,851
	total fill and settlement.					
sc-13	Reduce size of primary conductors on overhead lines	17,586	16,000		-	1,586
SC-16	Obtain primary electrical service from 'A' Street	-	-	1-	-	-
			+			
		36.			18	
				A S		

1-4



PROJECT Gymnasium P-133

LOCATION New River, Jacksonville, NC

CLIENT NAVFAC

August 27-31, 1984

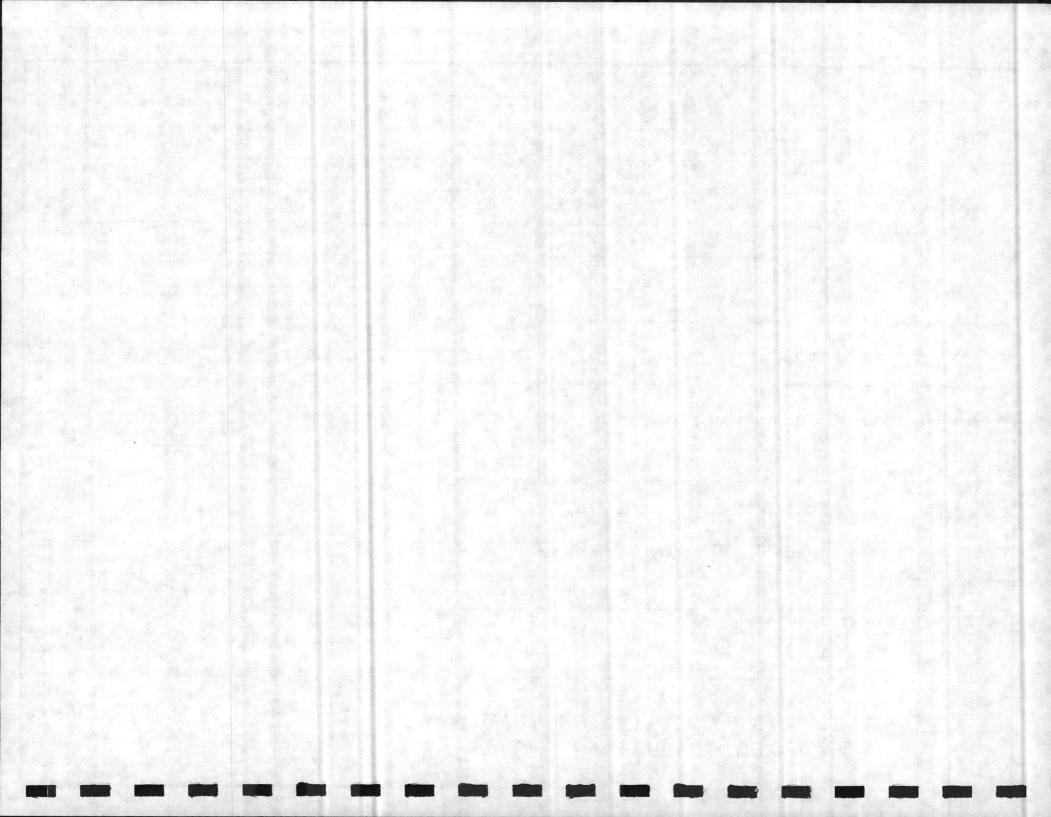
## VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS

Z

PAGE 5 OF 8

DATE			PRESENT	WORTH COST	SAVINGS	OF8
ITEM NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS
	GYMNASIUM BUILDING (BC)					
BC-1A	Use surewall material for exterior walls	99,596	81,900	17,696		17,696
BC-1B	Use brick and surewall material for exterior walls	42,019	39,657	2,362		2,362
BC-1C	Use brick, block with surewall material for ext. walls	27,223	23,180	4,043		4,043
BC-1E	Use oversize brick for exterior walls	69,000	64,660	4,340		4,340
вс-3	Delete venetian blinds	1,147	0	1,147	Improved	1,147
BC-4	Question number of bleachers required		14,287	14,287		14,287
BC-5	Question need for two training rooms	9,000	4,500	4,500		4,500
вс-6	Reconfigure entrance to locker room	-	-			Improve Function
BC-7	Lower shower stall walls	750	-	750		750
BC-8A	Use synthetic sheet for gymnasium flooring	60,454	47,335	13,119	Improved	13,119
вс-8в	Use monolithic pour for gymnasium flooring	60,454	42,429	18,025	Improved	18,025
BC-8C	Use edge grain maple for gymnasium flooring	60,454	49,541	10,913		10,913
вс-9	Use progym floor finish in exercise room	10,674	7,244	3,430	Improved	3,430
BC-10	Reduce number of scoreboards	18,200	7,000	11,200		11,200
BC-11	Use vinyl, nylon divider curtain in gymnasium	24,000	6,300	17,700		17,700
BC-12	Epoxy paint needs scheduling	1,207	562	645		645

4-8



PROJECT	Gymnasium P-133	_
LOCATION	New River, Jacksonville,	NC
CLIENT	NAVFAC	
DATE	August 27-31, 1984	3

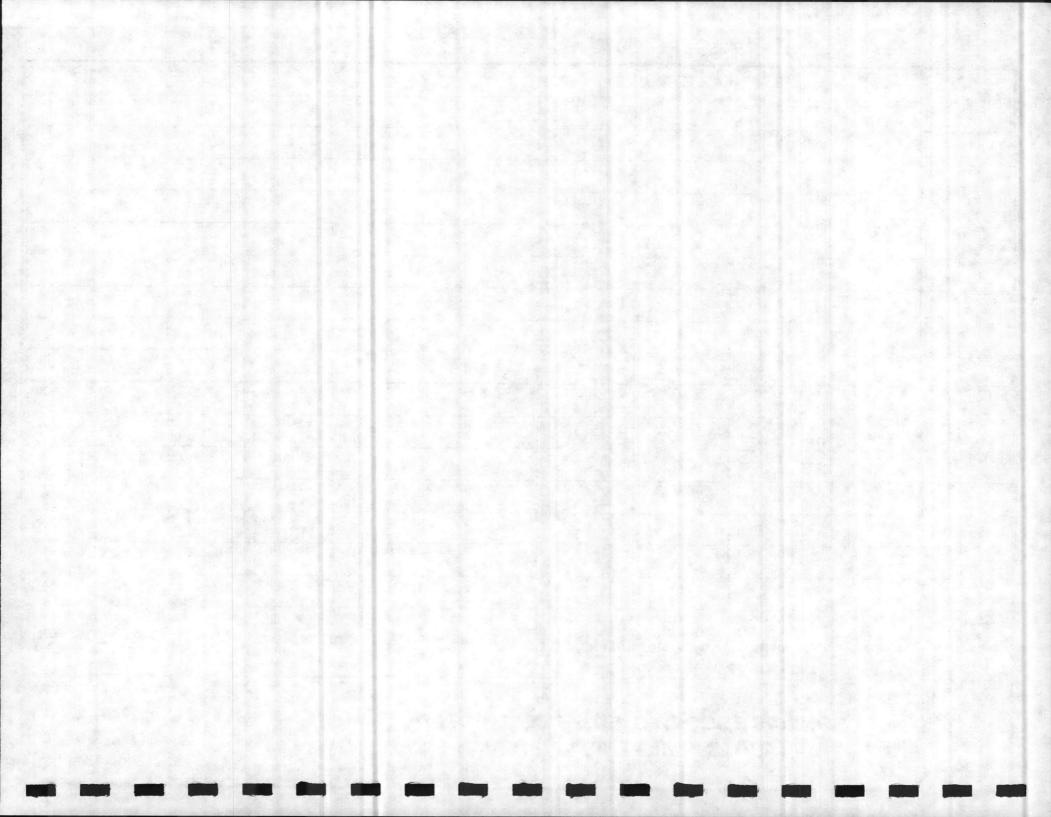
## VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS



PAGE 6

OF \_ 8

DAIE .	August 27-51, 1964					OF	
			PRESENT WORTH COST SAVINGS				
NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS	
BC-13	Reduce ceramic tile in bathrooms & sauna	9,051	3,054	5,997		5,997	
BC-15	Delete ceramic tile and use ceramic pavers	13,124	12,942	182		182	
BC-16	Provide single slope on high roof	7,166	1,917	5,249		5,249	
BC-17	Provide built-up roof instead of ballast roof system	61,300	48,800	12,500		12,500	
BC-18	Delete south inset on building	2,752	522	2,230		2,230	
BC-19	Use different soffit finish	4,463	1,594	2,869		2,869	
BC-20	-20 Use alternative finish for ceiling in locker rm. & toile		4,576	16,229		16,229	
BC-22	-22 Eliminate low roof		20,817	5,999	Improved	5,999	
BC-28	Use vaportight fluorescent lighting fixture in	520	440	80	Improved Value	80	
	women's showers						
BC-33	Provide face & bypass dampers for H&V units	(2,700)	0	(2,700)	6,780	4,080	
BC-34	Provide separate steam PRV stations	_	-	_	27,055	27,055	
BC-36	Provide main duct header & round duct in gym	15,776	11,310	4,466	Improved	4,466	
BC-37	Locate outside air intake to low roof area					Improve Function	
BC-38	Provide outside entrance to equipment mezzanine	2,600	3,600	(1,000)	Improves Function	(1,000)	
BC-39	Provide two combination OSD/FD in mezz.equipment room	2,000	1,125	875	Improved	875	
BC-44	Change building electrical service to 277/480 volt	104,276	71,553	32,723	Improved	32,723	



PROJECT	Gymnasium P-133	
LOCATION	New River, Jacksonville, N	10
CLIENT	NAVFAC	

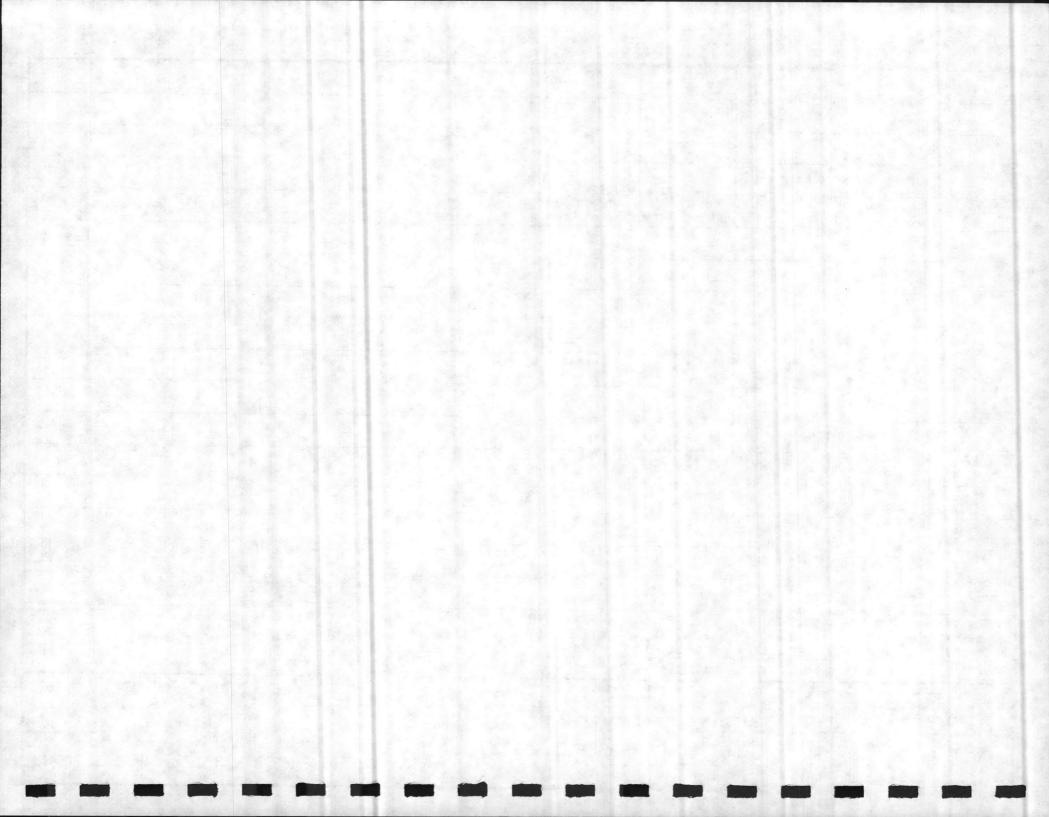
### VALUE ENGINEERING STUDY SUMMARY OF POTENTIAL COST SAVINGS

PAGE 7

OF \_\_8

TABLE 4-1 (COND'T)

		PRESENT WORTH COST SAVINGS				
NO.	DESCRIPTION	ORIGINAL DESIGN COST	PROPOSED CHANGE COST	INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS
BC-47	Delete ceiling in exercise room	3,254	585	2,669	Improved	2,669
BC-49	Heat & ventilate exercise room similar to gym	7,642	5,284	2,358	Improved	2,358
BC-51	Rearrange AHU's in equipment mezzanine	5,350	3,811	1,539	Improved	1,539
BC-52	Reduce number of lights in racquetball courts	8,280	5,520	2,760	Improved	2,760
BC-53	Consider changing lighting layout in gym	22,400	24,480	(2,080)	Improve Value	(2,080)
					1 100	
47						

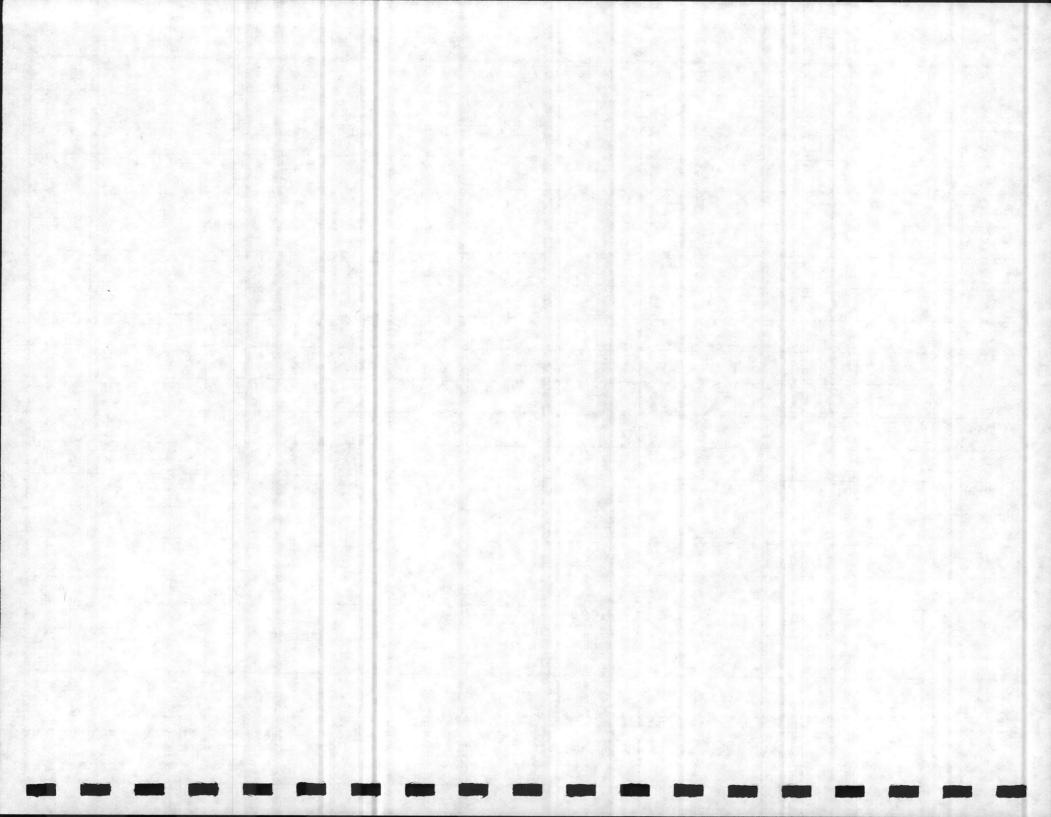


PROJECT Gymnasium - P-133 LOCATION New River, Jacksonville, NC CLI DAT

## **VALUE ENGINEERING STUDY**

LIENT	NAVFAC	SUMMARY OF POTENTIAL COST SAVINGS	PAGE 8
ATE	August 27-31, 1984		OF8
		PRESENT WORTH COST SAVINGS	

		4 9 9 7	PRESENT Y	WORTH COST	SAVINGS	
NO.	DESCRIPTION	ORIGINAL PROPOSED CHANGE COST		INITIAL COST SAVINGS	O & M COST SAVINGS	TOTAL COST SAVINGS
	SITEWORK (SJ)					
SJ-1	Eliminate 24' wide roadway & provide 6' wide walkway	5,363	1,093	4,270	-	4,270
4.4	rear of building.		3			
SJ-2	Eliminate concrete islands in parking lot	65,152	54,230	-	-	10,922
SJ-3	Provide parking spaces for compact cars	-	- 1	-		-
SJ-4	Add concrete pad for motorcycle parking	0	590			(590)
SJ-5	Eliminate certain curbs & gutters in parking lot	22,700	6,000	- 1-	-	16,700
SJ-6	Widen sidewalk to provide access	1,113	1,680	1 2 -		(567)
SJ-7	Move handicap parking spaces closer to building	-	-	-	-	-
SJ-8	Reduce number of outside lights	23,350	11,900	-	-	11,450
SJ-9	Reduce size of overhead primary conductors	23,465	20,000	3,465	-	3,465
SJ-10	Reduce undercut on parking lot & provide wire mesh	74,450	41,750	-	-	32,700
SJ-12	Reduce length of walkway at proposed Campbell St.	1,093	1,021		-	72
SJ-13	Revise storm water management	20,160	11,380	8,780	-	8,780
SJ-14	Leave 2" exist. water line in place & install new fire		-1	-	-	DS
	and water line for building					
SJ-16	Rearrange pile grouping	62,000	51,000	11,000	-	11,000

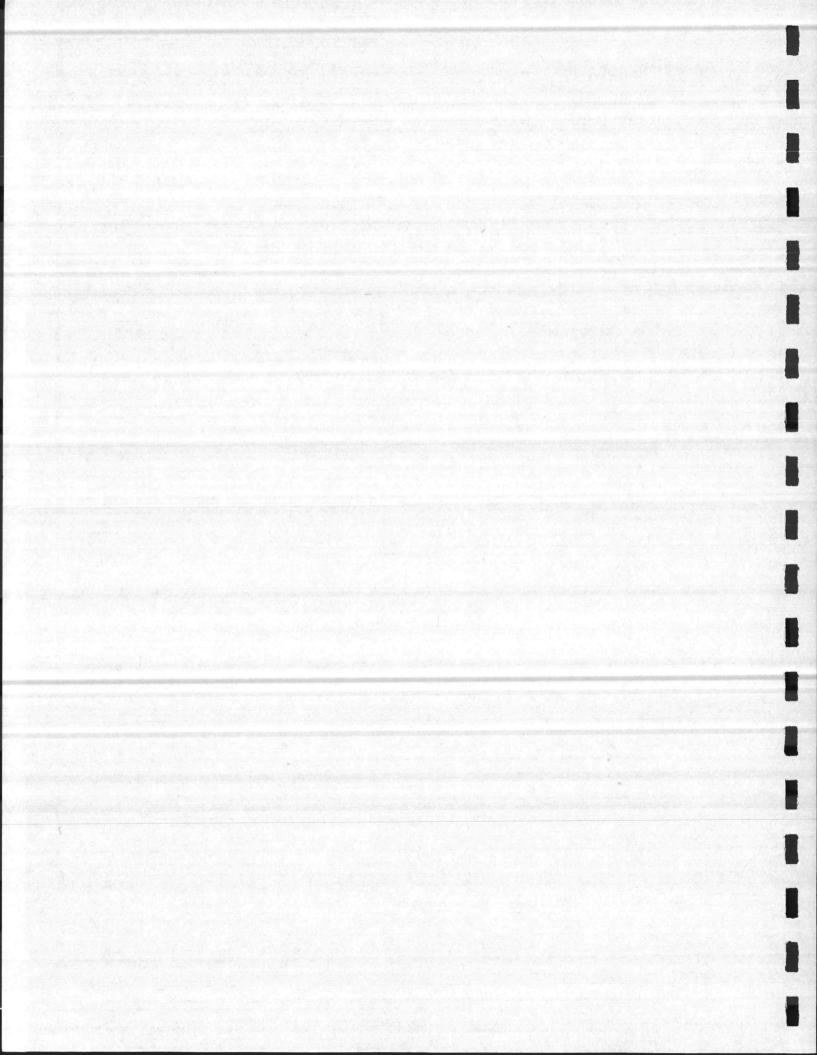


### RECOMMENDATIONS

BUILDING CONSTRUCTION

SITEWORK PROJECT P-065

SITEWORK PROJECT P-133



PROJEC	T _	G	YMNASIL	IMS
P-	065	AND	P-133	
LOCATIO	ON .	CAM NEW	RIVER,	NE & N.C.
CLIENT				2000
DATE _	AUC	GUST	27-31,	1984
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ITEM

USE SUREWALL MATERIAL FOR EXTERIOR WALLS

ITEM NO.

BC-1A

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for a brick face on the entire height of the exterior walls with 4'-0" high soldier course bands at 10' and at the top of the wall.

### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to apply "Surewall" or "Dryvit" stucco coating over insulation and delete all face brick.

#### ADVANTAGES:

Reduces Cost

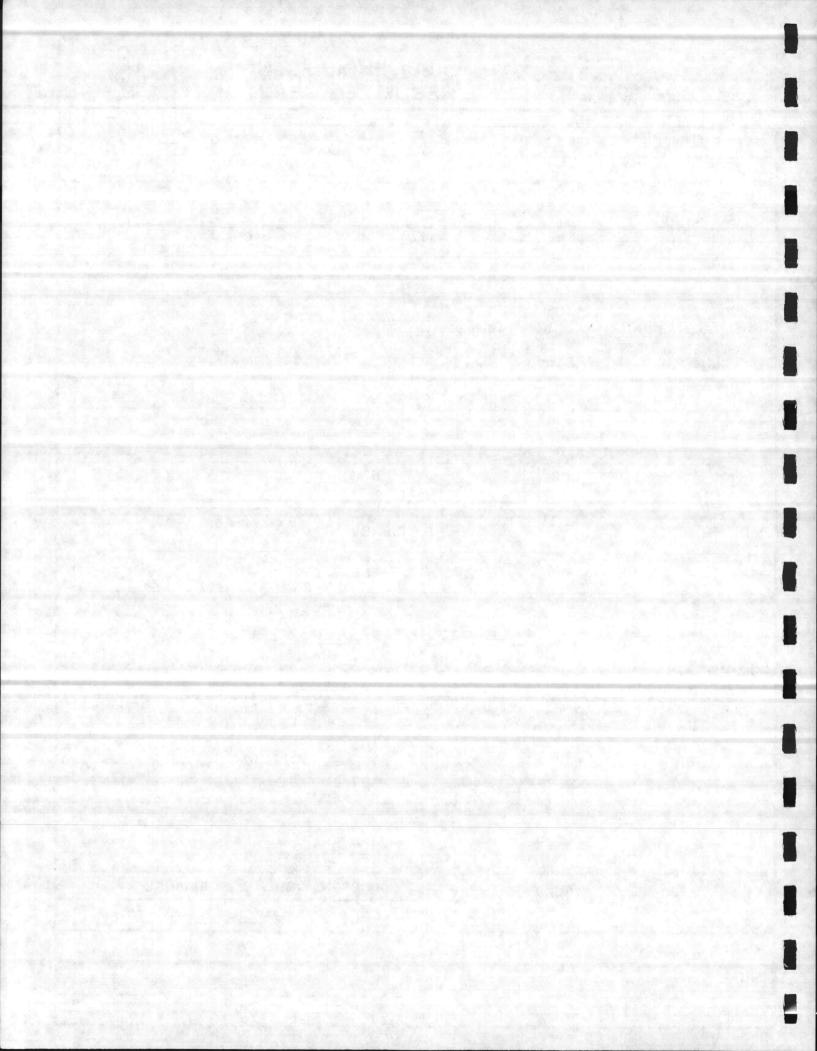
#### **DISADVANTAGES:**

Aesthetics Potential Abuse & Damage

#### DISCUSSION:

Adjacent buildings are primarily of brick and the Base has requested the use of brick for the buildings. However, the Designer stated that face brick does not contribute to the structure.

LIEE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	99,596	_	99,596			
PROPOSED CHANGE	81,900	6 (A)	81,900			
SAVINGS Each Building	17,696	- 12 d	17,696			



Page Z of 3

GYMNASIUMS F-133 & P-065
Subject

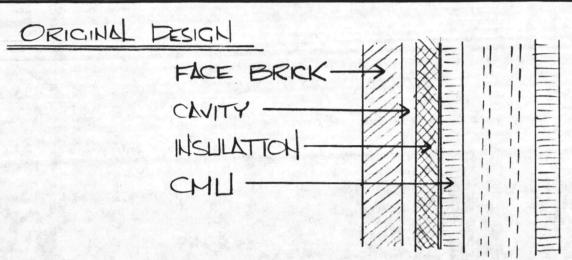
Aug 27-31, 84

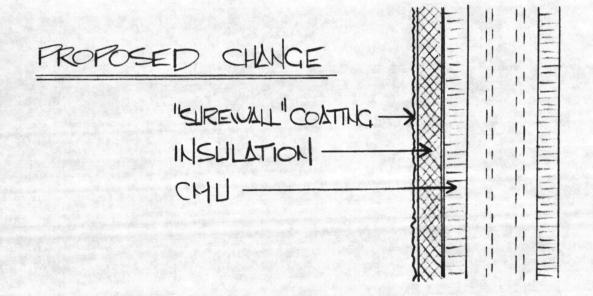
Project No.

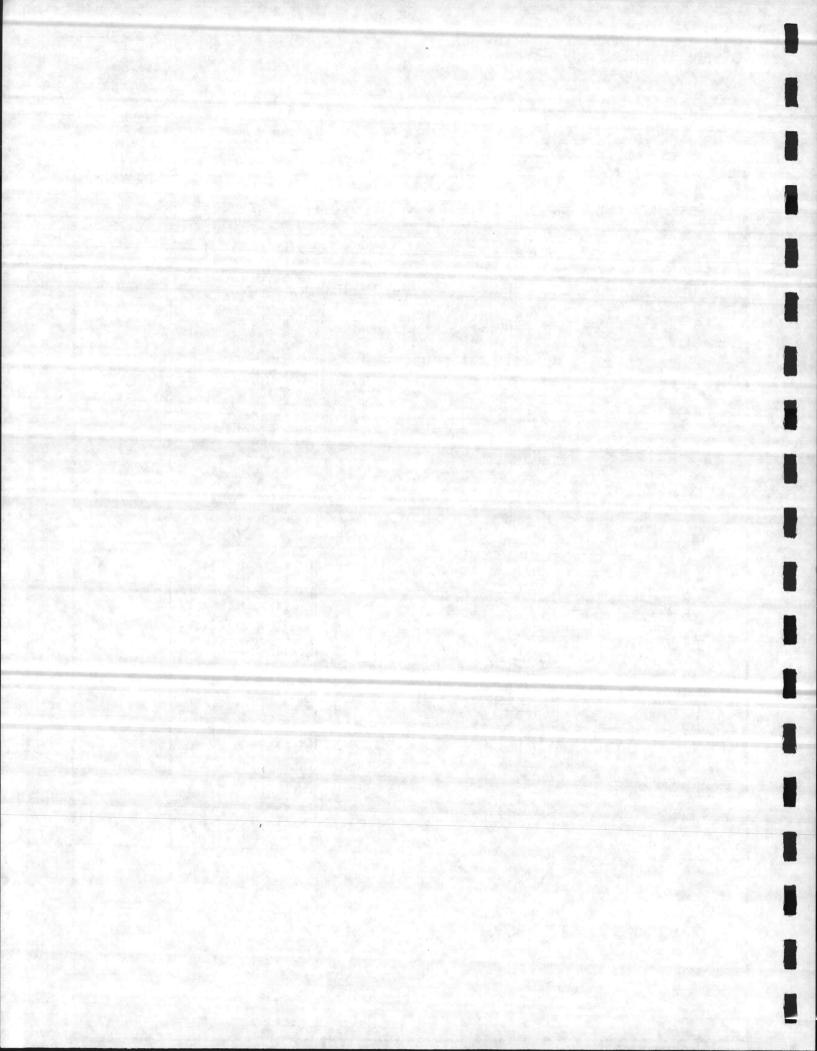
ITEM

BC-1(A)

Drawn By







# PROJECT GYMNASIUMS P-133 & P-065 LOCATION Completeure | New River CLIENT, NAVEAC DATE AUGUST 27:31, 1984

PAGE 3 OF 3

### **COST WORKSHEET**

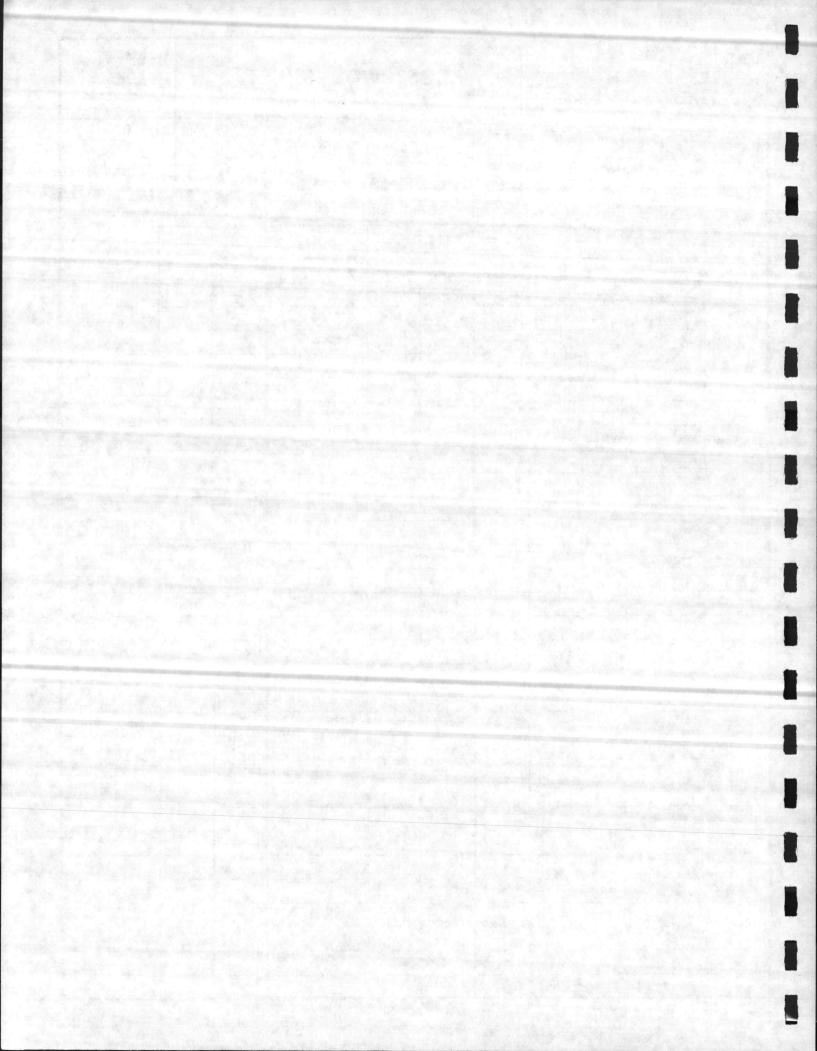


ITEM

Use Surewall Material For Exterior Walls ITEM NO.

B C-1(a)

		LX	terior	Walls			
CONSTRUCTION ELEMENT			RIGINAL	ESTIMATE	NEW ESTIMATE		
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
Fece Brick	M	134	515	69,010	0		_
Morter	CY	100	58	5,800.	0		
CLEAN ERICK	SF	19,500	.07	1.365.	0		
MEULATION	SF	19,500	.46	8,970	0		
ADD FOR SOLDIER COURSE	M	18	105	3,780	0		-
SUREWALL ON HSULATION	SF	_		0	19,500	3.75	73,125
							arnia ( )
Market Market State Control of the C				the of the case			
TOTALS							
PER BUILDING				88,925			73,125
GC OH&P				10,671			8775
				99,596			81,900
	,	1. 1. 1. 1. 1. 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.					
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PROJEC	T G	MNASIU	MS
P-	065 AND	P-133	
LOCATION	ON NEW	RIVER,	NE & N.C.
CLIENT	NA NA	AVFAC	
DATE _	AUGUST	27-31.	1984
DAGE	1	OF	3



ITEM

USE BRICK AND SUREWALL MATERIAL FOR EXTERIOR WALLS

ITEM NO.

BC-1B

### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for a brick face on the entire height of the exterior walls with 4'-0" high soldier course bands at 10' and at the top of the wall.

### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use face brick up to the top of the lower soldier course with "Surewall" or "Dryvit" stucco coating over block & insulation above that point.

#### **ADVANTAGES:**

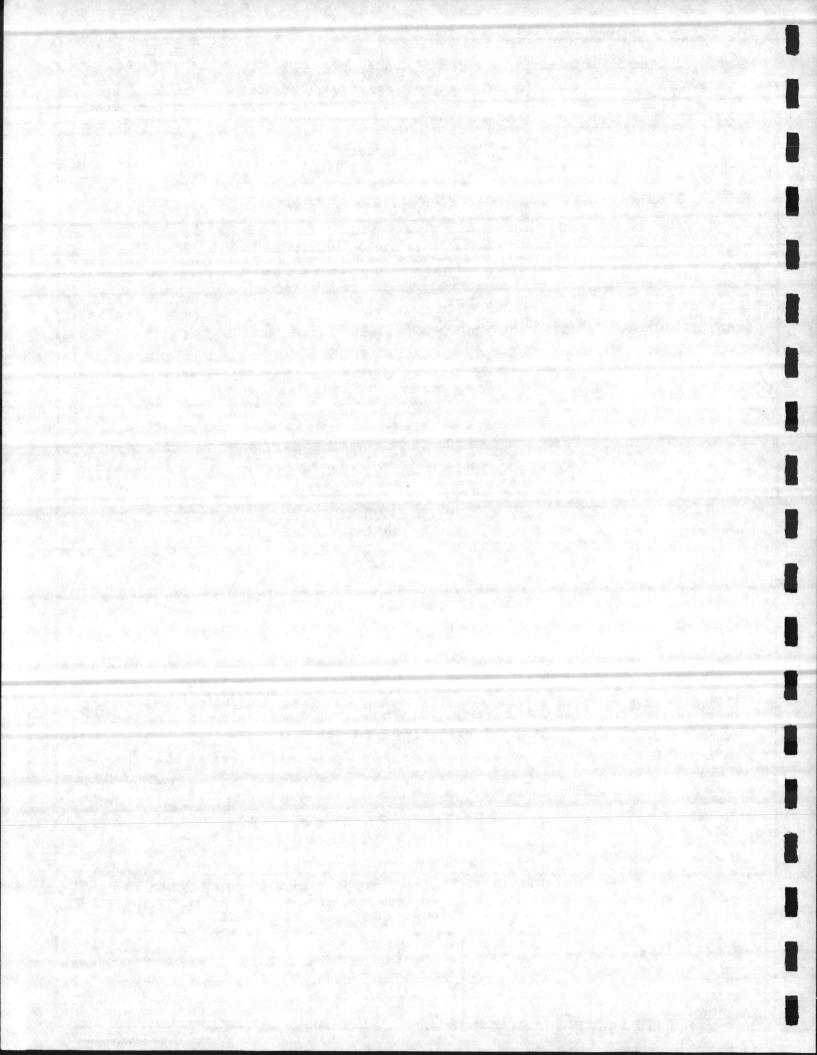
**DISADVANTAGES:** 

Reduce Cost

#### **DISCUSSION:**

Allows the use of brick to tie in with adjacent buildings and stucco finishes to allow cost savings. The potential of finish damage is low because the stucco is located up high. The Designer stated that face brick does not contribute to the structure.

LIEE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	42,019	Total London	42,019		
PROPOSED CHANGE	39,657	19 12 1 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	39,657		
SAVINGS Each Building	2,362	- 20	2,362		

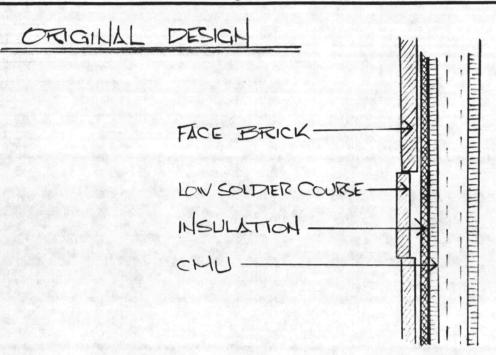


GYHNASIUMS F-133 & P-065 Aug 27-31, 84
Subject Date

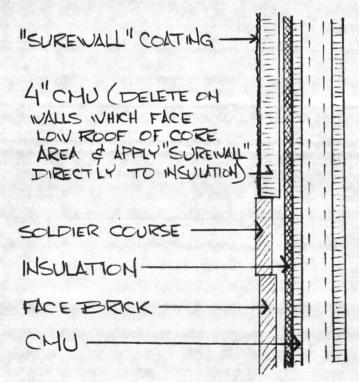
Project No.

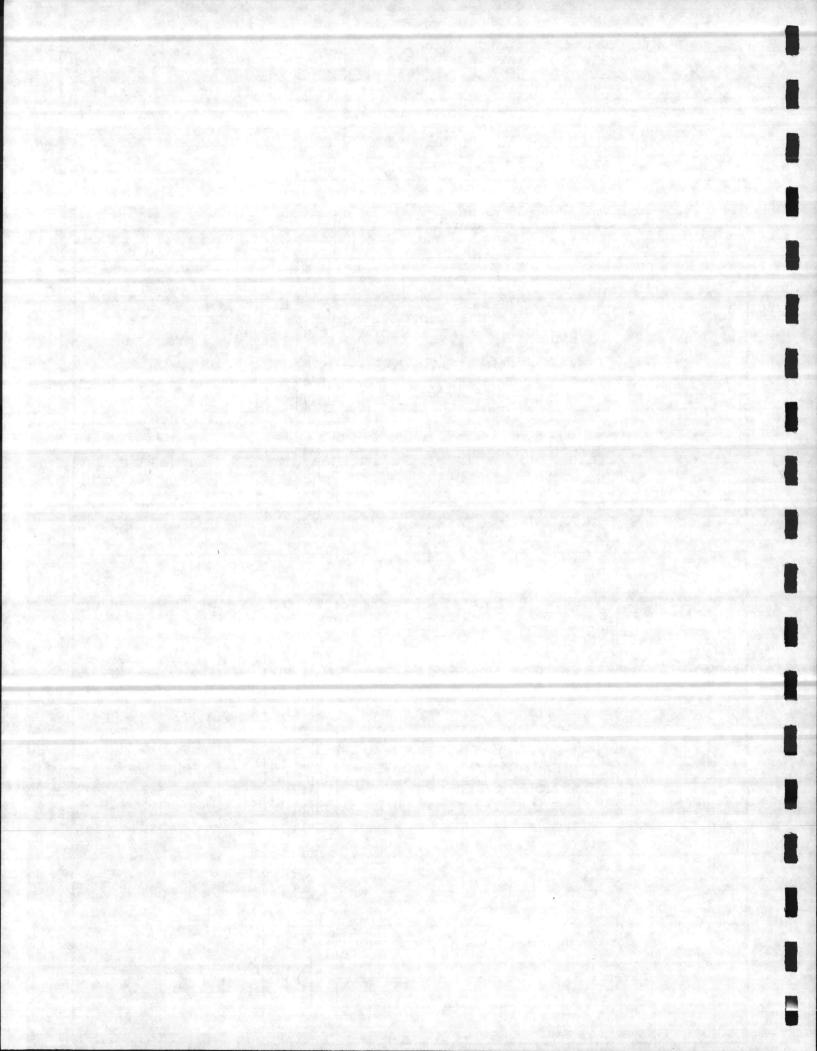
ITEM BC-1 (B)

Drawn By



### PROPOSED CHANGE





# PROJECT GYMNASIUMS P-133 & P-065 LOCATION Cupple Jevne / New River CLIENT NAVEAC DATE AUG 27-31, 1984

PAGE \_\_ 3 \_\_ OF \_\_ 3

### **COST WORKSHEET**

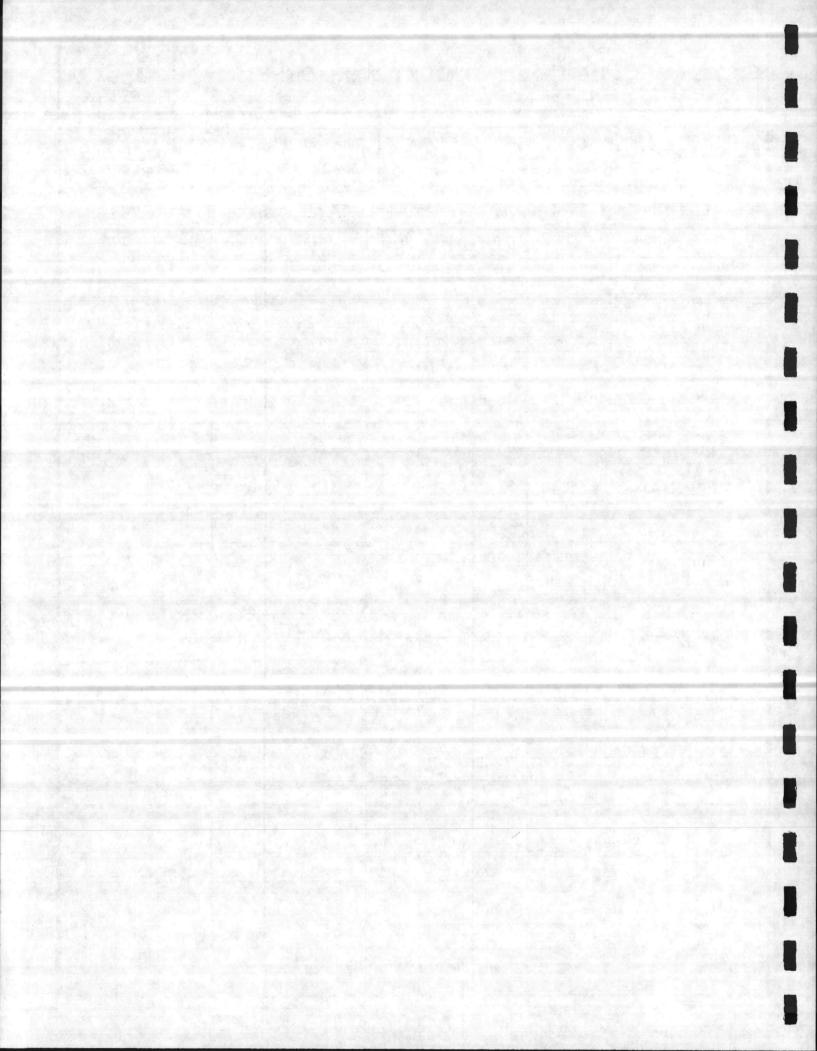


Use Brick and Surewall Material For Exterior Walls

ITEM NO.

BC-1B

CONSTRUCTION ELEMENT		OF	RIGINAL	INAL ESTIMATE		NEW ESTIMATE		
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL	
Face Brick	M	60	515	30,900				
Morter	CY	45	58	2610				
Clean Brick INSULATION ( DOW roof.)	SF	9992	.07	700.		~ L &		
INSULATION ( Now roof.	SF	3308	.46	1522.	Albert Prof	Project to		
SOLDIER COURSE	M	17	105	1785				
SUREWALL ON INSULATION	SF				3308	3.75	17 405	
4" CHU	EA.				7520		12,405	
SUREWALL ON CHU	SF	_			6684		10,026.	
Horzmare	CY		i j		15	58	870.	
TOTALS .			-					
EACH BUILDIN	6			37,517			35,408	
GC OH&P				4502			4249	
				42019			39,65	
			Part of the					



PROJEC	TG	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER.	NE & N.C.
CLIENT	N/	AVFAC	
DATE _	AUGUST	27-31,	1984
PAGE	1	OF	2



ITEM

USE BRICK, BLOCK WITH SUREWALL MATERIAL FOR EXTERIOR WALLS

ITEM NO.

BC-1C

### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for a brick face on the entire height of the exterior walls with 4'-0" high soldier course bands at 10' and at the top of the wall.

### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use brick face as shown in the original design and substitute 4" CMU at the soldier courses coated with "Surewall" or "Dryvit" stucco coating over the 4" CMU.

ADVANTAGES:

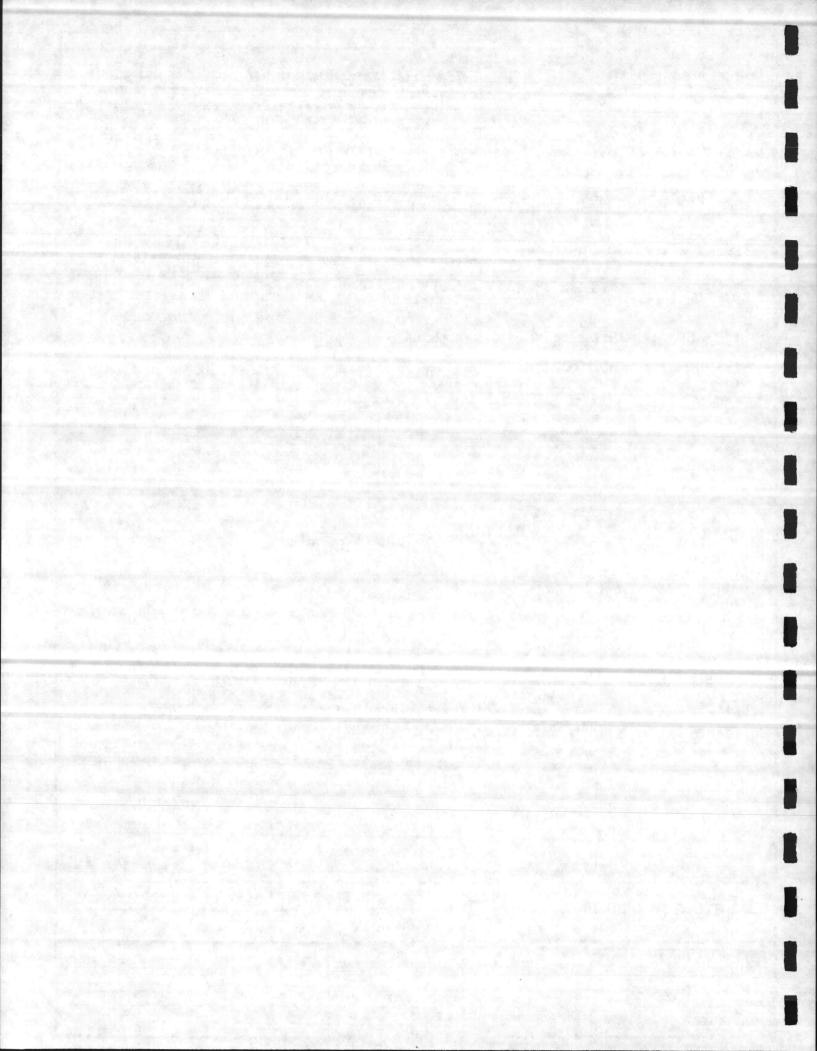
**DISADVANTAGES:** 

Reduce Cost

### DISCUSSION:

Allows the use of brick to tie in with adjacent buildings, keeps concept of bands, and ties bands in with facia materials on the other buildings.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CTOLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	27,223		27,223		
PROPOSED CHANGE	23,180	- 4	23,180		
SAVINGS Each Building	4,043		4,043		



# PROJECT GYMNASIUMS P-133 & P-065 LOCATION CappleTerne | New River CLIENT NAVEAC DATE AUG 27.31, 1984

PAGE Z OF

### **COST WORKSHEET**

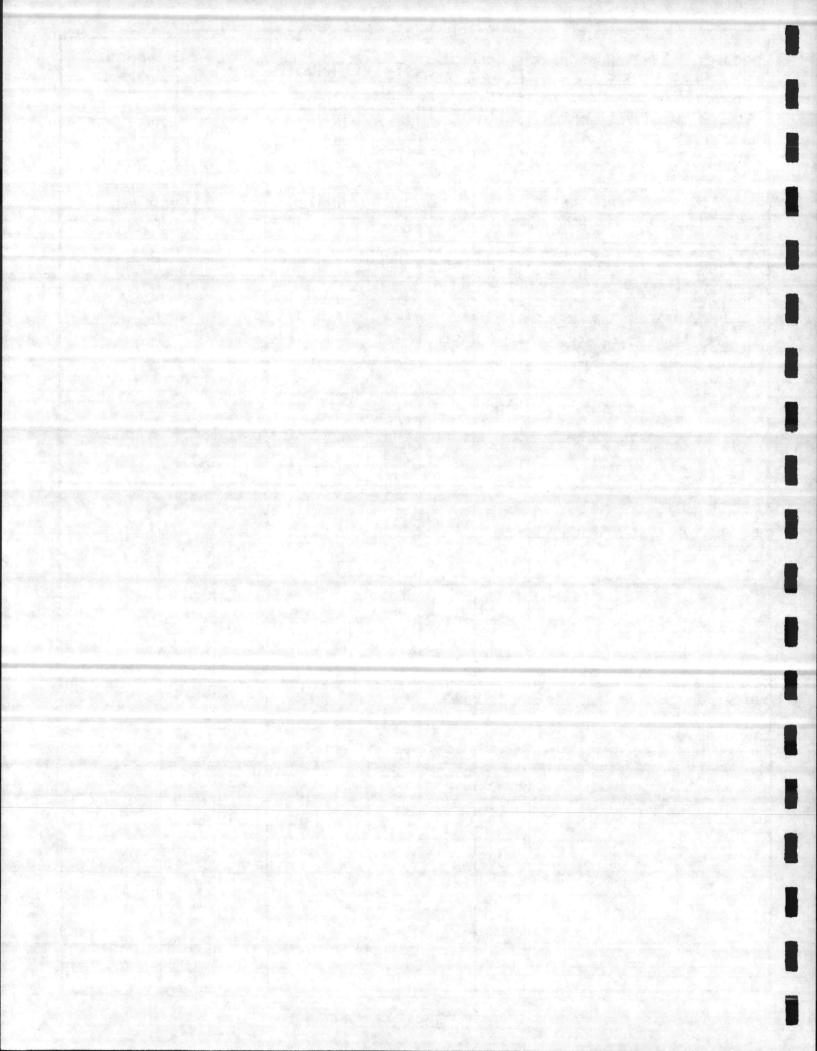
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Material For Exterior Walls

ITEM NO.

BC-1C

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	NEW ESTIMATE		TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
FACE BRICK	M	36	515	18,540.			
MORTAR	CY	27	58	1.566.			
ADD FOR SOLDIER	M	36	105	1,566. 3780.			
CLEAN BRICK	SF	6,000	.07	470.			
G.C. OH&P		,		2917			
4" CHU	EA.	TWO THE			6760	1,61	10.884
MORTAR	CY				14	58	10,884
SUREWALL OH CHU	SF				6000	1,50	9000
GC OH & P							2484
					And the second		
TOTALS							
PER BUILDING	Service of the			27,723			23,180
					Lucin Steel		
			To the second				
					1		
						907	



<b>PROJECT</b>	G	MNASIU	MS
P-06	5 AND	P-133	
P-06	CAMI NEW	RIVER.	NE & N.C.
CLIENT_	N/	AVFAC	
DATE _A	UGUST	27-31,	1984
PAGE	1	OF _	2



ITEM

USE OVERSIZE BRICK FOR EXTERIOR WALLS

ITEM NO.

BC-1E

### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for the exterior walls to be built with standard size brick.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use oversize brick instead.

ADVANTAGES:

**DISADVANTAGES:** 

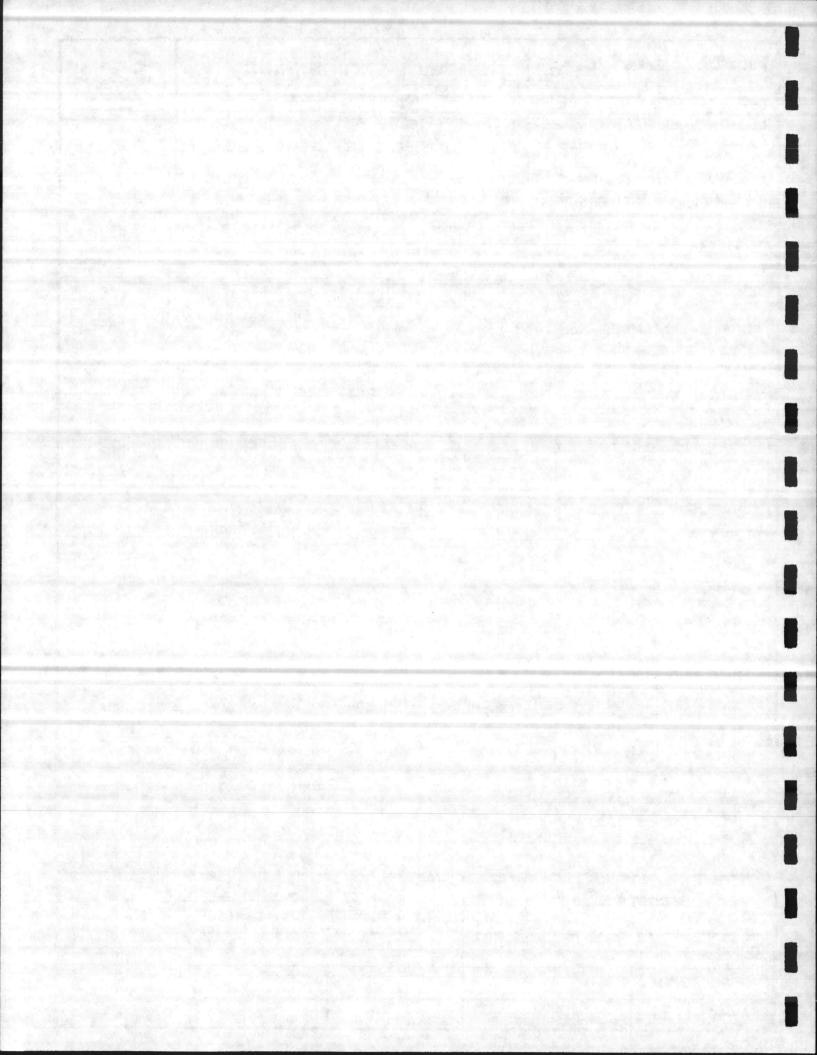
Reduce Cost

None

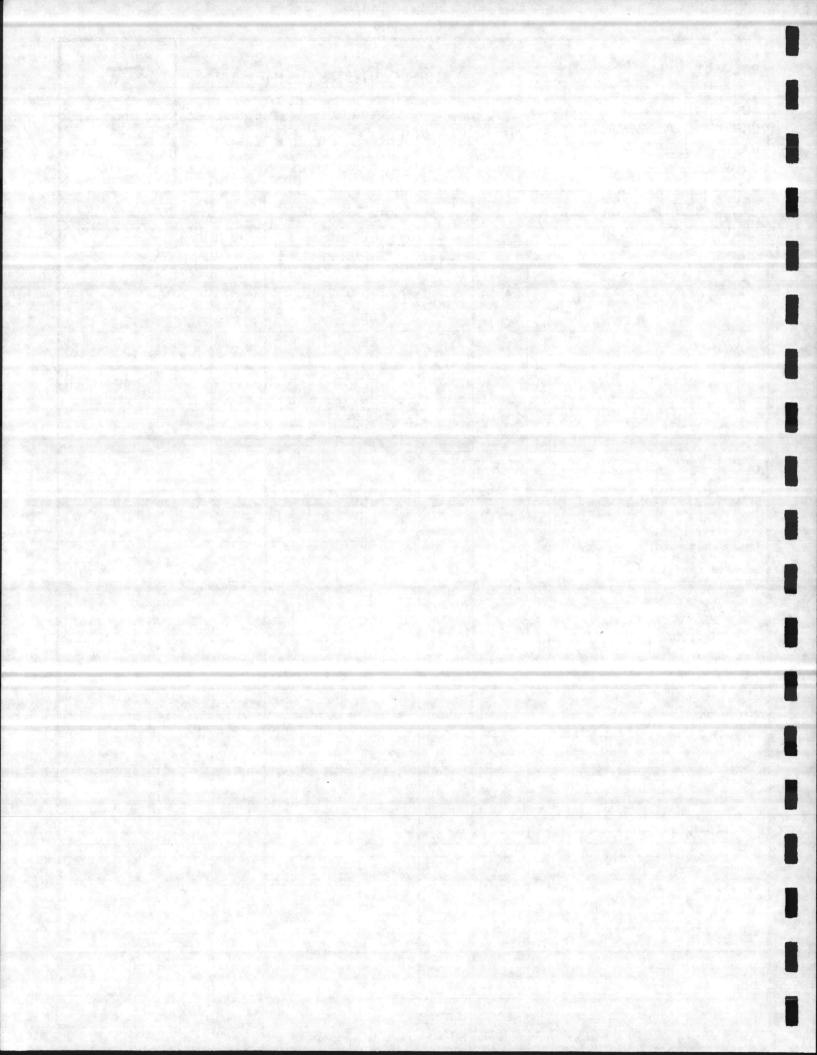
### **DISCUSSION:**

There is a small cost advantage in increasing the size of the brick to oversize.

LIEE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	69,000		69,000		
PROPOSED CHANGE	64,660	- 1	64,660		
SAVINGS Each Building	4,340		4,340		



P-133 POGS		CO	ST V	VORKS	SHE	ET		Z	
CLIENT NAVFAC  DATE Aug. 27-31, 1984  PAGE Z OF Z	- ITEM	ITEM Use Oversize Brick For Exterior Walls				Г	ITEM NO. BC-1E		
CONSTRUCTION ELEMEN	т	OF	RIGINAL	ESTIMAT	Έ		NEW ES	STIMATE	
ITEM	UNITS	NO. UNITS	COST/ UNIT	тот	AL	NO. UNITS	COST/ UNIT	TOTAL	
Handard Brick	M	134M	515	69,00	0				
oversize Bruch	M					115M	575	65,125	
	10 -			-					
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CLIENT	N	AVFAC		
DATE _	AUGUST	27-31,	1984	
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ITEM

DELETE VENETIAN BLINDS

ITEM NO.

BC-3

### ORIGINAL DESIGN: (Attach sketch where applicable)

Venetian blinds are not scheduled or specified in the basis of design, but they are included under specialties in the cost estimate.

### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to delete the venetian blinds.

#### ADVANTAGES:

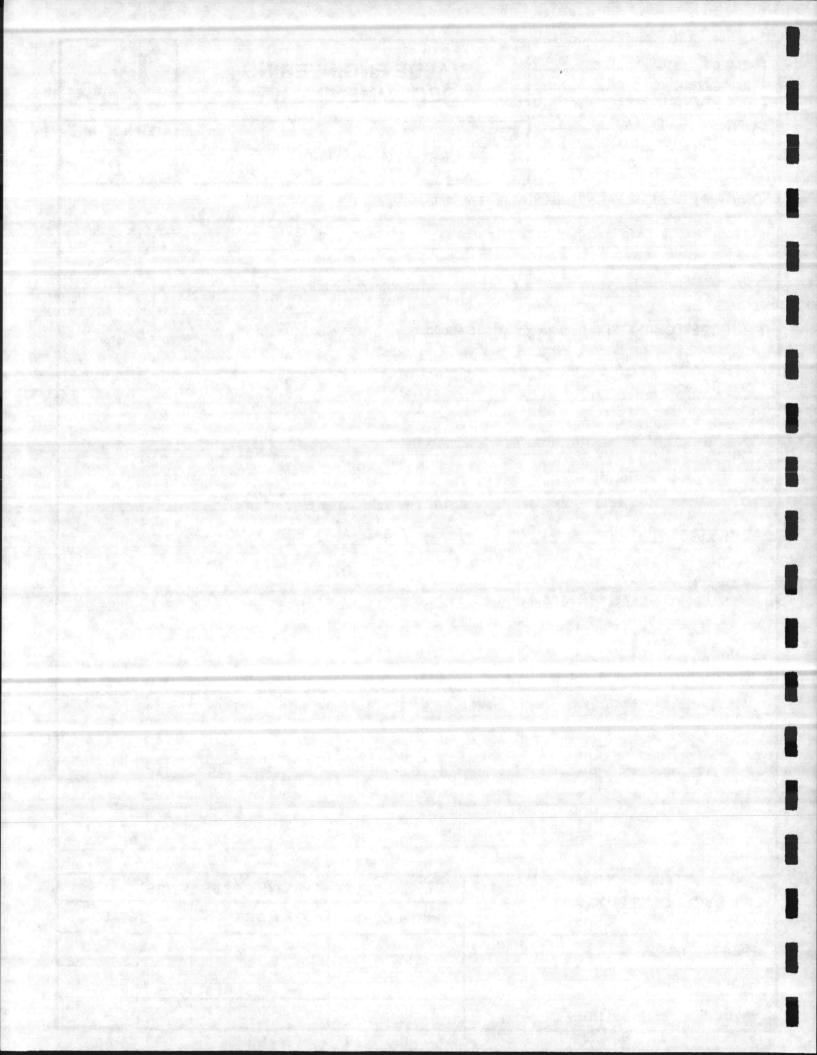
**DISADVANTAGES:** 

Reduce Cost Less Maintenance Not Required For North Light

#### DISCUSSION:

The venetian blinds are not scheduled and there is no apparent need for them in the building.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	1,147	-	1,147		
PROPOSED CHANGE	0	Improved	0		
SAVINGS Each Building	1,147	the season of the Post	1,147		



PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER,	NE & N.C.
CLIENT	NA NA	AVFAC	
DATE _	AUGUST	27-31,	1984
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Z

ITEM

QUESTION NUMBER OF BLEACHERS REQUIRED

ITEM NO.

BC-4

ORIGINAL DESIGN: (Attach sketch where applicable)

Folding bleachers are provided on both sides of the gymnasium. The Architect was instructed to provide as many as feasible, resulting in a total of 910 seats.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change reduces the number of seats needed or anticipated. Based on VE team experience, the number of bleachers required seems high.

ADVANTAGES:

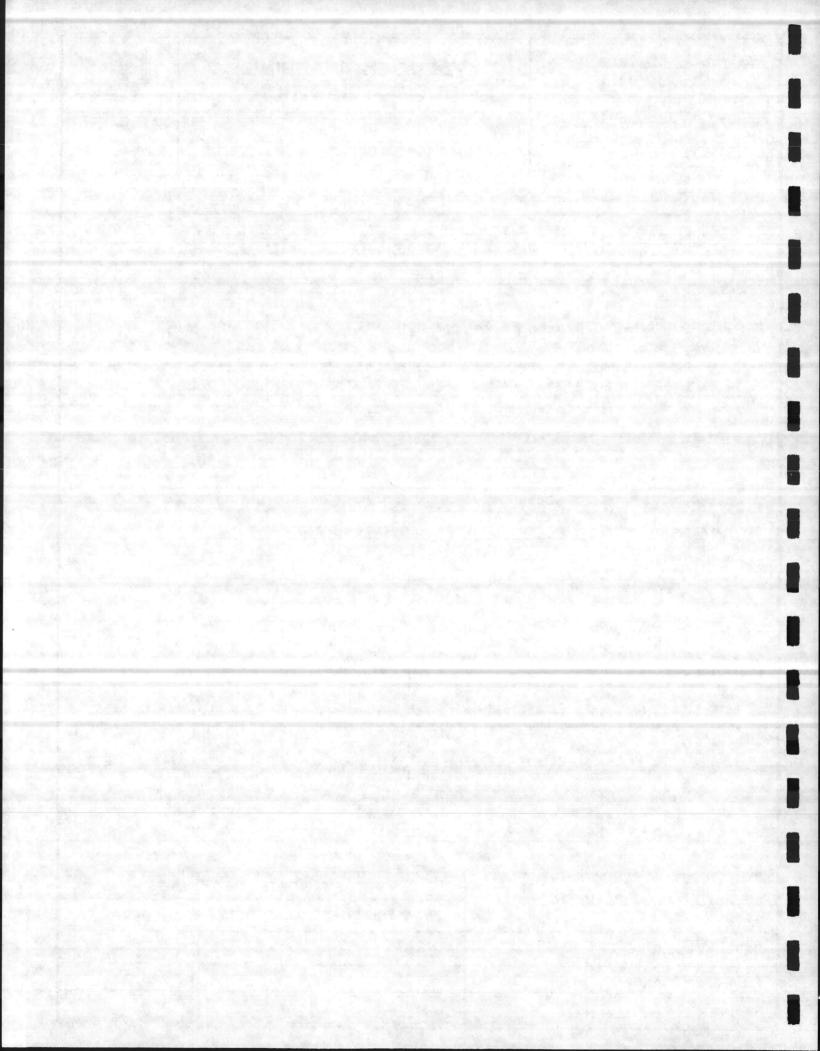
**DISADVANTAGES:** 

Reduce Cost

#### **DISCUSSION:**

If half of the bleachers are eliminated then there would still be seating for 455, and savings would equal half the estimated cost of \$28,574. If additional bleachers were needed later, they could be added at that time. 900 plus seats is generally adequate for high school use. Based on this figure, 450 seats should be more than adequate for intramural use, unless a need for more seats can be shown.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN 910 seats	28,574	Bartis Services Figs	28,574		
PROPOSED CHANGE 455 seats	14,287	<u>-</u>	14,287		
SAVINGS Each Building	14,287	of the same to be a second	14,287		



PROJEC	TG	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER,	NE & N.C.
CLIENT		AVFAC	1000
DATE _	AUGUST	27-31,	1984
DACE	1	OF	2



ITEM

QUESTION NEED FOR TWO TRAINING ROOMS

BC-5

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for two training room facilities, one for men and one for women.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use a common training room with controlled access. Expand the locker area and reduce the number of whirlpools to one.

**ADVANTAGES:** 

**DISADVANTAGES:** 

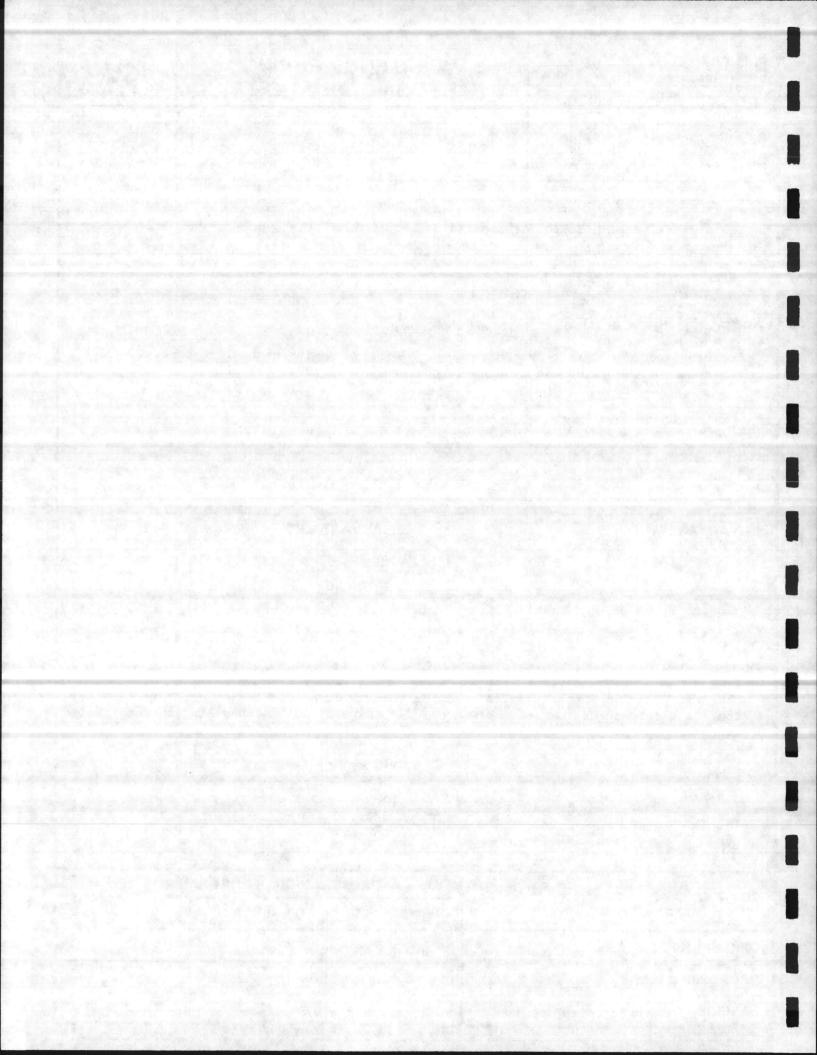
Reduce Cost

Requires Scheduling

#### **DISCUSSION:**

There is precedence for a single training room in high schools and other facilities. Conflicts between use by men and women could be resolved by scheduling and controlled access.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS		
	INITIAL COST	O & M COSTS	TOTAL
ORIGINAL DESIGN 2 whirlpools	9,000	<u>-</u>	9,000
PROPOSED CHANGE 1 whirlpool	4,500	-	4,500
SAVINGS Each Building	4,500		4,500



Iten No BC-5
Project No.

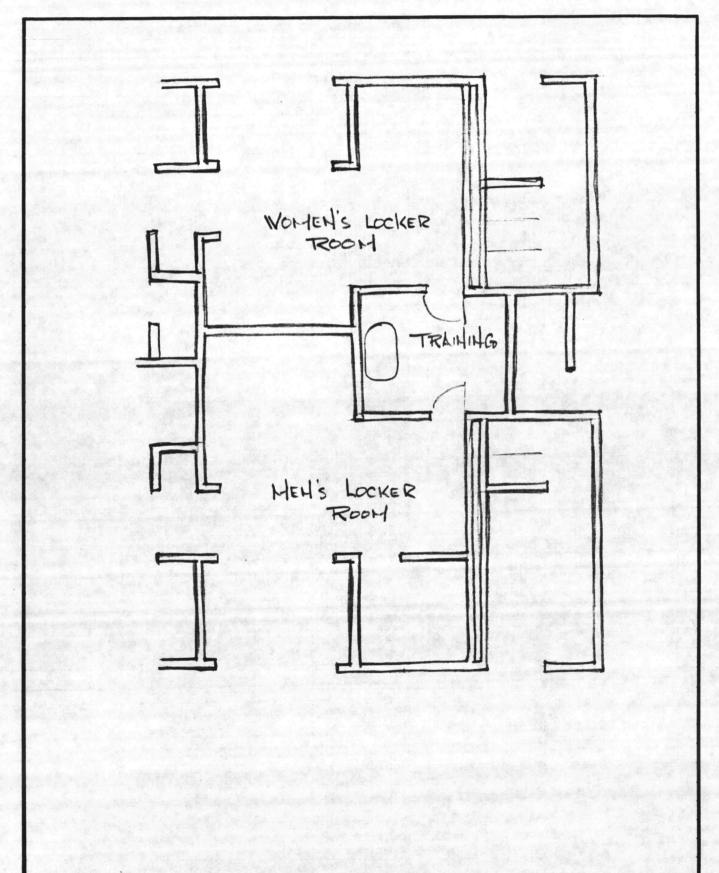


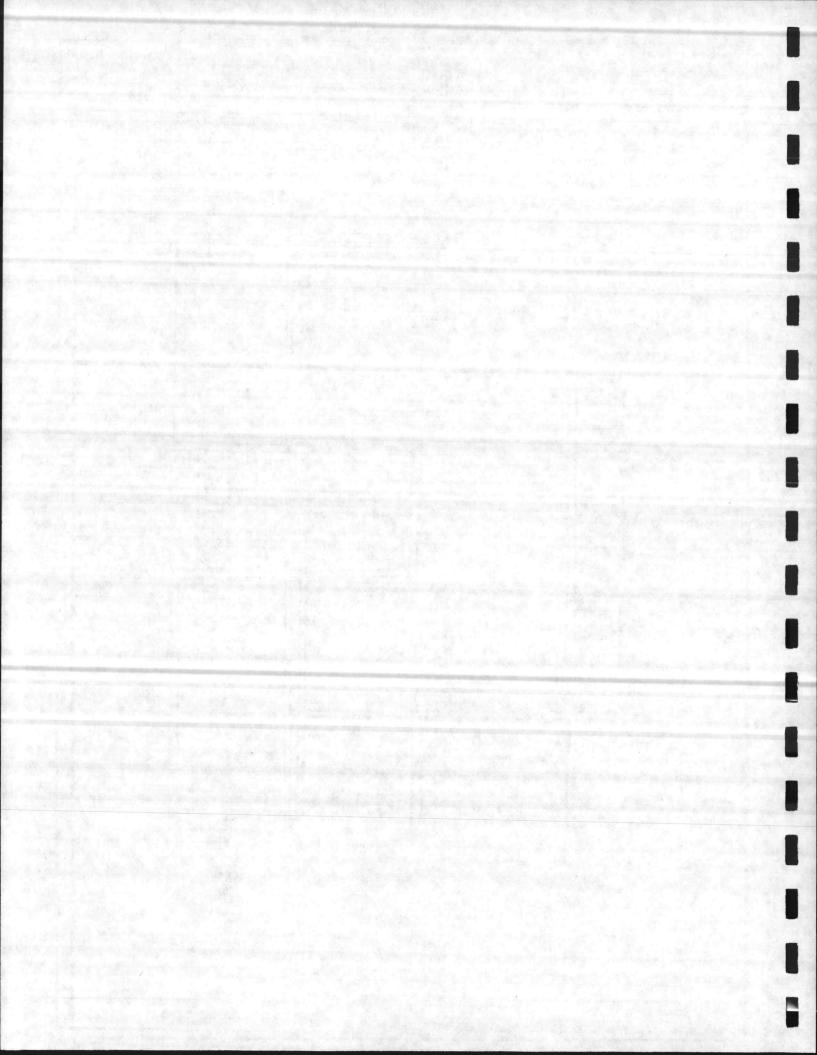
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Subject P-065 AND P-133

Date

Drawn By





PROJEC	T G	MNASIU	MS
P-	O65 AND	P-133	
LOCATI	ON NEW	RIVER,	NE & N.C.
CLIENT	NA NA	AVFAC	
DATE _	AUGUST	27-31,	1984
PAGE	1	OF	2



ITEM

RECONFIGURE ENTRANCE TO LOCKER ROOM

BC-6

ORIGINAL DESIGN: (Attach sketch where applicable)

Current placement of the doors for public toilets (men & women) may encourage traffic to go directly into the locker rooms.

PROPOSED CHANGE: (Attach sketch where applicable)

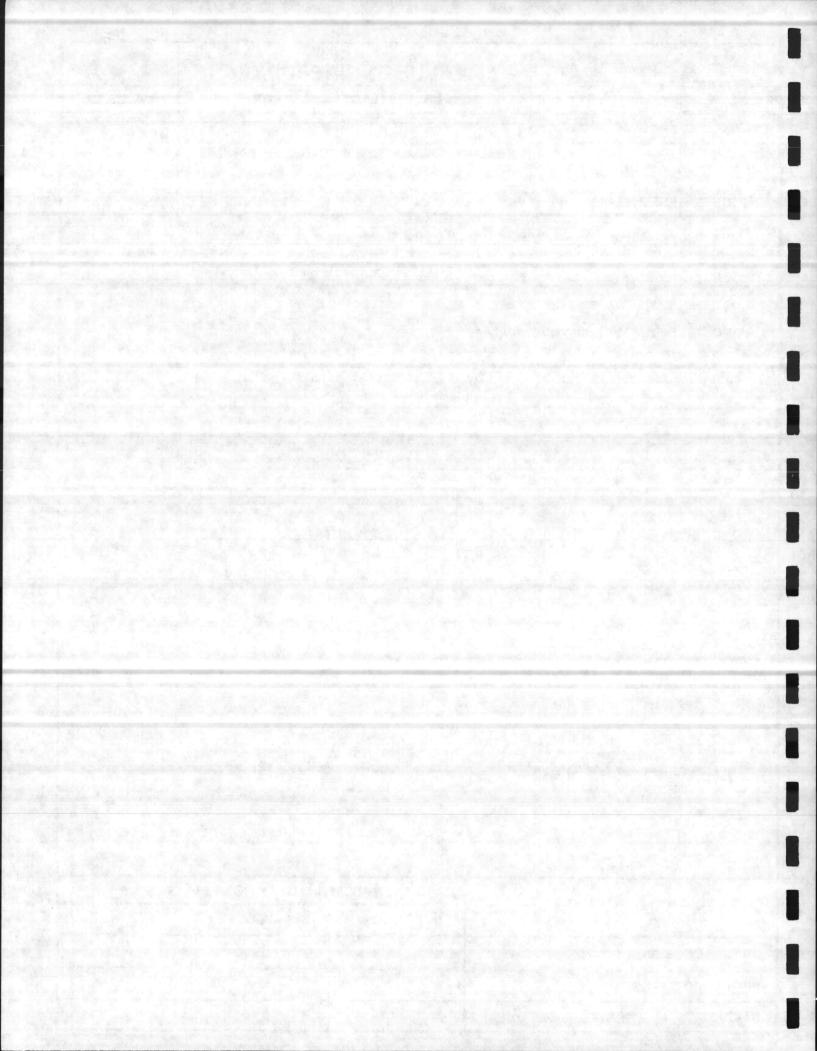
Reverse the swing of the doors or revise placement to direct traffic for public toilets directly into public toilets. Additional signage may also help.

ADVANTAGES:

**DISADVANTAGES:** 

Improve Function

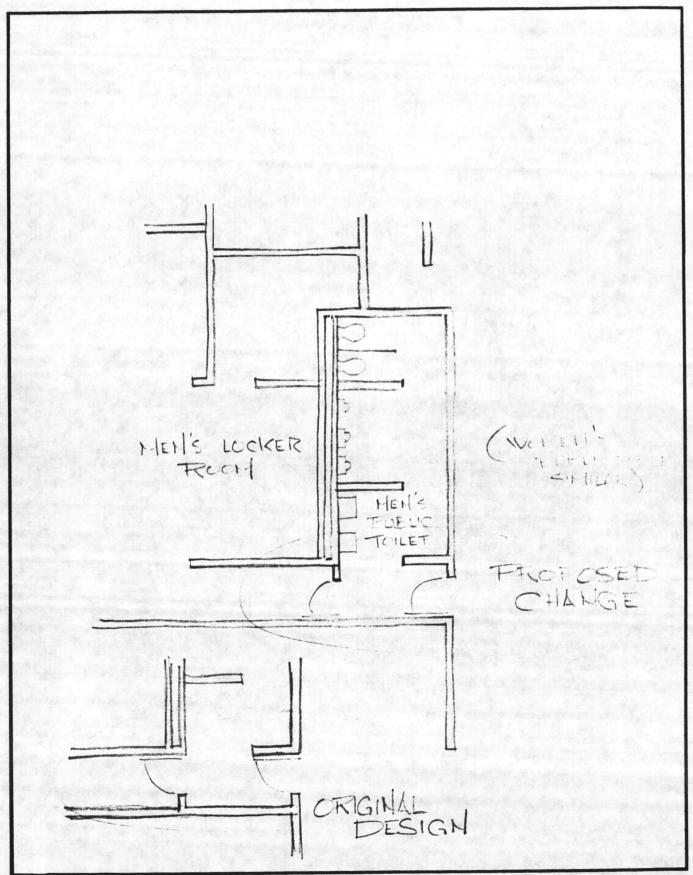
LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN					
PROPOSED CHANGE					
SAVINGS Each Building		Design Suggestion			

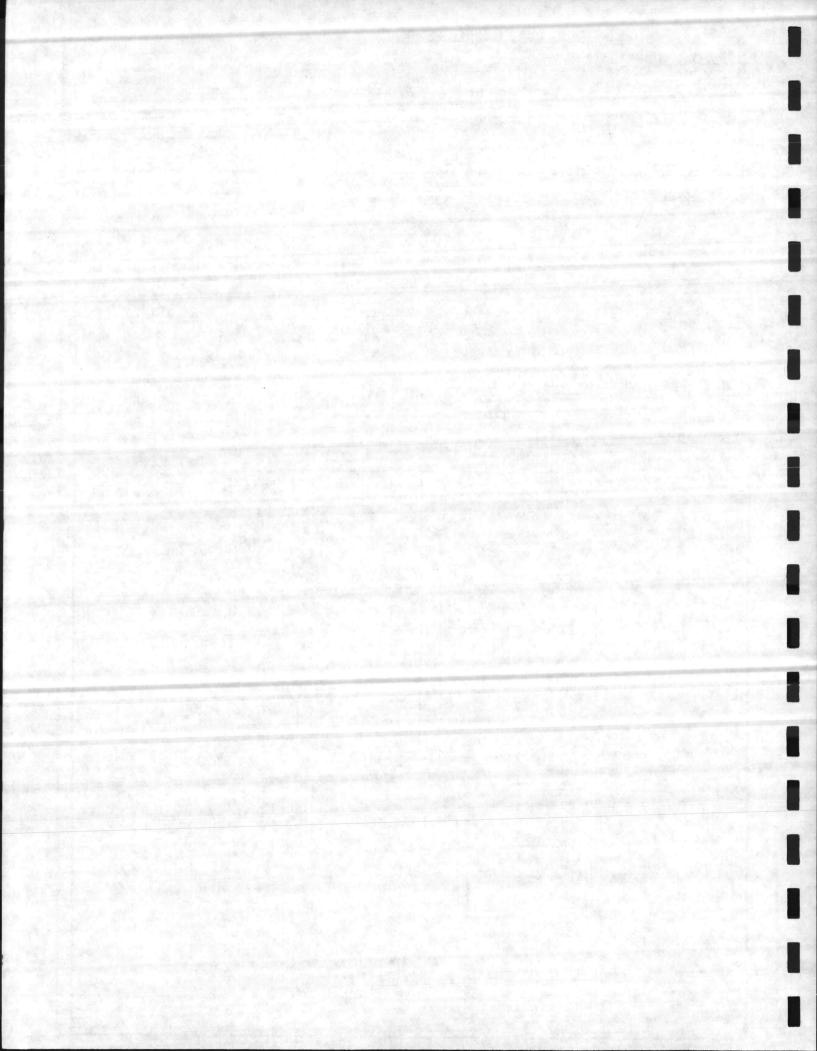


Subject P. 133 & P. 065 Date Project No.

Item No. BC-6

Drawn By





PROJEC	T G	MNASIU	MS
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CLIENT		AVFAC	100
DATE _	AUGUST	27-31,	1984
PAGE	1	OF _	3

Z

ITEM

LOWER SHOWER STALL WALLS

BC-7

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the shower stall walls at full room height.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to lower the shower stall walls to 6 feet.

ADVANTAGES:

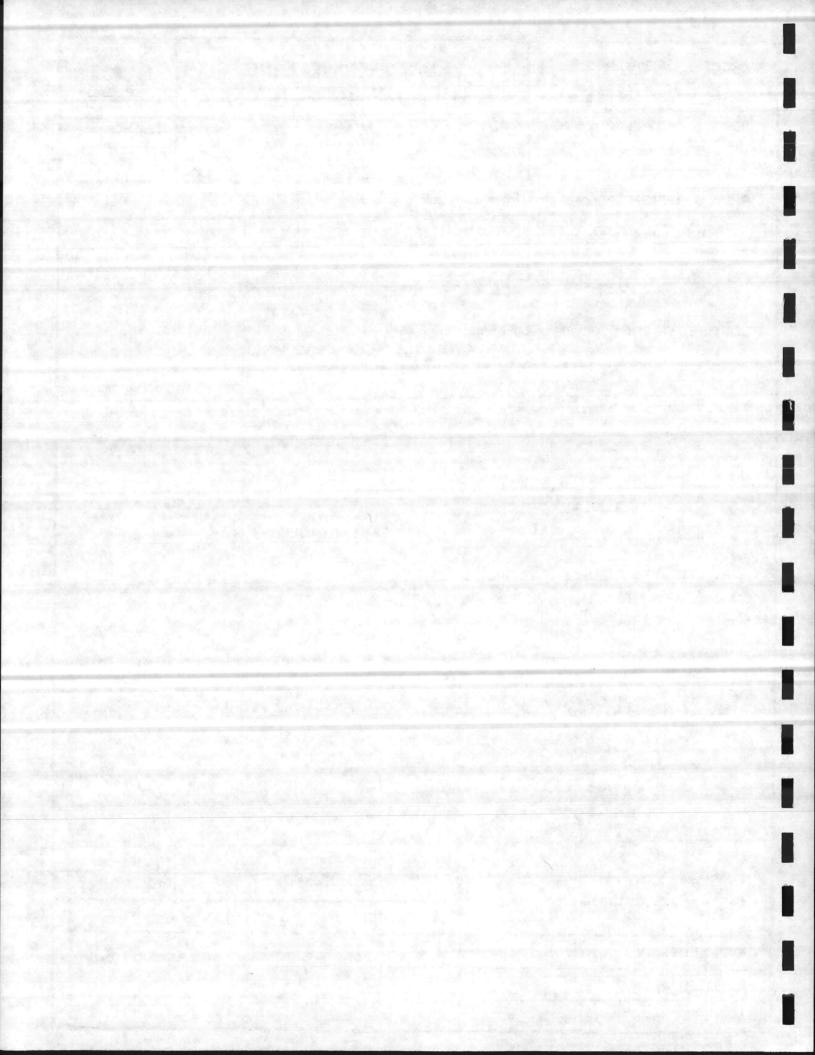
**DISADVANTAGES:** 

Reduce Costs

#### DISCUSSION:

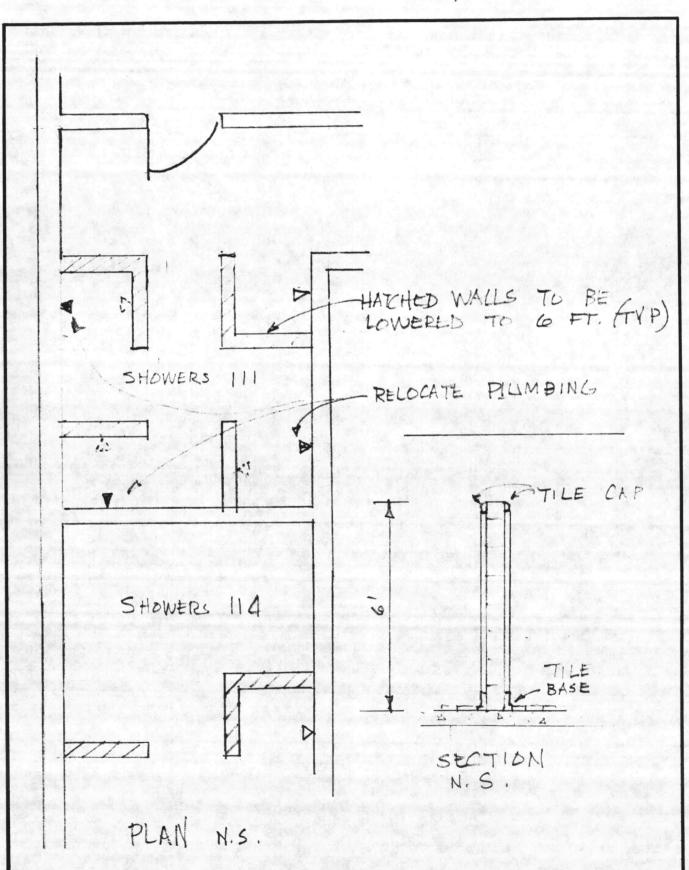
There appeared to be no reason to have the shower stall walls higher then 6 feet.

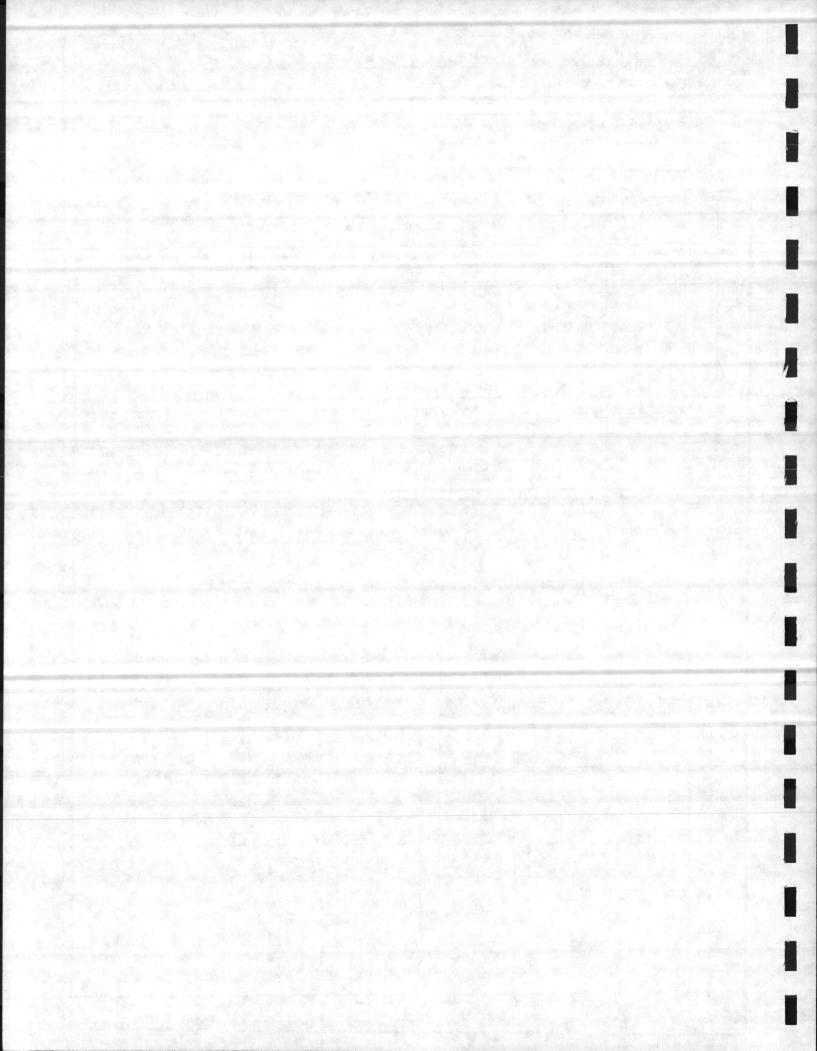
LIFE OVOLE GOOT SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	.750	<u>-</u>	750		
PROPOSED CHANGE	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0		
SAVINGS Each Building	750		750		



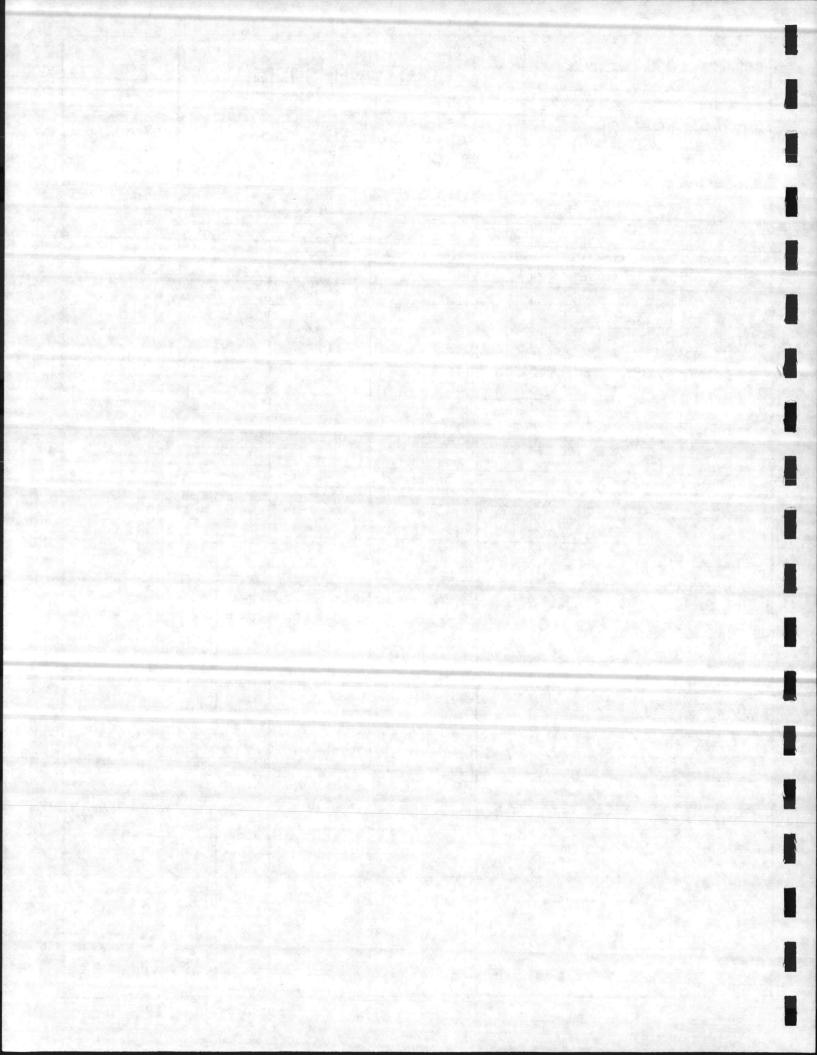
Date Project No. PC-7

Drawn By





PROJECT GYMNASIUMS P.065 And P-133 LOCATION Cample Jeune / New Pine		СО	ST W	ORKSHE	ET		Iz.
CLIENT	ITEM	Low	er s Ils	hower	Stary	/ I <sup>-</sup>	<b>TEM NO.</b> 8⊂-7
CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	1	NEW ES	STIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
8" Black-(31x3)					935F	515	479
8" Dunum!					incl	legue	_
Block Fill		at No. 1	1.3		Ine!	About	_
Cevamic Tile Wayls					575F	34	194
Rocassa Lights Yourcan	asat						NC
Plumbing			3.30				NC
Sub Total				A Section			673
Cost mark-up							77
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DATE _	AUGUST	27-31,	1984
PAGE _	1	OF _	2



ITEM

USE SYNTHETIC SHEET FOR GYM FLOORING

ITEM NO.

BC-8A

ORIGINAL DESIGN: (Attach sketch where applicable)

A wood floor in the gymnasium is specified.

PROPOSED CHANGE: (Attach sketch where applicable)

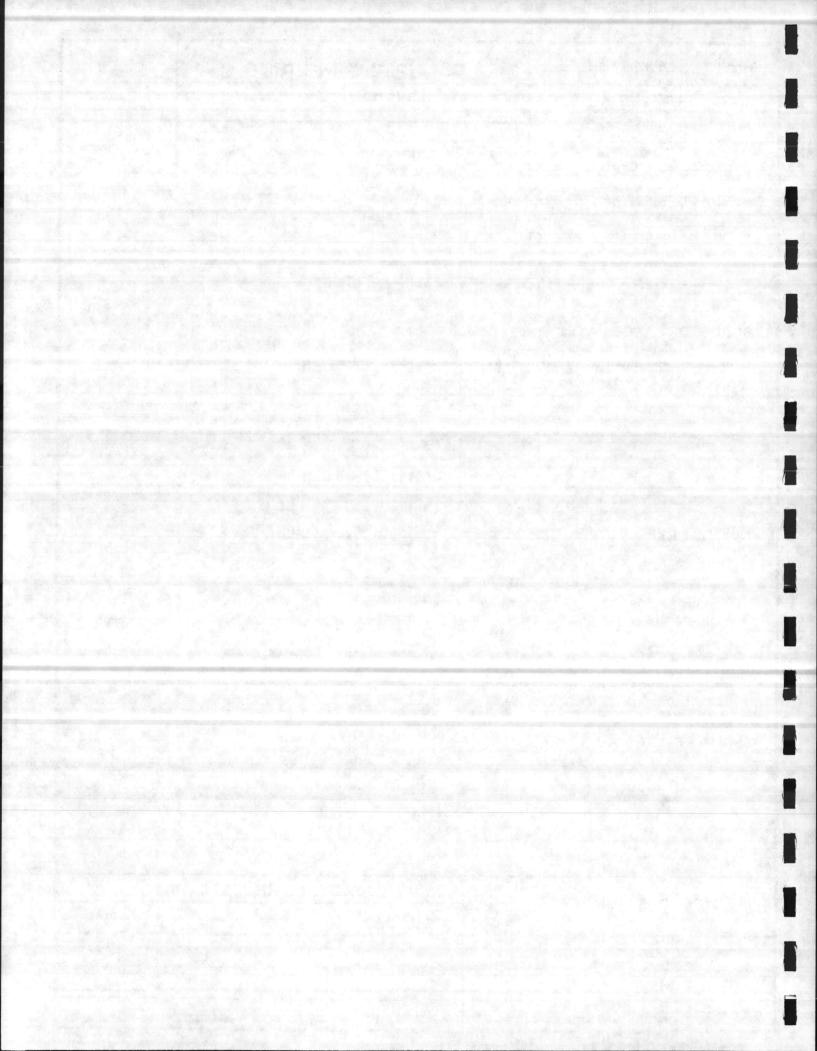
The proposed change is to use a 1/4" PVC sheet flooring in the gymnasium.

ADVANTAGES:

**DISADVANTAGES:** 

Reduce Cost Save Energy No Refinishing

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	60,454		60,454		
PROPOSED CHANGE	47,335	Improved	47,335		
SAVINGS Each Building	13,119	- with	13,119		



PROJECT			· C6		
LOCATIO	N Car	pleje	ine /	Neu Pi	r.
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### **COST WORKSHEET**

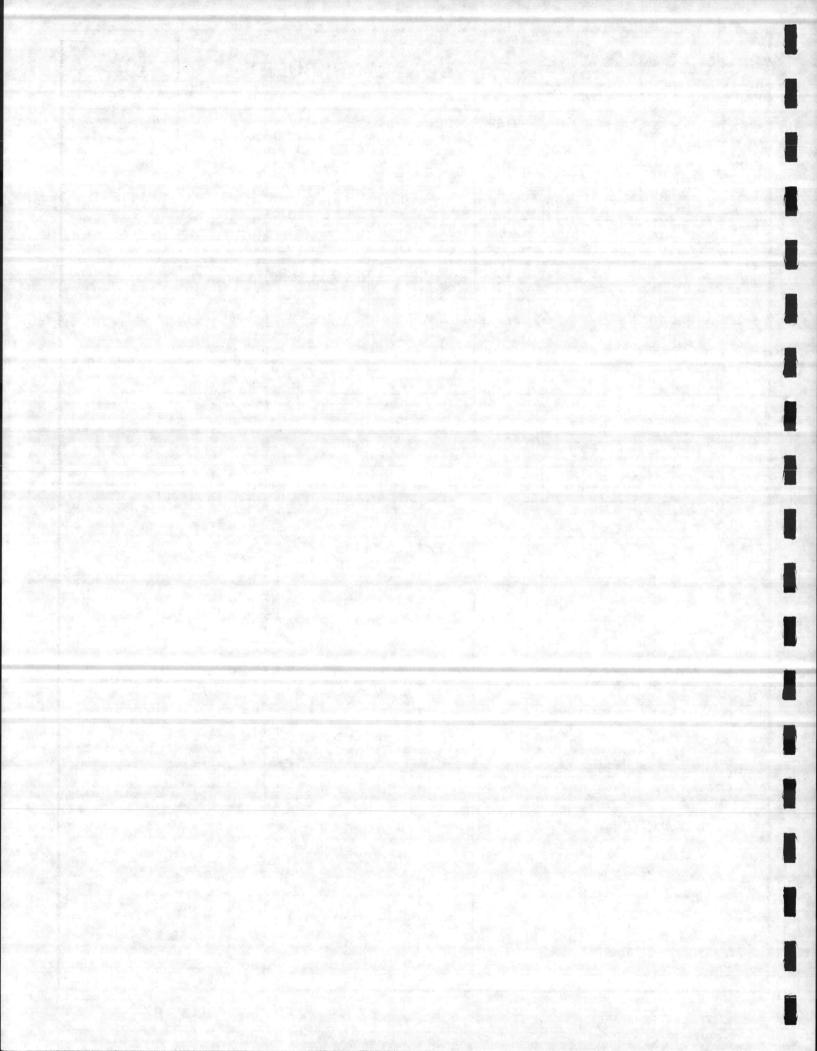


ITEM

Use Synthetic Sheet for Gym Flooring ITEM NO.

BC- = A

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	1 21	NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
WOOD FLOOR	SF	9124	4,93	44,981		li de	
SUB CHEP	100			8 996	100	la de la companya della companya della companya de la companya della companya del	Ja 4
EUP TOTAL		100		(53,977)	- 1		
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FVC Synthetic Short FT.	SF				9124	3.86	35,219
SUK endi	G <sub>j</sub>					100	7644
CUPTCTAL				1 196		197	(42, 263
GC CHAP		100			6%		5072
			10.00				
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CLIENT		N/	AVFAC	4.6
DATE _	AUC	GUST	27-31	, 1984

PAGE \_\_1 OF

# VALUE ENGINEERING RECOMMENDATION

Z

ITEM

USE MONOLITHIC POUR FOR GYM FLOORING

ITEM NO.

BC-8B

ORIGINAL DESIGN: (Attach sketch where applicable)

A wood floor in the gymnasium is specified.

PROPOSED CHANGE: (Attach sketch where applicable)

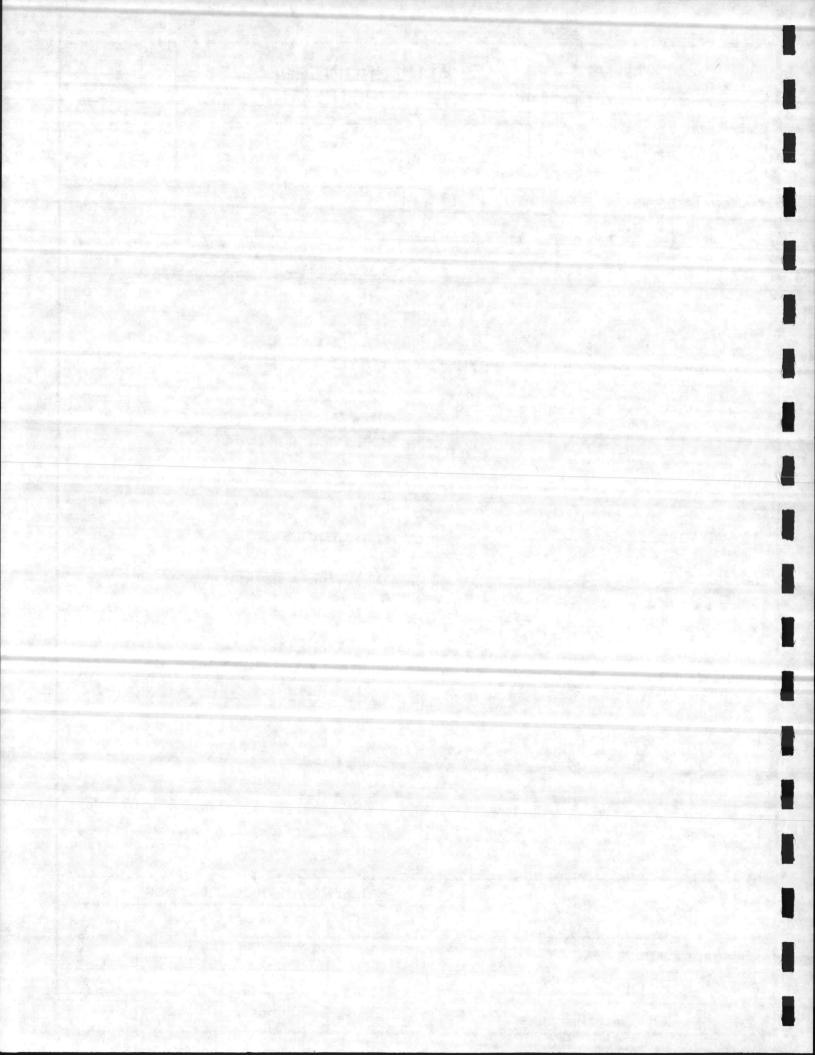
The proposed change is to use a 1/4" poured in place urethane flooring in the gymnasium.

### ADVANTAGES:

**DISADVANTAGES:** 

Save Energy Reduce Cost No Refinishing Finishing Difficult

LIFE CYCLE COST CUMMA DV	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	60,454		60,454		
PROPOSED CHANGE	42,429	Improved	42,429		
SAVINGS Each Building	18,025	-	18,025		



PROJECT	GA-HACIONS
P-133	8 P. 065
LOCATION	umpletone/New River
CLIENT	NAUFAC
DATE Au	(27.31, '84

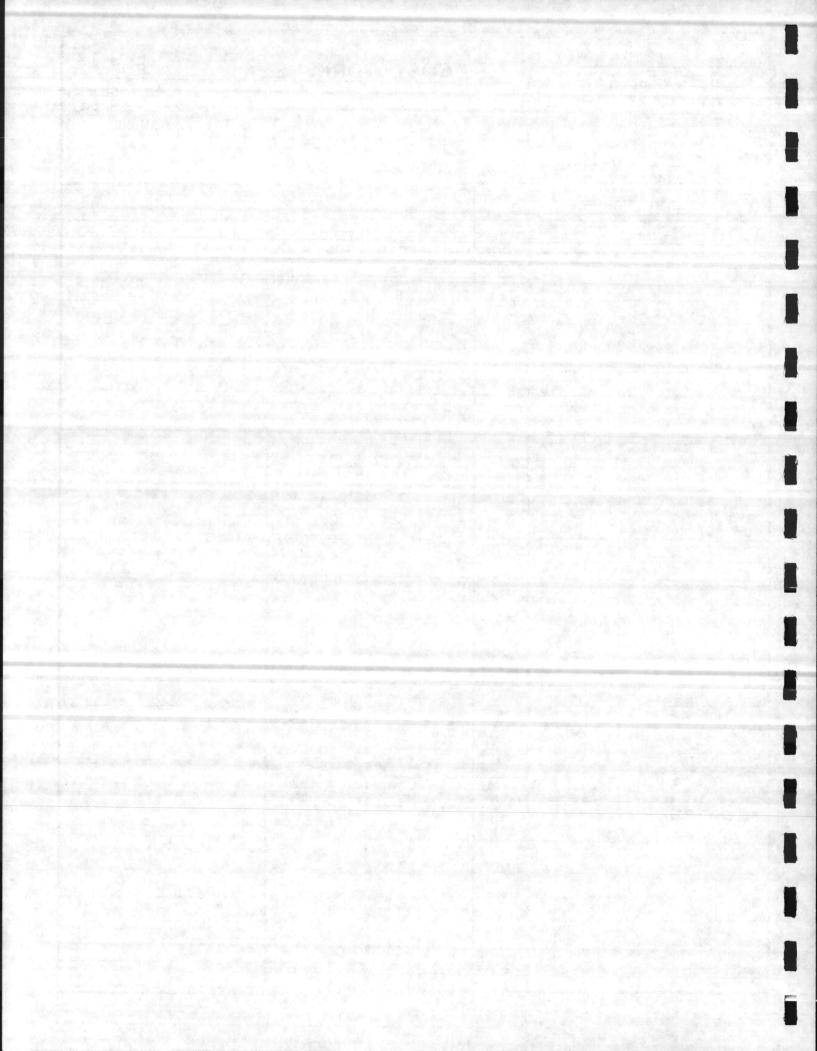
### **COST WORKSHEET**



ITEM

Use Monolithic Pour For Gymnasium Flooring ITEM NO. BC-88

CONSTRUCTION ELEMENT		OR	ORIGINAL ESTIMATE			NEW ESTIMATE	
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
Wood FLOR	CF	9124	4.93	44,981.			
CUP CHOT				8,996			
SICILL				(53,977)			
G.C. C114F				6477			114
			=				
	45 FF 84						
FOURED CRETIMALE FLORE	SF				9174	3.46	715(9
SUP OH &P	3'				Cycle Services		(214
SUPTOTAL							(27882
G.C. CH4P							4546
					140-		
				10 1171			1121129
				60,454			42,429
		politic in distribution					per gradent in
			1 40 m at 20				
					8		



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P-	065 AN	D P-133	
LOCATION	ON NE	D P-133 MP LEJEU W RIVER,	NE & N.C.
CLIENT		NAVFAC	
DATE _	AUGUS'	r 27-31,	1984
PAGE	1	_ OF _	2

Z

ITEM

USE EDGE GRAIN MAPLE FOR GYM FLOORING

BC-8C

ORIGINAL DESIGN: (Attach sketch where applicable)

A wood floor in the gymnasium is specified.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use an 11/16" edge grain block maple flooring set in urethane adhesive in the gymnasium. (Robbins Sportwood Floor.)

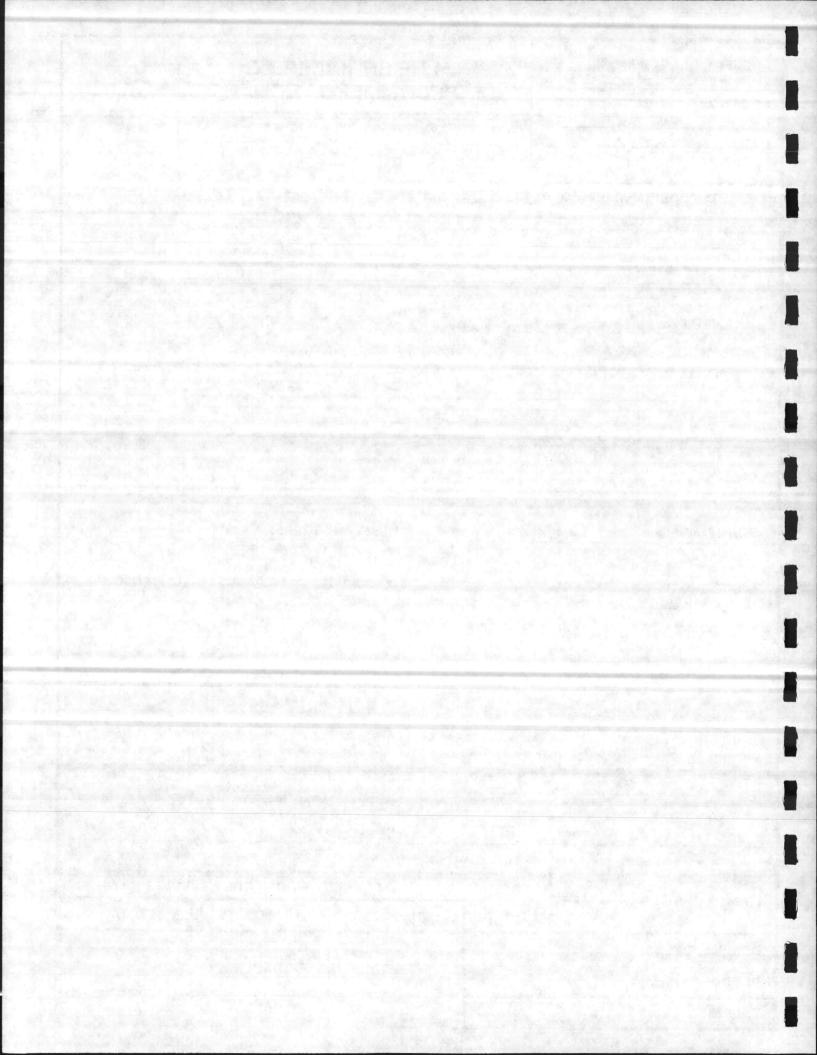
#### ADVANTAGES:

Reduce Cost Save Energy

### DISADVANTAGES:

Refinishing Required (Also required on original design.)

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	60,454		60,454		
PROPOSED CHANGE	49,541	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	49,541		
SAVINGS Each Building	10,913		10,913		



### 

### **COST WORKSHEET**

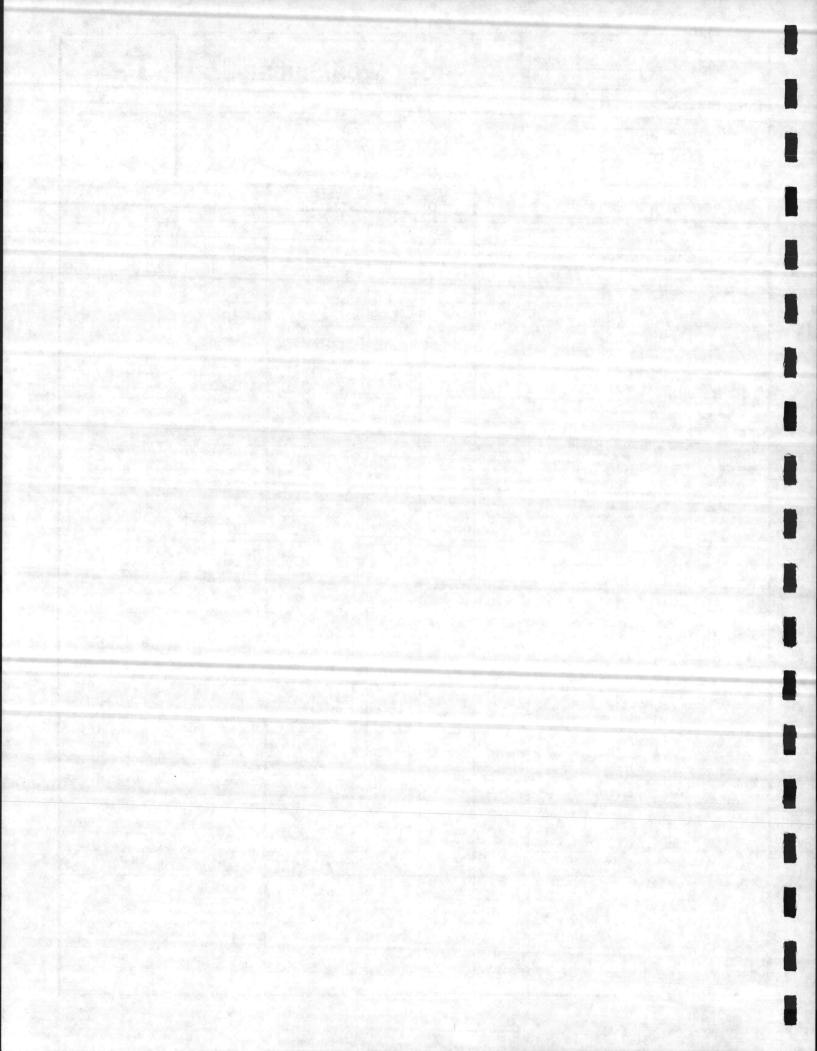


ITEM

Use Edge Grain Maple For Grmnasium Frooring ITEM NO.

BC-8C

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	NEW ESTIMATE		TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
Wood Fuer	SF	9174	4.93	44.981			
SUF CHEP				8,996			
SUBTETAL				(53,977)		Aug State	
G.C. CHOP				C, 477			
			-				
					L.		
EDGE GRANN LARGE	SF				9124	4,04	36,80
SUB CH & P							7377
SUB CH & P SUBTOTAL							(44,235
G.C. OH&P							530
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					and the same of th		
							and the second to the
		grap our come			d North A	er en en en en en	
				60,454			49,54
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PROJECT	GYMNASIUMS
P-0	65 AND P-133
LOCATIO	N NEW RIVER, N.C.
CLIENT_	NAVFAC
DATE	AUGUST 27-31, 1984

PAGE \_\_\_1

### VALUE ENGINEERING RECOMMENDATION



ITEM

USE PROGYM FLOOR FINISH IN EXERCISE ROOM

BC-9

ORIGINAL DESIGN: (Attach sketch where applicable)

VCT is shown on the finish schedule for the exercise room, however the estimate shows a special floor, which the Designer clarified as being a cushioned vinyl floor.

**PROPOSED CHANGE:** (Attach sketch where applicable)

The proposed change is to use a Progym floor in the exercise room.

### **ADVANTAGES:**

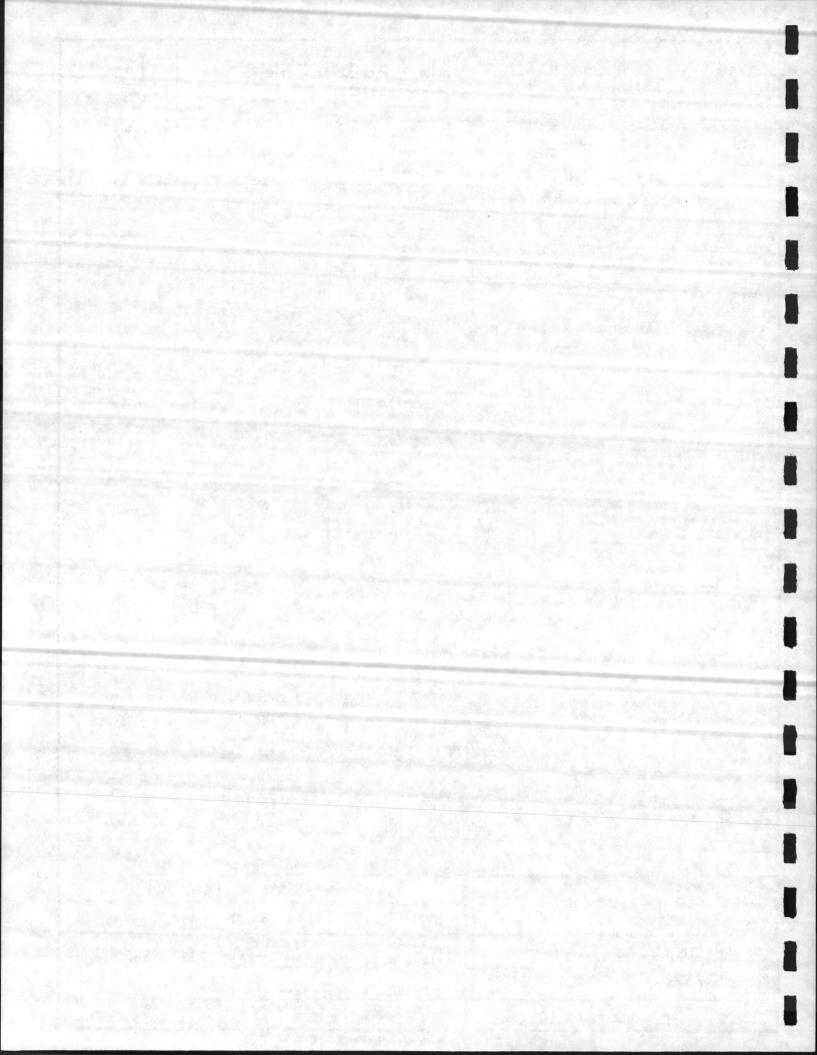
**DISADVANTAGES:** 

5 Year Warranty Reduces Cost

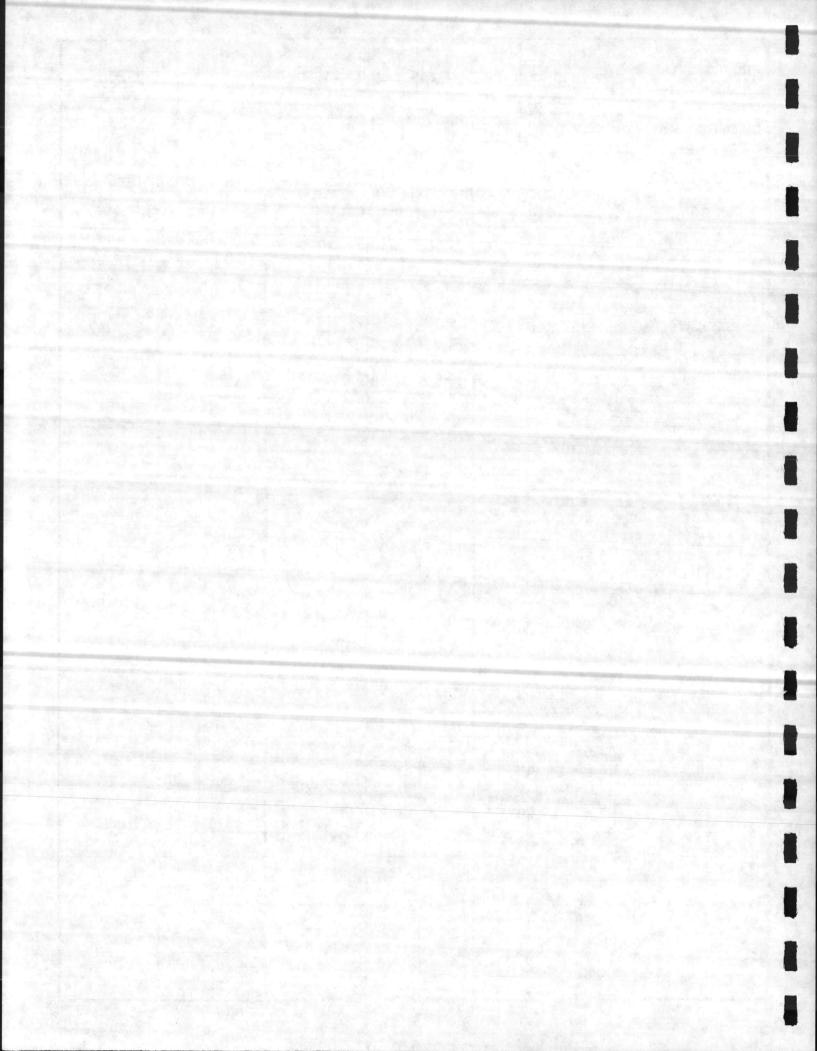
#### DISCUSSION:

Progym is a carpeted surface fused into a vinyl base, manufactured specifically for athletic floors. Maintenance is limited to vacuuming and shampooing twice a year.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	10,674		10,674		
PROPOSED CHANGE	7,244	Improved	7,244		
SAVINGS Each Building	3,430		3,430		



### PROJECT GYMNASIUMS **COST WORKSHEET** P-065 A-0 P-133 CLIENT \_\_ NAVFAC DATE \_Aug. 27-31 1909 ITEM ITEM NO. Use Progym Floor Finish BC-9 PAGE Z OF Z In Exercise Room ORIGINAL ESTIMATE CONSTRUCTION ELEMENT NEW ESTIMATE COST/ UNIT COST/ UNIT ITEM UNITS TOTAL TOTAL =F 1891 4.20 7942 EUT OHEI 9530 SUETCTAL G.C. OHEP 1144 1891 2.85 PROGYFI THETE SF SUE OH&P SUFTCTAL G.C. OHAF 10,674 7244



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P-	065 AND	P-133	grandle of
LOCATI	ON NEW	P LEJEU RIVER,	NE & N.C.
CLIENT	N.	AVFAC	315-1-1
DATE _	AUGUST	27-31,	1984
PAGE .	1	OF _	1

Z

ITEM

REDUCE NUMBER OF SCOREBOARDS

BC-10

#### ORIGINAL DESIGN: (Attach sketch where applicable)

Two (2) single sided wall mounted basketball scoreboards mounted above basketball goal on wall. Scoreboard control from two (2) locations, one (1) each side of basketball court.

Cost: 2 @ \$9,100 = \$18,200.

#### PROPOSED CHANGE: (Attach sketch where applicable)

Use one (1) single sided wall mounted scoreboard mounted on end wall over basketball goal. Control from one (1) location (± center court) on one side of basketball court. Use one (1) scoreboard controller that can be unplugged and removed to safe storage when not in use.

Cost: 1@ \$5,000 to \$7,500.

#### ADVANTAGES:

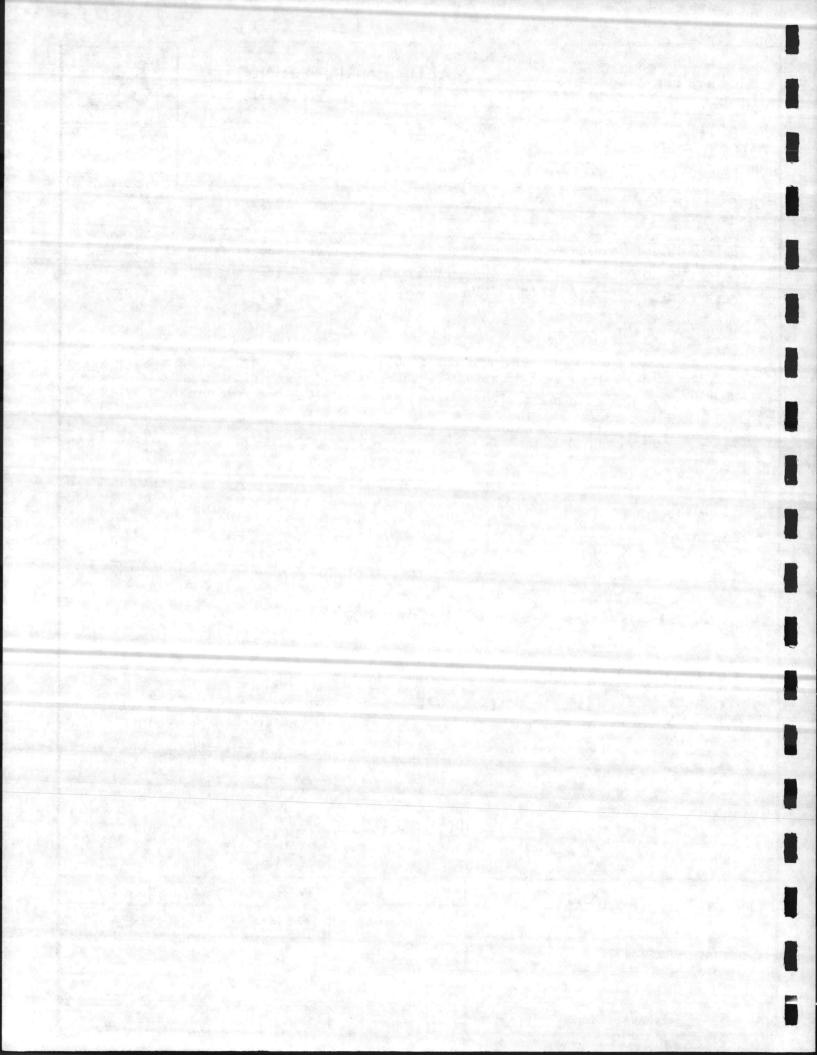
**DISADVANTAGES:** 

Save Cost

#### DISCUSSION:

One scoreboard should be adequate for this facility. Viewing distance and difficulty are not excessive. Spectator crowd of  $\pm$  910 should be able to view scoreboard on one end of gymnasium.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	18,200	-	18,200		
PROPOSED CHANGE	7,000		7,000		
SAVINGS Each Building	11,200		11,200		



PROJEC	TG	YMNASIU	MS
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LOCATIO	ON NEW	P LEJEU RIVER,	NE & N.C.
CLIENT	N.	AVFAC	si le
DATE _	AUGUST	27-31,	1984
PAGE	1	OF _	1



ITEM

USE VINYL, NYLON DIVIDER CURTAIN IN GYMNASIUM

ITEM NO.

BC-11

ORIGINAL DESIGN: (Attach sketch where applicable)

Although not shown on the drawings, a divider curtain is included in the estimate at \$24,000. (P. 10 of cost estimates under #11, specialties).

PROPOSED CHANGE: (Attach sketch where applicable)

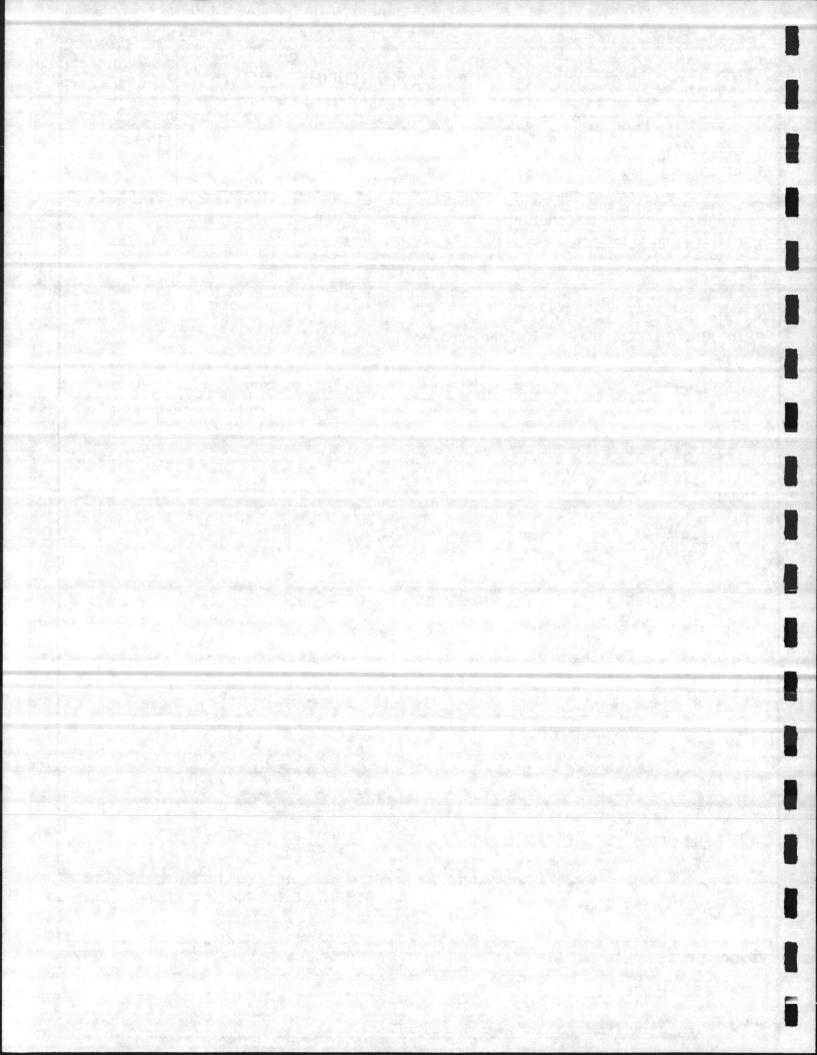
A standard gymnasium divider curtain of vinyl and nylon 25 ft. high and 84' long can be provided to divide the gym at \$6,300 (\$3,00/SF). (Cost from Learning Environments, Liberty, N.C.).

ADVANTAGES:

**DISADVANTAGES:** 

Reduce Cost

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMANT	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	24,000		24,000		
PROPOSED CHANGE	6,300		6,300		
SAVINGS Each Building	17,700	_	17,700		



PROJEC	T _	G	YMNASI	UM	IS	
P-	065	AND	P-133			
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CLIENT		NA.	AVFAC			
DATE _	AU	GUST	27-31		1984	
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ITEM

EPOXY PAINT NEEDS SCHEDULING

BC-12

ORIGINAL DESIGN: (Attach sketch where applicable)

Epoxy paint was not scheduled on the finish schedule, but 7,100 sf. was included in the cost estimate. Designer reported that the following areas were included to receive epoxy: janitor closet, all toilets and locker rooms, mechanical room, electrical room and mezzanine.

PROPOSED CHANGE: (Attach sketch where applicable)

Delete the epoxy paint in the mechanical room, electrical room and in the mezzanine.

ADVANTAGES:

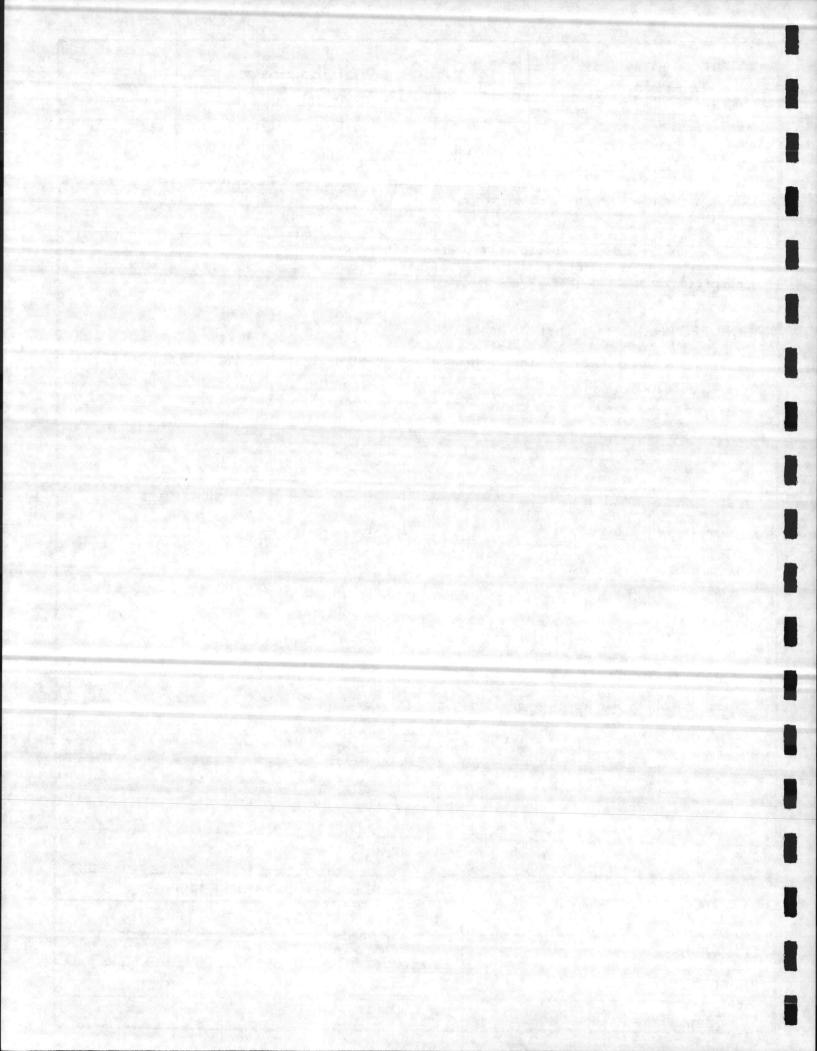
**DISADVANTAGES:** 

Reduces Cost

#### DISCUSSION:

Epoxy paint in mechanical rooms is not necessary.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	1,207	Committee of the Control	1,207		
PROPOSED CHANGE	562		562		
SAVINGS Each Building	645	-	645		



# PROJECT GYMNASIUMS P-065 AND P-133 LOCATION CAMP LETTER PORT CLIENT NAVEAC DATE ANG. 27-31, 1984

### **COST WORKSHEET**



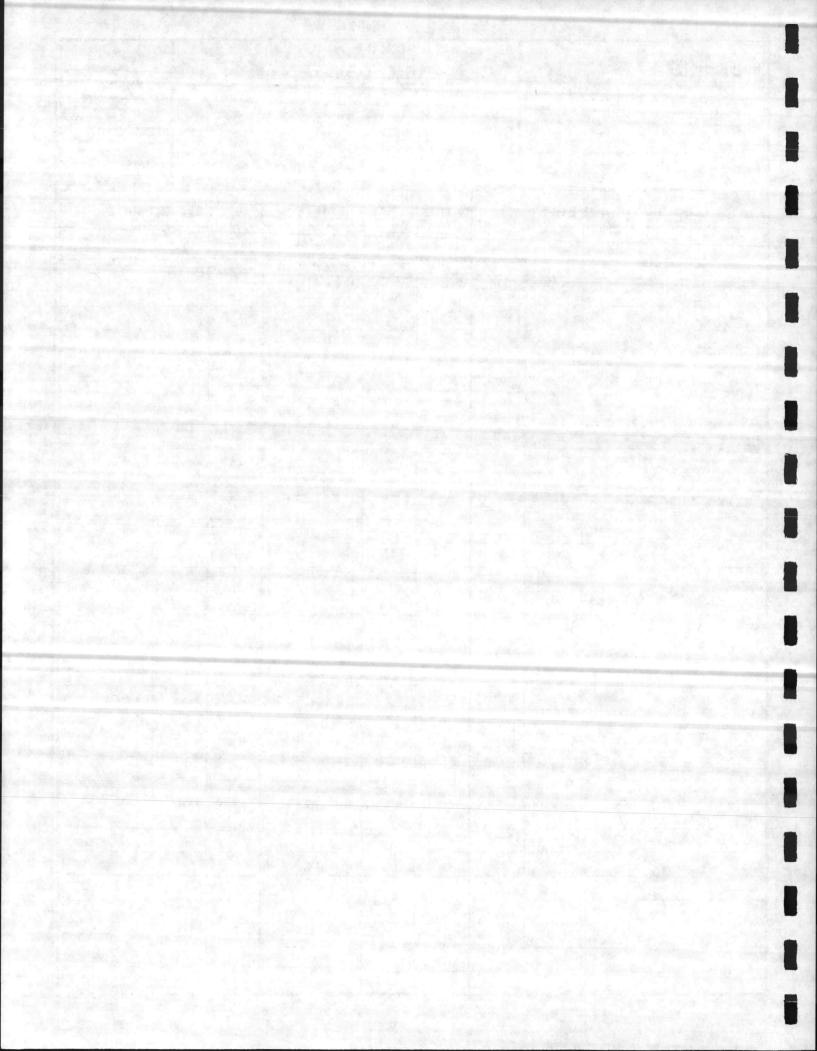
ITEM

FPOXY PAINT NEFOS SCHEDULING

ITEM NO.

BC-12

CONSTRUCTION ELEMEN	ORIGINAL ESTIMATE			. NEW ESTIMATE			
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
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<b>PROJECT</b>	G	YMNASIU	MS
P-0	65 AND	P-133	
LOCATIO	N NEW	RIVER,	NE & N.C.
CLIENT_	NA.	AVFAC	
DATE	AUGUST	27-31,	1984
PAGE _	1	OF .	2



ITEM

REDUCE CERAMIC TILE IN BATHROOMS AND SAUNA

TEM NO

BC-13

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows ceramic tile floor in the sauna under removeable duckwood flooring and ceramic tile walls in the showers.

#### PROPOSED CHANGE: (Attach sketch where applicable)

Delete the ceramic tile floor in the sauna and use sealed concrete under the removeable duckwood floor. Delete ceramic tile walls in the showers and use epoxy paint.

#### ADVANTAGES:

#### **DISADVANTAGES:**

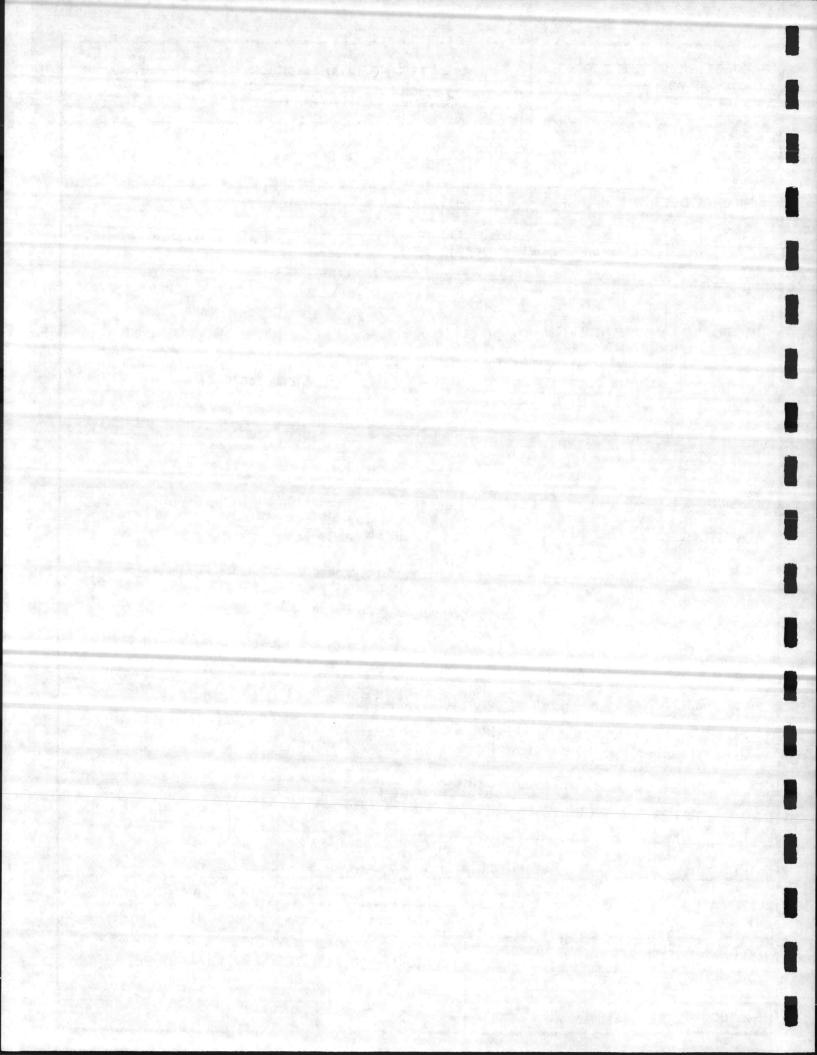
Reduced Cost

Increased Maintenance of Walls
(repainting)

#### DISCUSSION:

Includes Item No. BC-14.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	9,051	- 4.00	9,051				
PROPOSED CHANGE	3,054		3,054				
SAVINGS Each Building	5,997		5,997				



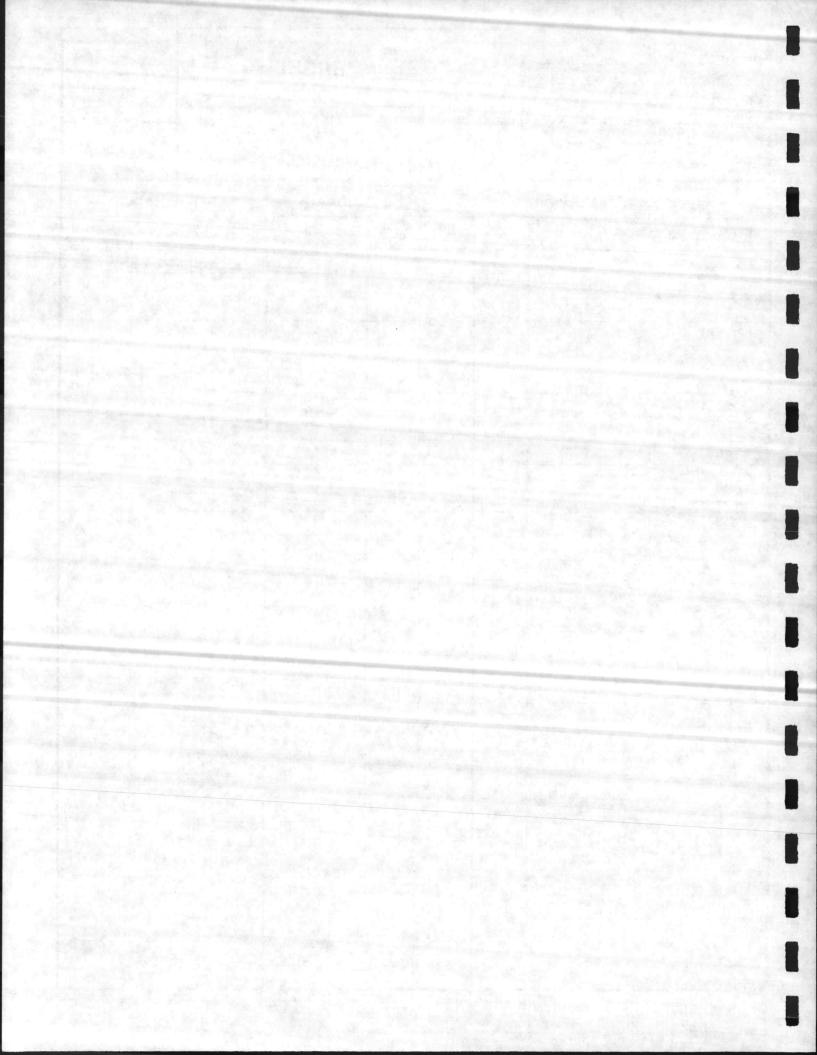
PROJECT G	YMHASIUMS & P-065
LOCATION G	mpleJeine New River
CLIENT	NAVFAC 31 August 84
DATE	-31 Hugust 84

Z,

ITEM

REDUCE CERAMIC TILE IN BATHROOMS AND SAUNA ITEM NO.

CONSTRUCTION ELEMENT		OF	IGINAL	ESTIMATE		NEW EST	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
CERANIC TILE FL./SAUNA	SF	154	3.21	494			
CERAMIC TILE WALLS	SF		3.41	6240			
SUBTOTAL		100		(6734)	1000 600		
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SUBTETAL	No.			(8081)			
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CLEAN BLOCK	SF				1830	,45	97
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G.C. CH&P							327
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PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	P LEJEU RIVER,	NE & N.C.
CLIENT	N.	AVFAC	
DATE _	AUGUST	27-31,	1984
	1	0-	2



ITEM

DELETE CERAMIC TILE AND USE CERAMIC TILE
PAVERS

ITEM NO.

BC-15

ORIGINAL DESIGN: (Attach sketch where applicable)

Ceramic tile floors are scheduled in the toilets, lockers, showers, etc.

PROPOSED CHANGE: (Attach sketch where applicable)

Use ceramic tile or quarry tile (mud set) pavers throughout where ceramic tile floors are scheduled.

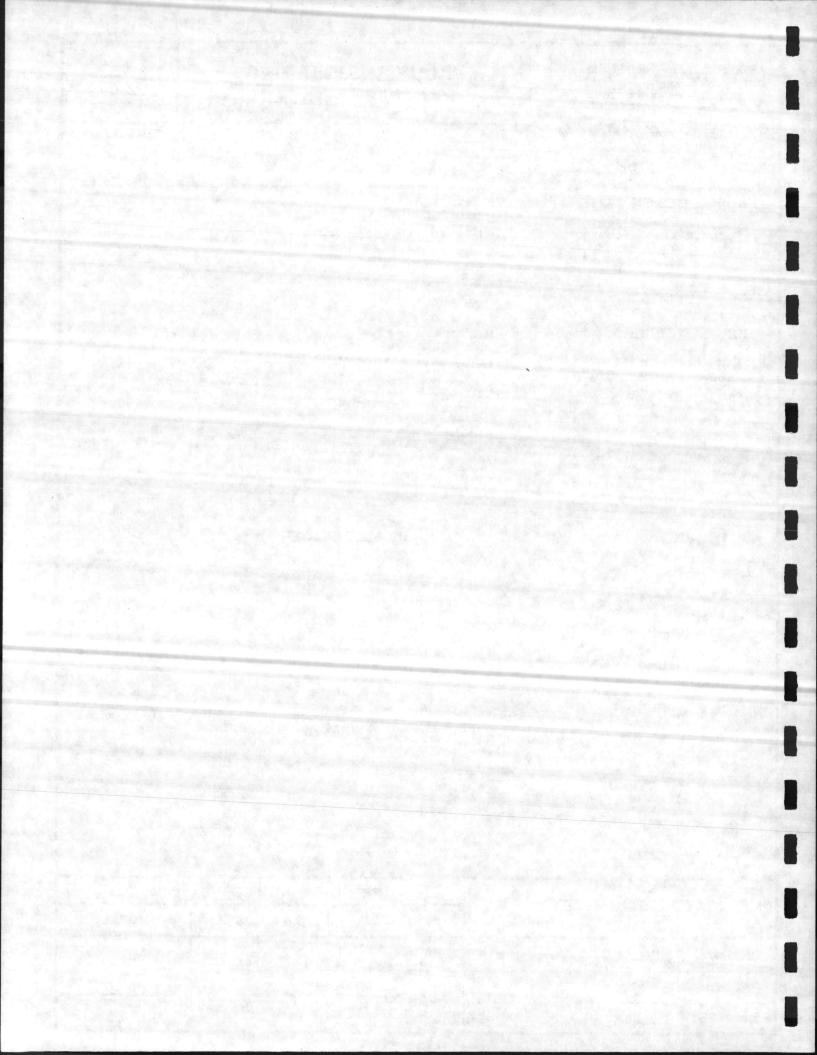
ADVANTAGES:

**DISADVANTAGES:** 

#### DISCUSSION:

No reduction-cost estimate for ceramic tile floors appear to be for thin set floors. With mud set floors added into estimate cost savings is only minimal.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS							
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL					
ORIGINAL DESIGN	13,124	- 1	13,124					
PROPOSED CHANGE	12,942		12,942					
SAVINGS Each Building	182		182					



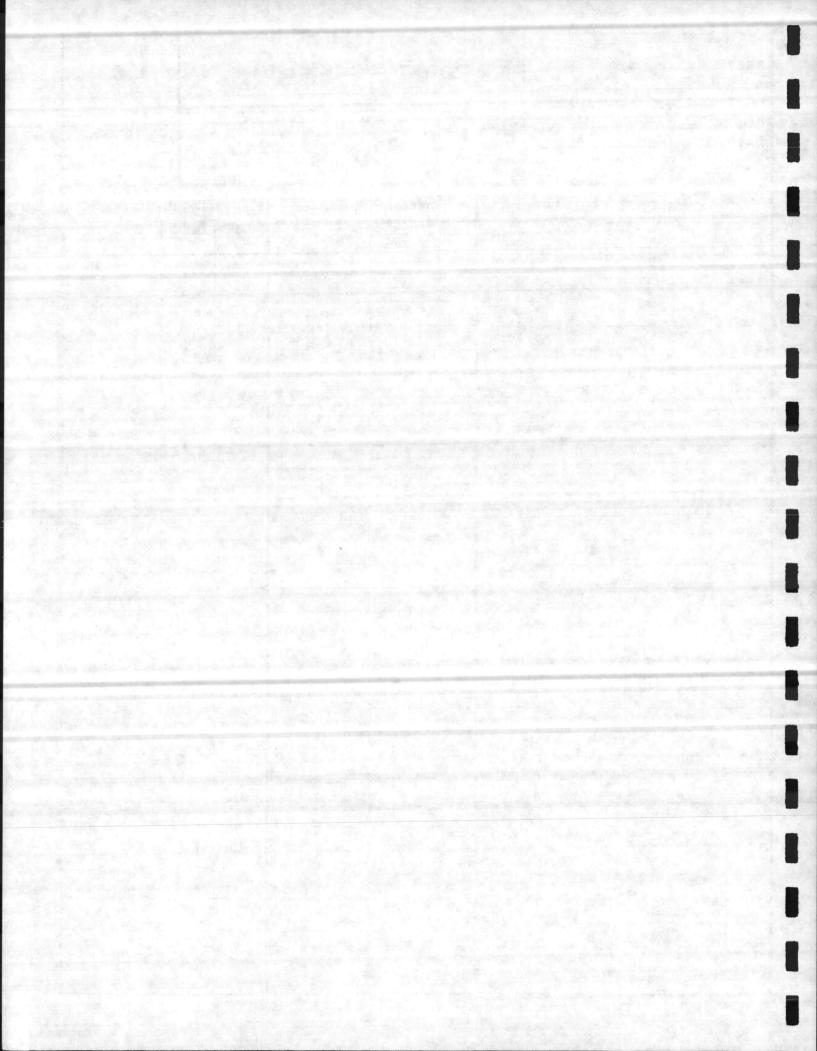
PROJECT	GY	HAS1	DHS
F. 1	33 8	P.	200
LOCATION	N Cample	Jene/M	lew River
CLIENT _	NA	UFAC	
DATE Z	7.31	Auc	84
DACE	2	OF	2



DELETE CERAMIC TILE AND USE CERAMIC TILE PAVERS

ITEM NO.

CONSTRUCTION ELEMENT		OF	IGINAL	ESTIMATE		NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
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<b>PROJECT</b>	G	YMNASIU	MS
P-06	55 AND	P-133	
LOCATION	CAMI NEW	RIVER,	NE & N.C.
CLIENT_	NA.	AVFAC	To the second
DATE _A	AUGUST	27-31,	1984
DAGE	1	OF	3

Z

ITEM

PROVIDE SINGLE SLOPE ON HIGH ROOFS

ITEM NO.

BC-16

#### ORIGINAL DESIGN: (Attach sketch where applicable)

Each roof section is drained by means of roof drains on two sides with a ridge down the center. This is accomplished by using bar joists with a built in slope on the top chord.

#### PROPOSED CHANGE: (Attach sketch where applicable)

If the bar joists over the gymnasium and racquet ball courts are sloped in a single direction by means of raising the bearing on one side, two rows of crickets (tapered insulation) and four scuppers can be eliminated, and since the roof drains will all be at the center of the building, some underground piping can be deleted.

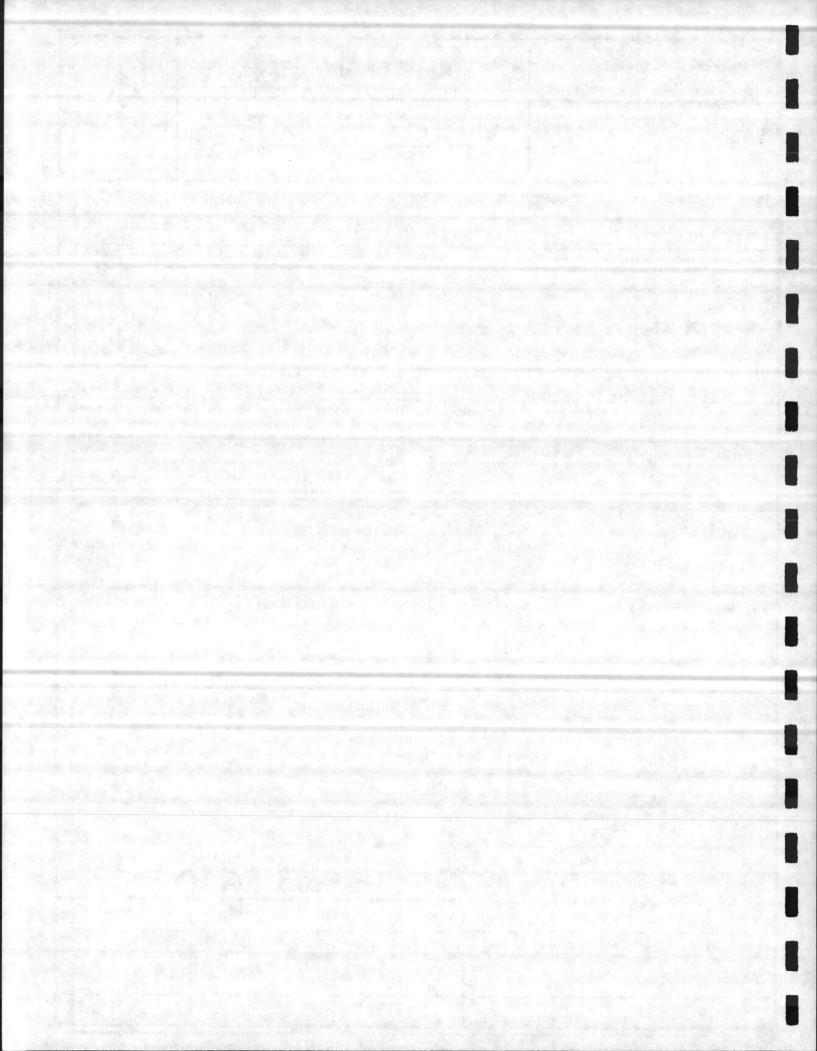
ADVANTAGES:

**DISADVANTAGES:** 

Reduce Cost

DISCUSSION:

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS							
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL					
ORIGINAL DESIGN	7,166		7,166					
PROPOSED CHANGE	1,917		1,917					
SAVINGS Each Building	5,249		5,249					





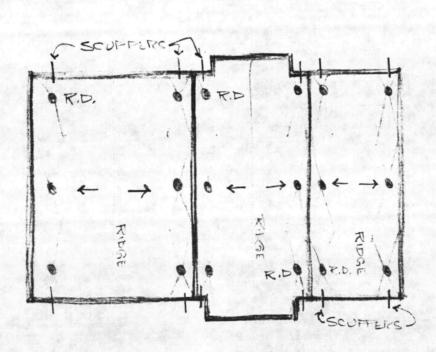
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

GYHNASIONS F133 & FOGS Subject

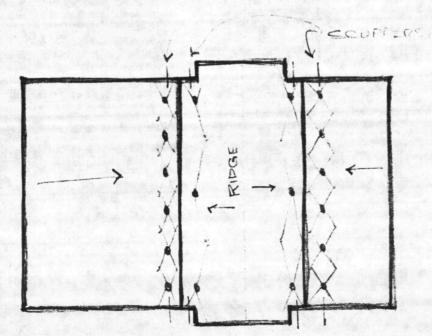
27.31 August &4
Project No.

HEN EC-16

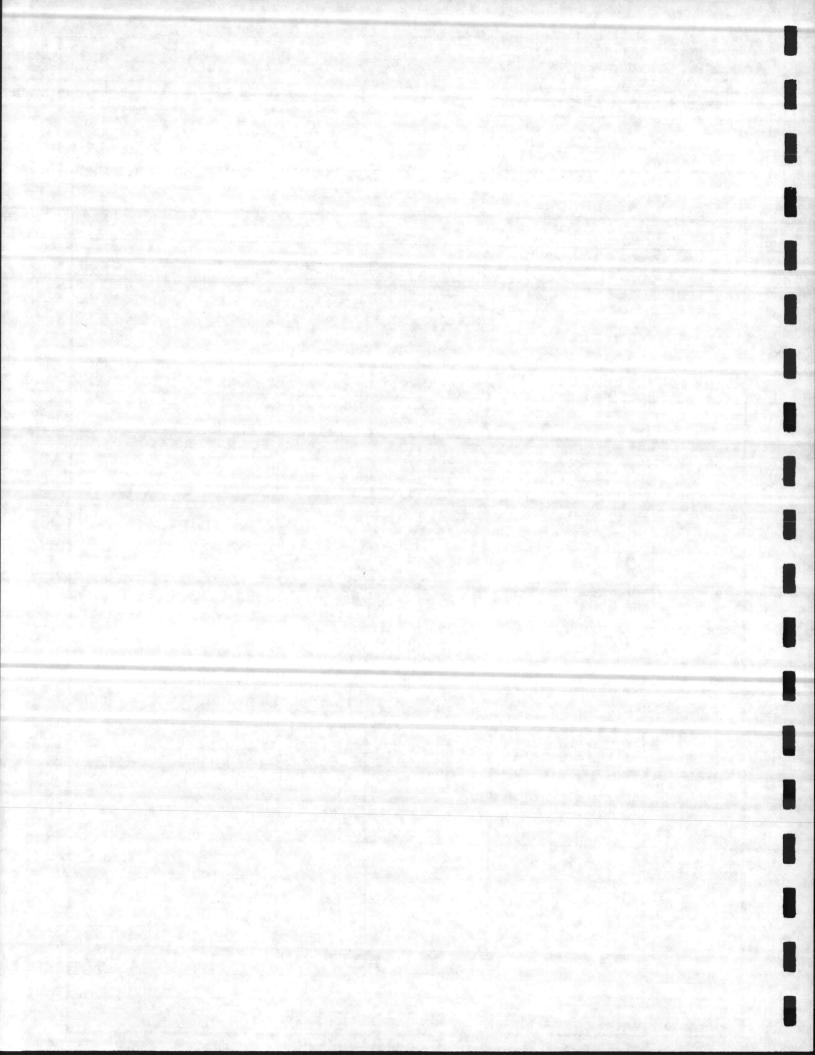
Drawn By



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# PROJECT GYMNASIUMS P-065 AND P-133 LOCATION Campleterne / New River CLIENT NAUFAC DATE Avg. 27-31, 1964 PAGE 3 OF 3

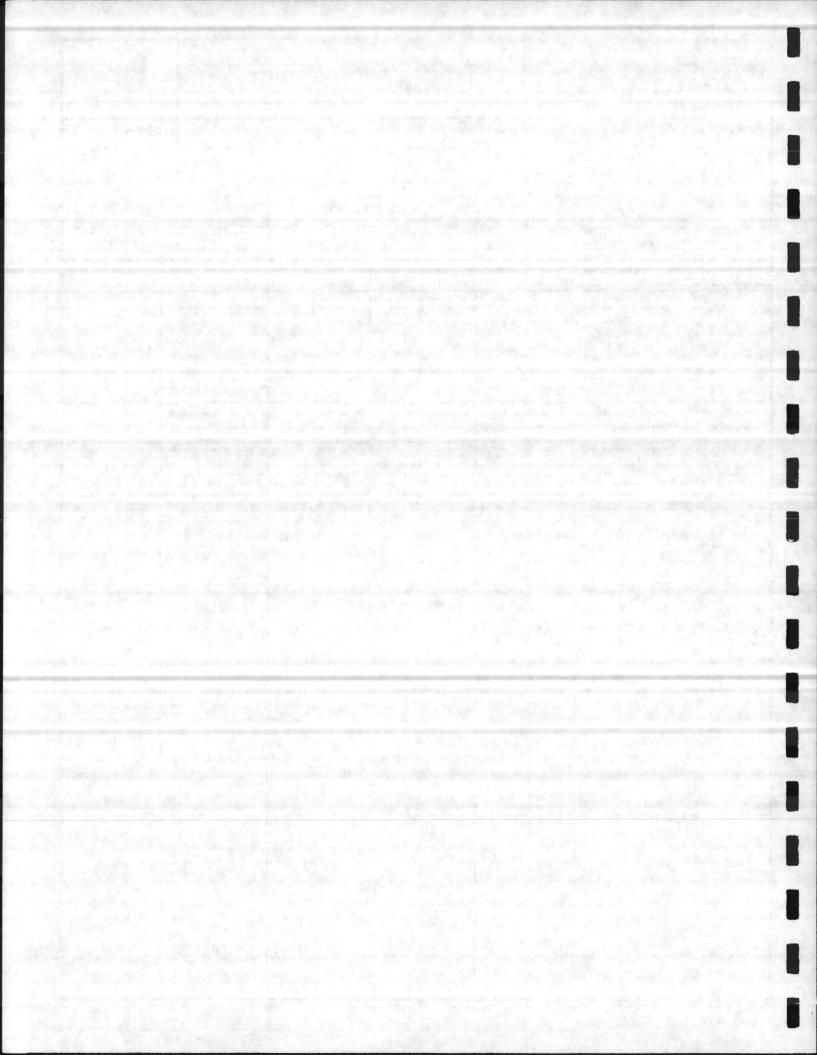
### **COST WORKSHEET**



ITEM

PROVIDE SINGLE SLOPE ON HILH ROOF ITEM NO.

		,	416H )	KOOF			
CONSTRUCTION ELEMENT		ORIGINAL ESTIMATE				NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
	- 5						
TAMINI INSULATION	SF	490	.35	168	320	.35	117
SCUPPERS	LA	12	200	2400	8	200	1600
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PROJEC	Т_	G	YMNASIU	MS	
P-	065	AND	P-133		
LOCATIO	NC.	CAM! NEW	RIVER,	NE & N.C.	
CLIENT		NA.	AVFAC		
DATE _	AUG	GUST	27-31,	1984	_
DAGE		1	OF	4	

Z

ITEM

PROVIDE BUILT UP ROOF INSTEAD OF BALLAST ROOF SYSTEM

ITEM NO.

BC-17

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows a ballast roof system.

PROPOSED CHANGE: (Attach sketch where applicable)

The VE team suggests a built up roof system consisting of a 4-ply built up roof with 4 lbs. of gravel.

#### ADVANTAGES:

**DISADVANTAGES:** 

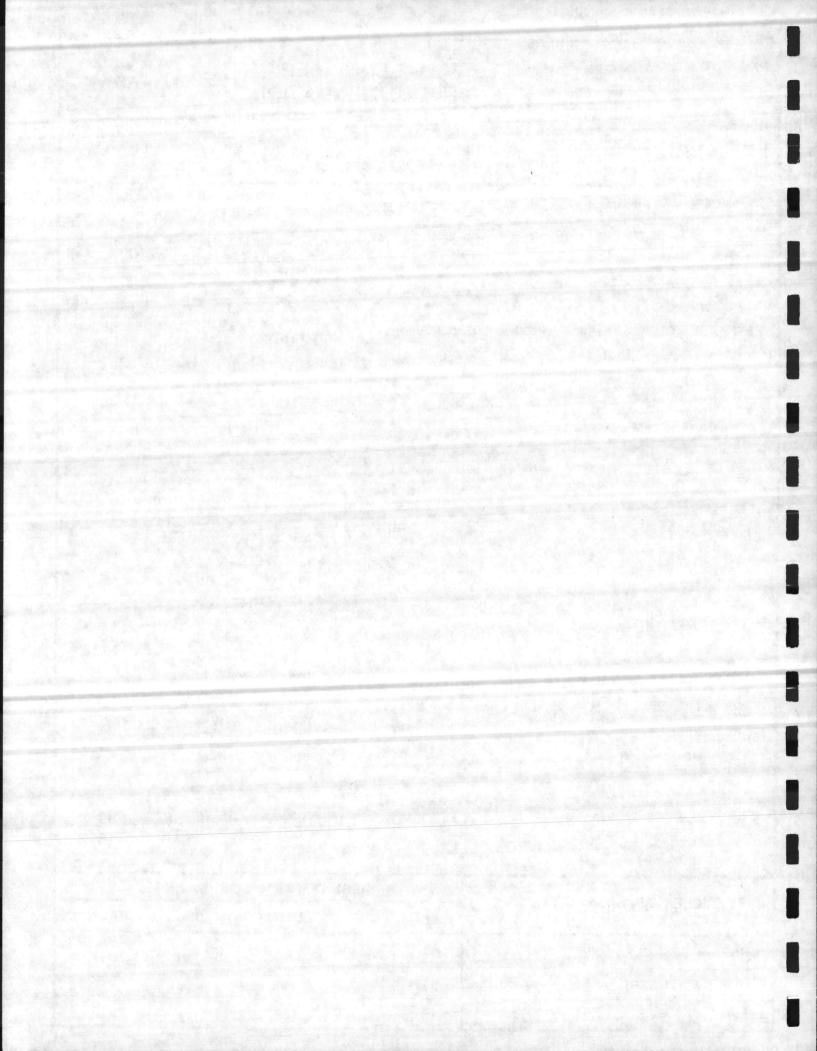
Reduce Costs

None Apparent

#### DISCUSSION:

Even though the roof cost will remain the same, savings will be realized in the cost of the roof structural system.

LIFE OVOLE COST CUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	61,300		61,300		
PROPOSED CHANGE	48,800	-	48,800		
SAVINGS Each Building	12,500	<u>-</u>	12,500		





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852

Structural Roof Steel

BC-17

Ang. 27-31, 84

Drawn By

Project No.

(A) Original Design:

From original Cost estimates:

Bay Joists: 44 tons x \$ 540 Ton = \$ 39,960

Bridging: 113 tonsx # 1100/Ton = \$ 1,430

Mise. Lb: 5 Tons x \$ 1240 /Ton= \$ 6,200

Sub Total:

\$47.590

OH& Profit - Snb: 15%:

7,140

\$54,730

OH & Profit - Gen: 12%

6,570

TOTAL:

\$ 61,300

(B) Proposed Design:

Loads:

Built up Roof: 8 PSf.

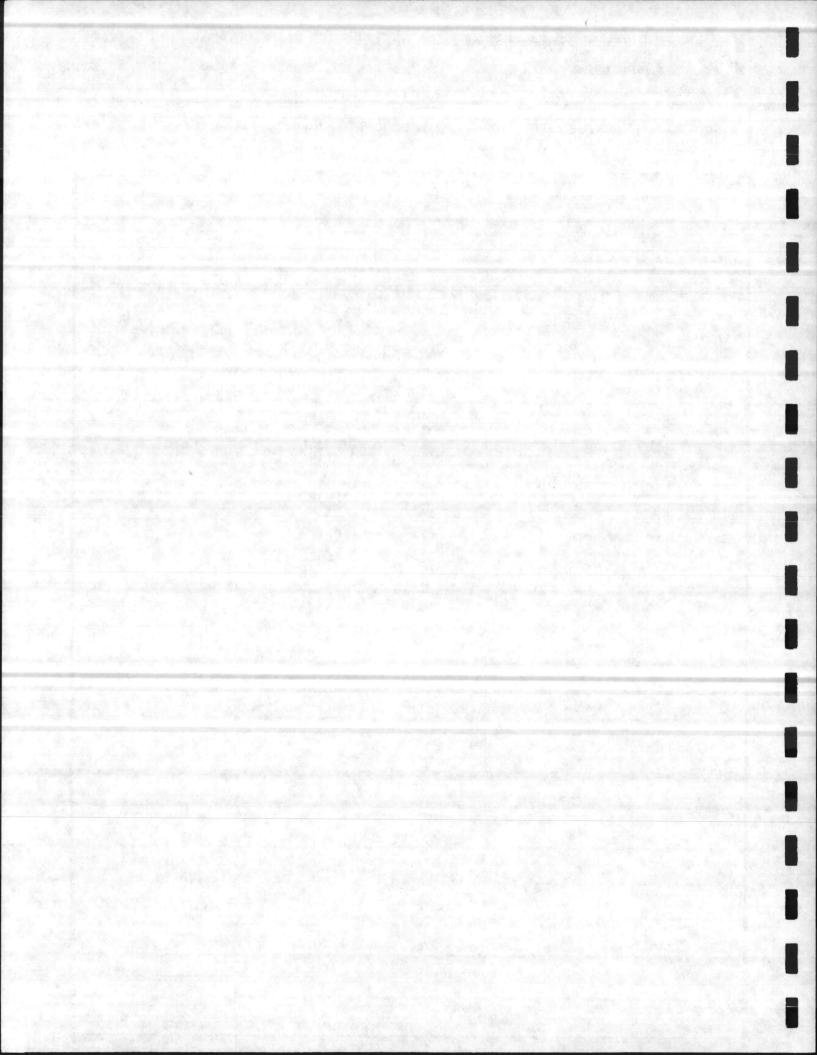
Metal Deck: 2 Psf.

Ceiling : 1 Psf.

5 psf. MXE

4 psf. M16C:

> DL: 20 PSf. LL: 20 PSf.





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Structural Roof Steel

Subject

BC-17

Aug. 27-31,84

Date 1.5.

Project No

Drawn By

Bar Joists: W= 5x40 = 200 # | ft.

- 1. 5Pan = 82 ft. Provide 44 LH09 @ 22# | Ft.
- 2. 4Pan = 48-4" Provide 26 H8 @ 12.8 # | Ft.
- 3. 5Pan = 44-8"

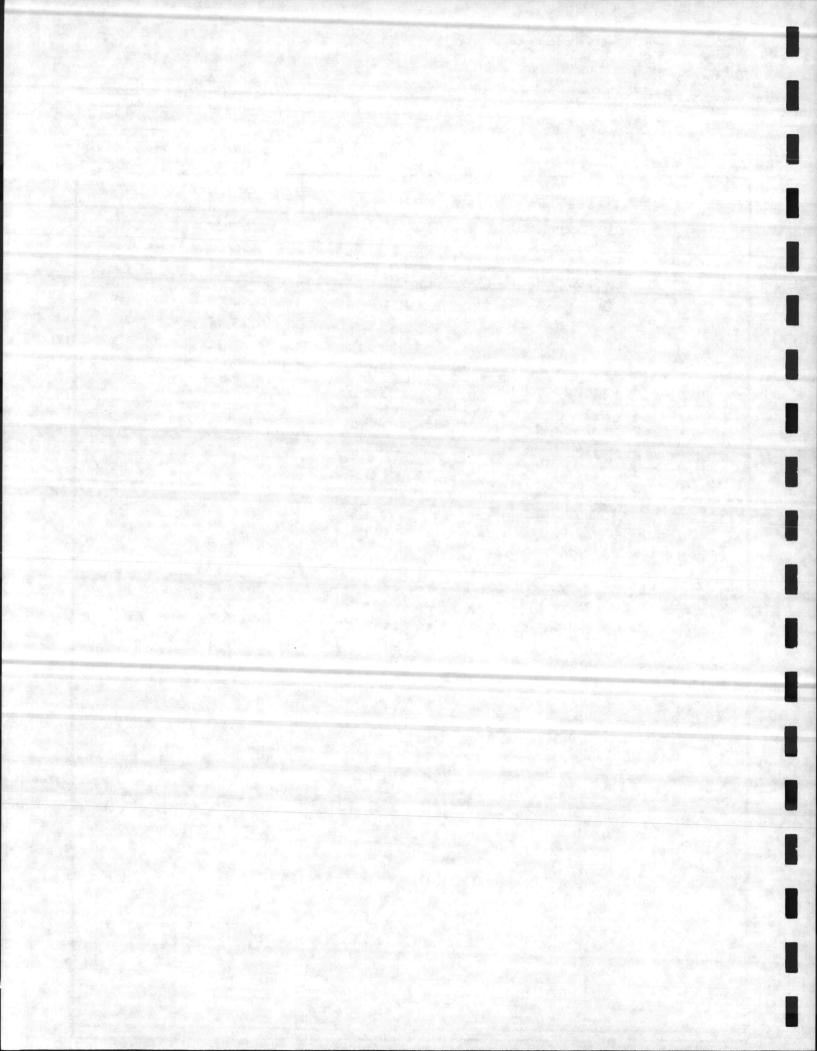
  Provide 24H8@ 12.7\* | Ft.
- 4. 6Pan = 35'
  Provide 1846 @ 9.2#|ft.

ITV/

 $23 \times 82' \times 22 + | ft. = 41,492 + 21 \times 48.33 \times 12.8 = 12,992$   $4 \times 48.33 \times 11.5 = 2,224$   $4 \times 35' \times 9.2 = 1,288$  $23 \times 45' \times 12.7 = 13,145$ 

71,141 #

x 36 TONS





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Structural Roof Steel.

BC-17

Aug. 27-31,65

COST:

Bar Joibts: 36 Tonsx \$540 Ton: = # 30,240 Bridging: 1.3 tons x \$ 1100 / Ton: = \$ 1,430 MISC. 15: 5 tonsx \$ 1240 Ton = \$ 6,200

Sub Total: \$ 37, 870

OH. X Profit - SNb: 15%:

5,680

\$ 43,550

OH & Profit - Gen: 12%:

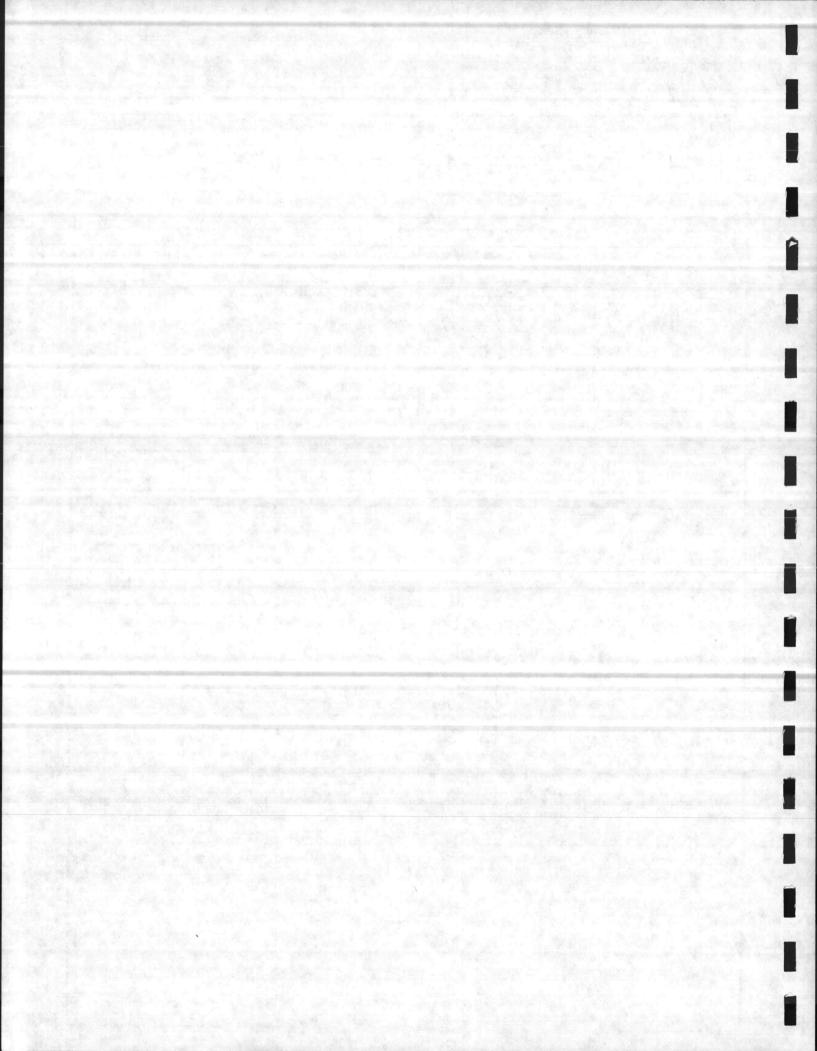
5,230

Total: " # 48,800

(c) Savings:

61,300.0 - 48,800.0

= \$ 12,500.00



PROJEC	T _	G	YMNASIU	MS
P-	065	AND	P-133	
P-	ON .	CAMI NEW	RIVER,	NE & N.C.
CLIENT		N/	AVFAC	
DATE _	AU	GUST	27-31,	1984
PAGE		1	OF _	4



ITEM

DELETE SOUTH INSET ON BUILDING

ITEM NO.

BC-18

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design provides an inset on the south side of the building which serves no functional purpose other than to shade the exercise room window. It also breaks the mass of the building.

#### PROPOSED CHANGE: (Attach sketch where applicable)

Delete the inset, move the window to the south or east wall. This would increase the size of the storage area, and allow racquetball court number 3 to move south, providing increased viewing area.

#### ADVANTAGES:

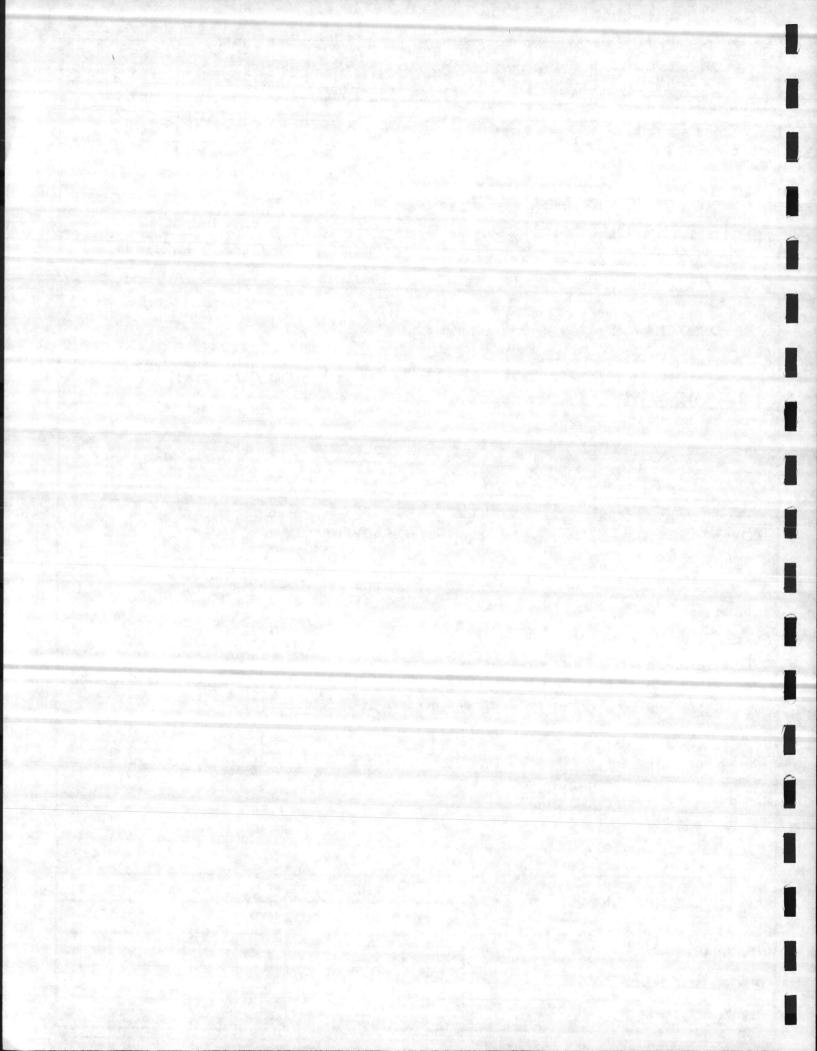
#### **DISADVANTAGES:**

Reduce Cost Increases viewing area for court No. 3 No solar shading for exercise room window

#### DISCUSSION:

See Item No. BC-38 also, for outside entrance to mezzanine.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	2,752		2,752		
PROPOSED CHANGE	522	- 6.00	522		
SAVINGS Each Building	2,230		2,230		

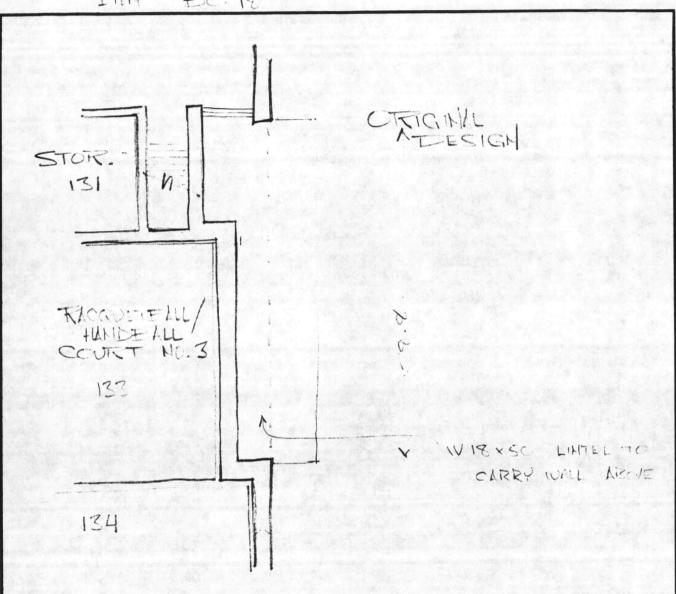


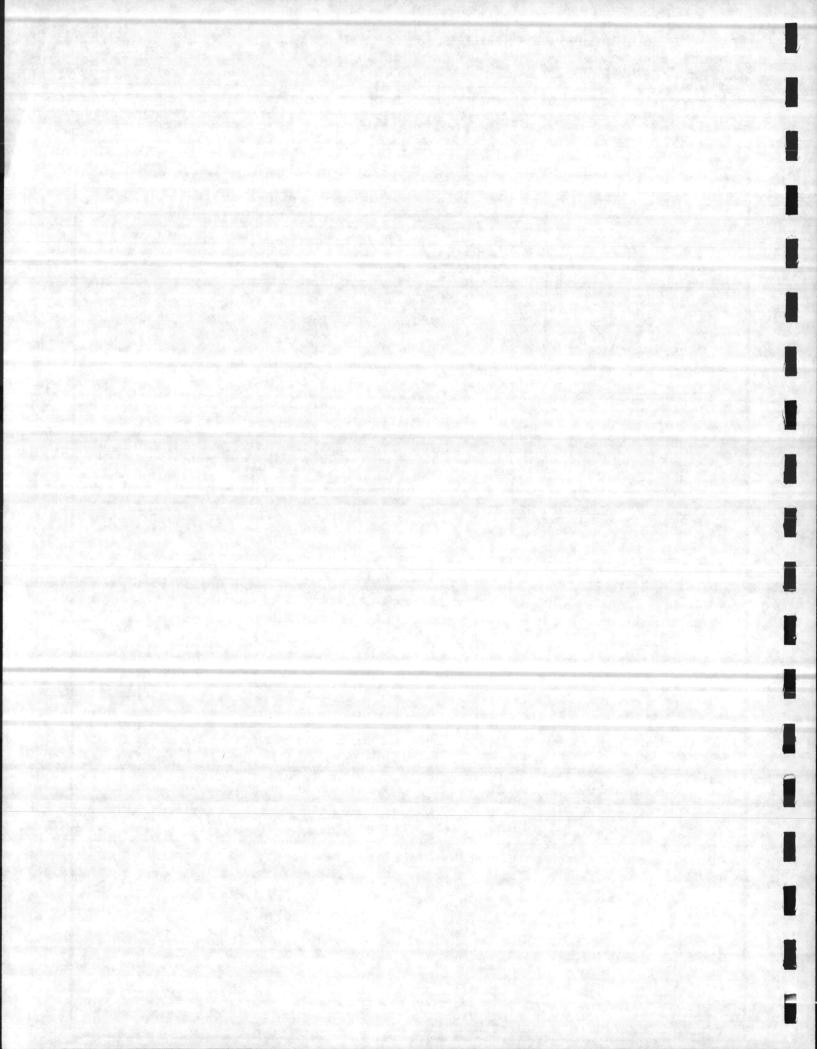


6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

GY11 KEIDIS 7=177 PULL Project No.

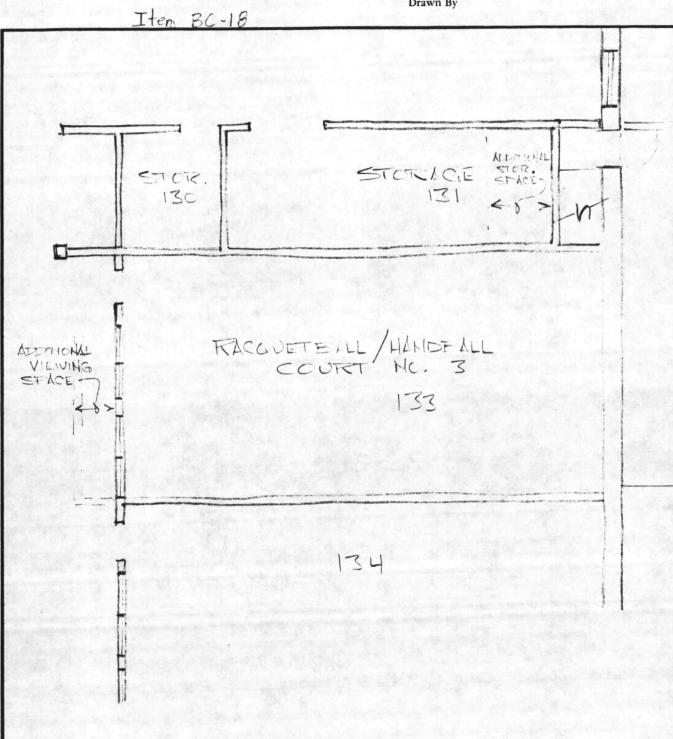
ITEH EC. 18 Drawn By

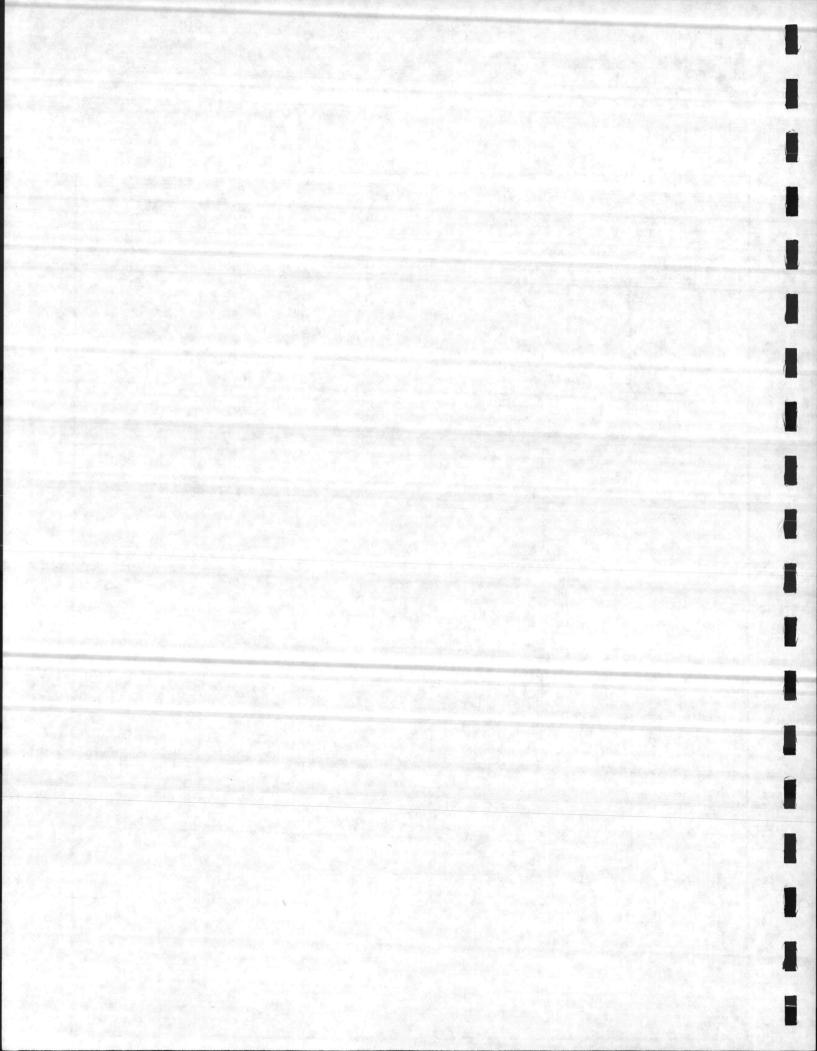




Date Project No. Subject

Drawn By





PROJECT	GYNHASIONS
P-133	4 P-065
LOCATION	Cample Jeune / New River
	NAUFAC

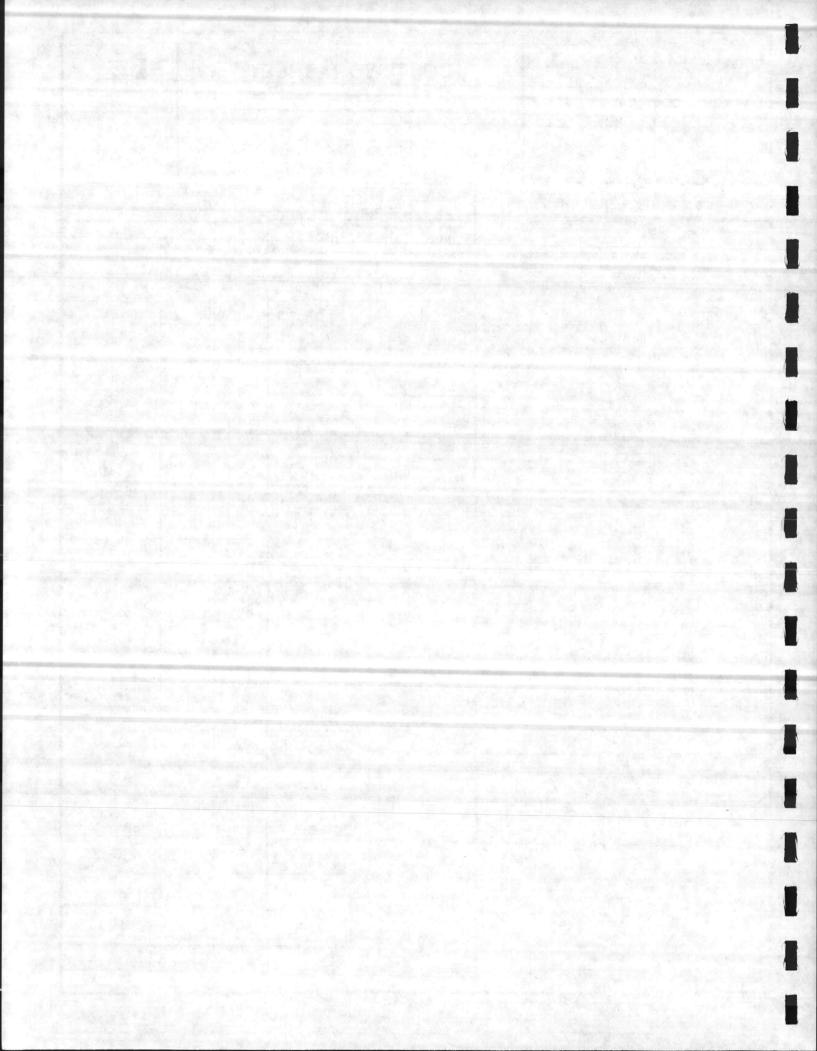


ITEM

DELETE SOUTH INSET ON BUILDING

ITEM NO.

CONSTRUCTION ELEMENT		OF	IGINAL	ESTIMATE		NEW ESTI	MATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
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EXTERIOR WALL							
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HORTAR	CY	.35	58	20			
SCFFIT	SF	110	8,00	980		- 1. J. 1.	
STUCCO SUP CHIEF			130	176			
STEEL LINTIEL TELAM	TON	.75	1240	930			
STELL SOF CHAT				186			
	Mari		43.5				
CHICKETE SLAB			1 4 2 2 4	ages, agency of the		a sign sign of	A TO STATE
GRADE, VE, MECH } FINISH & CUIZZ	SF				110	.715	79
GRAVEL	TON				2	9.75	20
COHORETE	CY				1.32	52	69
AT CEILING	SF				110	1.28	141
VCT FLOOR	SF				110	.97	107
FINISH SUBS OHEP							50
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PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATION	ON NEW	RIVER,	NE & N.C.
CLIENT	NA NA	AVFAC	4-125
DATE _	AUGUST	27-31,	1984
PAGE	1	OF	2

Z

ITEM

USE DIFFERENT SOFFIT FINISH

ITEM NO. BC-19

ORIGINAL DESIGN: (Attach sketch where applicable)

Stucco soffits are scheduled for all exterior soffits.

PROPOSED CHANGE: (Attach sketch where applicable)

In lieu of stucco soffits, use aluminum soffit, baked on enamel finish at all soffits.

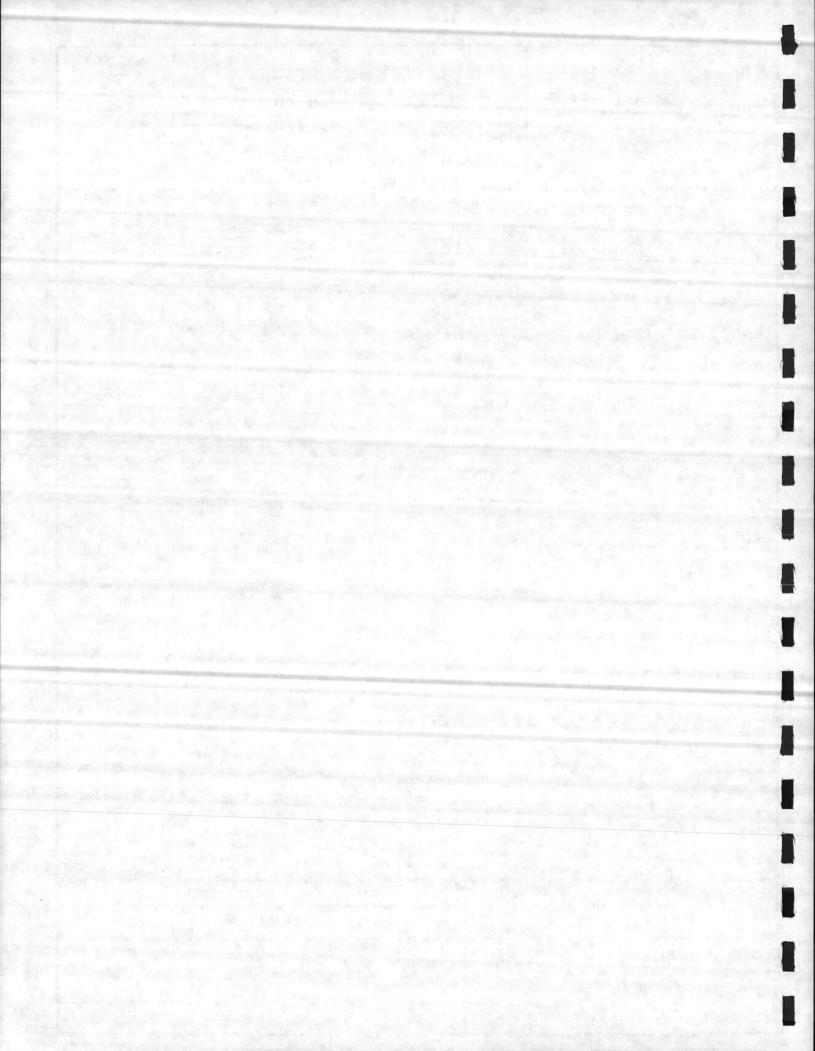
**ADVANTAGES:** 

**DISADVANTAGES:** 

Cost Reduction

DISCUSSION:

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
EN E CTCLE COST SOMMANT	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	4,463		4,463		
PROPOSED CHANGE	1,594		1,594		
SAVINGS Each Building	2,869		2,869		



PROJECT	133 -	HHAS P	-065
LOCATIO	N Cons	le Jeine/	New River
CLIENT _		AVFAC	
DATE 7	7-31	13.00	94
PAGE_	2	OF.	2

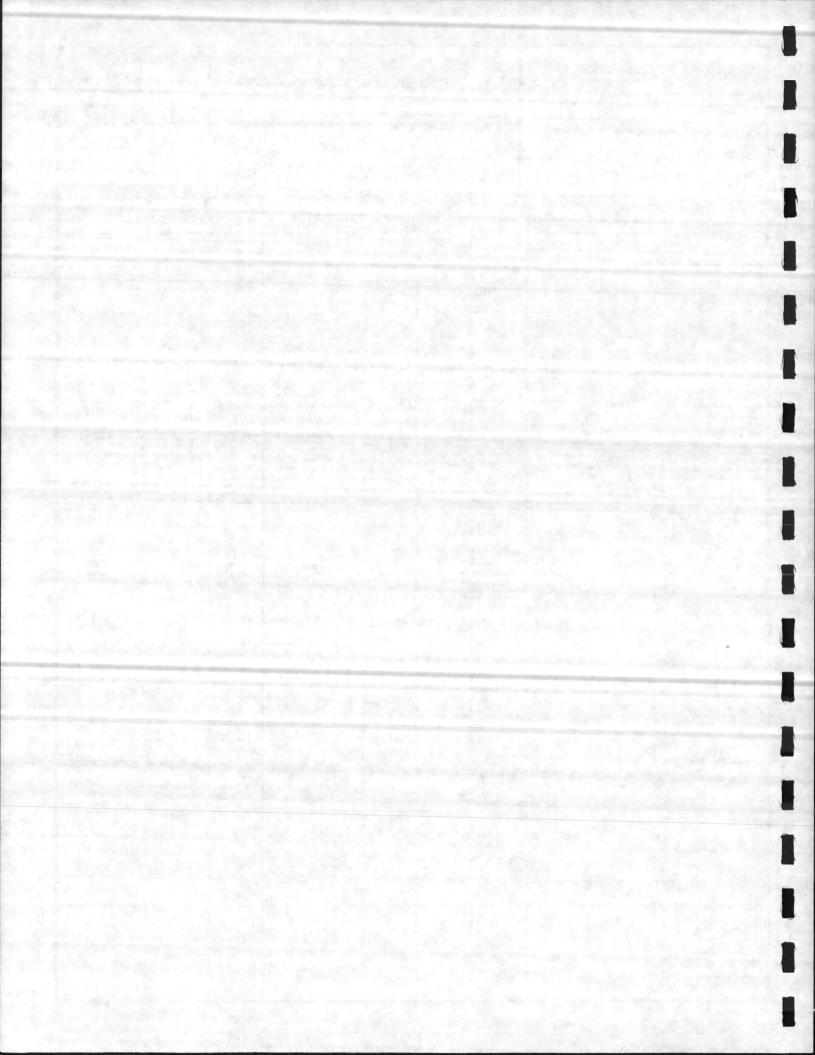
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ITEM

USE DIFFERENT SOFFIT FINISH

ITEM NO.

		_					
CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE		NEW ESTI	MATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
			1113				
		President de la companya de la compa					
EXTERIOR STUTE SOFFE	SF	416	4.00	3378			
					20		
						0.8 6	1985
CEILING CICKENSIN							
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ALUMNICH STEPT	SF			7	416	2	-126
				2117			110/0
2 = or hentee				3328			1186
G.C. CHEP			4 2	657			237
G.C. CHAP				478			
				4463			1594
			4 4	product and applicates		7	13 11
		1					



PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATION	ON NEW	RIVER,	NE & N.C.
CLIENT	NA.	AVFAC	
DATE _	AUGUST	27-31,	1984
PAGE .	1	OF .	2



ITEM

USE ALTERNATIVE FINISH FOR CEILING IN LOCKER ROOM AND TOILET

ITEM NO.

BC-20

#### ORIGINAL DESIGN: (Attach sketch where applicable)

Cement plaster ceilings are scheduled in the locker rooms, training rooms, public toilets, locker room toilets, and locker room corridors.

#### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use water resistant gypsum board ceilings in all spaces scheduled above and paint with epoxy. Provide drop head stop at showers to prevent steam transfer to these areas.

#### ADVANTAGES:

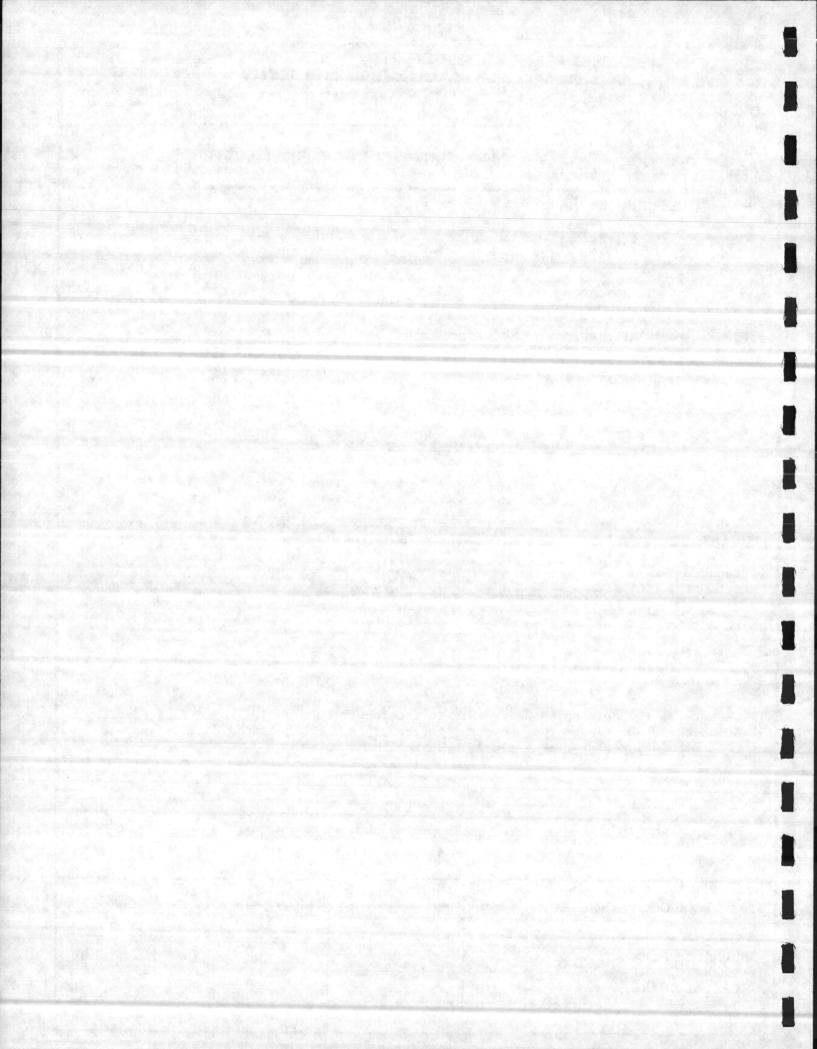
**DISADVANTAGES:** 

Reduce Cost

#### DISCUSSION:

Cement plaster ceilings would remain in the shower area and in the drying area immediately outside of the showers. It should be noted that the cost estimate does not include any cement plaster ceilings.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	20,805	en e	20,805			
PROPOSED CHANGE	4,576		4,576			
SAVINGS Each Building	16,229	in a spared to different state.	16,229			



PROJECT	GYMHASIUM
F-133	& F-065
LOCATION	Capple Teine/New Ever
CLIENT	
	9 27-31, 1984

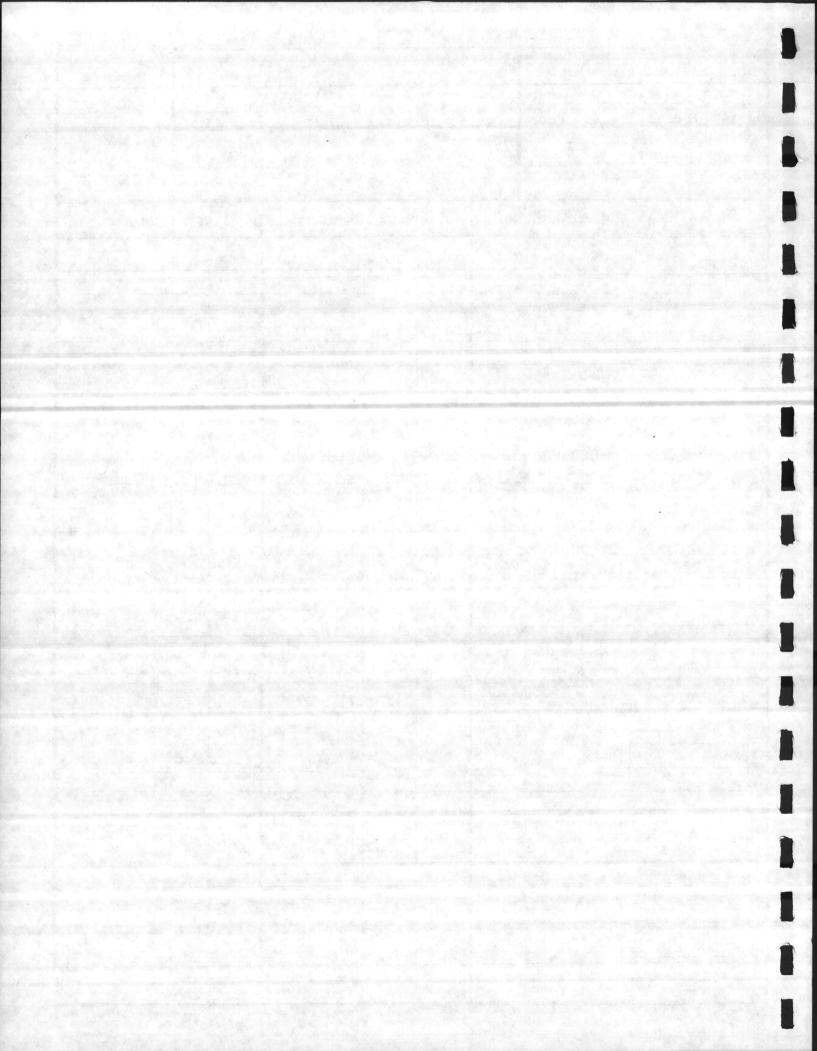
## **COST WORKSHEET**



USE ALTERNATIVE FINISH FOR CEILING IN LOCKER ROOM & TOILET

ITEM NO. BC-20

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE		NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
CEITEHT FEASTER	SF	1935	ಳ,∞	15,480			
SUSPENIED W.R.G.B	CF				1935	1.32	2554
EPCYY PAINT	CF				1935	-44	751
CUPATALL				15,480		36 9 9 9	3405
SOF CH&P  GO CH&P				3096 2229			691 490
				20,805			4570



PROJECT _	GYMNASIUMS
P-065	AND P-133
LOCATION	CAMP LEJEUNE & NEW RIVER, N.C.
CLIENT	NAVFAC
DATE AU	GUST 27-31, 1984

12/

ITEM

ELIMINATE LOW ROOF

ITEM NO.

BC-22

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows a low roof over the center core.

PROPOSED CHANGE: (Attach sketch where applicable)

Raise the roof over the center core to eliminate the walls facing the low roof.

### **ADVANTAGES:**

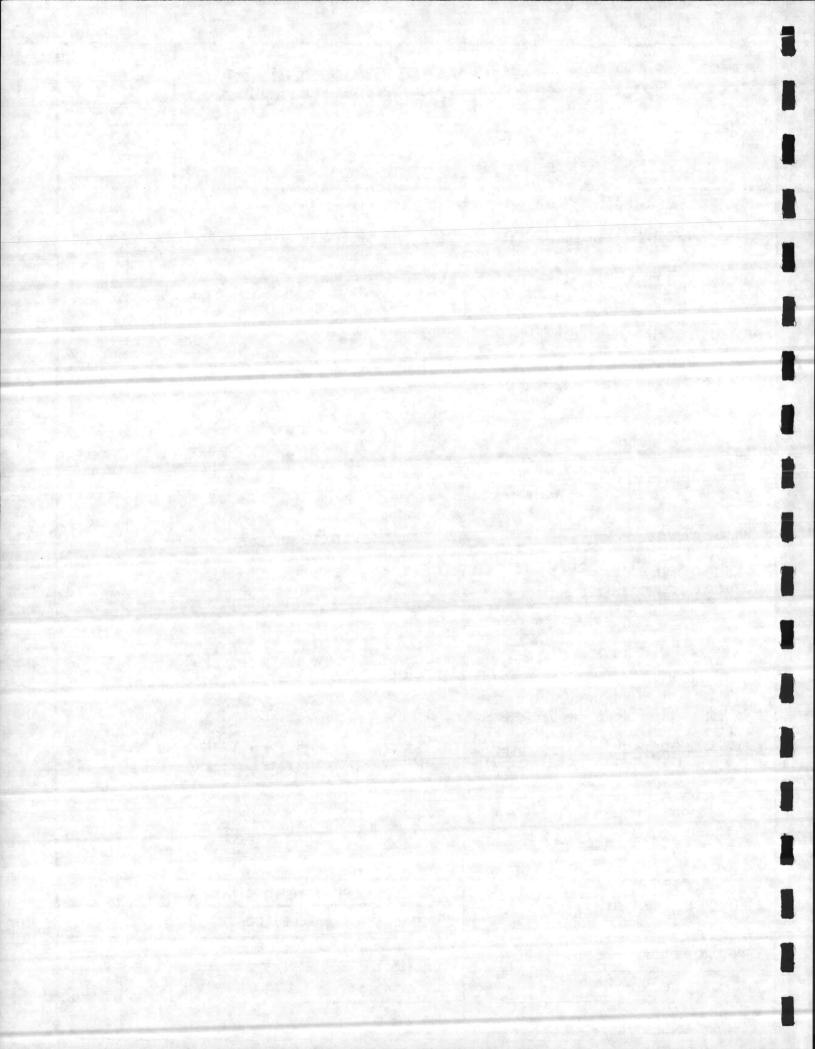
**DISADVANTAGES:** 

Reduce Cost Future Space Adds Volume

#### DISCUSSION:

North high wall of racquetball courts is deleted. Brick face on south wall of gym is deleted. High walls added on east and west end of original low roof. Roof vents will be needed for fresh air intakes in lieu of vents in walls. There is 1680 sf less exterior wall which should result in a net energy savings in spite of the additional volume added. (Not calculated)

LIFE CYCLE COST SUMMARY	PRESE	PRESENT WORTH COST SAVINGS						
LIFE CTCLE COST SUMMANT	INITIAL COST	O & M COSTS	TOTAL					
ORIGINAL DESIGN	26,816		26,816					
PROPOSED CHANGE	20,817	The state of the s	20,817					
SAVINGS Each Building	5,999	-	5,999					



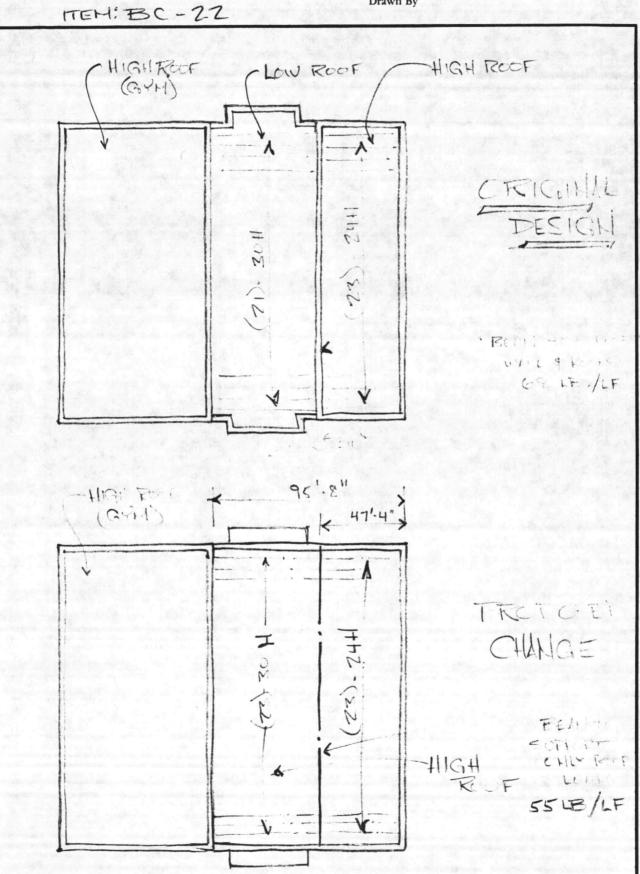


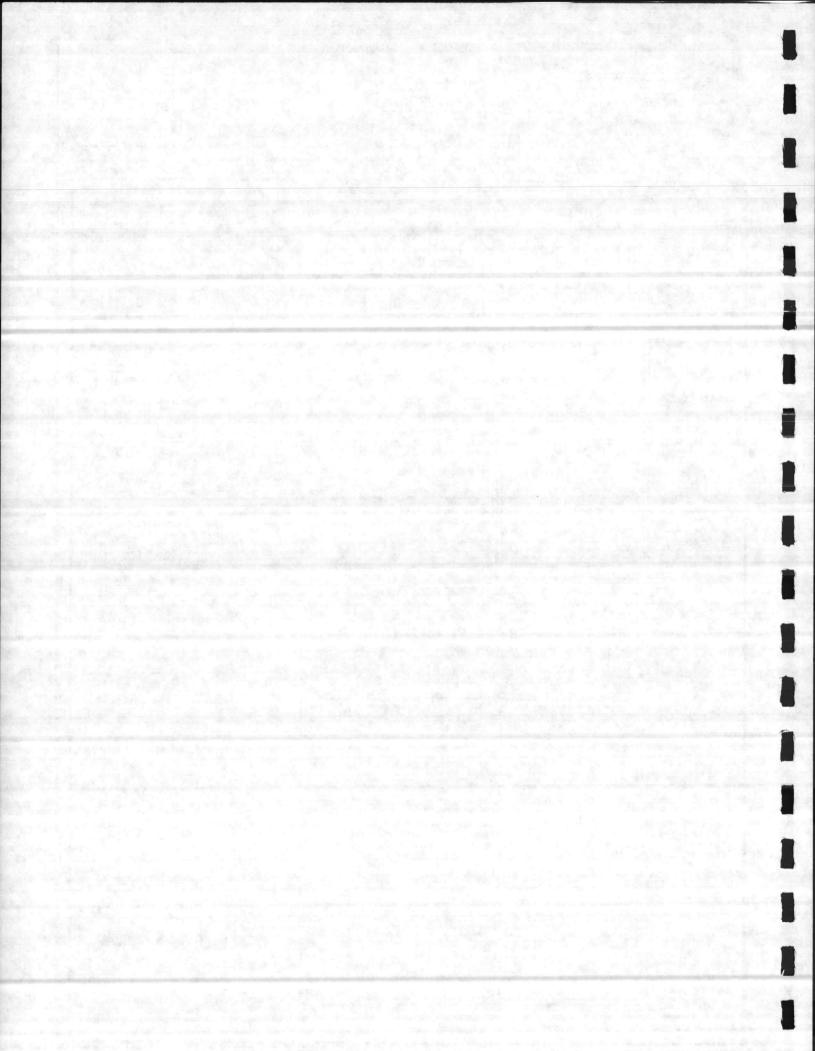
GYMNASIUMS P-133 & P.065

Subject Date

Project No.

Drawn By





# PROJECT GYMNASIUMS P-065 AND P-133 LOCATION Gample Jeane / New Ring CLIENT NAVFAC DATE Ang, 27-31; 1984

PAGE 3

## **COST WORKSHEET**

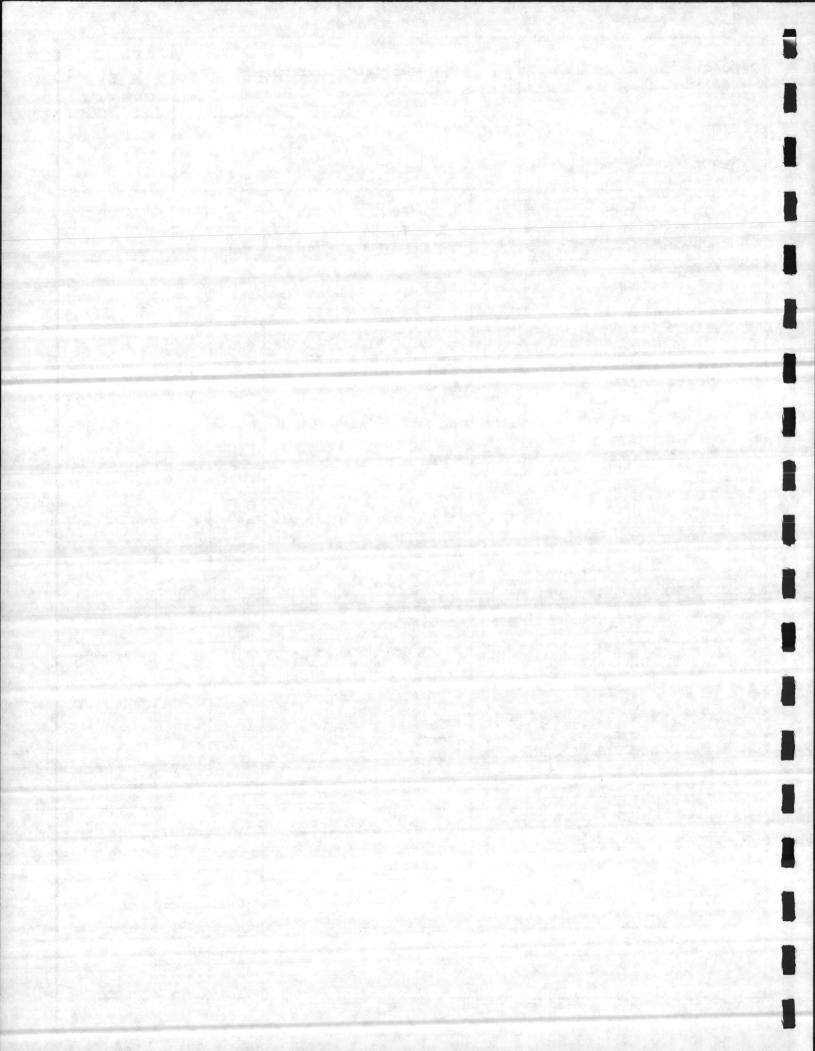
IZA,

ITEM

ELIMINATE LOW ROOF

ITEM NO. BC-22

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	5.79.1	NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
TUBULARCOLS, INCR. HT	TONS	STATE OF THE		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	2	1040	20%0
APP TWO 30H JOISTS	TONS	150			.75	840	630
BEALS TO SUPPORT	TONG				3.75	1240	4030
BEAHS FOR WALL & ROOF	TOHS	Ц	1240	4960			
STEEL OH&P			- 44	744			1635
EXTERIOR WALLS							
Z"ELCCK	EA	1593	1.75	2788	1365	1,75	7794
PRICIE	11	20	515	10,300	7	515	30.00
SCLDIER ADD	N	5,67	105	595	2.32	105	244
HORTAR	CY	18.7	. 58	1055	8	58	464
RIGIT INSULATION	SF	3304	.46	1570	1160	.46	574
CLEAN BRICK	SF	3304	,07	731	1160	,07	81
WALL VENTS	EV	5	350	1750			
ROCF VEHTS	EL				5	600	2
					hindrin management (A).	WARRANT TO THE REAL PROPERTY OF THE PARTY OF	<b>52</b> 4
				23,943			18,59
G.C. 0114=				7273			2230
				76,816			20,817



PROJECT _	GYMNASIUMS
	AND P-133
LOCATION	CAMP LEJEUNE & NEW RIVER, N.C.
CLIENT	NAVFAC
DATE AIM	CITCT 27-31 · 108/

PAGE \_\_\_1

## VALUE ENGINEERING RECOMMENDATION



ITEM

USE VAPORTIGHT FLUORESCENT LIGHTING FIXTURES IN WOMEN'S SHOWERS

ITEM NO.

BC-28

## ORIGINAL DESIGN: (Attach sketch where applicable)

OF

Incandescent lighting fixtures (vaportight) are used in women's showers because partitions extended to ceiling.

## PROPOSED CHANGE: (Attach sketch where applicable)

Use fluorescent lighting fixtures (vaportight.) (Partitions will be changed to not extend to ceiling.)

## **ADVANTAGES:**

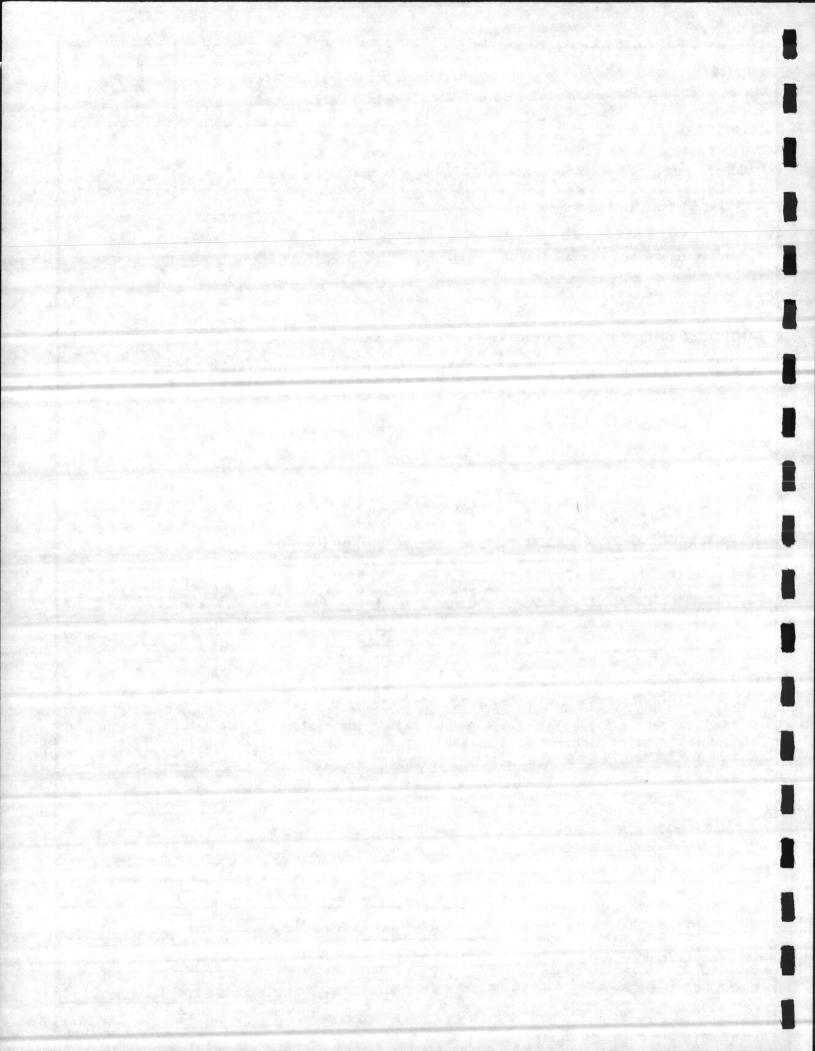
## **DISADVANTAGES:**

Uniformity throughout building. Longer lamp life than incandescent and less lamp replacement. Higher lighting efficiency. None

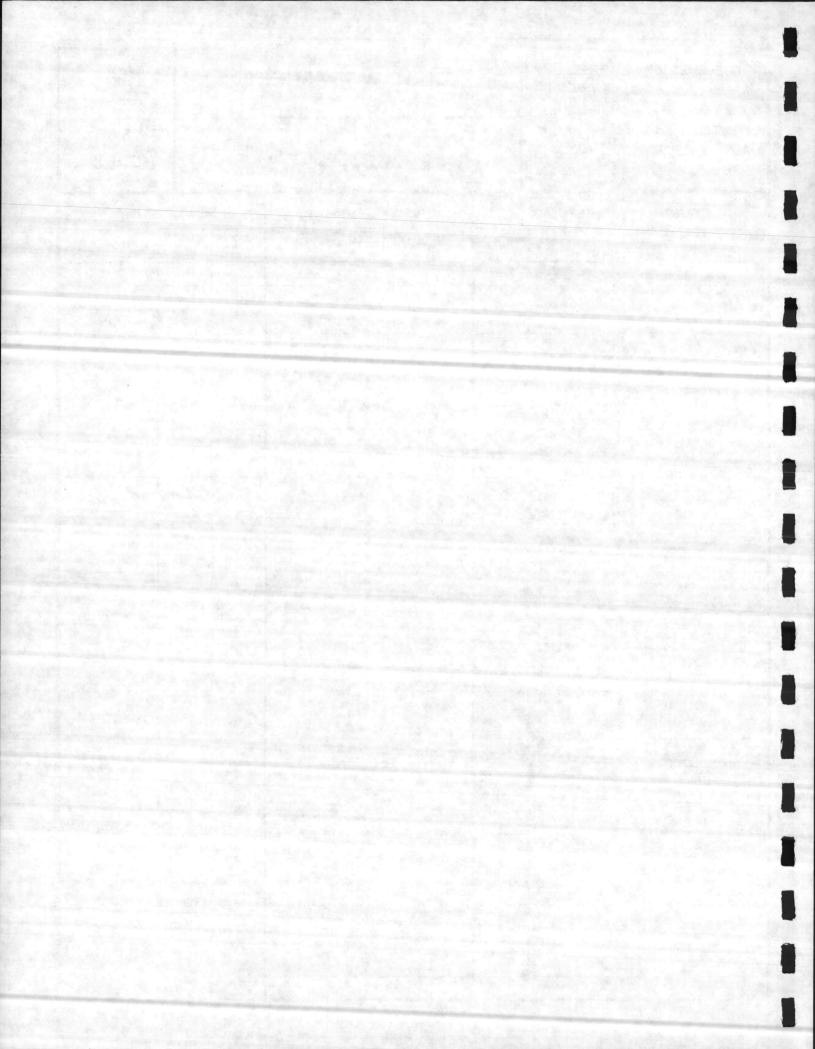
#### **DISCUSSION:**

The design engineer had no other reasonable choice but to use incandescent lighting for these areas because partitions extended to the ceilings. The partitions will be lowered to allow fluorescent lighting fixtures to be used advantageously.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	520	-	520				
PROPOSED CHANGE	440	Improved	440				
SAVINGS Each Building	80	Value	80				



PROJECT GYMNASIUMS PROJECTS P-065 & P-133 LOCATION CAMPLETINE   New Rive	6	СО	ST W	ORKSHE	ET		Z
DATE 29 PAGE Z OF Z		Use 16471	VAPOR	TIGHT FO	Wokesca W. SHOW	SAT SERS	EM NO. BC-28
CONSTRUCTION ELEMENT		OF	RIGINAL E	STIMATE		NEW EST	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
LIGHTING FIXT (INC)	EA	5	104	520	in the second		
LTG FIXT Fluorescent	ĒA	3			4	110	440
	that I						
				· · · · · · · · · · · · · · · · · · ·			
				Andrew Control	200		
Not For Cos, But For	z Sac	1114 911116	ON I	ENITIAL RE	TNIT	ALLA TI	' » N
Not For Cos, But For	r Sac mi	1124 91275	ON I	& Re	TNJT	BULAT	' » N
Not For Cos, But For	z Sac mi	1124 91245	ON I	& Re	INJ7.	ALLAT	· • ×
Not For Cos, But For	r Sac mi	1124 91276	ON I	ENIFIAC & Re	INJ7	ALLAZ	' » N
Not For Cos, But For	r Sac mi	11NG 91N757	ON I	De De	INJ7.	ALLAT	
Not For Cos, But For	z Sac mi	11NG 91N75	ON I	De De	INJ7.	ALLAT	
Not For Cos, But For	z Sac mi	11NG 91N767		LUITIAC & RE	INJ7.	ALLAT	
Not For Cos, But For	z Sac mi	11NG 91N767		LUITIAC & RE	INJ7.	ALLAT	
Not For Cos, But For	z Sac mi	1124 9124 9124		LUITIAC & RE	INJ7.	ALCAT	



PROJECT	G	YMNASIU	MS
P-06	5 AND	P-133	
LOCATION	CAMI NEW	RIVER,	NE & N.C.
CLIENT_	N/	AVFAC	3
DATE A	UGUST	27-31,	1984
PAGE	1	OF _	3



ITEM

PROVIDE FACE AND BYPASS DAMPERS FOR HEATING AND VENTILATING UNITS

ITEM NO.

BC-33

## ORIGINAL DESIGN: (Attach sketch where applicable)

Present design concept indicates that the heating and ventilating units serving the gymnasium, interior areas and exercise room will be provided with hot water heating coils for seasonal use. An economy cycle is also provided to allow the use of 100% outside air for ventilation and natural cooling when appropriate.

#### PROPOSED CHANGE: (Attach sketch where applicable)

The VE team recommends adding a face and bypass section to each heating and ventilating unit. The purpose of this is to allow air to bypass the heating coil when heating is not required. This will result in a reduction in electric drive motor energy used for a large percentage of the year.

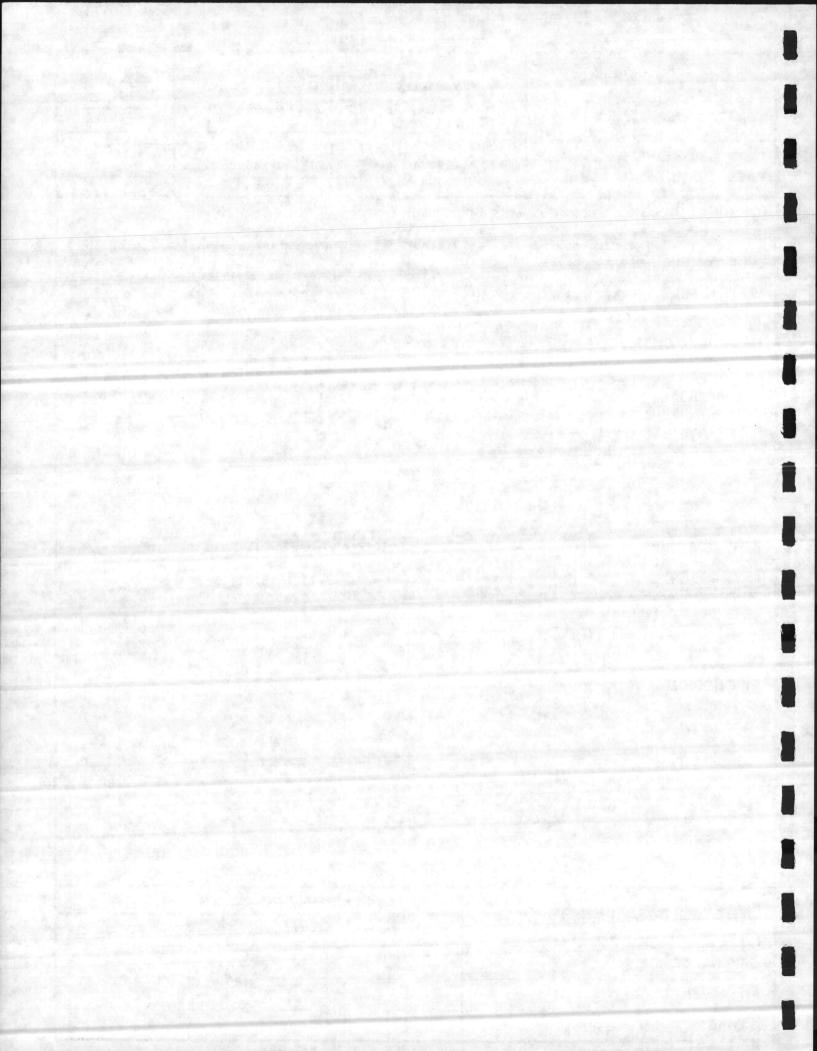
#### ADVANTAGES:

**DISADVANTAGES:** 

Save Energy Saves Operating Cost Reduces Coil Cleaning Adds small initial cost

## DISCUSSION:

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMANT	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	(2,700)	0	(2,700)				
PROPOSED CHANGE	0	6,780	6,780				
SAVINGS Each Building	(2,700)	6,780	4,080				



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Page 2 of 3

FACE & BY PASS FOR H&V UNITS.

Date

Item No. BC-33 Project No.

Drawn By

HEATING & VENTILATING UNITS.

## PRESENT DESIGN:

2 H&V UNITS \$2,500 CFM @ 10 H. = ZO P

10 H. 2 HEV UNITS 4,000 CFM @ 5H

> TOTAL CONNECTED HP 30 H.

## PROPOSED CHANGE:

ADD FACE & BY PASS AROUND HEATING COLL TO REDUCE TOTAL STATIC PRESSURE OF SYSTEM WHEN HEATING IS NOT REQUIRED.

## ENERGY SAVINGS :

PROM HVAC DESIGN ANALYSIS PREPARED BY CHEATHAM & ASSOC DATED 13 AUGUST 1984

## ALTERNATE C (HVAC)

135 x 38.14 = \$ 5,149.00 ELECTRIC ON PEAK 163 x 32.88 = 5359.00 ELECTRIC OFF PEAK 56 x 12.47 : 698.00 DEMAND ON PEAK 0 x 3.16 = DEMAND OFF PEAK

ANNUAL OPERATING COST

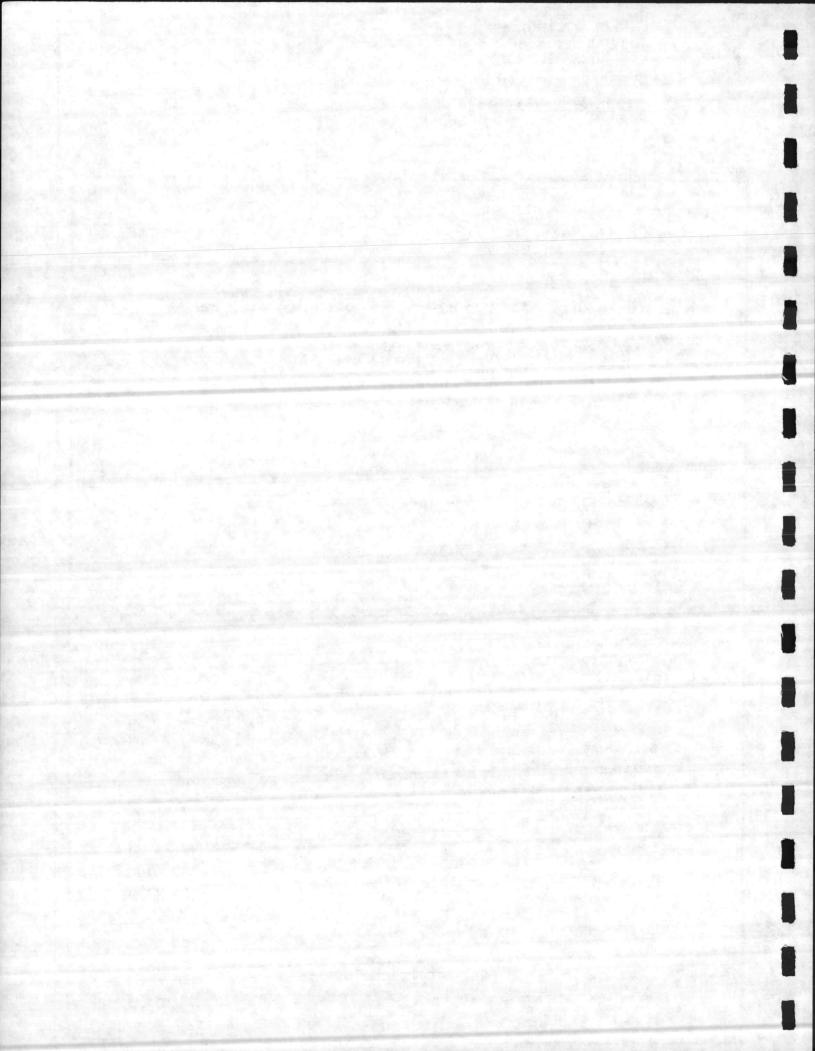
\$ 11,206.00

ASSUME THAT 1/3 OF THE ANNUAL OPERATING COST IS CONSUMED BY THE AIR CONDITIONING SYSTEMS.

COST OF OPERATING THE HIV ONLY : \$11,206 x 7/3

= \$7470 ANNUM.

ESTIMATED SAVINGS WITH FACE'S BYPASS AROUND HEATING COLL SAY 10% = \$747/YR. UPW FACTOR 9.077



PROJECT GYMNASIUMS	7
P-065 A-0 P-133	
LOCATION CapteJane New River	
CLIENT NAVFAC	
DATE Aug 27-31, 1984	
3 2	

## **COST WORKSHEET**

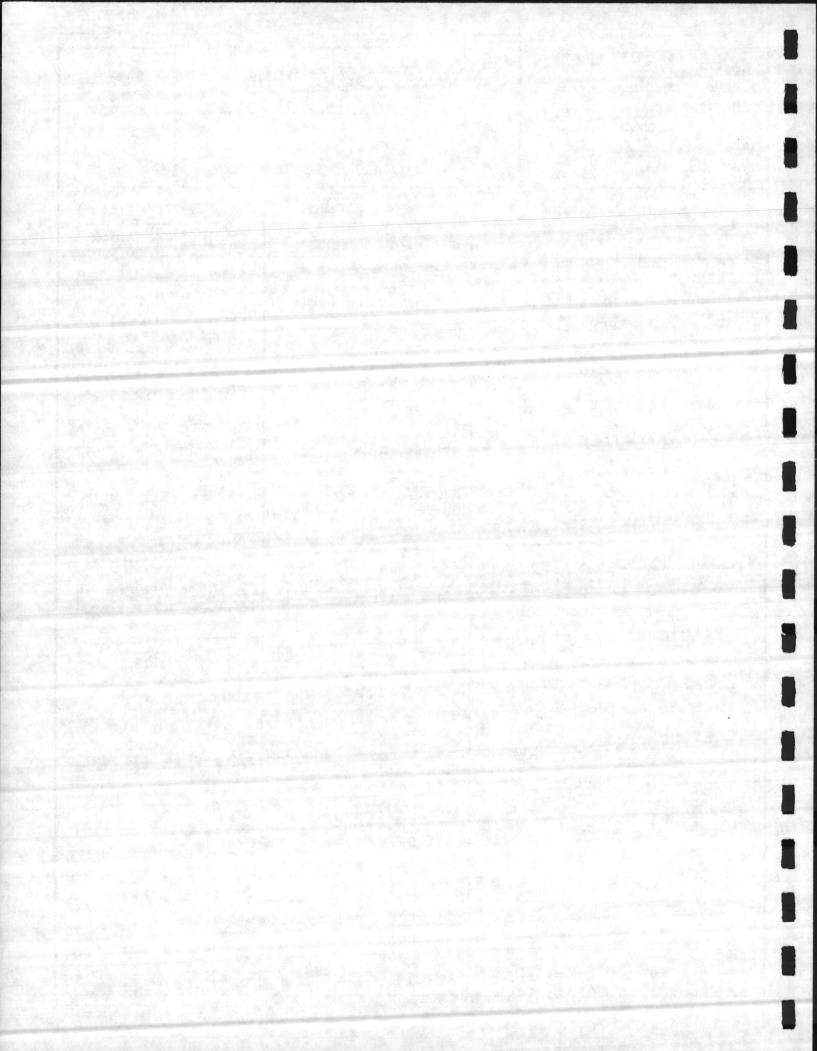


ITEM

PACE & BYPASS DAMPERS POR H & U UNITS ITEM NO.

Bc. 33

CONSTRUCTION ELEMEN	Т	OF	IGINAL I	ESTIMATE	1 20	NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
ADD PACE & BYPASS TO							
HEATING SECTION .						fi inter	7 4 4
12,500 CFM UNIT	EA				2	900	1800
4,000 CRM UNIT.	€A				2	450	900
TOTAL ADD						5	52,700
					-		
						692 19	
							- 1 1
		S 2 39					
	1 80						
		61-191-111				9.4	
					The goal		
					Carl Land		
					The same		
					North-		
					and the same		



PROJEC	T _	G	YMNASIU	MS
P-	065	AND	P-133	
LOCATIO	ON .	CAMI NEW	RIVER,	NE & N.C.
CLIENT		N/	AVFAC	
DATE _	AU	GUST	27-31,	1984
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ITEM

PROVIDE SEPARATE STEAM PRV STATIONS FOR HEATING AND DOMESTIC HOT WATER

ITEM NO.

BC-34

## ORIGINAL DESIGN: (Attach sketch where applicable)

Design provides a single PRV station to provide steam to converter to produce hot water for building heating and to serve steam heater for building domestic hot water. (100 psi to 30 psi)

## PROPOSED CHANGE: (Attach sketch where applicable)

Provide separate steam pressure reducing stations for heating and for domestic hot water. 100 psi to 50 psi for domestic hot water system. 100 psi to 30 psi for building heating system.

#### ADVANTAGES:

# Allows optimum sizing for each station to serve each load Stations will operate through best operating range- not heavy in winter and light in summer During non-heating season only domestic water heater station will be in use

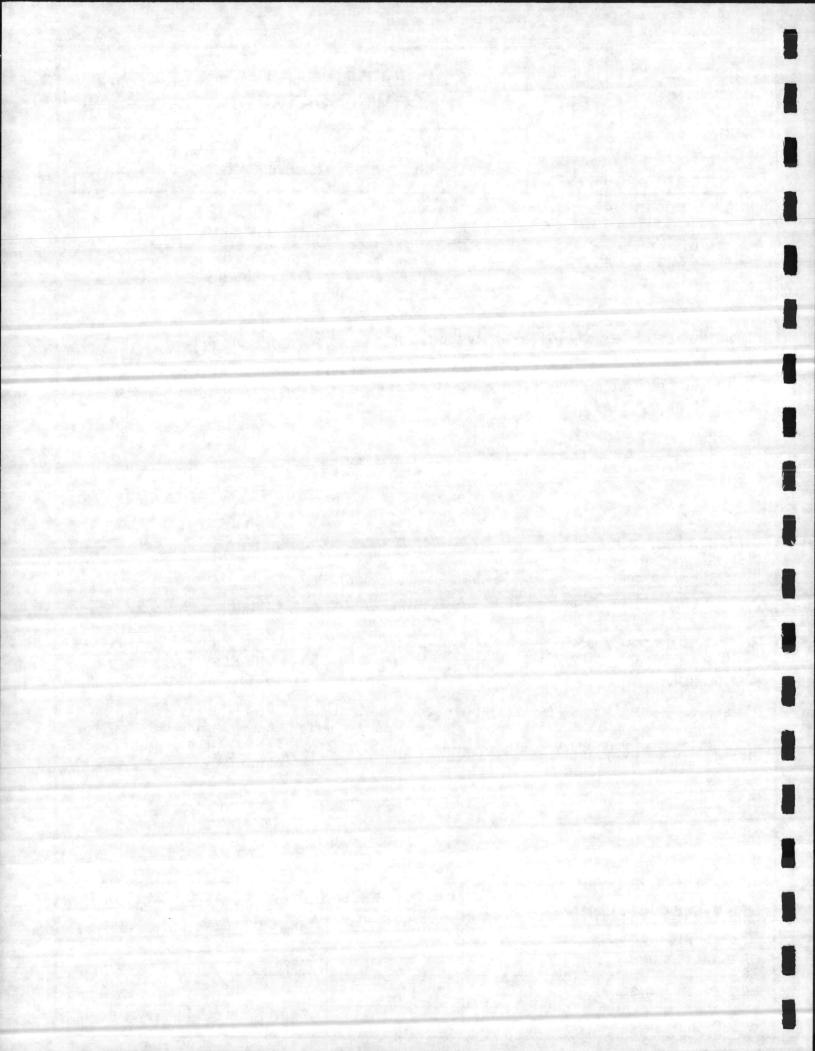
#### DISADVANTAGES:

Two (2) stations in lieu of one (1) station

## DISCUSSION:

Separate stations can be sized for better operating characteristics for each load. Because domestic hot water is needed year-round, better energy management can be obtained by shutting off the building heating system. (See attached sheets)

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN					
PROPOSED CHANGE	Trade-Off	er e			
SAVINGS Project P-065 Project P-133		10,270 27,055	10,270 27,055		





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

GYMNASIUMS P-065 & P-133

BUILDING HEATING NEEDS.

Item No. BC-34

Date

Project No.

Drawn By

FROM THE DESIGN ANALYSIS DATED AUGUST 13 1984 (CHEATHAMEASSOC).

ANNUAL DOMESTIC HOT WATER LOAD

416,000,000 BTU/YR.

ASSUMED SYSTEM EFFICIENCY 60%.

= 665,600,000 BTU/YR REQ!

= 6,656 THERMS/YR.

ANNUAL BUILDING HEATING LOAD

42, 100,000 BTU/YR

ASSUMED SYSTEM EFFICIENCY 60%.

67.360,000 BTU/YR REOD

674 THERMS/YR.

TOTAL STEAM REQUIRED.

7,330 THERMS/YR (7,359 STATED IN D.A.)

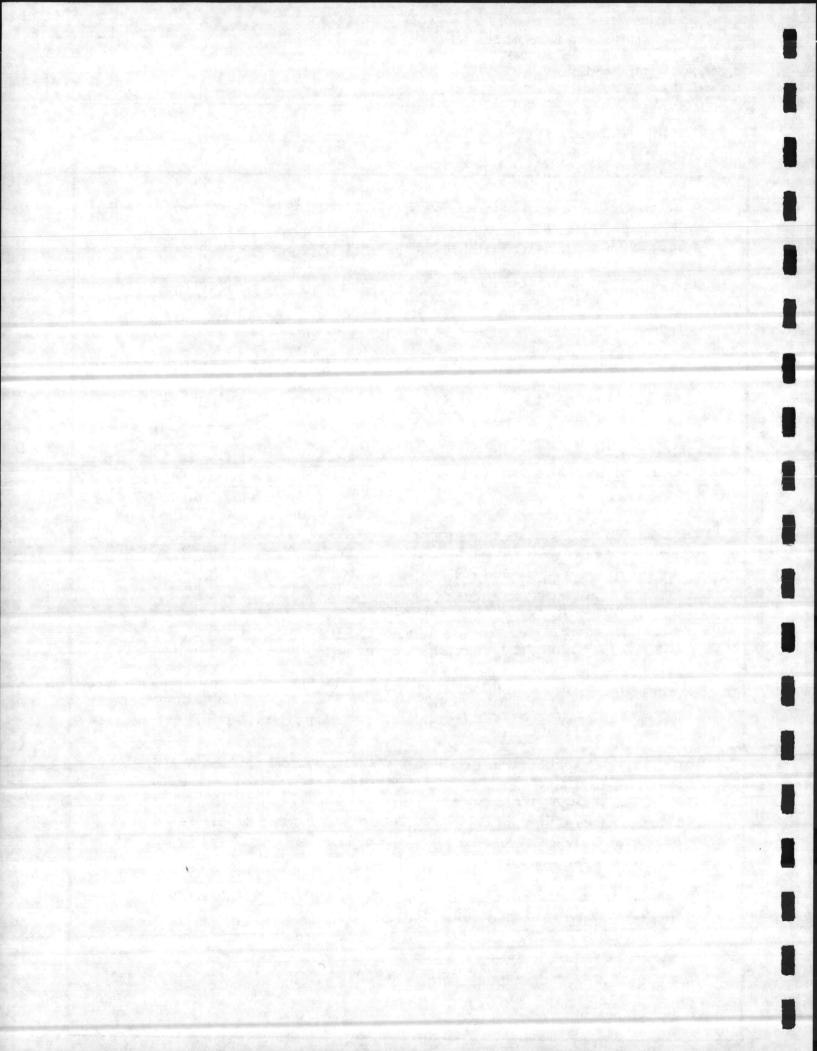
THE ORIGINAL DESIGN CONCEPT CALLS FOR THE TOTAL BUILDING MEATING REQUIREMENTS TO BE DIRECTED THROUGH ONE PRV STATION (100 PSI TO 30 PSI)

THE VE TEAM RECOMMENDS SEPARATING THE DOMESTIC HOT WATER SYSTEM NEEDS PROM THE BUILDING HEATING SYSTEM NEEDS BY PROVIDING TWO PRY STATIONS, ONE FOR EACH DUTY AS FOLLOWS:

PRU STATION 100 PSI TO SOPSI (STORAGE HEATER) DOMESTIC HW BUILDING HEATING PRV STATION 100 PSI TO 30 PSI (CONVERTOR)

THIS WILL ALLOW THE BUILDING HEATING SISTEM TO BE SHUT DOWN WHEN NOT REQUIRED THUS SAVING HEAT LOSSES THAT OCCUR UNNECESSARMY THROUGH THE USE OF ONE PRV. PRV STATIONS WILL ADDITIONALLY WE FEEL THAT INDIVIDUAL OPERATE MORE EFFICIENTLY WHEN MATCHED CLOSER TO THEIR LOAD OPERATING RANGE, AGAIN SAVING ENERGY.

THE HIGHER PRESSURE OPERATING RANGE FOR THE DOMESTIC HOT WATER HEATING LOAD SHOULD ALLOW A SMALLER HEATING COIL TO BE SELECTED FOR THE STORAGE TANK WITH POSSIBLE INITIAL COST SAVINES WHICH COULD ! OF THE SECOND PRV STATION FOR THE BUILDING HEATING SYSTEM.





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

GYMNASIUMS P-065 & P-133 Subject

BUILDING HEATING NEEDS

Date No. BC-34
Project No.

Drawn By

ESTIMATED ENERGY SAVINGS. (FROM DESIGN ANALYSIS)

TOTAL STEAM COST (NEW RIVER) 7355 THERMS X \$1.07 = \$7,870/YR

SAY 10% SAVINGS AT PRV.

= \$787/YR

DOMESTIC H.W.

STEAM COST (NEW RIVER) 6656 THERMS X \$1.07 = \$7,122/40

SAY 10% SAVINGS AT HEATER.

\$712/42

TOTAL POTENTIAL SAVINGS

\$ 1,499/42

(P-065)
TOTAL STEAM COST (CAMPLE JEUNE) 7355 THERMS x \$0.45 = \$3,312/42

SAY 10%0 SAVINES AT PRV.

\$ 331/YR

DOMESTIC HW.

STEAM COST.

6656 THERMS x \$0.45 = \$2,995/1

SAY INTO SAVINGS AT HEATER.

= \$ 299/YR

TOTAL POTENTIAL SAVINGS.

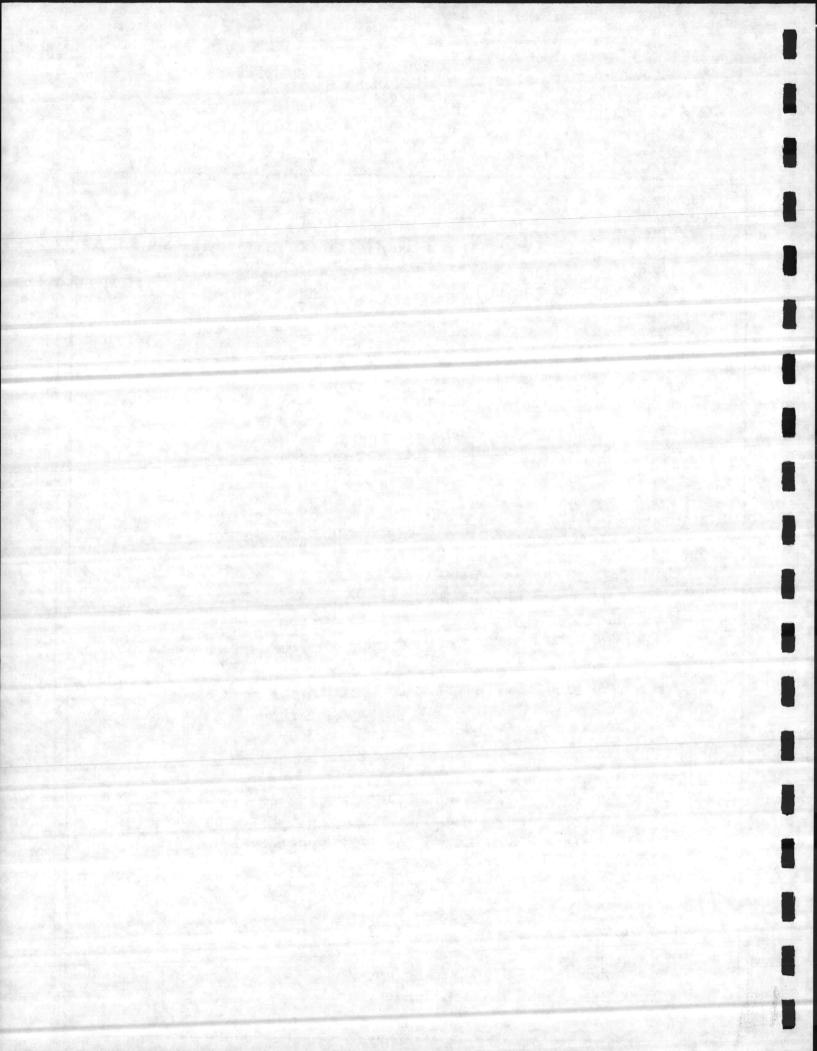
\$ 630/48

ASSUME EQUIPMENT & PRV COSIS TRADE - OFF.

PRESENT WORTH VALUE (FROM DESIGN ANALYSIS).

(P-133) \$ 1,499 x 18.049 = \$ 27,055

(P-065) \$ 630 x 16.303 = \$ 10,270



PROJEC	т	G	MNASIU	IMS
P-	065 A	ND	P-133	
LOCATIO	ON NI	MI EW	RIVER.	N.C.
CLIENT			AVFAC	
DATE _	AUGUS	ST	27-31,	1984
	1		05	1.

Z

ITEM

PROVIDE MAIN DUCT HEADER AND ROUND DUCT RUN OUTS FOR GYM

ITEM NO.

BC-36

### ORIGINAL DESIGN: (Attach sketch where applicable)

Present design drawings indicate an air handling unit with a single large sheet metal air distribution duct and side wall registers to serve one half of the gymnasium. (See attached sketch)

## PROPOSED CHANGE: (Attach sketch where applicable)

Reconfigure the ductwork to provide a distribution header along side wall and provide round feeder ducts with ceiling diffusers to serve space. (See sketch)

#### ADVANTAGES:

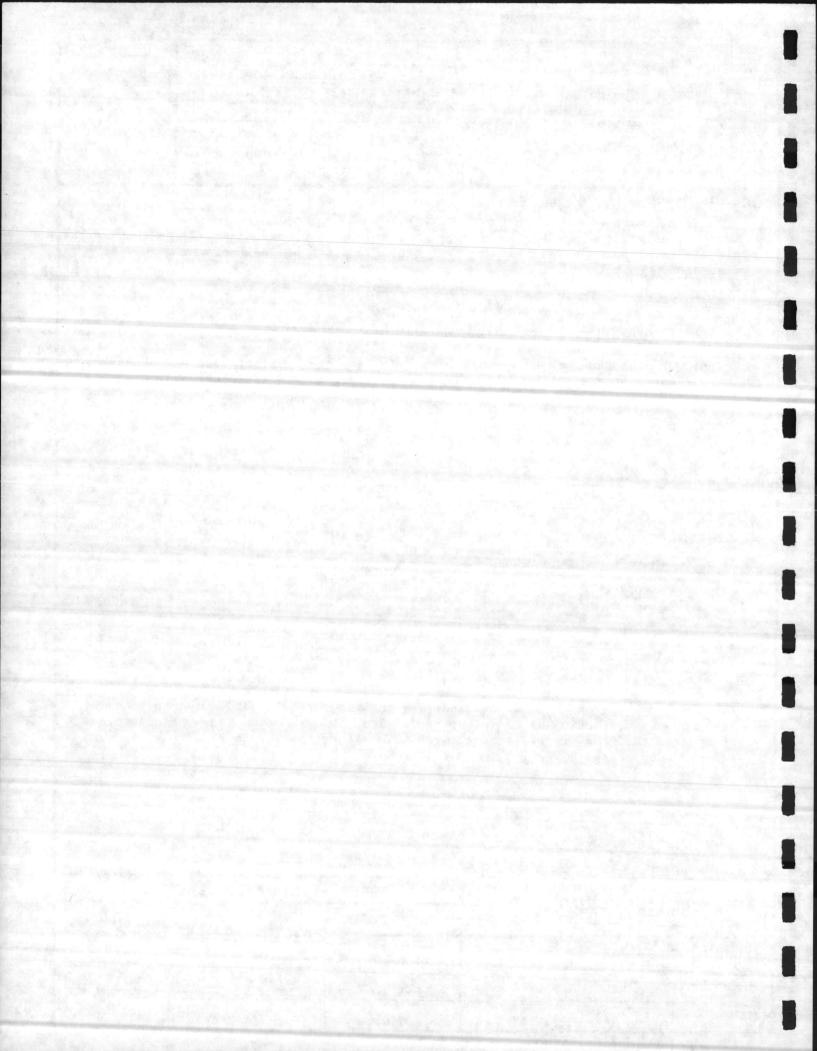
DISADVANTAGES:

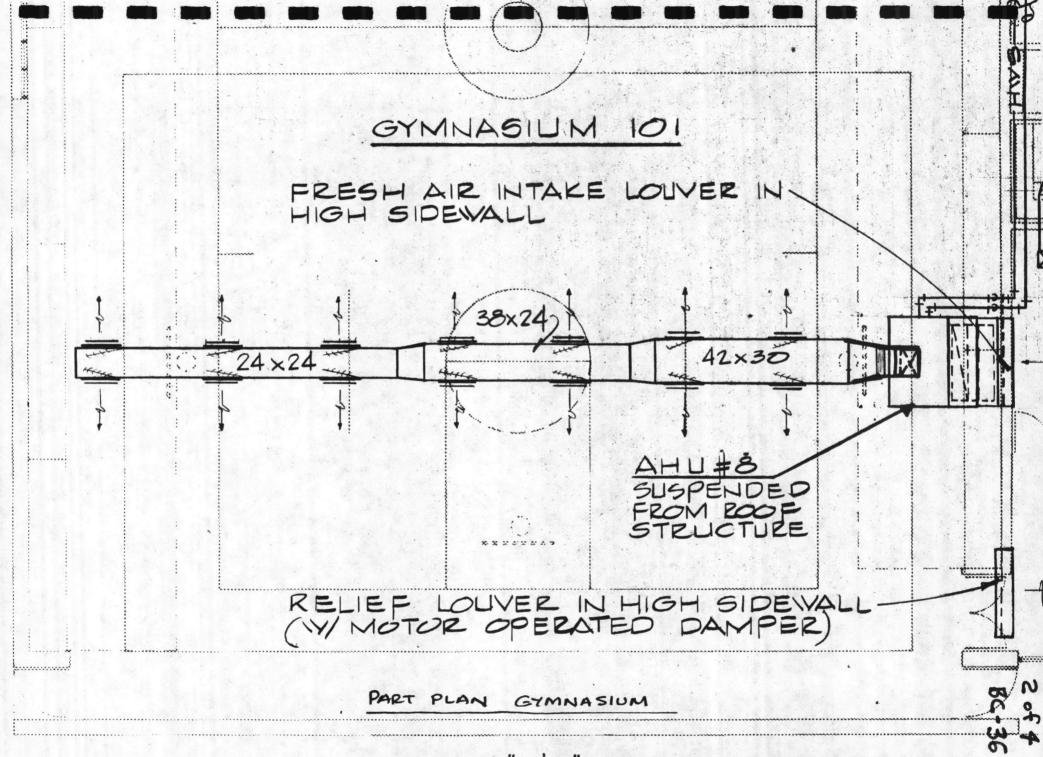
Improves Function Reduces Cost Re-Design

## DISCUSSION:

The VE team believes that the original design will not be capable of supplying heating and ventilation at the occupied level of the gymnasium some 20 feet below. It appears that the air will short circuit to either the return air intake or relief which are both high.

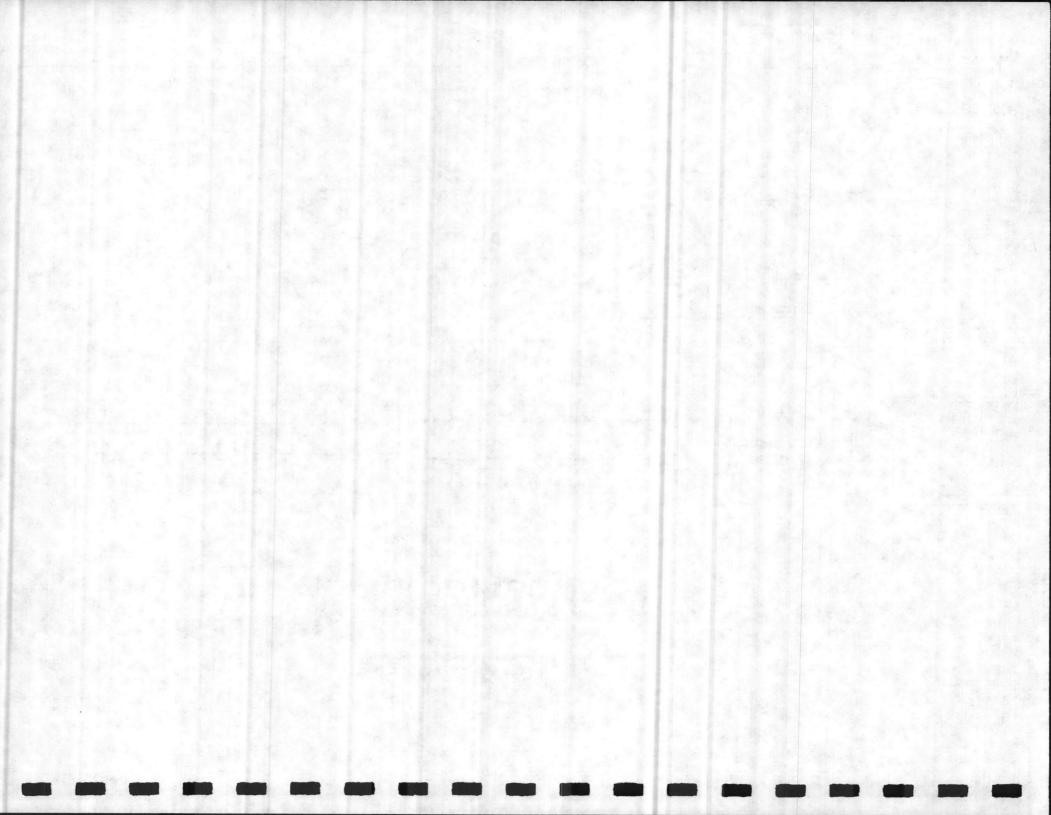
LIFE OVEL F COST CLIMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	15,776		15,776		
PROPOSED CHANGE	11,310	Improved	11,310		
SAVINGS Each Building	4,466	-	4,466		

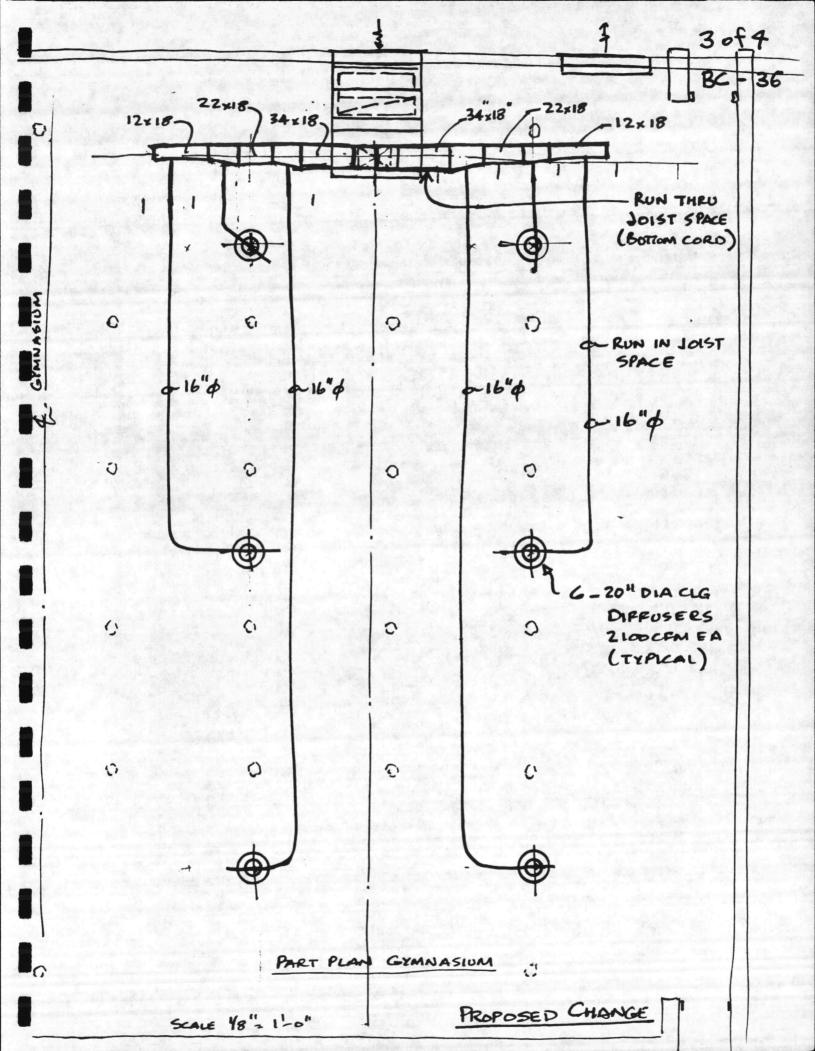


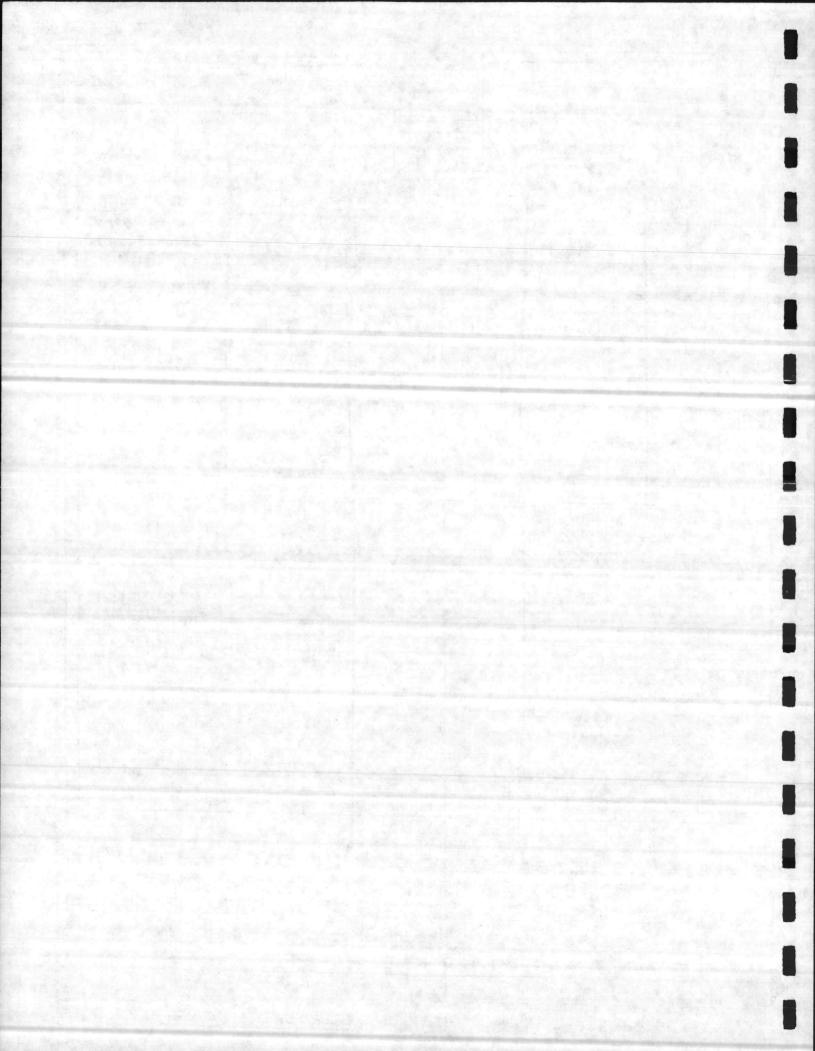


SCALE 1/8"= 1-0"

ORIGINAL DESIGN







# PROJECT GYMNASIUMS P-065 A-0 P-133 LOCATION Cample Jane | New River CLIENT NAVFAC DATE Aug 27-31, 1984 PAGE 4 OF 4

## **COST WORKSHEET**

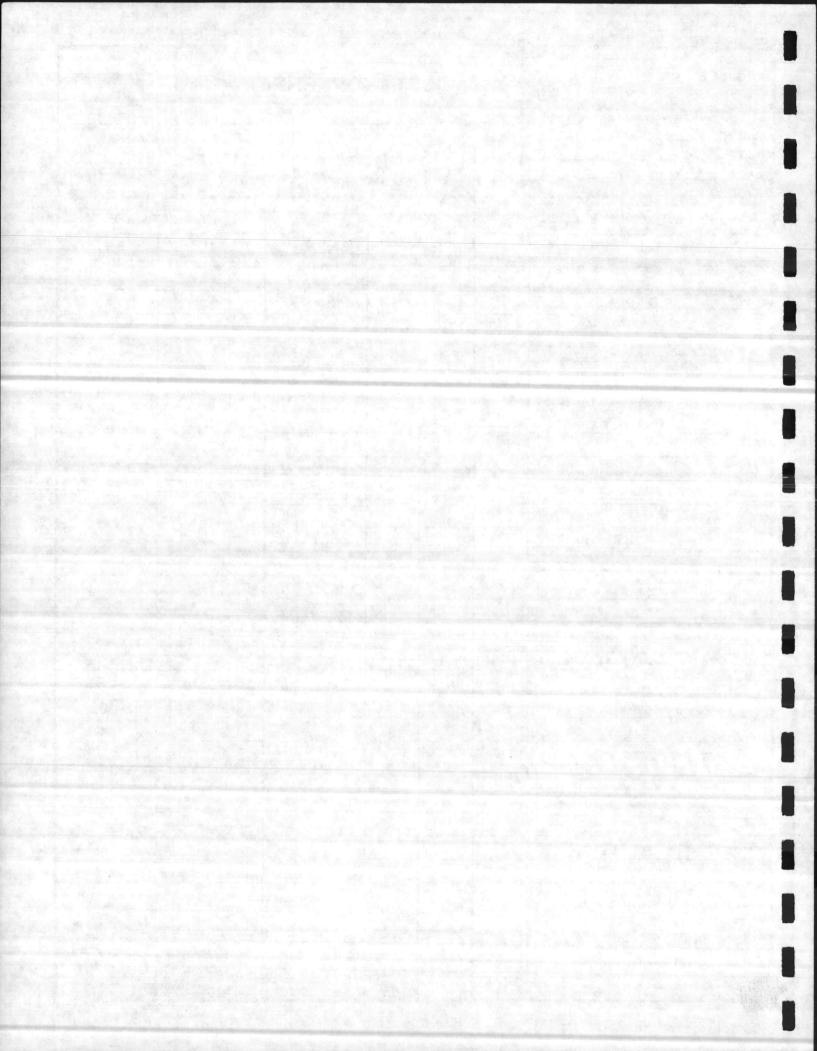
Z

ITEM

PROVIDE MAIN DUCT HEADER AND ROUND DUCT RUN OUTS FOR GYM

ITEM NO. BC-36

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE		NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
DUCTWORK	16	4000	1.57	6280			
INSULATION	FTZ	2000	1.00	2000			
SIDEWALL REG.	EA.	28	43	1204			
				9,484			
TÉ1 18%	7			1,707			
SOLES TOY 4% M	AT.			11,191			18.6
				379		New Y	
				11,570			
OH \$ 1 25%				2,843			
				14,463			
5000 120				144		er of the	Carrier Service
	. 3		46.00°	14 607			
ESCALATION	8%		N.	1, 16 9		tiga alia	
			#	15,776			
DUCTWORK (RELT & ROUND)	LS						3,810
INSULATION	Pr?				1500	1.00	1,500
DIFFUSERS.	EA		" No obe ye		12	120	1440
							6,750
T\$1 187.							1,215
							7,965
Soles TAY MIL 40%							270
			1 1				8, 235
OH # P 25%	e reg - 3			100		i Nice	2, 134
		1.5%	980	esa tour			10,369
BOND 170	1						104
					10 m	of Line	10 473
ESCALATION 87.				Mr. and a	1		837
						+	11,310



PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER.	NE & N.C.
CLIENT	NA NA	AVFAC	
DATE _	AUGUST	27-31,	1984
PAGE	1	OF	2

IZ.

ITEM

LOCATE OUTSIDE AIR INTAKE TO LOW ROOF AREA

ITEM NO.

BC-37

ORIGINAL DESIGN: (Attach sketch where applicable)

Design drawings indicate a ceiling grill in the south side recessed area soffit for the outside air intake to AHU #5. (See sketch)

PROPOSED CHANGE: (Attach sketch where applicable)

Combine all the outside air supply ducts into one louver location from the low roof area, to serve the mezzanine air conditioning units. (See sketch)

### **ADVANTAGES:**

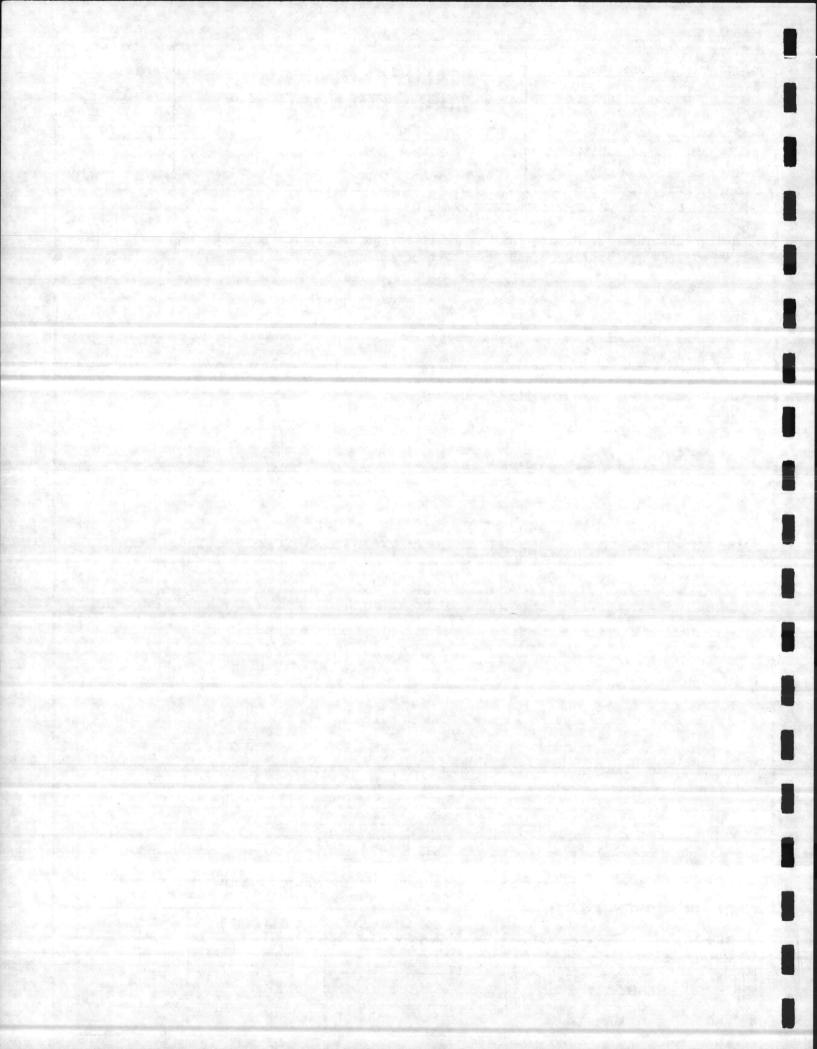
**DISADVANTAGES:** 

Reduces Cost Improves Aesthetics

### **DISCUSSION:**

The cost differences would appear close to a trade-off.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN					
PROPOSED CHANGE	Imp	rove Function	alouak Arian in		
SAVINGS Each Building	Des	gn Suggestion			





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OUTSIDE AIR INTAKE

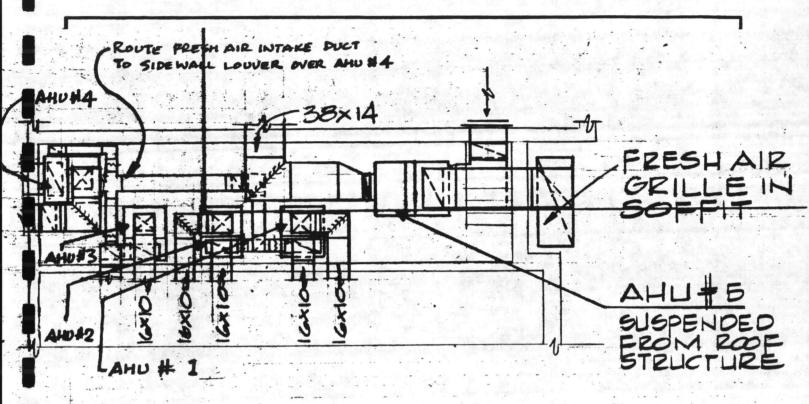
Date

Item No BC-37

Page Z of Z

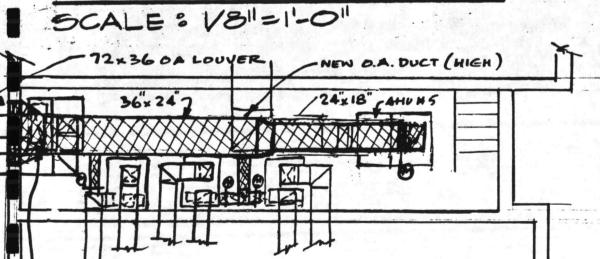
Project No.

Drawn By



MEZZANINE PLAN

OPIGINAL DESIGN

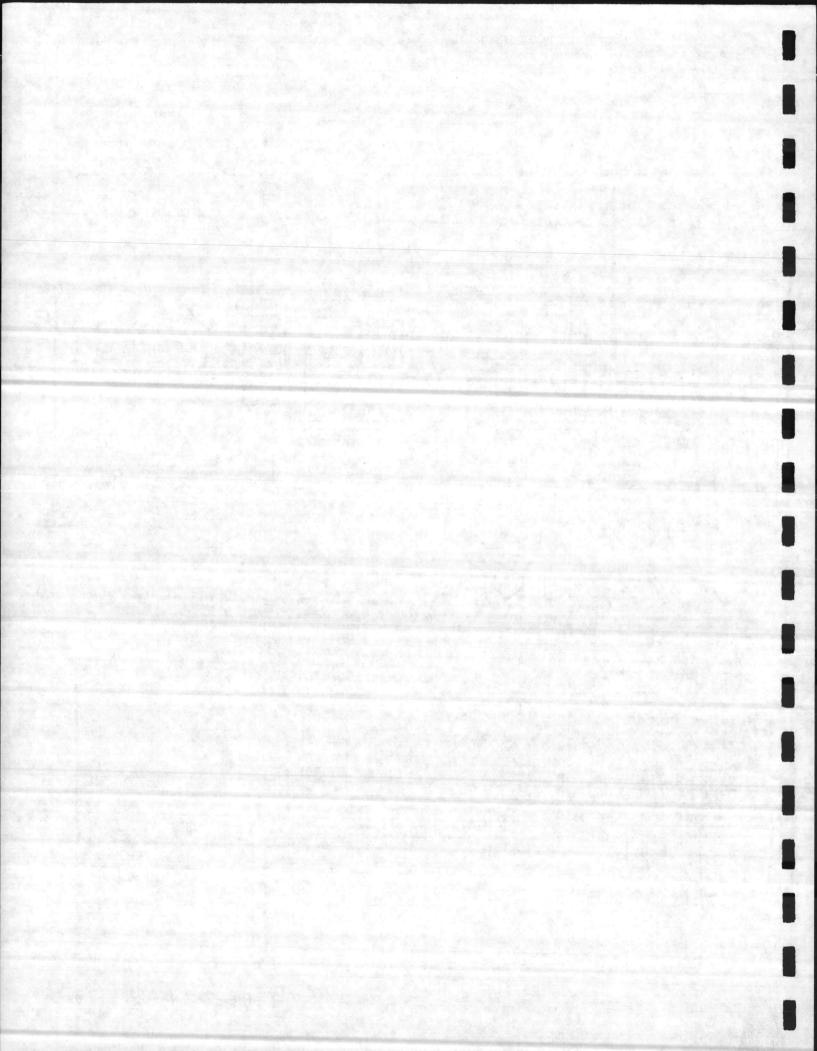


OA DROF DOWN TO UNIT WITH DAMPER.

MEZZANINE PLAN

SCALE: 1/8"= 1'-0"

PROPOSED CHANGE



PROJE	CTG	MNASIU	MS
P-	-065 AND	P-133	
LOCATI	ON NEW	RIVER,	NE & N.C.
CLIENT		AVFAC	150
DATE	AUGUST	27-31.	1984
PAGE	1	OF _	3

Z

ITEM

PROVIDE OUTSIDE ENTRANCE TO MEZZANINE

BC-38

ORIGINAL DESIGN: (Attach sketch where applicable)

A 3'-4" wide ships ladder, entering through exercise room, is provided as access to mezzanine. The mezzanine houses 5 air handling units, each with filters and hot water heating coils. Four (4) units have DX coils for air conditioning. Maintenance for AHU's will have to enter through exercise room.

## PROPOSED CHANGE: (Attach sketch where applicable)

Provide outside door to stair for access to mezzanine. Outside door to be under Base maintenance control. This allows maintenance access to equipment without having to go through exercise room. Stair should be  $\pm$  4' wide for equipment and maintenance access.

#### ADVANTAGES:

**DISADVANTAGES:** 

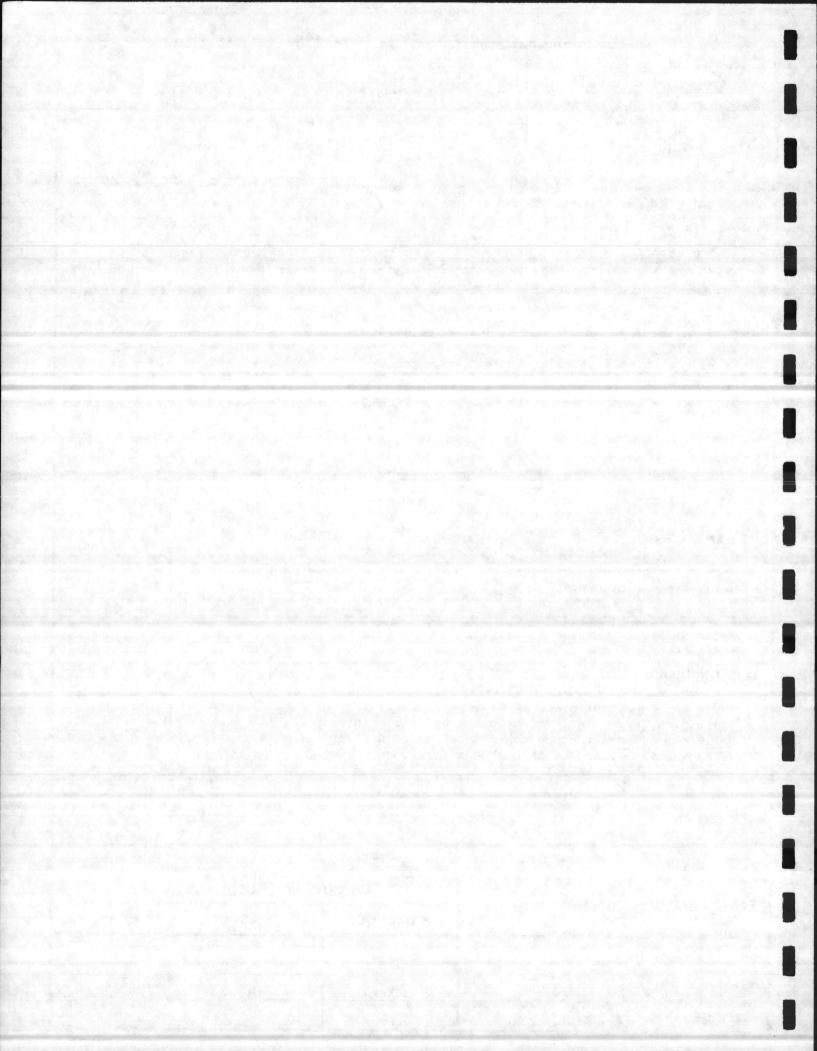
Outside door required

Access and control equipment under Base maintenance. Do not have to enter through exercise room Wider stairs for easier access and safety

#### **DISCUSSION:**

AHU's and equipment needs regular maintenance for changing filters, lubrication, inspection, etc. This is performed by Base maintenance. AHU's and equipment should be under Base maintenance control. Outside door provides Base maintenance access to mezzanine without going through exercise room.

# PRESENT WORTH COST SAVINGS INITIAL COST O & M COSTS TOTAL ORIGINAL DESIGN 2,600 2,600 PROPOSED CHANGE 3,600 3,600 SAVINGS Each Building (1,000) (1.000)



6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852

301/984-9590

Subject P. 065 & P. 133

Page Z of 3 Item No. BC-38

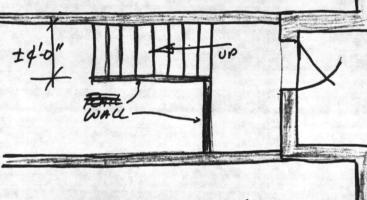
30 August St

Project No.

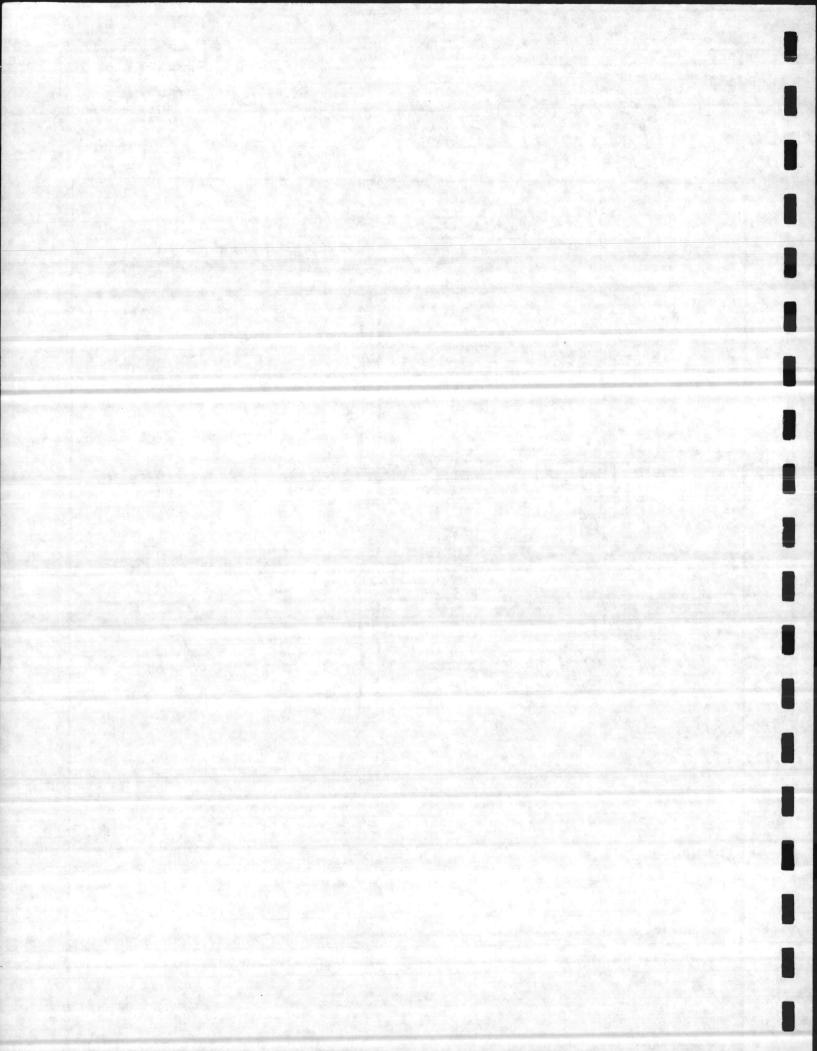
Drawn By

OUTSIDE ENTRANCE TO MEZZANINE

EXERCISE Room



HANDBALL COURT



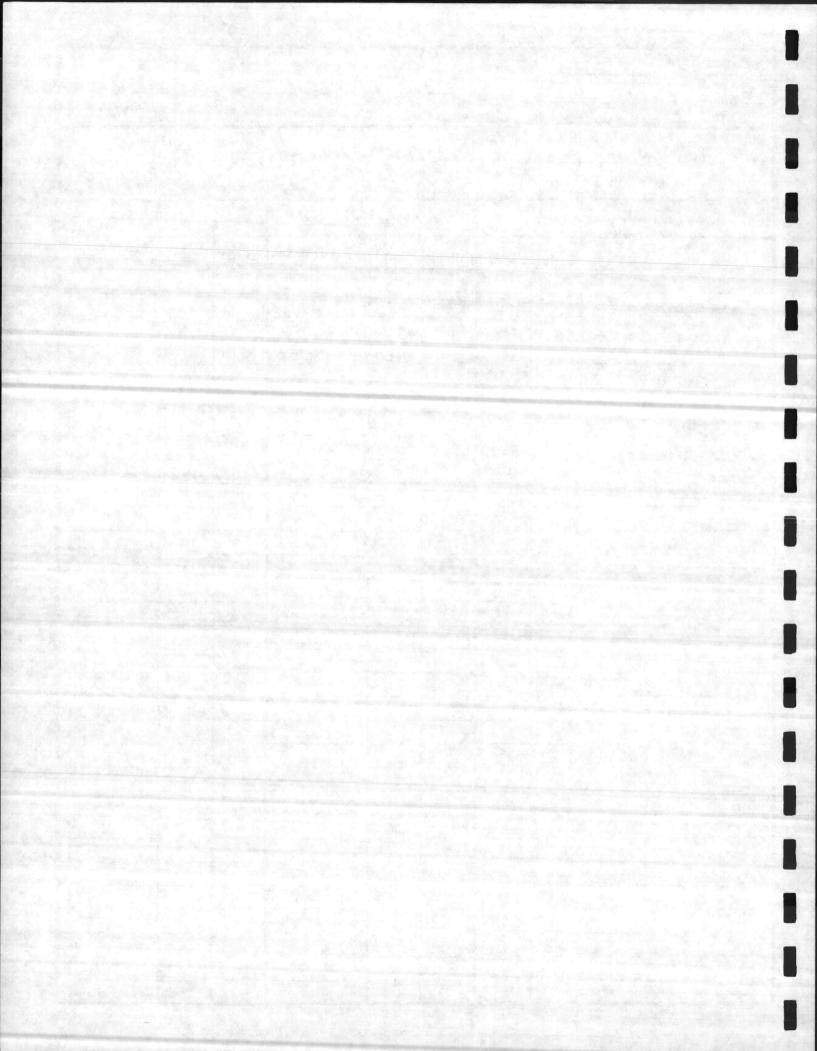
PROJECT /	Symulasiums
Projects	P-065 & P-133
LOCATION .	Cample Jane/New River
CLIENT	NAVFAC
DATE 30	August 'St

## COST WORKSHEET

TO MEZZANINE

ITEM NO. BC-38

PAGE OF _S		70	11/62	ZAN/NC			120 20
CONSTRUCTION ELEMEN	VT	OF	RIGINAL E	STIMATE		NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
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MACL	EA		500	500			
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PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER,	NE & N.C.
CLIENT	N/	AVFAC	
DATE _	AUGUST	27-31,	1984



ITEM

PROVIDE TWO COMBINATION OSD/FD IN MEZZANINE EQUIPMENT ROOM

ITEM NO.
BC-39

ORIGINAL DESIGN: (Attach sketch where applicable)

The present design indicates four (4) floor drains in the mezzanine equipment room. (See sketch)

PROPOSED CHANGE: (Attach sketch where applicable)

Reduce the number of drains to two (2) and make drains combination open site and floor drains. Delete the separate vent thru roof (VTR) at south side and vent with stack.

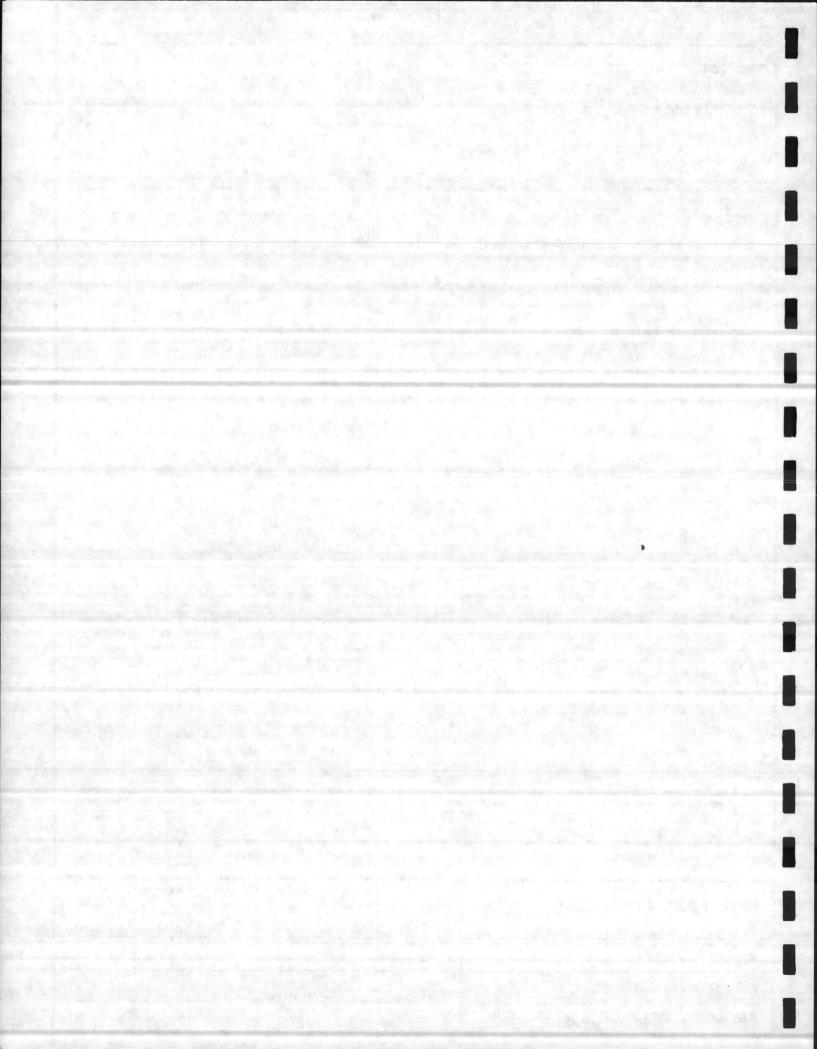
ADVANTAGES:

**DISADVANTAGES:** 

Reduce Cost Improved O&M

**DISCUSSION:** 

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS							
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL					
ORIGINAL DESIGN	2,000		2,000					
PROPOSED CHANGE	1,125	Improved	1,125					
SAVINGS Each Building	875		875					



6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

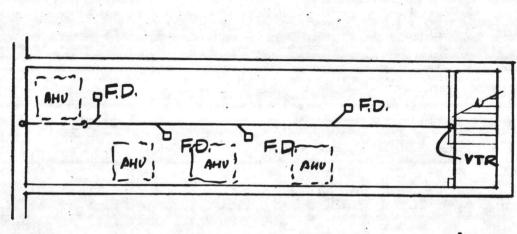
Page Z of 3

MEZZANINE PRAINS.

Subjec

Date Project No. BC-39

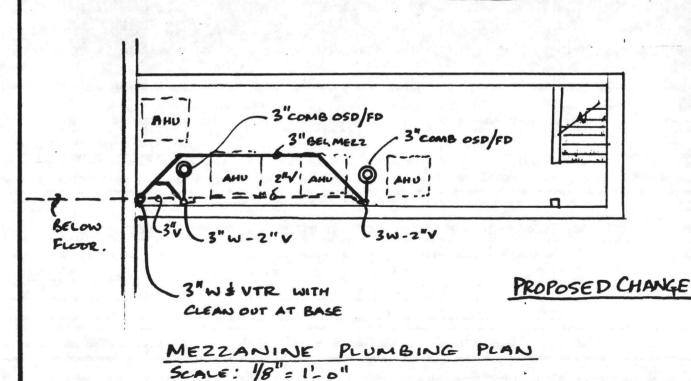
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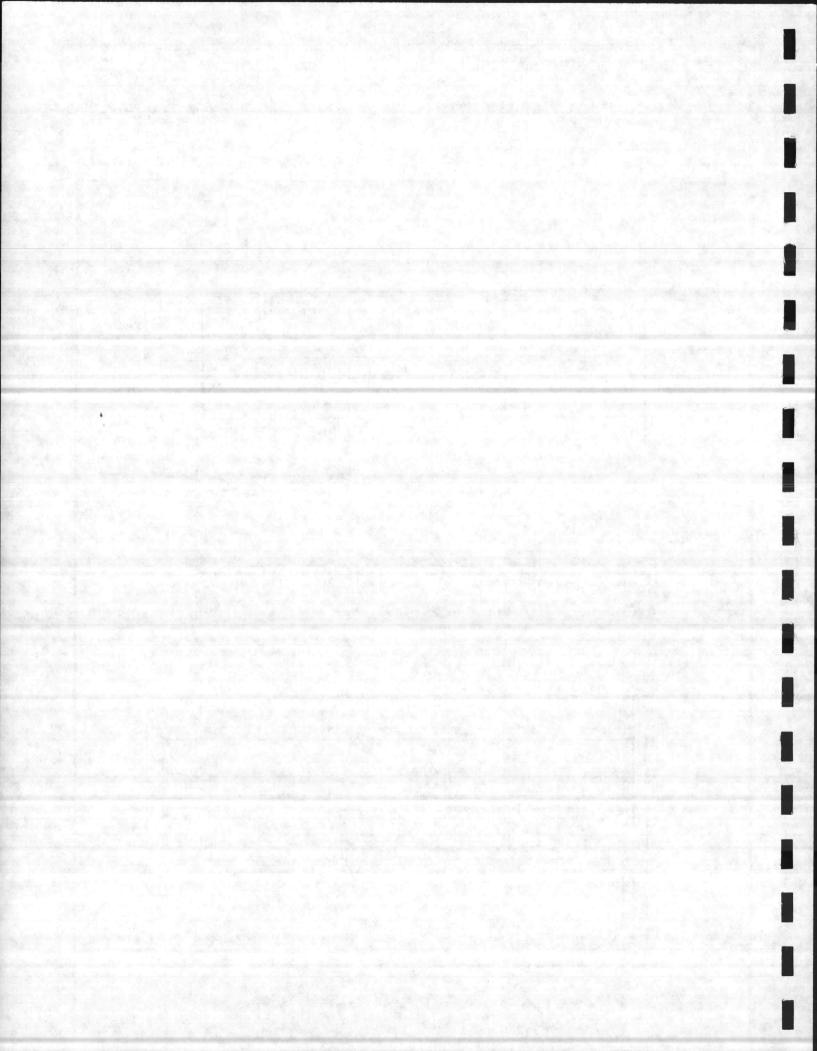


24

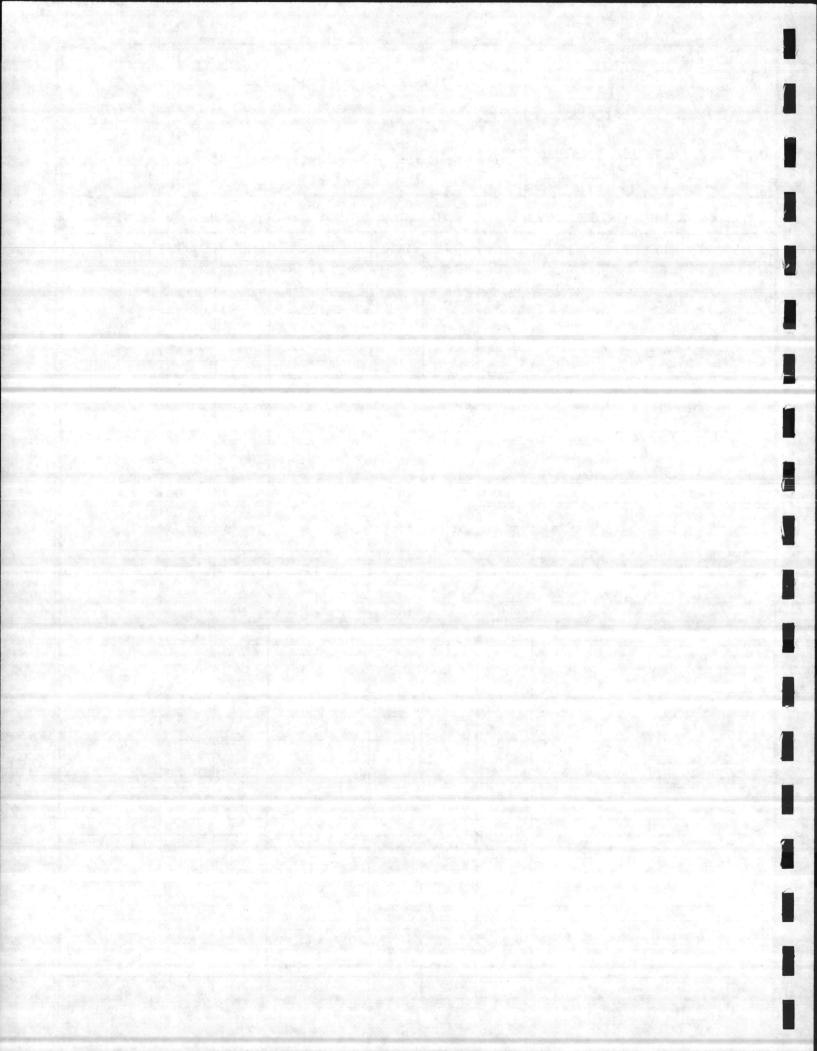
MEZZANINE PLUMBING PLAN SCALE: 1/8"= 1'-0"

ORIGINAL DESIGN.





PROJECT GYANASIUMS P.065 AND P-133 LOCATION CAMPLETEUR / NEW RIVE CLIENT NAVFAC	er	CO	ST W	VORKSHE	ET		Z	
CLIENT NAVFAC  DATE Ay 27-31,1984  PAGE 3 OF 3		EZZAN	iwe f	ioor Drav	nu s	ITI	EM NO. BC - 39	
CONSTRUCTION ELEMENT		0	RIGINAL	ESTIMATE		NEW EST	TIMATE	
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL	
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PROJEC	TG	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	065 AND CAM ON NEW	RIVER.	NE & N.C.
CLIENT	N/	AVFAC	
DATE _	AUGUST	27-31,	1984
DAGE	1	OF	2



ITEM

CHANGE BUILDING ELECTRICAL SERVICE TO 277/480 VOLTS

BC-44

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows a pad mounted transformer with 120/280 volt secondary (150 KVA).

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to use a pad mounted transformer with 277/480 volt secondary (150 KVA).

## **ADVANTAGES:**

Smaller service entrance and service entrance equipment.
Less branch circuits required.
Less conduit and wiring throughout building.
Probably less panelboards.

#### **DISADVANTAGES:**

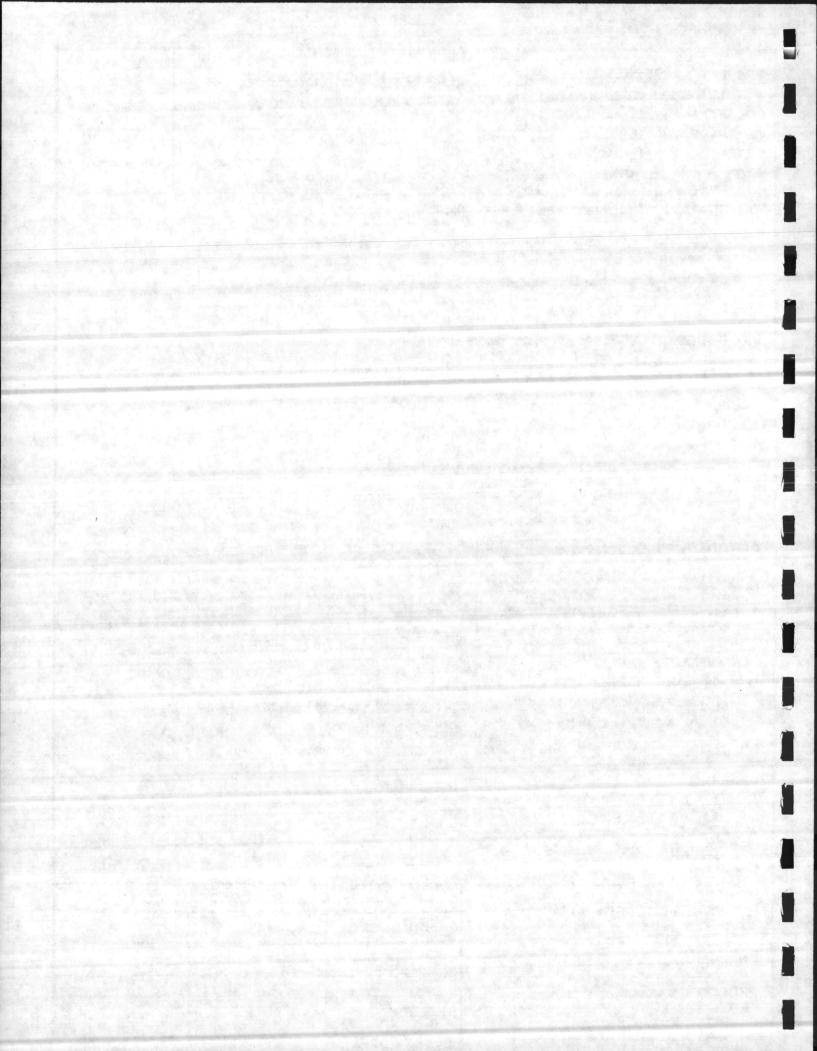
Necessary to provide 480/120/240 volt dry type transformer to serve 120/208 volt load.

Small A/C units may only be available for 208 or 240 volts.

#### DISCUSSION:

All lighting inside and outside building can be served with either 277 volts or 480 volts. Large AHU motors can be for 480 volt service.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	104,276		104,276				
PROPOSED CHANGE	71,553		71,553				
SAVINGS Each Building	32,723	-	32,723				



PROJECT C	VMHASIUMS
PROJECTS	POGS & P-133
LOCATION G	expletane / Now River
CLIENT	NAVFAC August 184
DATE 29 #	Hugust 84
PAGE 2	OF Z

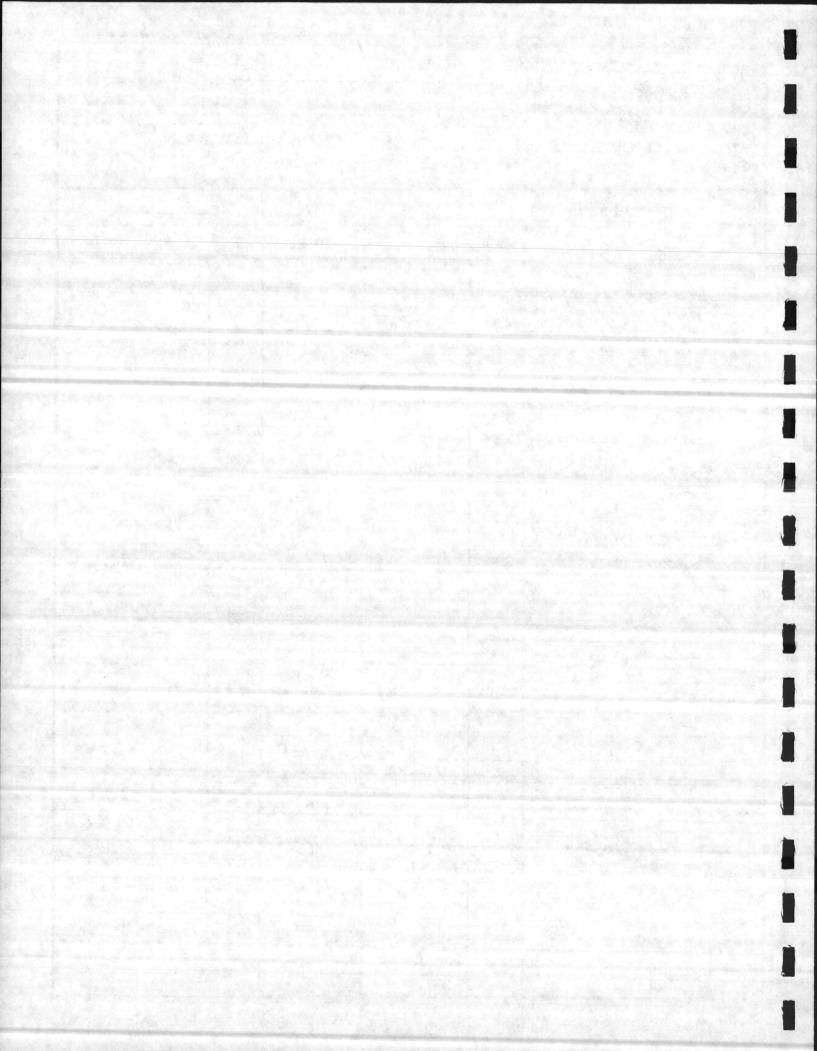
## **COST WORKSHEET**



SERVICE TO 277/480 V

ITEM NO.
BC-44

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE		NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
Elect. U/G SERVICE 4"C 4" SOD MCM							and the state of the state of
4"C 4 = 500 mcm	LF	30	26 ar	781	30	1331	400
3"C \$# \$/0 600 V	LF	3			30	13-	4.00
PANELBOARDS. ESTIMA	TE						
1/3 SAVINAS	LS		*	4900	33.7		3267
BRANCH CIRCUITS - ES	7.						
1/3 SAUNES	15		*	8740			5826
POWER-ESTIMATE //3							
SAUNGS	45	fight	*	69.000			46,000
480/120/2084 DRY Type TRANSE. 45KUA			1				
TRANSF. 4SICVA	EA						1750
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(84)							
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PROJECT _	G	MNASIU	MS
P-065	AND	P-133	
LOCATION	NEW	RIVER,	NE & N.C.
CLIENT		AVFAC	
DATE AU	GUST	27-31,	1984
PAGE	1	OF _	2

Z

ITEM

ITEM NO.

DELI

DELETE CEILING IN EXERCISE ROOM

BC-47

ORIGINAL DESIGN: (Attach sketch where applicable)

A suspended acoustical ceiling is scheduled for the exercise room.

PROPOSED CHANGE: (Attach sketch where applicable)

Delete the suspended acoustical ceiling.

ADVANTAGES:

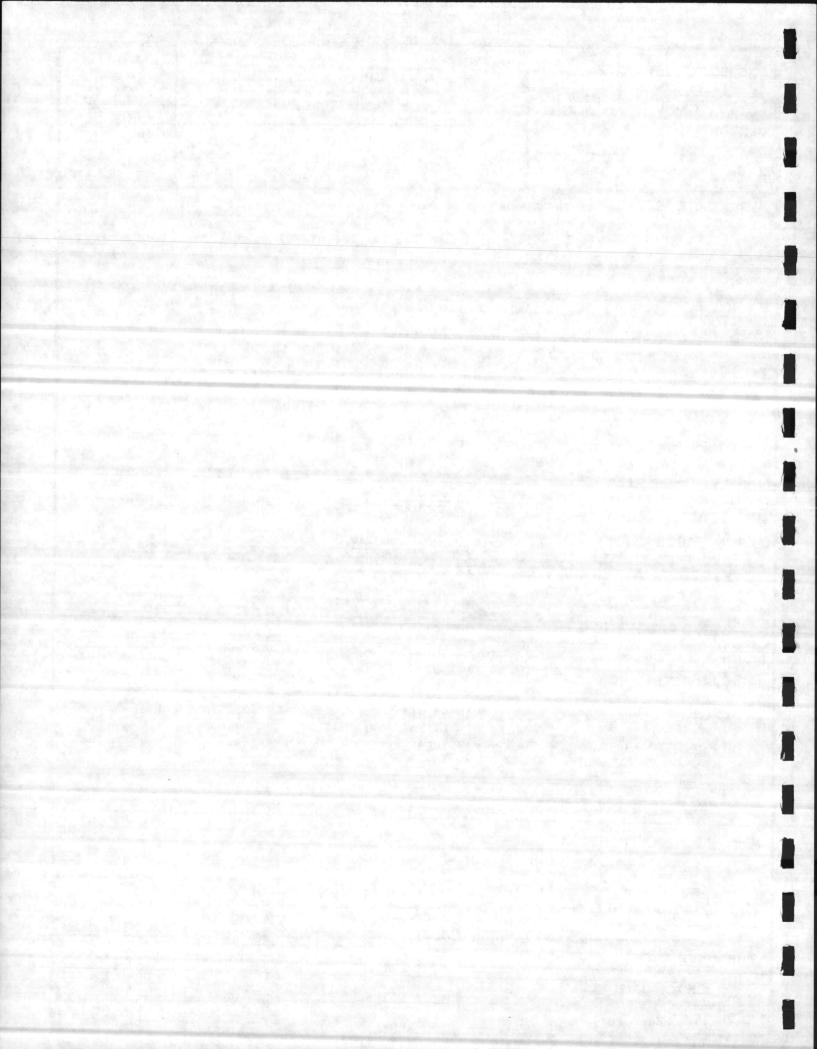
**DISADVANTAGES:** 

Reduce Cost

## DISCUSSION:

Ceiling in the exercise room serves no useful purpose. Any loss in acoustical properties can be offset by use of Progym floor. Lights can be same as those used in gym which are approximately equal in cost to those shown.

LIES OVOLS COOT CUISMA BY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	3,254	-	3,254				
PROPOSED CHANGE	585	Improved	585				
SAVINGS Each Building	2,669	-	2,669				



PROJECT	GYMN.	
LOCATION	Campleterne/	Van River
CLIENT	NAVFAC	
DATE _	ug 21-3	1 84
	2/	0'

## **COST WORKSHEET**

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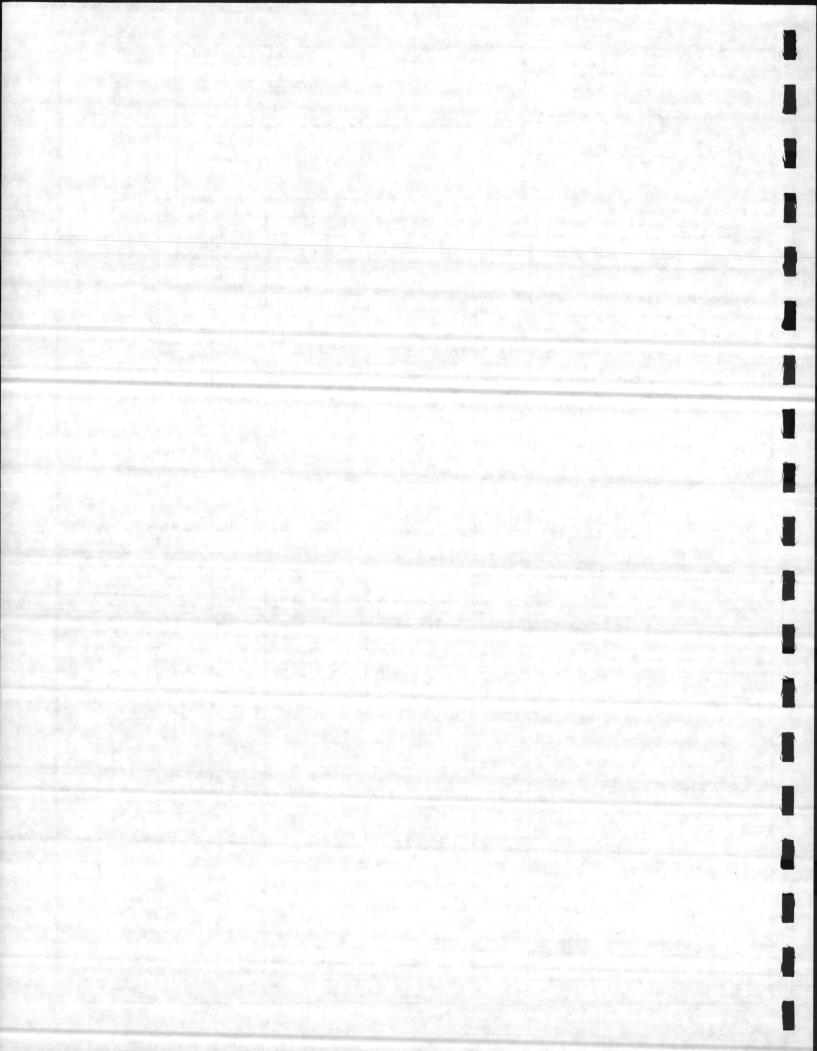
ITEM

DELETE CEILING IN EXERCISE ROOM

ITEM NO.

BC-47

CONSTRUCTION ELEMENT		ORIGINAL ESTIMATE		NEW ESTIMATE			
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
SUSPENDED							
ACOUSTICAL CEILING	SF	1891	1.28	2421	J 454	3-2	
SUB OH&P	100			484			
ACOUSTICAL CEILING SUB OH&P G.C. OH&P		14 Sept. 18		349	1. S.		
	2.7.9			3254			
FAINT EXPOSED							
STRUCTURE	SF				1891	.23	43.
SUB OH &P G,C, OH &P						- 225	8-
G,C, OH & P							63
							54
				J = G/ E			
		34.88					
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PROJEC	T G	YMNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	P LEJEU RIVER,	NE & N.C.
CLIENT		AVFAC	
DATE _	AUGUST	27-31.	1984
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ITEM

HEAT AND VENTILATE EXERCISE ROOM SIMILAR TO GYMNASIUM

ITEM NO.

BC-49

## ORIGINAL DESIGN: (Attach sketch where applicable)

The present design indicates a heating and ventilating unit with ductwork for air distribution serving the exercise room. The unit is located in the equipment room and is provided with an outside air intake in the recessed area soffit. (See sketch)

## PROPOSED CHANGE: (Attach sketch where applicable)

Relocate the air handling unit to the exercise room and install similar to units in gymnasium. (See sketch)

## **ADVANTAGES:**

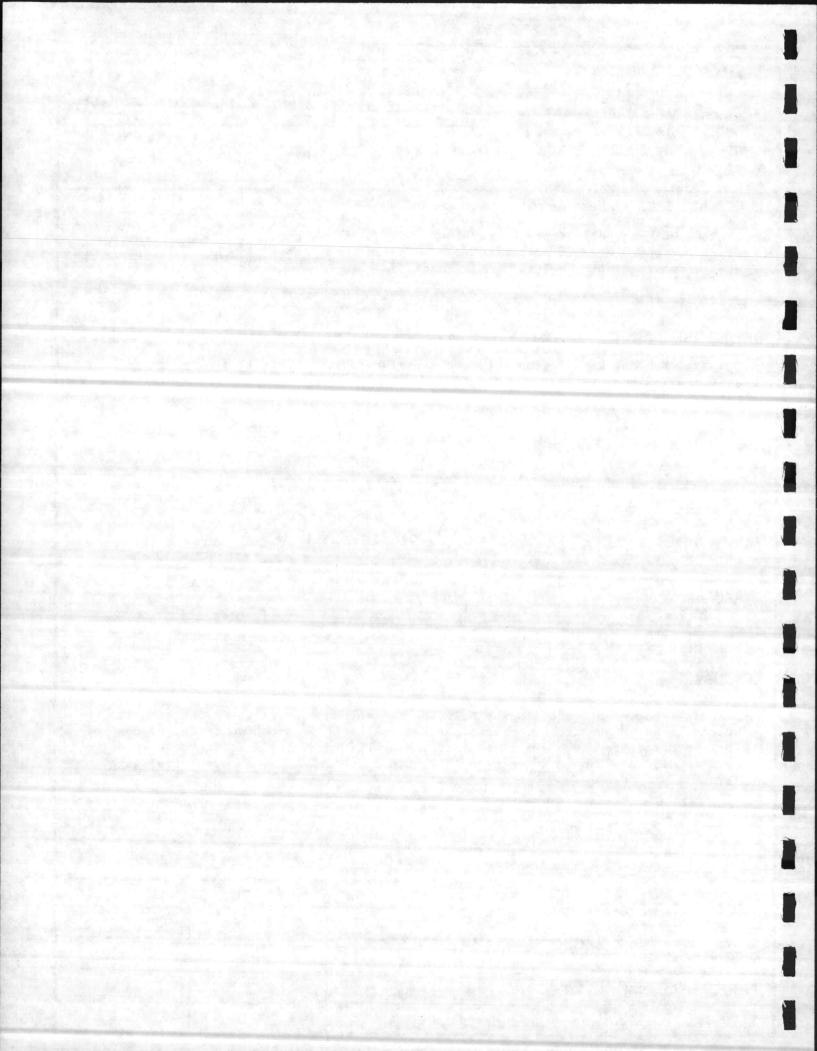
## **DISADVANTAGES:**

Reduces Cost Improves Function Saves O&M Cost Re-Design

#### DISCUSSION:

Another recommendation calls for deleting the suspended ceiling in the exercise room which further supports this recommendation. Also, it is proposed to delete most of the south side recess and soffit by lining up the racquetball courts to create uniform viewing space. Present design appears to conflict with electrical lighting layout.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	7,642	The state of the s	7,642			
PROPOSED CHANGE	5,284	Improved	5,284			
SAVINGS Each Building	2,358	-	2,358			





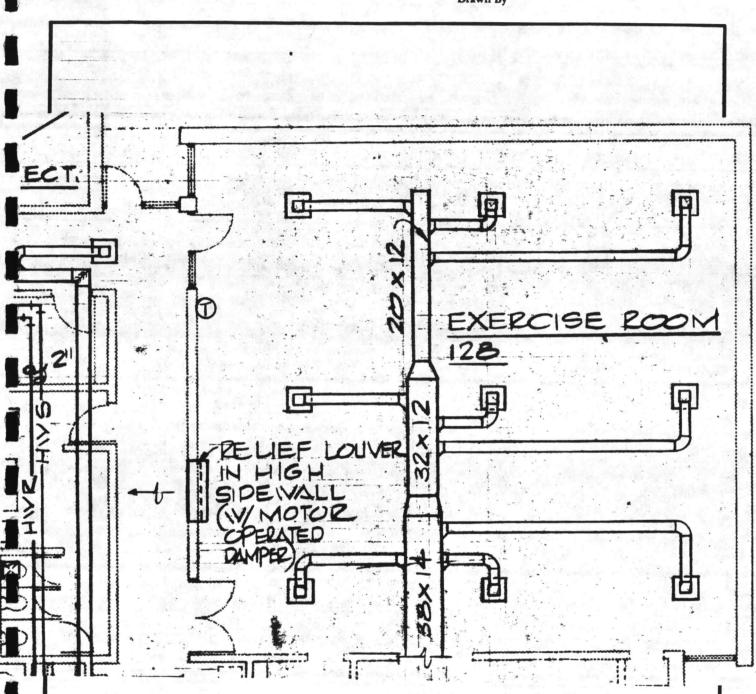
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Page Z of 4

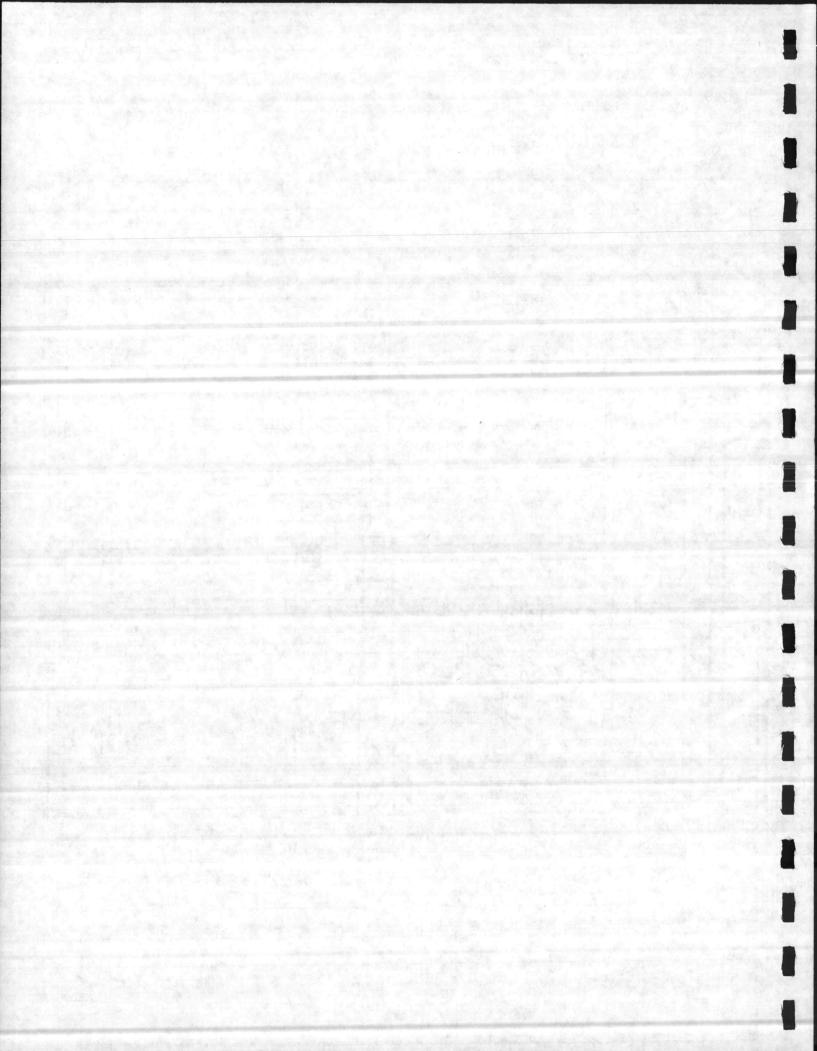
Subject

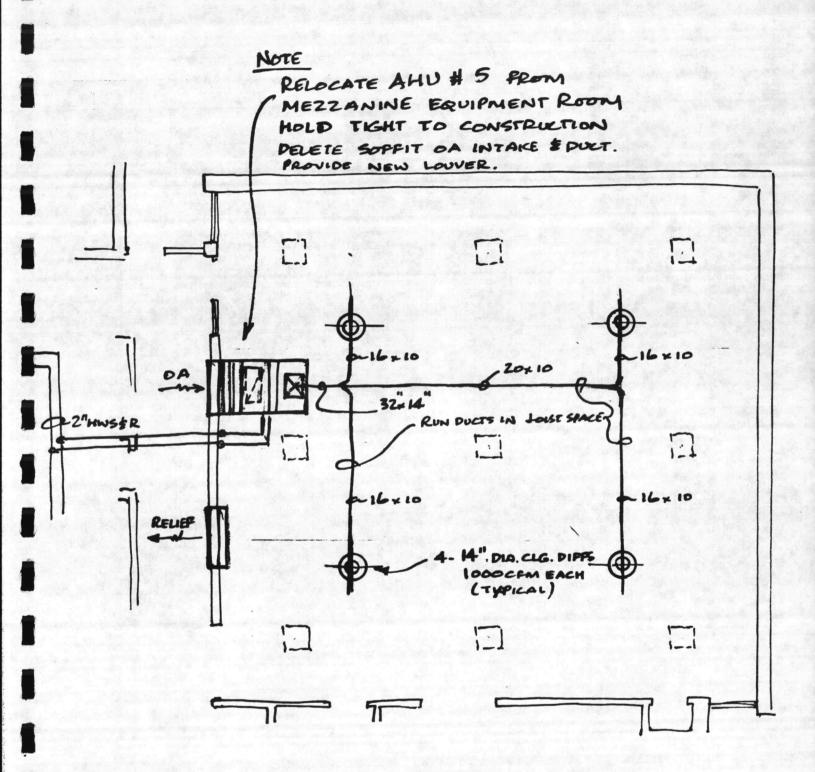
Then No. BC-49
Project No.

Drawn By



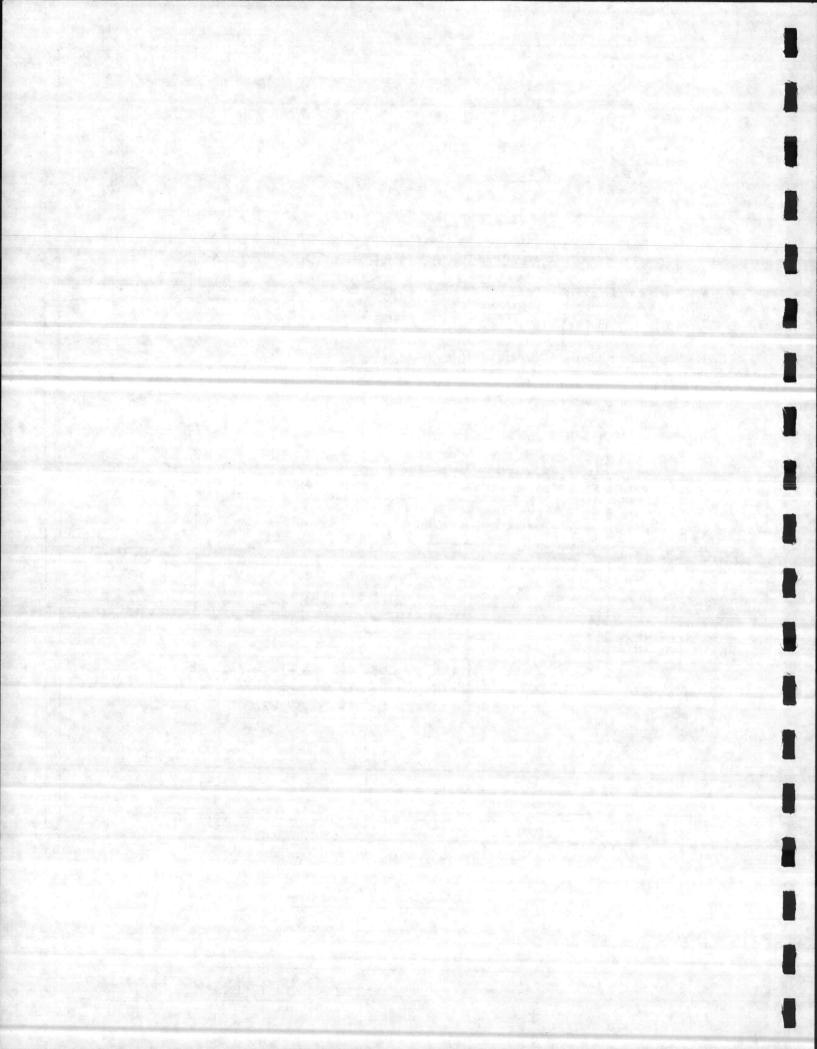
ORIGINAL DESIGN





Scare 48 " 1 0"

PROPOSED CHANGE



PROJECT GYNNASIUMS

P-065 AND P-133

LOCATION CappleTone New River

CLIENT NAVFAC

DATE Aug 27-31, 1984

PAGE 4 OF 4

## **COST WORKSHEET**

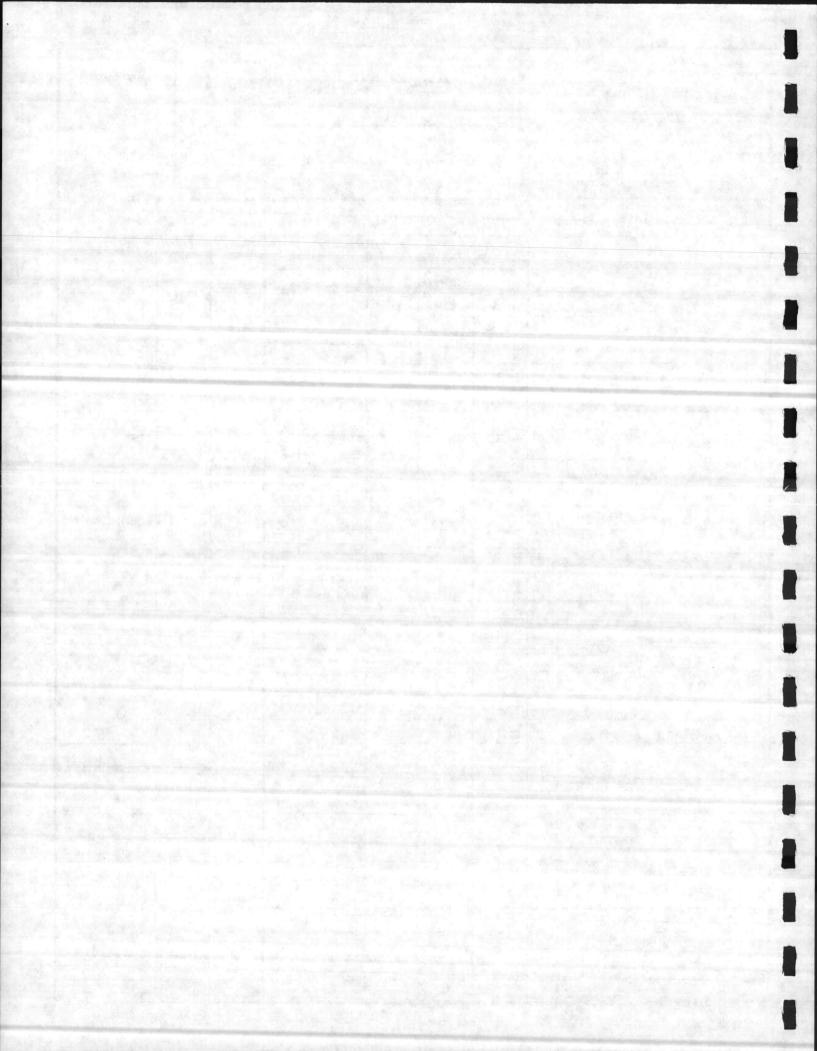
Z,

ITEM

HEAT AND VENTILATE EXERCISE ROOM SIMILAR TO GYMNASIUM ITEM NO.

BC-49

CONSTRUCTION ELEMENT		ORIGINAL ESTIMATE			. NEW ESTIMATE		
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
DUCTWORK	Ь.	000	1.57	1,570	a mark and	24 Jakon	- A 16 A
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T\$ 1 18%							572
	4-198		145				3,749
SALES TAX 40% MAT!			4.				127
				A STATE OF THE STA			3,87
OH \$ P 25%				4 76 (8) 63			960
	7,13						4,841
150ND 170						¥ 14	48
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ESCALATION 8%				* N			39
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PROJEC	T G	MNASIU	MS
P-	065 AND	P-133	
LOCATIO	ON NEW	RIVER.	NE & N.C.
CLIENT	N/	AVFAC	
DATE _	AUGUST	27-31,	1984
DACE	1	OF	5



ITEM

REARRANGE AHU'S IN MEZZANINE EQUIPMENT ROOM AND DUCTWORK TO RACQUETBALL COURTS

ITEM NO.

BC-51

## ORIGINAL DESIGN: (Attach sketch where applicable)

The present design indicates air conditioning units numbers 1,2,3 and 4 arranged as shown on the attached sketch. The layout requires several duct elbows in the air supply system to serve the racquetball courts.

## PROPOSED CHANGE: (Attach sketch where applicable)

Rearrange air conditioning units to ductwork to racquetball courts and co-ordinate with proposed electrical lighting layout.

#### ADVANTAGES:

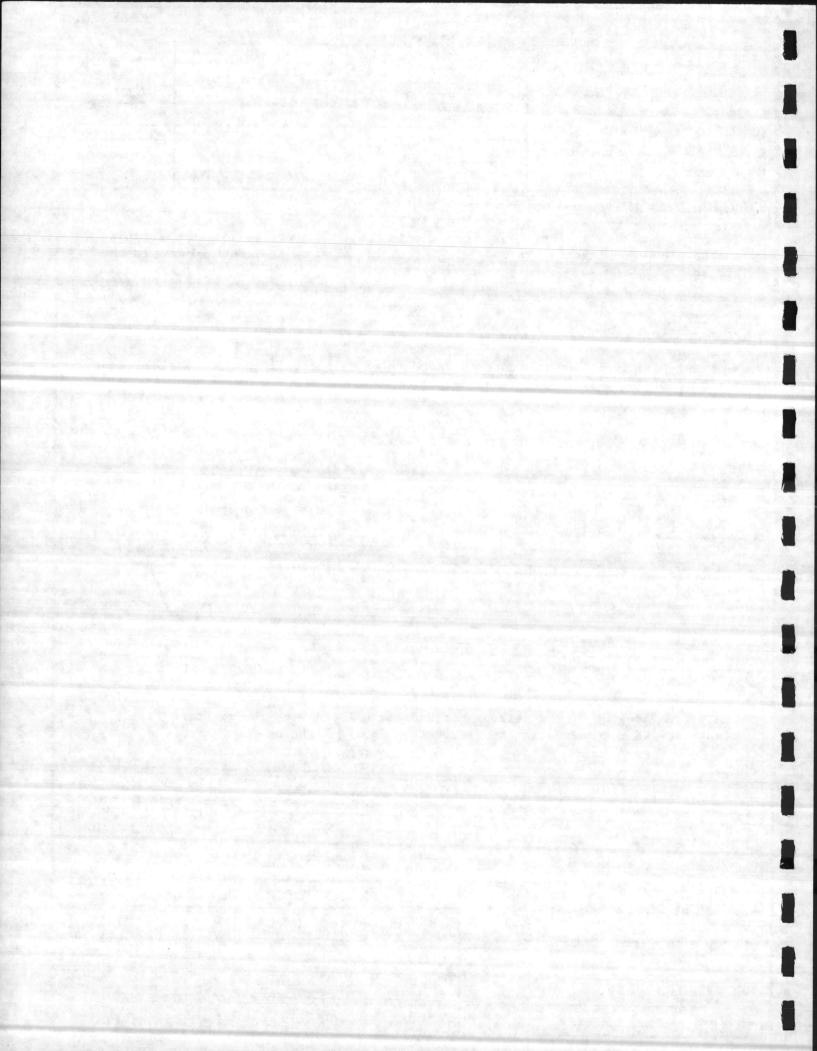
**DISADVANTAGES:** 

Reduces Cost Saves Energy Re-Design

## **DISCUSSION:**

The present design of the ceiling diffusers conflicts with the lighting layout. See electrical VE recommendation for racquetball court lighting.

LIFE OVOLE COCT CUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	5,350		5,350				
PROPOSED CHANGE	3,811	Improved	3,811				
SAVINGS Each Building	1,539	-	1,539				





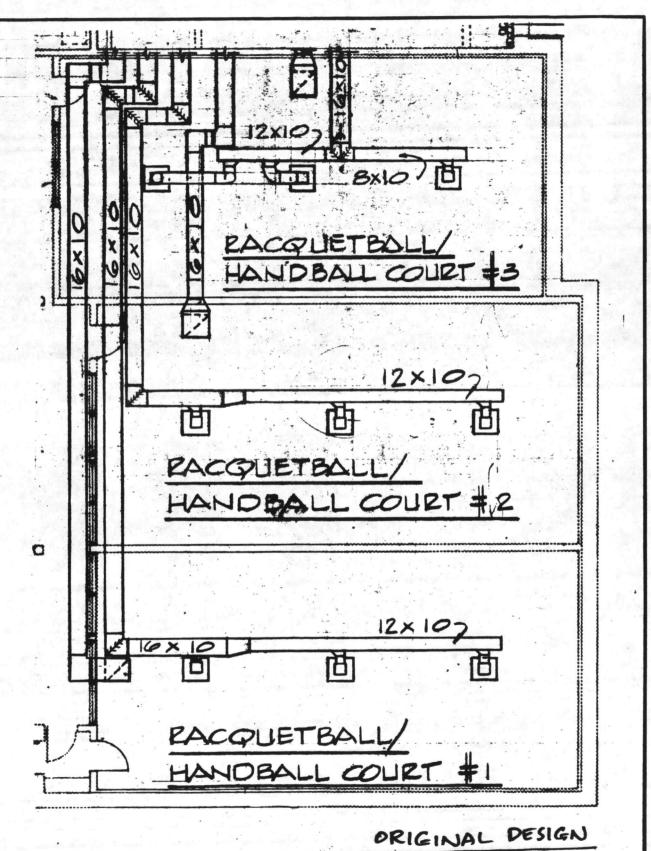
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

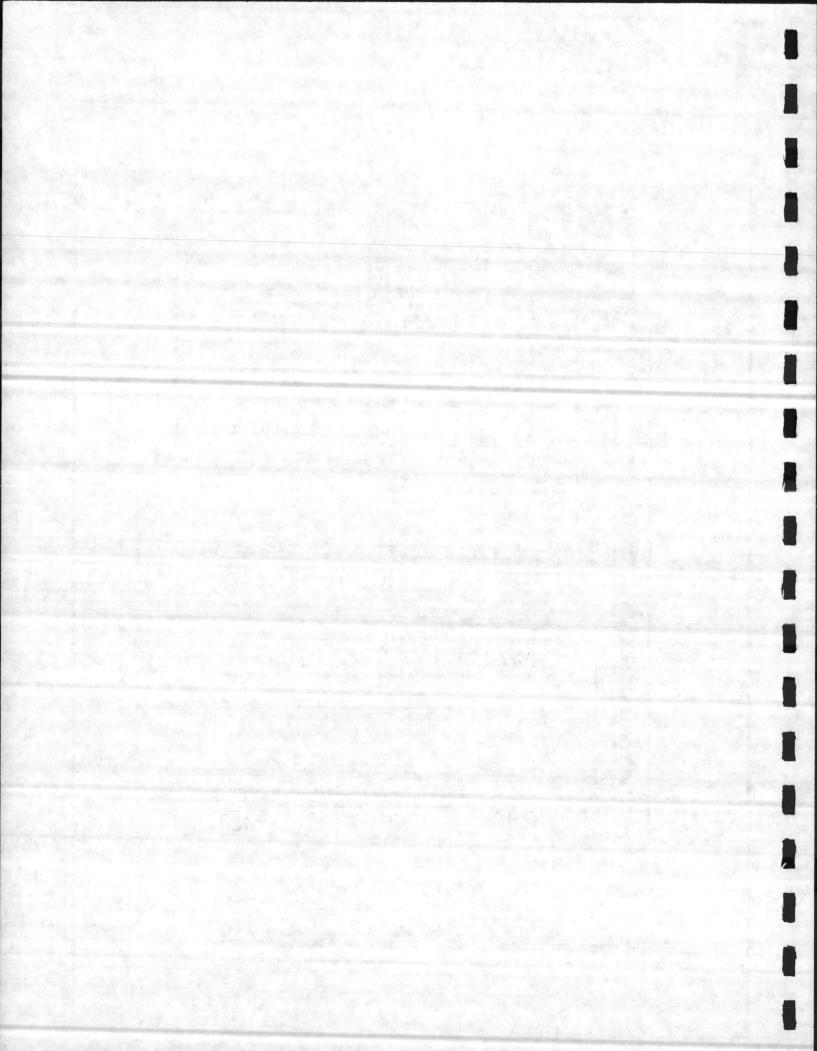
Subject

Item No. BC-51 Project No.

Date

Drawn By







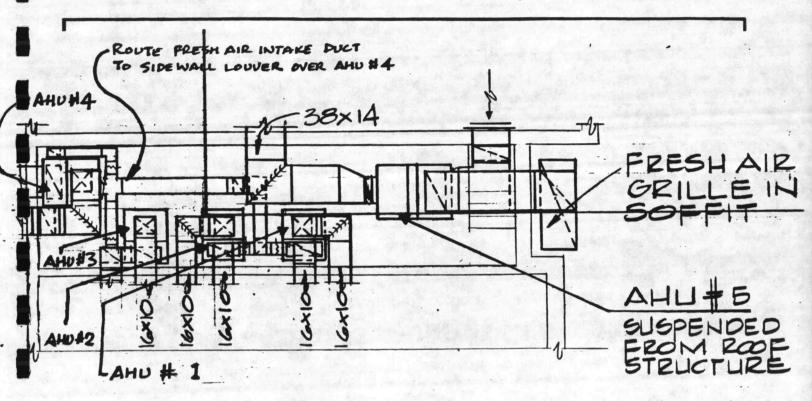
6110 Executive Boulevard Suite 822 Rockville, Maryland 20852 301/984-9590

Page 3 of 5

Item No. BC-51 Project No.

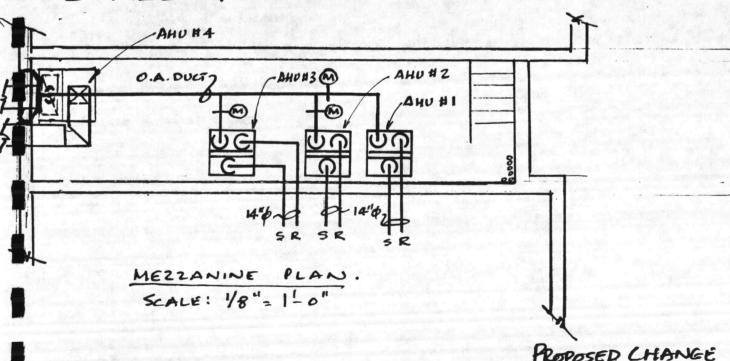
Drawn By

Date

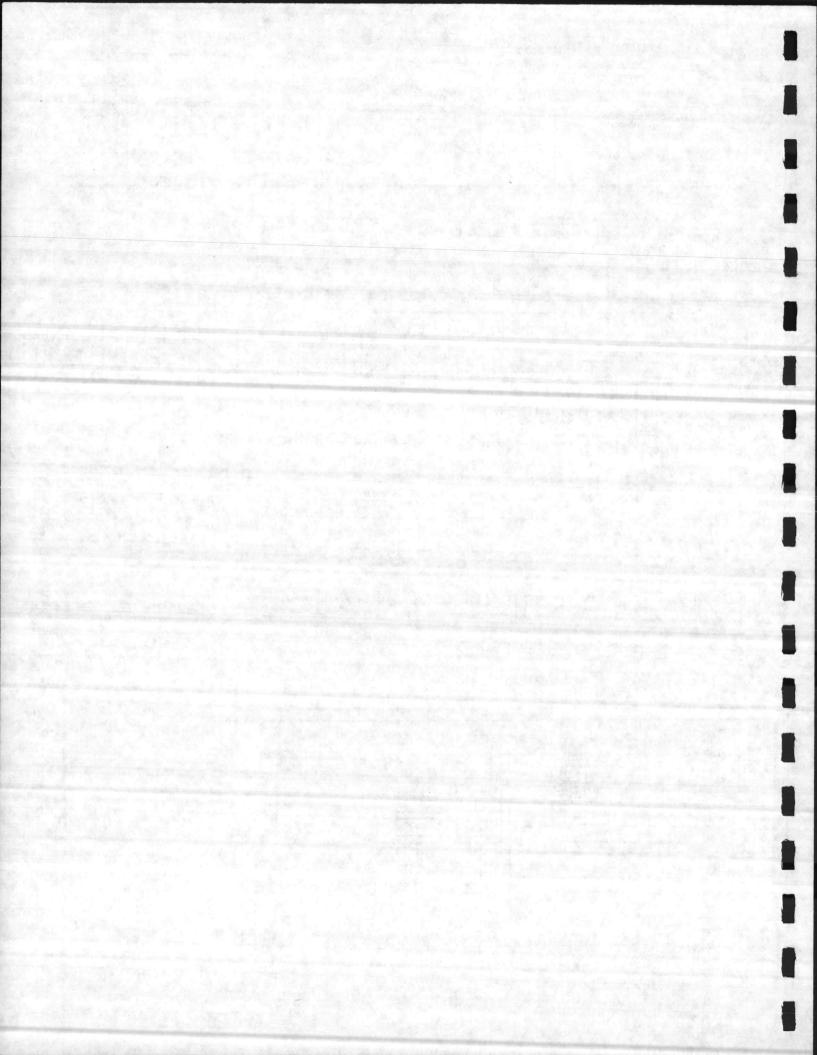


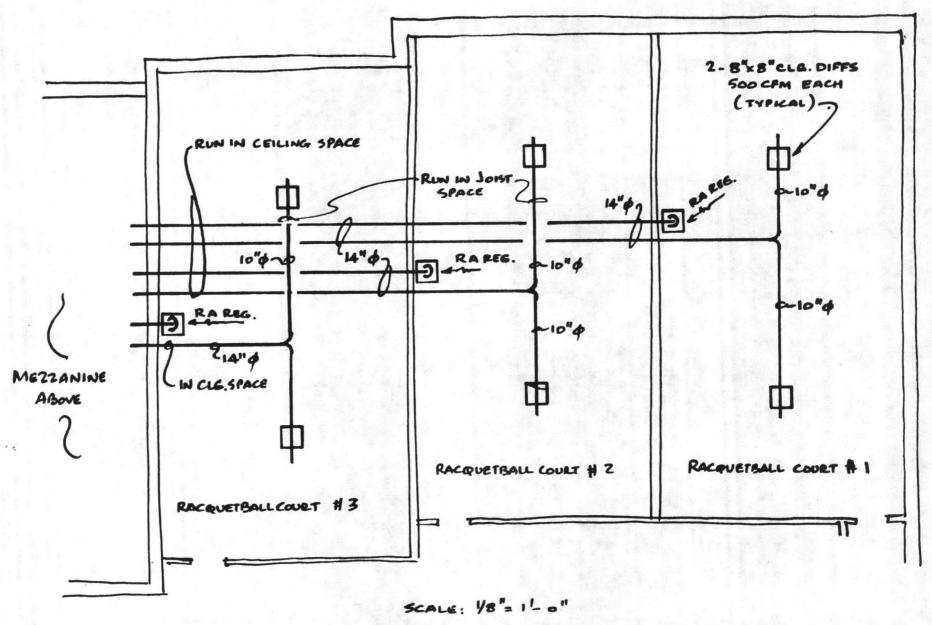
## MEZZANINE PL SCALE : 1/811=1-011

OPIGINAL DESIGN



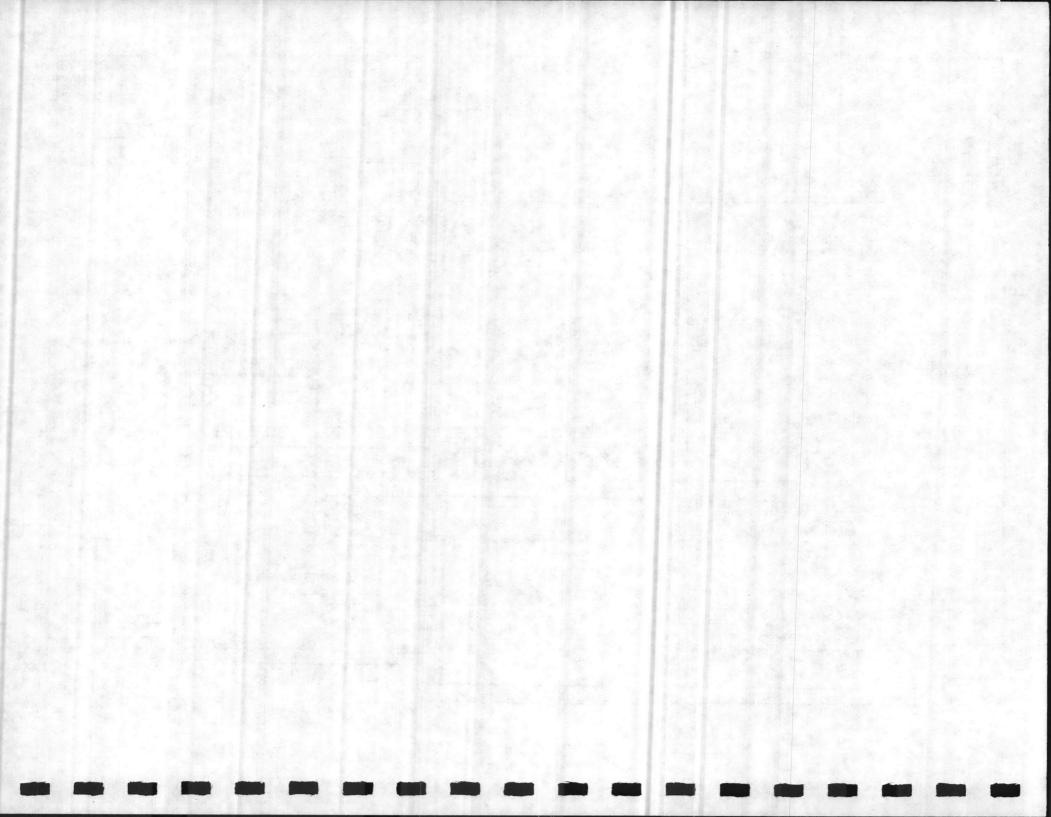
PROPOSED LHANGE





PROPOSED CHANGE

Hen No. 8C-51



# PROJECT GYMNASIUMS P-065 AND P-133 LOCATION CampleJene New River CLIENT NAVFAC DATE Aug 27-31, 1984 PAGE 5 OF 5

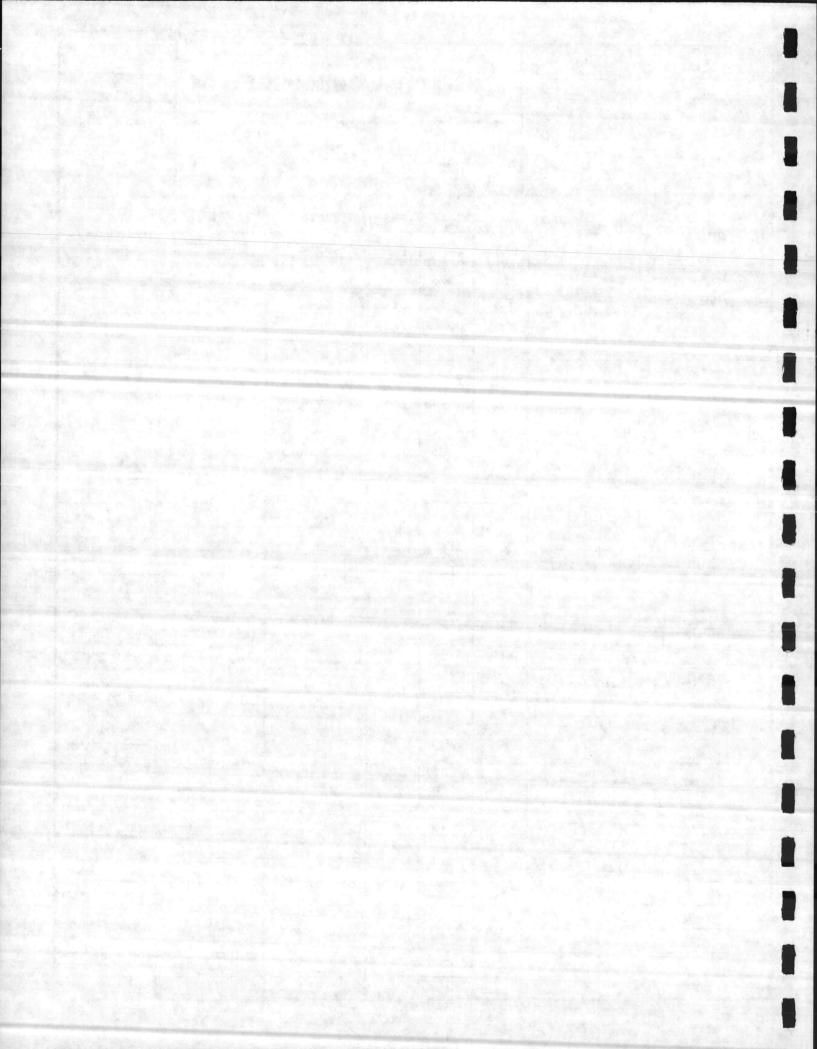
### **COST WORKSHEET**

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ITEM

REARRANGE AHU'S IN EQUIPMENT MEZZANINE ITEM NO.

CONSTRUCTION ELEMENT		OF	RIGINAL ESTIMATE		. NEW ESTIMATE		
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
DUCTWORK	1b	1200	1.57	1884			
DIFFUSERS	EA	٩	37	333			
INSULATION.	PT?	1000	1.00	1000	, who		
			day (e	3,217			
T 1 18%				579	1 1 3	1 4 7 8	
				3,796			
SOLES TOX 4% MT-		1.04		128			
				3,924			
OH & P 26%				981			1 W
				4905			
BOND. 190				49			
				4954			
ESCALATION. 8%.				396			
			4	5,350	h		
DUCTWOOK	15						124
DIPPUSEES	E4	N 250			6	42	257
INSULATION .	FT2				800	1.00	800
							2,29
T & 1 18%	4.						41
							2,70
SALES TAY 490 MT	- 4						4
		76					2,79
OH \$ P. 25%							69
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ESCALATION . 8%	h & 15		477				28
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PHOJECI	<u> </u>	MINASTU	MS	-
P-06	5 AND	P-133		
LOCATION	CAMI NEW	RIVER,	NE & N.C.	Contract Con
CLIENT_	N/	VFAC		
DATE A	UGUST	27-31,	1984	
	1	0.5	2	



ITEM

REDUCE NUMBER LIGHTING FIXTURES IN RACQUET-BALL COURTS

ITEM NO.

BC-52

#### ORIGINAL DESIGN: (Attach sketch where applicable)

There are (6) recessed 400 watt metal halide lighting fixtures for each racquetball court. (Total for 3 Courts = 18 lighting fixtures)

#### PROPOSED CHANGE: (Attach sketch where applicable)

Install (4) recessed 400 watt metal halide lighting fixtures for each racquetball court. (Total for 3 courts = 12 lighting fixtures)

#### **ADVANTAGES:**

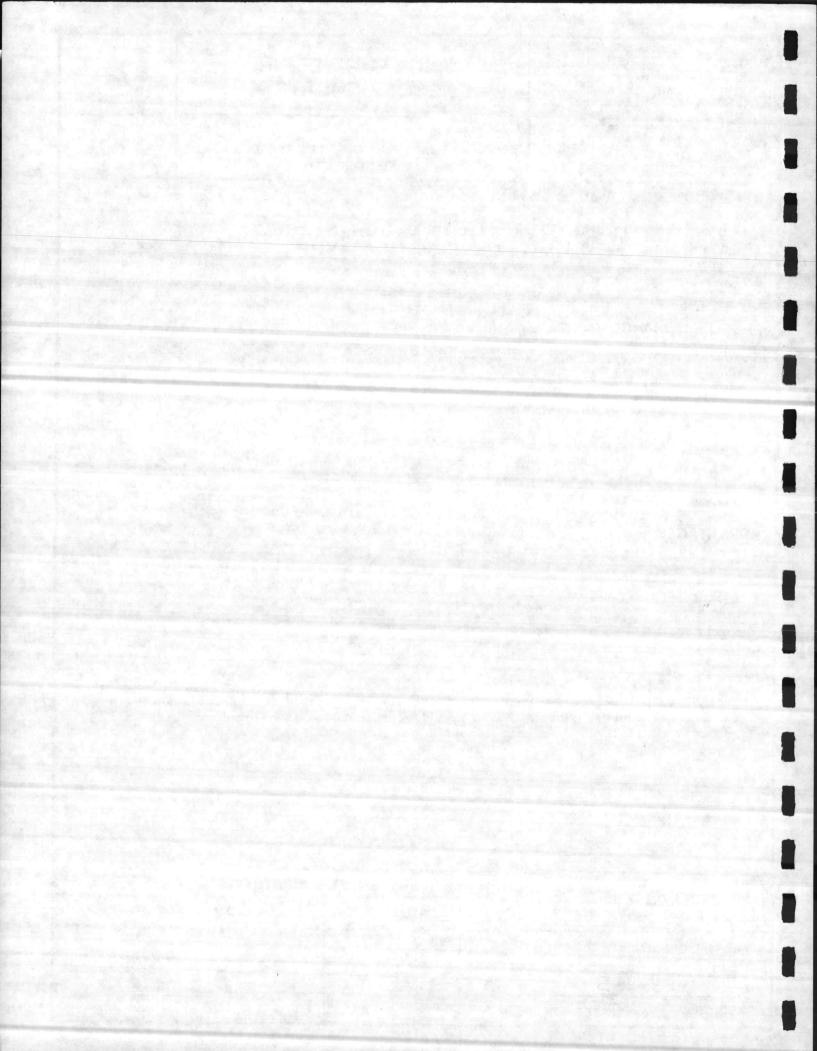
DISADVANTAGES:

Less Fixtures Less A/C Load Less Electrical Load None

#### DISCUSSION:

The 400 watt metal halide units are presently an approved method for lighting racquetball courts. Four (4) units will give adequate lighting level with wall and ceiling finishes as recommended.

LIFE CYCLE COOT CUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	8,280		8,280			
PROPOSED CHANGE	5,520	-	5,520			
SAVINGS Each Building	2,760	Improved	2,760			



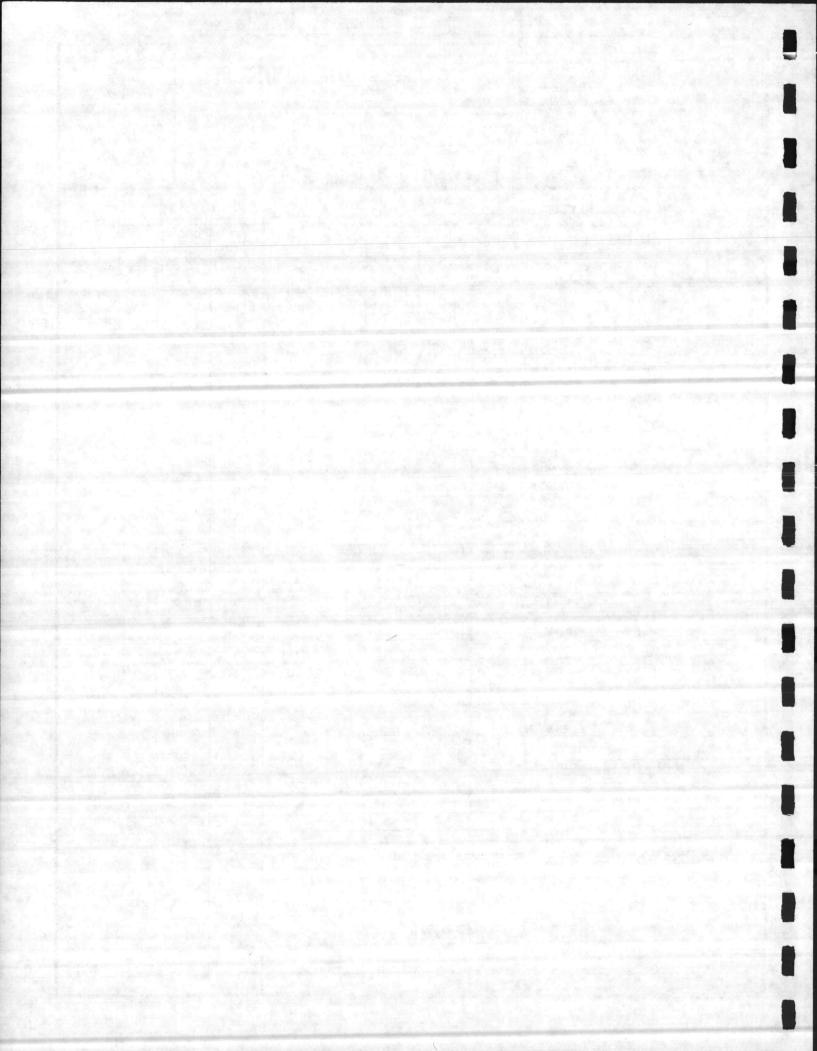
PROJECT	GVMNAS	siums
PROJECT	SYMNAS P-065	# P-133
LOCATION	CampleJeine	New River
CLIENT _	MAUFAC	
DATE 2	9 August	184

## **COST WORKSHEET**



REDUCE NUMBER OF LIGHTING FIXTURES IN REQUETBALL COURTS

CONSTRUCTION ELEMEN	Т	OF	RIGINAL	ESTIMATE	1	NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
400W MH LTG FIXT	EA	18	460	8280	12	460	5520
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	Water Street	ACT OF THE PARTY OF					



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P-	065 AND	P-133	
LOCATION	ON NEW	P-133 P LEJEU RIVER.	NE & N.C.
CLIENT	N	AVFAC	
DATE _	AUGUST	27-31,	1984
PAGE .	1	_ OF _	3



ITEM

CONSIDER CHANGING LIGHTING LAYOUT IN GYMNASIUM

BC-53

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows\_32-400 watt metal halide lights installed over the main court and 10-400 watt metal halide lights installed around the perimeter of the gymnasium.

PROPOSED CHANGE: (Attach sketch where applicable)

Use 48-400 watt metal halide spaced equally over the entire gymnasium.

#### ADVANTAGES:

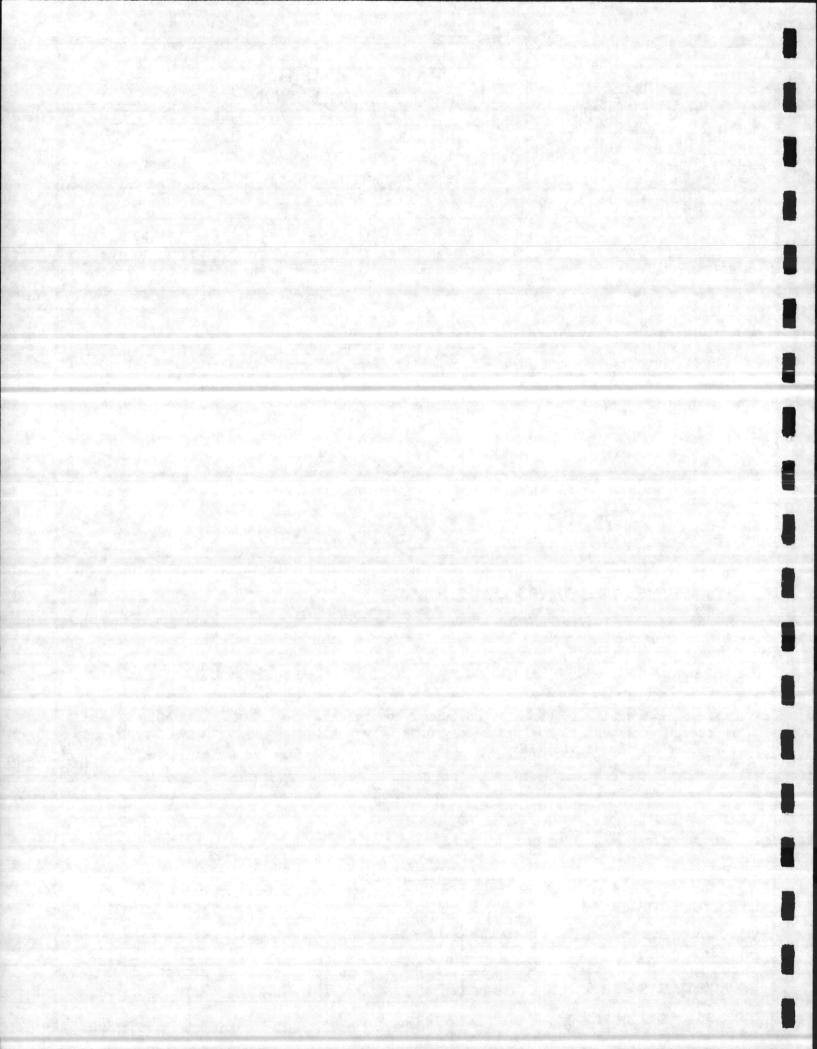
#### **DISADVANTAGES:**

Better lighting for main court Much improved lighting for practice courts Better distribution for entire area Additional lighting fixtures (6) Additional lighting load

#### DISCUSSION:

The original design is probably adequate, however all the court lights were placed inside court lines and the practice courts were not covered on each end as well as the proposed change will allow.

LIFE OVCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	22,400	-	22,400			
PROPOSED CHANGE	24,480	Improve	24,480			
SAVINGS Each Building	(2,080)	Value	(2,080)			

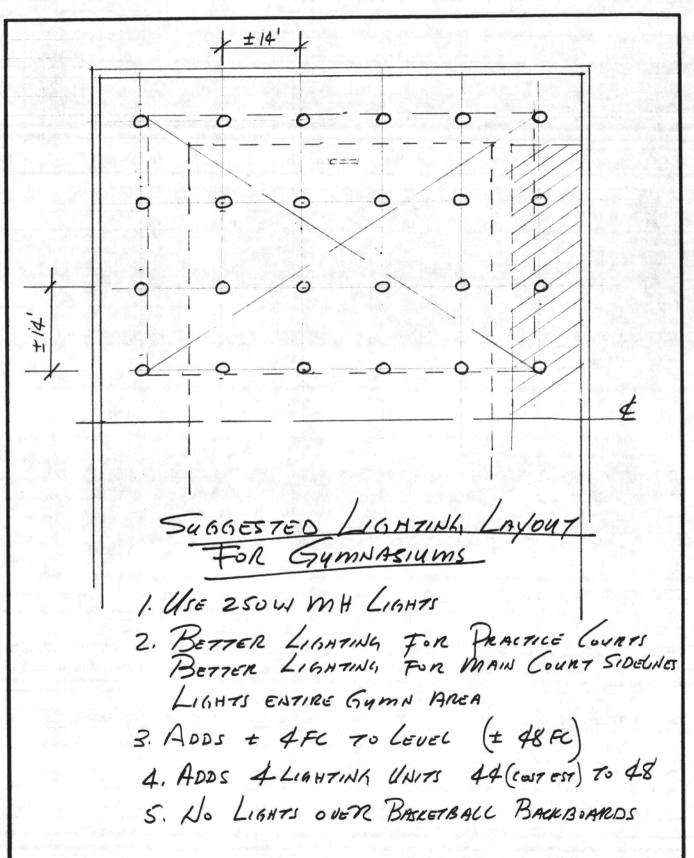


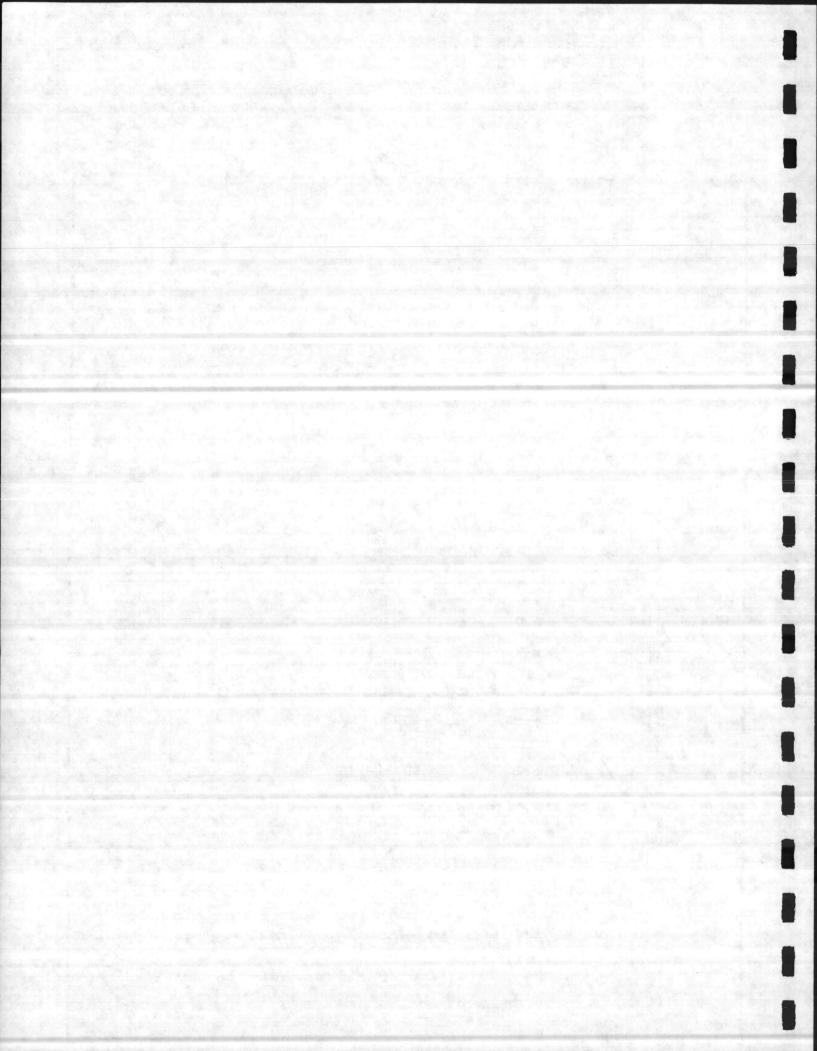


6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852

Gymunssiums P-065 & P-133 29 August 84

Drawn By





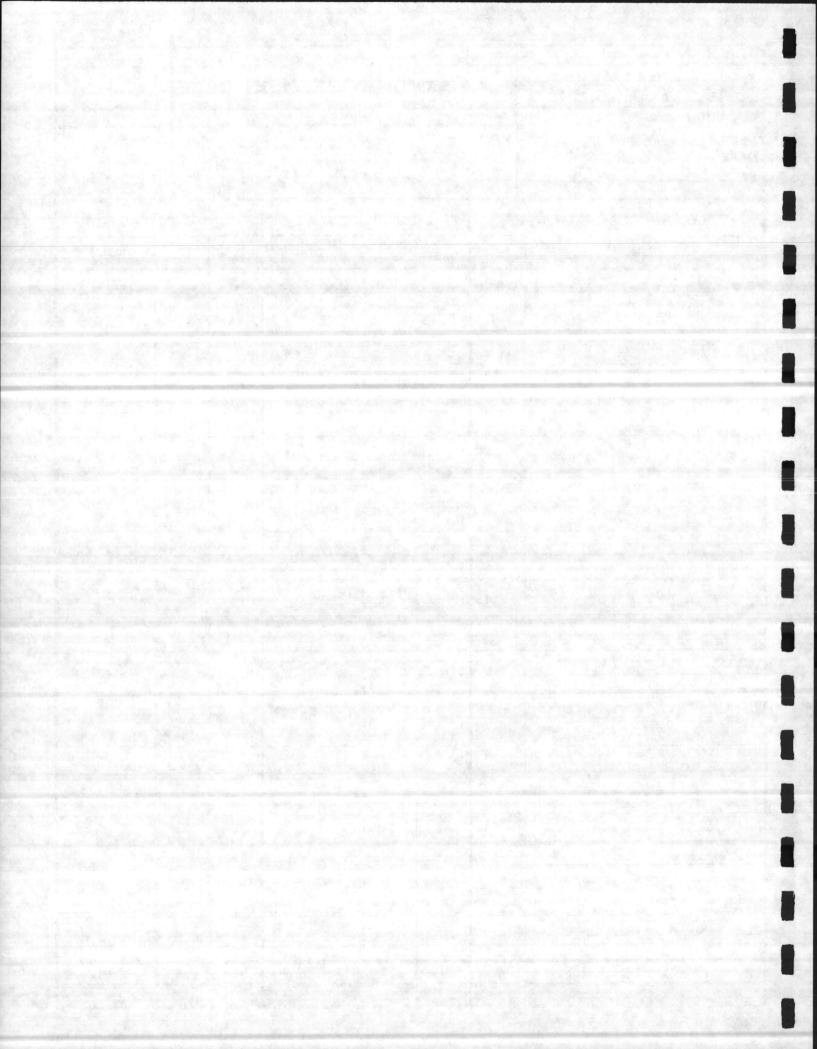
PPO IECT	Gundaeumes
PROJECTS	P-065 & P-133
LOCATION	Cample Joune Now River
CLIENT	NAVFAC
DATE 29	AUGUST 84
PAGE	3 of 3

## **COST WORKSHEET**



IN GYMNASIUM

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE	NEW ESTIMAT		
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
400W MH LTG. FIXT	EA	44	510	22,400	48	510	24,480
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	- 11						
		1975					
							(A)
	4.3			wide State and a	40 19		
			19		32		
	1004						4
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			1		Ry .		
	200 1 10/00	No. 27 11		<u> </u>			<del></del>
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	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		- 1587 (s.				



PROJECT .	GYMNASIUM					
	- 1	P-065				
LOCATION	CAMP	LEJEUN	E, N.C.			
CLIENT	27 4 7	VFAC				
DATE _A	UGUST	27-31,	1984			
PAGE	/1	OF _	6			



ITEM

REVISE PARKING LOT ITEMS SC-1,2,3,4,5,6,9

ITEM NO.

SC-1

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the parking area with a roadway to the rear of the building, concrete islands, curb and gutters, 4'wide sidewalk, and several handicap ramps. (See sheet 1 of 13 of Contract Drawings)

#### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change as shown in Figure 1; eliminates the roadway to the rear of the building and provides a 6' walk instead, eliminates some of the concrete islands, eliminates the curb and gutter, increases sidewalk width to 6', rearranges the handicap spots to require only one ramp, uses compact car spaces, and adds parking area for motorcycles.

#### ADVANTAGES:

#### **DISADVANTAGES:**

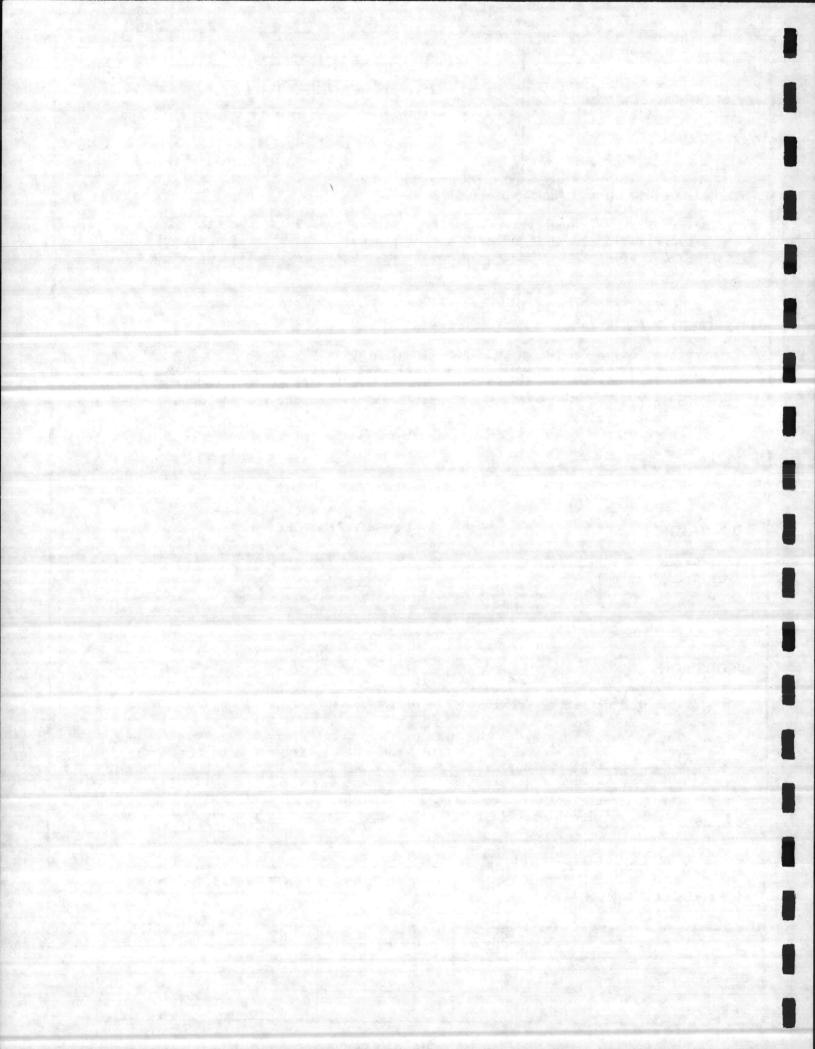
Cost Savings Less Area Required None Apparent

#### **DISCUSSION:**

The following discussion describes each of the changes by Item No.

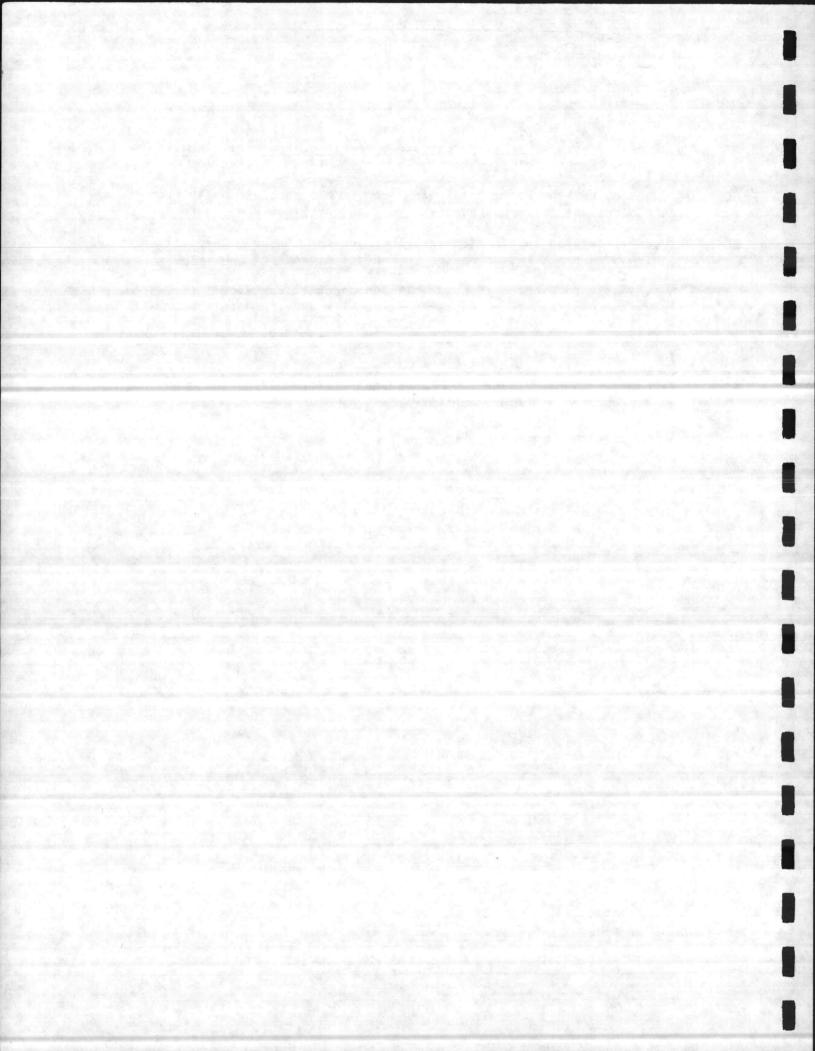
- SC-1: The 24' wide roadway to the rear of the building was eliminated because the VE team saw no need for it. A 6' wide sidewalk seemed adequate for access to the rear of the building.
- SC-2: The concrete islands were reduced to reduce the size of the parking lot. Concrete islands were left at each end of the lot to protect the lights.

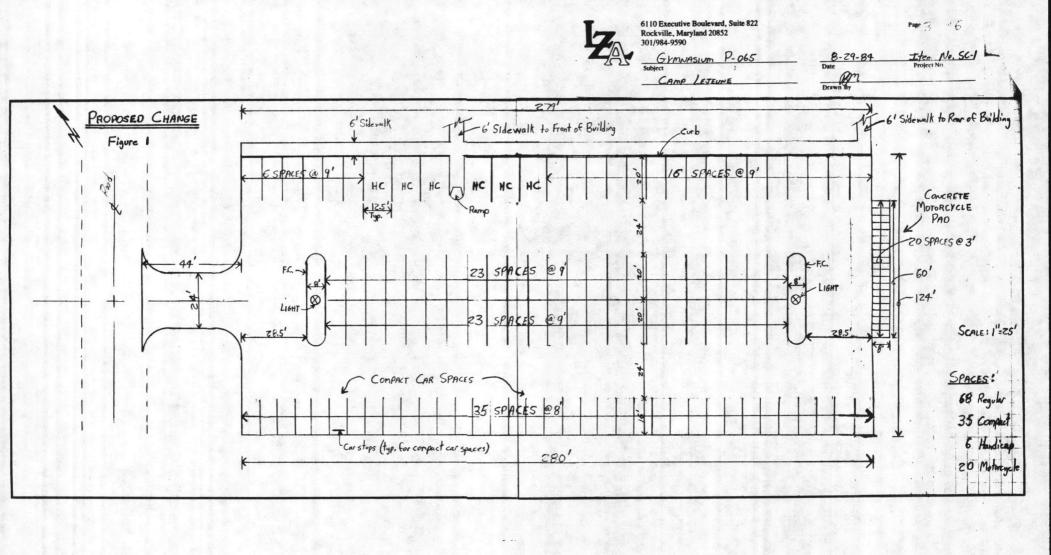
	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	70,000		70,000			
PROPOSED CHANGE	39,700	and the state of t	39,700			
SAVINGS	30,300	and the second s	30,300			

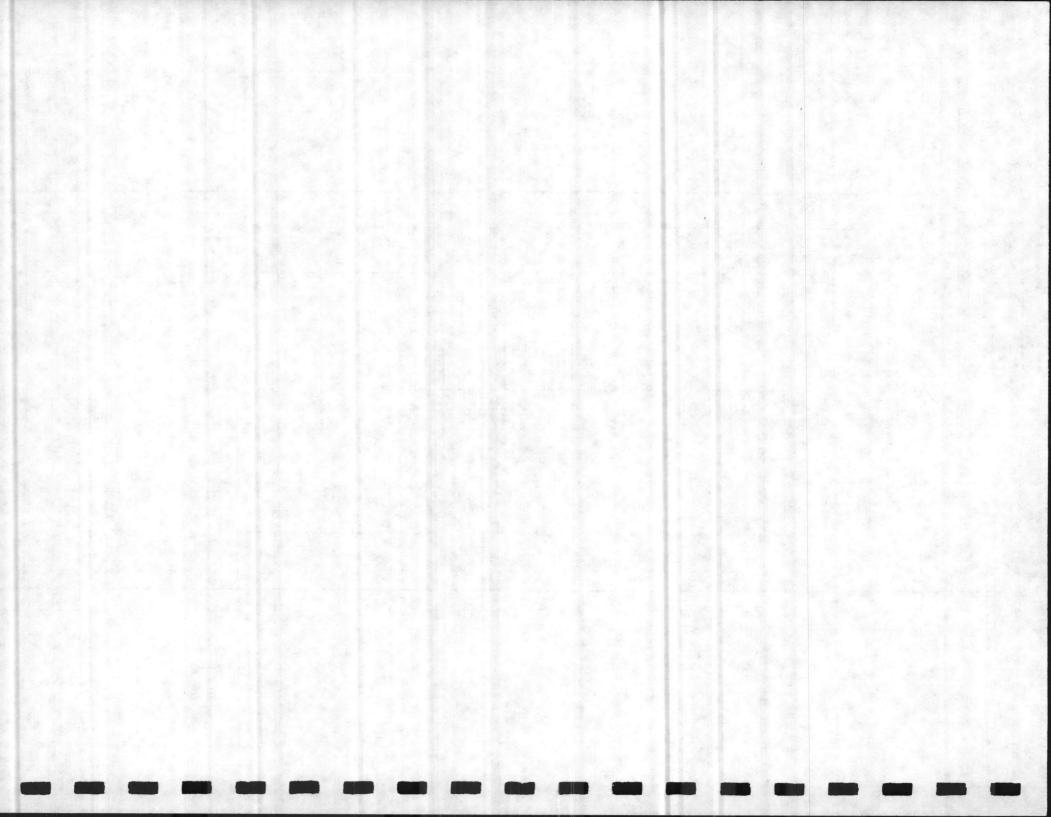


#### **DISCUSSION:**

- SC-3: Compact car spaces were added to the layout of the parking lot to replace some of the regular parking spaces. Compact car spaces are smaller in width and length and reduce the square area of the parking lot.
- SC-4: A concrete pad for motorcycles was added to the parking lot to increase the function of the lot and reduce the wear on the bituminous surface.
- SC-5: A properly sloped parking lot (as discussed in Item No. SC-7) will not require a curb and gutter system to control stormwater. Curbs were put around the concrete island to protect the lights. A curb was put along the sidewalk to protect the sidewalk and concrete car stops were added along the compact spaces to prevent cars from driving onto the grass.
- SC-6: The 4' wide sidewalk along the building was increased to 6' wide to provide for the parked car overhang.
- SC-9: The handicap parking spots were moved together to reduce the number of ramps required, also for safety reasons.









GYMNASIUM P-065

Subject

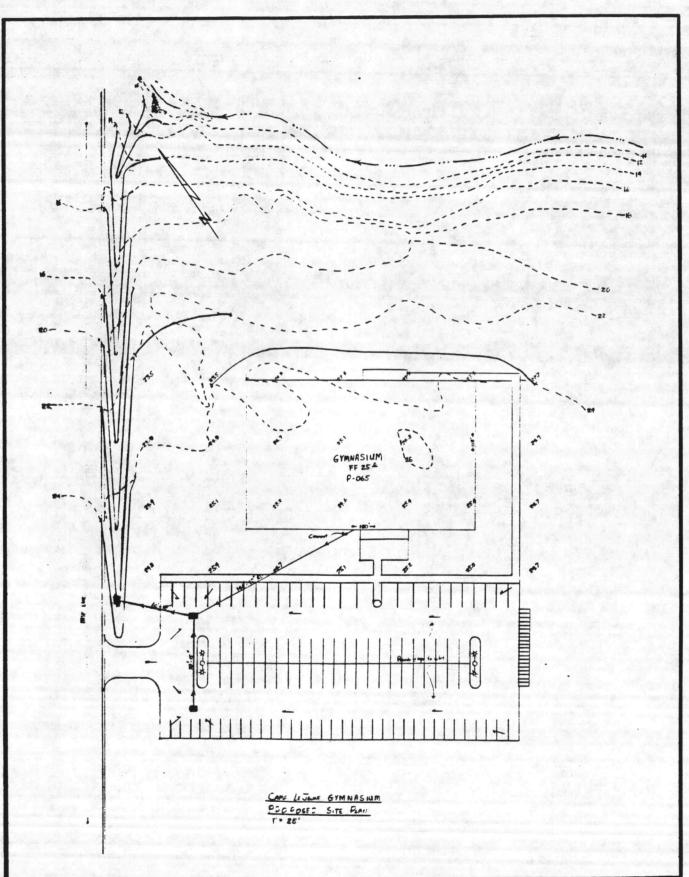
CAMP LEJEUNE

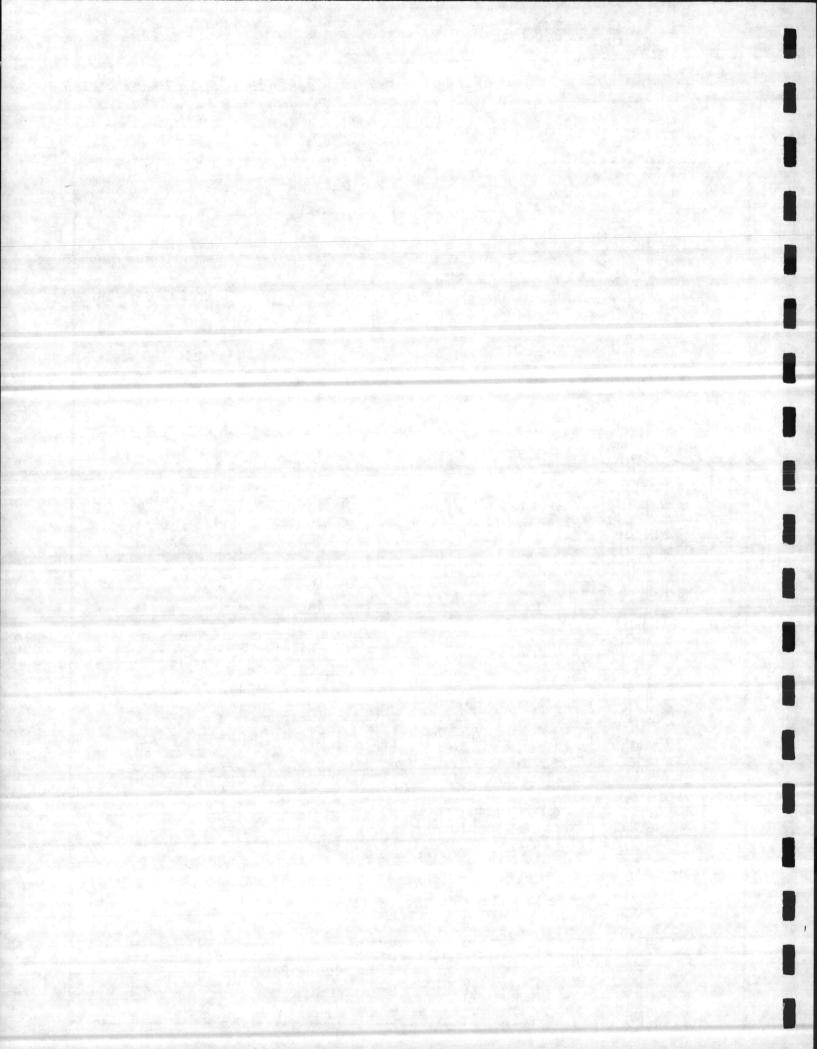
8.29-84

Iten No. SC-1
Project No.

Date

Drawn By







6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

GYMNASIUM P-065 Subject

CAMP LEJEUNE

8-29-84

Item No. SC-1

BM By

## PROPOSED CHANGE

CONCRETE ISLAMOS

PARKING AREA = 280 x 124' = 3857 - 71 = 3786 5%.

ROAD = 44'x 24' = 117 S.Y.

SIDEWALK = 6'X 279 = 186 WALKWAY ALONG

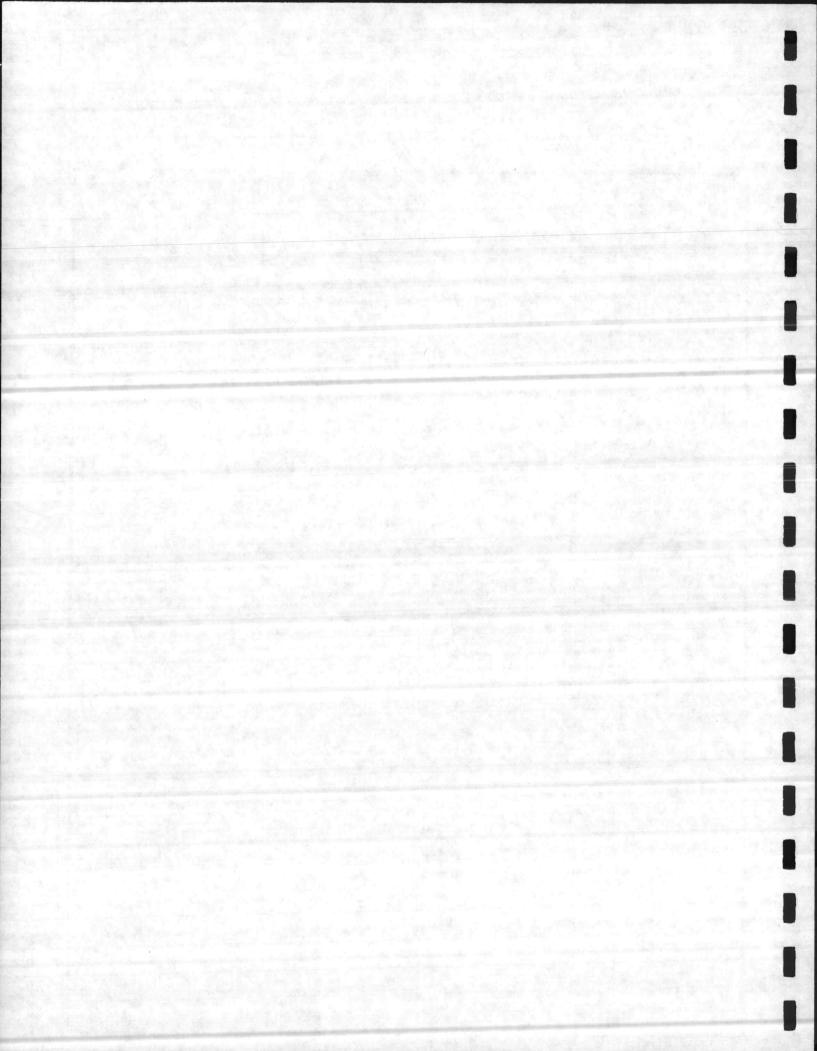
-6'x 250' = 167 WALKWAY TO BUILDING

20'X 37' = 82 FROM AREA

8' × 80' = 71 CONCRETE TSLAMOS 5.1.

CONCRETE MOTORCYCLE PAD = 8'x 60' = 53 5.V.

Curb = 279'



# PROJECT Gympasium P-065 LOCATION Camp LeJaune, N.C., CLIENT NAVFAC DATE 8-29-84

PAGE \_\_ 6 \_\_ 0F \_ 6

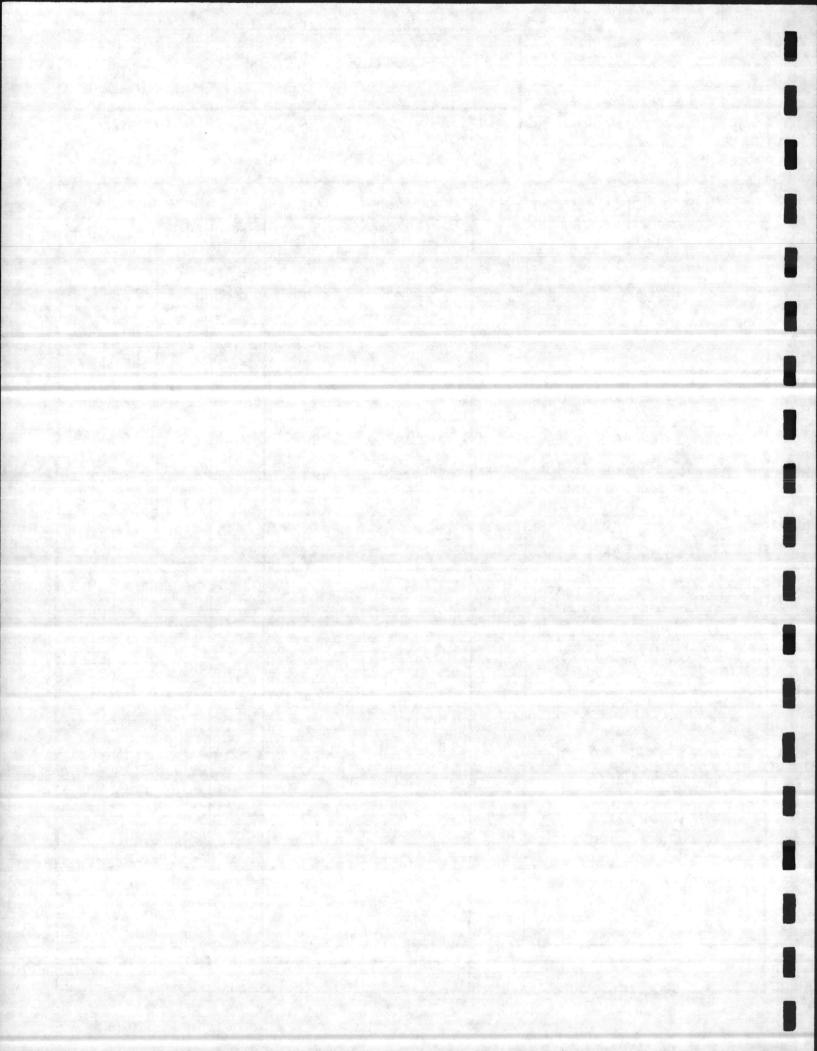
## **COST WORKSHEET**



ITEM REVISE PARKING LOT Items SC-1 to SC-9

SGI to SC-9

CONSTRUCTION ELEMENT		OF	RIGINAL	ESTIMATE		NEW ES	TIMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
PARKING AREA	5Y	3920	7,39	29,000	3786	7,39	28,000
ROADWAY	SV	900	12,22	11,000	117	12.22	1,450
SIDEWALK	sk	965	10,36	19000	506	10,36	5,250
MOTORCYCLE PAD (Assume same concrete cost as sidewalk)	SY	0	-	0	53	10,36	550
CURB AND GUTTER (VE Unit cost)	LF	£2000	10.00	20,000	0		0
CURB (ONLY) (VE Unit Gost)	LF	0	_	0	471	8.00	3,750
Car Stops (VE Unit COST)	£a	0	_	0	35	20,00	700
				\$ 70,000			\$ 39,700
8 No. of feet of curb and gutter did not appear in Estimate. This No. is a VE Team estimate.							
	andres (d			April 10 A			



PROJECT	(	GYMNASIUM			
		P-065			
LOCATION	CAMP	LEJEUN	E, N.C.		
CLIENT_	NA.	AVFAC			
DATE _A	UGUST	27-31,	1984		
	1		4		



ITEM

REGRADE DITCH ALONG ROADWAY, ELIMINATE STORMWATER PIPE

ITEM NO.

SC-7

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for a network of stormwater collection piping with two outfall pipes to the creek.

PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change as shown on Figure 1, reduces the stormwater collection piping and eliminates the two outfall pipes by using a ditch.

**ADVANTAGES:** 

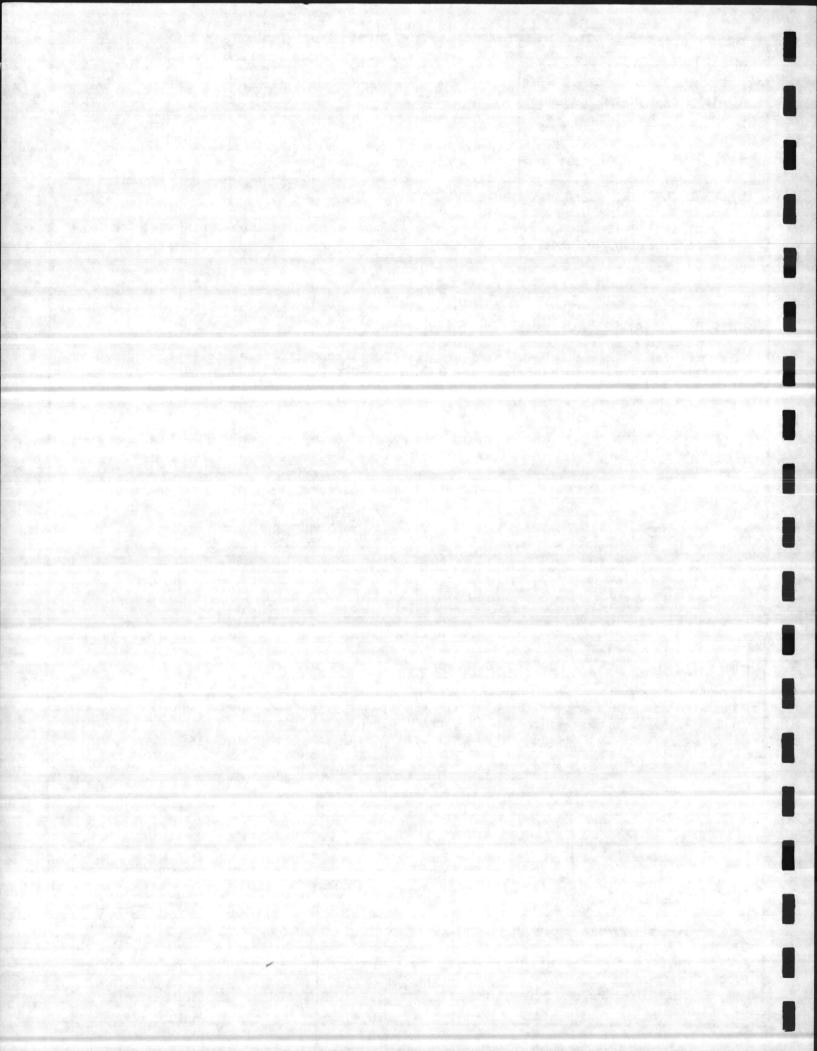
**DISADVANTAGES:** 

Less Cost

#### DISCUSSION:

The size and placement of the ditch is an attempt by the VE team to show its potential use. If it is necessary to use an outfall pipe, the elimination of one outfall pipe and the reduced collection system will still result in a cost savings.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	31,210		31,210		
PROPOSED CHANGE	13,229		13,229		
SAVINGS	17,981		17.981		



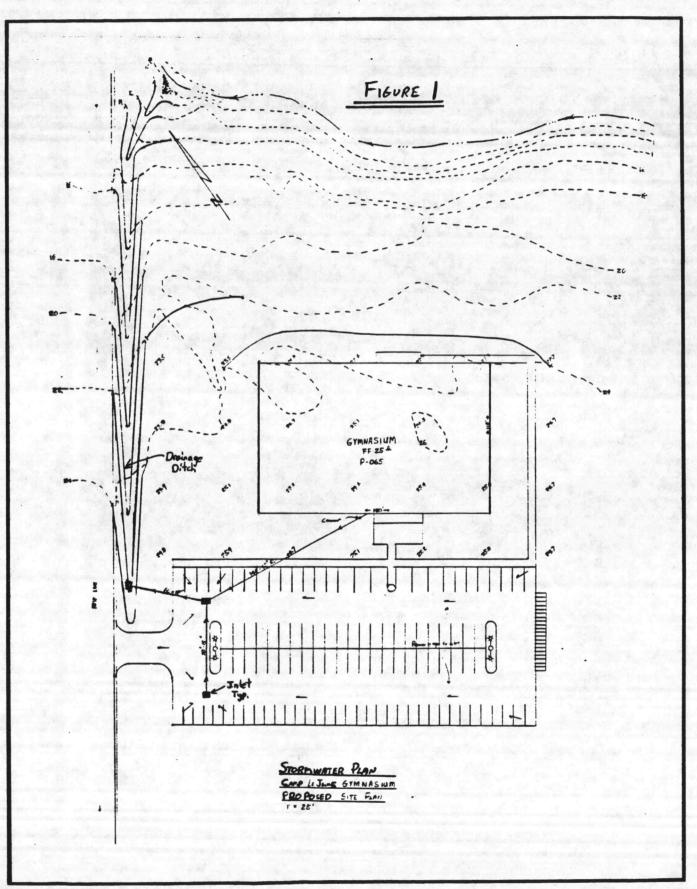


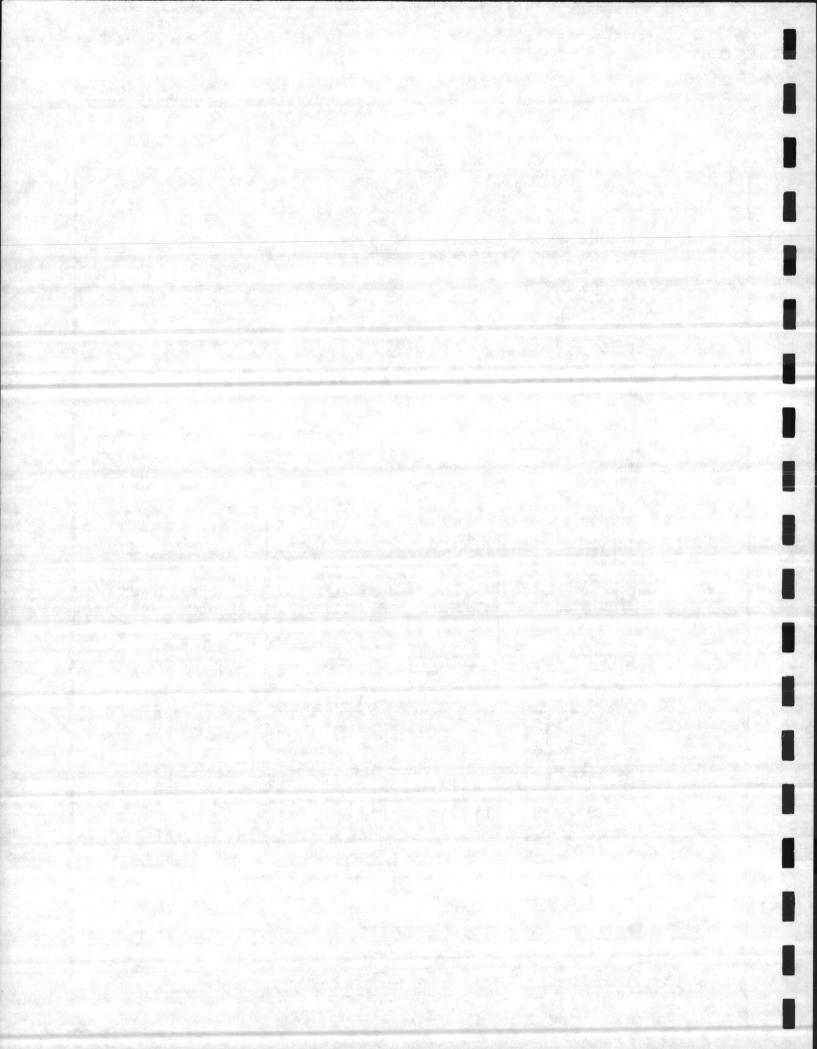
6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Subject P-065

B-3b-84 Then No. SC-7
Date Project No.

Drawn By







6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Subject P-065

8-30-84 Date

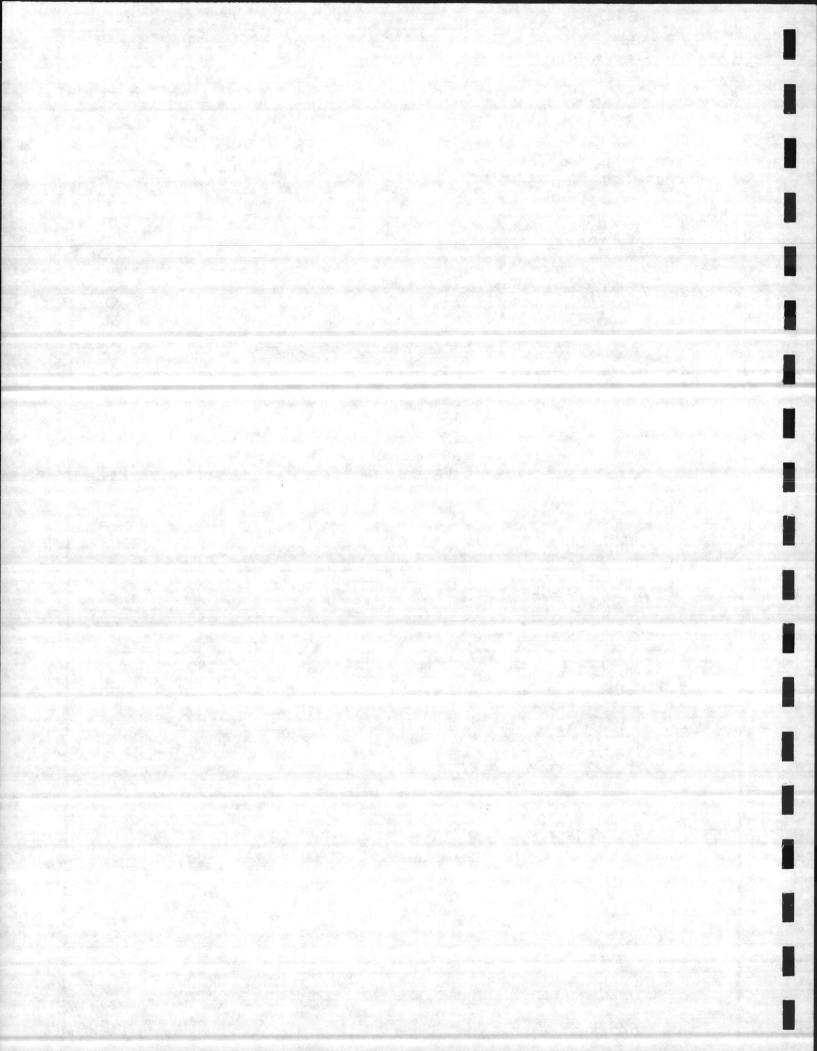
Iten No Sc-7
Project No.

# Existing Storm DRAINAGE:

$$18'' Pipe (LF) = \frac{380}{195}$$

Inlets = 8

## PROPOSED Storm DRAINAGE:



## PROJECT GYMNASIUM P-065

CLIENT NAVEAU

DATE Aug 27-31,1984

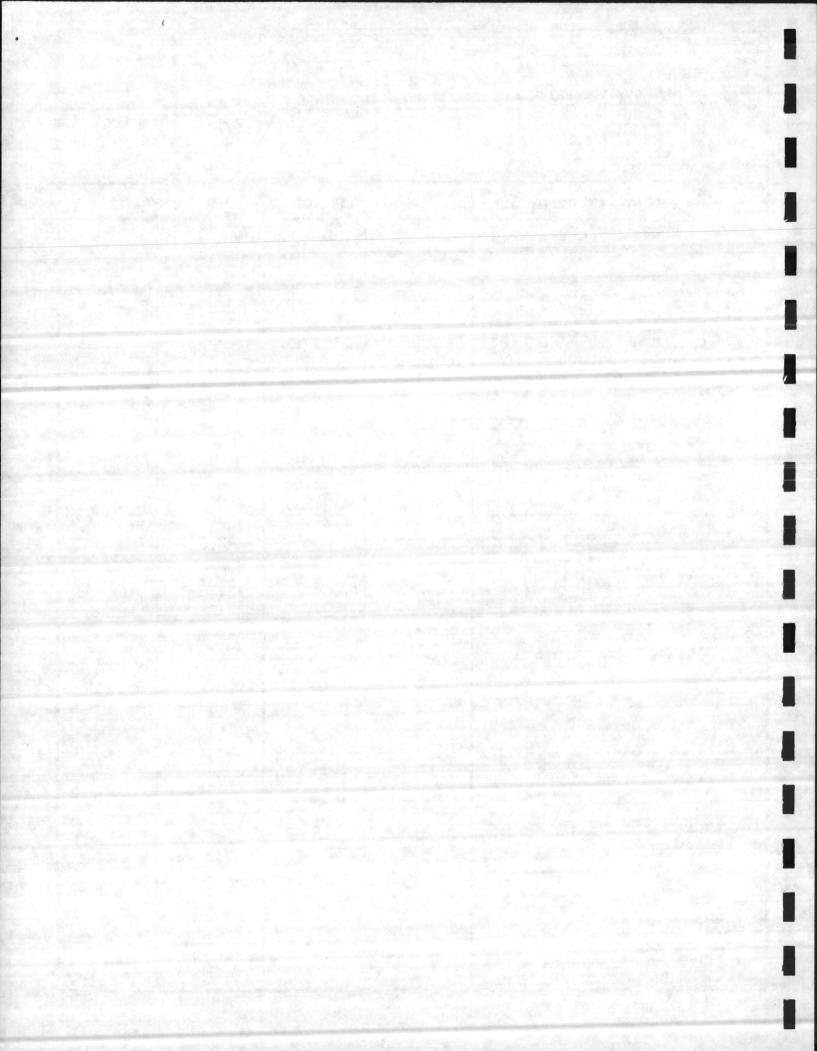
PAGE 4 OF 4

## **COST WORKSHEET**

ITEM REGRADE DITCH ALONG ROADWAY, ELIMINATE STORMWATER PIPE

ITEM NO. 56-7

CONSTRUCTION ELEMEN	TION ELEMENT ORIGINAL ESTIMATE NEW ESTIMA		TIMATE				
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
STORM DRAINAGE:					. %		
18" Pipe	LF	575	2045/	11759	60	2048	1227
15" Pipe	LF	430	16'9	6923	70	16'0/	1127
12" Pipe (R.O.)	LF	50	1275/	638	140	1275/	1783
12" Cleanout	EA	1	190	190	1	190	190
Inlets	EA	8	1100	8800	2	1100	2200
Headwalls	EA	2	700	1400	1	700	700
Rip rap	15	1	1500	1500	15	1500	1500
Ditch	LF	0	_	0	450	@10	4500
(V.E. Cost Estinate)							
	a de la companya de				and the same		
TOTAL				\$31,210	4		\$ 13,22
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THE MEDICAL PROPERTY.		100					
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PROJECT	GYMNASIUM			
C.F.C.		P-065		
LOCATION	CAMP	LEJEUNE	٤,	N.C.
CLIENT	1	NAVFAC		
DATE A	UGUST	27-31,	19	984

PAGE

# VALUE ENGINEERING RECOMMENDATION

IZA,

ITEM

REVISE OUTSIDE LIGHTING

ITEM NO.

SC-10

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows 250 watt HPS on 30 ft. poles for the parking area, 150 watt HPS on 16 ft. poles for the walkways, and 100 watt HPS for the building lighting. (Do not know where these are to be installed. For flood lighting building or for building entrance).

#### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is as follows: in the parking areas, raise mounting height and reduce number of poles and number of fixtures. Suggest using 400 watt HPS on 30' poles. On the walkways, reduce the wattage from 150 watts to 100 watts. On the building, if flood lighting building 100 watt is OK. For building entrance, 35 watt is satisfactory.

#### ADVANTAGES:

#### **DISADVANTAGES:**

Raise fixture height for better distribution and less poles and fixtures.

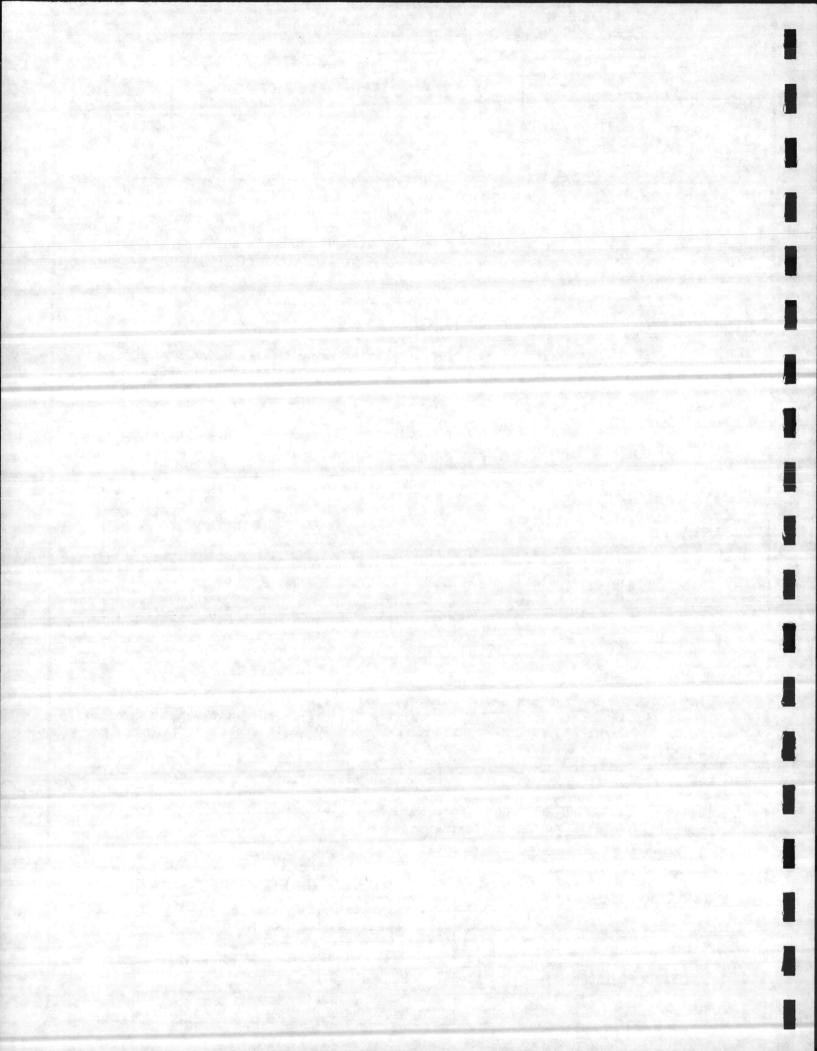
#### **DISCUSSION:**

Parking Areas: VE team recommends changing parking arrangement and lot layout. New design will be necessary. Suggest raising fixture height in the parking areas to obtain better light distribution. 250 watt HPS on 20' pole probably will create a "hot spot" at each fixture.

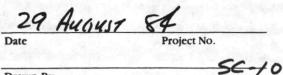
Walkways: 150 watt HPS on 16' pole too bright for walkways.

Building: If 100 watt HPS intended to be used for entrance this will be far too brightly lighted with number of fixtures shown.

	PRESENT WORTH COST SAVINGS			
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL	
ORIGINAL DESIGN	16,000		16,000	
PROPOSED CHANGE	8,180	-	8,180	
SAVINGS	7,820	en e	7,820	



140



Drawn By

OUTSIDE LIGHTING

GYMNASIUM

PARKING

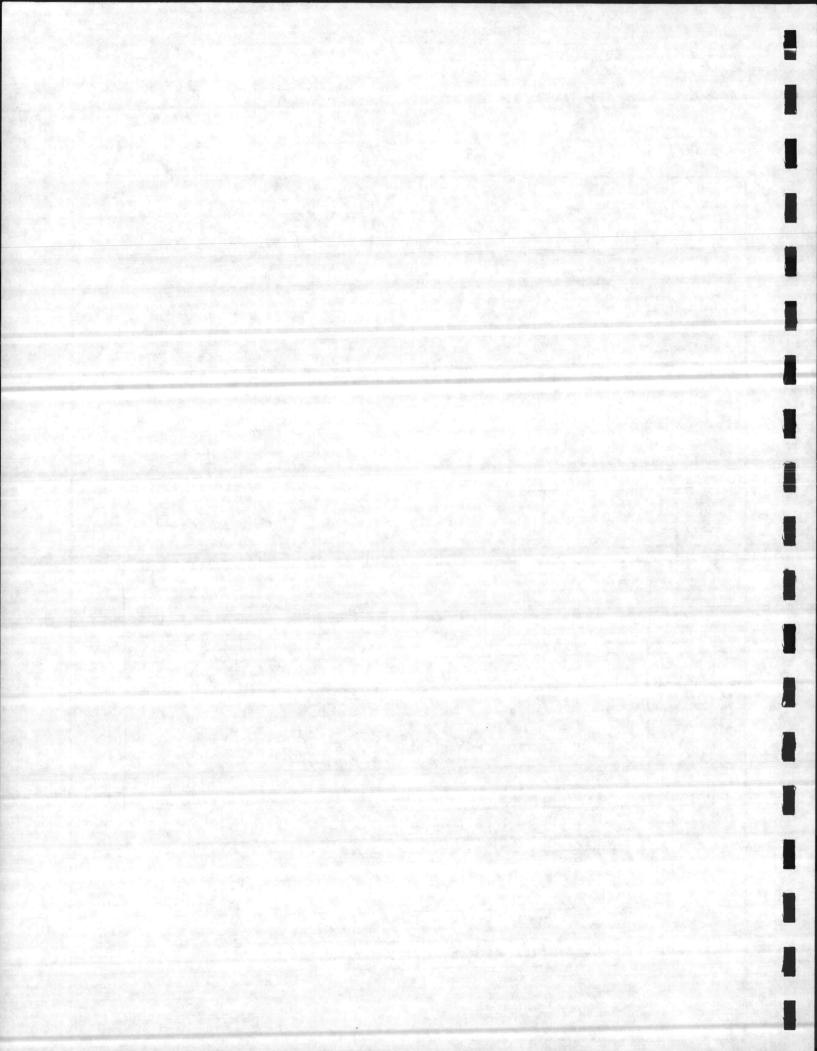
TO ELECT

PONNEZ

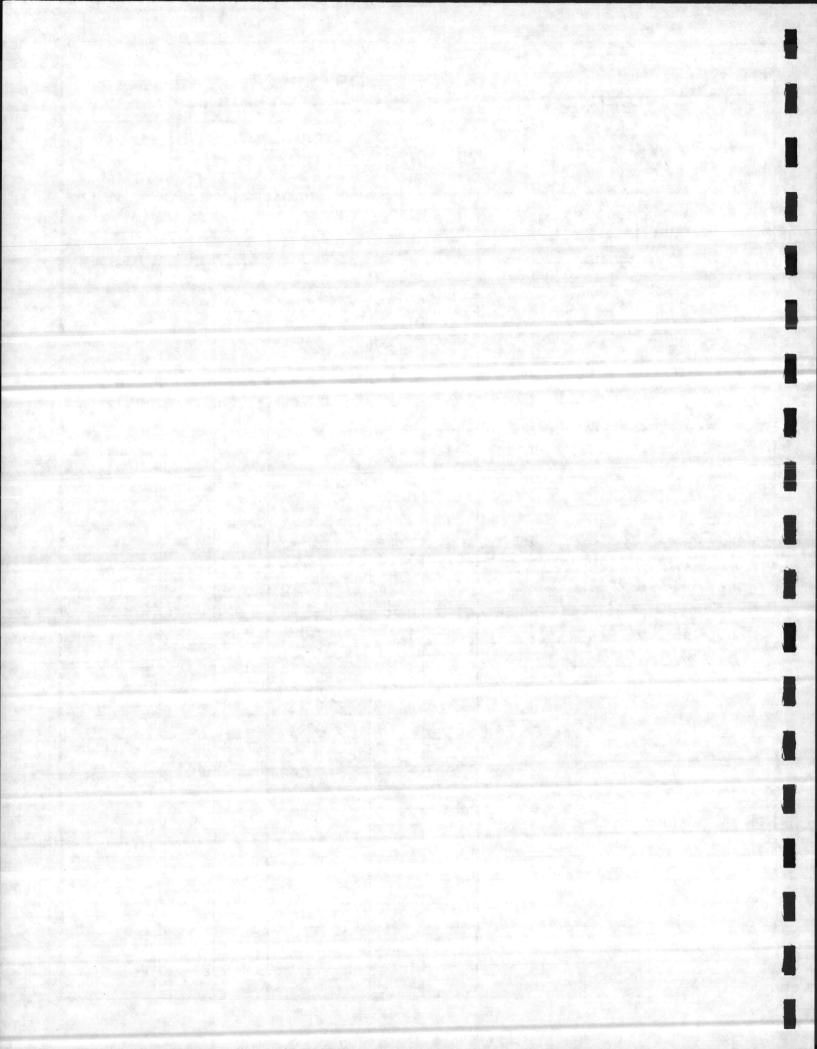
30' POLES W/ 2-400 W

HPS LIGHTIMG FIXT.

2-30' Poles W/ 2-400W HPS 1-16' Pole W/ 1-100W HPS



#### PROJECT GYMAASIUM **COST WORKSHEET** LOCATION CAMP LEJEUNE NC DATE 29 AUGUST 184 OUTSIDE LIGHTING ITEM ITEM NO. SC-10 CONSTRUCTION ELEMENT ORIGINAL ESTIMATE NEW ESTIMATE COST/ COST/ ITEM UNITS TOTAL TOTAL Double LIGHTS 1850 5550 EA SINGLE LIGHT 6720 EM 1120 Sp LIGHT 4 450 1800 EA 1400 SWALE LIGHT 2 EA 700 15470 \$ 16,000 SAY 30' FIRERALASS POLE 950 1900 EA 2 825 CONC BASE 2x2x6' 1650 EA 2 4004 HPS W/ CAMP 1560 4 390 CA 16' FIRENGLASS POLE 510 EA 510 CONC BASE Z'XZ'X 4' 610 EA 610 100W HPS WI LAMP 315 315 EA 6545 ADD 25% OH&P 1635 8/80



PROJEC	TG	YMNASIU	M
		P-065	
LOCATIO	ON CAMP	LEJEUN	E, N.C.
CLIENT	1	NAVFAC	
DATE _	AUGUST	27-31,	1984
	W. Section .		0



ITEM

TURN BUILDING 90°, REDUCE ELEVATION ONE FOOT TO REDUCE TOTAL FILL AND SETTLEMENT ITEM NO.

SC-11

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the gymnasium location on the site as shown in Figure 1, and the finish floor elevation at 26.0.

### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed change is to rotate the building  $90^{\circ}$  on the site as shown in Figure 2, and to lower the elevation of the building one foot.

### **ADVANTAGES:**

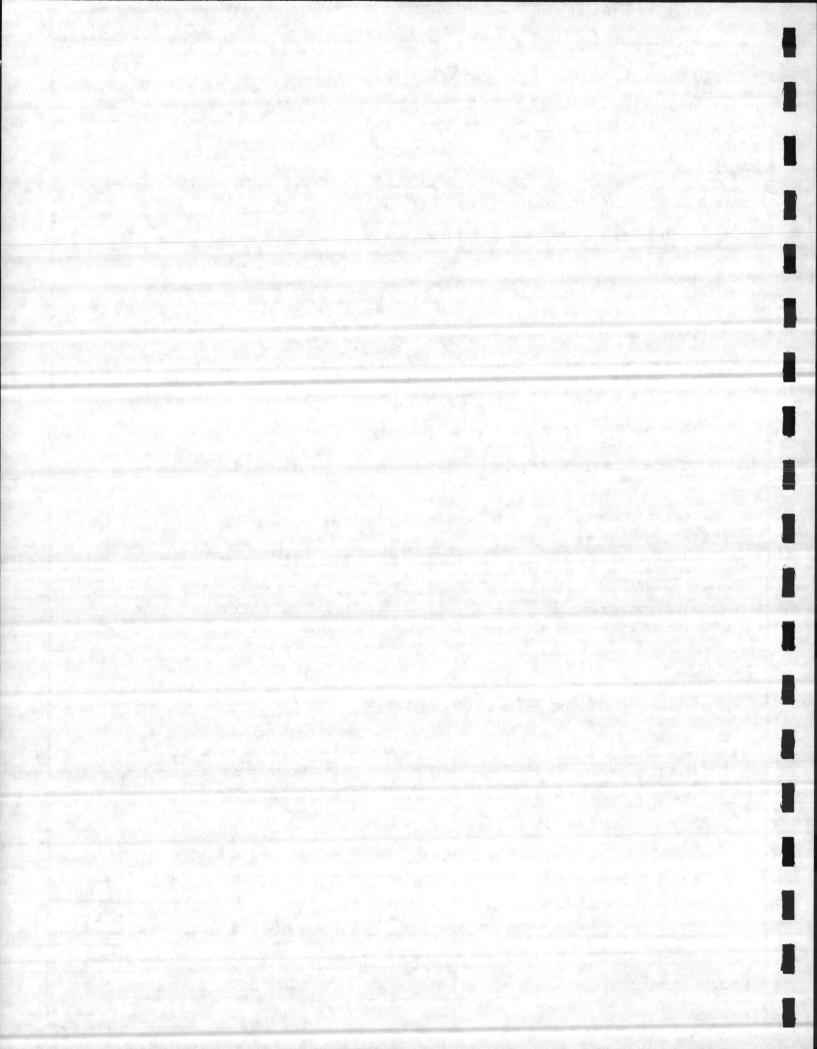
**DISADVANTAGES:** 

Less Structural Fill Required Possibly Save Some Trees

#### **DISCUSSION:**

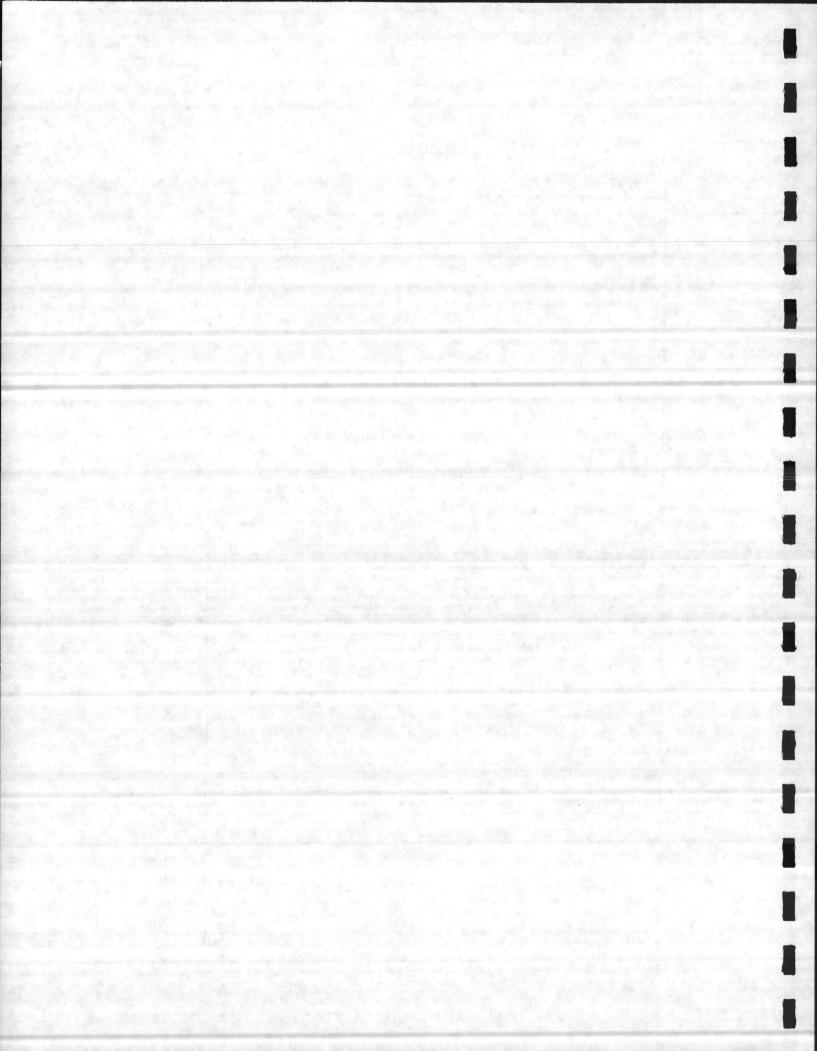
By rotating the building 90° and lowering the elevation one foot, the building is located on a more uniform grade and saves on structural fill required. The savings below reflect only the savings in structural fill. Other savings may be realized in site grading and landscaping. Soils report recommends pile foundation for this site if the fill is more than one foot. Site plan shows almost three feet fill and therefore requires pile foundation. The contract drawings show spread footings. This may be brought to geotechnical engineer's attention to clarify the design criteria.

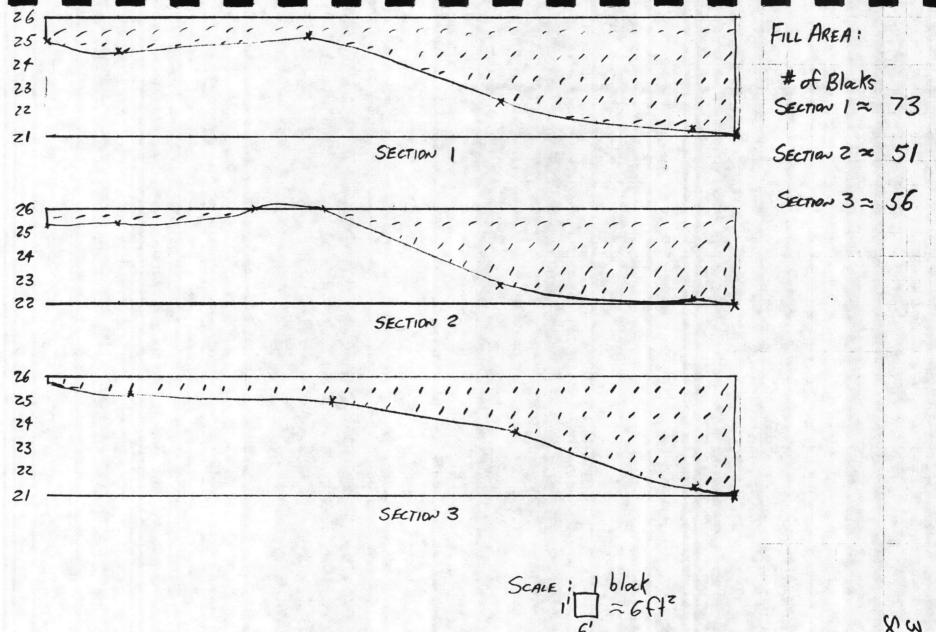
LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS						
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL				
ORIGINAL DESIGN	9,387	elle vege	9,387				
PROPOSED CHANGE	2,536	- 4	2,536				
SAVINGS	6,851	The second secon	6.851				



## FIGURE 1

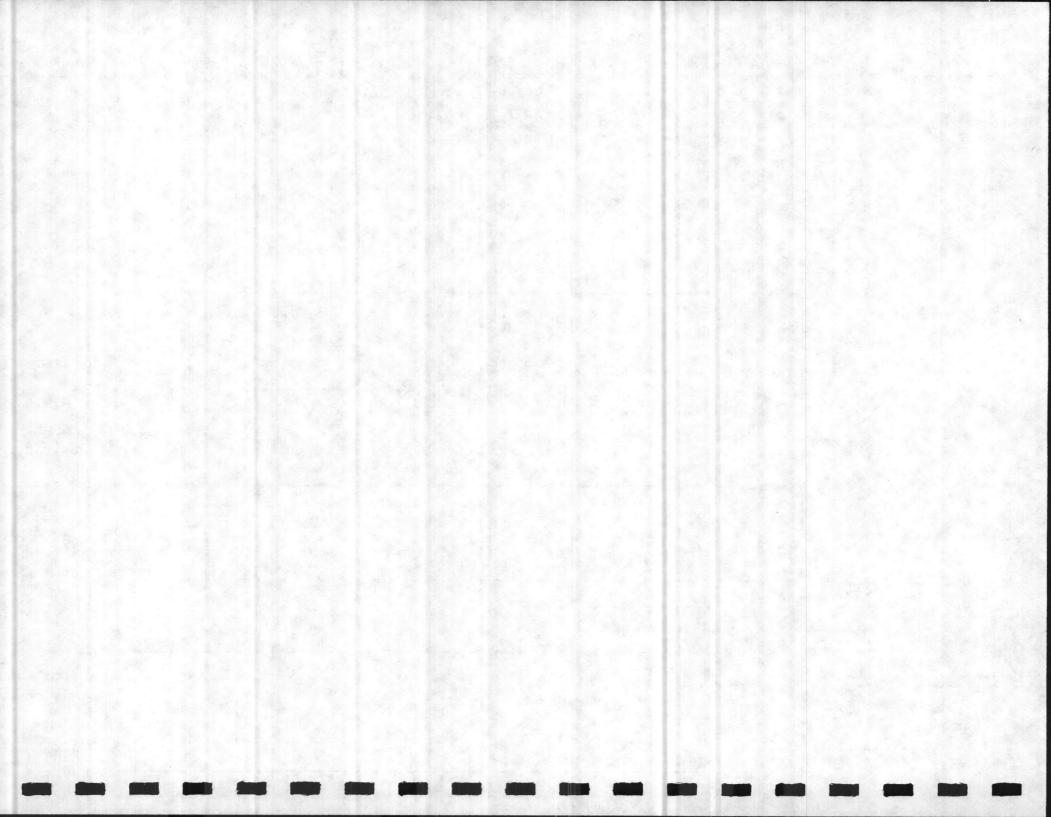
22.4 2.2 U 22.6 22.8 23.9 ORIGINAL DESIGN FF 26.0 26.3 25.1 25.4 2514 24.6 Section





ORIGINAL DESIGN FILL

x-1-8





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Subject P-065

8-30-84 Iten No. SGII

### ORIGINAL DESIGN FILL

FILL AREA:

SECTION 1: 73 blocks = 73x6 = 438ft

SECTION 2: 51 blacks = 51 x6 = 306 ft

SECTION 3: 56 blaks ≈ 56x6 = 336 ft

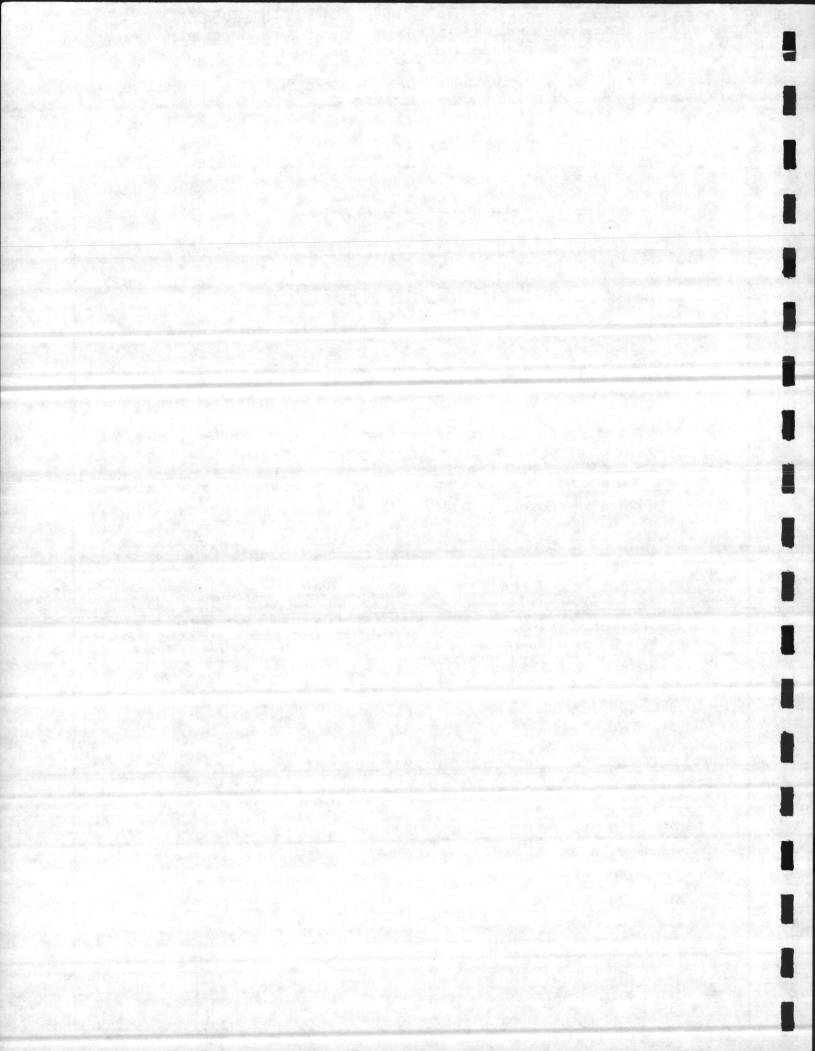
Volume  $\frac{438 + 306}{2} \times 59' = 21,948 + 1^3 = 813 \text{ yd}^3$ 

Volume  $306 + 336 \times 59' = 18,939 \text{ ft}^3 = 701 \text{ yd}^3$  z + 3

1514 yd3

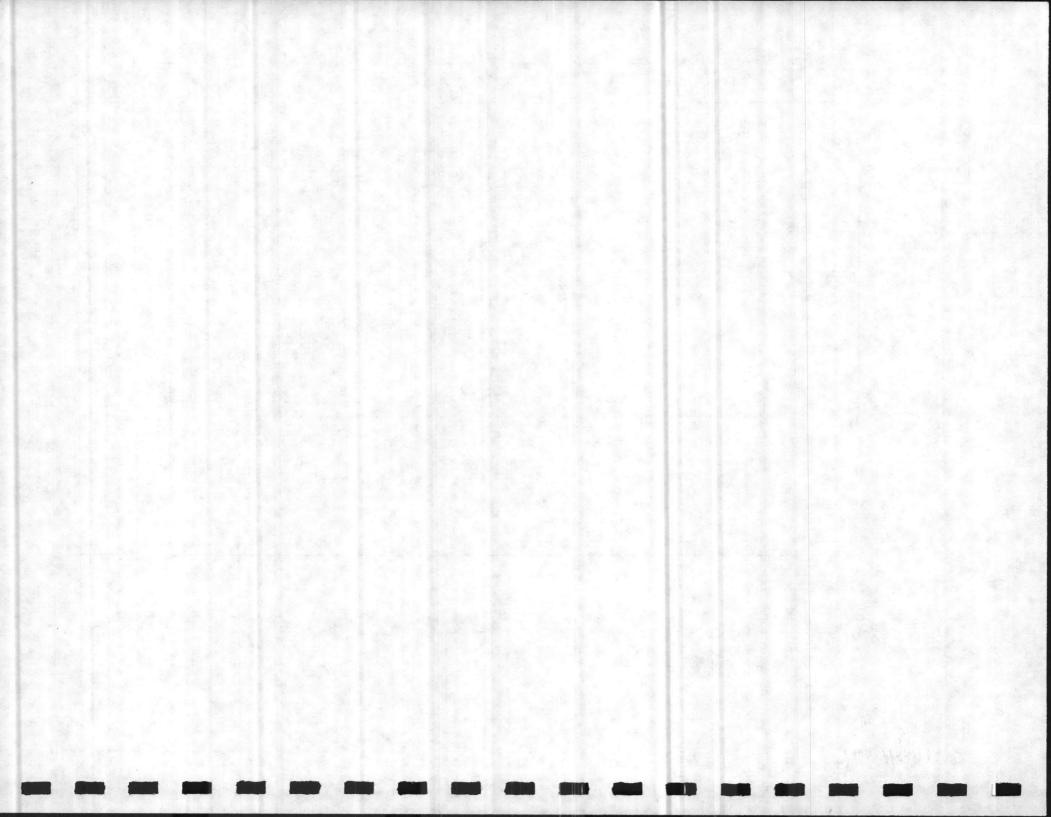
CUT AREA!

The cut area is minimal for the original design byout.



SECTION \_\_\_\_\_ PROPOSED CHANGE for GYM 29.7 SECTION 2 (Rotated 90°) FF 25.0 15.2 25.4 25.4 SECTION 3

20+8

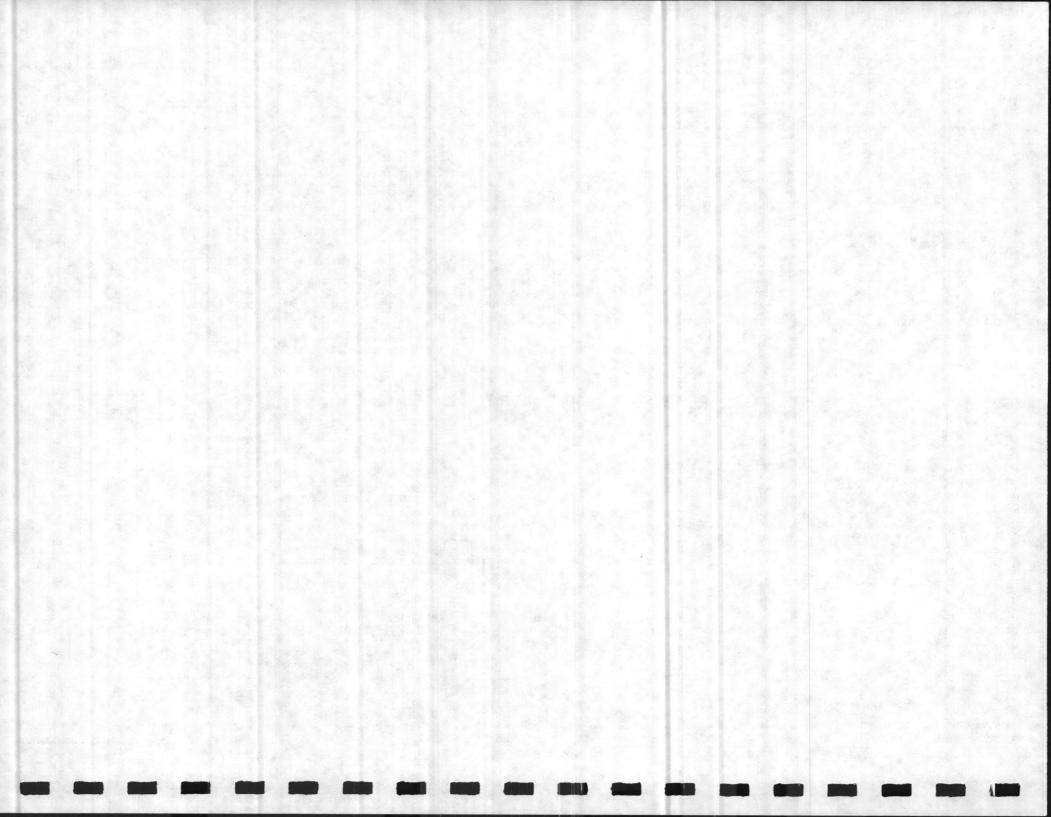


FILL AREA: 25 22 # of Blaks SECTION 1 2 39 SECTION 1 26 SECTION 2 24 25 24 SECTION 3 = 2 23 25 CUT AREA: SECTION 2 # of Blats 26 SECTION 1 = 0 24 SECTION Z = 8 23 SECTION 3 = 8 SECTION 3

Scale: I block

' = 6 A

PROPOSED CHAMGE CUT + FILL



Subject P-065

2-30-84 Ifer No. 56-11

Date Project No.

Date

Drawn By

## FILL AREA:

## PROPOSED CHANGE CUT + FILL

Stetler 1:39 blocks = 39 x 6 = 234ft2

Sietle 2: 4 blocks = 4x6 = 24ft

Steries 31 Zblocks = Zx6 = /zft2

Volume 239+29 x 59' = 7611 ft3 = 282 ys3.

Volume 21+12 x 591 = 1062 ft3 = 39.923

321 yd3

### CUT AREA:

Secono 1: Oblocks = Oftz

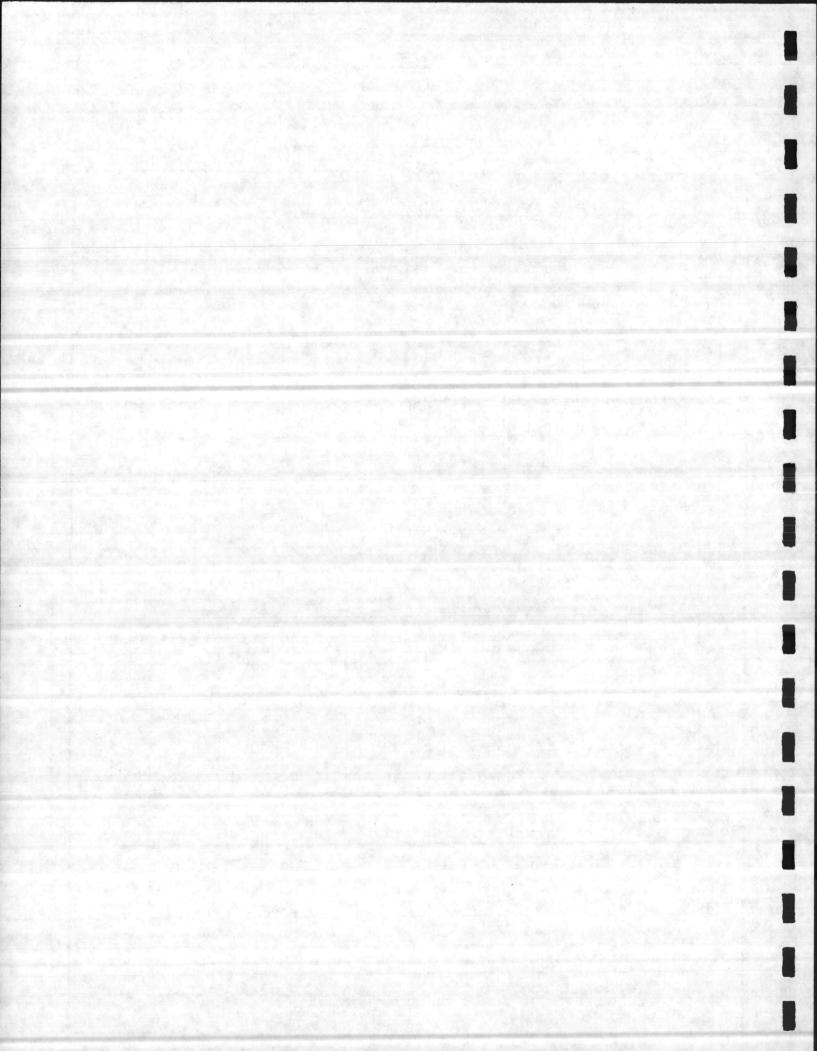
Grant: 8 blacks = 48 ft2

Sterior 3: 8 blacks = 48ft

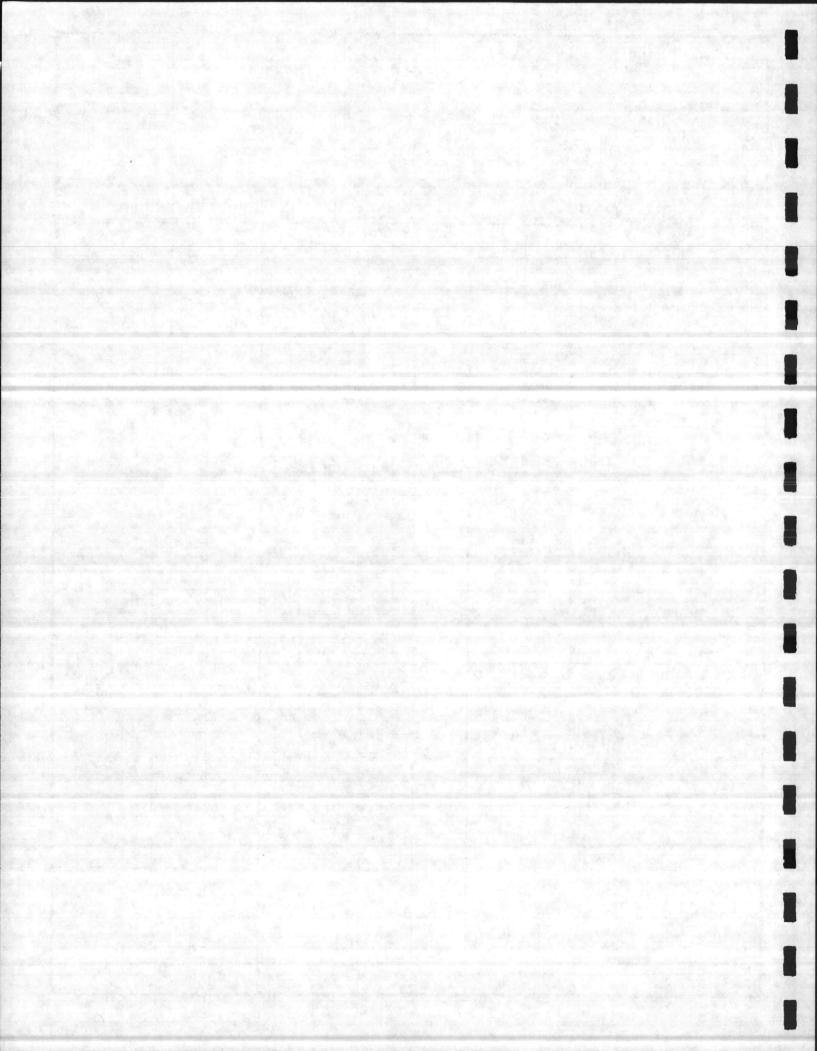
Volume 0+48 x 59 = 52 yd3

Volume 48-45 x 59 = 10+yd=

156 yd3



PROJECT GYMNASIUM P-L  LOCATION Cample Trune, NC	765 —	СО	ST W	ORKSHE	ET		Z
CLIENT NAVEAC  DATE Aug 27-31,1989  PAGE B OF B	-	OME FOOT TO REDUCE TOTAL FILL  AND SETTLEMENT					
CONSTRUCTION ELEME	NT	OF	IGINAL E	STIMATE		NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
FILL MATERIAL	yd <sup>3</sup>	1514	6.20	93 <b>87</b>	321	6.20	1190
EXCAVETION	yd <sup>3</sup>	0	_	0	156	3,50	546
			144	9387			2536
				90-			
			9 19	- Ah			
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le . · · sa, · · · des · · ceres se · · · · · · · · · · · · · · · · ·				THE REAL PROPERTY.		- 10. TO 10.	
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PROJE	CTG	GYMNASIUM				
		P-065	S. Carry			
LOCAT	ION _CA	MP LEJE	UNE, N	L.C.		
CLIENT		NAVFA	C			
DATE	AUGUST	27-31,	1984			
PAGE	1	OF	3			



ITEM

REDUCE SIZE OF PRIMARY CONDUCTORS ON OVERHEAD LINES

ITEM NO.

SC-13

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the overhead pole line with 4# 1/0 copper conductors.

PROPOSED CHANGE: (Attach sketch where applicable)

Use 4# 6 copper conductors for the overhead pole line.

#### ADVANTAGES:

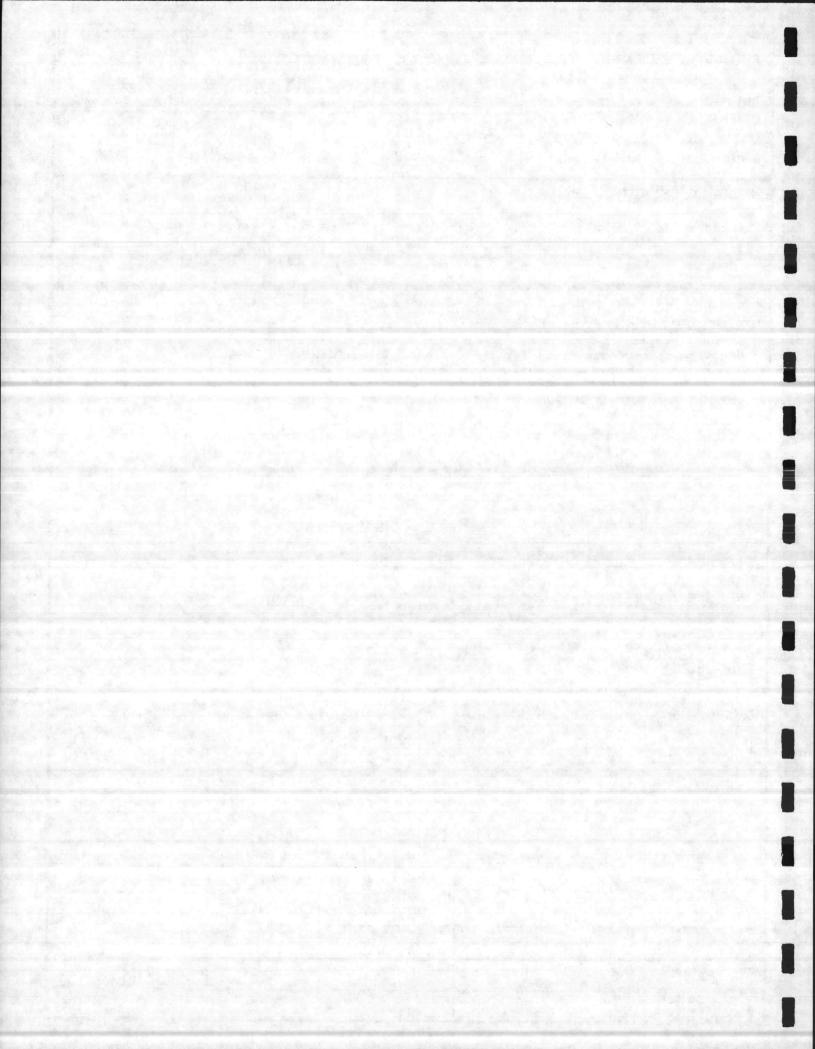
#### **DISADVANTAGES:**

Less material and labor cost to install

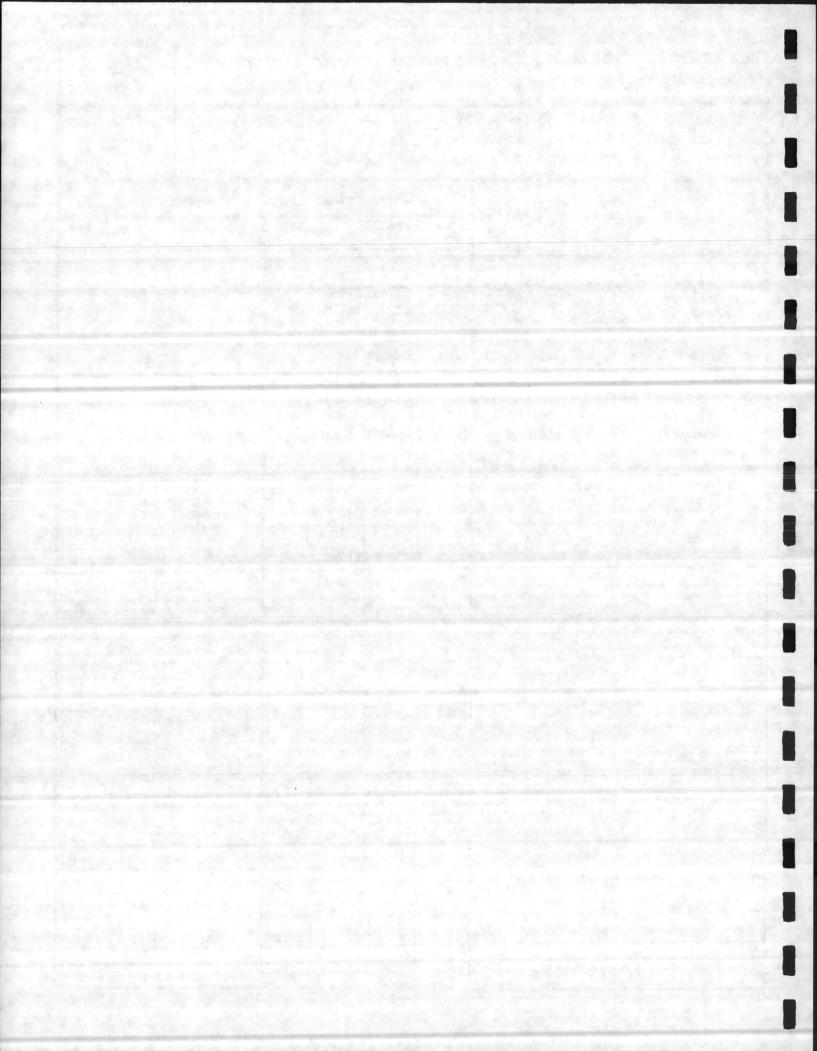
#### **DISCUSSION:**

#6 copper is adequate size to carry load without excess voltage drop.
#6 copper is standard (normally used) size for individual primary loads at both locations.

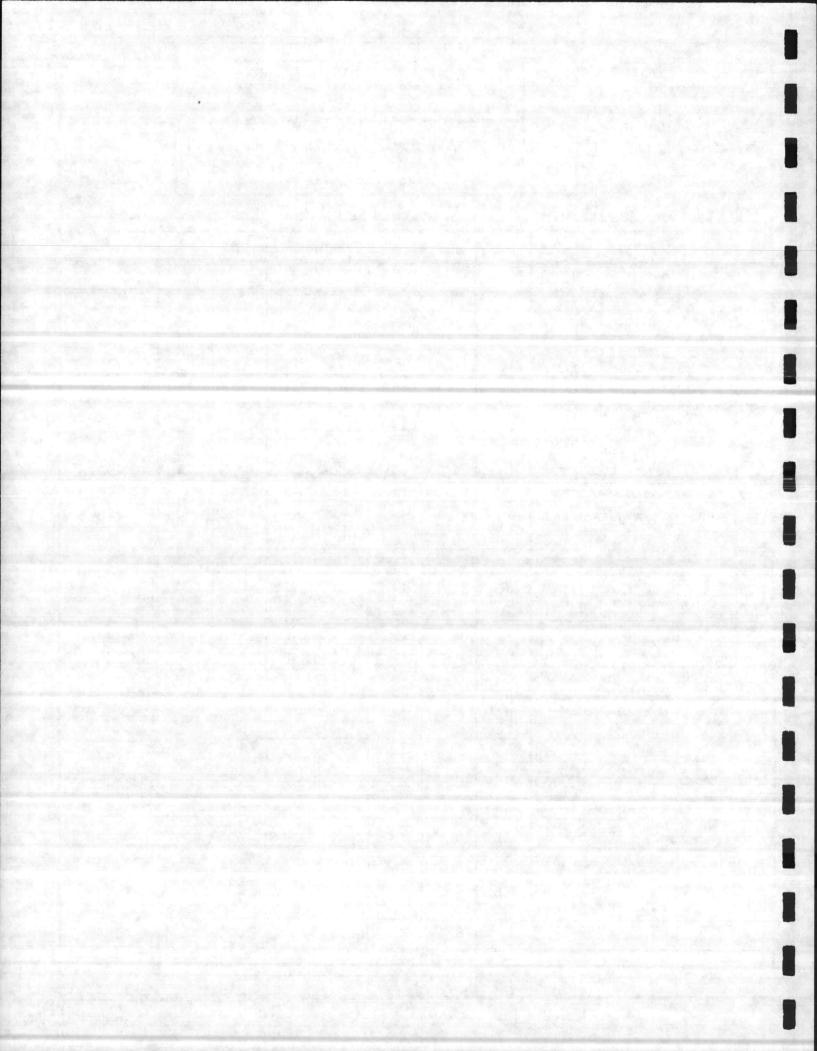
LIFE OVOLE COOT CUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	17,586	Aud III. 19.	17,586			
PROPOSED CHANGE	16,000	-	16,000			
SAVINGS	1,586	alam i rakus <u>t</u> ira u daeri da	1,586			



ROJECT GYMNASIUMS PROJECTS P-065 OCATION CAMPLEJEUNE, NO		СО	ST W	ORKSHE	ET		7
PAGE 2 OF 3	ITEM	CONDUCTORS ON OVERHEND LINES SC-					
CONSTRUCTION ELEMENT	Г	OF	IIGINAL E	STIMATE	9 %	NEW EST	IMATE
ITEM	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
PROJECT COST ESTI APPEARS TO 1	MAZE BE F	FOR C	ELEC	TRICAL GROUND	DIST	RIBUT	TION
DESIGN ENGINEER  CONFERENCE  WOULD BE RU  INDICATE OU	1N E	VERH	EAD.	35%	DRALL	NGINE C LI	erny Nes
HANGING PRIMIT	ary (	DUERHO + 6 Appn	EAD ( WILL	REFLEX	TORS	FRN HE	n
4 # 1/0 COPPER (4/c) 4# 6 COPPER (4/c)	LF	1	320	390			
4# 6 COPPER (4/c)	LF	3			1	150	, 50
	1 2 3						
				Take service			



	COST WORKSHEET					
ITEM	Ou	ERHE	AD DEL	m ARY	, I	TEM NO. SC-/3
	OI	RIGINAL	ESTIMATE		NEW ES	STIMATE
UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
LF	460	390	1794			
EA	3			3	550	1650
EA	1	Authorities III	825	1	750	750
EA	1	1825	1825	1	1750	1750
LF	37	82	2975	35	85	2975
EA	1	5000	5000	1	5000	5000
LF				460	150	690
				2		
			14,069	-		12815
o OH	€P		3517			3200
		#	17,586		4	14,015
						#
100	200		200	15A	/	16,000
	UNITS  LF EA EA LF EA	UNITS UNITS  LF 460 EA 1 EA 1 LF 35	ORIGINAL UNITS UNITS COST/ UNITS UNITS  LF 460 392 EA 1 825 EA 1 1825  LF 35 85  LF 35 85  LF 35 85  LF 3600	ORIGINAL ESTIMATE  UNITS UNITS COST/ TOTAL  LF 460 392 1794 EA 3 550 1650 EA 1 825 825 EA 1 1825 1825  LF 35 85 2975  EA 1 5000 5000  LF 14,069	ORIGINAL ESTIMATE  UNITS UNITS UNIT TOTAL NO. UNITS  LF 460 392 1794  EA 3 550 1650 3  EA 1 825 825 1  LF 35 85 2975 35  EA 1 5000 5000 1  LF 460  14,069  0046 P 3517	ORIGINAL ESTIMATE  ORIGINAL ESTIMATE  UNITS UNITS COST/ UNITS UNIT TOTAL UNITS COST/ UNITS UNITS UNIT  LF 460 392 1794  EA 3 550 1650 3 550  EA 1 825 825 1 750  EA 1 1825 1825 1 1850  LF 35 85 2975 35 85  EA 1 5000 5000 1 5000  LF 460 152



PROJEC	T.	GYMNASIUM P-065					
LOCATI	ON	CAM	2	LEJEU	NE,	N.C	
CLIENT		N/	11	/FAC			6
DATE	AU	GUST	2	27-31,	19	84	
-				05		1	

ALL TOP OF PROPER

ITEM

OBTAIN PRIMARY ELECTRICAL SERVICE FROM
"A" STREET

ITEM NO.

SC-16

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the primary electrical service is obtained from "E" Street.

PROPOSED CHANGE: (Attach sketch where applicable)

Obtain the primary electrical service from "A" Street.

#### ADVANTAGES:

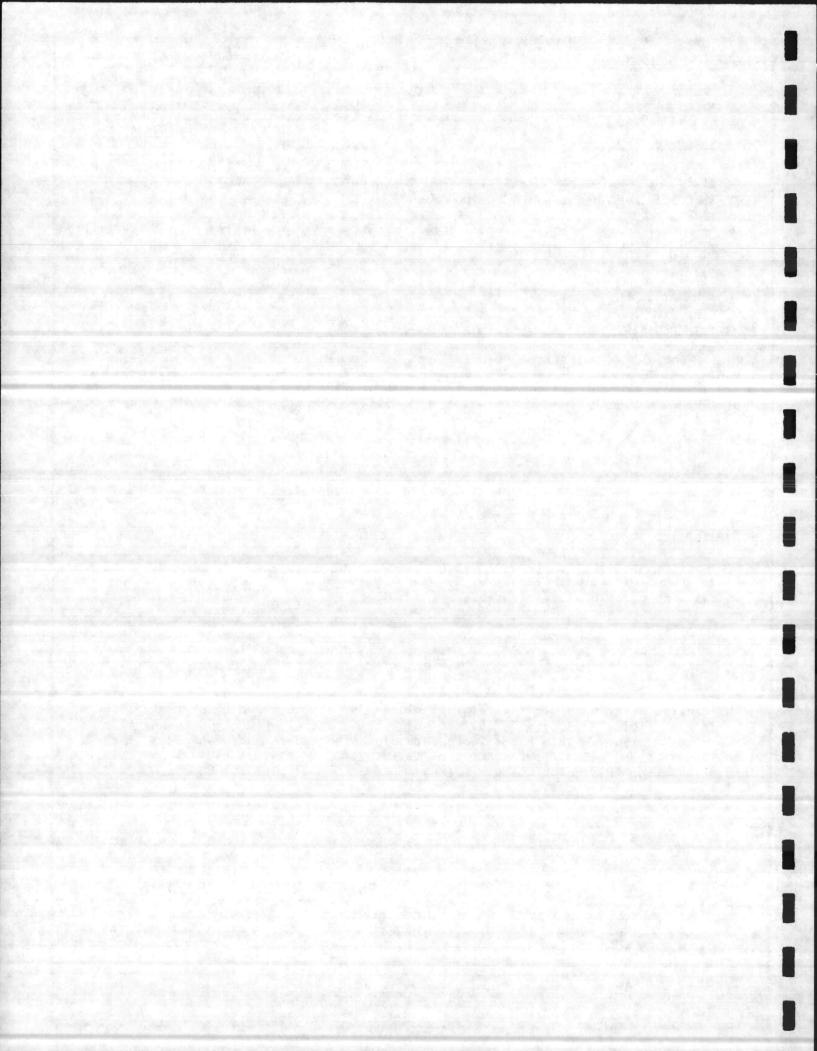
### DISADVANTAGES:

Reduce tree cutting for right-of-way Above ground electrical primary will be run with other utility right-ofways None

#### DISCUSSION:

The electrical primary service is available on "A" Street or on "E" Street. Other project utilities feed from "A" Street and cutting trees, etc. are necessary for their right-of-way. This keeps wooded area intact on north and west sides of the building. There is no apparant cost difference for the electrical work but possible cost reduction in site work and clearing.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN		2 Y				
PROPOSED CHANGE						
SAVINGS	and the second second	Design Suggestion	-4, 488-8			



PROJECT	r(	SYMNASI	UM.
		P-13	3
LOCATIO	N NEW	RIVER,	N.C.
CLIENT		NAVFAC	X 24
DATE _	AUGUST	27-31	1984
	1		2



ITEM

ELIMINATE 24' WIDE ROADWAY AND PROVIDE 6' WIDE WALKWAY AT THE BACK OF BUILDING

ITEM NO.

SJ-1

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows a 24' wide roadway at the back of the building.

PROPOSED CHANGE: (Attach sketch where applicable)

The VE team suggests eliminating the 24' wide roadway and providing a 6' wide sidewalk.

**ADVANTAGES:** 

**DISADVANTAGES:** 

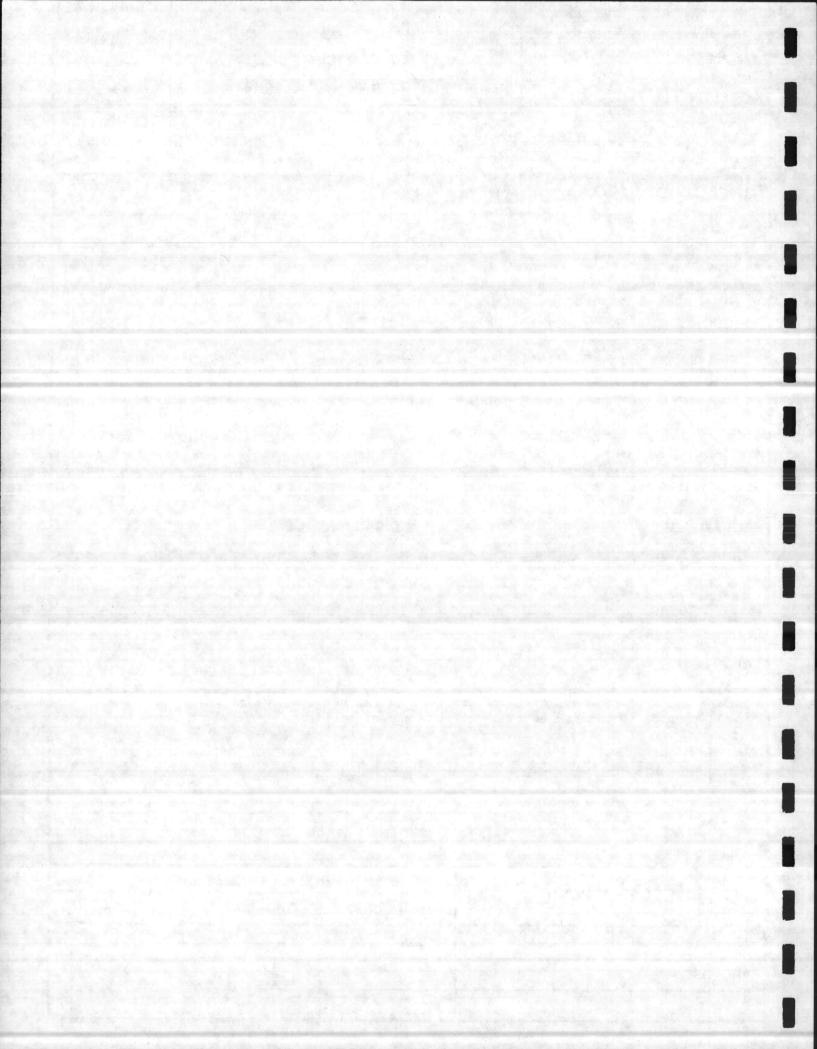
Reduce Costs

None Apparent

#### **DISCUSSION:**

Since 24' wide roadway serves no apparent useful purpose, a six foot wide walkway will provide the needed entrance at the rear of building.

LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	5,363		5,363			
PROPOSED CHANGE	1,093		1,093			
SAVINGS	4,270	the state of the s	4,270			





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

New River GUM - P. 133

Subject

5J-1

Ang. 27-31, 84

A. 5.

Drawn By

(A) Original Debign:

Area = 160 x 24 /9 = 427 s.y.

Cost = 427 x \$ 12,56/5, U. = \$ 5,363,0

(E) Proposed Design:

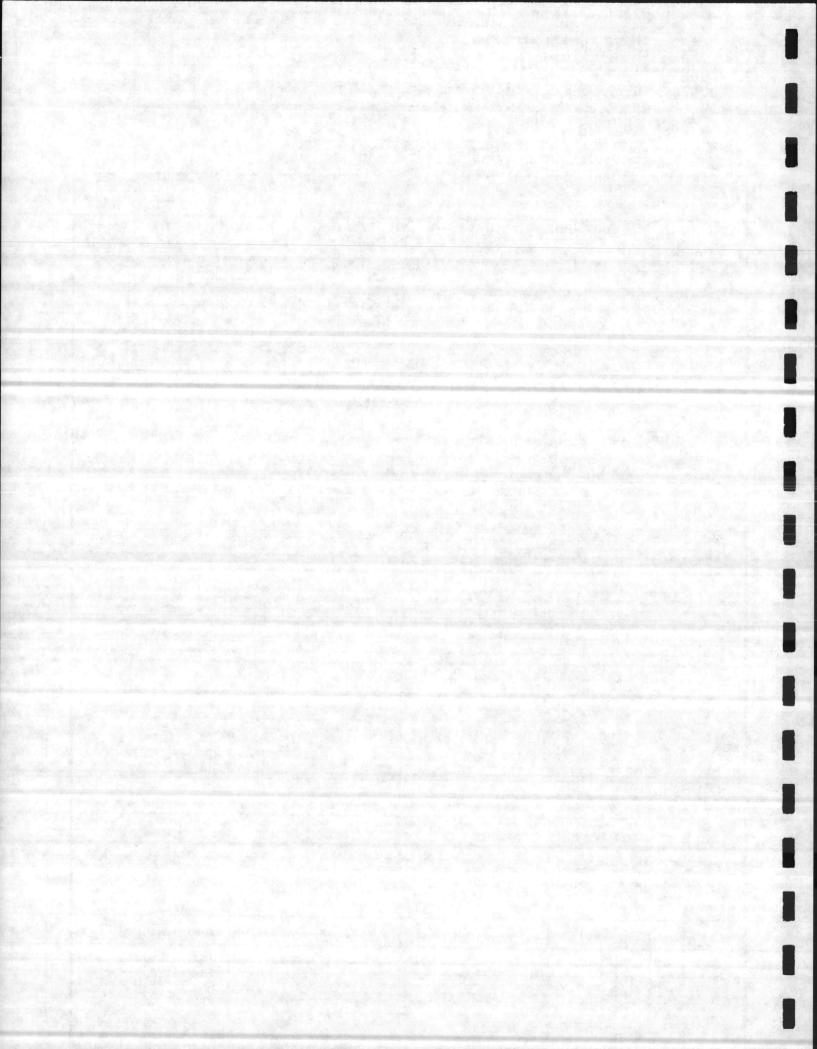
6' wide walkway

Area = 160 x 6 19 = 107 5.4.

Cobt= 107x \$10.21/Sy = \$1,093.0

(c) Saving5 = 5,363.0 - 1,093.0

= \$ 4.270.0



PROJECT GYMNASIUM
P-133

LOCATION NEW RIVER, N.C.
CLIENT NAVFAC

DATE AUGUST 27-31.1984

1

PAGE

\_\_ OF

## VALUE ENGINEERING RECOMMENDATION

Z

ITEM

REVISE SITE WORK
ITEMS: SJ-2,3,4,5,6,7,8,10,12

ITEM NO.

SJ-2

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the parking area with concrete islands, curb and gutters, lights, 4' wide walkway, handicap ramps, storm water drainage system, roadway to the front of the building, sidewalk from the building to the proposed Campbell Street and 3 ft. undercutting of the parking area. (See contract drawing 1 of 14).

#### PROPOSED CHANGE: (Attach sketch where applicable)

The proposed changes are shown in the attached sketch. VE team suggest: Eliminate concrete islands in parking lot and reduce area; provide parking for compact cars; provide parking for motorcycles; eliminate curb and gutter except along the building sidewalk; increase width of the sidewalk along the building to 6 ft; move handicap parking spaces closer to the building and eliminate ramps; revise outside parking lot lighting; reduce undercutting in parking lot to one foot instead of 3 ft; modify walkway path to proposed Campbell Street; and revise storm water drainage system.

#### **ADVANTAGES:**

**DISADVANTAGES:** 

Reduce Costs

None Apparent

#### DISCUSSION:

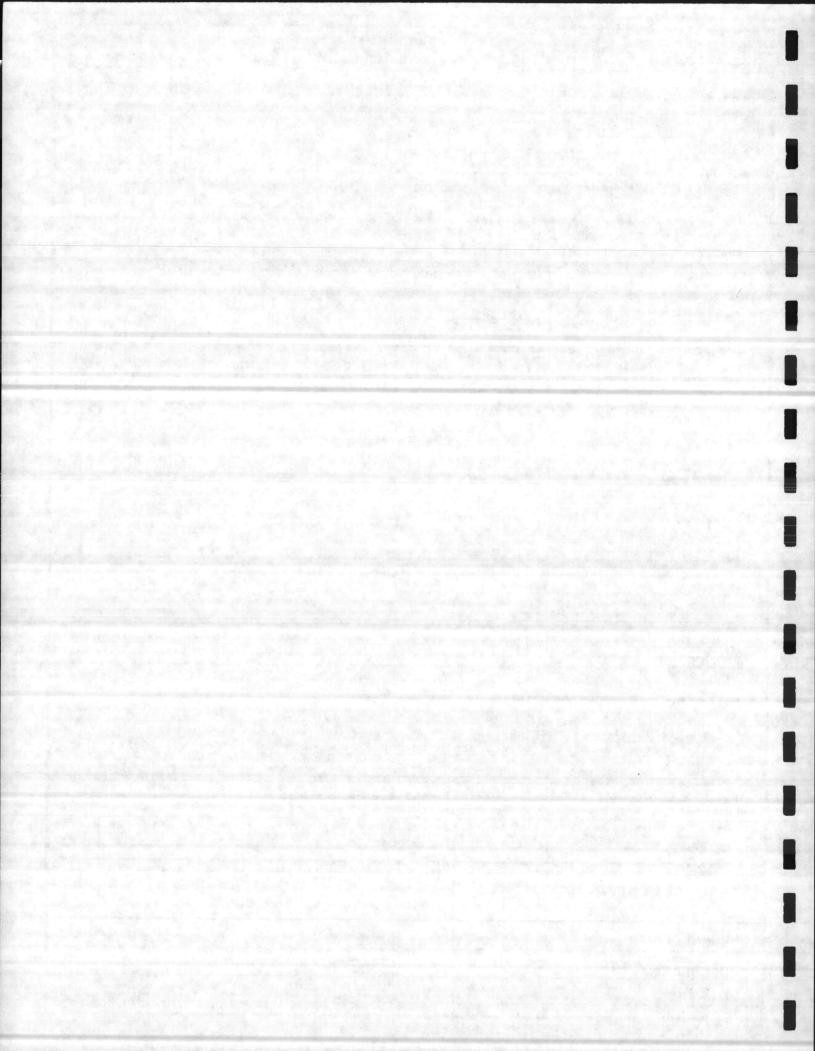
Following is a brief description of the proposed changes:

SJ-2: Elimination of concrete islands in the parking lot reduces the size of the lot and the costs. Concrete islands are provided at the ends to protect the light poles.

SJ-3: Parking spaces for compact cars are provided in order to increase the total parking spaces and reduce the overall square area of the lot.

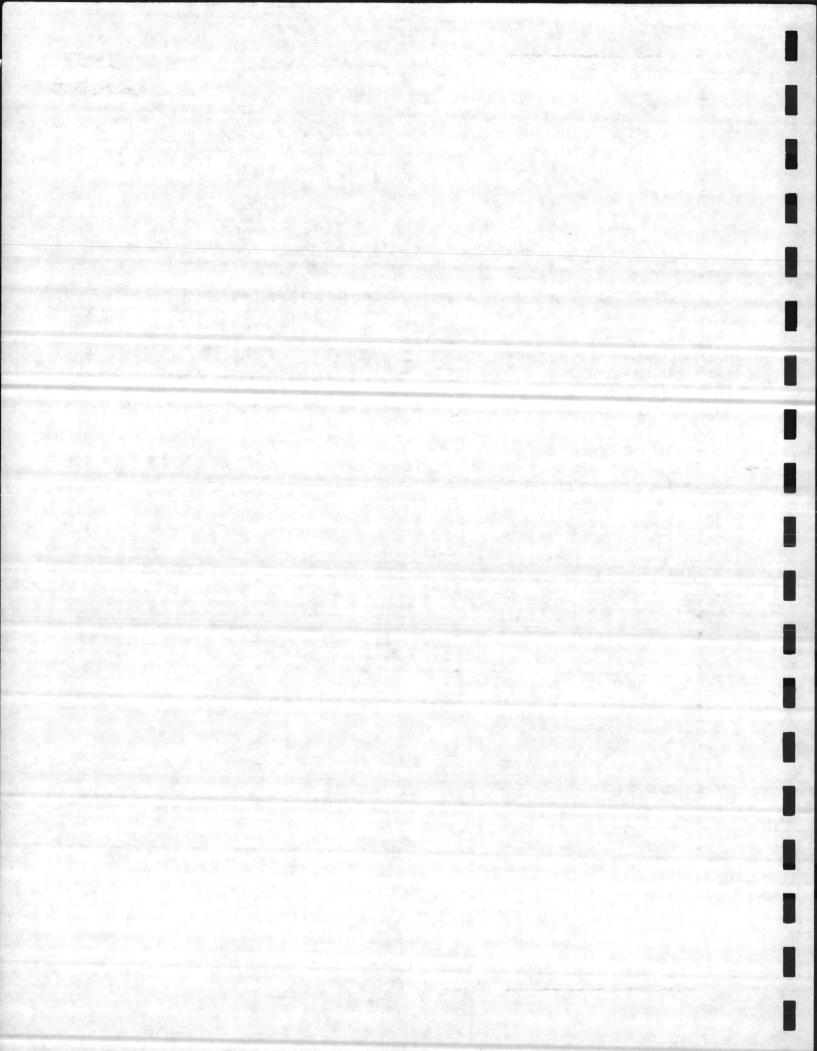
SJ-4: 4" concrete pad for motorcycles was added to improve the function of the parking lot and reduce the wear of the bituminous surface.

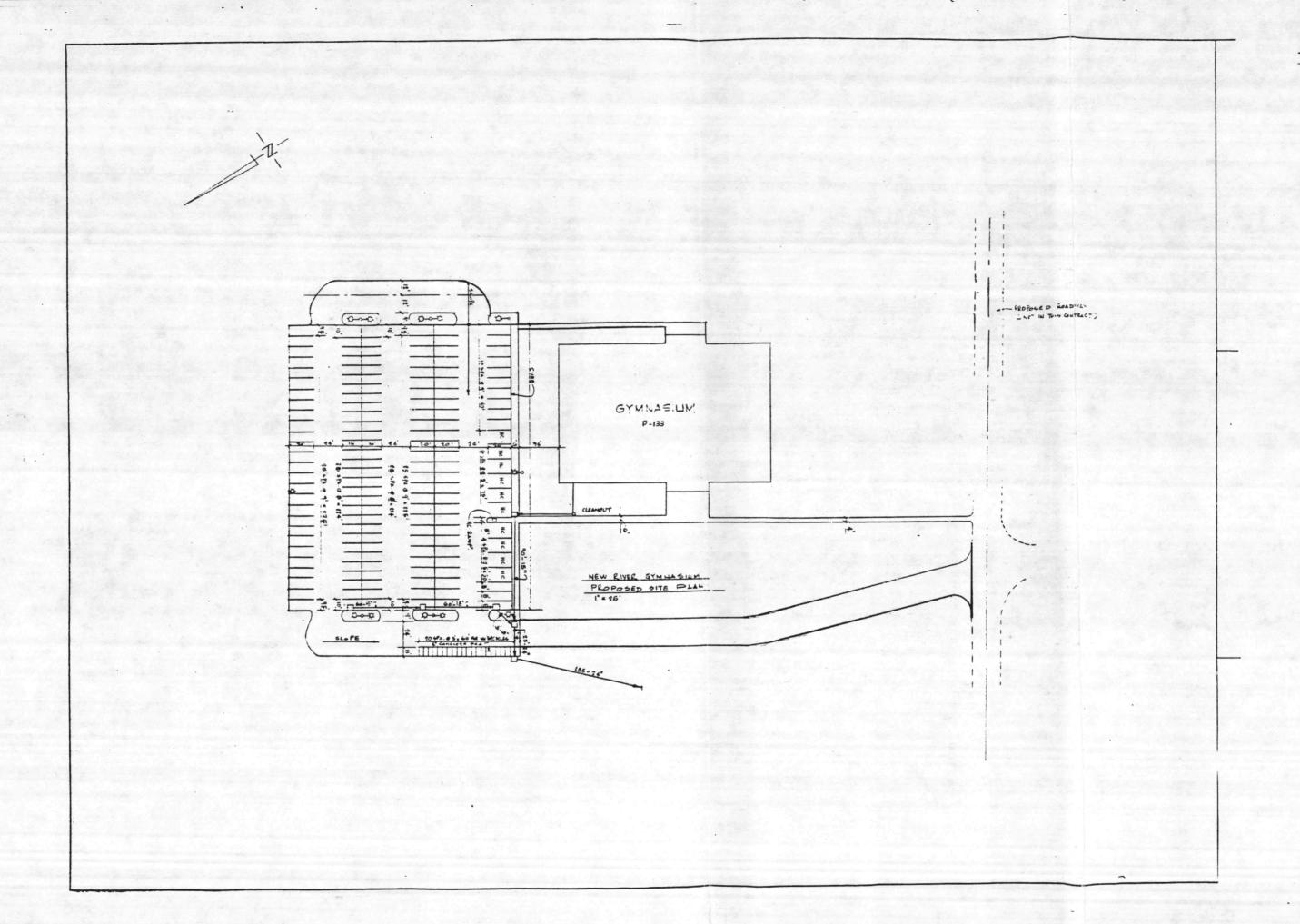
LIFE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS		
	INITIAL COST	O & M COSTS	TOTAL
ORIGINAL DESIGN	187,860	_	187,860
PROPOSED CHANGE	117,200	erdeka e se <u>e</u>	117,200
SAVINGS	70,660	a de la companya del companya de la companya del companya de la co	70,660

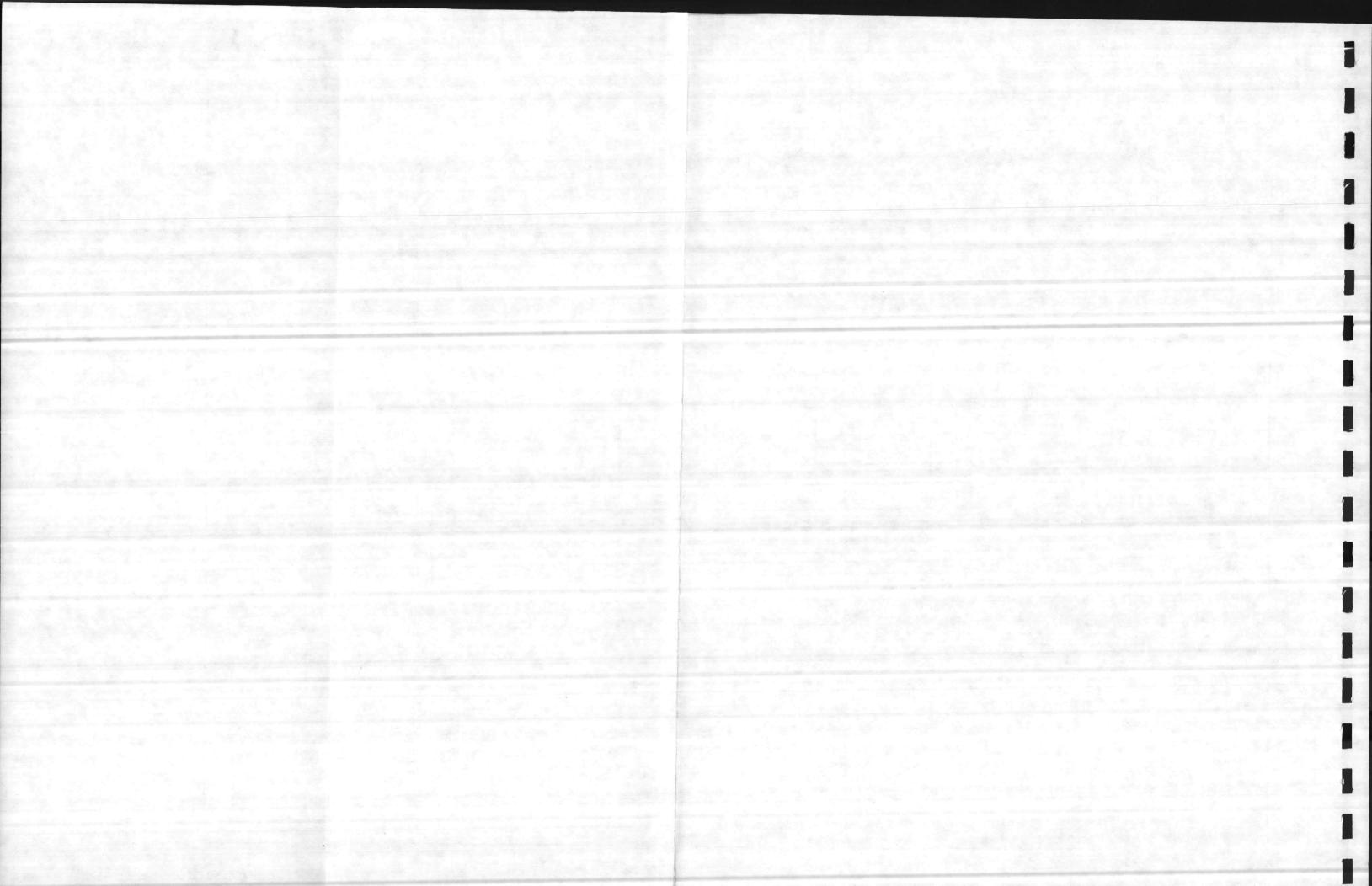


#### **DISCUSSION:**

- SJ-5: A properly sloped parking lot will not require a curb and gutter system to control stormwater. Curbs are provided only around the concrete islands to protect the lights and along the building sidewalk to prevent cars from driving onto the sidewalk. Cost for curb and gutter was not included in the original cost estimates.
- SJ-6: The 4' wide sidewalk along the building was increased to 6' width to provide for the parked overhang.
- SJ-7: Handicap parking spaces were moved closer to the building for easier and safer access to the building. This change also eliminates the need for handicap ramps spread throughout the parking lot.
- SJ-8: Outside parking lot lighting was reduced from 23 lights to 12 lights to reduce costs.
- SJ-10: Undercutting in the parking lot was reduced from 3 ft to one foot to reduce costs. Wire mesh fabric was provided for any settlement problems due to bad soils conditions. Cost of undercutting and structural backfilling was not included in the original cost estimates.
- SJ-12: Walkway path from the building to the proposed Campbell Street was modified to reduce the overall walkway length to reduce costs.









Revise Site Work

Aug. 27-31, 84 Item No. SJ-Z Date Project No.

A.S.

Drawn By

## (A) ORIGINAL DESIGN

5J-2 (A)

Payking Area. =  $327 \times 215'$  9 =  $7812 \times 5.7$ . Co5t: @ \$8.34 | 5.7. =  $7812 \times 8.34$ = \$65,152.00

No Motorcycle Concrete Pad: Cost: # 0.0

5J-5 (A)

total length of curk & Gutter: 2270 ft. (parking Lot only).

Cobt: 2270x # o Per Lin 2. = # 22,700.00

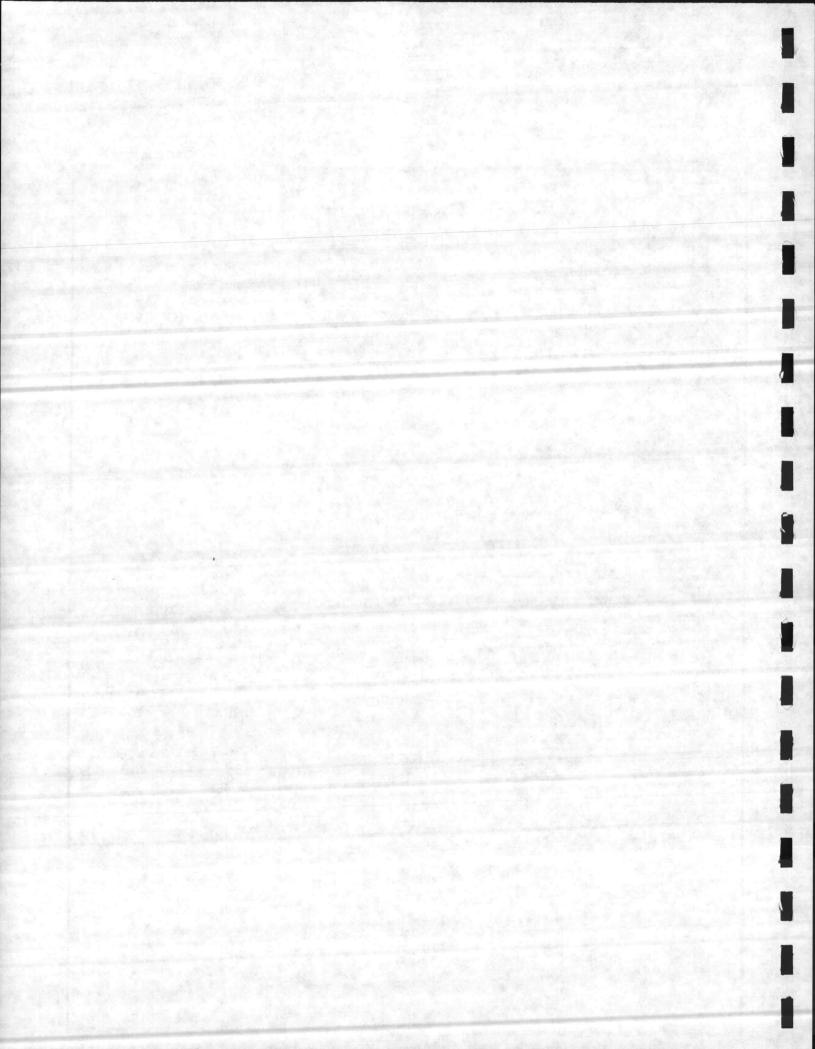
5J-6 (A)

sidewalk Along the Building = 4x245'/9 = 109 s.y.

Cost: 109x\$10.21/5.4. = \$1113.00

SJ-8 (A)

Total (ost: \$ 23,350 (original Estimates)





Revise Site Work

Date Project No. SJ-2

Drawn By

5J-10(A)

Parking Lot Excavation: = 327x215x3 / 27 = 7812 Cu. yd.

Borrow = 7812 cu. 4d.

Total Cost: \$ (3.33+6.20) ×7812

= \$74,450.00

5J-12(A)

Walkway Length from building to informa campbell street = 48-1

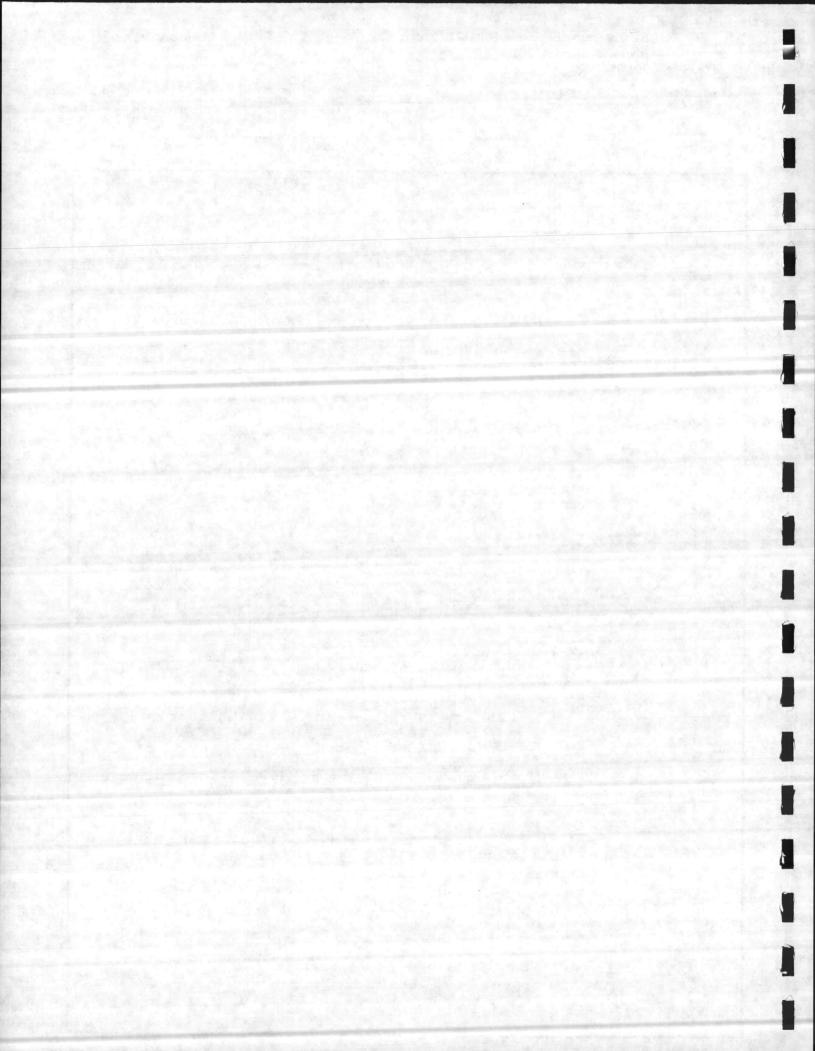
Area = 4 x 240/9 = 107 s.y.

cost: 107x\$10.21 = \$1,093.00

TOTAL COST. (Original Decign)

= 65,152 + 22,700 + 113 + 23,350 + 74,4504 1,093

= # 187,860



1

6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Subject

Date

Iten No SJ-Z Project No.

Drawn By

(B) PROPOSED DESIGN

SJ-2 (B)

Proposed Parking Area = 318 x 184/9 = 6502 5.4.

Cost = 6502 x # 8.34 = \$ 54,230.0

5J-4(B)

Motorcycle Conc. Pad. = 64×8/9 = 57 5.4.

Cost = 57×\$10.21/5.4. = \$590.0

SJ-5(B)

Total Lengt of cub = 750'

Cost = 750 x \$8/Lin. Ft. = \$6,000,0

5J-6(B)

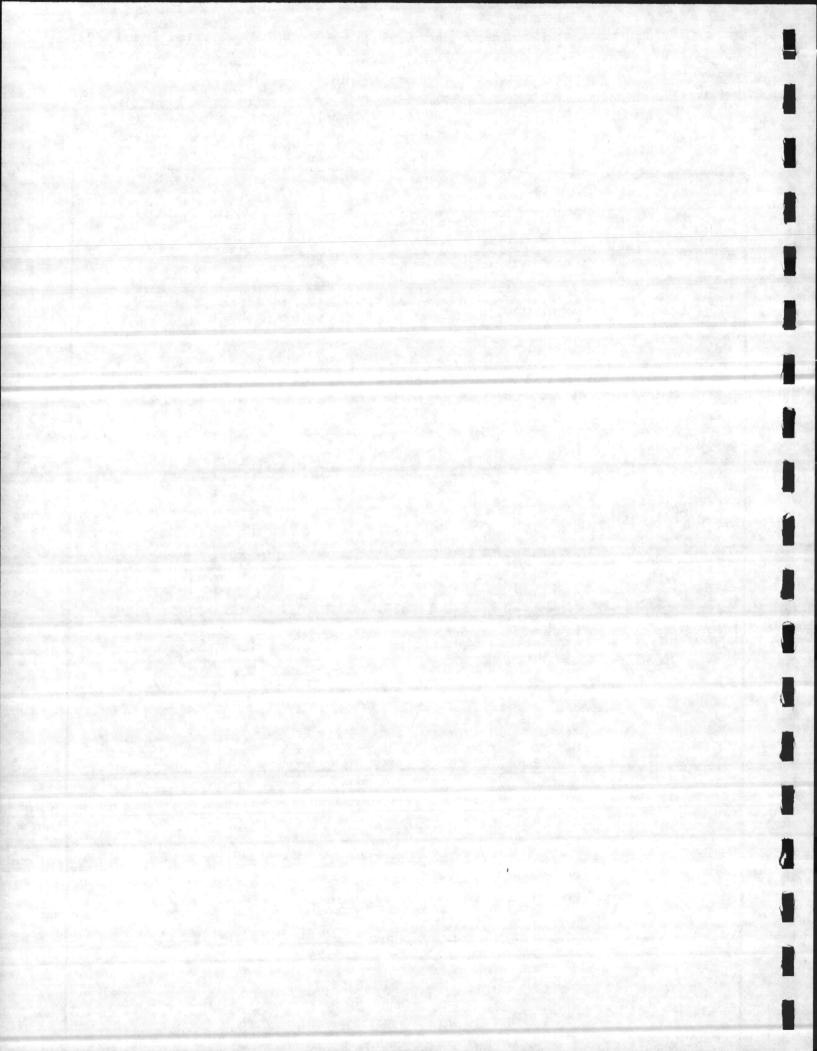
bidewaix Along the Evilding. = 6xefs/9
= 164 E.Y.

cost = 164x \$10.21 | s.y. = # 1,680.0

SJ-8(B)

4-Doub. Lights = 4x \$ 1850 = \$7,400.0 4-Single Lights = 4x \$ 1,120 = \$ 4.4800

Total Cost = # 11,900.0





6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Revise site Work

Subject

Ang. 27-31,84 Iten No. S.J-Z Project No.

A. 5.

Drawn By

## SJ-10(B)

Exc. = 318 x 18 + x 1 27 = 2170 cu. yd.

Borrow = 2170 Cu Ud.

Cost = 2170 (3.33 + 4.20) = #20,660.0

WWF = (318 x 184) x \$0.30 49 FTC

= \$21,070.0

Total = 21,070+20,030 = \$ 41,750, 0

### SJ-12 (B)

Length = 225 ft.

Area = 4 x 225 /9 = 100 S.y.

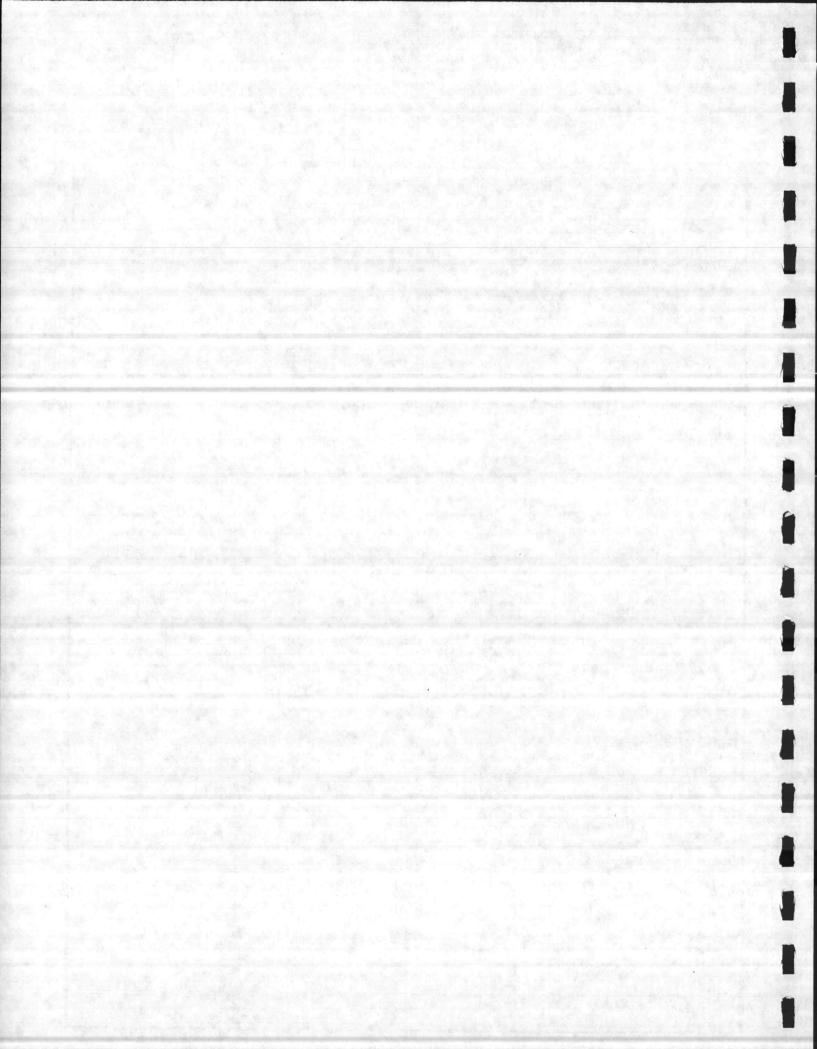
Cost = 100 x #10,21 = # 1,021

Total (ast (ProposeD DESIGN)

= 54,230+590+6,000+1,680+11,900

+ 41,750 + 1,021

= \$ 117,171 \ \ 117,200



PROJECT	GYMNASIUM
o tentro de	P-133
LOCATION	NEW RIVER, N.C.
CLIENT	NAVFAC
DATE AUGU	IST 27-31, 1984
PAGE 1	OF 3



ITEM NO.

SJ-9

ITEM

REDUCE SIZE OF PRIMARY CONDUCTORS ON OVERHEAD LINES

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows the overhead pole line with 4# 1/0 copper conductors.

PROPOSED CHANGE: (Attach sketch where applicable)

Use 4# 6 copper conductors on the overhead pole line in lieu of #1/0.

#### ADVANTAGES:

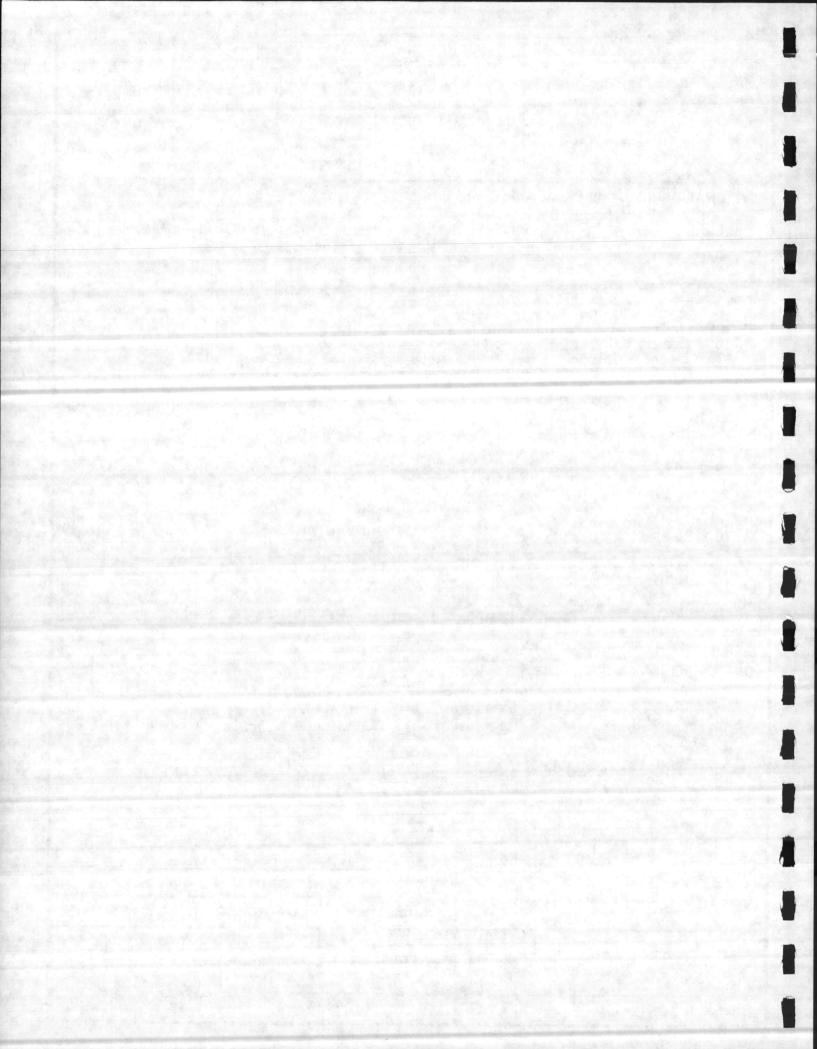
**DISADVANTAGES:** 

Less material and labor cost to install

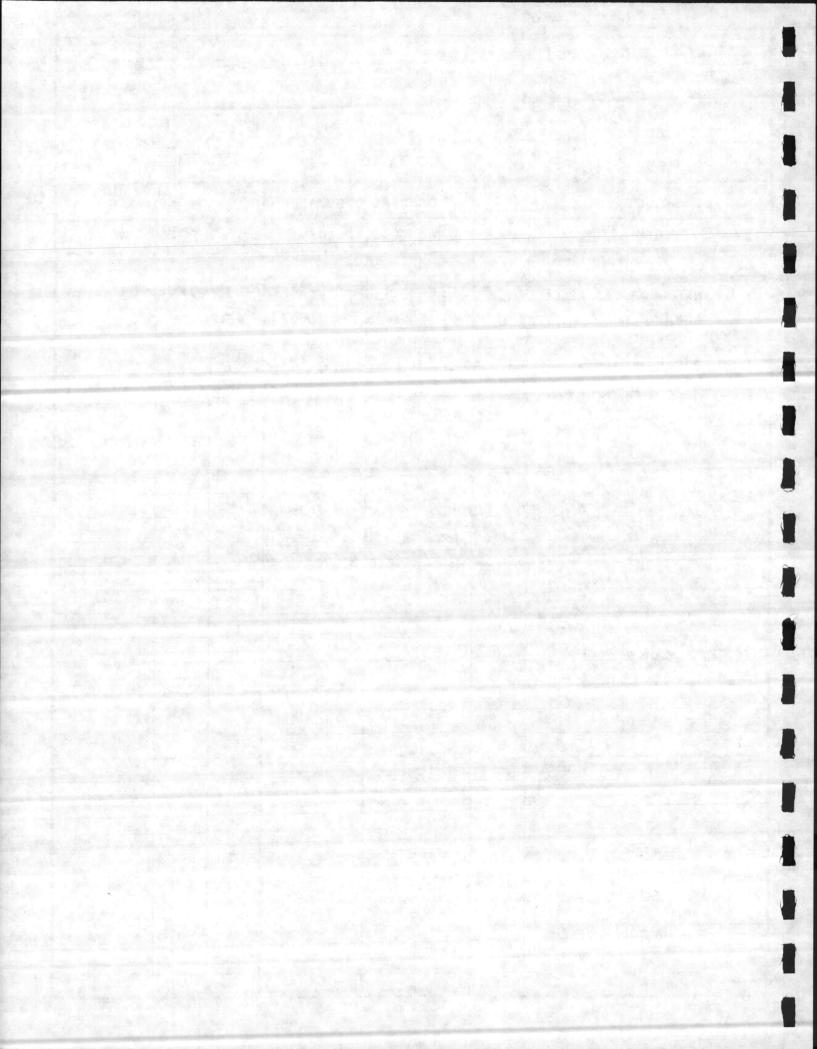
#### DISCUSSION:

#6 copper is adequate size to carry load without excess voltage drop. #6 copper is standard (normally used) size for individual primary loads at both locations.

LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	23,465	_	23,465		
PROPOSED CHANGE	20,000	_	20,000		
SAVINGS	3,465		3,465		



POJECT SYMMASIUMS POJECTS  OCATION NEW RIVER, NC	3	СО	ST W	ORKSHE	ET		Z	
PAGE 2 OF 3	Con	KEDU JOHCT	ICE ST	ZE OF P	RIMAN END L	INES IT	SJ.9	
CONSTRUCTION ELEMENT		OF	RIGINAL E	ESTIMATE	NEW ESTIMATE		TIMATE	
ITEM See See	UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL	
PROJECT COST ESTIL	MAZE F	FOR C	ELEC	GROUND	Dist	RIBU,	7101	
DESIGN ENGINEER  CONFERENCE  WOULD BE RU  INDICATE OU	STA THAT IN E ERHE	TERH VERH	N I IMA EAD. Dole	PRE VALUED STORY ELECTION	G E. CRICA DRAG	NGINE C LI NAGS	erny Nes	
CHANGING PRIMA # 1/0 Follow				ONDUCT REFLECT			m	
4 # 1/0 COPPER (4/c) 4# 6 COPPER (4/c)	LF LF	1	320	3 %	1	150	/ 50	
	9							



# PROJECT GYMNASIUM PROJECT P. 133 LOCATION NEW RIVER, NC CLIENT NAVFAC DATE 29 August 184

## **COST WORKSHEET**

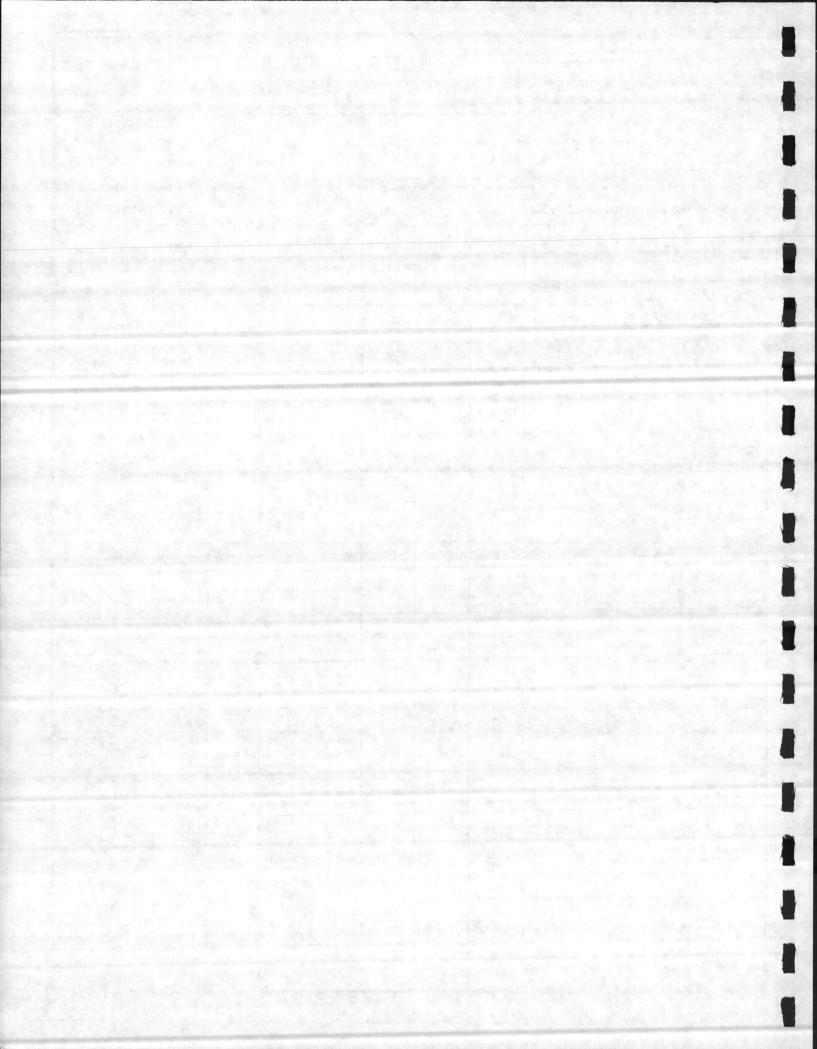
Z,

ITEM

OVERHEAD PRIMARY LINE

ITEM NO. 5J-9

	OF	IIGINAL	ESTIMATE		NEW ES	TIMATE
UNITS	NO. UNITS	COST/ UNIT	TOTAL	NO. UNITS	COST/ UNIT	TOTAL
LE	1100	399	4290			
EA	7550	550	3850	7	550	3850
EA		825	825	-	750	750
EA	1	1825	1825	1	1750	1750
LF	35	82	2975	35	82	2975
EA	1	5000	5000	1	5000	5000
LF				1100	150	1650
		- 4				
			18,765			15975
06	AP		4700			4000
	4		23,465			19,975
1-86						
				SA	1 7-	20,000
e <sup>RO</sup> CR 21 O	Z.	, pri		/		
- 2					1 1	fel ( ) ( )
	-	100			N N N N N N N N N N N N N N N N N N N	
	-					
	-				7 6 5 5	
174			And the second			
	LF EA EA LF	LE 1100 EA 1 EA 1 LE 35	UNITS UNITS COST/UNIT  LF 1100 392 EA 760 550 EA 1 825 EA 1 /825  LF 35 85  EA 1 5000	LF 1100 399 4290 EM 750 550 3850 EA 1 825 825 EA 1 1825  LF 35 85 2975  EM 1 5000 5000  LF 765	UNITS UNITS COST/ TOTAL UNITS  LEF 1100 399 4290  EA 7 550 3850 7  EA 1 825 825 1  LF 35 85 2975 35  EA 1 5000 5000 1  LF 35 87 2975 35  EA 1 5000 5000 1	UNITS UNITS COST/ TOTAL NO. COST/ UNITS  LF 1100 3 9 4290  EA 7 50 550 3850 7 550  EA 1 825 825 1 750  EA 1 1825 1 1750  LF 35 85 2975 35 85  EA 1 5000 5000 1 5000  LF 1100 152



PROJECT	GY	MASIUM	
		P-133 NEW RIVER,	
LOCATION	NEW	RIVER,	N.C.
CLIENT_	N/	VFAC	- L
DATE	AUGUST	27-31,	1984
PAGE	1	OF _	3



ITEM

REVISE STORMWATER MANAGEMENT

ITEM NO.

SJ-13

#### ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows 600 feet of stormwater pipe and 9 inlets in the parking lot.

#### PROPOSED CHANGE: (Attach sketch where applicable)

The VE team suggests eliminating 3 inlets and 350 ft of pipe by properly sloping the parking lot as shown on the attached drawing.

#### **ADVANTAGES:**

**DISADVANTAGES:** 

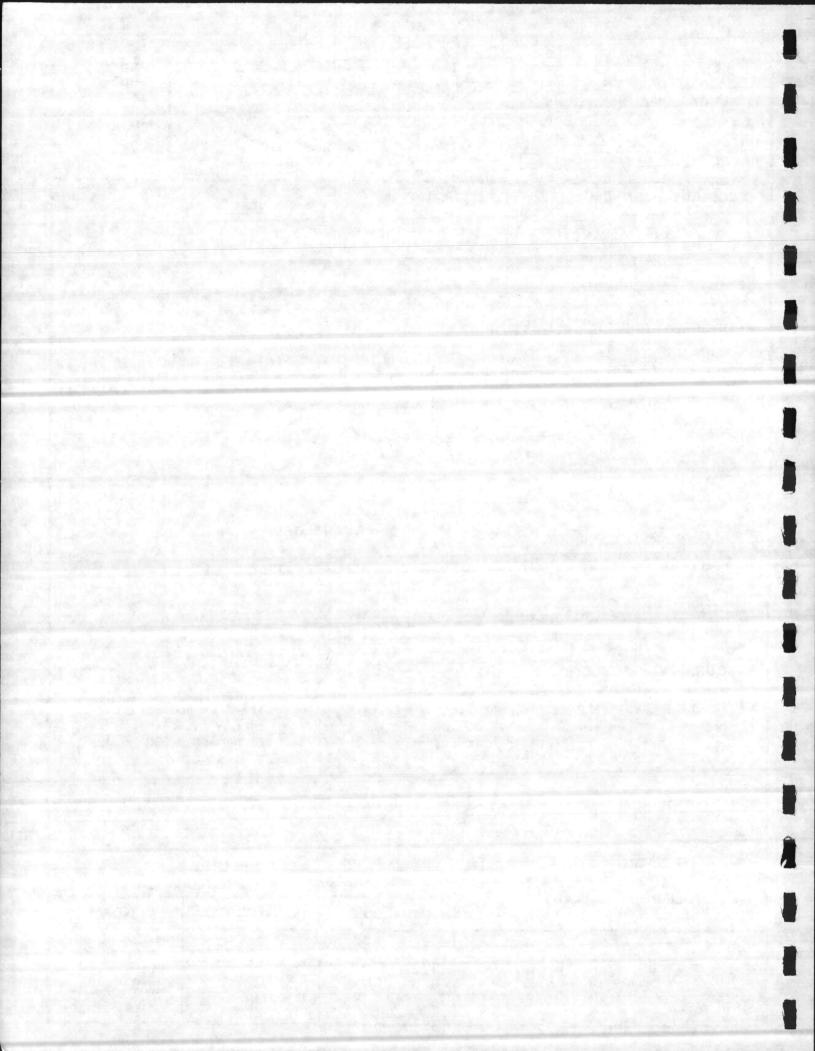
Reduce Costs

None Apparent

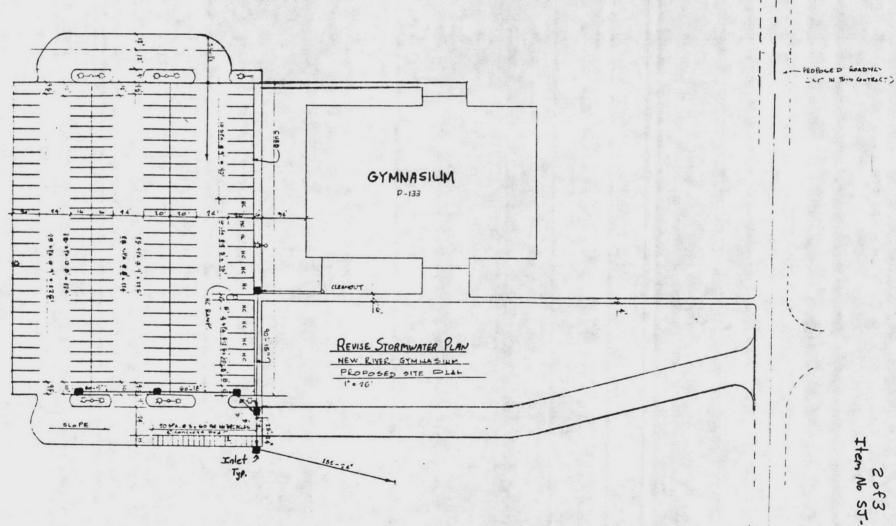
#### DISCUSSION:

By sloping the parking lot, substantial savings can be realized by reducing the length of pipes and the number of inlets. The stormwater system outside the project area may be provided by means of a ditch in lieu of the 24" & 30" pipes shown on the contract drawing.

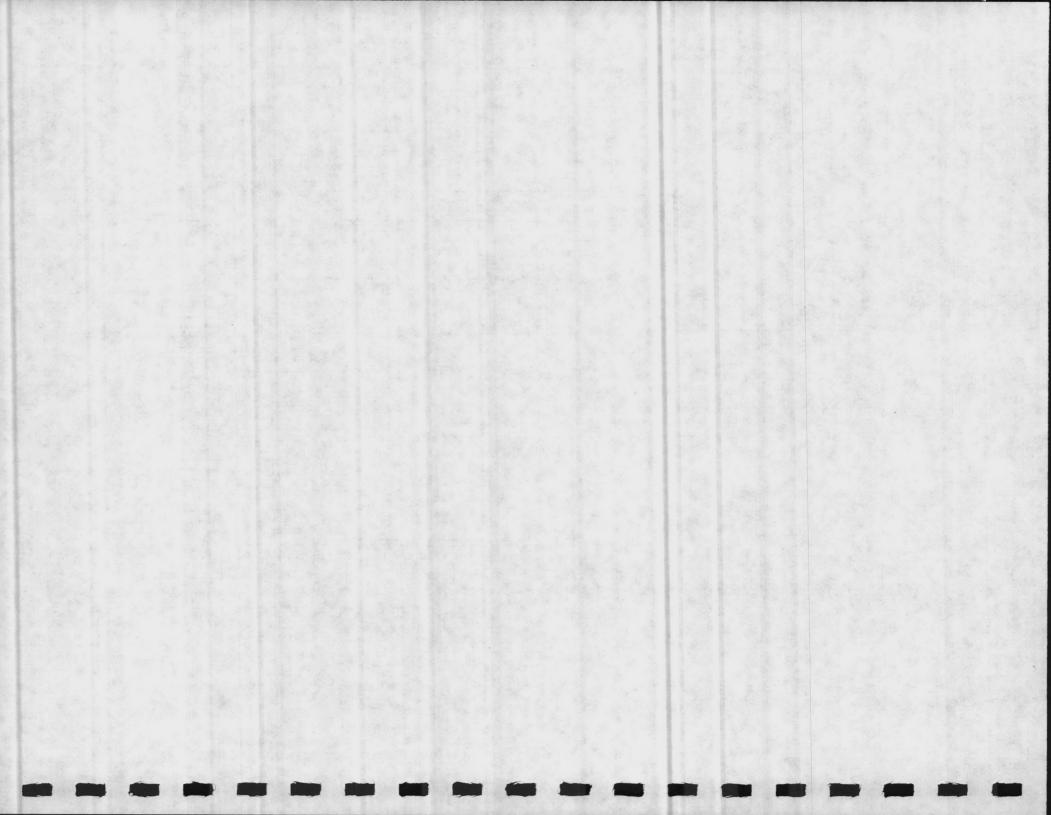
LIFE OVOLE COST SUMMARY	PRESENT WORTH COST SAVINGS				
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL		
ORIGINAL DESIGN	20,160	_	20,160		
PROPOSED CHANGE	11,380	- 4m	11,380		
SAVINGS	8,780		8,780		







2 of 3 Then No 57-13





New River Gym.

55-13

Ang. 27-31, 64 P-133

Drawn By

(A) Original Design:

9 inlets @ \$1100 ea. = \$9,900.0

15" Pile: 490'x \$ 16/Ft = \$ 7,840.0

18" Pipe: 118'x \$20.45/Ft. = \$2,413.0

Total: \$ \$20,160.0

(B) Profosed Design:

6 inlets @ \$ 1100 ea. = \$ 6,600.0 15" PIPE: 150 x \$16/Ft. = \$ 2,100.0 18" Pipe: 78 x \$ 20.45/元= \$ 1.600.0

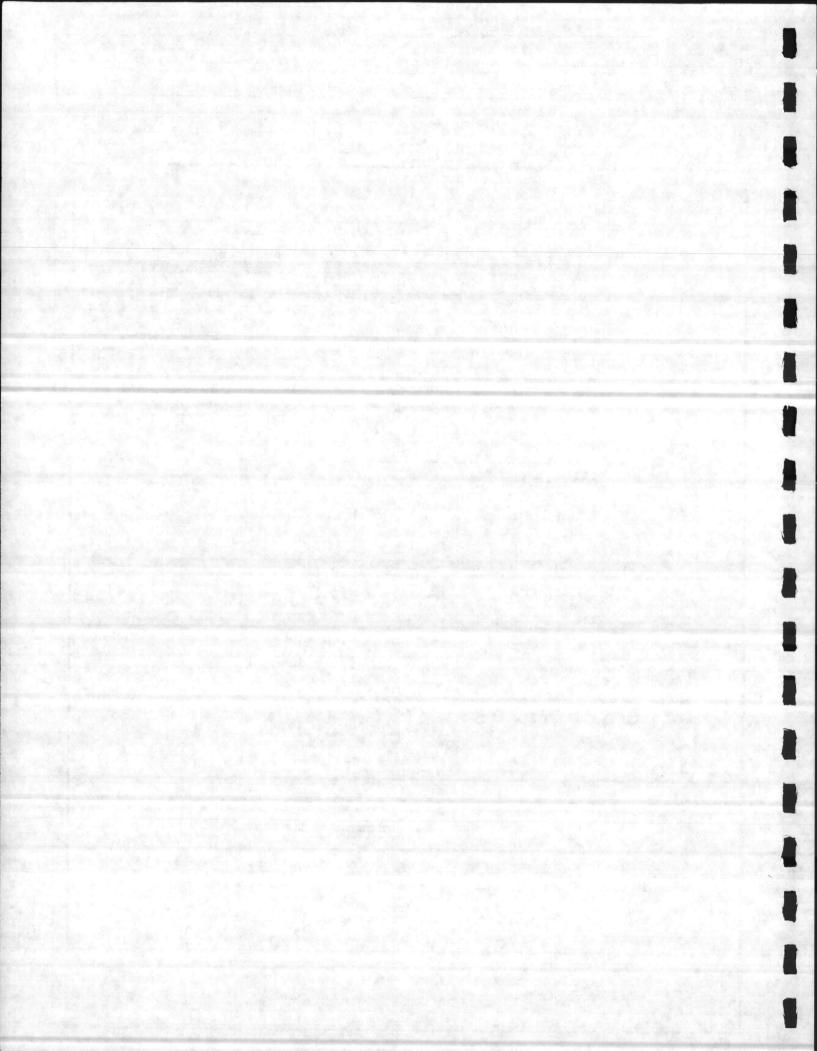
24" Pipe: 25 x年31.0/Ft=年 780.0

Total: \$ 11,330.0

(c) Savings:

20,160.0 - 11.380.0

= \$ 8,780.0



PROJECT	GY	MNASIUM	
		P-133	
LOCATION	NEW 1	RIVER,	N.C.
CLIENT_	N.	AVFAC	
DATE	AUGUST	27-31,	1984
PAGE	1	OF	1



ITEM

LEAVE 2" EXISTING WATERLINE IN PLACE AND PROVIDE NEW FIRE & WATERLINE FOR BUILDING ONLY

ITEM NO.

SJ-14

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design calls for the removal and replacement of the existing 2" waterline with an 8" waterline.

PROPOSED CHANGE: (Attach sketch where applicable)

The VE team suggests leaving the existing 2" waterline in place and instead provide a new 8" fire and waterline to the building only.

#### **ADVANTAGES:**

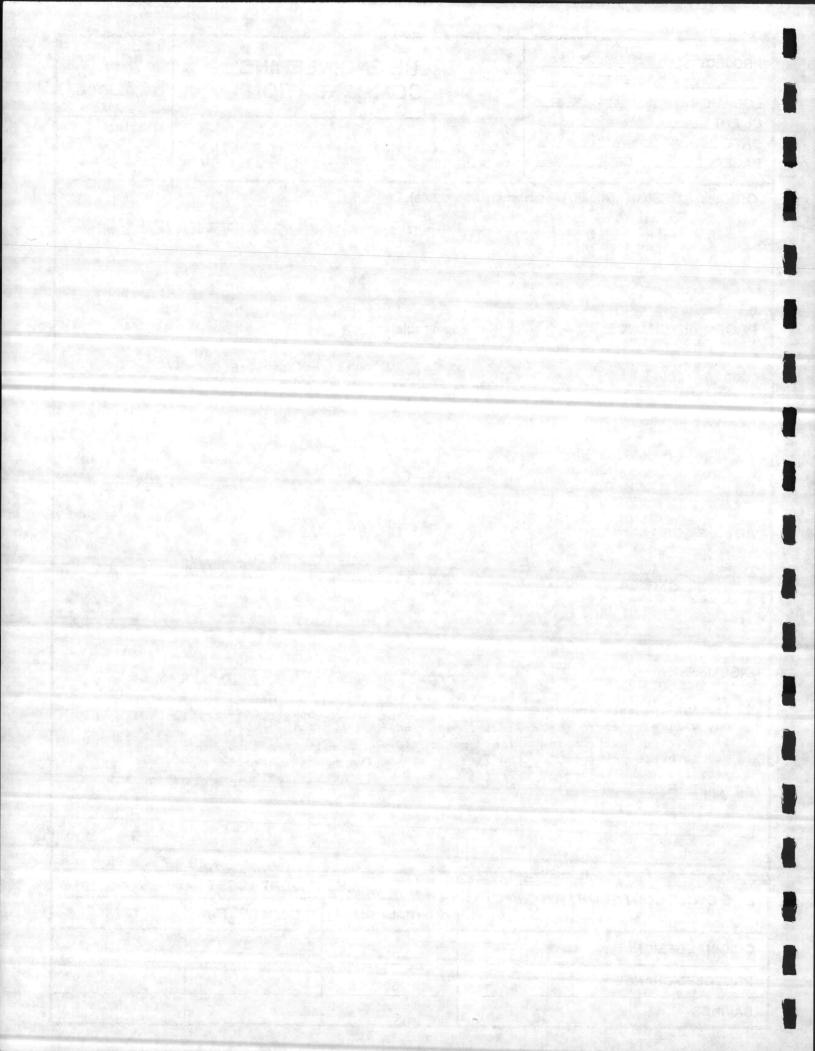
#### **DISADVANTAGES:**

Reduce Costs Allows existing waterline to remain in use Hydraulic problems during fire

#### **DISCUSSION:**

Leaving the existing 2" waterline in place will not only reduce the removal costs but will also improve the function of the 2" waterline by having an uninterrupted flow during construction. There may be some hydraulic problems during fire which may be overcome by taping the fire line from the new 8" waterline and taping the 8" waterline back to the 2" existing waterline at the back of building making a complete loop.

LIEE CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN						
PROPOSED CHANGE						
SAVINGS		Design Suggestion				



PROJECT _	G	YMNASIU	M
		P-133	Garages.
LOCATION	NEW	RIVER,	N.C.
CLIENT	N/	AVFAC	
DATEA	UGUST	27-31,	1984
DACE	1	OF	5



ITEM

REARRANGE PILE GROUP SYSTEM OF NEW RIVER BUILDING

ITEM NO.

SJ-16

ORIGINAL DESIGN: (Attach sketch where applicable)

The original design shows 139 timber piles to support the structure. (See DWG. 9 of 14)

PROPOSED CHANGE: (Attach sketch where applicable)

The VE team suggests reducing the number of piles to 121 by increasing the pile spacing and eliminating the piles under the non-load bearing walls. (See attached drawing)

#### **ADVANTAGES:**

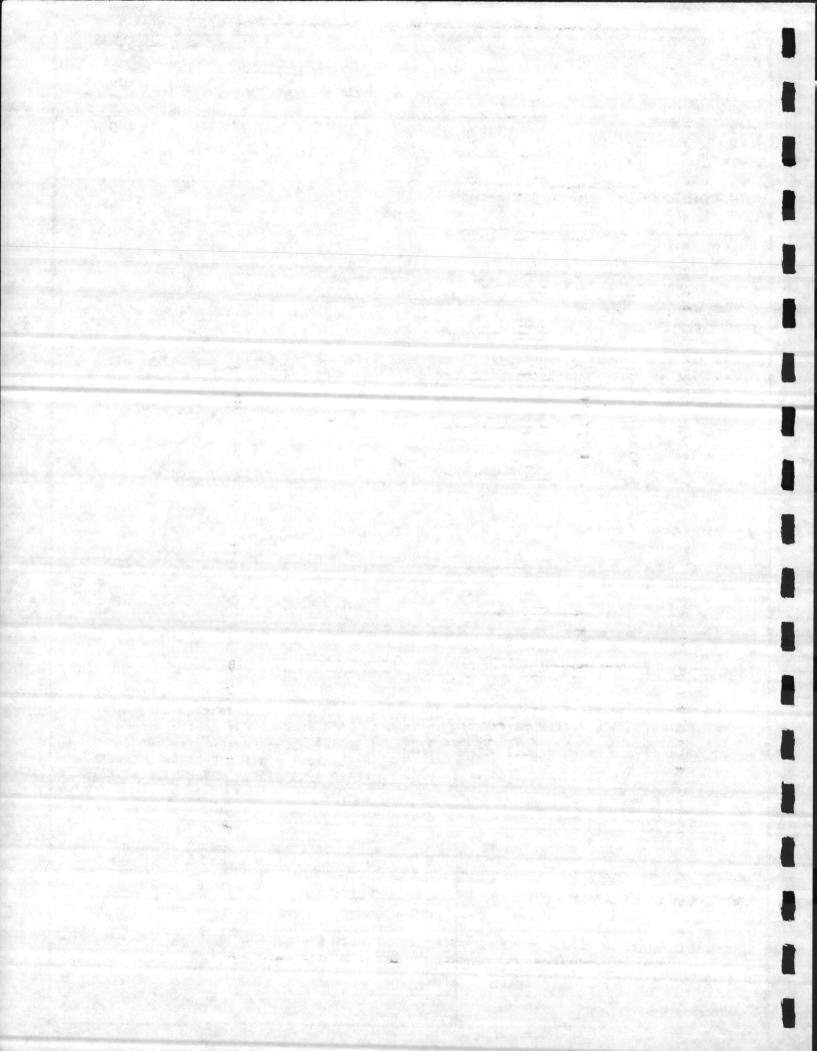
**DISADVANTAGES:** 

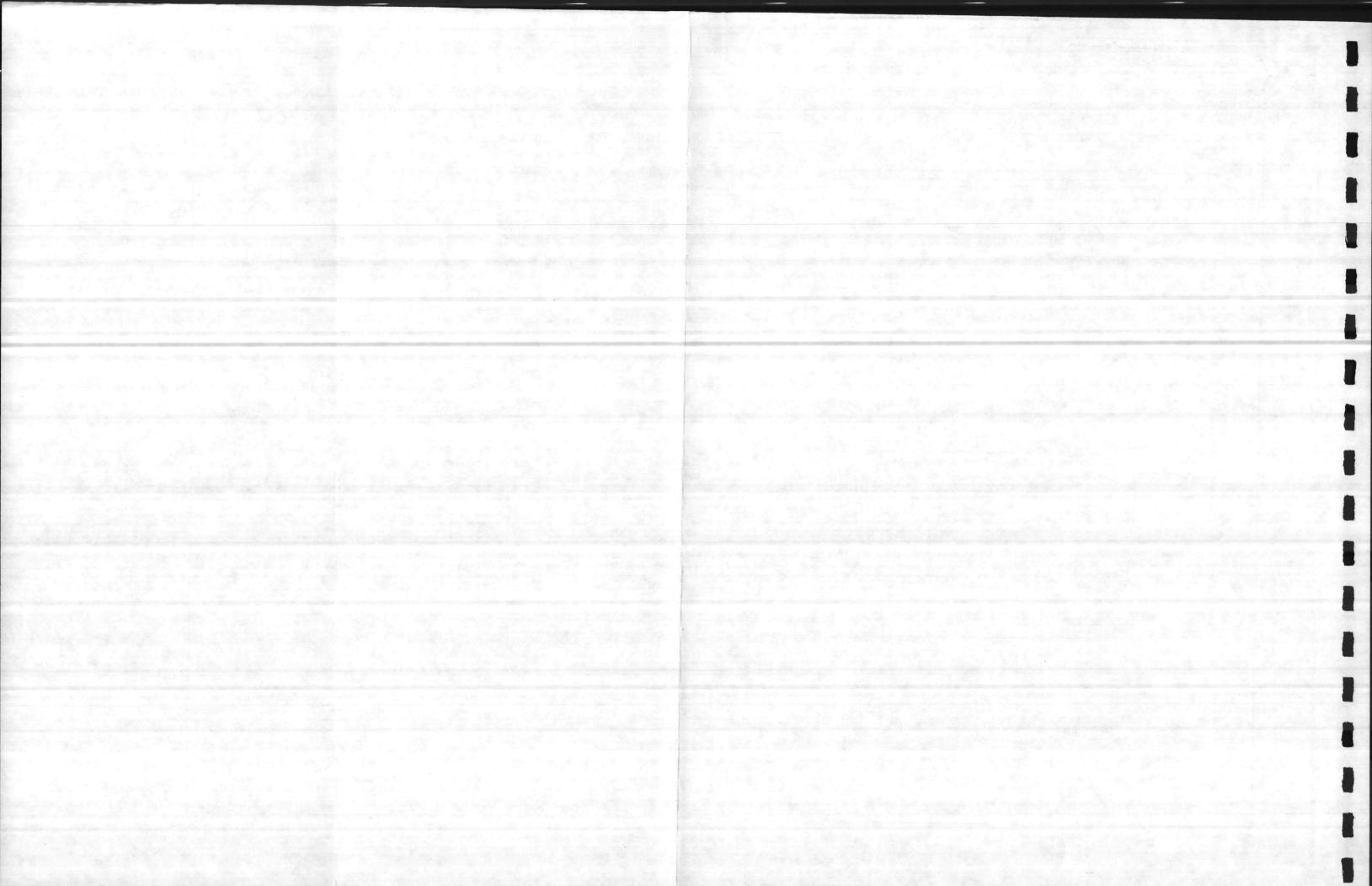
Reduct Costs

#### DISCUSSION:

The non-load bearing walls may be supported on a thickened grade slab thereby eliminating the need for piles. By increasing pile spacing and rearranging piles the total number of piles is reduced from 139 to 121. 10" square prestressed concrete piles may be used in lieu of timber piles (per soils report for Camp LeJeune site). The use of prestressed piles will change pile spacings and will result in foundation redesign.

LIEF CYCLE COST SUMMARY	PRESENT WORTH COST SAVINGS					
LIFE CYCLE COST SUMMARY	INITIAL COST	O & M COSTS	TOTAL			
ORIGINAL DESIGN	62,000		62,000			
PROPOSED CHANGE	51,000		51,000			
SAVINGS	11,000		11,000			







NEW RIVER GYM.

Subject

Ang. 27-31, 84 SJ-16

Date Project No.

Drawn By

(A). original Design:

Total No. of Piles = 139

Total Cost: \$\\$62,000.00

(From Original Cost estimates).

(B). Proposed Design:

1. WALL (1) - EXTERIOR EAST WALL.

 $w = (5208 + 840)^{\#}|FT. = 6048^{\#}|FT.$ (From original calcs.)

Pile capacity = 40 K

Net pile capacity = 38 per pile (Assume 2 kips for pile cap for one pile)

: 2 PC spacing : 76k/6.05

= 12.56 ft.

say 12'-6"

2. ±NTERIOR WALL (Between Gym. & Service Lea):  $\omega = (4770 + 1350) = 6120 \# ft$ .

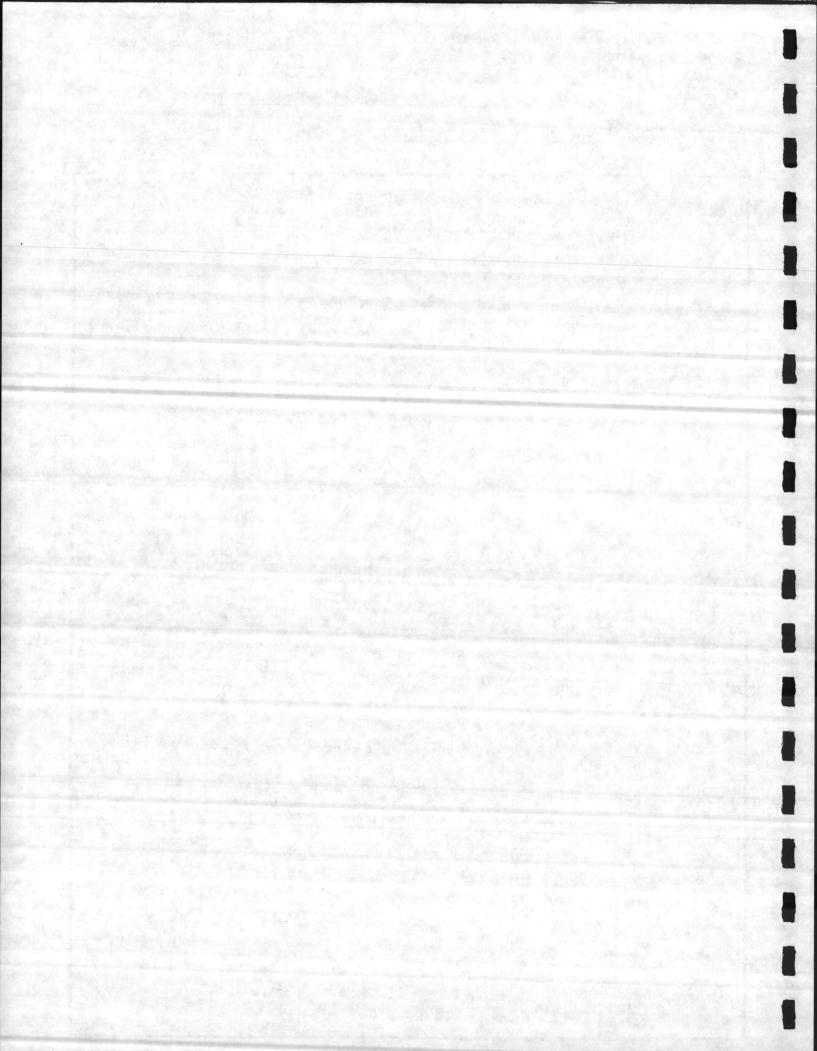
i. for 2-f.c. spacing. =  $76^{k}/6.12 \times 12^{i}-6''$ 

3. INTERIOR WALL (Between Service Area & Racquet\_ Hand Ball counts):

> WLL = (25.5 + 23.67) x 20 psf = 984 #1/2. WDL = 114 psf x 25' + (25.5+23.67) x 24 psf.

> > = 2850+1180 = 4030 +1 /2.

-W= 984 + 4030 = 5014 # 1A.





Subject

Date

SJ-16 Project No.

Drawn By

: 2 Pe spacing. 76/ 5.02 = 15 ft.

4. EXTERIOR WALL ( WEST WALL - RACQ. /HANDBALL):

WDL = 150 x 25 + 24 x 24 = 3750 + 576 = 4326 # /fe.

WLL = 24×20 = 480 # /ft.

: W = 480+4326 = 4806 # | ft.

: 21c Gacing: 76 / 4.81 \$ 15-6"

5. EXT. NORTH & SOUTH WALLS - GYM. AREA :

WDL = 2.0 x 24 + 150 x 2 B = 48 + 4200 = 4248 / h.

WIL = 2 x20 = 40 #1 fz.

: W= 4248+40= 4288 # / fz.

" 2PC spacing: 76 / 4.29 " 17-6"

spacing per pile: 38 /4.29 \$ 8-6"

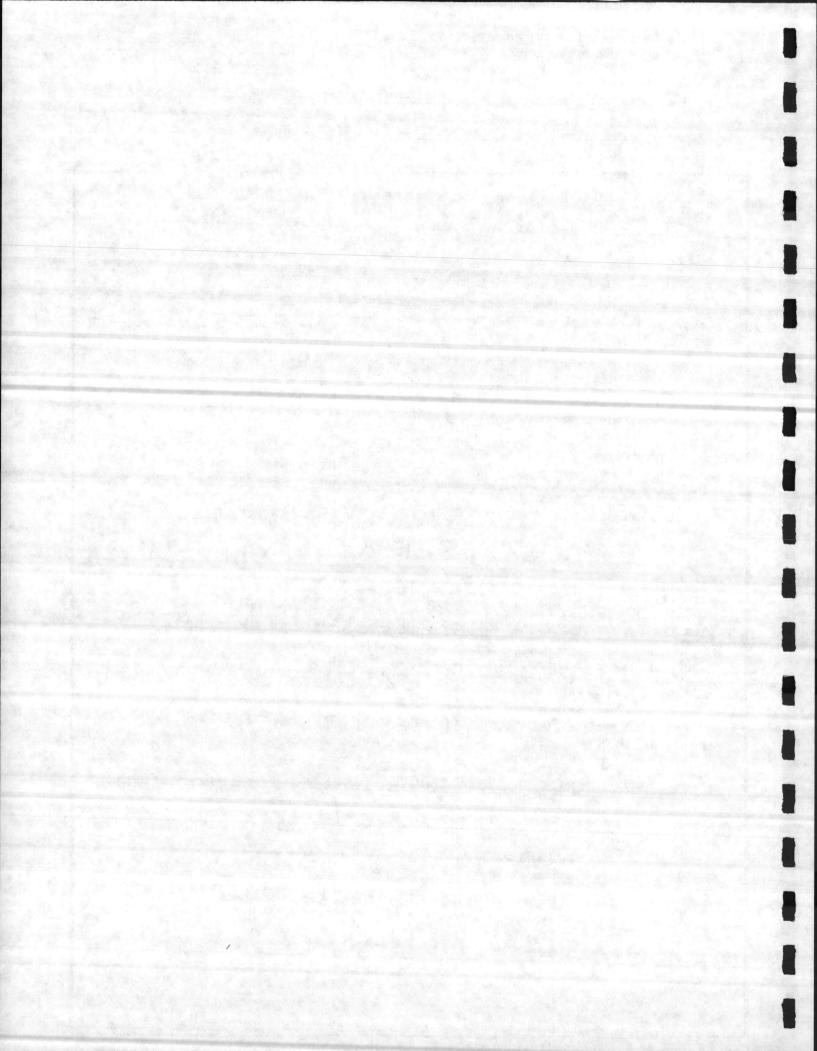
6. EXT. NORTH & SOUTH WALLS - RAFQ HAND BALL:

WOL = 2×24 + 150×25 = 48+3750 = 3798 1/2.

WLL = 2×20 = 40 #/2.

:W= 3798+40= 3838 # 12.

= spacing per Pile = 38/3.84 \ 9-6"





Subject

Date

SJ-16 Project No.

Drawn By

Total No. of Piles = 121 Length of each file = 40 ft. (as per soils Report.)

: Total length = 121×40 = 4840 ft.

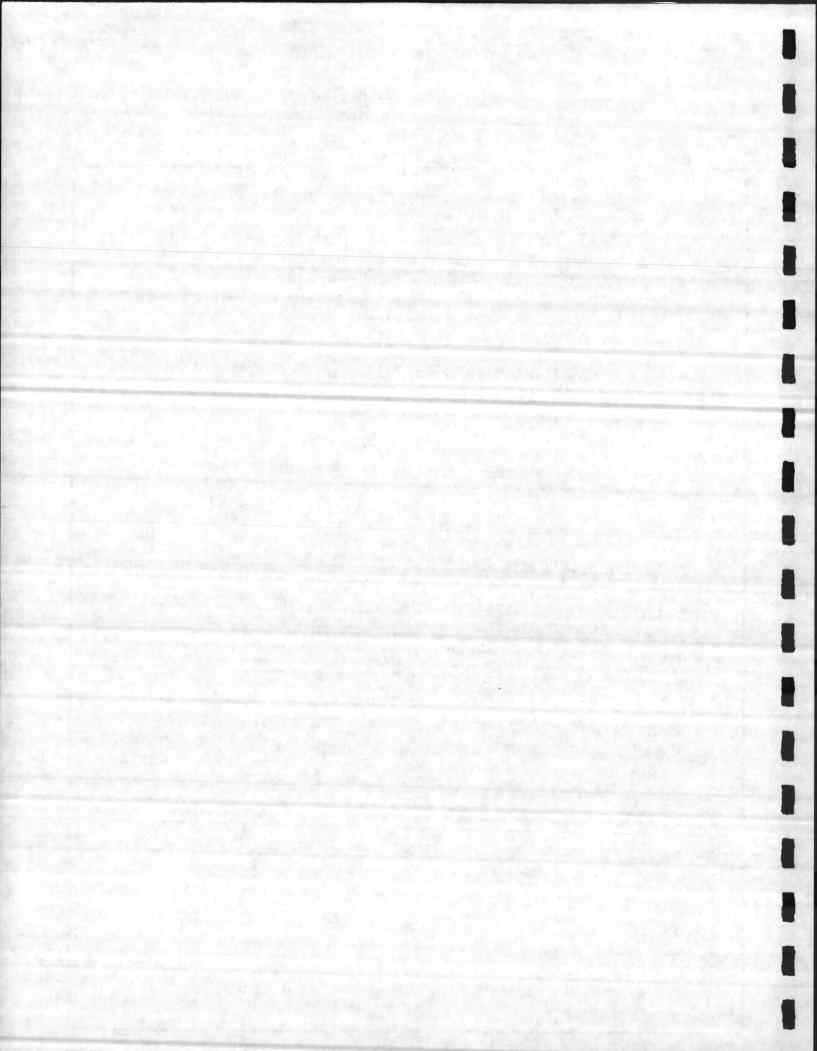
Total Gest = 4840 ft. x \$\frac{10.52/ft.}{} = 50,916.80

Say \$51,000.00

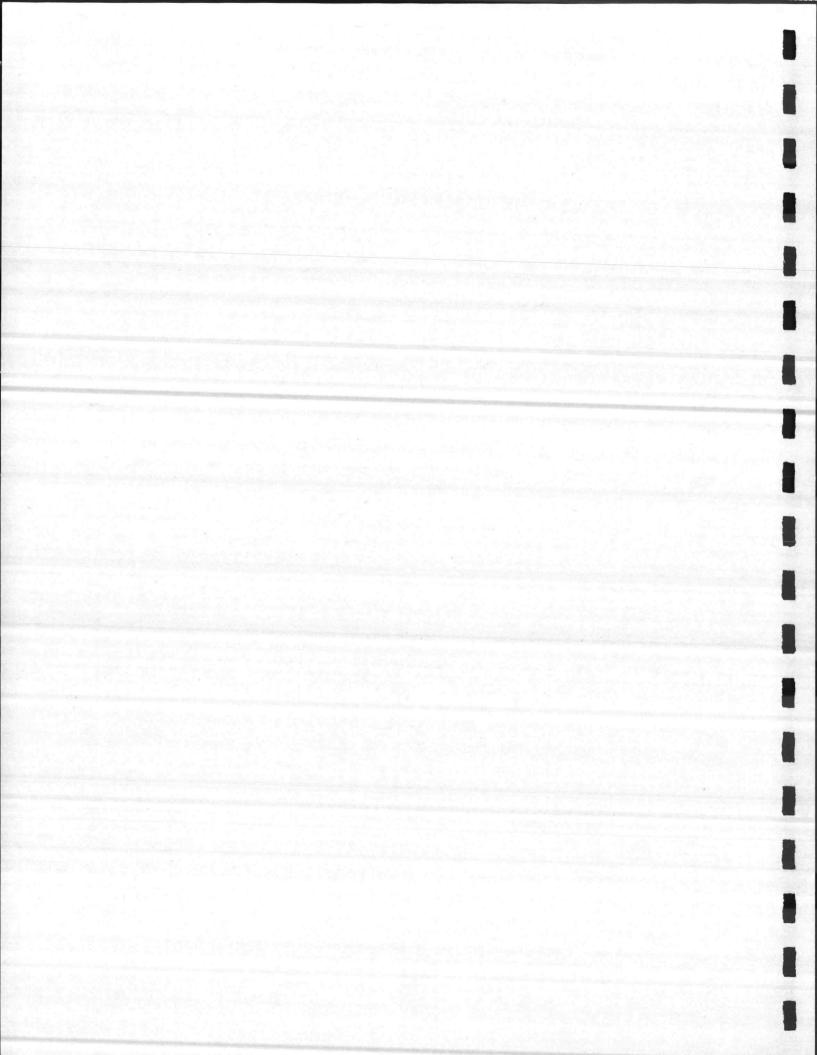
(c) Savings:

62,000.00 - 51,000.00

= \$ 11,000.00



DESIGN SUGGESTIONS



#### DESIGN SUGGESTIONS

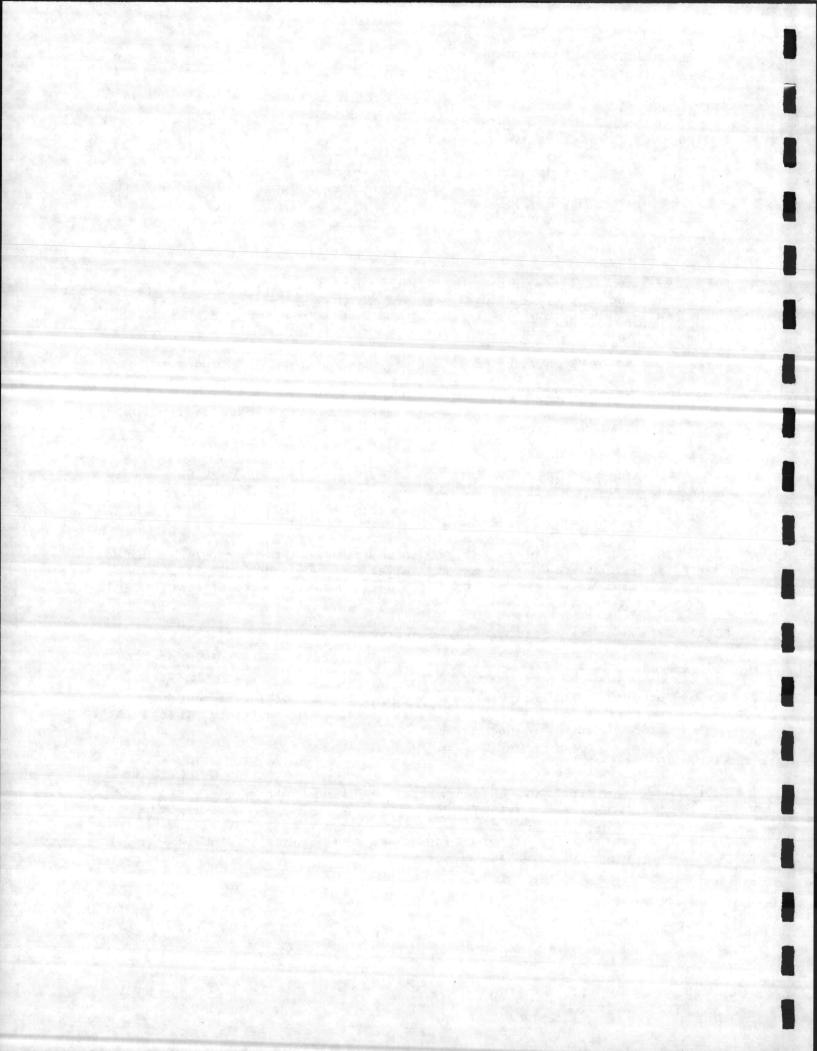
Design suggestions are recommendations that have not been costed, but which the VE team believes will be of benefit to the project. They are presented here for use by the designer, and are arranged in a similar format to the recommendations (which follow the same numerical sequence as the creative idea listing in Section 3.)

#### Building Construction (BC)

- BC-24 Present design drawings indicate a window in the north wall of the building to provide natural lighting into the gymnasium. The VE team suggests reducing the height of the window to avoid special detailing at brickwork soldier courses.
- BC-25 Similar to BC-24 except consider use of clerestory window concept.
- BC-27 The VE team questions the style of windows being proposed for the building. A less complicated and less expensive window system could be considered to reduce initial costs and improve maintenance.
- BC-35 It is customary to provide a standby hot water heating pump for a building of this type. Although climatically there may not be a freezing problem at the site locations, it might be desirable to provide a degree of reliability to the heating system, especially where wooden floors are being considered as a finish.
- BC-40 The VE team believes that it is desirable to provide drainpans under the hot water heating pipes and valves for the gymnasium heating and ventilating units. This would prevent possible occupant scalding and floor damage.
- BC-42 If two scoreboards are installed in the gymnasium, arrange the audio and control floor outlets to serve each divided half of the gymnasium as a system.
- BC-45 Consider purchasing the bleachers and fixed sports equipment shown in the cost estimate through a collateral equipment contract. This might reduce construction costs.

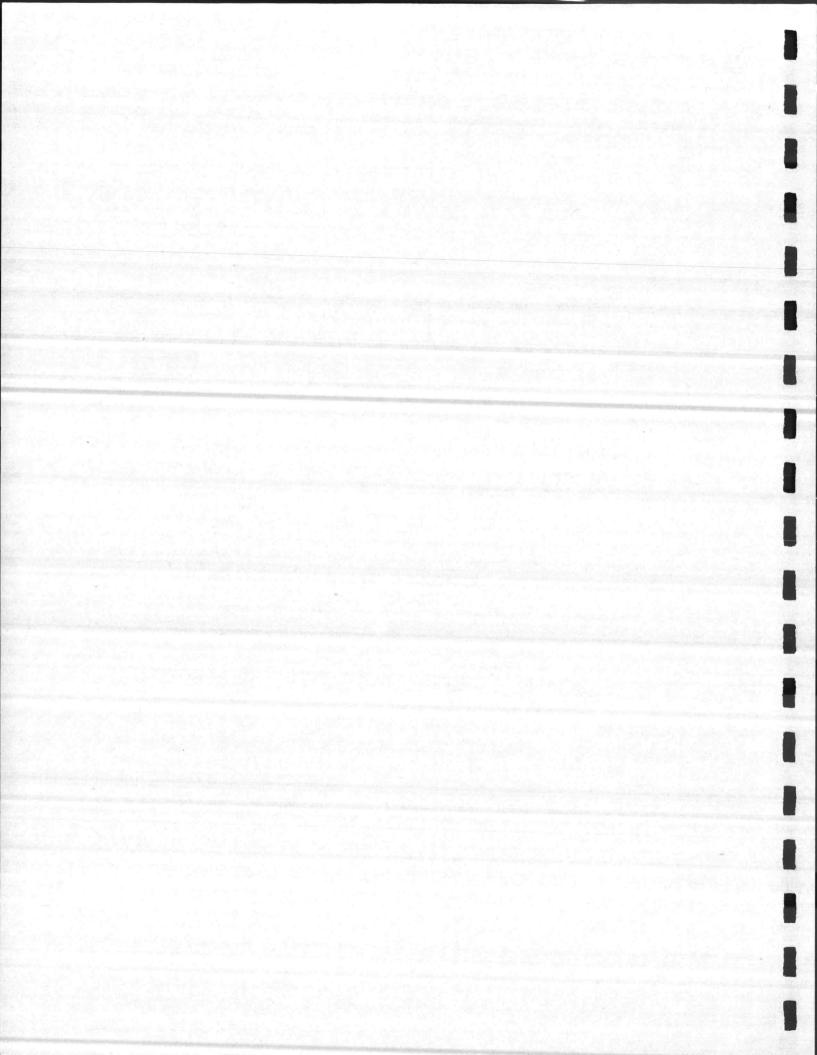
#### Sitework (Project P-065)

- SC-12 Move the steam and condensate return lines further north to provide more site area for future use.
- SC-14 Consider placing steam and condensate return lines in a shelved trench arrangement with the sanitary sewer.



## APENDIX

VE TEAM COST ESTIMATE VALIDATION
SUPPORT MATERIAL



6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

Sheef P-1

Subject

Date

@ 125

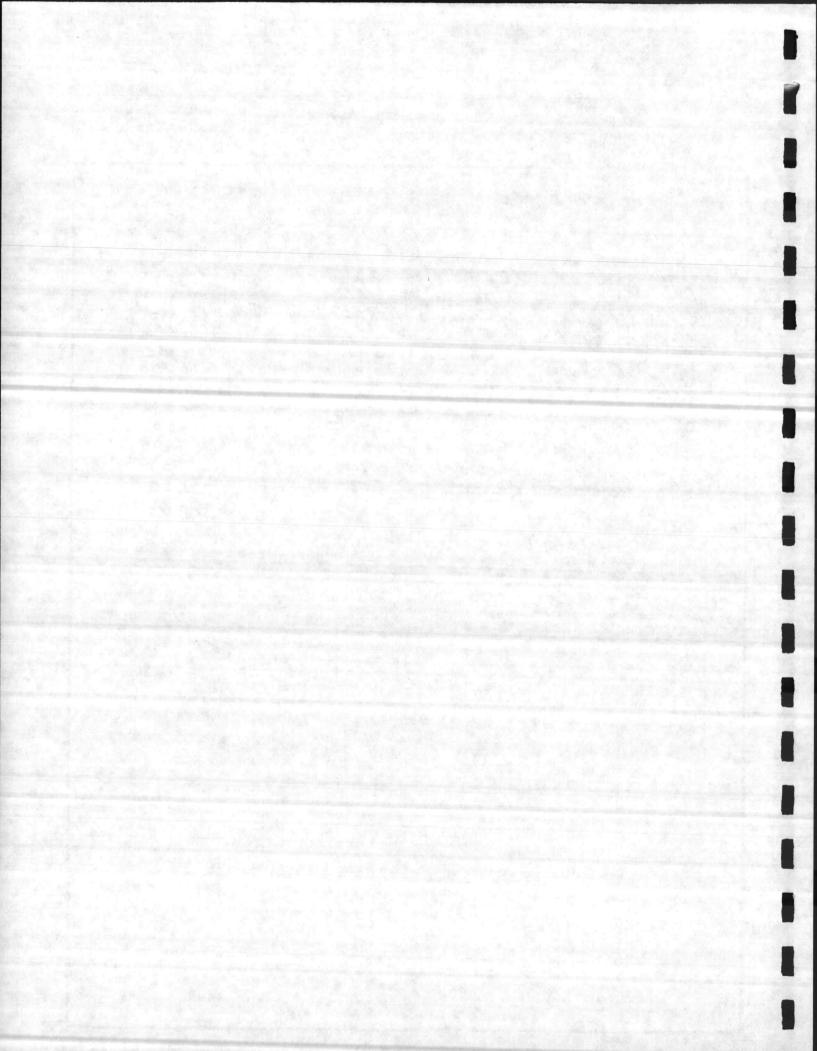
Project No.

Drawn By

12 Plumbing

10 Ex Showers @ 1250 Lavadorics 9 Ea e 510 Whirlpool Sink ZER e 4500 @ 1100 1 EL 1 Ez 500 Cooler 4 6% 600 @ 800 hover closet SEZ @ 950 5 Ec urinals Floor Drains 800 @ 250 @ 400 11 Elev. 462 Shower Drain Clather washer @ 110 10 th

14. W. Gen 5955 Pump mark up





Subject

6110 Executive Boulevard, Suite 822 Rockville, Maryland 20852 301/984-9590

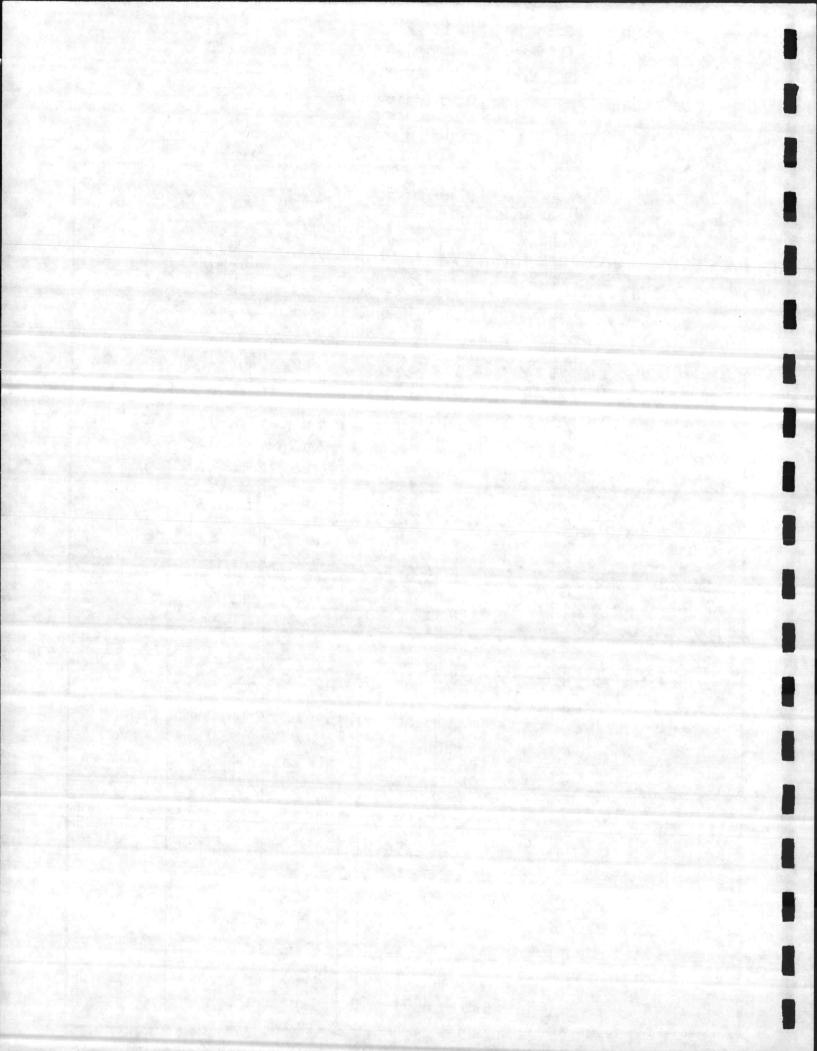
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Project No.

Drawn By

Date

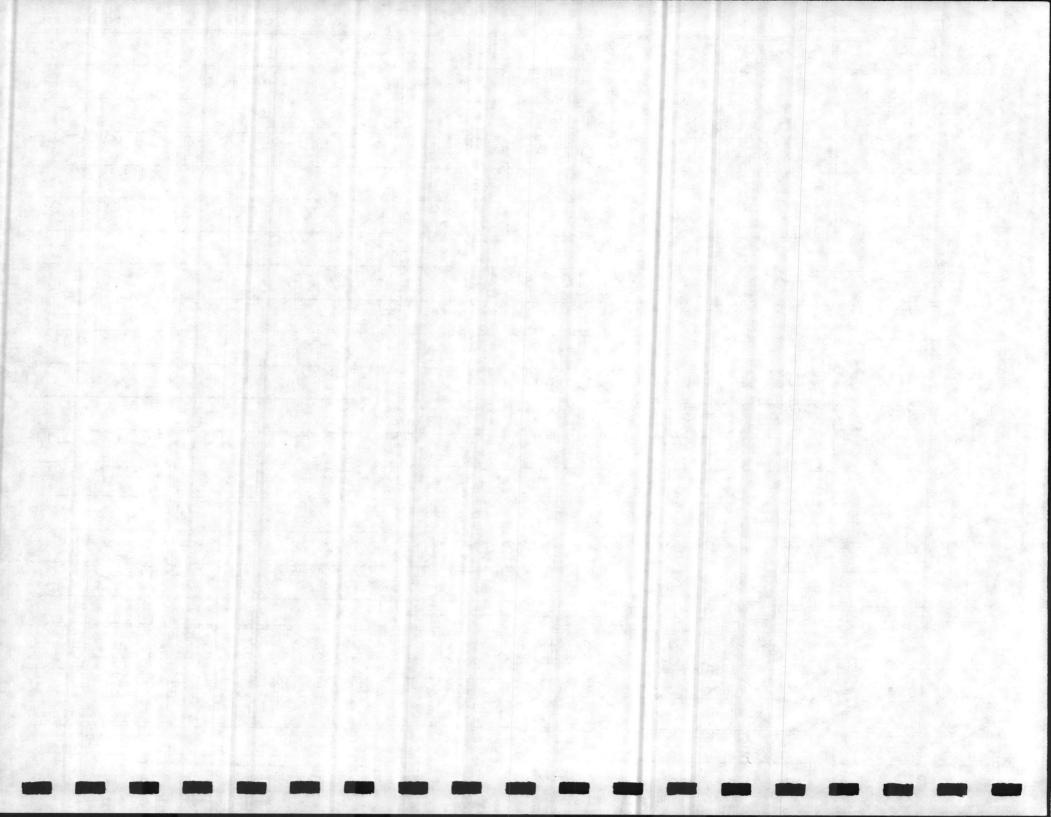
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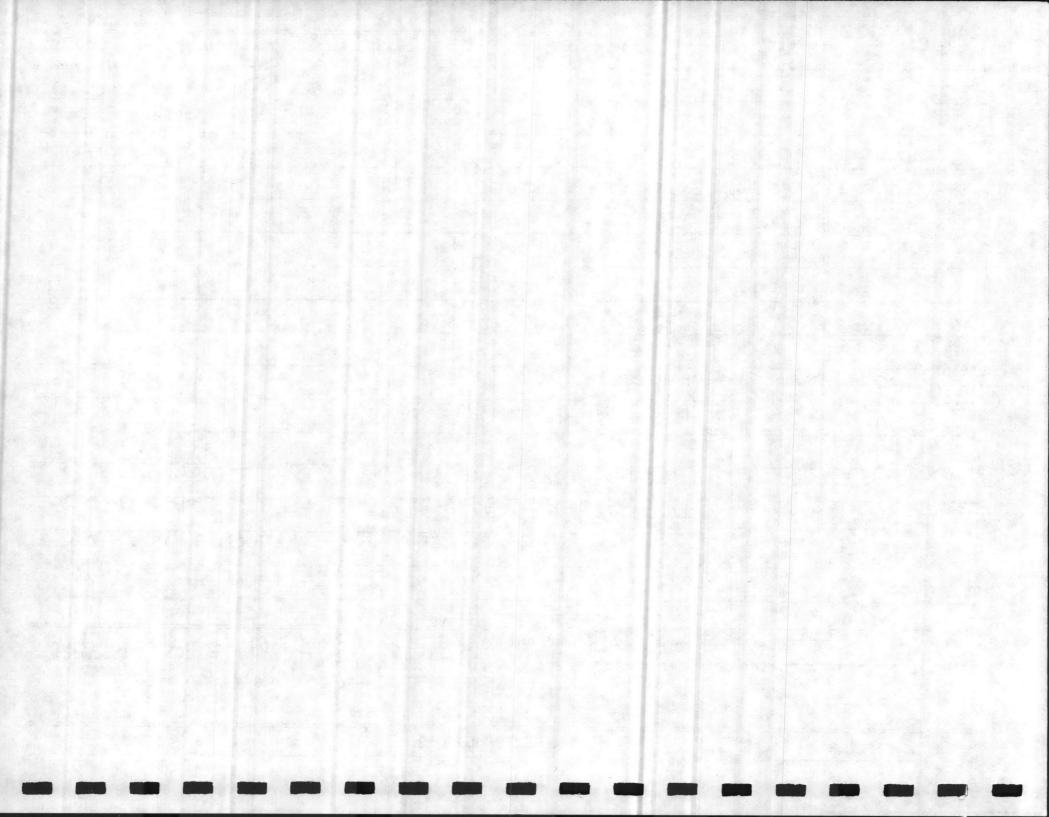
ALTERNATION



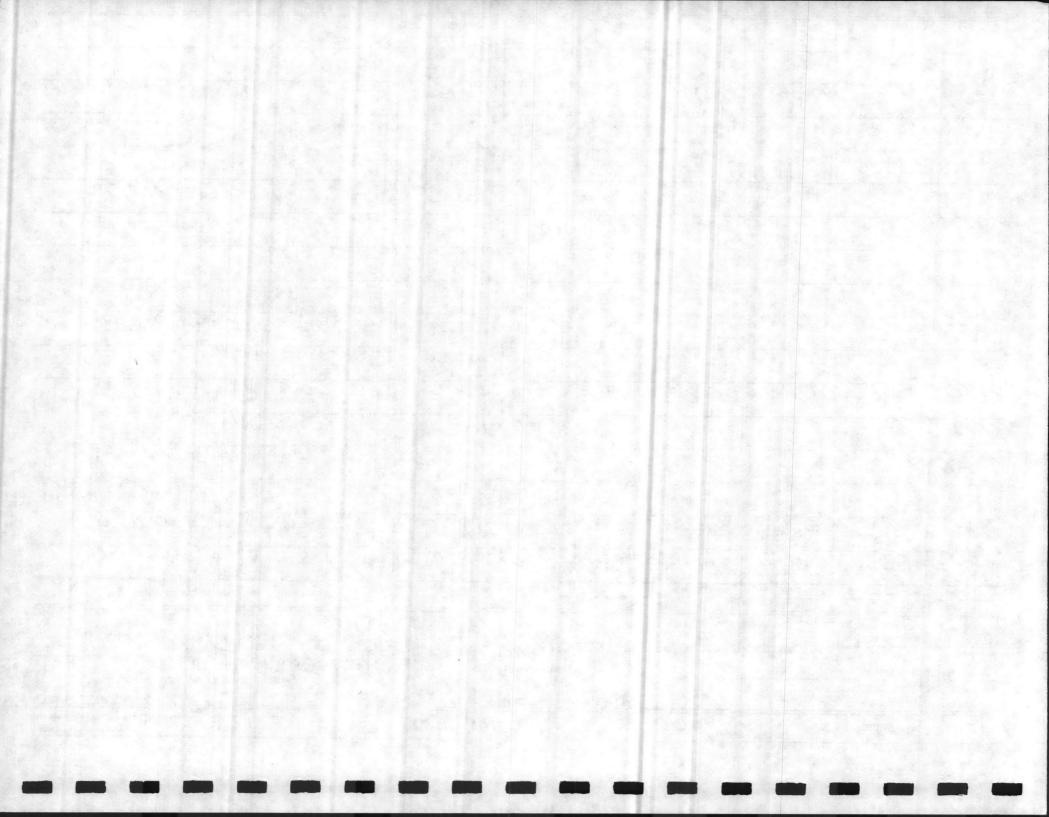
DATE PREPARED SHEET NAVFAC 11013/7 (1-78) **COST ESTIMATE** Supersedes NAVDOCKS 2417 and 2417A IDENTIFICATION NUMBER CONSTRUCTION CONTRACT NO. ACTIVITY AND LOCATION 84-8- 6808 N62470 -Marine Corps Base CATEGORY CODE NUMBER Camp Lejeune, North Carolina /Cheatham and Associates PROJECT TITLE H.065 JOB ORDER NUMBER STATUS OF DESIGN 64MNASIUMS FINAL Other (Specify) 100% ENGINEERING ESTIMATE LABOR COST MATERIAL COST QUANTITY TOTAL TOTAL **UNIT COST** ITEM DESCRIPTION TOTAL **UNIT COST** NUMBER UNIT **UNIT COST** AIRCOOLED CONDENSING 7645 390 2645 390 7755 2755 5TONIS UNITS 1660 2298 140 21/270NG 410 3 6210 1478 EA AIR HANDLING UNITS W DX COILS & HW COILS 1010 1610 1470 200 1470 200 2000 CM 543 115 3453 7910 181 EN 970 1000 CIM DIR HANDLING UNITS NY HW. HEATING CALS. 2,000 4000 CTM FA 500 3000 200 2100 60C 4620 93600 3380 FA 1600 7760 800 1500 CEM STEAM PRESSURE PRESS 2500 2500 EA ZOOO 500 15,00 STATION 7000 1621 624 EA 1500 170 110 1504 CONVERTOR 22777 4373



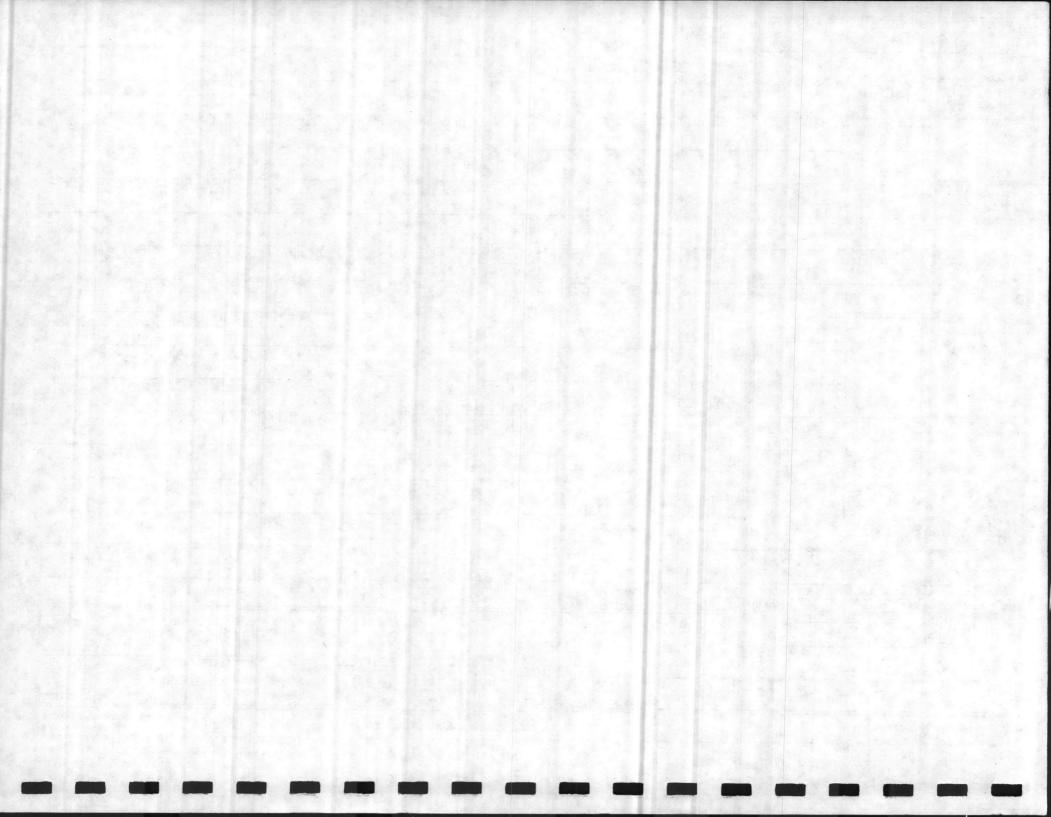
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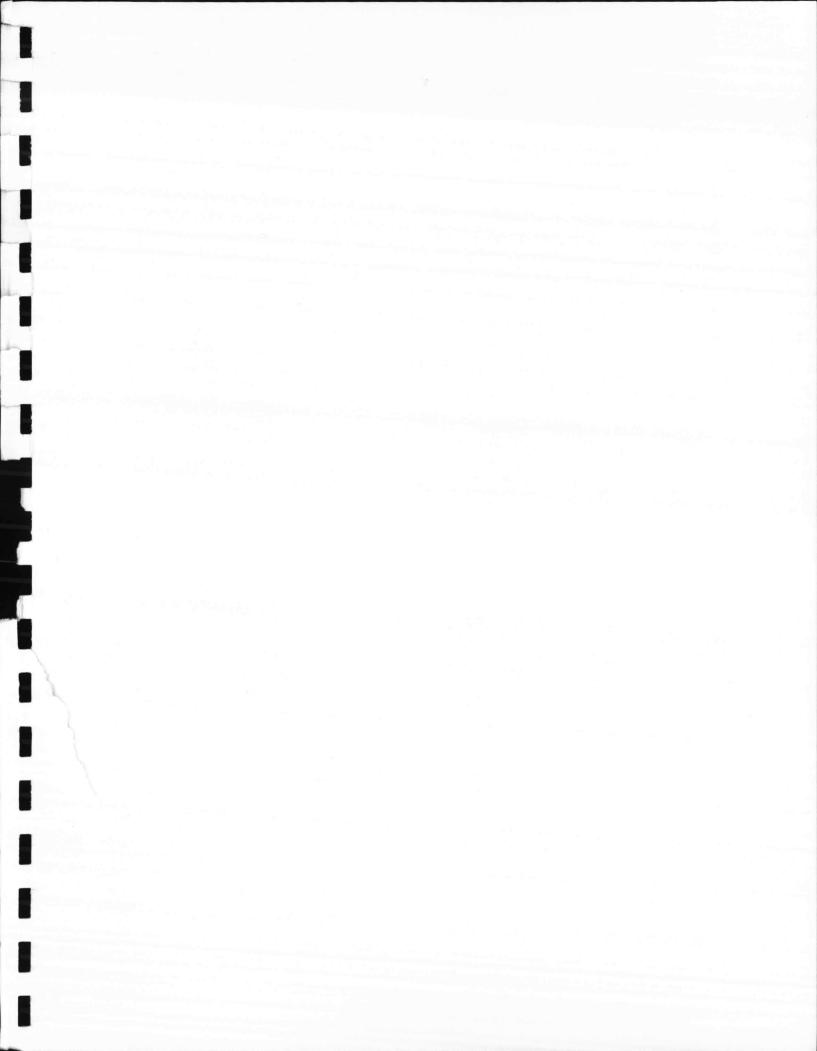


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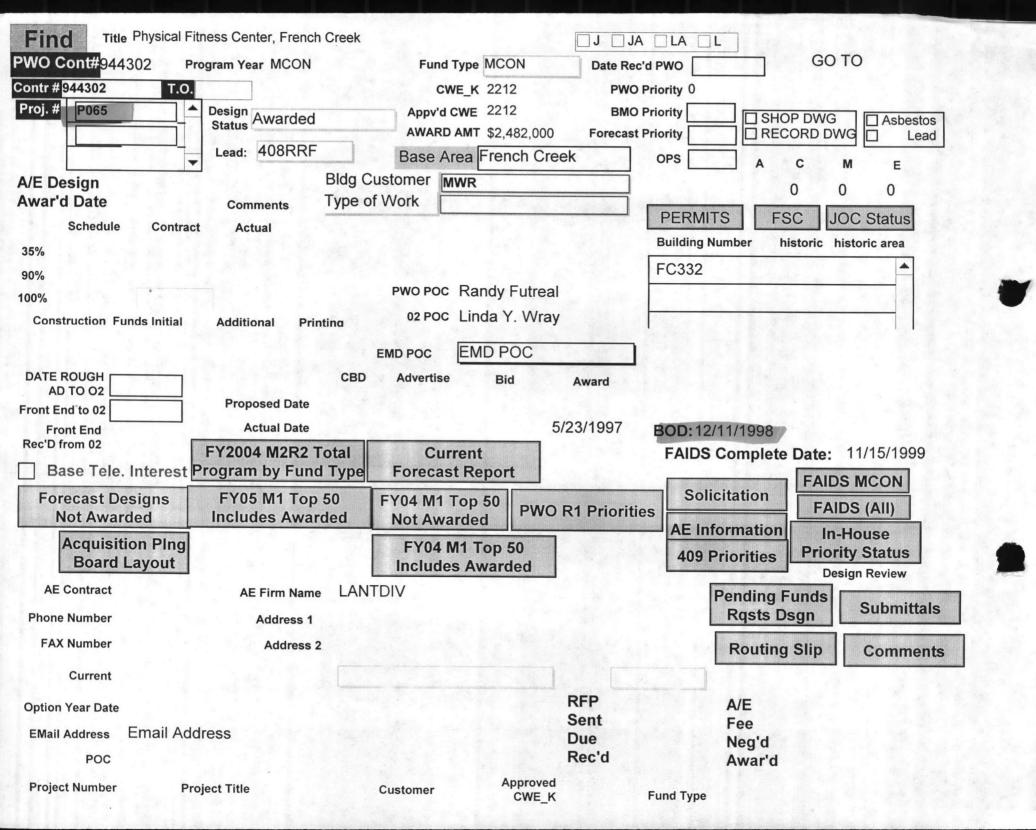


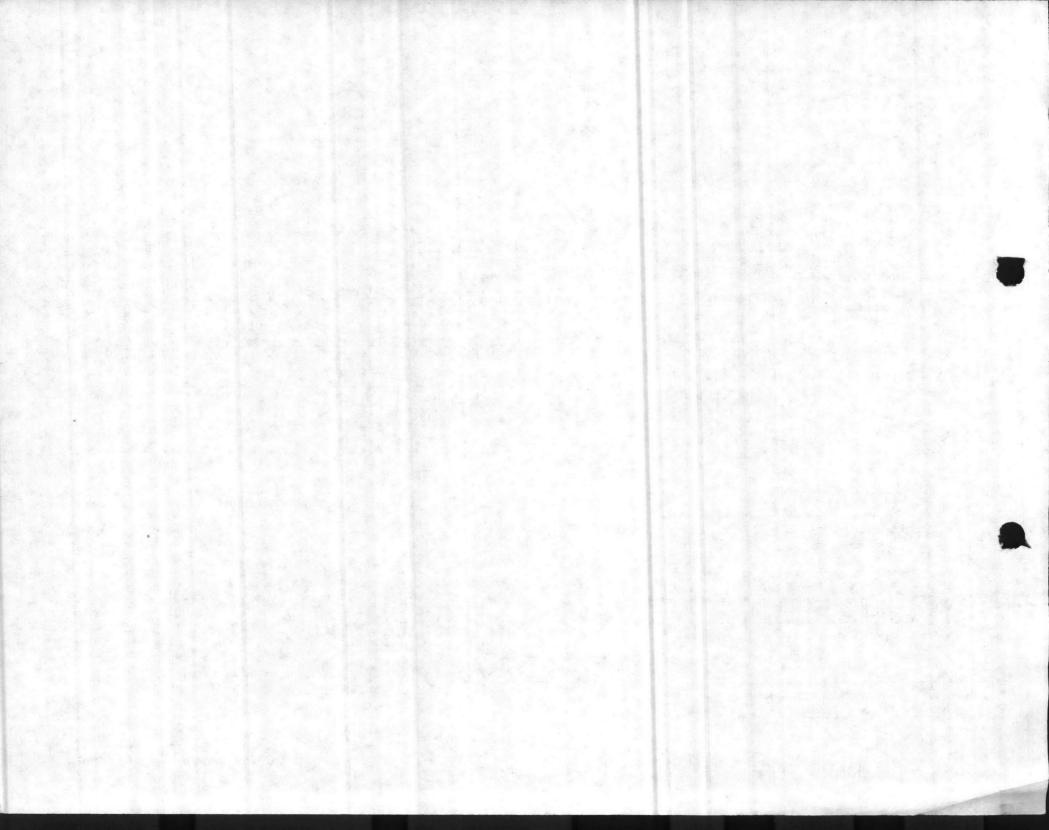
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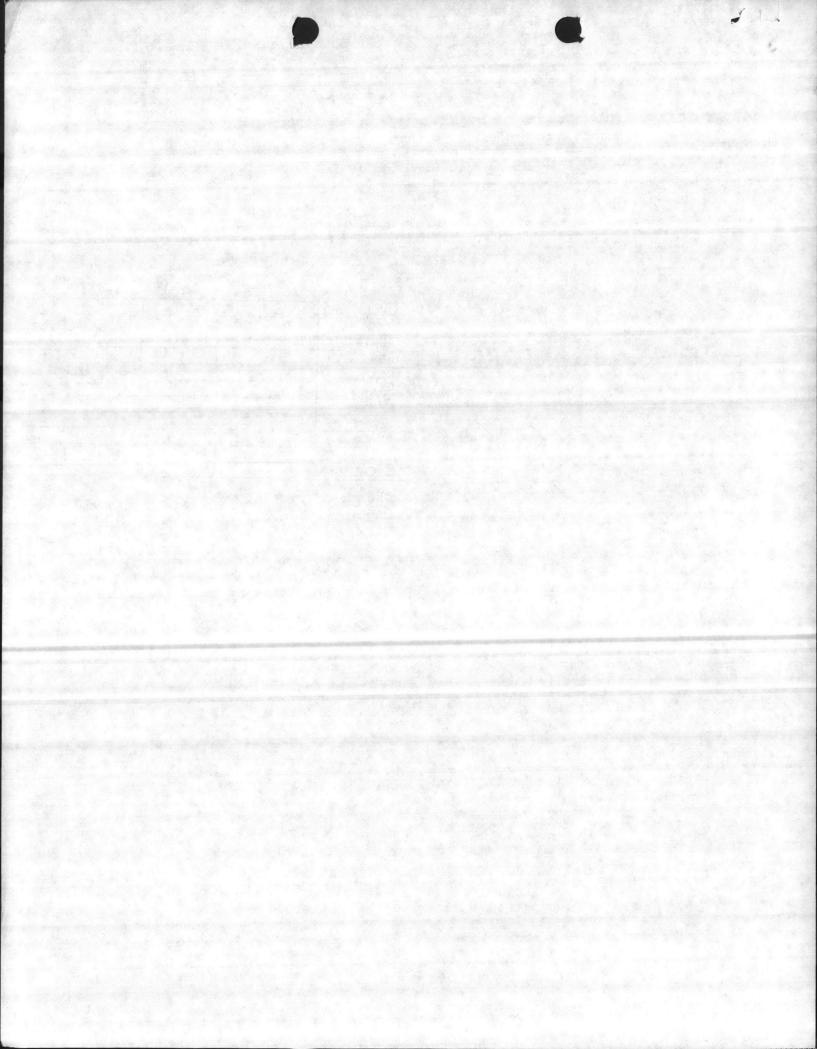




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COMMENTS: What in the 86 Surge imp. Mysut?



11000 PWO AUG 1 5 1986

Commanding General, Marine Corps Base, Camp Lejeune From:

Commandant of the Marine Corps (LFF-1) To:

MILITARY CONSTRUCTION PLANNING AND PROGRAMMING GUIDANCE, Subj: MARINE CORPS BASE, CAMP LEJEUNE, NC

(a) CMC ltr 11000 over LFF-1 dtd 8 Jul 1986 Ref:

(b) PHONCON btwn Ms. Susan Moriarity (CMC LFF-1) and Mr. F. W. Estes (PubWks, MCB, CLNC) of 4 Aug 1986

(c) CMC msg Ø5Ø129Z Aug 1986

(1) NAVMC 10956 Summary for Correction of Facility Encl: Deficiencies for FY-86 through FY-93 dtd 15 Aug 1986

(2) NAVMC 10956 Summary for Correction of Facility Deficiencies for all Navy Centrally Managed Projects dtd 15 Aug 1986

Reference (a) provided guidance for the Camp Lejeune Military Construction Program specifically requesting our proposed program for FY-90 through FY-93; and a separate enclosure listing all Navy Centrally Managed projects. Reference (b) requested a listing of Military Construction projects for FY-86 through FY-89 be added to our submission. Reference (c) requested Navy Centrally Managed project documentation which will be submitted with the FY-90 program by 15 September 1986.

2. In accordance with reference (a) through (c) enclosures (1) and (2) are hereby submitted.

> B. W. ELSTON By direction

Copy to: CG, FMFLANT (G-4) CG, 2D MARDIV CG, II MAF CG, 6th MAB

Blind copy to:

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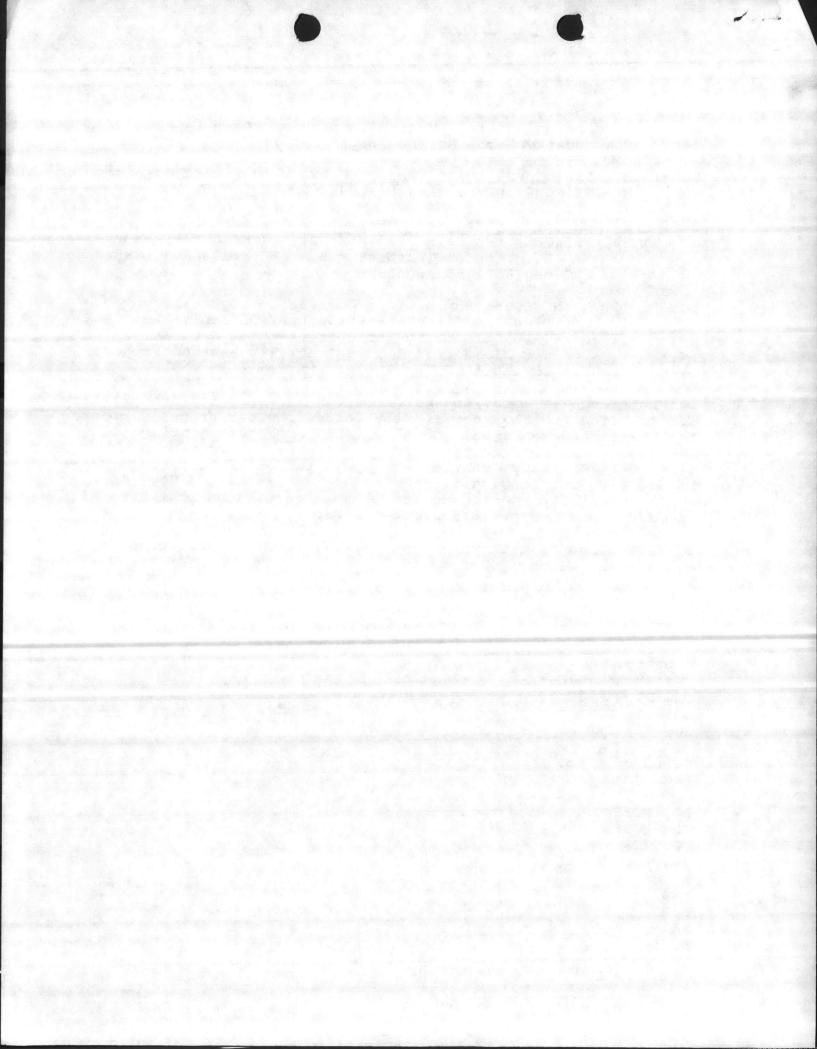
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CLASSIFICATION RE

REVISED°

HAMMARY FOR CORRECTION OF FACILITY DEFICIENCIES

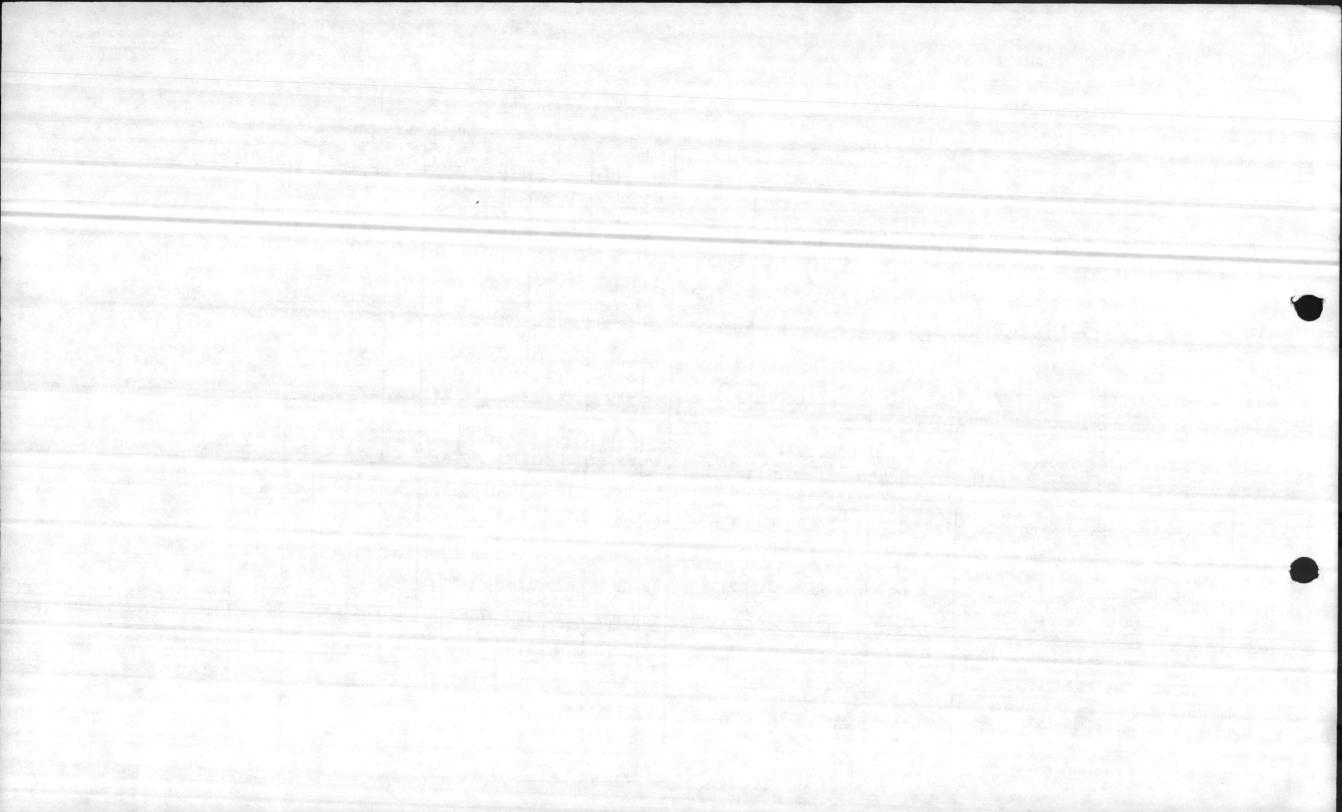
E. MC CODE D. AREA COORD. CODE " TING ACTIVITY AND LOCATION 67001 05A 8270-175 MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 L. BASED ON NAVMC 10801 DATED J. UIC . . A TIVITY AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 % REO. SATISFIED SCOPE REMARKS ESTIMATED MASTER COST (\$000) CATEGORY PROG. MOS. PROJECT TITLE AUTH. FUND WITH W/0 U.M. QUANTITY 15 11 12 13 14 7 . 9 5 MARINE CORPS BASE 24 90 90 MCON LS | 3,000 \* P-887 KA 051-20 WALLACE CREEK BRIDGE MARINE CORPS BASE AC 45,000 90 90 MCON P-869 KA 52,000 911-10 LAND ACQUISITION HO, 2ND FSSG MCON P-057 EA 60,444 SF 6,900 90 90 15 1B 100 0-70 DIV OPERATIONS CENTER FC 2nd MAINT BN, 2ND FSSG P-804 EA 210,300 SF 19,000 16 75 28 90 90 LB 214-53 FLD MAINT COMPLEX (INC 3) FLD MED SCH, CAMP GEIGER C MCON P-828 GA 37,308 SF 3,400 90 90 14 1B 100 Ø 171-20 FLD MEDICAL SVC SCHOOL FAC 8th MAR, 2D MARDIV PN 16,000 90 90 100 94 F MCON 20 P-630 DA 777 721-11 BACHELOR ENLISTED QUARTERS 8th MAR, 2D MARDIV 90 90 A MCON SF | 3,350 12 B 90 83 28,635 P-196 DA 214-51 COMBAT VEHICLE MAINT SHOP 8th MAR, 2D MARDIV 8 90 90 97 81 4,100 12 29.775 SF P-644 DA 217-10 ELEC/COMM MAINT SHOP ANTI-TANK BN, 2D MARDIV 90 90 100 0 12 45,632 SF 6,000 P-881 DA 214-51 ANTI-TANK MAINT FACILITY MARINE CORPS BASE 10 MCON 90 90 16 IB · 39 32 4.000 60 PN P-849 KA 724-11 BACHELOR OFFICERS OTRS MARINE CORPS BASE 11 MCON 90 90 100 SF 5,400 14 LB I P-842 DA | 42,500 10-20 REGIONAL AUTOMATED SVC CEN 2ND FSSG MCON 90 90 . 44 P-065 EA 21,000 SF 2,200 14 B 740-43 GYMNASIUM HOUSING, MARINE CORPS BASE 13 P-824 KA 11,040 SF 2,100 90 90 MCON 100 Ø 14 B 730-83 CHAPEL, TARAWA TERRACE MARINE CORPS BASE 14 MCON 4.500 90 90 12 851-10 RD IMPROV BREWSTER BLVD (OP) P-672 KA - LS MARINE CORPS BASE 15 90 90 20 100 MCON P-853 DA 925,000 2.150 GA 124-50 VEHICLE READY FUEL STORAGE \*First time submission

ENCL

U. S. GOVERNMENT PRINTING OFFICE: 1975-627-317/564 3-1

CLASSIFICATION

SHEET 1 OF 1





## UNITED STATES MARINE CORPS

Marine Corps Base Camp Lejeune, North Carolina 28542-5001

IN REPLY REFER TO: 11000 PWO

2 9 SEP 1986

From: Commanding General, Marine Corps Base, Camp Lejeune To: Commandant of the Marine Corps (LFF-1)

Via (1) Commander. Atlantic

(1) Commander, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA 23511-6287 (ATTN: Code Ø9A21B3/Code 407)

(2) Commander, Naval Facilities Engineering Command 200 Stovall Street, Alexandria, VA 22332

Subj: FY-90 MILITARY CONSTRUCTION (MCON) PROGRAM FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

Ref: (a) MCO Pl1000.12B

(b) CMC ltr 11000 over LFF-1 dtd 8 Jul 86

(c) CMC msg Ø5Ø129Z Aug 86

(d) CG MCB CLNC msg 191422Z Aug 86

(e) CMC msg 210124Z Aug 86

Encl: (1) Revised NAVMC 10956 Summary for Correction of Facility
Deficiencies for FY-90 MCON program dtd 30 Sep 86

(2) FY-90 MCON Program:

P-887, Wallace Creek Bridge, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069 Request for Site Approval with Site Location Map dtd 30 Sep 1986

P-869, Land Acquisition, consisting of DD Form 1391/ 1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd

24 Feb 86

P-057, Division Operations Center, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 22 Sep 81

VP-804, Field Maintenance Complex (Increment 3), consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval

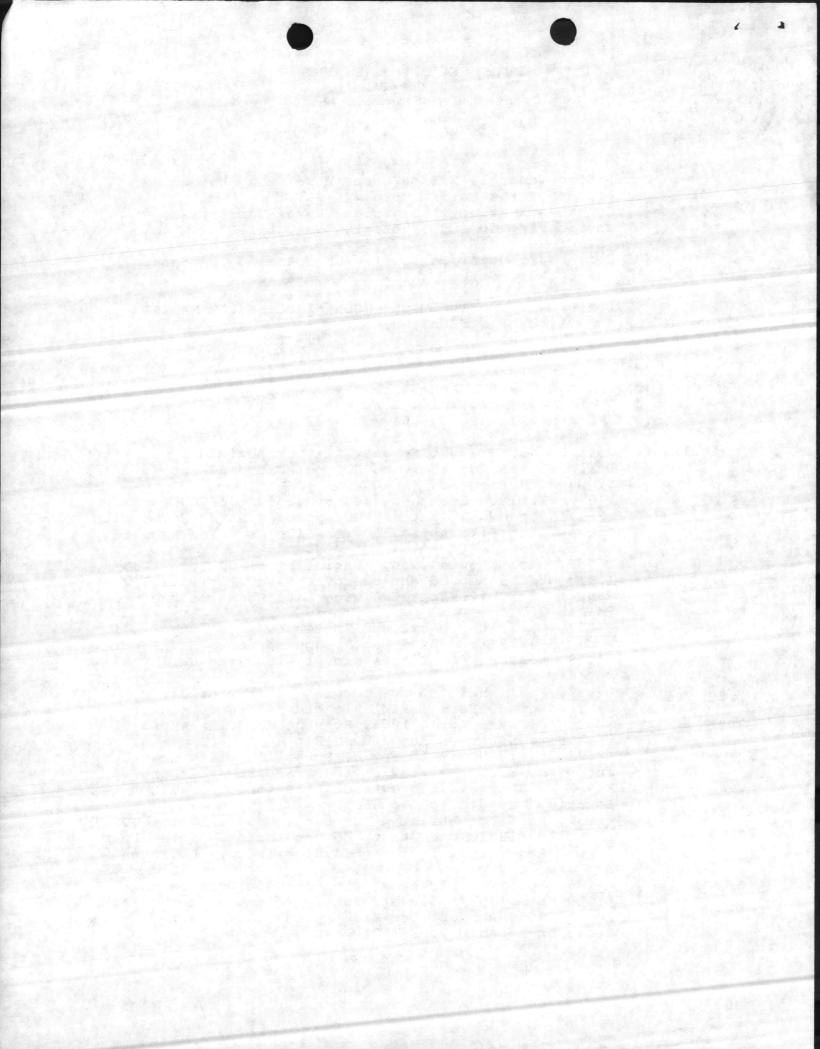
with Site Location Map dtd 30 Sep 86

P-828, Field Medical Service School Facility, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 18 Sep 86

Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location

Map dtd 18 Sep 86

OF P-196, Combat Vehicle Maintenance Shop, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 22 Sep 81



Subj: FY-90 MILITARY CONSTRUCTION (MCON) PROGRAM FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

COP-644, Electronics/Communications Maintenance Shop, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 22 Sep 81

P-881, Anti-Tank Maintenance Facility, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site

Location Map dtd 18 Sep 86

P-849, Bachelor Officers Quarters, consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 24 Jul 85

→ P-842, Regional Automated Service Center (RASC), consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval

with Site Location Map dtd 24 Jul 84

6/P-065, Gymnasium, consisting of DD Form 1391/1391c
dtd 30 Sep 86 and approved NAVMC Form 11069, Request
for Site Approval with Site Location Map dtd 16 Nov 81

P-824, Chapel (Tarawa Terrace), consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069 Request for Site Approval with Site Location Map dtd 30 Aug 82

P-672, Road Improvements (Brewster Blvd. Overpass), consisting of DD Form 1391/1391c and approved NAVMC Form 11069, Request for Site Approval with Site

Location Map dtd 24 Feb 86.

ot P-853, Vehicle Ready Fuel Storage, project package consisting of DD Form 1391/1391c dtd 30 Sep 86 and approved NAVMC Form 11069, Request for Site Approval with Site Location Map dtd 24 Jul 85

(3) NAVMC 10956 Summary for Correction of Facility Deficiencies for Navy Centrally Managed Program

(4) FY-87 Energy Conservation Investment Program (ECIP) \(\frac{P-799}{},\) Add Insulation to Above-Ground Steam Lines, project package consisting of DD Form 1391/1391c, Life Cycle Cost Analysis Summary and Approved NAVMC Form 11069 with Request for Site Approval with Site Location Map, all dtd 14 Apr 86

(5) FY-89 Navy Occupational Safety and Health (NAVOSH)

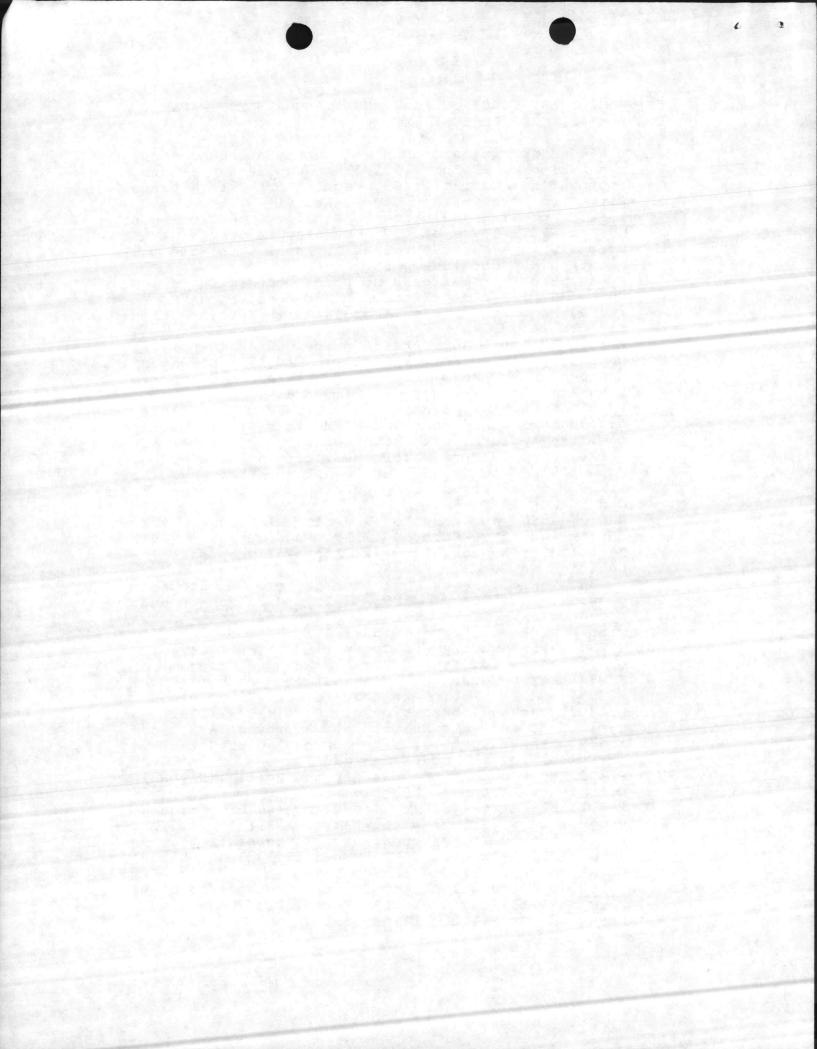
Deficiency Abatement Program

P-811, Electrical Safety Improvements, Preliminary Project Engineering Documentation (PED) dtd 1 Jan 86

P-864, Provide Exterior Stairways, consisting of DD Form 1391/1391c with NAVFAC Form 11013/7 and Site Location Map, all dtd 12 Sep 85

P-788, Provide Fire Alarm Systems, consisting of DD Form 1391/1391c with NAVFAC Form 11013/7 and Site

Location Map all dtd 12 Sep 85



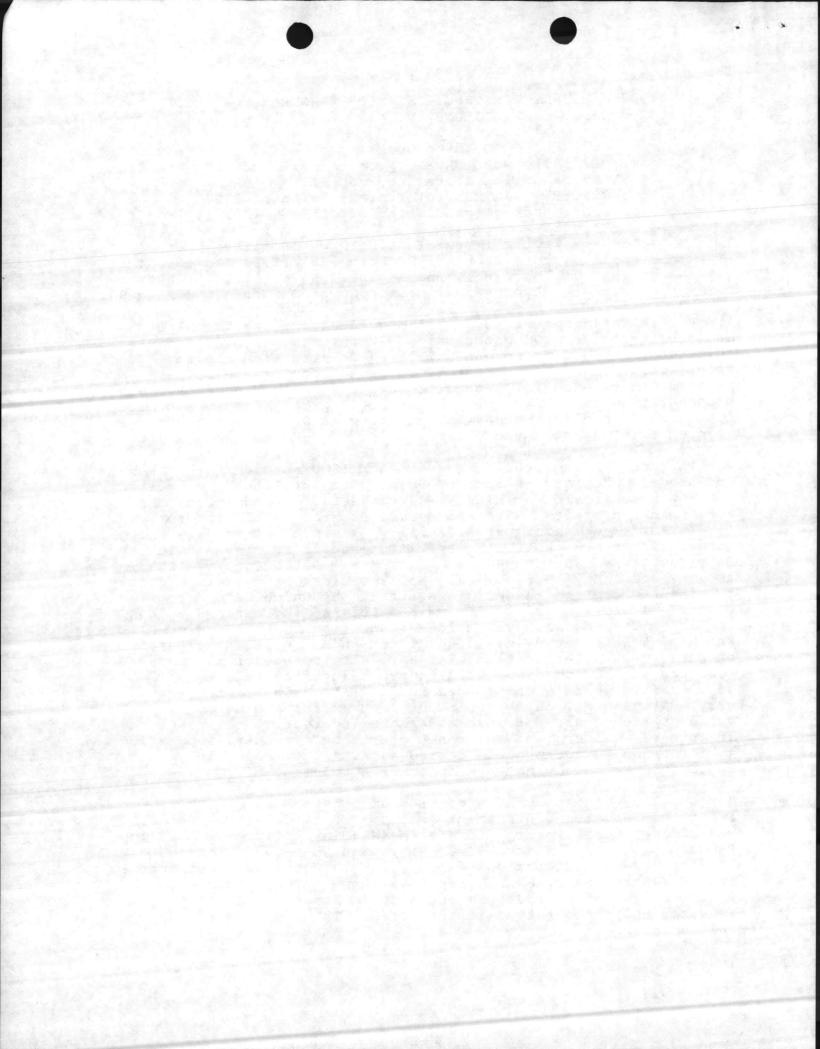
Subj: FY-90 MILITARY CONSTRUCTION (MCON) PROGRAM FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

1391/ 1391c with NAVFAC Form 11013/7 and Site Location

(6) FY-89 Pollution Abatement Program

P-829, Fly Ash Control System, Building 1700, project package consisting of DD Form 1391/1391c dtd 14 Aug 85

- → P-845, Tactical Vehicle Wash Down Facility, project package consisting of DD Form 1391/1391c dtd 15 Jul 86 (LANTDIV Mark-up), and approved NAVMC 11069, Request for Site Approval with Site Location Map dtd 30 Aug 84
- 1. Reference (a) provided detailed guidance in the formulation and submission of MCON programming. Reference (b) provided guidance for the Camp Lejeune Military Construction Program specifically requesting project documentation for the FY-90 program. Reference (c) requested Navy Centrally Managed Project Documentation be submitted with the FY-90 program by 15 September 1986. Reference (d) requested extension to 30 September and reference (e) granted the extension.
- 2. This submission provides developed MILCON projects for FY-90. Our program consists of four FY-90 projects previously submitted and the resubmission of nine FY-89 projects. In addition, there are two new projects P-881 and P-887. Project submission for P-881, Anti-Tank Maintenance Facility, was necessitated by the formulation of the Anti-Tank Battalion and is consistent with the Base Facilities Support Requirements (FSR) dated January 1986, and revised 1 May 1986. P-887, Wallace Creek Bridge, is urgently required to replace the existing structures which have deteriorated and are located on the main artery of ingress and egress to Marine Corps Base. The bridge inspection report by Bigger and Agnew, Inc. dated July 1986, recommended replacement based on structural deterioration. As a result, reduced loads have been posted and immediate repairs are being made to extend service five years when reduced loads will again become necessary. At present, heavy equipment, commercial and military vehicles are required to use alternate indirect routes resulting in loss of manhours and increased operation expenses. Upgrading to three-lane structures is deemed essential to cope with existing and anticipated increase in traffic volumes.
- 3. Our Navy Centrally Managed Program consists of one FY-87 Energy Conservation Investment Program (ECIP) project, four FY-89 Navy Occupational Safety and Health (NAVOSH) Deficiency Abatement Program projects, and two FY-89 Pollution Abatement program projects; P-811, Electrical Safety Improvements, has been dropped from FY-88 to the FY-89 program. As shown on enclosure (3) P-822, Refuse Burning Supplemental Steam Plant, is no longer required and cancellation is requested. This represents our complete current program.



Subj: FY-90 MILITARY CONSTRUCTION (MCON) PROGRAM FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

- 4. Enclosure (1) submits revised NAVMC 10956, Summary for Correction of Facility Deficiencies, for FY-90 MILCON program to reflect proper category codes, title and cost; and enclosure (2) submits project documentation. Enclosure (3) NAVMC 10956, Summary for Correction of Facility Deficiencies Navy Centrally Managed program projects with enclosures (4) through (6) depicting project documentation as submitted. In accordance with references (a) through (e) enclosures (1) through (6) are hereby submitted.
- 5. The Atlantic Division, Naval Facilities Engineering Command is requested to certify the cost of all projects as shown by enclosures (1) and (2) to the Commander, Naval Facilities Engineering Command with copies to CMC and this Command. It is further requested the status of all Navy Centrally Managed Projects as shown by enclosures (3) through (6) be forwarded to this Command with copy to CMC.

T. J. DALZELL By direction

Copy to:
CMC (LFF) (advance)
NAVFACENGCOM (advance)
CG, FMFLANT (G-4)
CG, 2d MARDIV
CG, 2d FSSG
CG, II MAF
CG, 6th MAB

Blind copy to:

FAC

PMO (Project P-672 only)

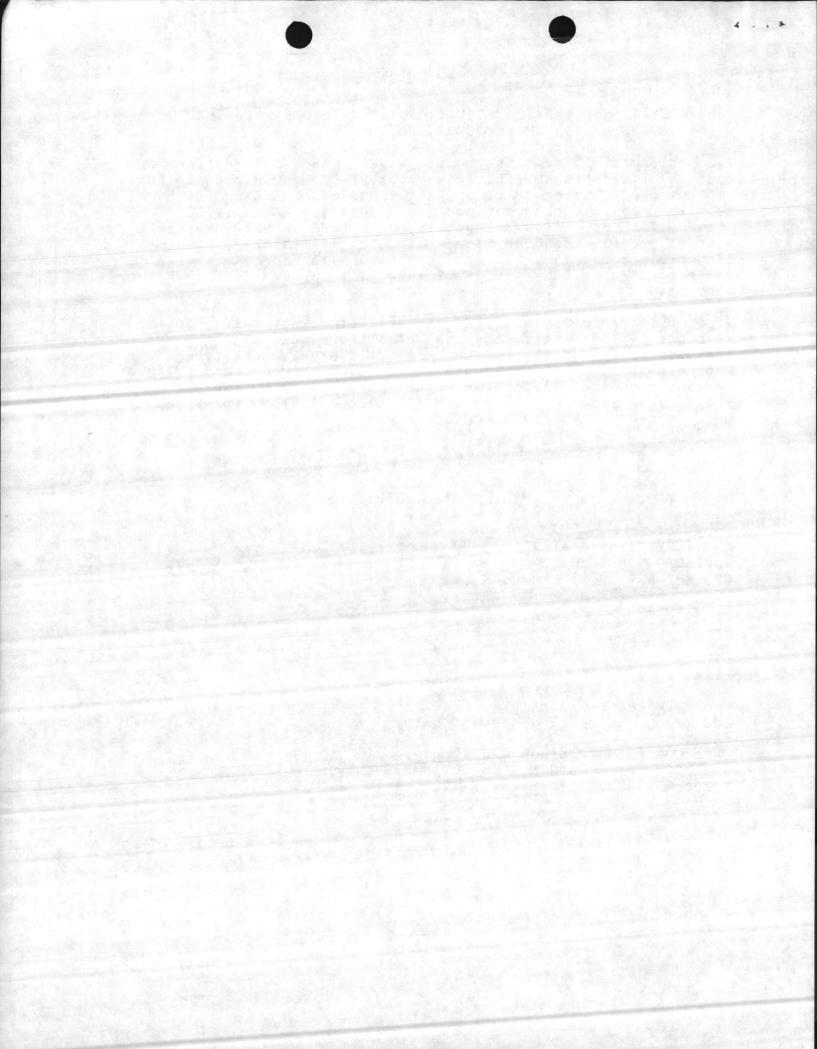
LOG (Projects P-672 and P-853 only)

MAINT

BASE CHAPLAIN (Project P-824 only)

AREA COM, CAMP GEIGER (Project P-828 only)

FIELD MED SCHOOL (Project P-828 only)



2. DATE 1. COMPONENT MARINE CORPS FY 19 90 MILITARY CONSTRUCTION PROJECT DATA 30 Sep 86 3. INSTALLATION AND LOCATION 4. PROJECT TITLE MARINE CORPS BASE GYMNASIUM, FRENCH CREEK CAMP LEJEUNE, NORTH CAROLINA 28542 8. PROJECT COST (\$000) 6. CATEGORY CODE 7. PROJECT NUMBER 5. PROGRAM ELEMENT 740-43 P-065 \*2,200 ESCALATED TO APRIL 1990

U/M	QUANTITY	COST	(\$000)
SF	21,000	73.00	1,533
SF	21,000	69.38	(1,457)
LS	-	-	(76)
LS	- Andrews	-	390
LS	-	-	(155)
LS	-	- C	(104)
LS	C resigned Colonge	-	(55)
LS	-	-	(76)
			1,923
	Acres de la companya		96
			2,019
			110
	- 1 - 1 - 1 - 1 - 1 - 1		2,129
			2,100
	- 6834	(NON AD	D) -
			*2,200
	SF SF LS LS LS LS LS	SF 21,000 SF 21,000 LS - LS - LS - LS - LS -	SF 21,000 73.00 SF 21,000 69.38 LS LS LS LS LS LS

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area.

Air Conditioning: 5 tons

REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD:

PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: This gymnasium is required as a part of the 2d FSSG complex, a portion of which is under construction. As the Force Troops units move into the new complex, they will become separated from the Hadnot Point facilities which are overcrowded anyway, and will have to have recreational facilities within the new complex. A gymnasium is the ideal facility for the Marines to maintain a high physical fitness condition, as required by CMC directives and a place for him to participate in all indoor type sports and games. The intermural sports program will consist of the following activities: Badminton, Handball, Racquetball, Weight lifting, Basketball, Volleyball, Karate, Wrestling and Boxing. This center will provide a sorely needed "neighborhood" type athletic facility for the 10,000 plus personnel assigned to the 2d FSSG forces.

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PREVIOUS EDITIONS MAY BE USED INTERNALLY UNTIL EXHAUSTED

PAGE NO.1 Of 3

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1. COMPONENT HARINE CORPS FY 19 90 MILITARY CONSTRUCTION MOJECT DATA

2. DATE 30 Sep 86

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

5. PROJECT NUMBER

P-065

GYMANSIUM, FRENCH CREEK

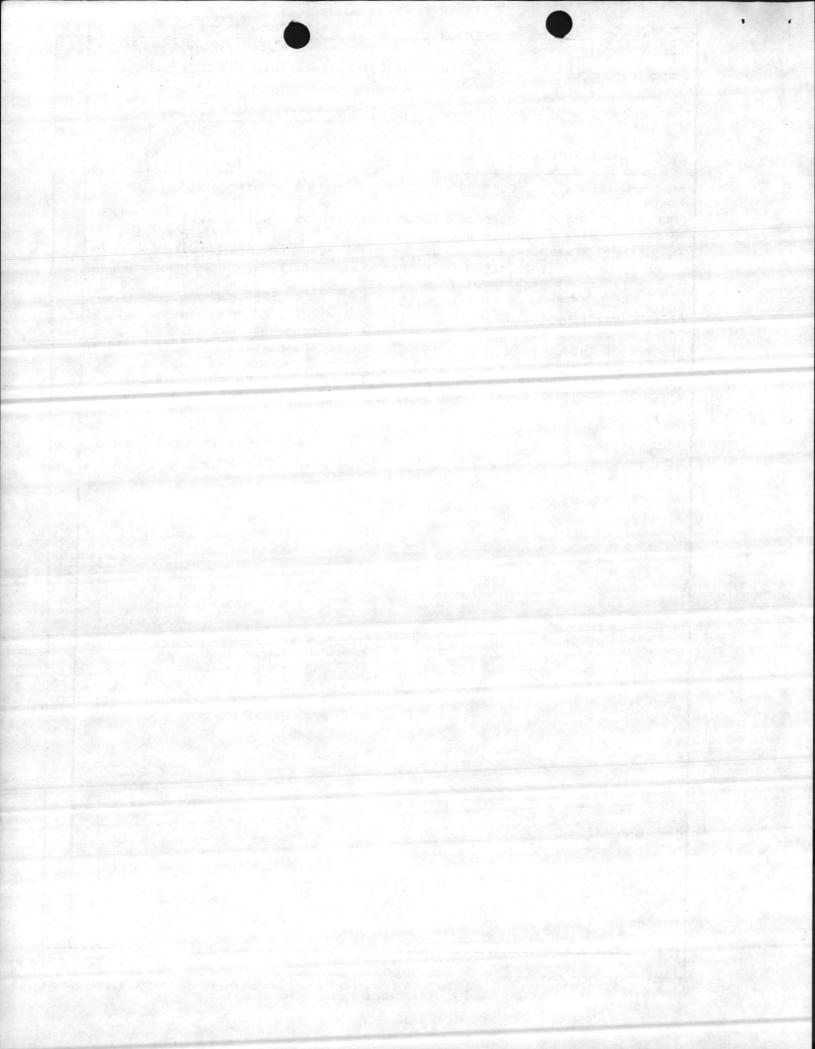
11. REQUIREMENTS: (cont'd)

CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions. The Force Troops physical fitness program will be less than desired and the indoor sports and games program will be non-existent and impaired by overcrowded conditions existing in the nearest facility that is located in the Hadnot Point Area. The morale, proper athletic training and physical fitness program of the 2d FSSG troops is not meeting the physical fitness criteria established by CMC.

IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 10,000 plus personnel assigned to the

2d FSSG forces.

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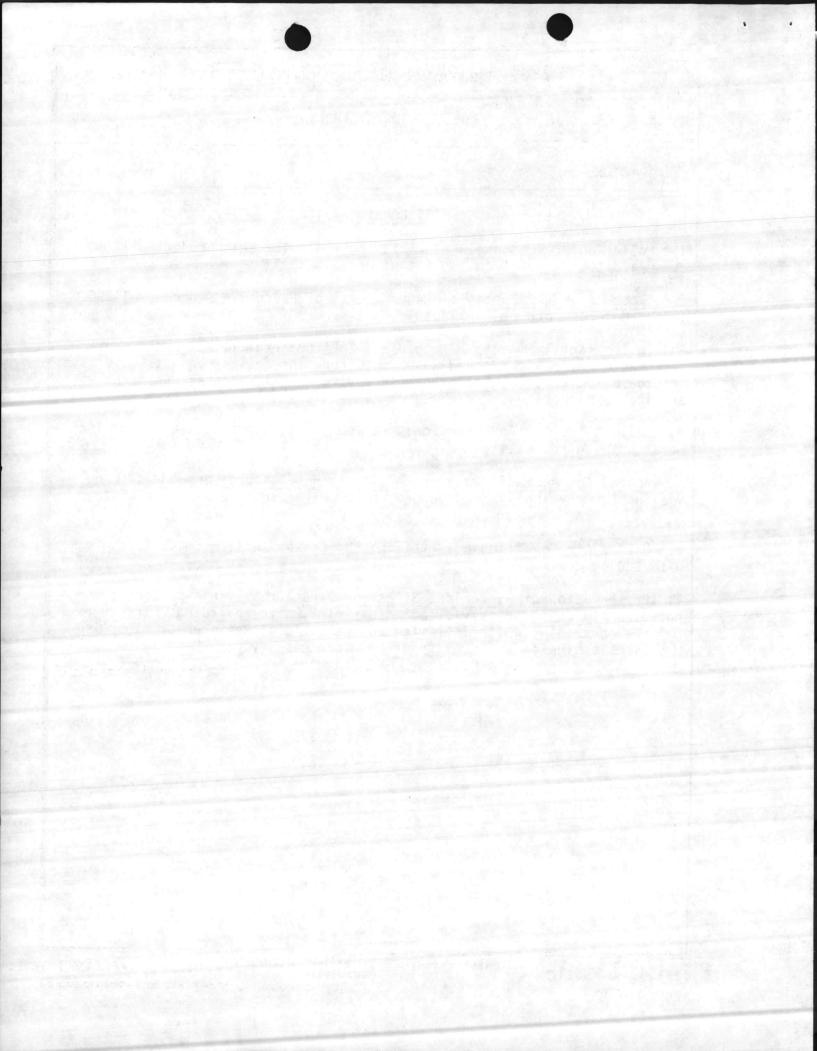


COMPONENT	Y 19 90 MILITARY CONSTRUCTION PRO	JECT DATA	2. DATE 30 Sep 86
MARINE CORPS			
MARINE CORPS BAS	SE, CAMP LEJEUNE, NORTH CAROLINA 2	8542	
4. PROJECT TITLE			JECT NUMBER
GYMNASTUM	[전쟁: 18] 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10		P-065

## SPECIAL CONSIDERATIONS

- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is not incorporated in this facility.
- 5. Design for Accessibility of Physically Handicapped Personnel: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform with DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: This project does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.

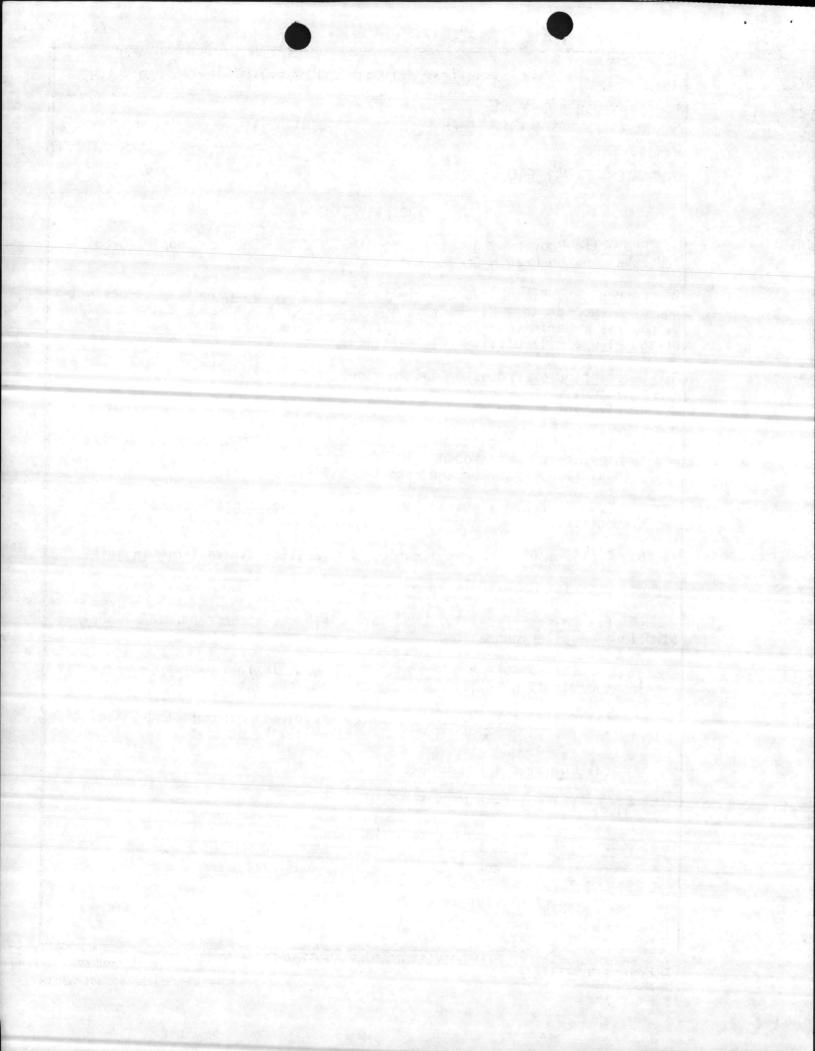
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2 DATE . COMPONENT FY 19 90 MILITARY CONSTRUCTION PROJECT DATA 30 Sep 86 MARINE CORPS 3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROJECT NUMBER A PROJECT TITLE P-065 GYMNASIUM, FRENCH CREEK

## FACILITY STUDY

- Project: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- Current and Planned Workload with Regard to this Project: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. Description of Proposed Construction:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) Primary Facility. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) Support Facilities. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



1. COMPONENT
MARINE CORPS
FY 19 90 MILITARY CONSTRUCTION PROJECT DATA
30 Sep 86

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE
5. PROJECT NUMBER

(a) Built-in MCON Funded: (Continued)

\*Fire Alarm System

\*Telephone System

\*Intercom System

\*Water Coolers

\*Whirlpools

GYMNASIUM, FRENCH CREEK

\*Locker Room Benches

\*Folding Bleachers (seats)

\*Racketball Courts (including special walls, floor, & viewing windows)

P- 065

\*Men's Sauna

\*Women's Sauna

\*Trophy Cases

\*Scoreboards

\*Gym Divider Curtain

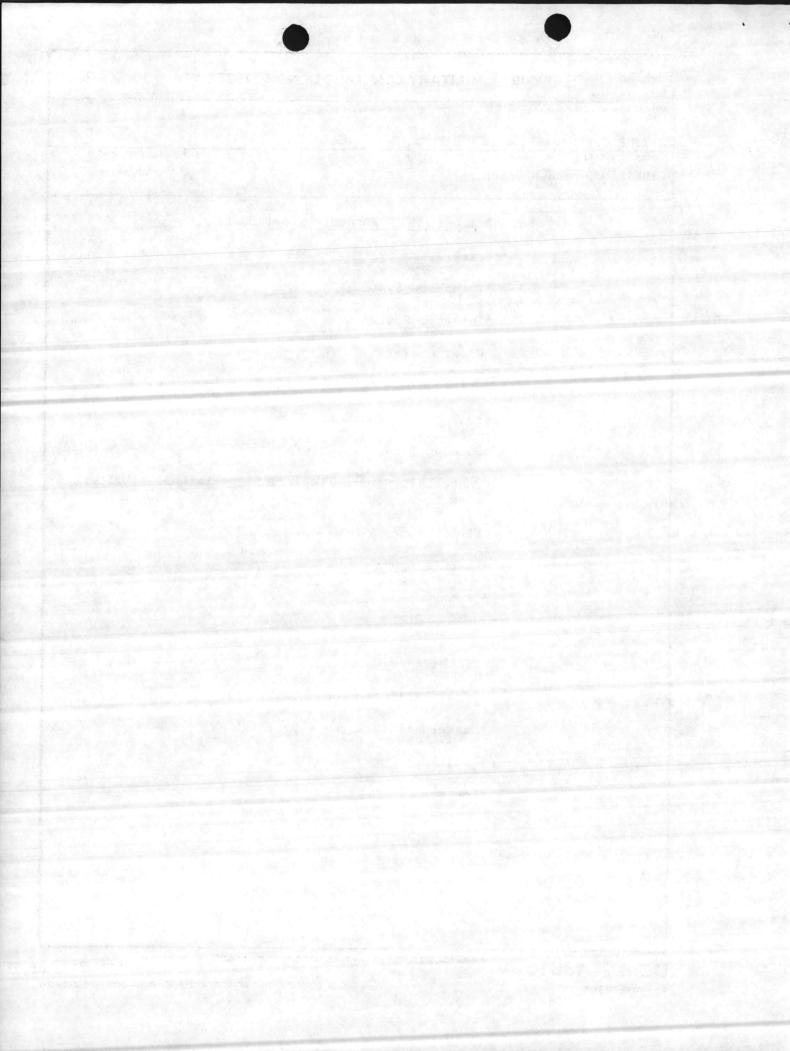
\*Basketball Backstop - competition

\*Basketball Backstop - practice

\*Chalk and Tack Boards

\*Lockers

S/N 0102-LF-001 3915



1. COMPONENT

FY 19 90 MILITARY CONSTRUCTION PROJECT DATA

2. DATE 30 Sep 86

MARINE CORPS 3. INSTALLATION AND LOCATION

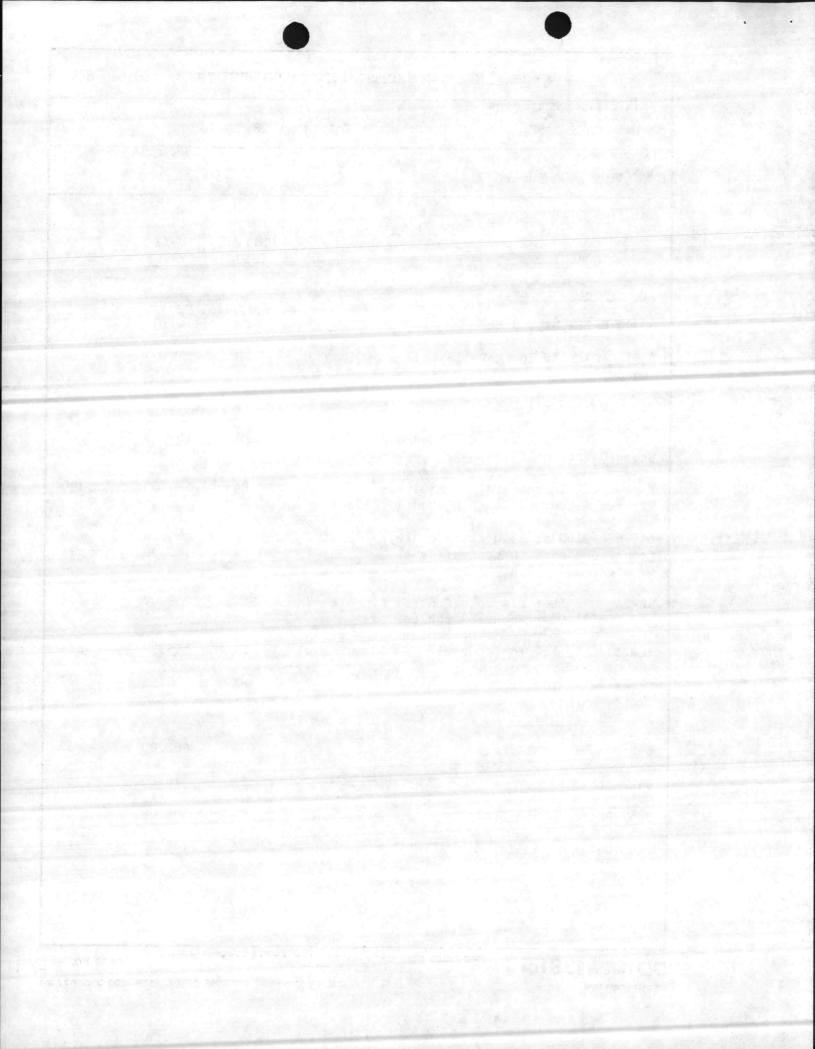
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

5. PROJECT NUMBER 4. PROJECT TITLE

GYMNASIUM , FRENCH CREEK

P-065

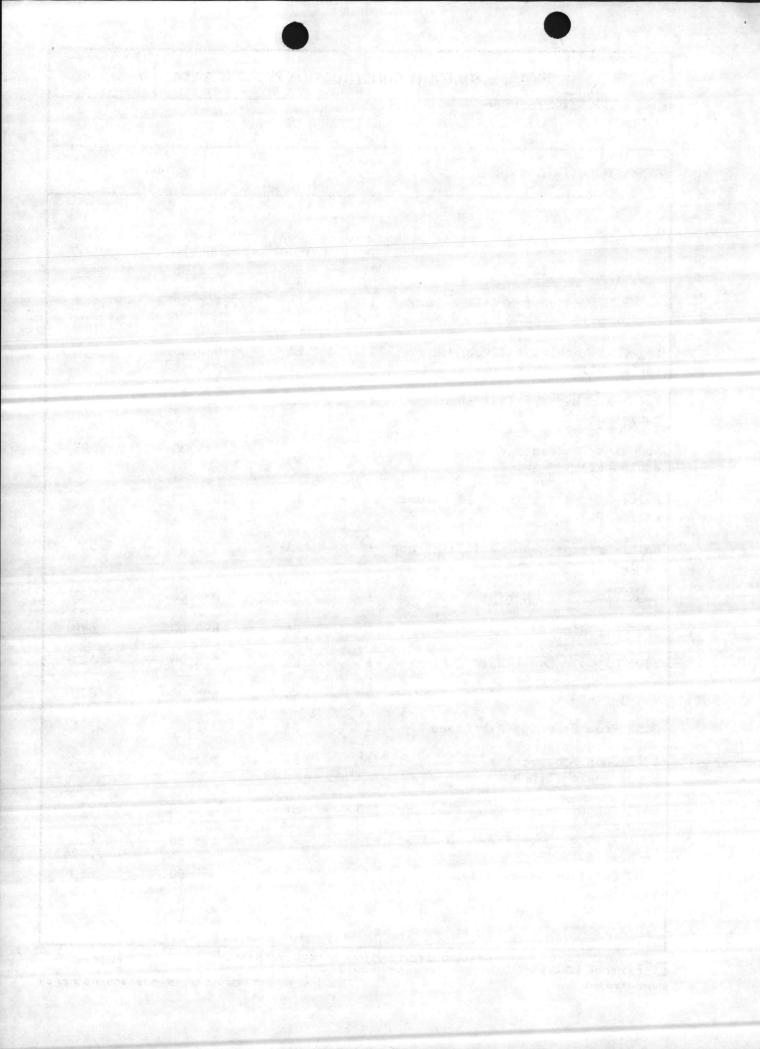
(b) Expense Items: DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL COST
1. Gymnasium Court:			30	
30300 Volleyball Nets	2	EA	\$ 41.00	\$ 82
50512 NCAA/AAU Power Volleyball (wood floor)	2	PR	250.00	500
31400 Volleyball Antenna	2	PR	14.50	29
50511 Volleyball Referee Stand and Score Counter	2	EA	100.00	200
Basketball Scoreboard, 36"x131"x7½" Figures & Control Console (Model #LI560)	2	EA	1,595.00	3,190
616-684-3160 or 2300 Extra cable, from Scoreboard to Central Panel w/male/female plug	100	LF EA	19 75.00	19 75
10-24-30-2 Shot Timers w/Control Console and Two(2) 90 ft control cables	2	SETS	739.00	1,478
BL028M-3 Theft-proof Locker	4	EA	165.90	664
Clock, Electric	2	EA	6.30	13
2. Exercise Room:				
6421 Double Stall Bar	1	EA	462.00	462
6427 Stall Bar Bench	2	EA	76.00	152
7852 Doctor's Gym Scale	1	EA	366.00	36
7533 Deluxe Chinning Bar - 36"	2	EA	140-00	28
7377 Peg Board 14"x60" w/metal inserts	1	EA	200.00	20



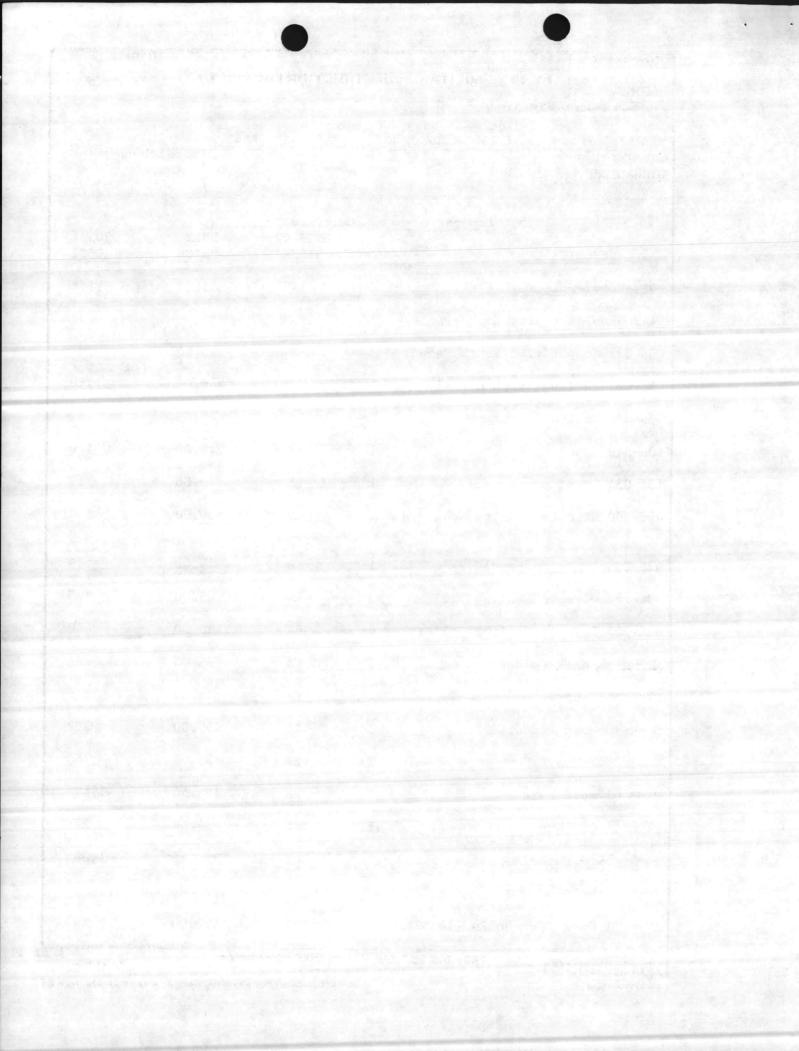
1. COMPONENT		2. DATE
MARINE CORPS	FY 19.90 MILITARY CONSTRUCTION PROJECT DATA	30 Sep 86
3. INSTALLATION A	ND LOCATION .	
MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	

5. PROJECT NUMBER 4. PROJECT TITLE GYMNASIUM , FRENCH CREEK P-065

(b) Expense Items	: (0	ontinued)		
DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL COST
Super Leg Extension (All chrome equipment)	. 1	EA	\$2,460.00	\$2,460
Leg Curl Machine (All chrome equipment)	1	EA	2,020.00	2,020
Torso Arm Machine (All chrome equipment)	1	EA	2,290.00	2,290
Abdominal Machine (All chrome equipment)	1	EA .	2,925.00	2,295
Multi-Biceps Machine (All chrome equipment)	1	ĘΑ	1,955.00	1,955
Multi-Triceps Machine (All chrome equipment)	1	EA	2,005.00	2,005
3038 Power Leg Machine	1	EA	2,099.00	2,099
3070 Standing Calf Machine	1	EA	890.00	890
3005 Olympic Lever Bar	1	EA	583.00	583
3060 Seated Preacher's Curl Bench	2	EA	435.00	870
3052 Free Standing Dip Stand	1	EA	371.00	371
9745 Comb Roman Chair/Back Hypertension Bench	1	EA	532.00	532
9673 Rubber Weight Room Flooring	720	SF	4.10	2,952
9748 Adj. Standing Incline Bench	2	EA	415.00	. 830
9407 Decline Exercise Bench	2	EA	325.00	650
9456 Flat Exercise Bench	2	EA	169.00	338



. COMPONENT 90					2. DATE	
MARINE CORPS FY 19MILITARY CO	NST	RUCTION PR	ROJECT D	ATA	30 Sep	86
INSTALLATION AND LOCATION	Titologi	To the Asset	ele sing		and a second	
MARINE CORPS BASE, CAMP LEJEUNE, NO	ORTH	CAROLINA	28542	124		
PROJECT TITLE GYMNASIUM, FRENCH CREEK					JECT NUM D65	BER
(b) Expense Items	: (	Continued)				
DESCRIPTION	QTY	UNIT OF ISSUE		RICE		TOTAL
3091 Multi-Purpose Exercise Bench	2	EA .	\$ 33	1.00	\$	662
9419 Shoulder Press High Stool	2	EA	8	7.00		174
436-021 Competition Bench Manual	3	EA	19	5.00		585
436-026 Incline Bench Manual	1	EA	24	0.00		240
436-028 Spotter Platform	1	EA	4	2.00		42
436-048 Squat Rack	1	EA	24	0.00		240
436-034 Squat Stool, Adj.	1	EA	6	3.00		63
436-300 High Lat Pulley Wall Mtd 350 lbs.	1	EA	53	0.00		530
436-303 Tricep - Handle	. 1	EA	1	9.00		19
436-221 Olympic Curling Bar	3	EA	6	5.00		195
436-225 Olympic Curling Collars	6	PR	. 11	0.00		660
407-011 Chalk Holder	2	EA	3	3.00		66
Clock, Electric	1	EA		6.30		6
Desk, Double Pedestal	1	EA	29	9.00		299
Chair, w/arms	1	EA	5	8.00		58
OLBB Olympic Bars	8	EA	18	4.50		1,476
Olympic Collars	8	PR	3	4.50		276
York Solid Dumbells, Size 15 to 100 lbs in 5 lb increments (2,070 lbs)	1	LOT		.63-		1,304
Barbell Rack w/barbells (16 place)	1	SET	89	0.00		890
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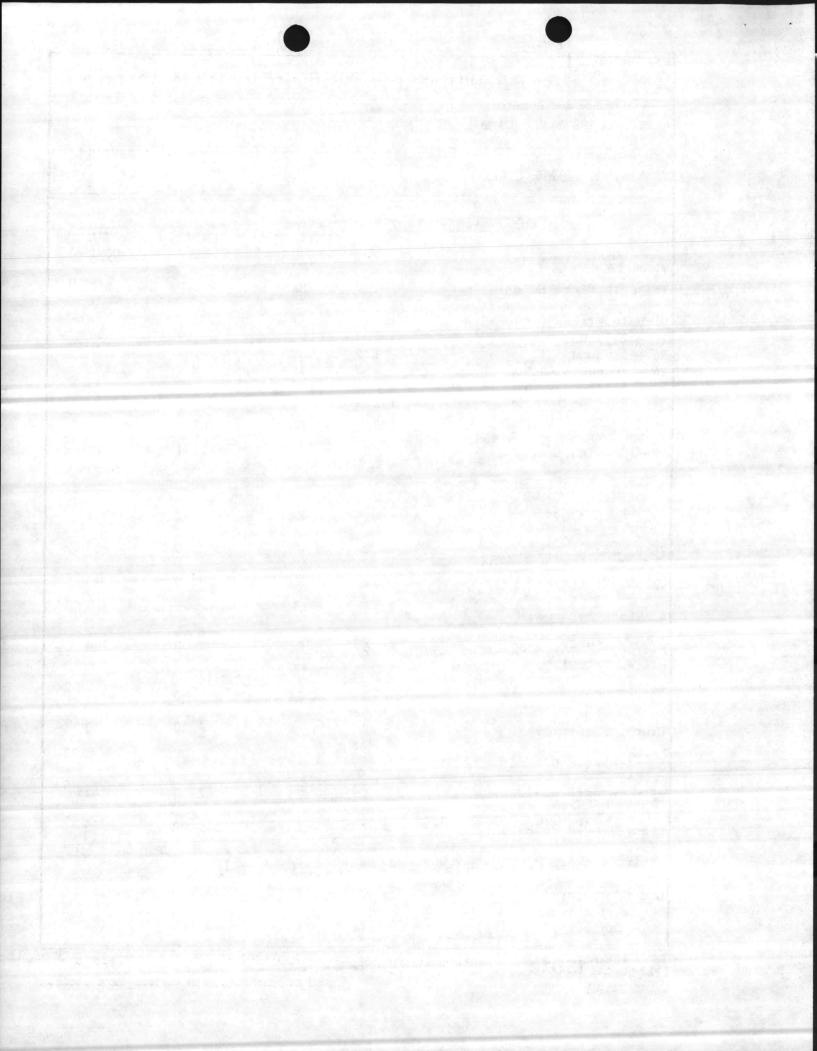


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MARINE CORPS BASE, CAMP LEJEUNE,	NORTH C	AROLINA	28542	
4. PROJECT TITLE		as sis a c	5. PRO	JECT NUMBER
GYMNASIUM, FRENCH CREEK			I	?- 065
(b) Expense Ite	ms: (Co	ntinued)		
		UNIT OF	UNIT	TOTAL
DESCRIPTIONS	QTY	ISSUE	PRICE	COST
Triangle Plate Holder	8	EA	\$ 45.00	\$ 360
Olympic Plates:				
olympic riaces: 24 - 2½ pound	60	LBS	.67	40
24 - 5 pound	120	LBS	.67	80
24 - 10 pound	240	LBS	.67	161
32 - 25 pound	800	LBS	.67	536
32 - 35 pound	1,120	LBS	.67	750
	1,440	LBS	.67	965
32 - 45 pound	1,440	LDS	.07	703
SR-7 Schwinn Exerciser	- 2	EA	211.61	423
3. Trainer's Room:		1		
Heat Lamp #202	2	EA	196.00	392
7850 Massage Table	2	EA	380.00	760
Clock, Electric	2	EA	6.30	13
4. Locker Rooms:				
Mirror, ½" thick electro-copper plated (4'x6')	6	EA	90.00	540
7582 Gym Scales	2	EA	366.00	732
Clock, Electric	2	EA	6.30	· 13
5. Athletic Office:				
Desk, Double Pedestal	1	. EA	342.00	342
Desk, Single Pedestal	. 1	EA	259.00	259
Chair, w/arms	1	EA	286.00	286
Chair, w/o arms	1	EA	154.00	. 154
File Cabinet (ltr size)	1	EA	132.00	132

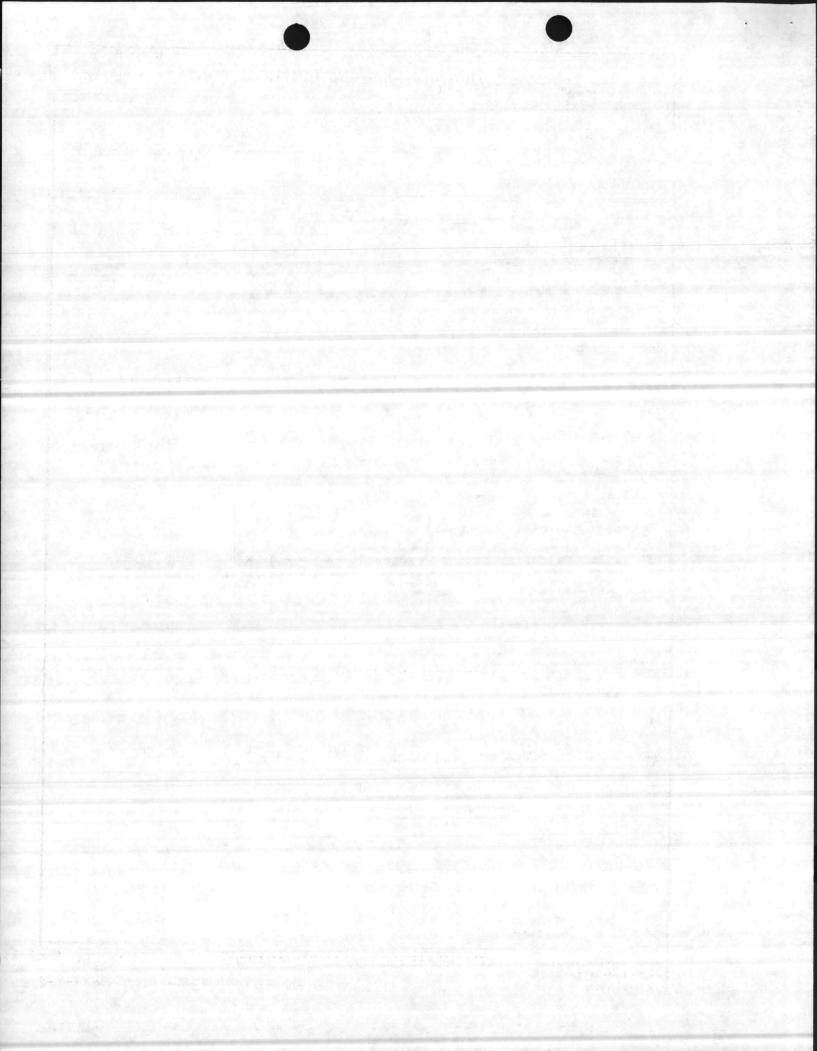
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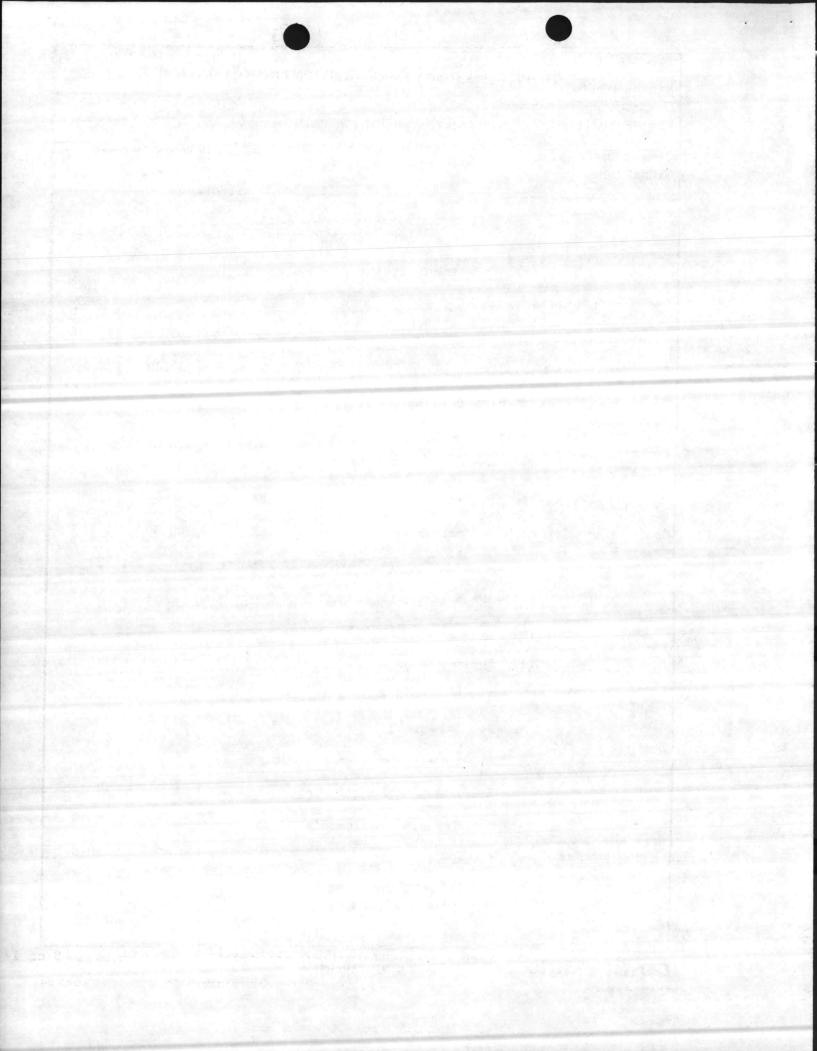


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MARINE CORPS BASE, CAMP LEJEUNE, NO	RTH CA	AROLINA 28	542			
4. PROJECT TITLE 5. PRO						BER
GYMNASIUM, FRENCH CREEK				P- 0	65	
(b) Expense Items:		UNIT OF		UNIT		TOTAL
DESCRIPTIONS	QTY	ISSUE		PRICE		COST
Clock, Electric	1	EA	\$	6.30	\$	6
6. Lobby:						
Entrance Mats 48"x72" #6998T24	2	EA		78.50		157
Clock, Electric	1 .	EA		6.30		6
521-211 Display Case, Trophy (Dark Walnut)	4	EA		549.00		2,196
7. Laundry/Issue Room:						
*Machine, Washing (heavy duty)	.2	EA		-		
*Dryer, Clothing (heavy duty)	2	EA		-		-
	nent t	o provide v	vasher quipme	es and di	ryers	s by
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governm lease of equipment from civilian co	nent t	o provide v	vasher quipme	es and di	ryer:	s by
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governm lease of equipment from civilian co contractor.	nent t	o provide v	vasher quipme	es and dient main	tain	ed by
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governm lease of equipment from civilian contractor.  8. Duty NCO Office:	nent t	o provide v	vasher quipme	ent main	tain	ed by
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governm lease of equipment from civilian co contractor.  8. <u>Duty NCO Office</u> : Desk	nent tontrac	o provide v tor with ed	washer	ent maint	tain 0	299 232
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*Dryer, Clothing (heavy duty)  *It is not as costly to the Government of the Governm	nent tontrac	o provide v tor with ed EA EA	vasher	299.00 58.00 57.00	0 0 0 0	299 232 114 223
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governme lease of equipment from civilian contractor.  8. Duty NCO Office:  Desk  Chair, w/arms  Chair, w/o arms  File Cabinet, 5 drawer (ltr size)	nent tontrac	o provide we tor with ed  EA  EA  EA  EA	washer	299.00 58.00 57.00 223.00	0 0 0 0	299 232 114
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governmelease of equipment from civilian contractor.  8. Duty NCO Office:  Desk  Chair, w/arms  Chair, w/o arms  File Cabinet, 5 drawer (ltr size)  Clock, Electric	nent tontrac	o provide we tor with ed  EA  EA  EA  EA	vasher	299.00 58.00 57.00 223.00	0 0 0 0	299 232 114 223
*Dryer, Clothing (heavy duty)  *It is not as costly to the Governme lease of equipment from civilian contractor.  8. Duty NCO Office:  Desk  Chair, w/arms  Chair, w/o arms  File Cabinet, 5 drawer (ltr size)  Clock, Electric  9. Miscellaneous:	nent tontrac	o provide v tor with ed EA EA EA EA	vasher	299.00 58.00 57.00 223.00 6.30	0 0 0 0 0	299 232 114 223



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MARINE CORPS BASE, C	CAMP LEJEUNE, NO	RTH CAROL	INA 28542		
, PROJECT TITLE				5. PROJECT	
GYMNASIUM				P -	065
	TOTAL	L EXPENSE	ITEMS		50,852
(c)	Investment Iter	ms:	IDITE OF		TOTAL
DESCRIPTION		QTY	UNIT OF ISSUE	UNIT PRICE	
6625 Boxing Ring Con	nplete	1	EA	\$7,300.00	\$7,300
8855 Wrestling Mat 3	2	EA	6,300.00	12,600	
Duo Hip and Back Madequipment)	chine (All chrom	e 1	EA	3,160.00	3,160
Super Pullover Machi equipment)	ine (All chrome	1	EA	4,060.00	4,060
Double Chest Machine	e (painted silve	r) 1	EA -	4,230.00	4,230
Double Shoulder Macl	hine (painted	1	EA	4,100.00	4,100
sliver)	TOTA	L INVEST	MENT ITEMS		35,450
(d)	APA Equipment:	None.			
(e)	Training Equip	ment: No	one.		
· (f)	Equipment on H	and:			
	1. Built-in E	quipment	: None:		
	2. Expense It	ems: No	ne.		•
•	3. Investment	Items:	None.		
	4. APA Equipm	nent: No	ne.		
	5. Training E	Equipment	: None.		
(g)	Summary:				Test a mission
	1. EXPENSE CO 2. INVESTMENT		momat.		\$50,852 35,450 \$86,302
			TOTAL		700,302

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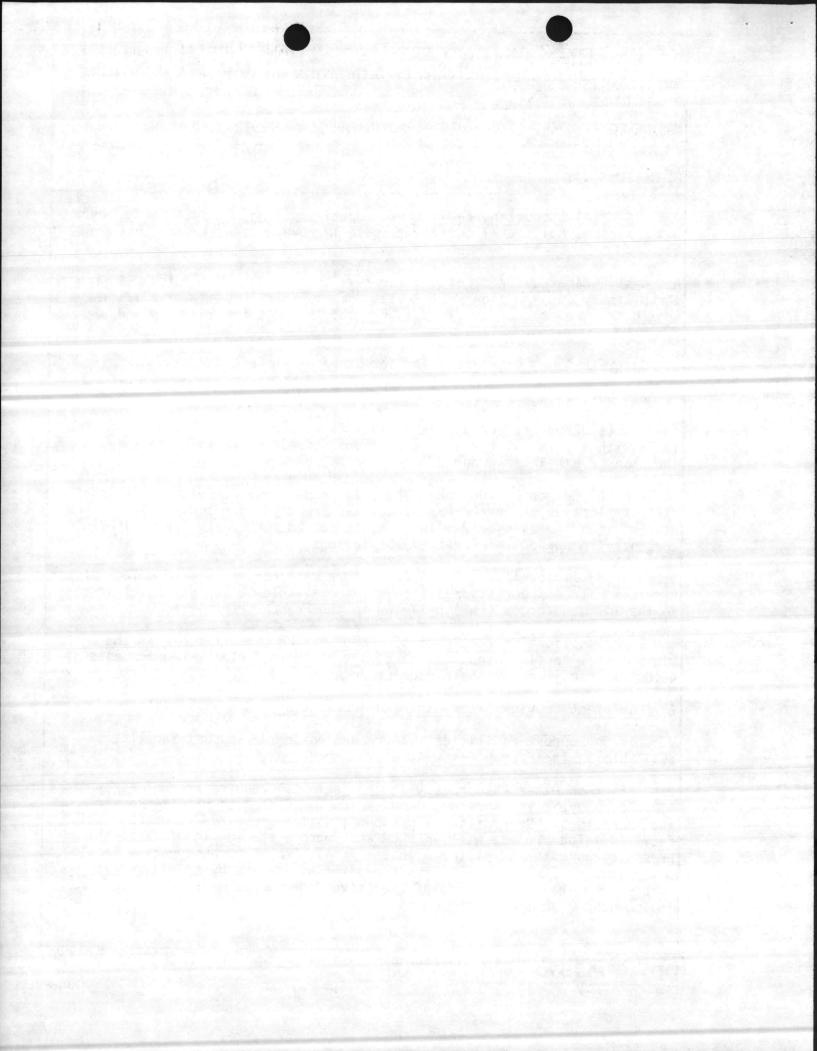


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MARINE CORPS FY 19 MILITARY CONSTRUCTION	PROJECT DA	ATA 30 Sep 86 .
3. INSTALLATION AND LOCATION		The Republic Age of the Second
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLIN	A 28542	
4. PROJECT TITLE		5. PROJECT NUMBER
GYMNASIUM , FRENCH CREEK		P-065

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.86, from the Military Construction Cost Review Guide, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-89 to provide the cost for the proposed facility.
- Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG-complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. Common Support Facilities. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.

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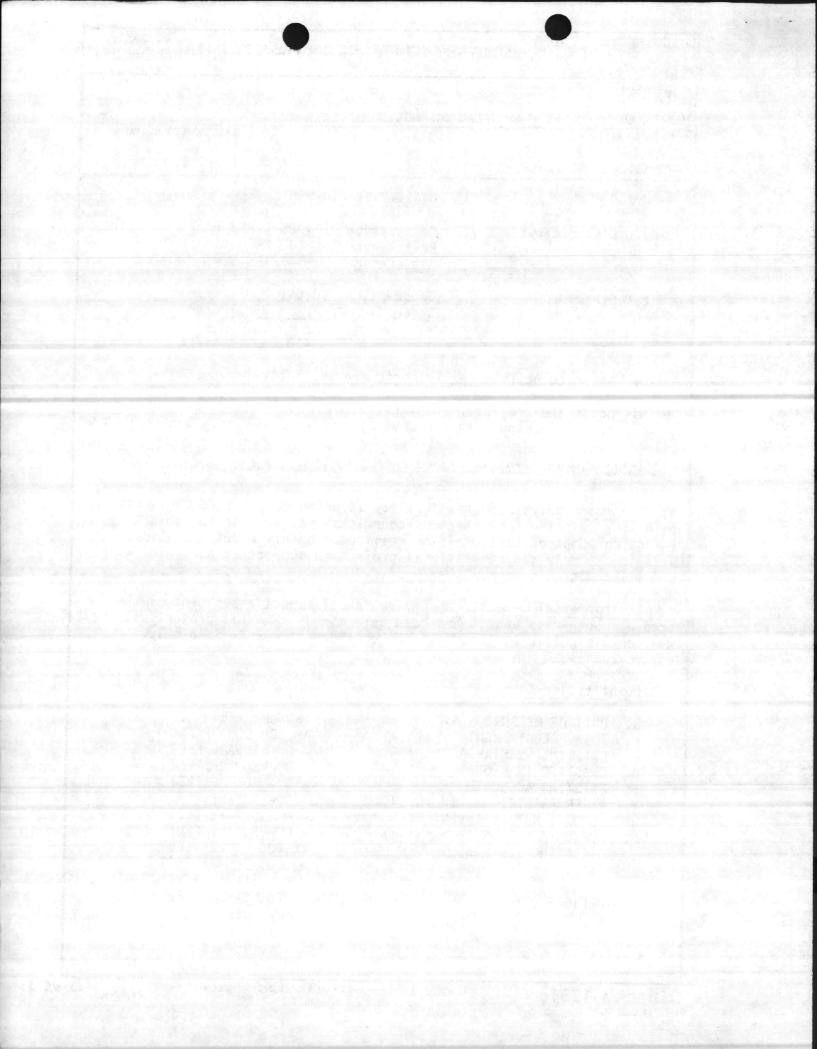
PAGE NO. 9 of 11



2. DATE 1. COMPONENT FY-90 MILITARY CONSTRUCTION PROJECT DATA 30 Sep 86 MARINE CCRPS 3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROJECT NUMBER 4. PROJECT TITLE P-065 GYMNASIUM, FRENCH CREEK UTILITY REQUIREMENTS Consumption 71,995 KWHR/yr a. Electricity: 56 KW Peak Demand Avg. Demand 41 KW Consumption 10,690,250 lbs/yr Steam: 3,830 1bs/hr Demand 418.0 tons/yr Coal: Adequate utility requirements are available. 9. Siting of the Project. The facility will be located in the French Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1). 10. Other Graphic Presentations, including Photographs: See Facility Planning Document (enclosure 2). 11. Economic Analysis. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area. 12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly controversial. 13. Quantitative Data: "SQUARE FEET" a. UNIT OF MEASURE 48,000 SQUARE FEET TOTAL REQUIREMENT b. - 0 - SQUARE FEET EXISTING SUBSTANDARD - 0 - SOUARE FEET EXISTING INADEQUATE d. - 0 - SQUARE FEET e. EXISTING ADEQUATE - 0 - SQUARE FEET OTHER ASSETS, NOT IN INVENTORY f. - 0 - SQUARE FEET FUNDED, NOT IN INVENTORY - 0 - SQIARE FEET h. ADEQUATE ASSETS (e + f + g) 48.000 SQUARE FEET DEFICIENCY (b - h) 48,000 SOUARE FEET Total Requirement - 0 - SQUARE FEET Adequate Assets

48,000 SQUARE FEET

DEFICIENCY



1. COMPONENT | FY-90 ; MILITARY CONSTRUCTION FI. JECT DATA 30 Sep 86

MARINE CORPS

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

5. PROJECT NUMBER

GYMNASIUM

P-065

- 14. Maintenance Facilities. Not Applicable.
- 15. Morale, Welfare and Recreation Facilities. NAVFAC P-80 states the requirement for Category Code 740-43, Gymnasium, is determined by a space allowance format based on military strength. The following allowance based on the FSR dated Jan 1985:

For 6,601 to 10,000 military strength, 3 gymnasiums @ 21,000SF = 63,000SF allowed.

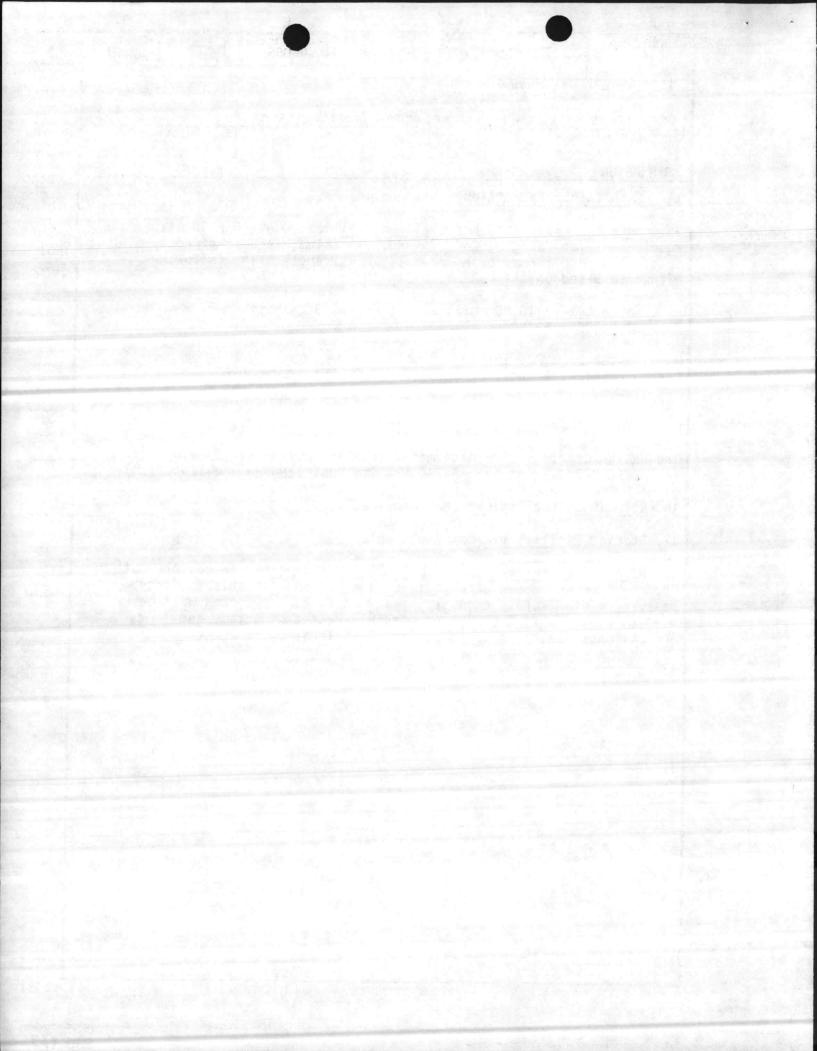
Master Plan Provisions: 3 Physical Fitness Centers (3 x 9,000SF) = 27,000SF1 Gym 21,000SF

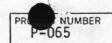
Total

48,000SF

The design drawings are determined from the definitive drawings given in NAVFAC P-272, Part IV, NAVFAC Drawing Nos. 1294390 and 1294391(M).

- 16. Relocation Facilities. Not Applicable.
- 17. Storage Facilities. Not Applicable.
- 18. Hazards Identification, Assessment and Analysis. There does not appear to be any known hazards to be identified with this facility. However, system safety engineering and management programs will be used to ensure that the highest possible degree of safety and occupational health is designed into this facility.





ACTIVITY UIC 67001

(4700)

TO: COMMANDANT OF THE MARINE CORPS (CODE LFF-1) FROM MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 PROGRAM YEAR TYPE OF FUNDING COST (\$000) CATEGORY CODE AND PROJECT TITLE FY-84 \$1,900 MCON 740-43 GYMNASIUM PROJECT DESCRIPTION REMARKS There is no physical fitness facility located Construct a 21,000 SF gymnasium facility in the 2d FSSG complex. The nearest area gym is over 2 miles away in the 2d MARDIV, 5th Area which is in support of seven battalions.

REQUESTED BY (Type a land fignature) in the French Creek area. R. E. CARLSON TYPE OF MAP DATE 1 AUG 1981 CDR, CEC, USN PUB WKS Site Location ENGL (/) DATE RECEIVED ANALYSIS (Place a check () in box opposite each item. Y = Yes; N = No; NA = Not Applicable) PROJECT SITING CONSIDERATION PROJECT SITING CONSIDERATION NA N NA d. COMPLIES WITH THE FOLLOWING CRITERIA: a. COMPATIBLE WITH ACTIVITY PLANNED DEVELOPMENT GOALS (1) AMMUNITION AND EXPLOSIVES b. DEMONSTRATES SOUND PLANNING PRINCIPLES (2) ELECTROMAGNETIC RADIATION C. MEETS MINIMUM PLANNING AND SITING CRITERIA (3) AIRFIELD SAFETY (4) NOISE INTENSITY (5) FIRE PROTECTION COMPATIBLE WITH ACTIVITY MASTER PLAN (Check appropriate box) \*NOT SHOWN AND INCONSISTENT IDENTICAL. NOT SHOWN BUT CONSISTENT \*DIFFERENT AND INCONSISTENT DIFFERENT BUT CONSISTENT DATE CRITERIA CERTIFICATION(S) REQUESTED (Check) NAVAIR OTHER: NAVELEX CNO NAVSEA DATE CERTIFICATION(S) RECEIVED SECTION B HQMC REVIEW AND ANALYSIS NAVAIR **NAVELEX** CNO NAVSEA **DDESB** ACTION **✓** APPROVED DEFERRED DISAPPROVED REMARKS SITE APPROVED HQMC DATE (a) CG, MCB, Camp Lejeune ltr FAC: ACA: mkc 11013 of 10 Aug 81 Based on enclosure (3) of the reference. Copy to: COMNAVFACENGCOM COMLANTNAVFACENGCOM (Codes 09A and 202)

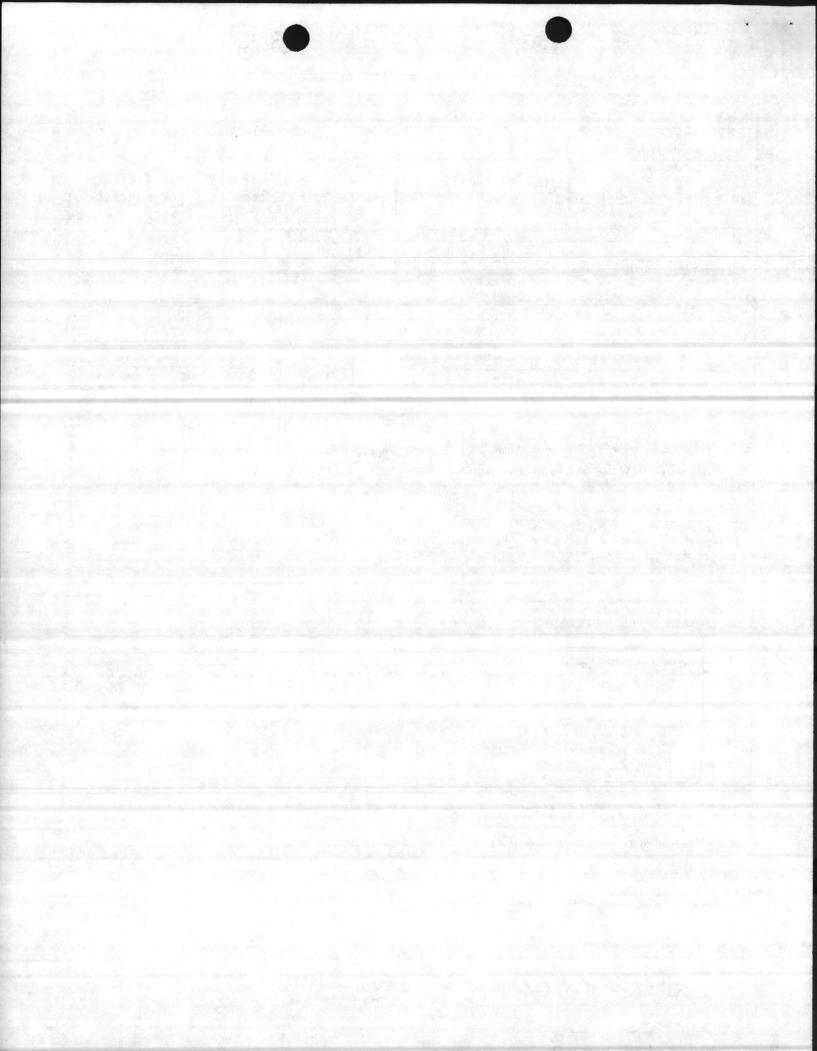
EDWARD O. LEROY

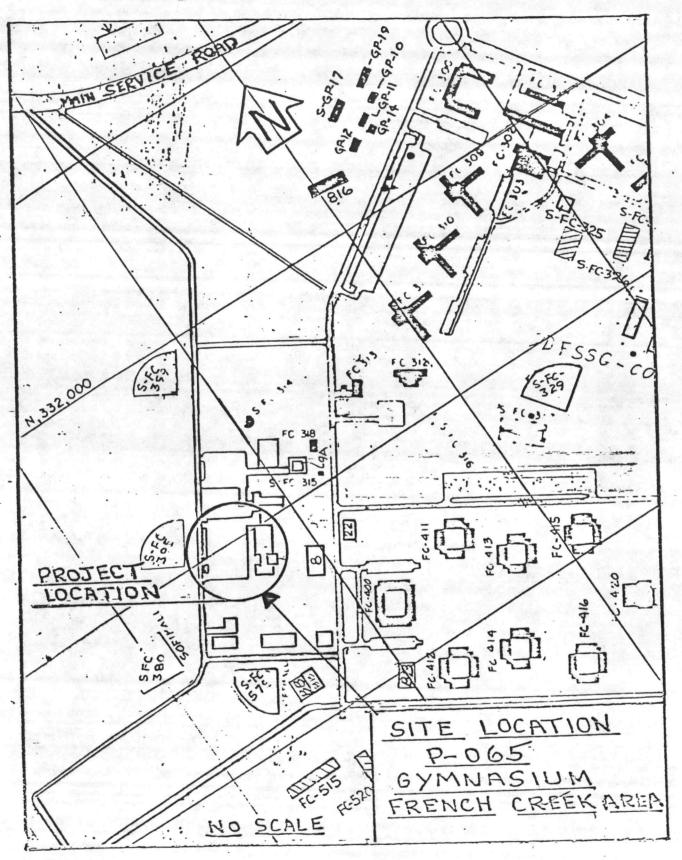
By direction

APPROVING OFFICIALITY

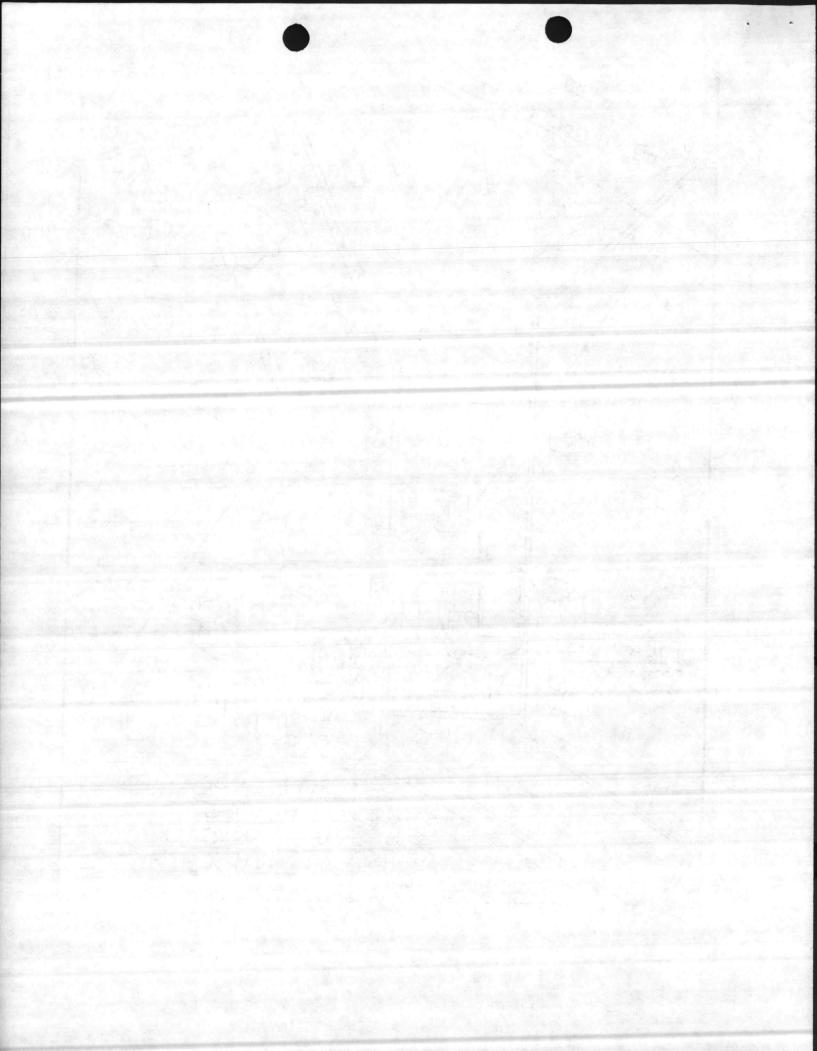
20 NOV 1981

DATE





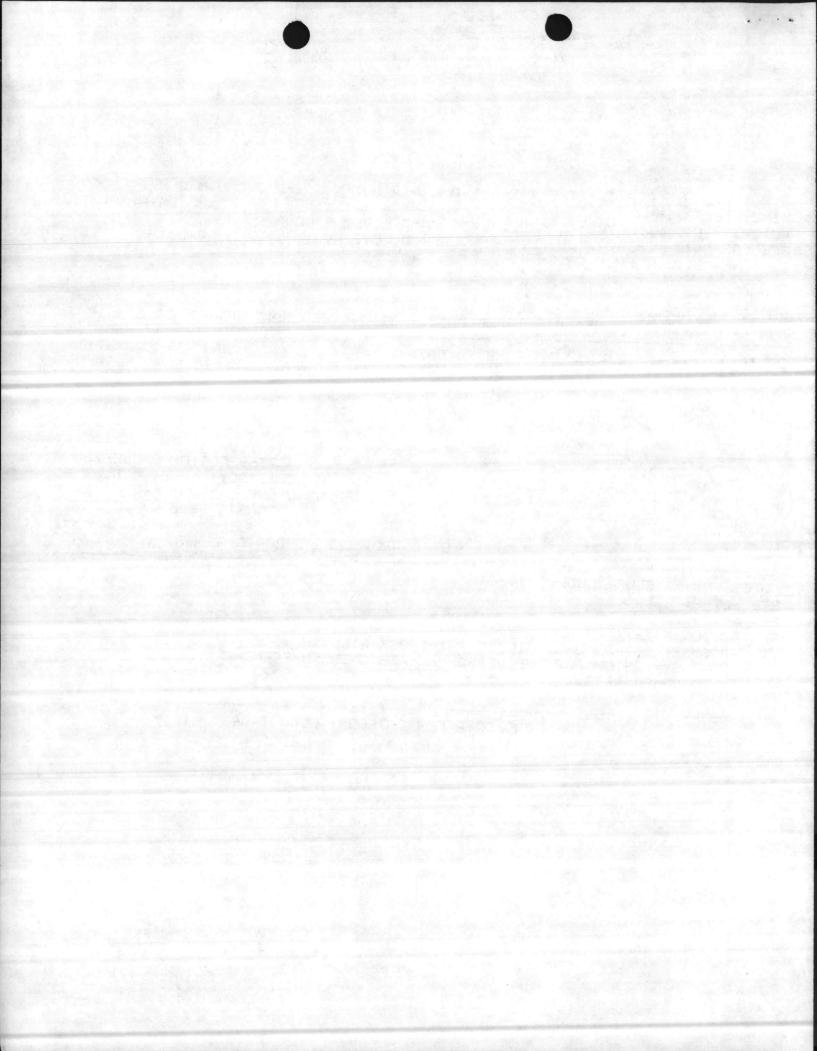
ENCLOSURE (1)



FACILITIES PLANNING DOCUMENT DATE: 07/31/86 TIME: 11.53.15 ACTIVITY UIC...M67001 NAME...MCB CAMP LEJEUNE NC @m2H1H m S'H D F SPEC AREA41@HPORT @4, LU-LU, LOCKED, SYS AV NAME...FRENCH CREEK CATEGORY CODE...74043 DESCRIPTION...GYMNASIUM ROMT DATE. 27 MAR 86 LATEST CHG DATE. 31 JUL 86 ROMT APPRVL DATE. 18 JUL 80 BASIC FACILITY ASSETS DATA QUANTITY QUANTITY
FAC ROMT UM ADEQUATE SUBSTNRD INADEQUATE OTHER DEFICIENT SURPLUS QUANTITY QUANTITY 48000 3200 48000 (SF) SATISFACTION OF DEF/SURP FACILITY DETAIL FAC NO U EE C ADEQUATE SUBSTARD INADEQTE DEF CODESISI ACTION ID D SCOPE N FC318 N 82 P 3200 B30D30C30 USE + 2400 ACQ TOTAL PROPOSED ADEQUATE ASSETS = 23400 NOTES FOR CATEGORY CODE.. 74043 STD NOTES: GEN NOTES: FPD ACTION NOTES: P065 FY 90 PROPOSED MILCON EST 2200K WILL PROVIDE A GYMNASIUM FOR THE PERSONNEL ASSIGNED TO FRENCH CREEK AREA.

END DATA FOR CATEGORY CODE 74043

------EiEi------



2. DATE 20 Feb 86 . COMPONENT MARINE CORPS FY 19 89 MILITARY CONSTRUCTION PROJECT DATA 3. INSTALLATION AND LOCATION 4. PROJECT TITLE MARINE CORPS BASE GYMNASIUM, FRENCH CREEK CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROGRAM ELEMENT 6. CATEGORY CODE 8. PROJECT COST (\$000) 7. PROJECT NUMBER 740-43 P-065 \*2,200

ITEM	U/M	QUANTITY	COST	(\$000)
GYMNASIUM	SF	21,000	73.00	1,533
Building	SF	21,000	69.38	(1,457)
Built-in Equipment	LS		-	(76)
SUPPORTING FACILITIES	LS	-	-	390
Utilities	LS		-	(155)
Roads, Parking Sidewalks	LS	-	-	(104)
Site Improvements	LS		-	(55)
Special Construction Features	LS	Since the state of	-	(76)
SUBTOTAL				1,923
CONTINGENCY 5%				96
SUBTOTAL				2,019
SUPERVISION, INSPECTION & OVERHEAD - 5.5%		Section 1		110
TOTAL REQUEST				2,129
TOTAL (ROUNDED)			2.1	2,100
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS			(NON ADD	) -
*Cost based on LANTDIV certified cost of 9 Dec 85 and escalated 3.70% to FY-89.				*2,200

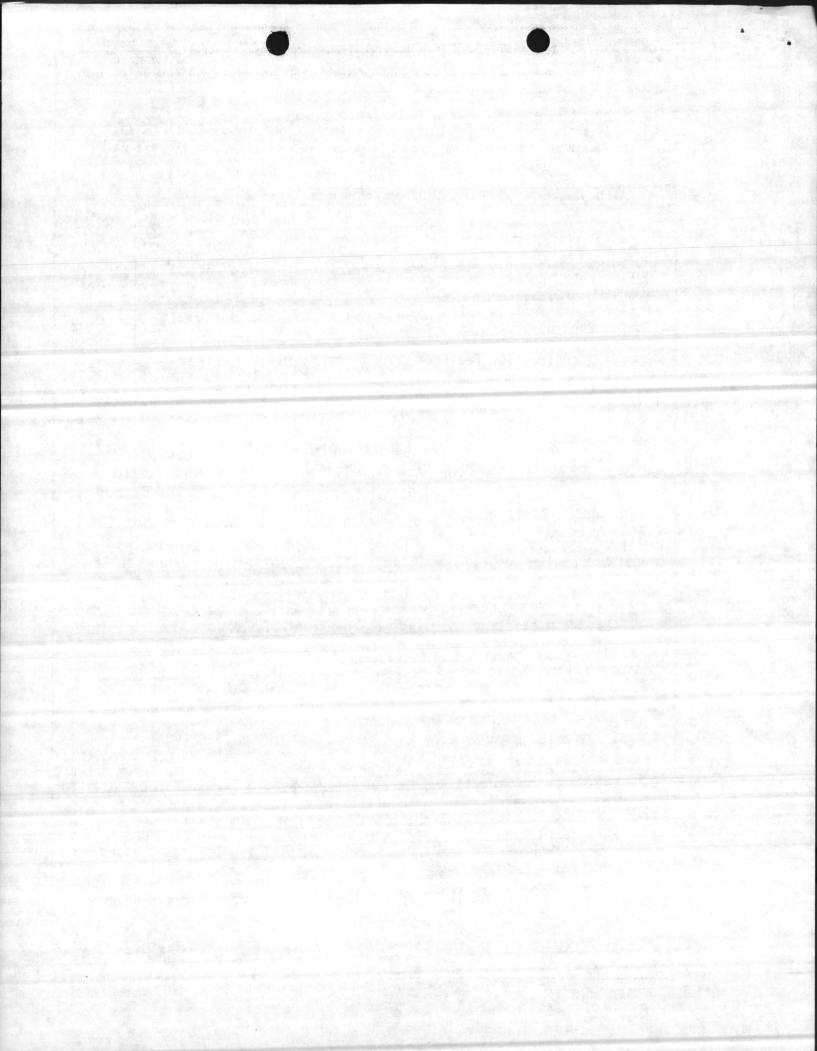
10. DESCRIPTION OF PROPOSED CONSTRUCTION

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area.

Air Conditioning: 5 tons

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF

PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: This gymnasium is required as a part of the 2d FSSG complex, a portion of which is under construction. As the Force Troops units move into the new complex, they will become separated from the Hadnot Point facilities which are overcrowded anyway, and will have to have recreational facilities within the new complex. A gymnasium is the ideal facility for the Marines to maintain a high physical fitness condition, as required by CMC directives and a place for him to participate in all indoor type sports and games. The intermural sports program will consist of the following activities: Badminton, Handball, Racquetball, Weight lifting, Basketball, Volleyball, Karate, Wrestling and Boxing. This center will provide a sorely needed "neighborhood" type athletic facility for the 10,000 plus personnel assigned to the 2d FSSG forces.



1. COMPONENT MARINE CORPS FY 15 MILITARY CONSTRUCTION PROJECT DATA 20 Feb 86 3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

GYMANSIUM, FRENCH CREEK

5. PROJECT NUMBER

P-065

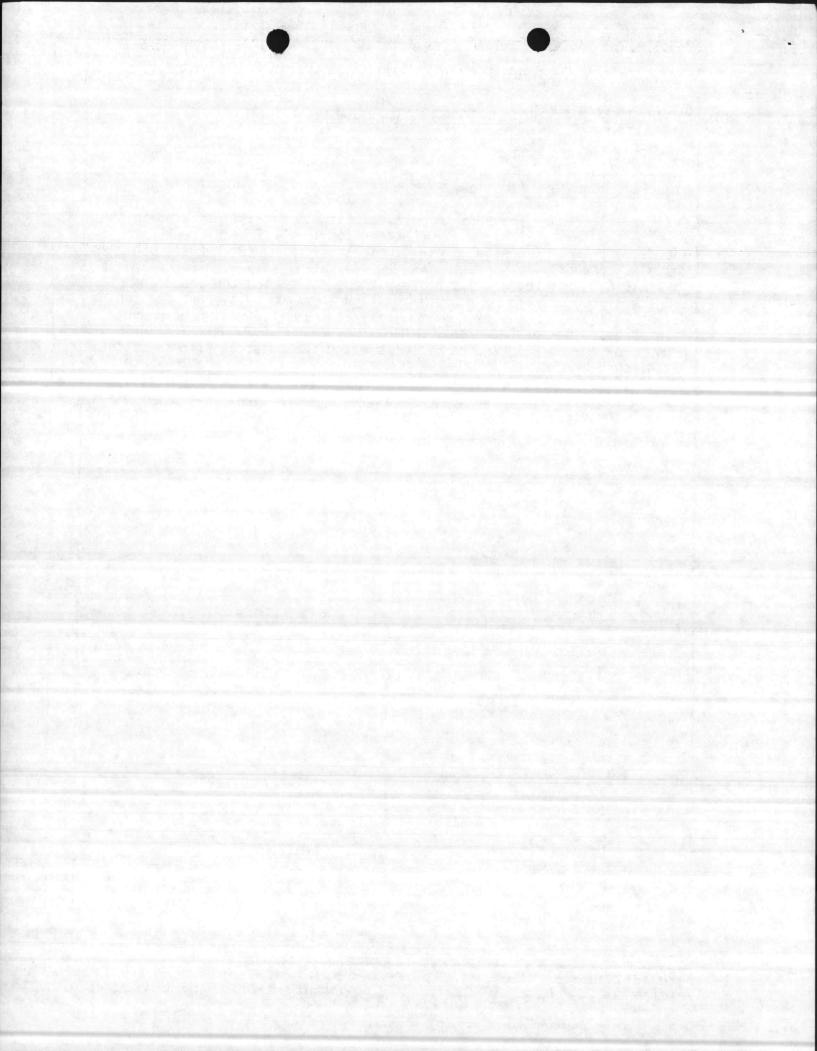
## (cont'd) REQUIREMENTS:

CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions. The Force Troops physical fitness program will be less than desired and the indoor sports and games program will be non-existent and impaired by overcrowded conditions existing in the nearest facility that is located in the Hadnot Point Area. The morale, proper athletic training and physical fitness program of the 2d FSSG troops is not meeting the physical fitness criteria established by CMC.

IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 10,000 plus personnel assigned to the

2d FSSG forces.

FWE



COMPONENT	
MARINE CORPS	FY 1989 MILITARY CONSTRUCTION PROJECT DATA

2. DATE

20 Feb86.

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

5. PROJECT NUMBER

GYMNASIUM

P-065

## SPECIAL CONSIDERATIONS

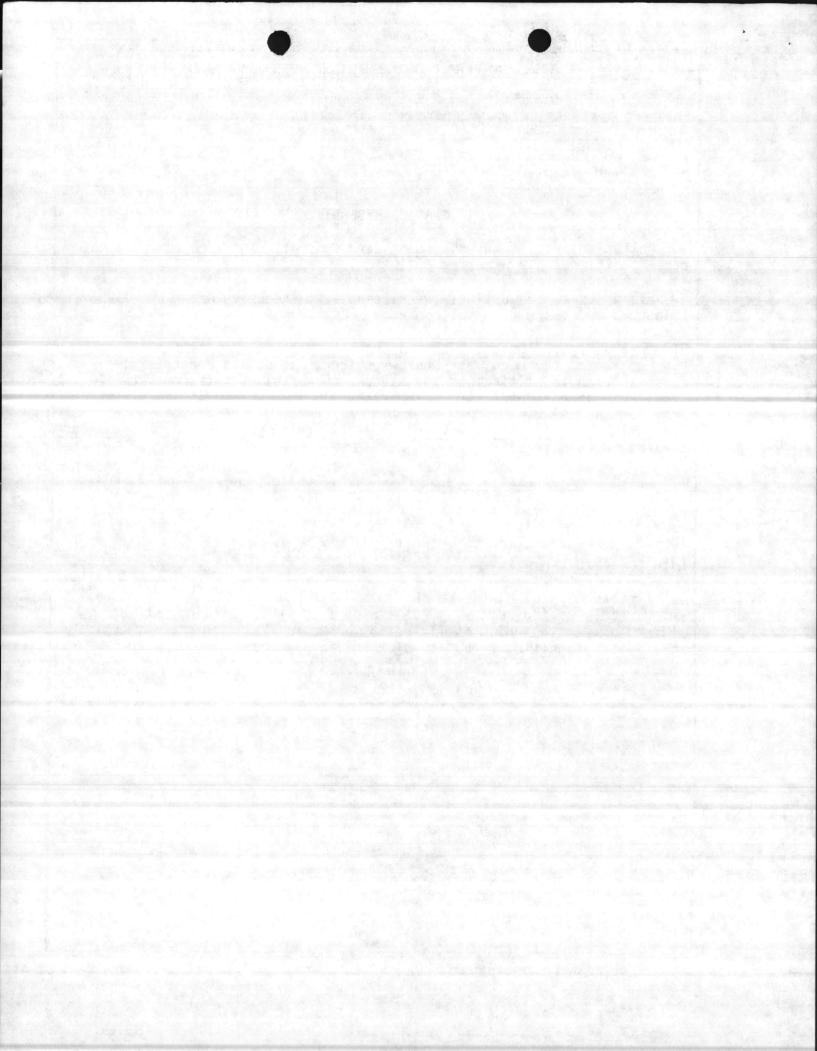
- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is not incorporated in this facility.
- 5. Design for Accessibility of Physically Handicapped Personnel: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform with DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: This project does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.

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UNTIL EXHAUSTED

PAGE NO. 3 of 3

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FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

2. DATE

20 Feb 86

MARINE CORPS 3 INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

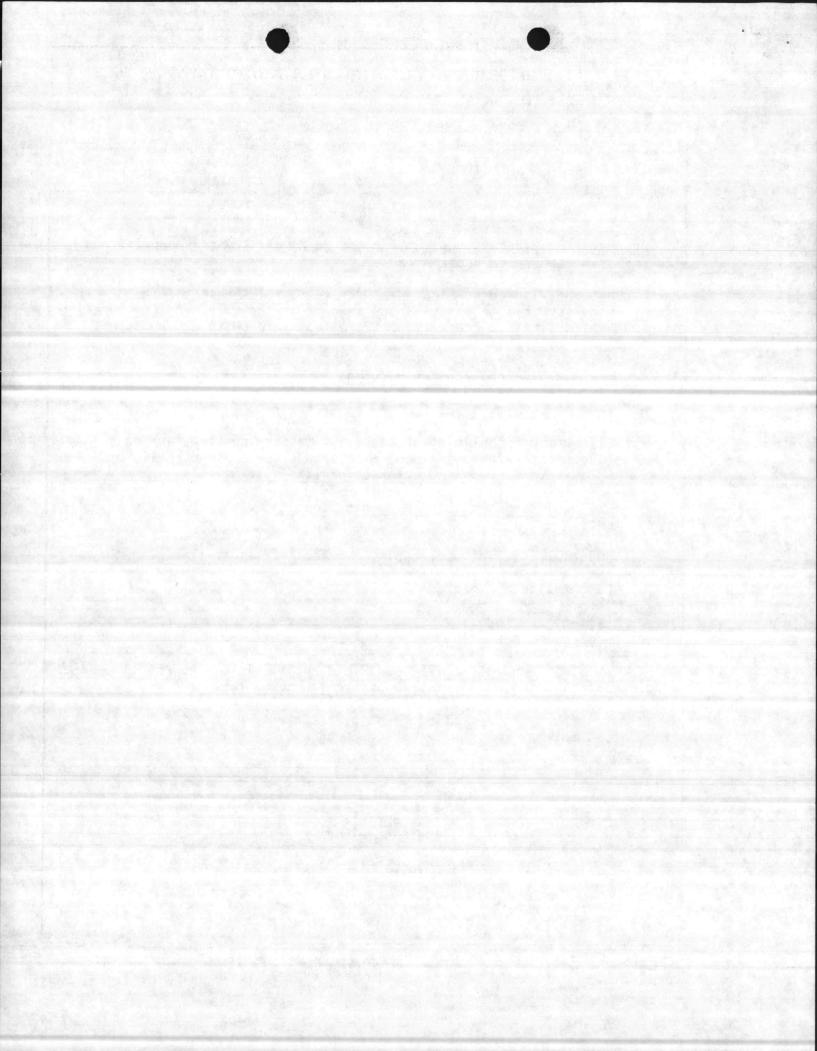
5. PROJECT NUMBER

GYMNASIUM, FRENCH CREEK

P-065

#### FACILITY STUDY

- Project: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. Current and Planned Workload with Regard to this Project: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. Description of Proposed Construction:
  - Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - Description of Work to be Done:
- (1) Primary Facility. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) Support Facilities. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



1. COMPONENT MARINE CORPS

# FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

DATE

120 Feb 86

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

GYMNASIUM, FRENCH CREEK .

5. PROJECT NUMBER

P- 065

### (a) Built-in MCON Funded: (Continued)

\*Fire Alarm System

\*Telephone System

\*Intercom System

\*Water Coolers

\*Whirlpools

\*Locker Room Benches

\*Folding Bleachers (seats)

\*Racketball Courts (including special walls, floor, & viewing windows)

\*Men's Sauna

\*Women's Sauna

\*Trophy Cases

\*Scoreboards

\*Gym Divider Curtain

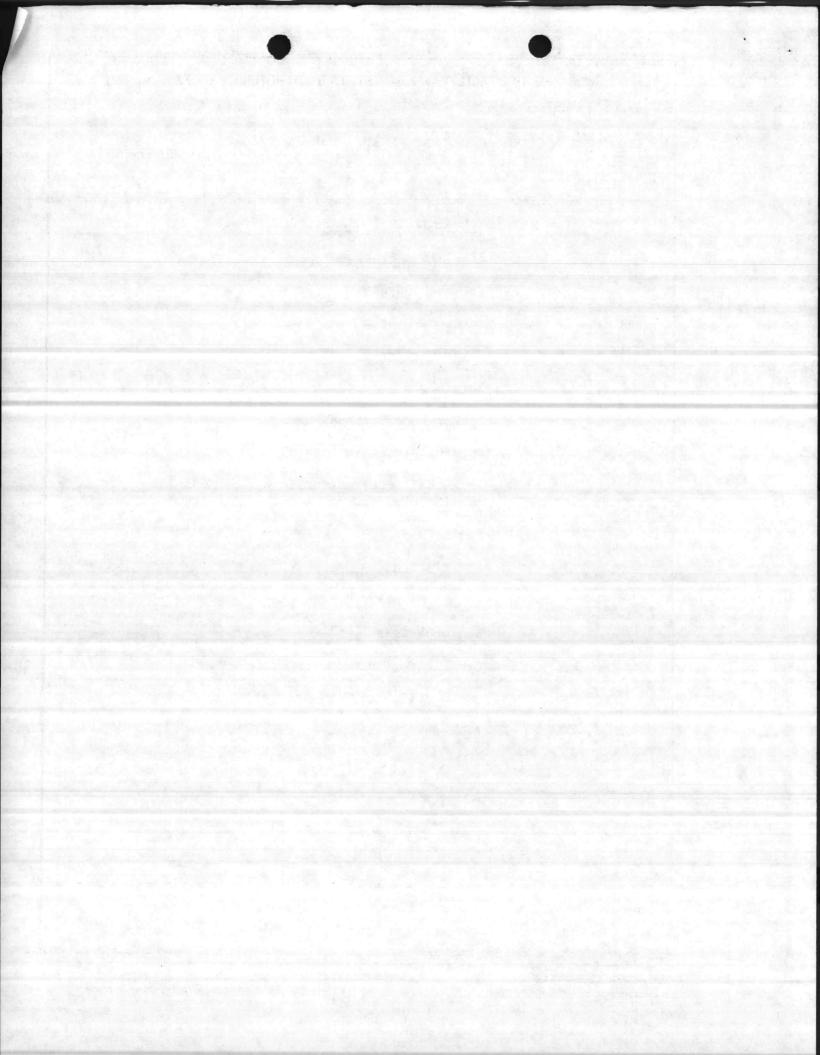
\*Basketball Backstop - competition

\*Basketball Backstop - practice

\*Chalk and Tack Boards

\*Lockers

5 N 0107 LF-001 2915



### FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

2. DATE 20 Feb 86

MARINE CORPS

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

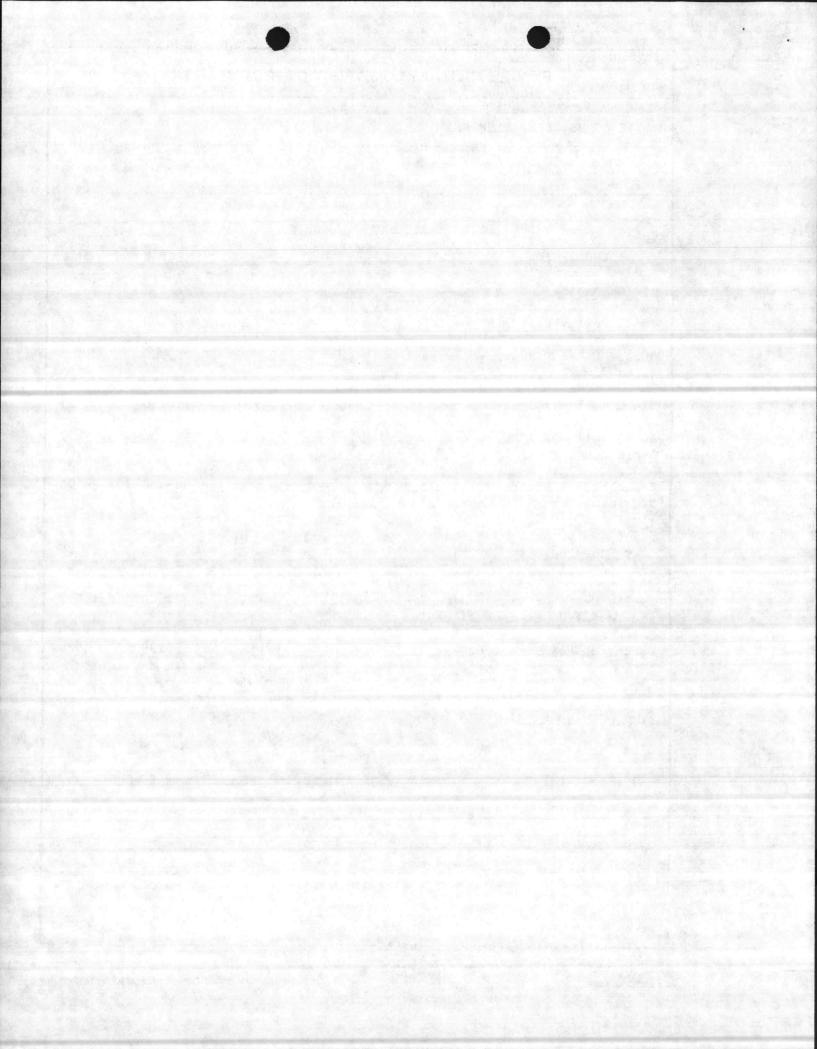
4. PROJECT TITLE

5. PROJECT NUMBER

GYMNASIUM , FRENCH CREEK

P-065

EA PR PR EA	\$ 41.00 250.00	\$ 82 500
PR PR	250.00	
PR		500
	14.50	
EA		29
	100.00	200
EA	1,595.00	3,190
LF EA	19 75.00	19 75
SETS	739.00	1,478
EA	165.90	664
EA	6.30	1:
EA	462.00	46
EA	76.00	15
EA	366.00	36
EA	140-00	280
EA	200.00	200



# FY 1989 MILITARY CONSTRUCTION PROJECT DATA

2. DATE

20 Feb 86

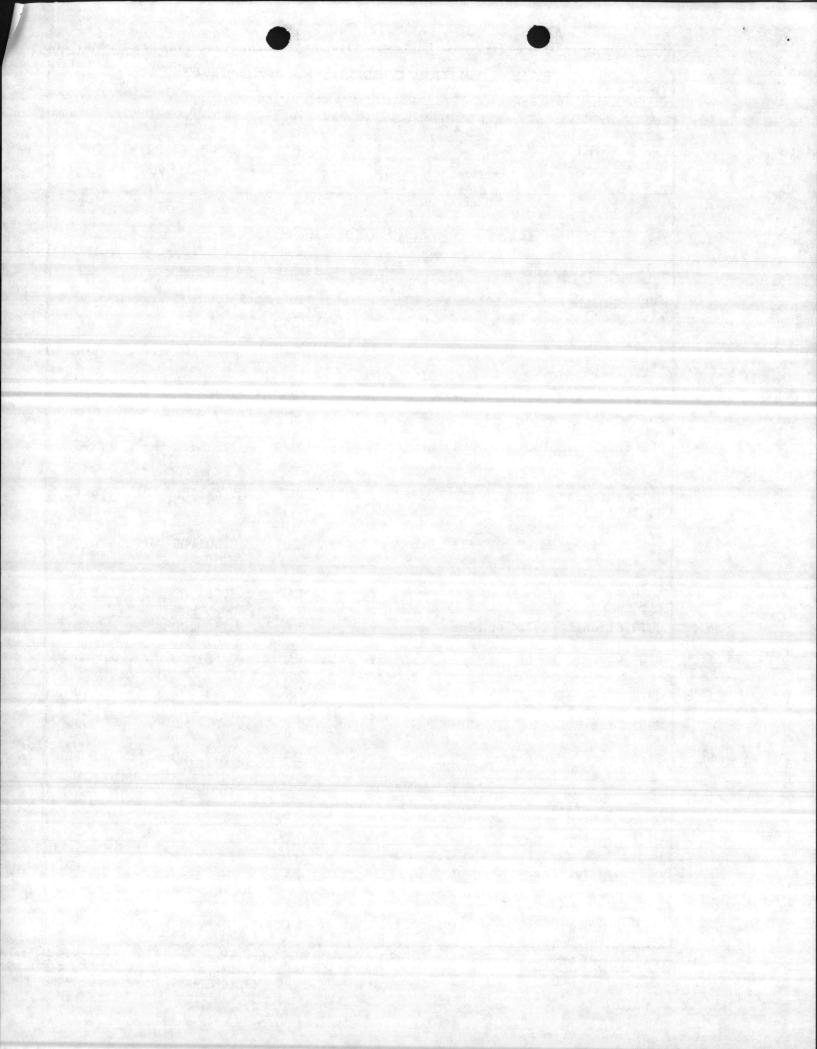
MARINE CORPS

3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE
GYMNASIUM , FRENCH CREEK

5. PROJECT NUMBER
P-065

DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL
super Leg Extension (All chrome equipment)	1	EA	\$2,460.00	\$2,460
eg Curl Machine (All chrome equipment)	1	EA	2,020.00	2,020
Corso Arm Machine (All chrome quipment)	1	EA	2,290.00	2,290
abdominal Machine (All chrome equipment)	1	EA	2,925.00	2,295
Multi-Biceps Machine (All chrome equipment)	1	EA	1,955.00	1,955
Multi-Triceps Machine (All chrome equipment)	1	EA	2,005.00	2,005
3038 Power Leg Machine	1	EA	2,099.00	2,099
3070 Standing Calf Machine	1	EA	890.00	890
3005 Olympic Lever Bar	1	EA	583.00	583
3060 Seated Preacher's Curl Bench	2	EA	435.00	870
3052 Free Standing Dip Stand	1	EA	371.00	371
745 Comb Roman Chair/Back Hypertension Bench	1	EA	532.00	532
673 Rubber Weight Room Flooring	720	SF	4.10	2,952
748 Adj. Standing Incline Bench	2	EA	415.00	830
9407 Decline Exercise Bench	2	EA	325.00	650
9456 Flat Exercise Bench	2	EA .	169.00	338



## FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

2. DATE 20 Feb 86

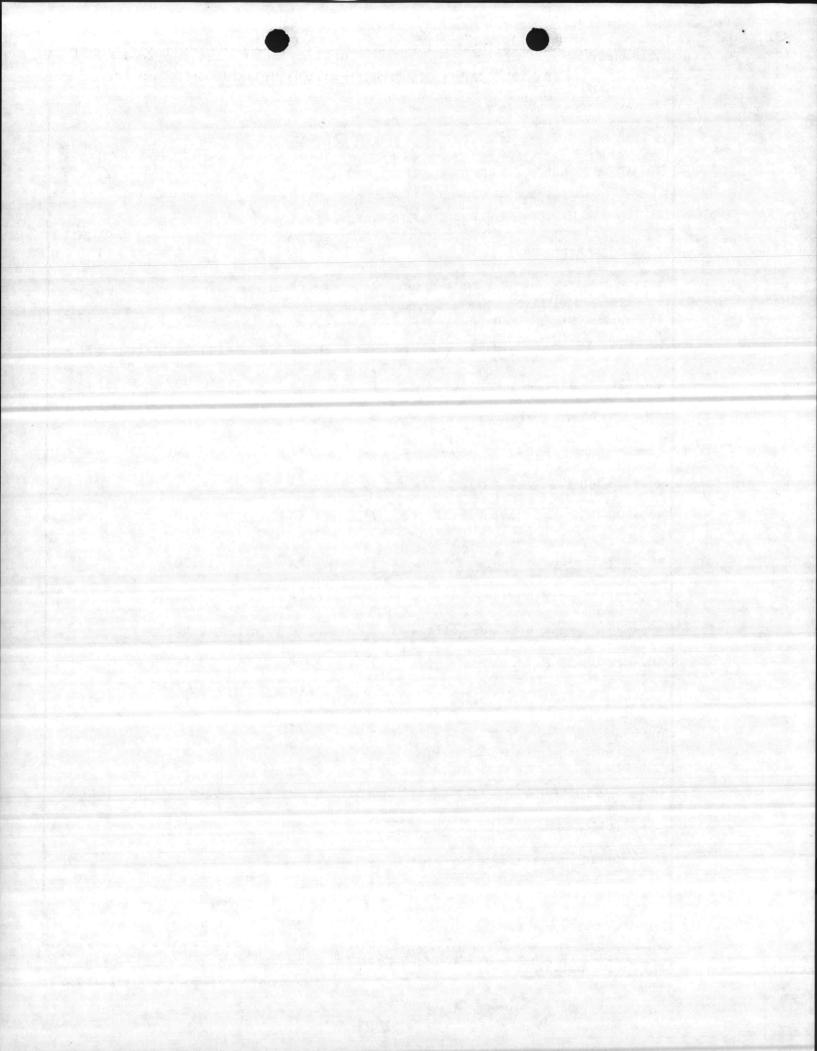
MARINE CORPS

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE GYMNASIUM, FRENCH CREEK 5. PROJECT NUMBER
P-065

DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL
3091 Multi-Purpose Exercise Bench	2	EA	\$ 331.00	\$ 662
9419 Shoulder Press High Stool	2	EA	87.00	174
436-021 Competition Bench Manual	3	EA	195.00	585
436-026 Incline Bench Manual	1	EA	240.00	240
436-028 Spotter Platform	1	EA	42.00	42
436-048 Squat Rack	1	EA	240.00	240
436-034 Squat Stool, Adj.	1	EA	63.00	63
436-300 High Lat Pulley Wall Mtd 350 lbs.	1	EA	530.00	530
436-303 Tricep - Handle	1	EA	19.00	19
436-221 Olympic Curling Bar	3	EA	65.00	195
436-225 Olympic Curling Collars	6	PR	110.00	660
407-011 Chalk Holder	2	EA	33.00	66
Clock, Electric	1	EA	6.30	6
Desk, Double Pedestal	1	EA	299.00	299
Chair, w/arms	1	EA	58.00	58
OLBB Olympic Bars	8	EA	184.50	1,476
Olympic Collars	8	PR	34.50	276
York Solid Dumbells, Size 15 to 100 lbs in 5 lb increments (2,070 lbs)	1	LOT	.63	1,304
(2,070 105)				



1. COMPONENT MARINE CORPS

### FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

2. DATE

20 Feb 86

3. INSTALLATION AND LOCATION '

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

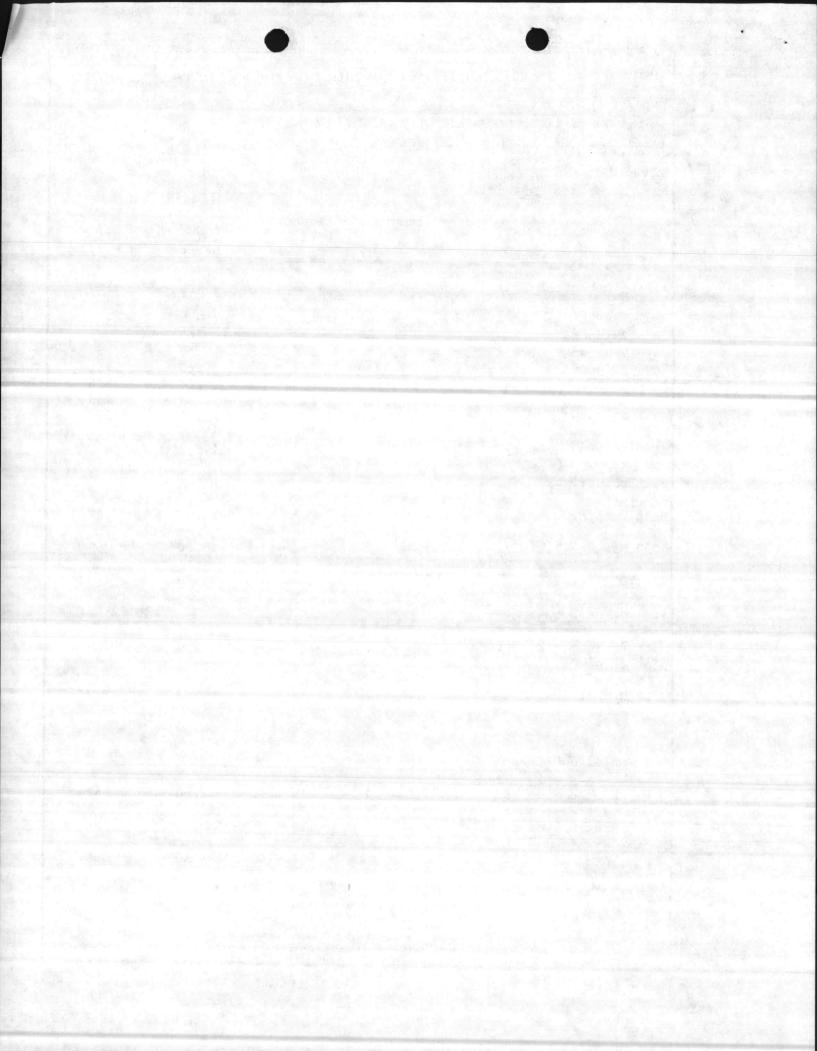
4. PROJECT TITLE

ĞYMNASIUM, FRENCH CREEK

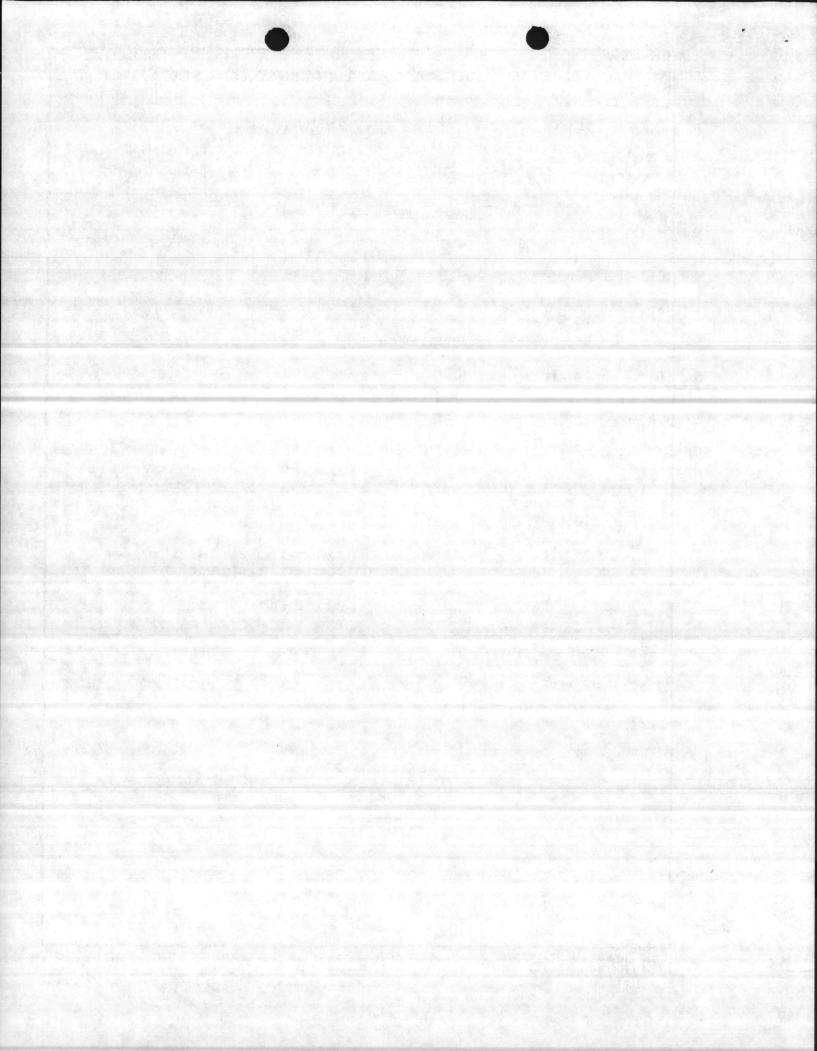
5. PROJECT NUMBER

P- 065

		UNIT OF		UNIT		TOTAL	
DESCRIPTIONS	QTY	ISSUE		PRICE		COST	
Triangle Plate Holder	8	EA	\$	45.00	\$	360	
Olympic Plates:							
24 - 2½ pound	60	LBS		.67		40	
24 - 5 pound	120	LBS		.67		80	
24 - 10 pound	240	LBS		.67		161	
32 - 25 pound	800	LBS		.67		536	
32 - 35 pound	1,120	LBS		.67		750	
32 - 45 pound	1,440	LBS		.67		965	
SR-7 Schwinn Exerciser	2	EA		211.61		423	
3. Trainer's Room:							
Heat Lamp #202	2	EA		196.00		392	
7850 Massage Table	2	EA		380.00		760	
Clock, Electric	2	EA		6.30		13	
4. Locker Rooms:							
Mirror, ½" thick electro-copper plated (4'x6')	6	EA		90.00		540	
7582 Gym Scales	2	EA		366.00		732	
Clock, Electric	2	EA	kom 1	6.30	ea Neg p	13	
5. Athletic Office:							
Desk, Double Pedestal	1	. EA		342.00		342	
Desk, Single Pedestal	1	EA		259.00		259	
Chair, w/arms	1	EA		286.00		286	
Chair, w/o arms	1	EA		154.00		154	
File Cabinet (ltr size)	1	EA		132.00		132	



				2. DAT	E
NSTRU	ICTION PROJE	CT	ATA	,20 F	eb 86
		7,4		465	
ORTH CA	AROLINA 285	42			
					MBER
			P-	065	
	UNIT OF		UNIT		TOTAL
1	EA	\$			
2	EA		78.50		157
1	EA		6.30		6
4	EA		549.00		2,196
2	EA		-		
2	EA		<u></u>		_
1	EA ·		299.0	00	299
4	EA		58.0	00	232
2	EA		57.0	00	114
1	EA		223.0	00	223
1.	EA		6.3	30	6
2	EA		200.0	00	400
5	EA		130.0	00	650
8	EA		27.	75	222
	PRTH CA  (Cor.  QTY  1  2  1  4  2  2  ment tontrac  1  4  2  1  1  2  5	CONTINUED  CONTINUED	CONTINUED  CONTINUED  UNIT OF  OTY ISSUE  1 EA  1 EA  2 EA  2 EA  2 EA  ment to provide washer contractor with equipments  1 EA  4 EA  1 EA  2 EA  1 EA  2 EA  2 EA  2 EA  3 EA  4 EA  4 EA  5 EA	PRINCETION PROJECT DATA  ORTH CAROLINA 28542    S. PROJECT P-	DRTH CAROLINA 28542    Continued   UNIT OF UNIT OTY ISSUE PRICE     1



. COMPONENT					2. D.\TE	
MARINE CORPS FY 19	89 MILITARY CON	STRUCTI	ON PROJEC	CT DATA 20 Feb86		
3. INSTALLATION AND LOCAT	ION '					
MARINE CORPS BASE, C	AMP LEJEUNE, NOR	TH CAROI	INA 28542			
4. PROJECT TITLE				5. PROJE	CT NUMBER	
ĞYMNASIUM		P -	065			
	TOTAL	EXPENSE	I ITEMS		50,852	
(c)	Investment Item	ıs:				
DESCRIPTION		OTTY	UNIT OF	UNIT		
DESCRIPTION		QTY	· ISSUE	PRIC	E COST	
6625 Boxing Ring Com	plete	1	EA	\$7,300.0	0 \$7,300	
8855 Wrestling Mat 3	2	EA .	6,300.0	0 12,600		
Duo Hip and Back Mac equipment)	hine (All chrome	1	EA	3,160.0	0 3,160	
Super Pullover Machi equipment)	ne (All chrome	1	EA	4,060.0	0 4,060	
Double Chest Machine	(painted silver	) 1	EA	4,230.0	0 4,230	
Double Shoulder Mach	ine (painted	1	EA	4,100.0	0 4,100	
SIIVE!	TOTAL	INVEST	MENT ITEMS		35,450	
(d)	APA Equipment:	None.				
(e)	Training Equipm	ent: No	one.			
(f)	Equipment on Ha	ind:				
	1. Built-in Eq	uipment:	None.			
	2. Expense Ite	ems: Nor	ne.			
	3. Investment	Items:	None.			
	4. APA Equipme	nt: Nor	ne.			

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UNTIL EXHAUSTED

5. Training Equipment: None.

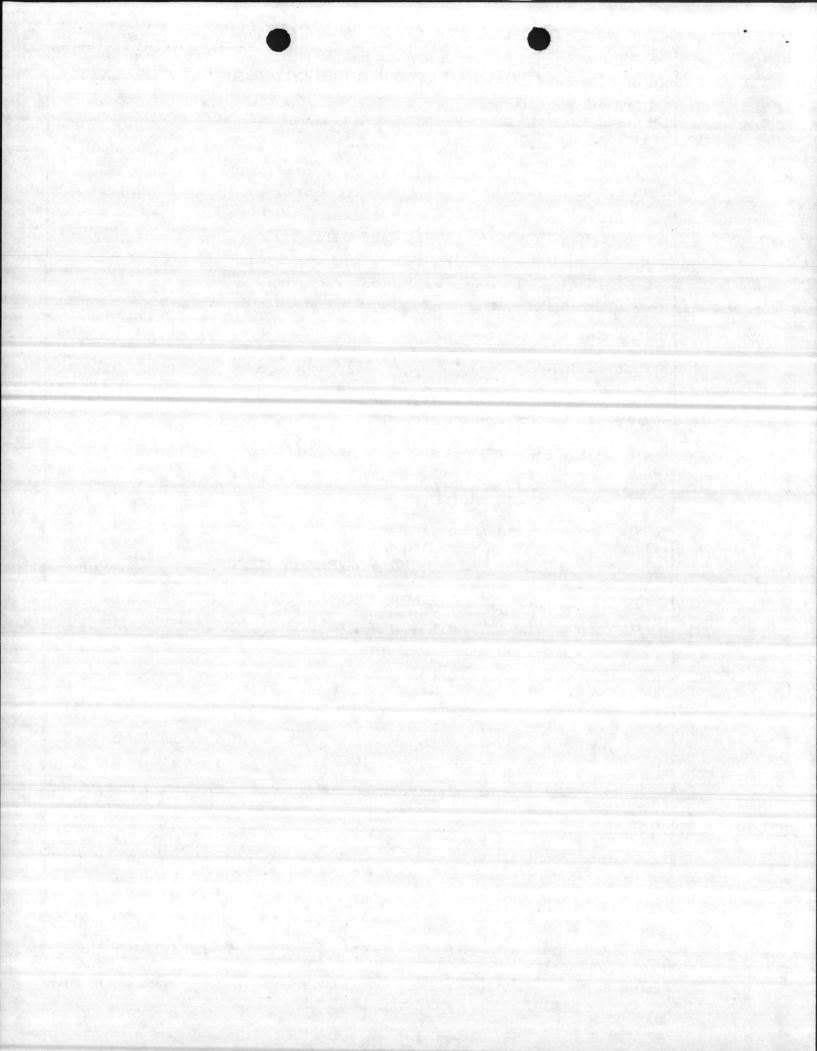
EXPENSE COST:
 INVESTMENT COST:

(g) Summary:

PAGENO. 8 of 11

\$50,852. 35,450 \$86,302

TOTAL



OMPONENT		
	EV 40 '80 MILITARY CONSTRUCTIV	-

2. DATE

20 Feb 86

MARINE CORPS

FY 19 89 MILITARY CONSTRUCTION PROJECT DATA

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

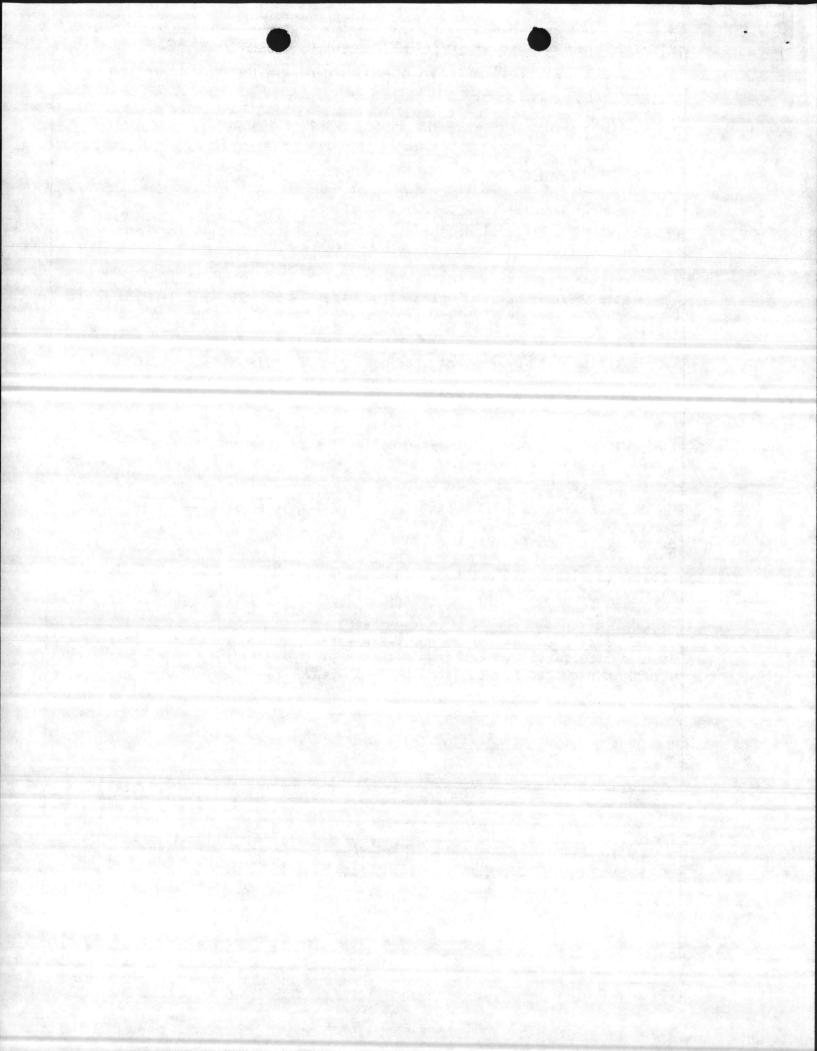
4. PROJECT TITLE

5. PROJECT NUMBER

GYMNASIUM, FRENCH CREEK

P-065

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.86, from the Military Construction Cost Review Guide, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-89 to provide the cost for the proposed facility.
- 5. Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG-complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. Common Support Facilities. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



2. DATE 1. COMPONENT FY MILITARY CONSTRUCTION PI ECT DATA 20 Feb 86 FY-89 MARINE CORPS 3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROJECT NUMBER 4. PROJECT TITLE P-065 GYMNASIUM, FRENCH CREEK UTILITY REQUIREMENTS Consumption 71,995 KWHR/yr a. Electricity: 56 KW Peak Demand 41 KW Avg. Demand 10,690,250 lbs/yr Consumption Steam: 3,830 lbs/hr Demand 418.0 tons/yr Coal: Adequate utility requirements are available. 9. Siting of the Project. The facility will be located in the French Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1). 10. Other Graphic Presentations, including Photographs. None. 11. Economic Analysis. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area. 12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly

13. Quantitative Data:

controversial.

a. UNIT OF MEASURE

b. TOTAL REQUIREMENT

c. EXISTING SUBSTANDARD

d. EXISTING INADEQUATE

e. EXISTING ADEQUATE

f. OTHER ASSETS, NOT IN INVENTORY

g. FUNDED, NOT IN INVENTORY

h. ADEQUATE ASSETS (e + f + g)

DEFICIENCY (b - h)
 Total Requirement

Adequate Assets
DEFICIENCY

"SQUARE FEET"

48,000 SQUARE FEET

- 0 - SQUARE FEET - 0 - SOIARE FEET

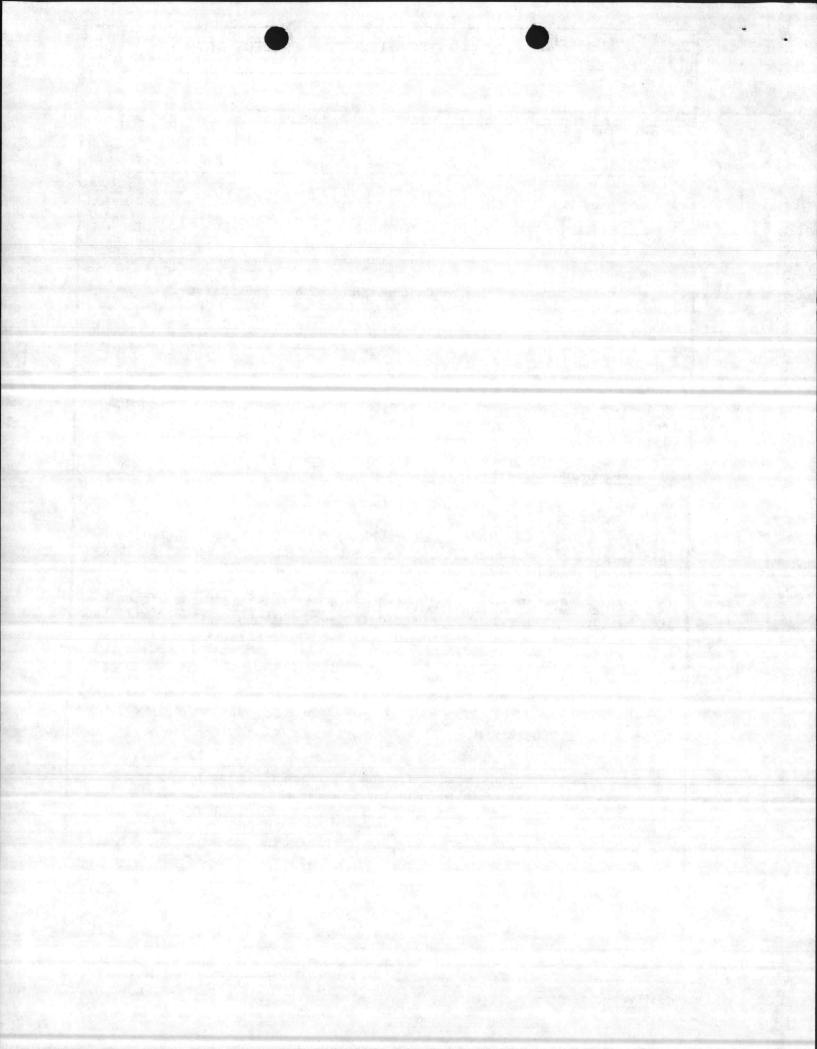
48,000 SOUARE FEET

48,000 SQUARE FEET

40,000 SQUARE TEE

- 0 - SQUARE FEET

48,000 SQUARE FEET



# MILITARY CONSTRUCTION PINECT DATA 20 Feb 86

MARINE CORPS FY-89

3 INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

5. PROJECT NUMBER

2. DATE

**GYMNASIUM** 

P-065

- Maintenance Facilities. Not Applicable.
- 15. Morale, Welfare and Recreation Facilities. NAVFAC P-80 states the requirement for Category Code 740-43, Gymnasium, is determined by a space allowance format based on military strength. The following allowance based on the FSR dated Jan 1985:

For 6,601 to 10,000 military strength, 3 gymnasiums @ 21.000SF = 63.000SF allowed.

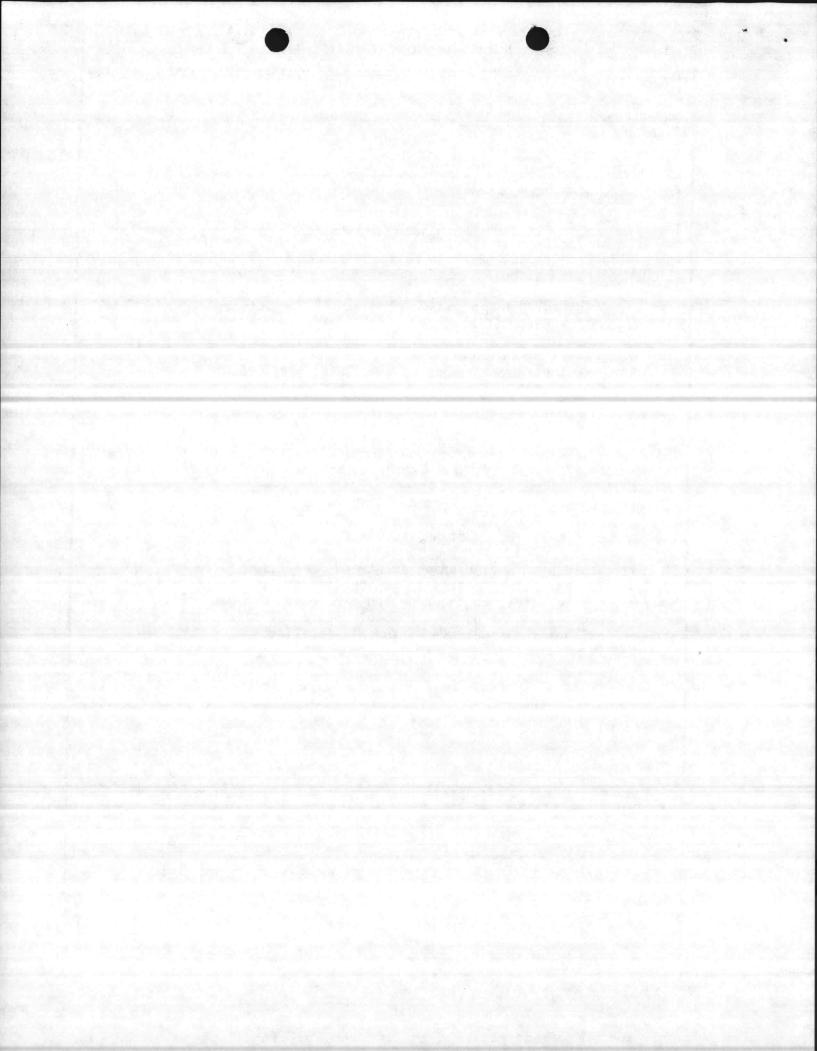
Master Plan Provisions: 3 Physical Fitness Centers (3 x 9,000SF) = 27,000SF 21,000SF 1 Gym

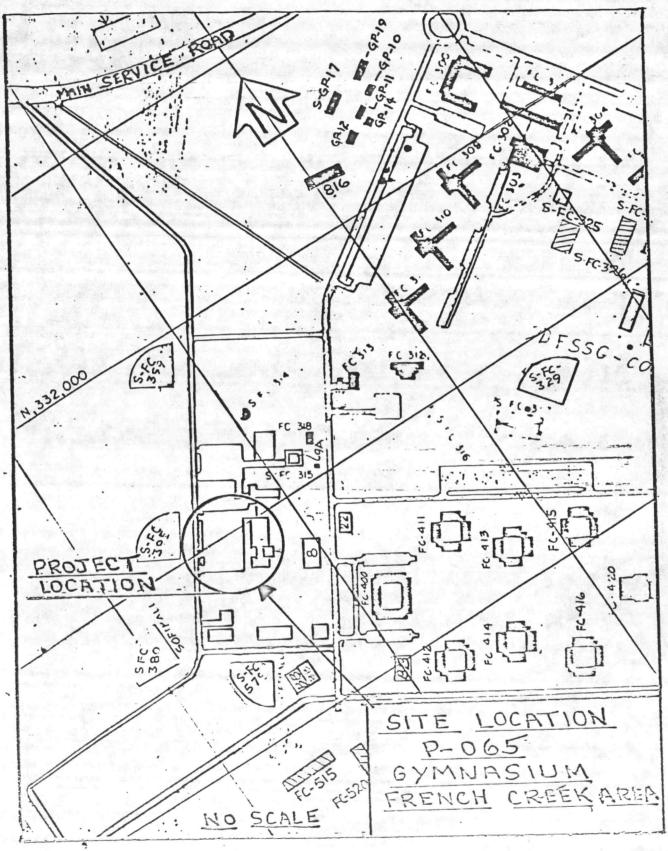
Total

48,000SF

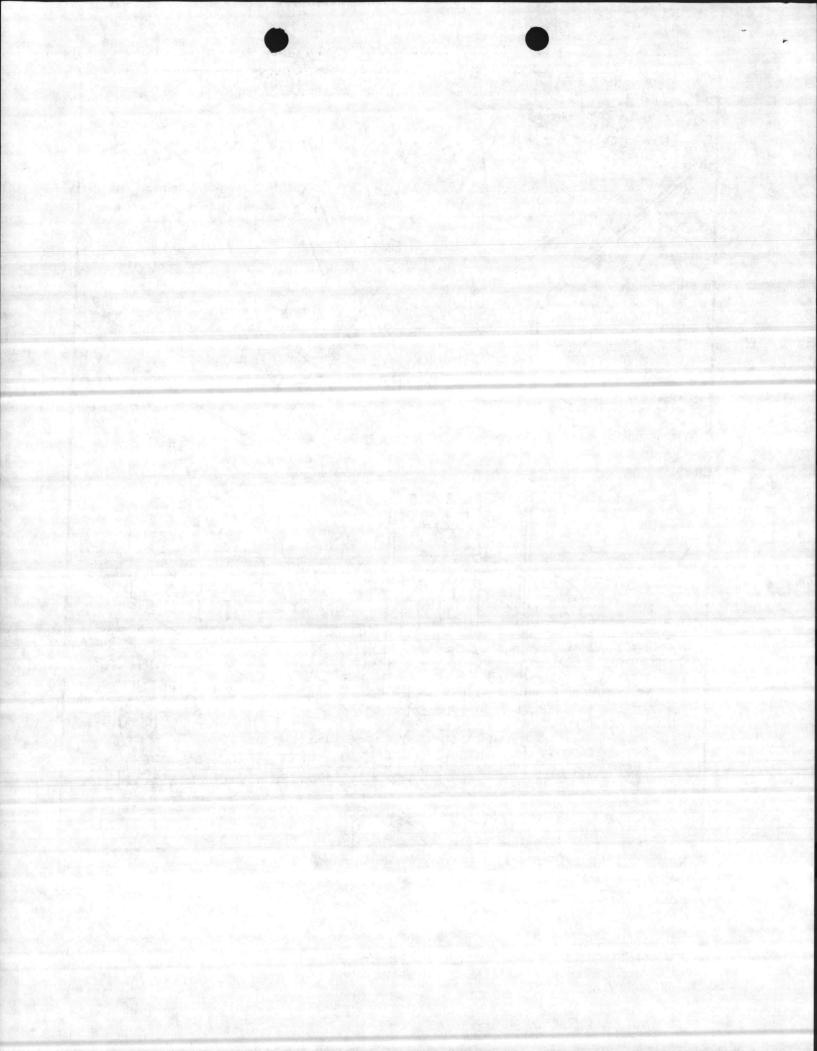
The design drawings are determined from the definitive drawings given in NAVFAC P-272, Part IV, NAVFAC Drawing Nos. 1294390 and 1294391(M).

- 16. Relocation Facilities. Not Applicable.
- 17. Storage Facilities. Not Applicable.
- 18. Hazards Identification, Assessment and Analysis. There does not appear to be any known hazards to be identified with this facility. However, system safety engineering and management programs will be used to ensure that the highest possible degree of safety and occupational health is designed into this facility.





ENCLOSURE (1)



2. DATE 1. COMPONENT FY 19 88 MILITARY CONSTRUCTION PROJECT DATA 1 July 1985 MARINE CORPS 3. INSTALLATION AND LOCATION 4. PROJECT TITLE MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA GYMNASIUM 5. PROGRAM ELEMENT 6. CATEGORY CODE 7. PROJECT NUMBER 8. PROJECT COST (\$000) 740-43 P-065 2,600

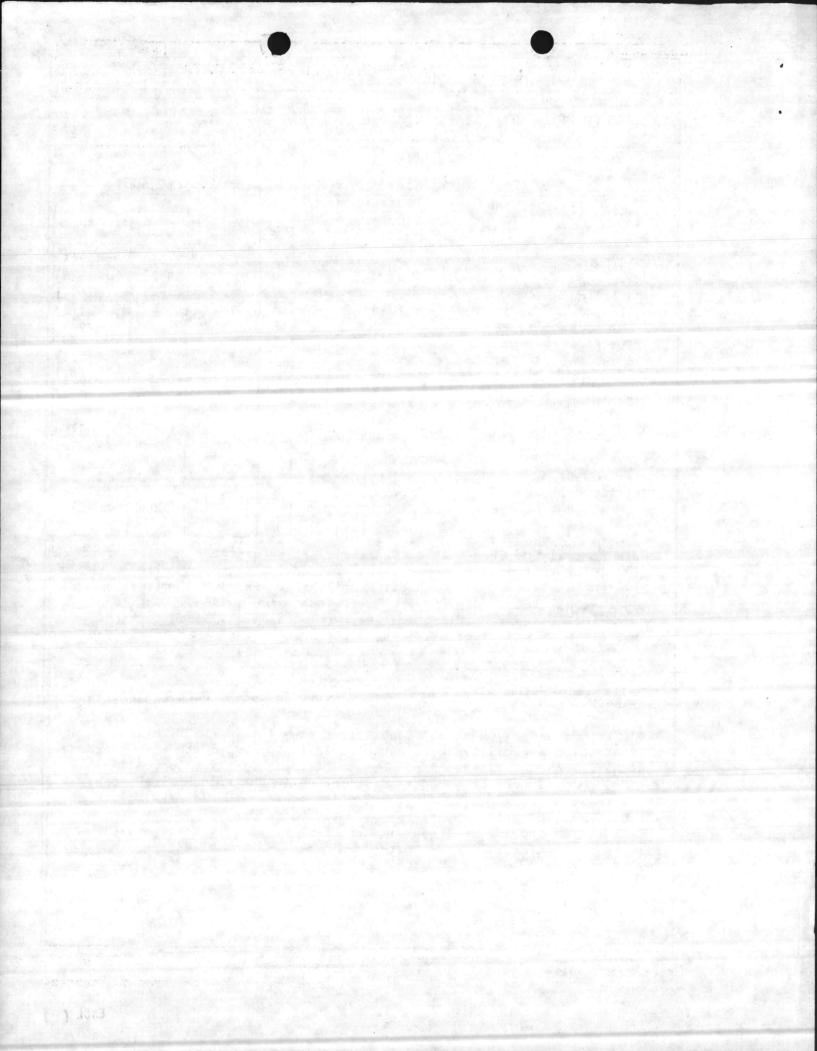
ITEM	U/M	QUANTITY	UNIT	COST (\$000)
GYMNASIUM	SF	21,000	87.90	1,846
Building	SF	21,000	80.28	(1,686)
Built-in Equipment	LS			(84)
Solar Hot Water System	LS		-	(76)
SUPPORTING FACILITIES	LS	<u>-</u> 194	-	429
Utilities	LS		-	(170)
Roads, Parking, Sidewalks	LS	**************************************	-	(114)
Site Improvements	LS	_	-	(61)
Special Construction Features SUBTOTAL	LS	-	-	2,275
CONTINGENCY5% SUBTOTAL				228
SUPERVISION, INSPECTION & OVERHEAD - 5.5%				138
TOTAL REQUEST TOTAL (ROUNDED)				2,641 2,600
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	(NONADD)	-0-

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air conditioning: 5 tons)

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF

PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: A facility to support the 2d FSSG planned athletic program. CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions. IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 10,000 plus personnel assigned to the 2d FSSG forces.

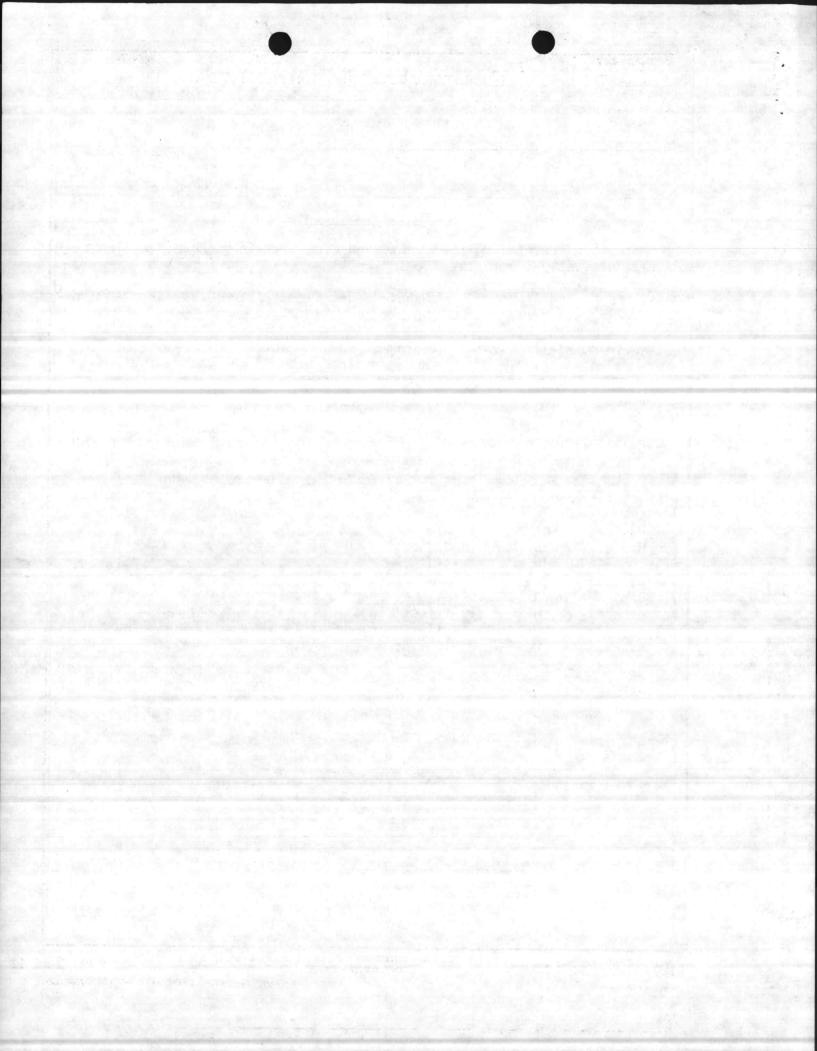
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MARINE CORPS	FY 19 88 MILITARY CONSTRUCTION PROJECT D	ATA 1 July 1985
MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
CYMNASTIM		5. PROJECT NUMBER P-065

### SPECIAL CONSIDERATIONS

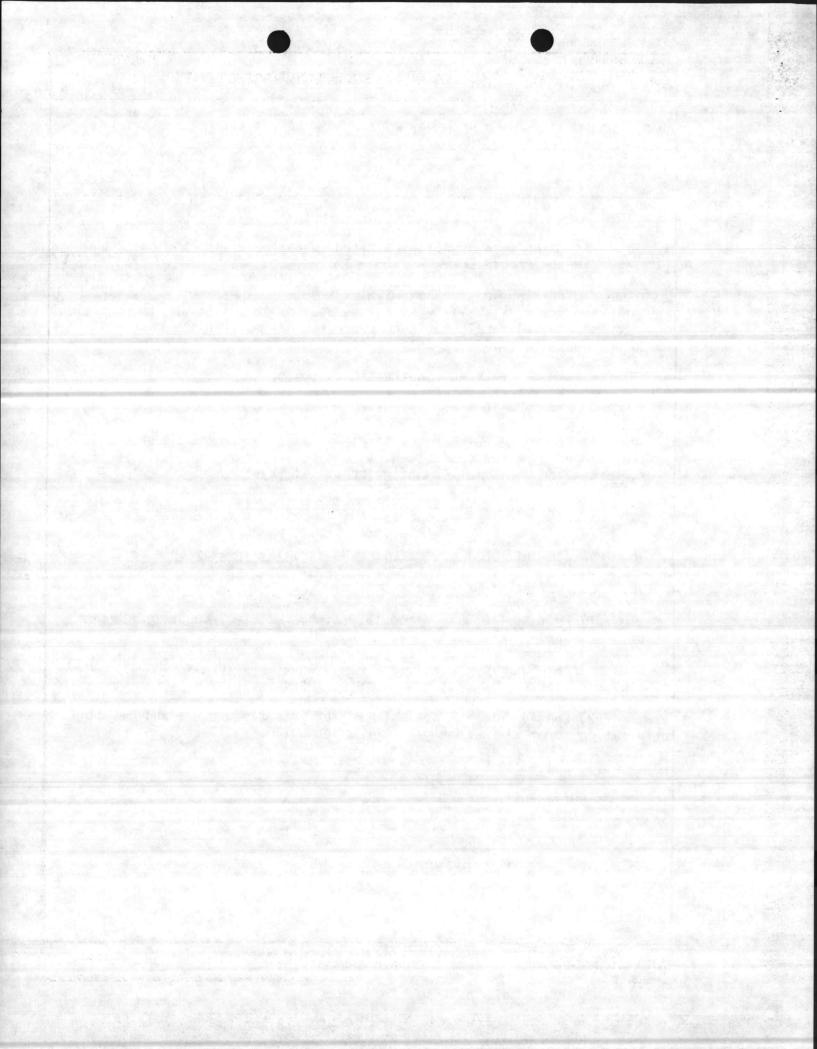
- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is not incorporated in this facility.
- 5. Design for Accessibility of Physically Handicapped Personnel: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform WITH DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: This project does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.



1. COMPONENT		2. DATE
MARINE CORPS	FY 19 88 MILITARY CONSTRUCTION PROJECT DAT	A 1 July 1985
3. INSTALLATION AN	ND LOCATION .	
MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE	5. F	PROJECT NUMBER
GYMNASIUM		P-065

### FACILITY STUDY

- 1. <u>Project</u>: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. <u>Current and Planned Workload with Regard to this Project</u>: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- Description of Proposed Construction:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) <u>Primary Facility</u>. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) Support Facilities. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



MARINE CORPS FY 19 88 MILITARY CONSTRUCTION PROJECT DATA

2. DATE 1 July 1985

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE
GYMNASIUM

5. PROJECT NUMBER

P- 065

#### (a) Built-in MCON Funded: (Continued)

\*Fire Alarm System

\*Telephone System

\*Intercom System

\*Water Coolers

\*Whirlpools

\*Locker Room Benches

\*Folding Bleachers (seats)

\*Racketball Courts (including special walls, floor, & viewing windows)

\*Men's Sauna

\*Women's Sauna

\*Trophy Cases

\*Scoreboards

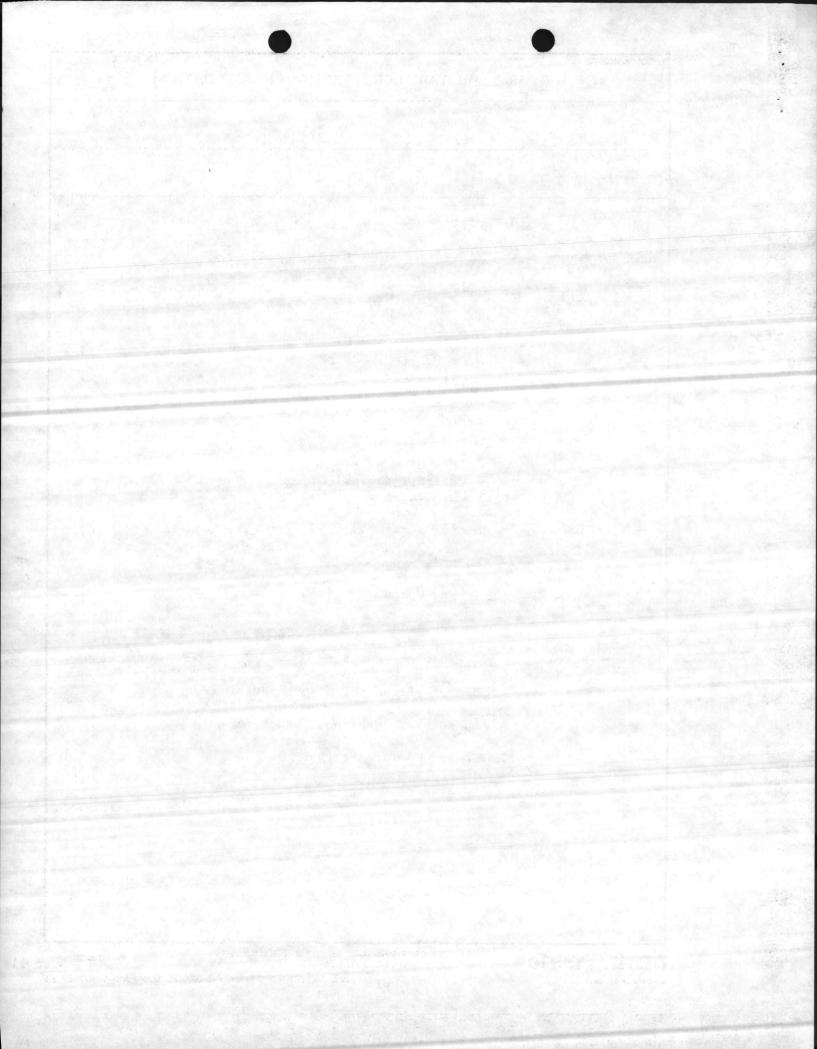
\*Gym Divider Curtain

\*Basketball Backstop - competition

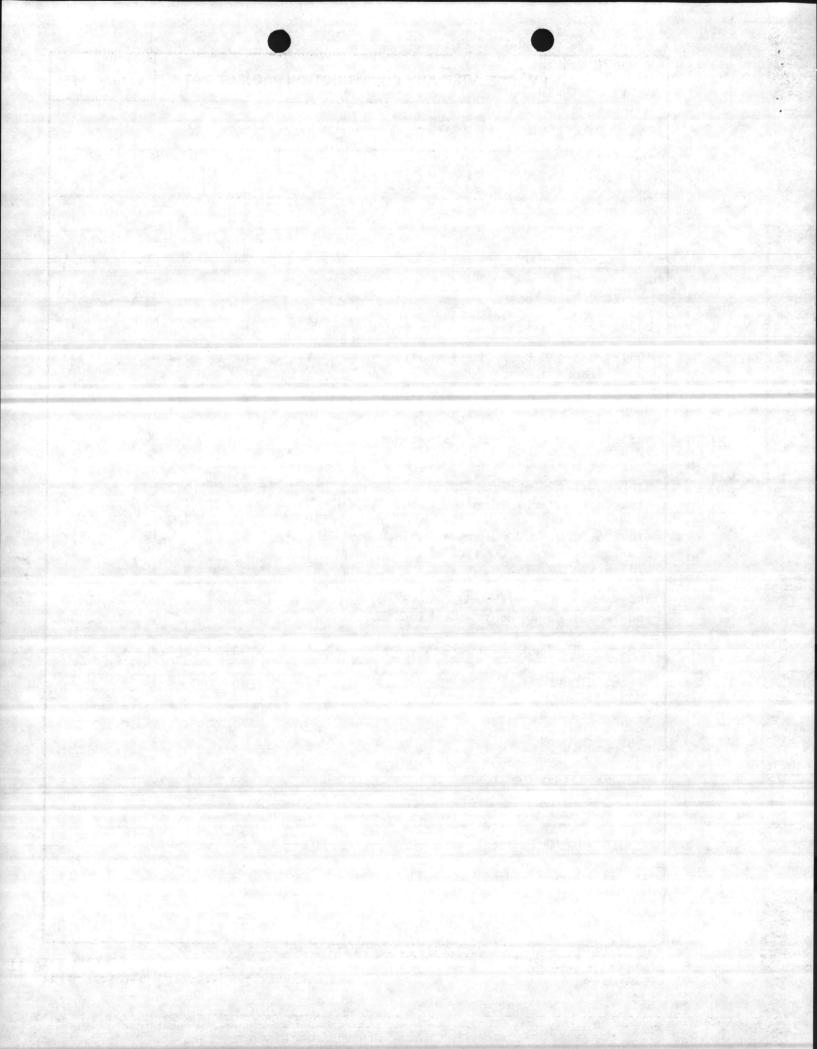
\*Basketball Backstop - practice

\*Chalk and Tack Boards

\*Lockers

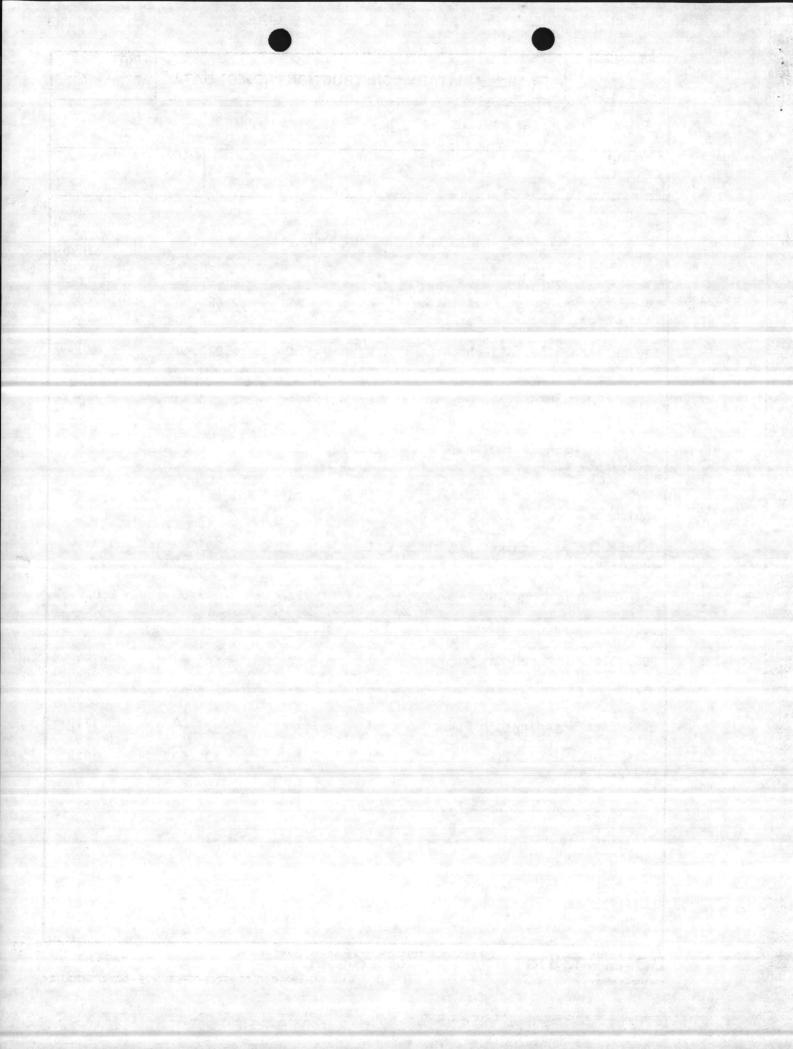


ARINE CORPS FY 1988 MILITARY CONSTRUC	CTION	PROJECT	DATA 1	July 198
INSTALLATION AND LOCATION			The second second	
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CA	ROLINA	28542		
PROJECT TITLE		Act of the State	5. PROJECT N	UMBER
YMNASIUM			P-06	5
(b) Expense Items:				
DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL
1. Gymnasium Court:				
30300 Volleyball Nets	2	EA	\$ 41.00	\$ 8:
50512 NCAA/AAU Power Volleyball (wood floor)	2	PR	250.00	500
31400 Volleyball Antenna	2	PR	14.50	2
50511 Volleyball Referee Stand and Score Counter	2	EA	100.00	20
Basketball Scoreboard, 36"x131"x7½" Figures & Control Console (Model #LI560)	2	EA	1,595.00	3,19
616-684-3160 or 2300 Extra cable, from Scoreboard to Central Panel w/male/female plug	100	LF EA	.19 75.00	19
10-24-30-2 Shot Timers w/Control Console and Two(2) 90 ft control cables	2	SETS	739.00	1,47
BL028M-3 Theft-proof Locker	4	EA	165.90	66
Clock, Electric	2	EA	6.30	1
2. Exercise Room:				
6421 Double Stall Bar	1	EA	462.00	46
6427 Stall Bar Bench	2	EA	76.00	15:
7852 Doctor's Gym Scale	1	EA	366.00	360
7533 Deluxe Chinning Bar - 36"	2	EA	140.00	28
7377 Peg Board 14"x60" w/metal inserts	1	EA	200.00	20



1. COMPONENT  MARINE CORPS	FY 19	88_N	IILITARY	CONST	RUCTION	ROJECT	DATA	2. DATE 1 July 198
3. INSTALLATION A	ND LOCA	TION						
MARINE CORPS	BASE,	CAMP	LEJEUNE,	NORTH	CAROLINA	28542		
4. PROJECT TITLE GYMNASIUM							5. PRO.	S5

(b) Expense Items  DESCRIPTION	QTY	UNIT OF ISSUE	UNIT PRICE	TOTAL
Super Leg Extension (All chrome equipment)	1	EA	\$2,460.00	\$2,460
Leg Curl Machine (All chrome equipment)	1	EA	2,020.00	2,020
Torso Arm Machine (All chrome	1	EA	2,290.00	2,290
Abdominal Machine (All chrome equipment)	1	EA	2,925.00	2,295
Multi-Biceps Machine (All chrome equipment)	1	. EA	1,955.00	1,955
Multi-Triceps Machine (All chrome equipment)	1	EA	2,005.00	2,005
3038 Power Leg Machine	1	EA	2,099.00	2,099
3070 Standing Calf Machine	1	EA	890.00	890
3005 Olympic Lever Bar	1	EA	583.00	583
3060 Seated Preacher's Curl Bench	2	EA	435.00	870
3052 Free Standing Dip Stand	1	EA	371.00	371
9745 Comb Roman Chair/Back Hypertension Bench	1	EA	532.00	532
9673 Rubber Weight Room Flooring	720	SF	4.10	2,952
9748 Adj. Standing Incline Bench	2	EA	415.00	830
9407 Decline Exercise Bench	2	EA	325.00	650
9456 Flat Exercise Bench	2	EA	169.00	338



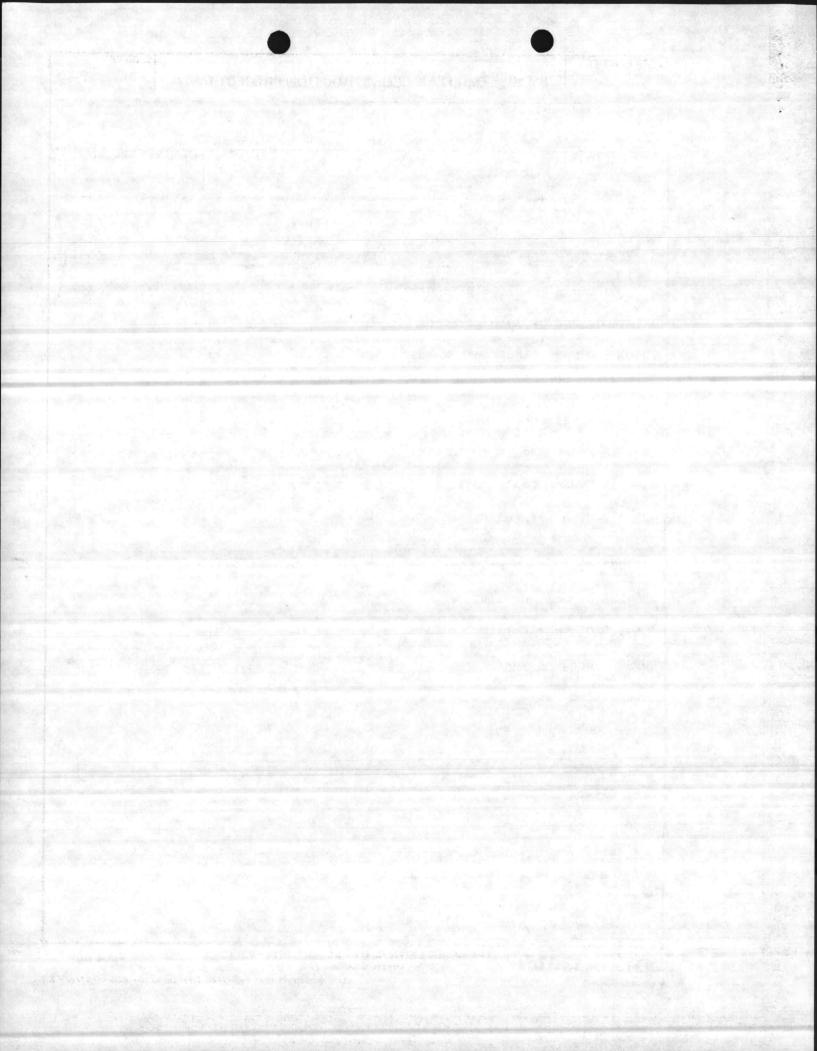
I. COMPONENT				2. DATE 1 July 1985
MARINE CORPS FY 1988 MILITARY CO	NST	RUCTION PRO	DJECT DATA	1 July 1905
INSTALLATION AND LOCATION				
MARINE CORPS BASE, CAMP LEJEUNE, N	ORTH	CAROLINA 2	8542	
RPROJECT TITLE GYMNASIUM			5. PROJ	ECT NUMBER
GIMNASION				
(b) Expense Items	: (0	Continued)		
DECONIDATON	OTV	UNIT OF	UNIT	TOTAL
	QTY	ISSUE	PRICE	COST
3091 Multi-Purpose Exercise Bench	2	EA o	\$ 331.00	\$ 3.6620
9419 Shoulder Press High Stool	2	EA	87.00	174
436-021 Competition Bench Manual	3	EA	195.00	585
436-026 Incline Bench Manual	1	EA	240.00	240
436-028 Spotter Platform	1	EA	42.00	42
436-048 Squat Rack	1	EA	240.00	240
436-034 Squat Stool, Adj.	1	EA	63.00	63
436-300 High Lat Pulley Wall Mtd 350 1bs.	1	EA	530.00	530
436-303 Tricep - Handle	1	EA	19.00	19
436-221 Olympic Curling Bar	3	EA.	65.00	195
436-225 Olympic Curling Collars	6	PR	110.00	660
407-011 Chalk Holder	2	EA	33.00	66
Clock, Electric	1	EA	6.30	6
Desk, Double Pedestal	1	EA	299.00	. 299
Chair, w/arms	1	EA	58.00	58
OLBB Olympic Bars	8	EA	184.50	1,476
Olympic Collars	8	PR	34.50	276
York Solid Dumbells, Size 15 to 100 1bs in 5 1b increments (2,070 1bs)	1	LOT	.63	1,304
Barbell Rack w/barbells (16 place)	1	SET	890.00	890
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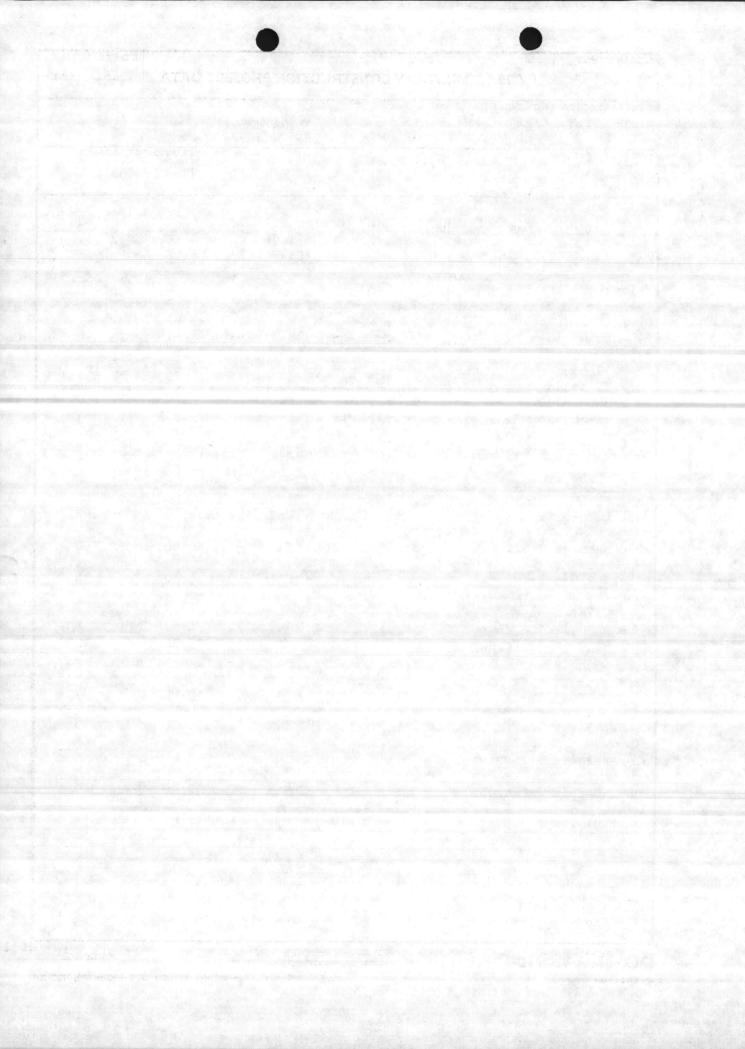
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MARINE CORPS BASE, CAMP LEJEUNE,	NORTH C	ARULINA	2034.	<u>.</u>		
PROJECT TITLE				5. PRO	JECT NUMBER	
GYMNASIUM				P	- 065	
(b) Expense Ite	ms: (Co	ntinued)				1
(b) Impende rea		UNIT OF		UNIT	TOTAL	
DESCRIPTIONS	QTY	ISSUE		PRICE	COST	1.
				45.00	0 000	
Triangle Plate Holder	8	EA	\$	45.00	\$ 360	i
Olympic Plates:						
24 - 2½ pound	- 60	LBS	(1.5 <sub>e</sub> _	.67	40	-7
24 - 5 pound	120	LBS		.67	80	
24 - 10 pound	240	LBS		.67	161	
32 - 25 pound	800	LBS		.67	536	
32 - 35 pound	1,120			.67	750	
32 - 45 pound	1,440	LBS		.67	965	
72 43 pound	1,740	220				
SR-7 Schwinn Exerciser	2	EA		211.61	423	
3. Trainer's Room:						
3. Trainer's Room:						
Heat Lamp #202	2	EA		196.00	392	
7850 Massage Table	2	EA		380.00	760	
Olaska Elastado	2	EA		6.30	13	
Clock, Electric	2	LA		0.50	ī	
4. Locker Rooms:						
. LOCKET ROOMS.						
Mirror, '4" thick electro-copper	6	EA		90.00	540	
plated (4'x6')				30.00		
praced (4 No )						
7582 Gym Scales	2	EA		366.00	732	
Clock, Electric	2	EA		6.30	13	
E Arblotic Office:						
5. Athletic Office:						
Desk, Double Pedestal	1	EA		342.00	342	
Desk, Single Pedestal	. 1	EA		259.00	259	
				004		
Chair, w/arms	1	EA		286.00	286	
	1	TP A		154 00	154	
Chair, w/o arms	1	EA		154.00	154	
711 0 11 11 11		E.A.		122 00	132	
File Cabinet (ltr size)	1	EA		132.00	132	

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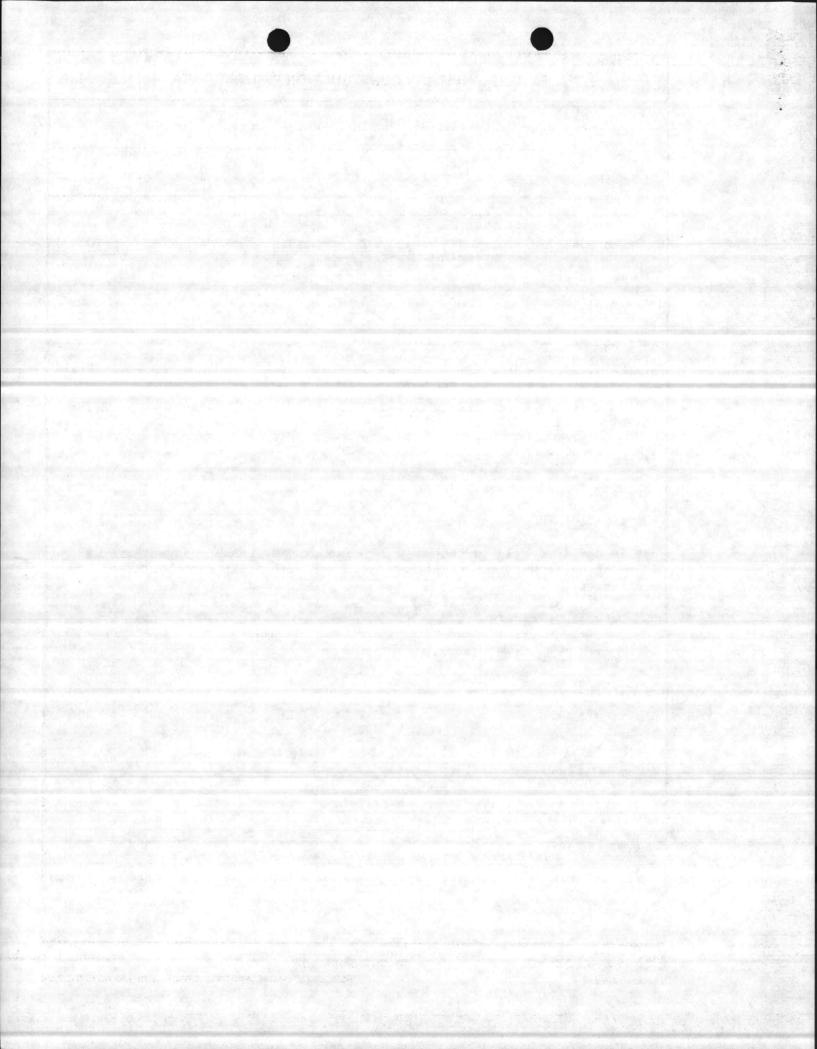
COMPONENT			ar was	2. [	DATE
MARINE CORPS  THE CORP	NSTRU	CTION PRO	DJECT	DATA 1	July 1985
	ODMII O	DOLTMA (	05/0		
MARINE CORPS BASE, CAMP LEJEUNE, NO	JRTH CA	AROLINA 2	8542		
PROJECT TITLE				5. PROJECT	
GYMNASIUM				P- 06	5
(b) Expense Items	: (Cor	tinued) UNIT OF		UNIT	TOTAL
DESCRIPTIONS	QTY	ISSUE	7	PRICE	COST
Clock, Electric Clack, Electric	. 1	EA	\$	6.30	\$ 6
6. Lobby:					
Entrance Mats 48"x72" #6998T24	2	EA	¥*.	78.50	157
Clock, Electric	1 .	EA		6.30	6
521-211 Display Case, Trophy (Dark Walnut)	4	EA		549.00	2,196
7. Laundry/Issue Room:					
*Machine, Washing (heavy duty)	.2	EA		-	-
*Dryer, Clothing (heavy duty)	2	EA		-	<u> </u>
*It is not as costly to the Govern lease of equipment from civilian co contractor.					
8. <u>Duty NCO Office</u> :					
Desk	1	EA		299.00	299
Chair, w/arms	4	EA		58.00	232
Chair, w/o arms	2	EA		57.00	114
File Cabinet, 5 drawer (ltr size)	. 1	EA		223.00	223
Clock, Electric	1	EA		6.30	6
9. <u>Miscellaneous</u> :					
Buffer	2	EA		200.00	400
	2			100 00	
Fire Extinguishers - CO <sup>2</sup> , 15 lbs.	5	EA		130.00	650

DD 1 DEC 76 1391C

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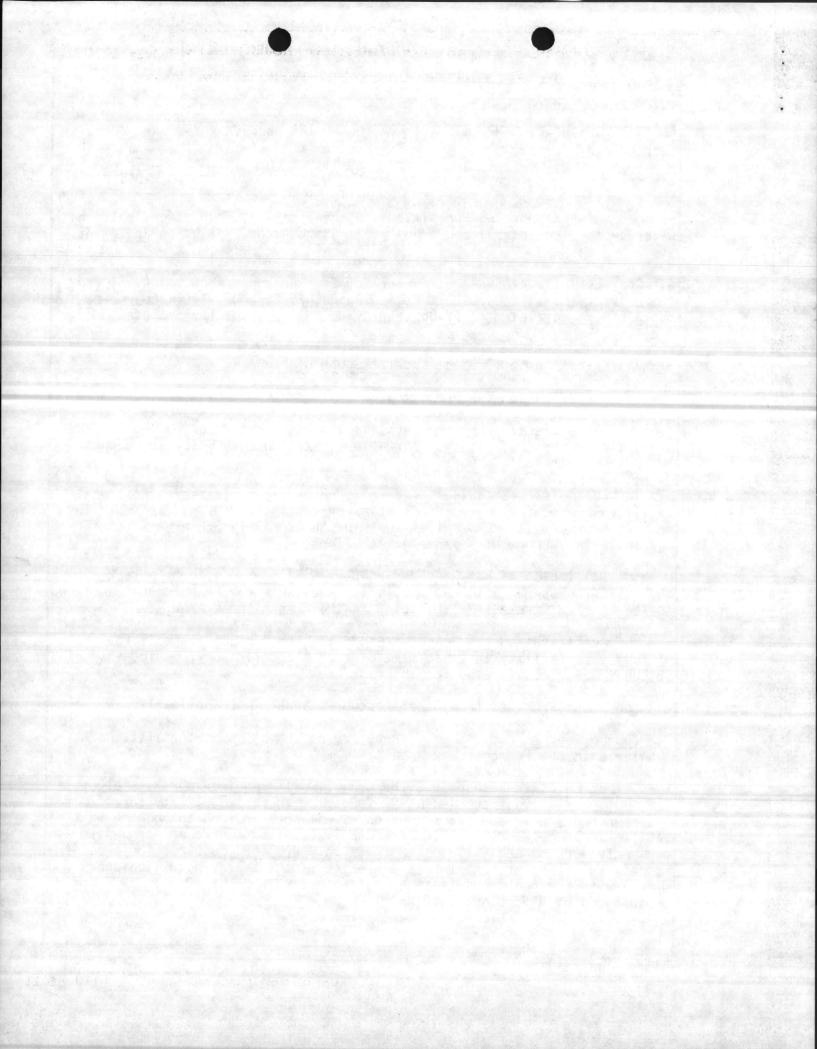
1. COMPONENT	EV 108	8_MILITARY CO	NSTRUCTI	ON PROJEC		July 1985
MARINE CORPS		A Section of the second	Nothedir	ONTHOUSE		
MARINE CORPS E		AMP LEJEUNE, NO	ORTH CAROL	INA 28542		
, PROJECT TITLE					5. PROJECT	NUMBER
GYMNASIUM					P - 0	065
		na de			and the same !	1.3
	1	TOTA	AL EXPENSE	ITEMS	en	0,852
	(c)	Investment Ite	ome•			1
	i	Investment Ite		UNIT OF		TOTAL 4
DESCRIPT	CION		QTY	ISSUE	PRICE	COST
6625 Boxing Ri	ing Com	plete	1	EA ¹	\$7,300.00	A \$7,300m
8855 Wrestling	g Mat 3	0'x30'	2	EA	6,300.00	12,600
Duo Hip and Ba	ack Mac	hine (All chrom	ne 1	EA	3,160.00	3,160
Super Pullover equipment)	Machi	ne (All chrome	1	EA	4,060.00	4,060
Double Chest N	Machine	(painted silve	er) 1	EA	4,230.00	4,230
Double Shoulde	er Mach	ine (painted	21	EA	4,100.00	4,100
silver)		TOTA	AL INVESTM	ENT ITEMS		35,450
ζ.	(d)	APA Equipment:	None.			
	(e)	Training Equip	oment: No	ne.		
	(f)	Equipment on H	Hand:			
	. Op.	1. Built-in F	1 10 Land 1991	None:	en en de de de	
		2. Expense It				
		3. Investment				
		4. APA Equipm				
		5. Training H	Equipment:	None.		
	(g)	Summary:				
		1. EXPENSE CO				60,852
		2. INVESTMENT	L COST:	TOTAL		35,450 36,302



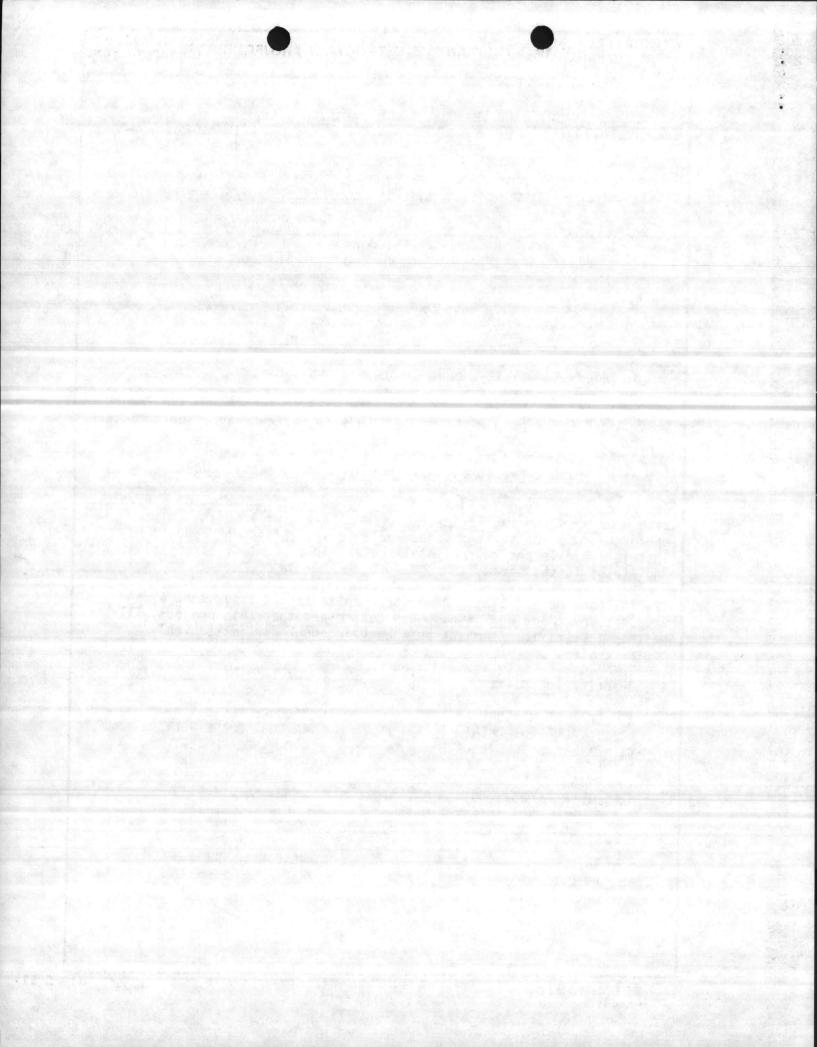


1. COMPONENT			A COMMENT ALL	- 10 mg - 10 c	2. DATE	19.50
MARINE CORPS	FY 19 88 1	MILITARY CO	NSTRUCTION	PROJECT DA	TA 1 July	1985
3. INSTALLATION A	ND LOCATION					
MARINE CORPS	BASE, CAMP	LEJEUNE, NO	RTH CAROLINA	28542		
4. PROJECT TITLE			30-30-	5	, PROJECT NUMBER	
GYMNASIUM					P-065	

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. Cost Estimate. Area cost factor for Camp Lejeune, N. C. is 0.95, from the Military Construction Cost Review Guide, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-88 to provide the cost for the proposed facility.
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- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. Common Support Facilities. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



COMPONE	IFY 1988 MILITA	RY CONSTRUCT	ON PROJECT	DATA 2. DATE 1 July 198
ARINE CO	대통 본호에서는 어린 경우로 보고 생각하다. 그리고 10년 1일			
ARINE CO	ORPS BASE, CAMP LEJE	UNE, NORTH CARO	LINA 28542	5. PROJECT NUMBER
				P-065
GYMNASIL	JM	•		1-003
		UTILITY REQU	IREMENTS	
a.	Electricity:	Consumption Peak Demand Avg. Demand	56 KW	k/yr
b.	Steam:	Consumption Demand	10,690,250	lbs/yr lbs/hr
c.	Coal:		418.0	tons/yr
11. Eco site ne energy This is and liv	nomic Analysis. The ar existing facility consumption savings a morale and recreating in this area.  The area of th	is facility is bies. Economic sto be realized ational project  An environmenta	eeing constraving will from effici in support	ucted on a develop be in nominal ent operations. of personnel worki sessment of the is project will ha
controv	versial.			i de la companya de
			The state of the s	
13. Qua	antitative Data:			



1. COMPONENT

FY 1988 MILITARY CONSTRUCTION PROJECT DATA

1 July 1985

MARINE CORPS

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

5. PROJECT NUMBER

GYMNASIUM

P-065

- 14. Maintenance Facilities. Not Applicable.
- 15. Morale, Welfare and Recreation Facilities. NAVFAC P-80 states the requirement for Category Code 740-43, Gymnasium, is determined by a space allowance format based on military strength. The following allowance based on the FSR dated Jan 1985:

For 6,601 to 10,000 military strength, 3 gymnasiums @ 21,000SF = 63,000SF allowed.

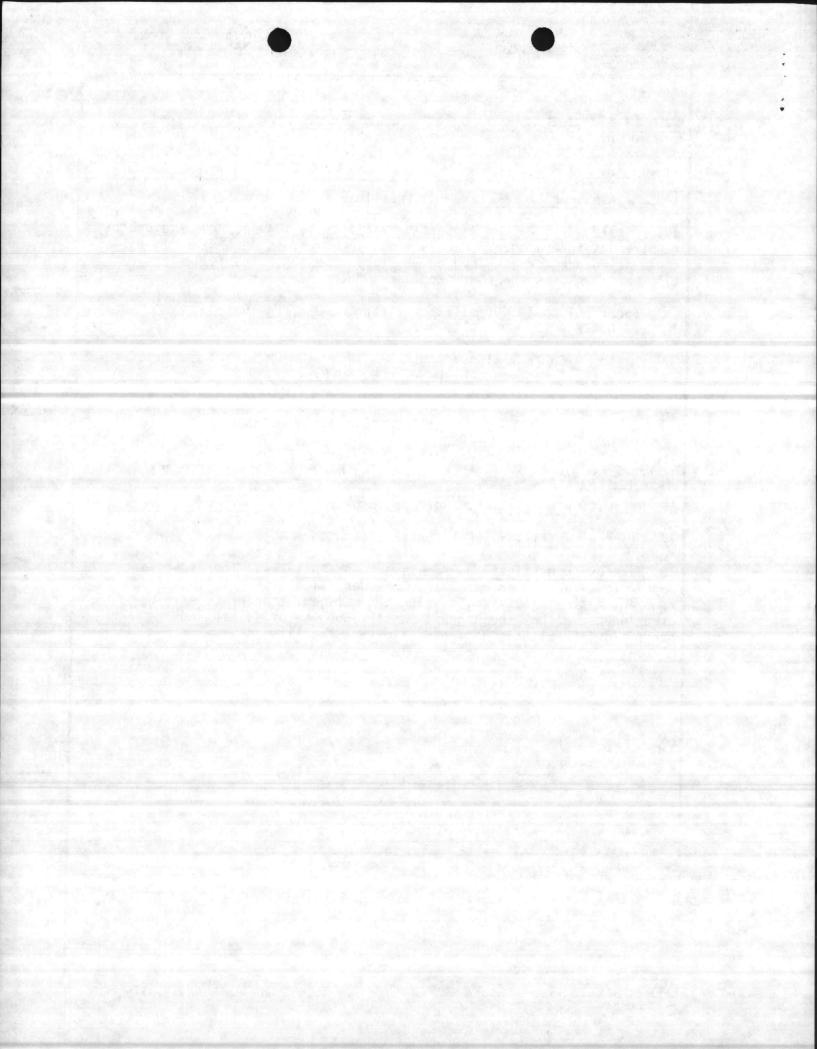
Master Plan Provisions:
3 Physical Fitness Centers (3 x 9,000SF) = 27,000SF
1 Gym = 21,000SF

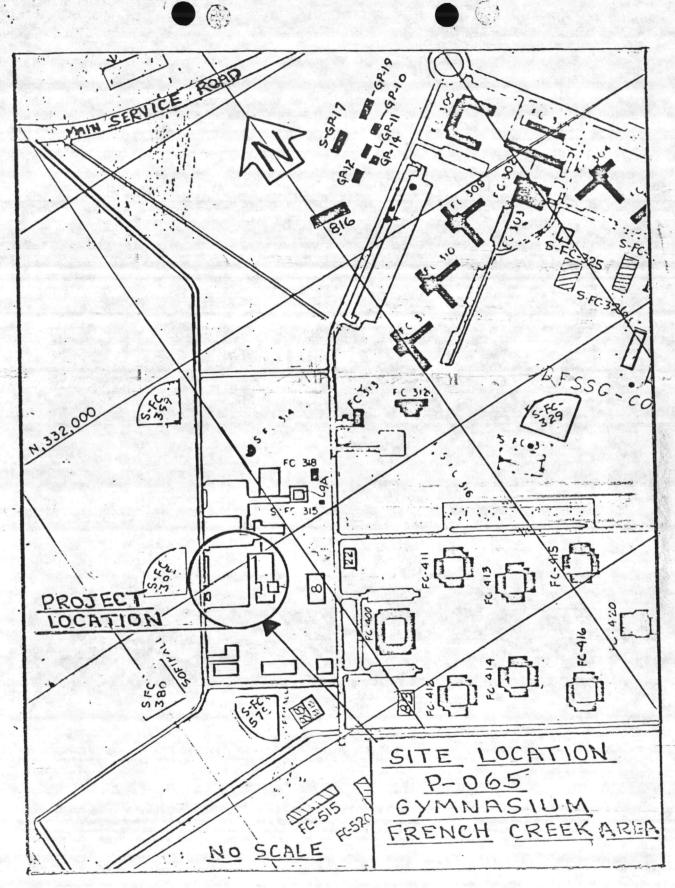
Total

48,000SF

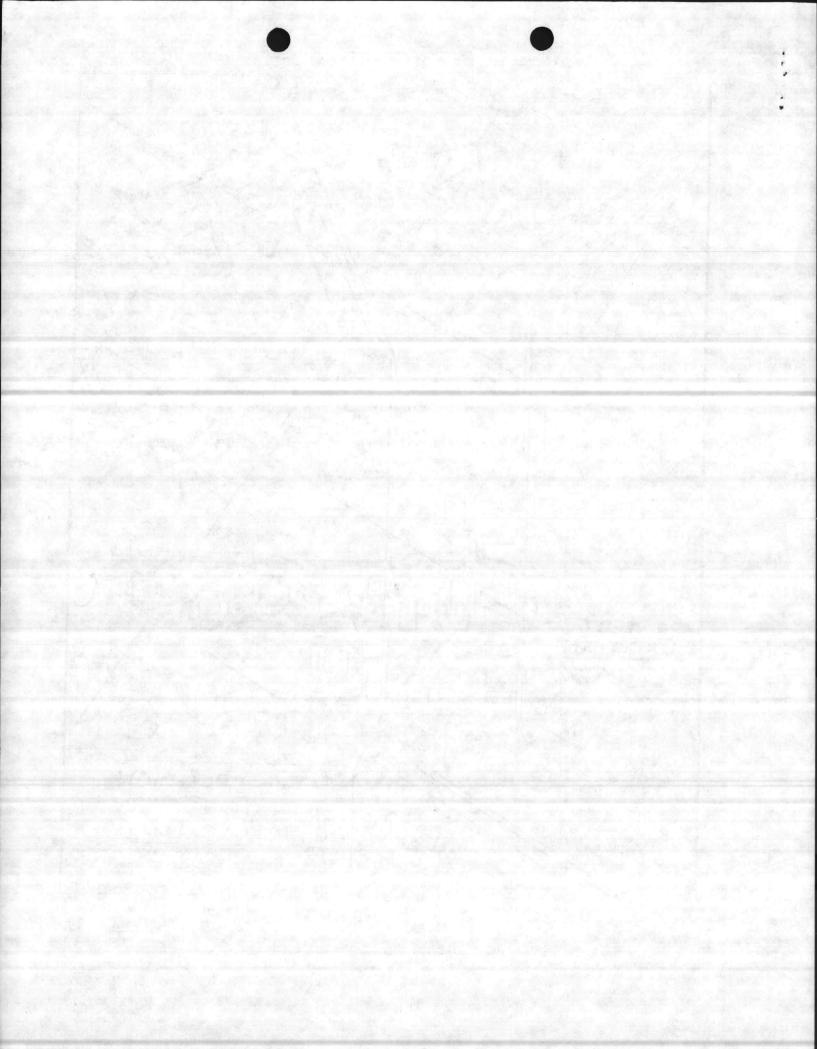
The design drawings are determined from the definitive drawings given in NAVFAC P-272, Part IV, NAVFAC Drawing Nos. 1294390 and 1294391(M).

- 16. Relocation Facilities. Not Applicable.
- 17. Storage Facilities. Not Applicable.
- 18. <u>Hazards Identification</u>, <u>Assessment and Analysis</u>. There does not appear to be any known hazards to be identified with this facility. However, system safety engineering and management programs will be used to ensure that the highest possible degree of safety and occupational health is designed into this facility.





ENCLOSURE (1)



1. COMPONENT NAVY	FY 19 88 MILITARY CONSTRUCTION PROJECT DATA				2. DATE 15 Jun 84
3. INSTALLATION AN MARINE CORPS CAMP LEJEUNI		4. PROJECT TITLE GYMNASIUM			
5. PROGRAM ELEMEN	6. CATEGORY CODE	7. PROJEC	TNUMBER	8. PROJECT C	COST (\$000)
	740-43	P-0	065	2,30	0

ITEM	U/М	QUANTITY	UNIT	COST (\$000)
GYMNASIUM	SF	21,000	79.92	1,678
Building	SF	21,000	73.00	(1,533)
Built-in Equipment	LS	-	-	(76)
Solar Hot Water System	LS		-	(69)
SUPPORTING FACILITIES	LS	-	-	390
Utilities	LS	-	-	(155)
Roads, Parking, Sidewalks	LS	-	-	(104)
Site Improvements	LS	-	-	(55)
Special Construction Features	LS		-	(76)
SUBTOTAL				2,068
CONTINGENCY - 5%				103
SUBTOTAL				2,171
SUPERVISION, INSPECTION & OVERHEAD - 5.5%				120
TOTAL REQUEST				2,291
TOTAL (ROUNDED)				2,300
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		F - 4 2 17 48	-	_

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air conditioning. 5 tons)

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF

PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: A facility to support the 2d FSSG planned athletic program. CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions.

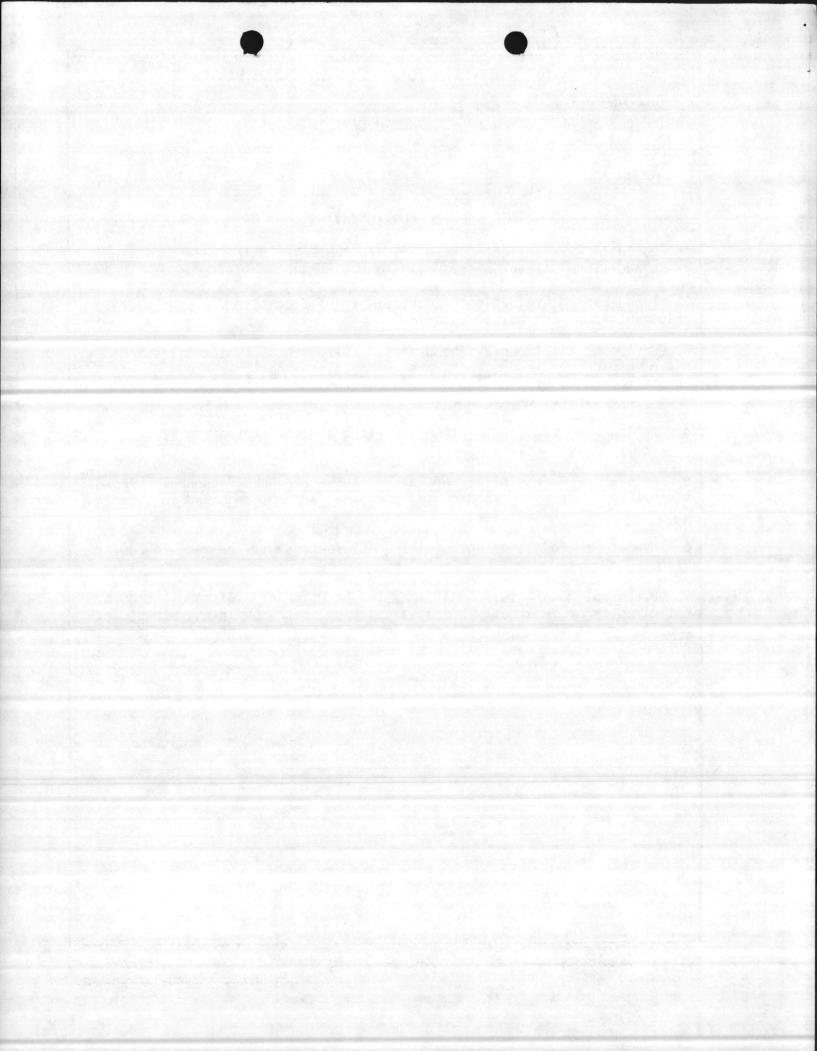
IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 10,000 plus personnel assigned to the 2d FSSG forces.

**EGJ** 

1. COMPONENT NAVY	FY 19 88 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 15 Jun 84
3. INSTALLATION A	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE GYMNASIUM	5. PRO	P-065

## SPECIAL CONSIDERATIONS

- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is not incorporated in this facility.
- 5. <u>Design for Accessibility of Physically Handicapped Personnel</u>: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform WITH DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: This project does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.



NÁVY	FY 19 88 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 15 Jun 84
3. INSTALLATION	AND LOCATION	
MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE	5. PROJI	ECT NUMBER
GYMNASIUM		P-065

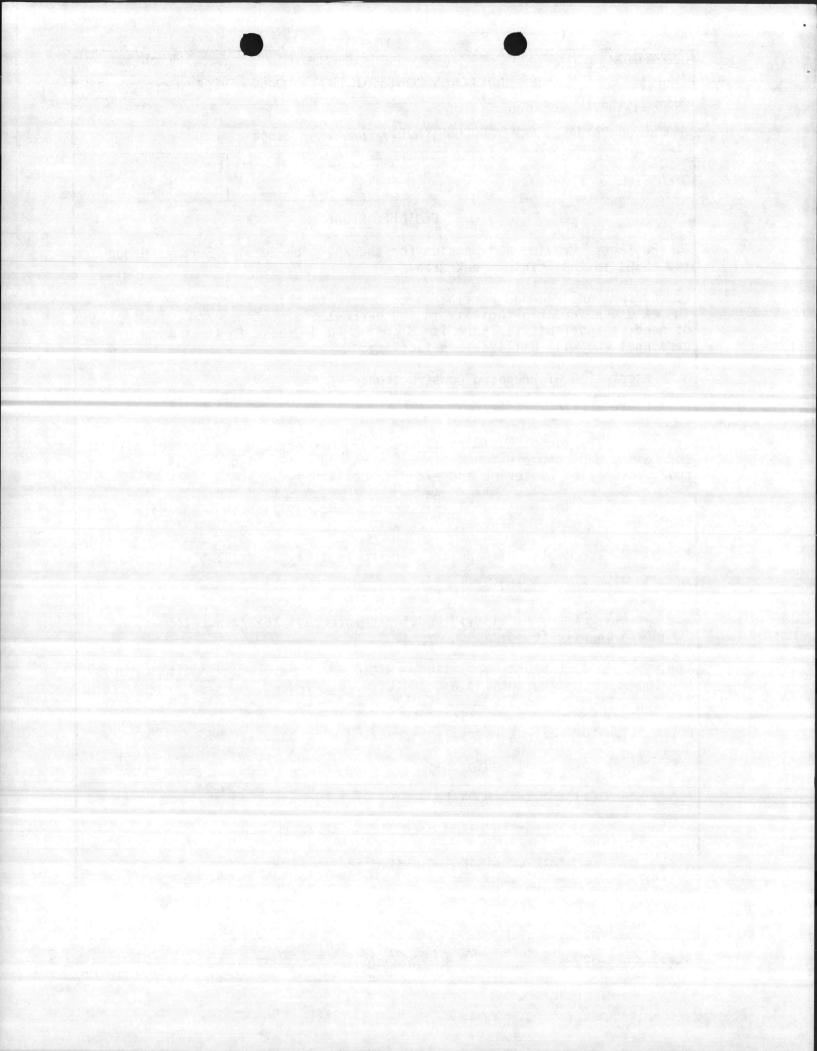
## FACILITY STUDY

- 1. <u>Project:</u> Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. <u>Current and Planned Workload with Regard to this Project</u>: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. Description of Proposed Construction:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) <u>Primary Facility</u>. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) <u>Support Facilities</u>. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:

\*Venetian blinds and window screens

\*Air-conditioning system (Admin Area)

\*Interior steam system



1. COMPONENT	00				2. DATE
NAVY	FY 19_88	MILITARY (	CONSTRUCTIO	N PROJECT DATA	15 Jun 84
3. INSTALLATION	AND LOCATION				
	BASE, CAMP	LEJEUNE,	NORTH CAROLIN		
4. PROJECT TITLE				5. PR	OJECT NUMBER
GYMNASIUM					P-065
	*Inter	ior ventil	ation systems		
	*Plumb	ing system			
	*Teleph	none, fire	alarm, and i	ntercom systems	
	*Drink	ing water	coolers		
	*Locker	rs - perso	nal storage		
	*Chalki	ooards			
	*Cabine	ets, displ	ay		
	*Locker	rs - equip	ment storage		
	*Sauna	(steam or	electric)		
	*Bleach	ner seats,	folding		
	*Basket	tball back	stops, glass		
	*Scoret	ooard, ele	ctric w/clock		
	*Divide	er curtain			
	*PA sys	tem			
		ing rope h	ooks		
		in board			
	(b) Expense				
DECCDIDITI			UNIT OF	UNIT	TOTAL COST ¢
<u>DESCRIPTIO</u>		UANTITY	ISSUE	PRICE \$	TOTAL COST \$
Machine, leg Board, abdo	minal	1 4	EA EA	240 100	240 400
Benches, in adjustable		4	EA	115	460
Machine, ca Rack, power	lf.	1 4	EA EA	170 200	170 800



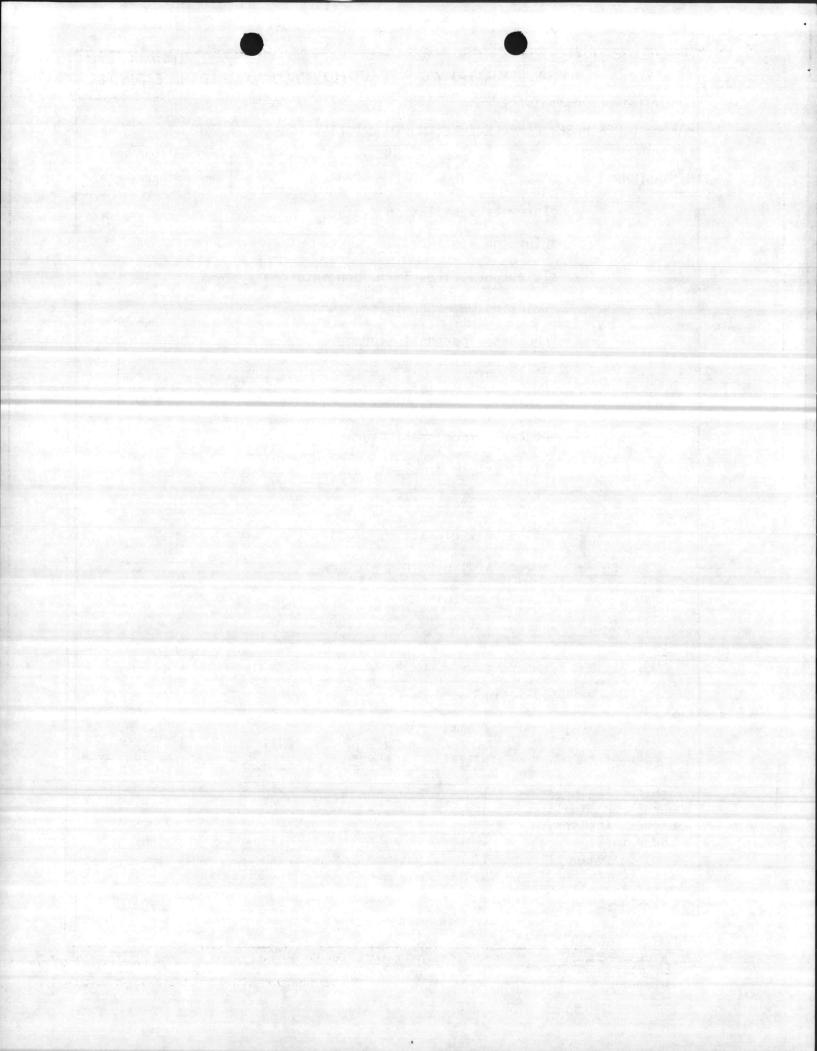
Rack, power, super Racks, barbell, w/ barbells

1

EA

870

870



#### 1. COMPONENT FY 19 88 MILITARY CONSTRUCTION PROJECT DATA NAVY

15 Jun 84

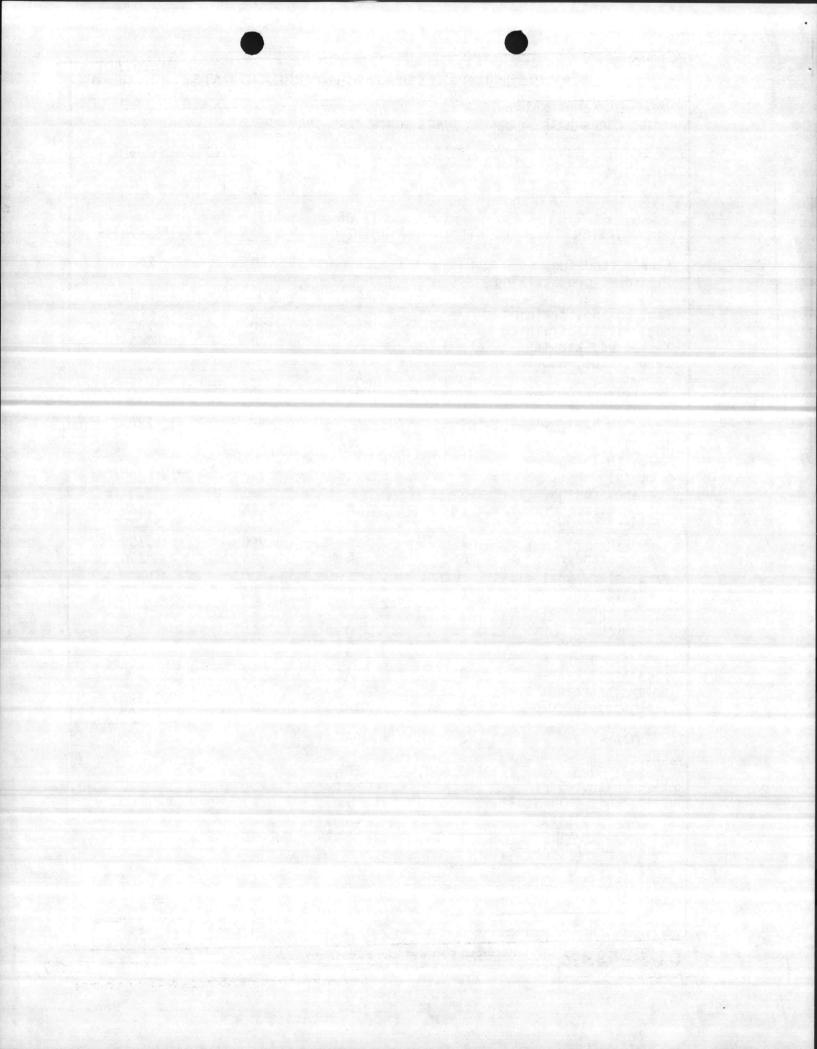
3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

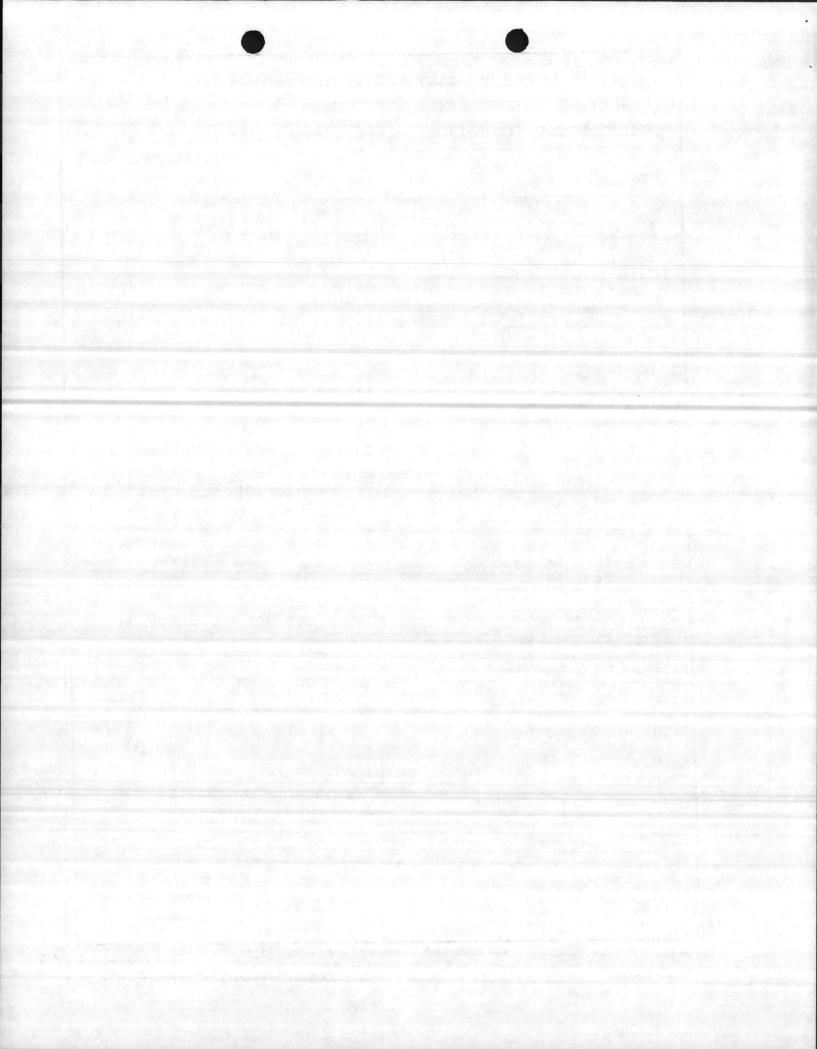
4. PROJECT TITLE GYMNASIUM

5. PROJECT NUMBER P-065

DESCRIPTION QUA	NTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$
Stands, curling	4	EA	60	240
Platform, pro striking		F.A.	000	900
bag, super	1	EA	900	440
Bag, boxing, training	2	EA EA	220 120	120
Bag, karate, training	1	EA	60	60
Kickboard, karate	1	LA	00	
Barbell set, 310-lb Olympic	4	EA	450	1,800
Bench, super power	4	EA	40	160
Dumbbell, solid, 5-25	7		Line and Barrier .	
lbs (5-1b increments)	4	EA	55	220
Dumbell, solid, 25-75				
lbs (5-1b incre-	2	EA	140	200
ments)	2	EA	140	280
Machine, rowing,	1	EA	865	865
hydraulic Trainer, bicycle,	1	LA	003	000
double	1	EA	1,700	1,700
Bench, standard	8	EA	45	
	0	LA	43	360
Bar, wall, parallel,		ĒΛ	O.F.	85
w/belt	1	EA	85	03
Scales, personal	4	ГΛ	225	225
weighing	1	EA	225	825
Desk, flat top	3	EA	275	023
Chairs, rotary,			٥٢	100
tilting, w/arms	3	EA	95	190
Chairs, straight back,		ΕΛ.	60	120
adjustable, w/o arms	2	EA	60	120
Cabinets, file, 4-dwr,	2	ΕΛ	155	ACE
letter-size	3	EA	155	465
Cabinet, file, 4-dwr,		FA	100	570
legal size	3	EA	190	570
Net, volleyball	2	EA	30	60
Pole, net, volleyball,			006	000
w/floor plates	1	EA	236	236
Net, badminton	3	EA	6	18
Pole, net, badminton,			000	000
w/floor plates	1	EA	236	236
Bars, stall, exercise	1	EA	284	284
Bag, training, heavy-				
weight	2	EA	48	96
Weight, chest, pulley	2	EA	327	654

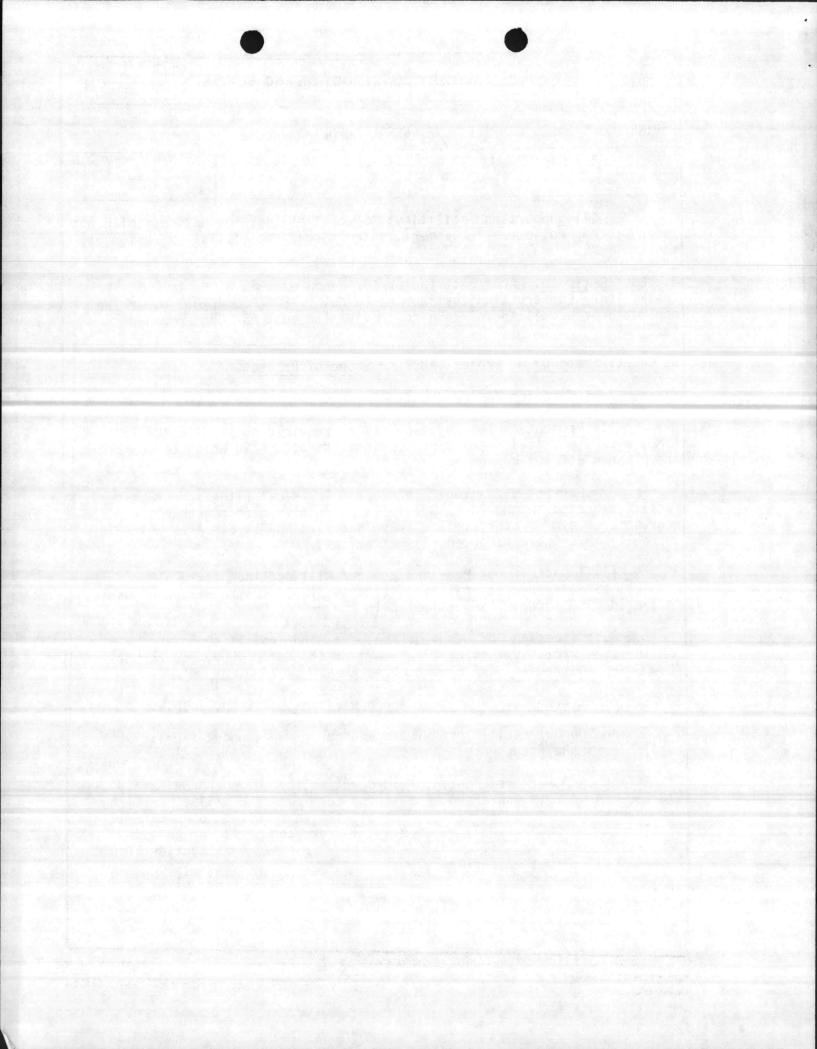


1. COMPONENT	. 88			2. DATE	
		CONSTRUCT	ION PROJECT DA	15 Jun 84	
3. INSTALLATION AND LOCATION					
MARINE CORPS BASE	, CAMP LEJEUNE	, NORTH CAR	DLINA 28542		
4. PROJECT TITLE			5.	5. PROJECT NUMBER	
GYMNASIUM				P-065	
DESCRIPTION	QUANTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$	
Mirror, weight- lifting (4x6') Bar, horizontal,	2	.EA .	100	200	
w/floor plates	1	EA	312	312	
able, massage ath, whirlpool,	1	EA	173	173	
mobile	1	EA	1,815	1,815	
asher, clothes ryer, clothes	2 2	EA EA	*		
lirror, locker- room (4x6')	3	ΓΛ	100		
ase, display	1	EA EA	100 300	300 300	
OTAL EXPENSE ITEMS HIPPING, PACKING.		ΔΙΙΔΤΙΩΝ ΟΨ	ADCEC .	16,404	
HIPPING, PACKING, ONTINGENCY - 10%	HANDLING, INST	ALLATION CHA	ARGES, &	1,640	
OTAL EXPENSE ITEMS				\$18,044	
(c) Investme	ent Items:			\$10,044	
mbo units, super					
Universal Gyms) ng, boxing, portab		EA	5,760 3,600	11,520 3,600	
TAL INVESTMENT ITE	MS:			\$15,120	
IIPPING, PACKING, H NTINGENCY - 10%	ANDLING, INSTA	LLATION CHA	RGES, &		
NTINGENCY - 10%				\$ 1,512	
(e) Trai	Equipment: No ning Equipment pment on Hand:	: None			
(g) <u>Summ</u>	ary:	II	EXPENSE ITEMS		
			GRAND TOTAL:		



1. COMPONENT NAVY	FY 1988 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 15 Jun 84
3. INSTALLATION MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	15 3411 64
4. PROJECT TITLE GYMNASIUM	5. PRO	P-065

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.95, from the <u>Military Construction Cost Review Guide</u>, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-86 to provide the cost for the proposed facility.
- 5. Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) Project: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. <u>Common Support Facilities</u>. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



1. COMPONENT NAVY	FY 1988 MILITARY CONSTRUCTION PROJECT DAT	A 15 Jun 84
3. INSTALLATION A	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE GYMNASIUM		P-065
	UTILITY REQUIREMENTS	

Electricity:

Consumption 71,995 KWHR/yr Peak Demand 56 KW

Avg. Demand 41 KW

b. Steam:

Demand

Consumption 10,690,250 lbs/yr 3,830 lbs/hr

c. Coal:

418.0 tons/yr

- Adequate utility requirements are available.
- 9. Siting of the Project. The facility will be located in the French Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1).
- 10. Other Graphic Presentations, including Photographs.
- 11. Economic Analysis. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area.
- 12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly controversial.

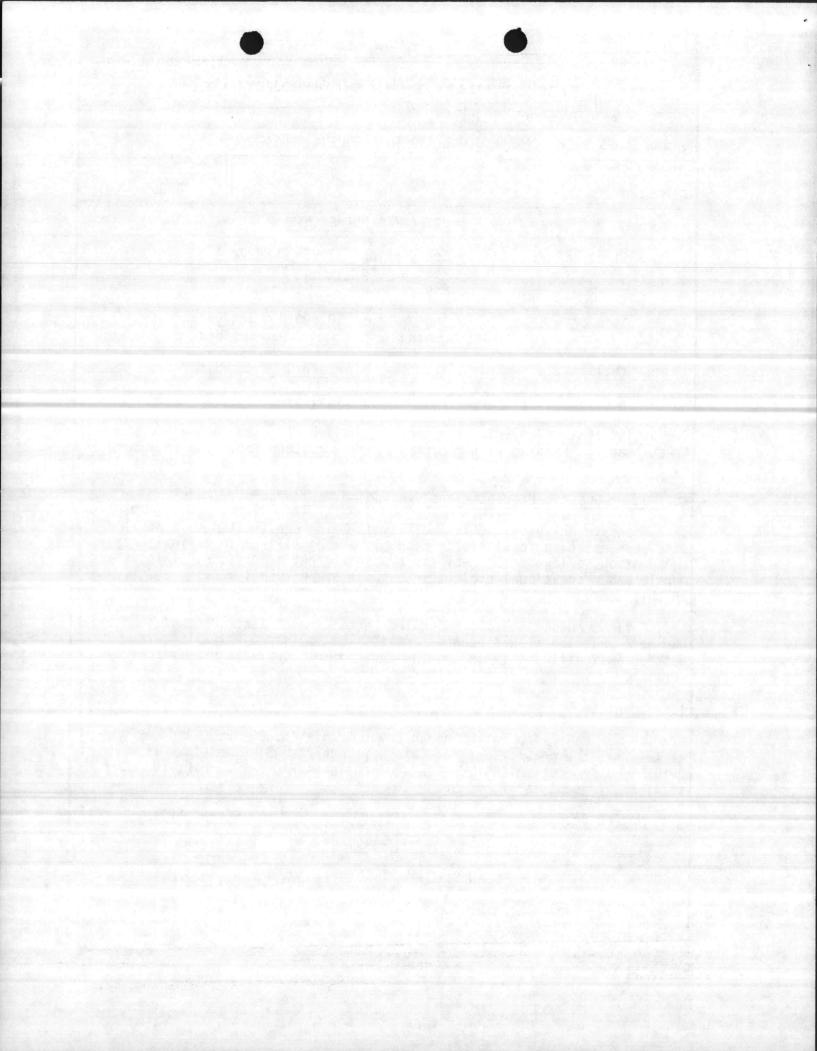
## 13. Quantitative Data:

a. BFRL Requirement. French Creek Area - 48,000 SF. NAVFAC P-80 states that the requirement for Category Code 740-43, Gymnasium, is determined from definitive drawings given in NAVFAC P-272, Part IV. total requirement is 48,000 SF.

Area (SF) Activity NAVFAC Drawing No. 21,000 1294390 & 1294391 (M) 2d FSSG

TOTAL: 21,000

b. Existing Assets: None



1. COMPONENT
NAVY
FY 19 88 MILITARY CONSTRUCTION PROJECT DATA

3. INSTALLATION AND LOCATION
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

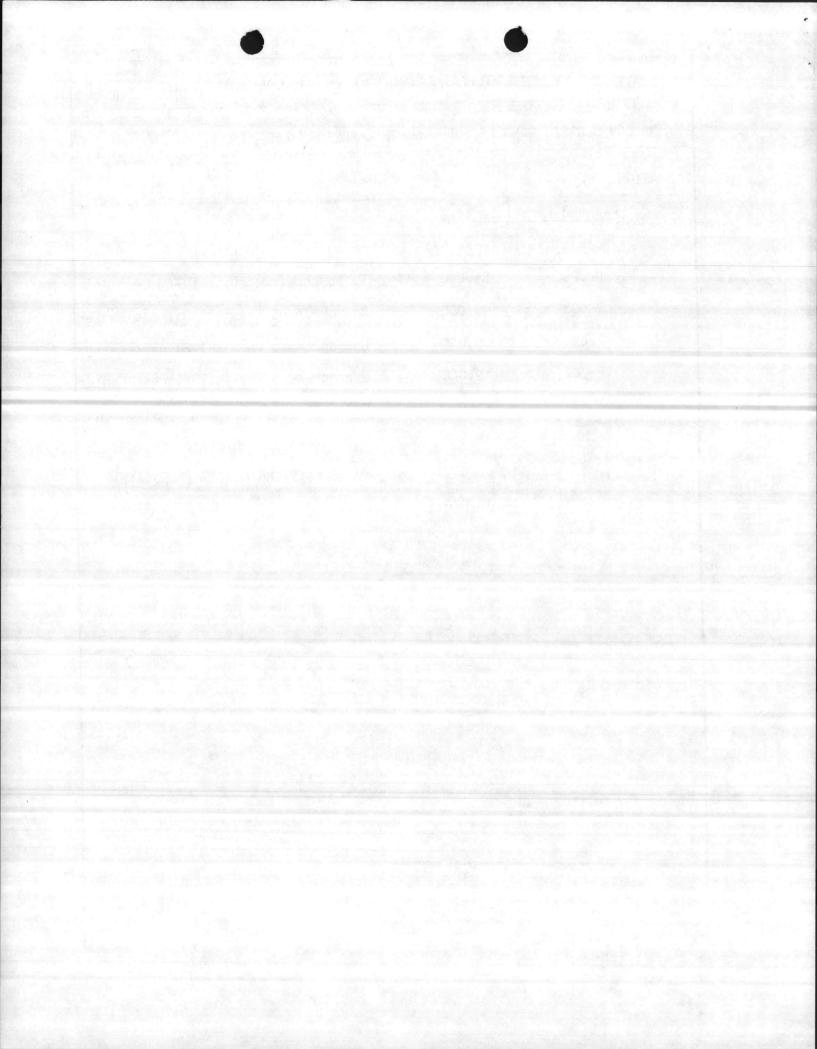
4. PROJECT TITLE
GYMNASIUM

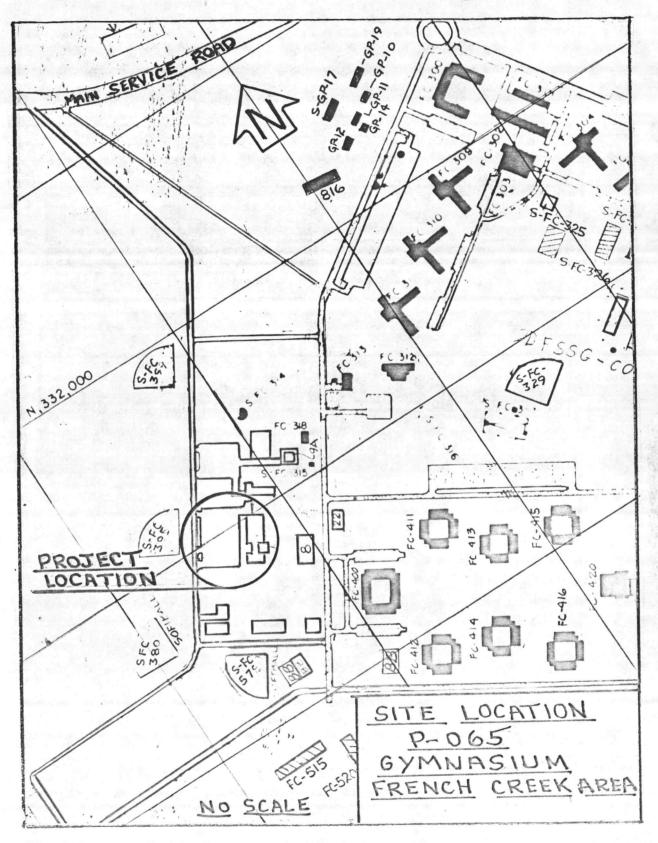
2. DATE
15 Jun 84

5. PROJECT NUMBER
P-065

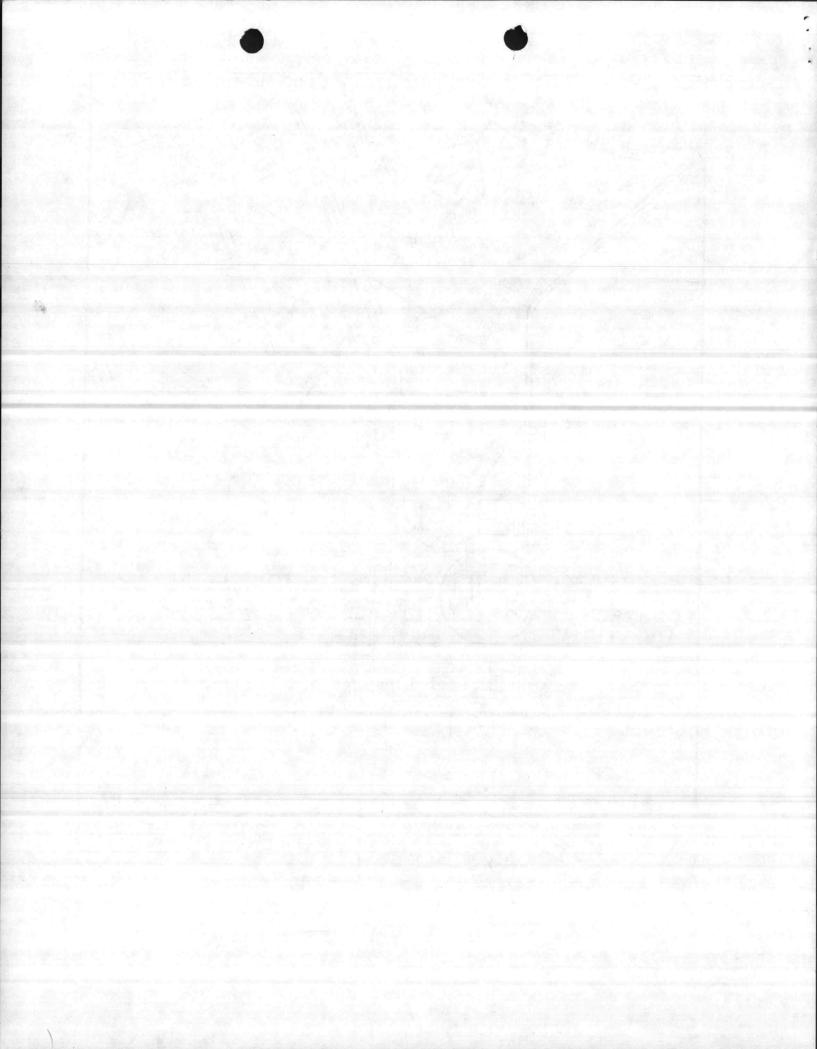
# c. Planned Facilities:

Project No.	Area (SF)	Status
P-065	21,000	To be constructed in FY-88.
P-693	9,000	Unprogrammed Physical Fitness Center
P-694	9,000	Unprogrammed Physical Fitness Center
P-707	9,000	Unprogrammed Physical Fitness Center
	0	TOTAL FACILITIES UNDER CONSTRUCTION
	48,000	TOTAL PLANNED FACILITIES
	0	TOTAL EXISTING ASSETS (ADEQUATE)
	48,000	BFRL





ENCLOSURE (1)



DATE PREPARED

CLASSIFICATION

15 Jun 1984

SUMMARY FOR CORRECTION OF FACILITY DEFICIENCIES NAVMC 10956 (8-74) SH 0000-00-006-5360 U/I: PH 100 SHEETS PER PAD)

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

SECULTING ACTIVITY AND LOCATION

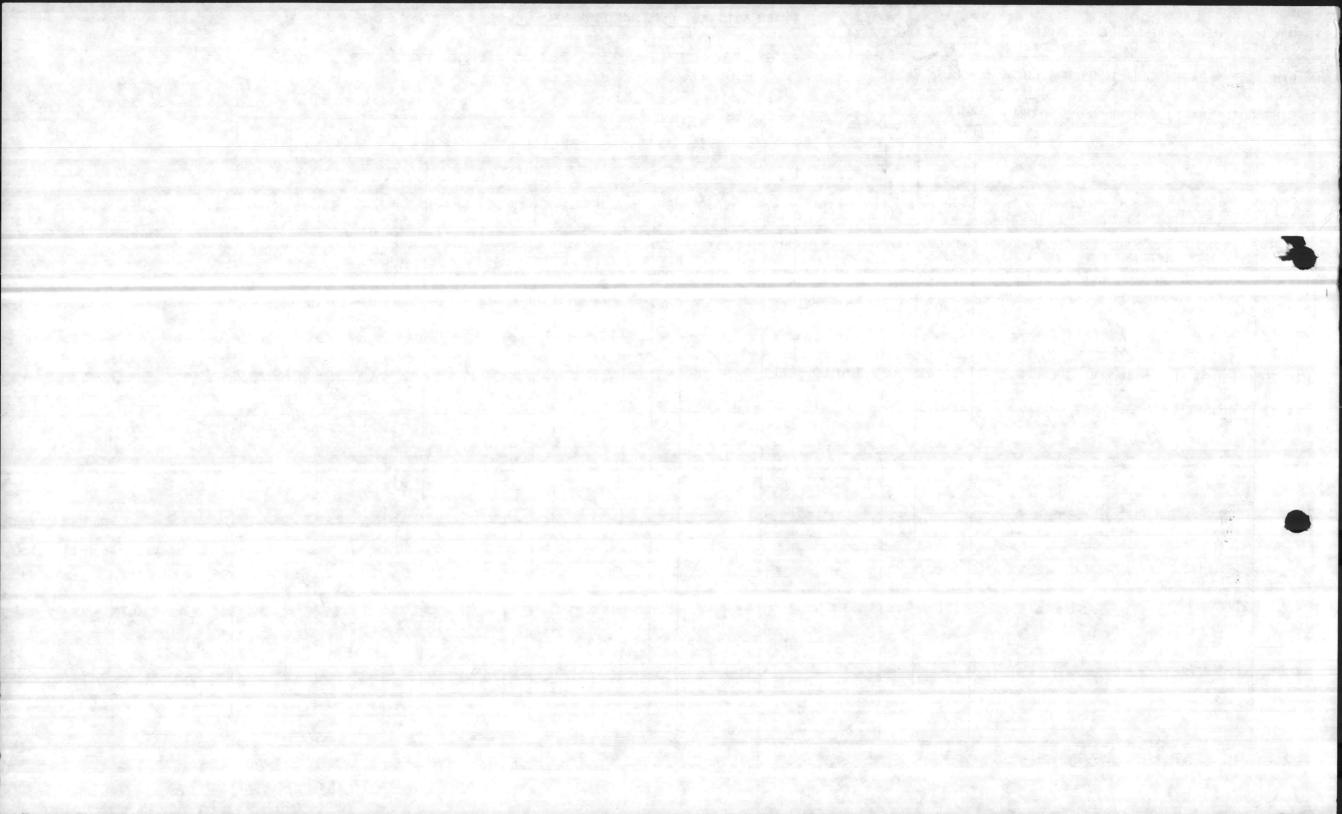
B. ACTIVITY CODE 05A R 67001 8270-175 L. BASED ON NAVAC TOROT DATED! K. MC CODE

. ACTIVITY CODE .. HEST ACTIVITY AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 SATISFIED SCOPE ESTIMATED BLMARKS ITEM ID EST. COST (\$000) PRIORITY CATEGORY PROS PROJECT TITLE AUTH. FUND MOS. U.M. QUANTITY CODE 20 13 14 15 16 17 10 1: 12 1 20 88 82 MCON RM 35,700 88 88 2,160 PN UNACCOMPANIED ENL PERS HOUSING P-626 721-11 25 14 MCON 7,300 88 88 14 RN 48,000 SF FIELD MAINT SHOP (INCR 2) P-803 EA MCON 75 88 12 CM 100 3,600 88 24,423 SF P-810 FA OF-35 MECH SCHOOL (INCR 3) 171-20 0 MCON 2,300 86 12 CM 44 86 21,000 P-065 EA SF GYMNASIUM 740-43 CM 100 MCON 88 88 12 2,500 11,040 SF P-824 KA CHAPEL, TARAWA TERRACE 730-83 (RASC) MCON 88 12 CM 100 0 A 4,700 88 30,000 SF REGIONAL AUTOMATIVE SVC CENTER P-842 DA 610-20 MCON 88 12 RM 94 85 76,210 SF 10,500 P-678 COMBAT VEHICLE MAINT SHOP 214-51 \*\*\* Identifies 1st Time Submissions 66,600

TO U. S. GOVERNMENT PRINTING OFFICE: 1975-627-317/564 3-1

CLASSIFICATION

SHEET 2 or 5



SUMMARY FOR CORRECTION OF FACILITY DEFICIENCIES

AVMC 10956 (8-74) SN 0000-00-006-5360 U/I: PH (100 SHEETS PER PAD)

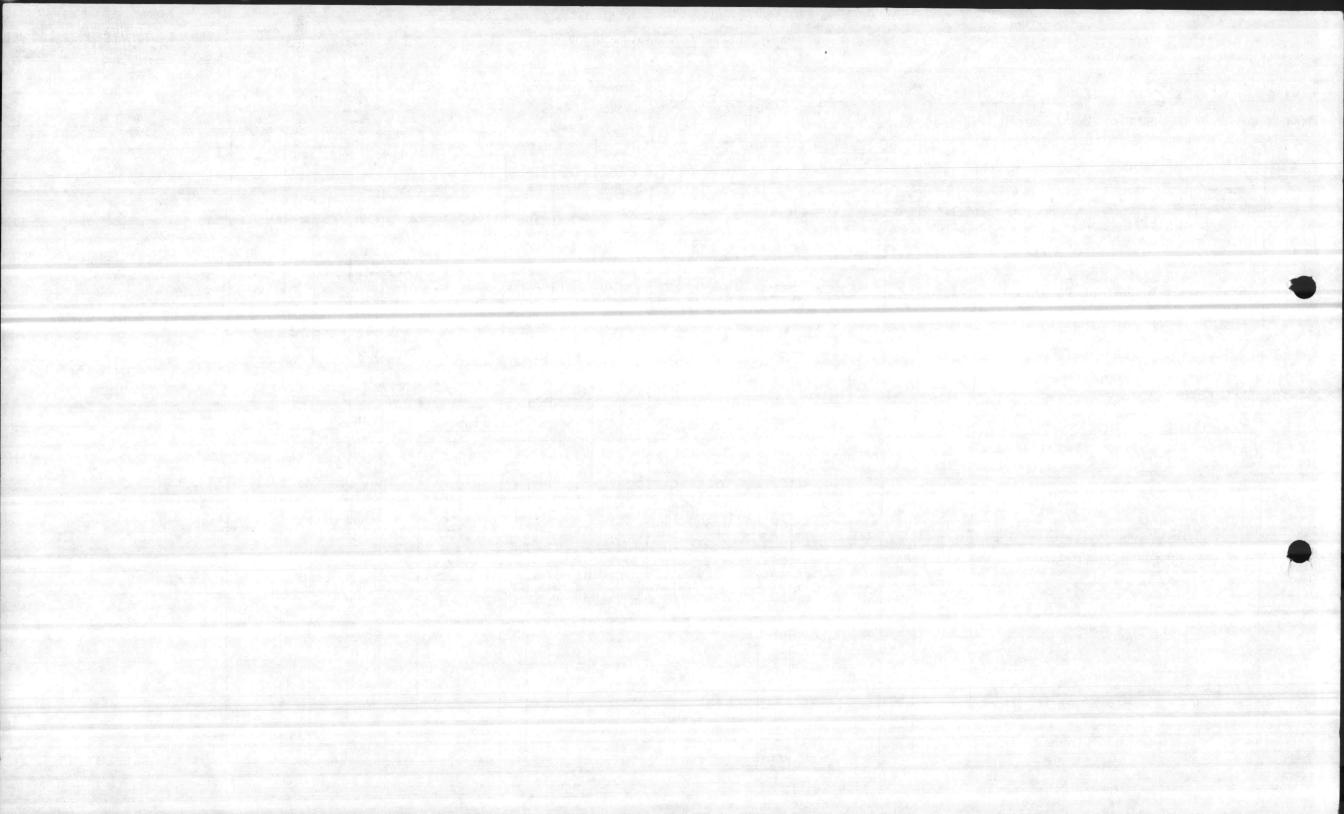
## FY-86 MILITARY CONSTRUCTION PROGRAM

REPORT SYMBOL MC-11000-05

CLASSIFICATION REVISED 1 Aug 83

SHEET 1 OF 5

D. AREA COORD. CODE | E. MC CODE F. COMPONENT NAME C. UIC B. ACTIVITY CODE TO MENTING ACTIVITY AND LOCATION 05A 8270-175 67001 MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 L. BASED ON NAVMC 10801 DATED K. MC CODE . ACTIVITY CODE J. UIC HIST ACTIVITY AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 INVESTMENT % REO. YEAR SCOPE ESTIMATED REMARKS HTEM EST. O A PRIORITY (\$000) MASTER CATEGORY PROG PROJECT TITLE A AUTH. FUND MOS. WITH W/0 QUANTITY U.M. CODE 21 17 18 12 15 1: 13 14 9 10 7 1 18 73 MCON 79 86 86 1.362 PN 19,700 P-624 DA UNACCOM ENL PERS HSG 721-11 82 79 MCON 86 18 RM 86 10,300 UNACCOM ENL PERS HSG (LAV BN) P-631 DA 681 PN 721-11 MCON 86 86 MM 100 76,902 SF 8,700 LIGHT ARMORED VEHICLE FACILITIES P-806 DA MCON 27 C 3,600 86 86 12 26,961 OF-35 MECH SCHOOL (INCR 1) P-808 FA 171-20 86 100 MCON 86 12 0 SF 4,900 EA 41.919 2ND FSSG HQ P-057 610-70 MCON 700 86 86 14 30 21 5,250 SF P-505 EA ELEC/COMM MAINT SHOP 217-10 34 MCON 86 17 86 14 29,775 SF 3,500 P-527 DA ELEC/COMM MAINT SHOP 217-10 37 34 MCON 86 14 500 86 4,505 SF ELEC/COMM MAINT SHOP P-565 DA 217-10 68 MCON 82 86 86 14 23,460 SF 2,900 P-517' EA COMBAT VEHICLE MAINT SHOP 214-51 MCON 44 0 86 2,300 86 12 P-065 21,000 SF EA 740-43 GYMNASIUM MCON 86 86 16 LS 1,000 SEWAGE SYS IMPROVEMENTS P-790 DA 58,600



1. COMPONENT NAVY	FY 1986 MILITARY CONSTRUCTION PROJECT DATA					
3. INSTALLATION AND HARINE CORPS B CAMP LEJEUNE,		12	4. PROJECT'T	GYMNASIUM		
5. PROGRAM ELEMENT 6. CATEGORY CODE 740-43		7. PROJEC	T NUMBER	8. PROJECT C		

ESCALATED TO APRIL 1986 9. COST ESTIMATES	U/M	QUANTITY	UNIT	COST (\$000)
GYMNASIUM  Building  Built-in Equipment  Solar Hot Water System  SUPPORTING FACILITIES  Utilities  Roads, Parking, Sidewalks  Site Improvements  Special Construction Features  SUBTOTAL  CONTINGENCY - 5%  SUBTOTAL  SUPERVISION, INSPECTION & OVERHEAD - 5.5%  TOTAL REQUEST  TOTAL (ROUNDED)  EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	SF SF LS LS LS LS LS LS	21,000	79.92 73.00	1,678 (1,533) (76) (69) 390 (155) (104) (55) (76) 2,068 103 2,171 120 2,291 2,300

#### 10. DESCRIPTION OF PROPOSED CONSTRUCTION

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air Conditioning. 5 Ton)

11. REQUIREMENTS: 48.000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF

PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel.

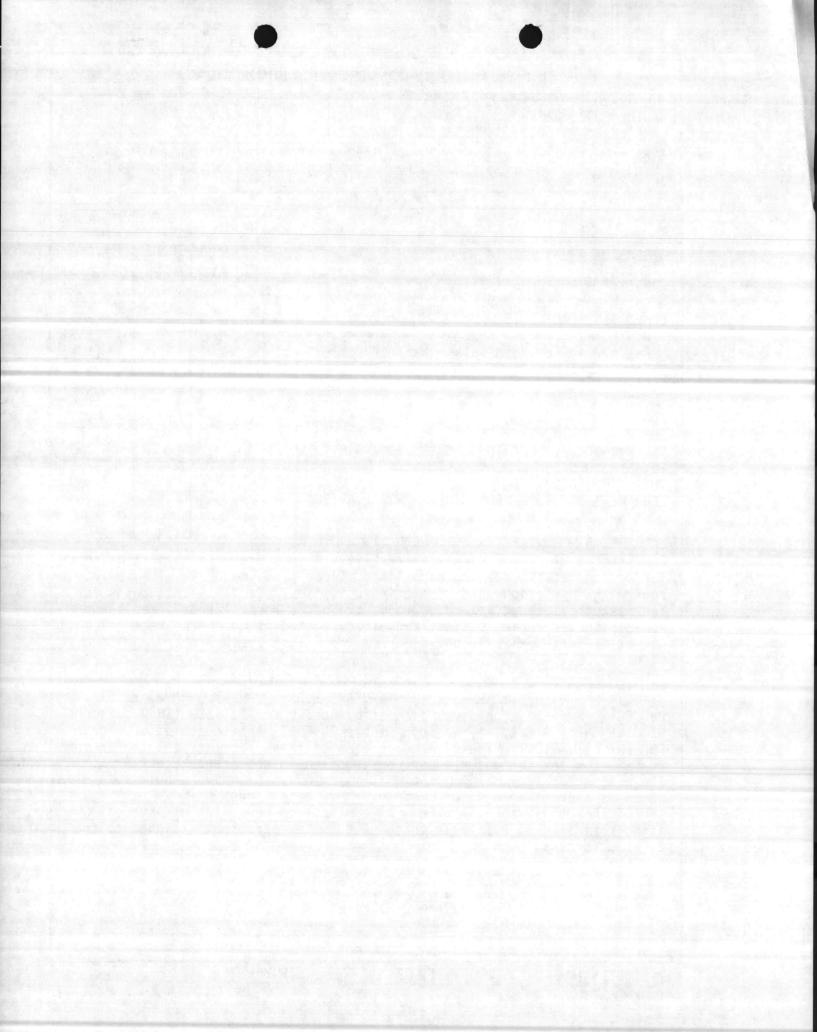
REQUIREMENT: A facility to support the 2d FSSG planned athletic program.

CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area.

The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area which is currently in support of seven (7) battalions.

IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 8.000 plus personnel assigned to the 2d FSSG forces.

EGJ



111

REPORT SYMBOL MO-11000-06

DATE PREPARED CLASSIFICATION 6 JUL 1983

SUMMARY FOR CORRECTION OF FACILITY DEFICIENCIES NAVMC 10956 (8-74) SN 0000-00-006-5360 U/I: PH (100 SHEETS PER PAD)

AU. S. GOVERNMENT PRINTING OFFICE: 1975-627-317/564 3-1

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A. SUBMITTING ACTIVITY AND LOCATION

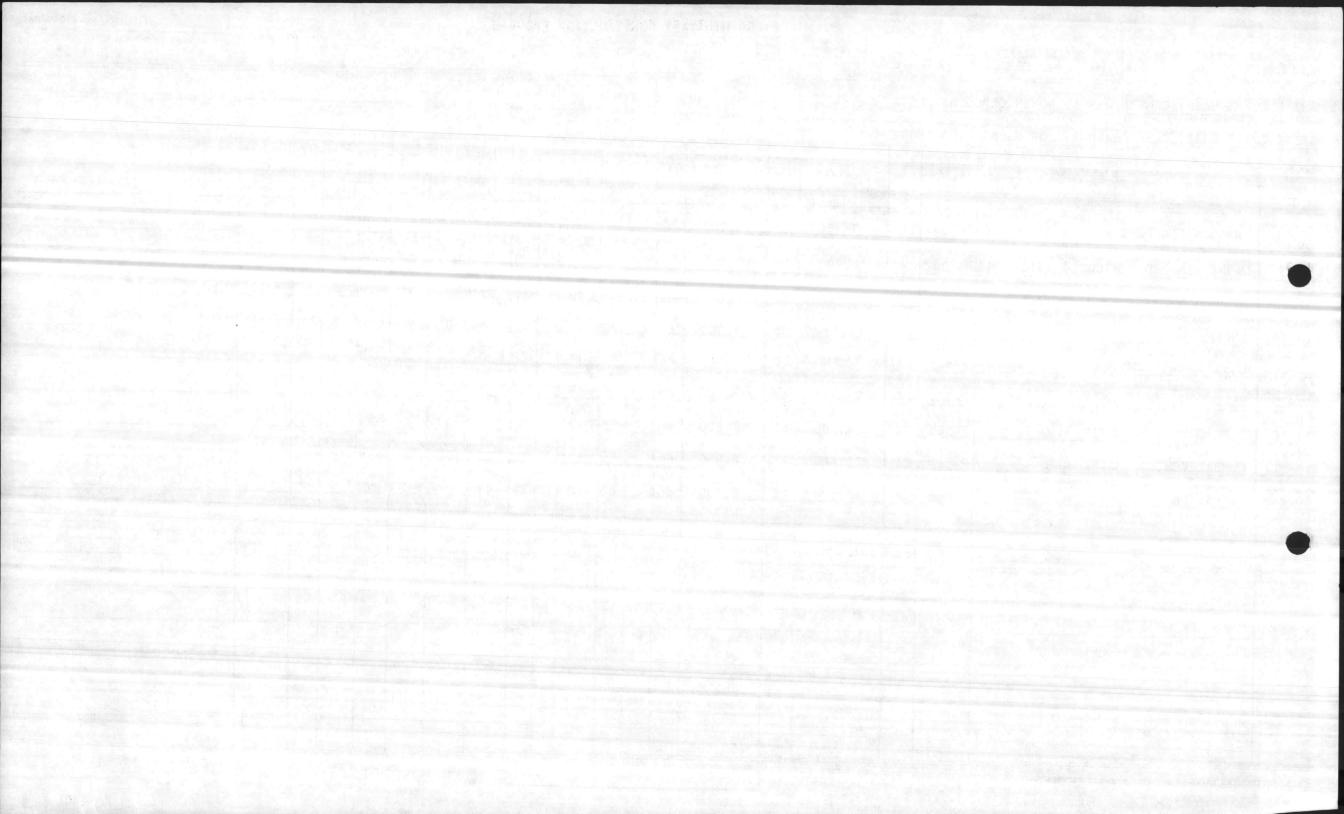
E. MC CODE D. AREA COORD. CODE ACTIVITY CODE C. UIC R 05A 67001 8270-175 K. MC CODE

L. BASED ON NAVMC 10801 DATED

F. COMPONENT NAM

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 . ACTIVITY CODE H. HOST ACTIVITY AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 % REO. YEAR SCOPE REMARKS ESTIMATED EST. ITEM PRIORITY COST (\$000) PROG. W/0 CATEGORY AUTH. FUND MOS. PROJECT TITLE QUANTITY CODE 21 .20 18 17 12 13 14 15 16 10 1: 9 1 73 MCON 79 F 86 86 18 RM 19,700 1,350 P-624 DA UNACCOM ENL PERS HSG 721-11 MCON 86 86 NM 100 A . 19,000 76,902 LIGHT ARMORED VEHICLE FACILITIES P-806 DA 27 MCO1 86 CM 86 12 3.600 26,961 SF FA P-808 OF-35 MECH SCHOOL (INCR 1) 171-20 MCON 0 CM 100 4.900 86 86 12 SF 41.919 EA P-057 2ND FSSG HQ 610-70 MCON 14 21 86 86 30 SF 500 3.950 P-505 EA ELEC/COMM MAINT SHOP 217-10 MCON 34 17 14 RM 86 86 SF 3,500 29,775 P-527 DA ELEC/COMM MAINT SHOP 217-10 MCON RM 37 34 86 86 14 500 SF P-565 4,505 DA ELEC/COMM MAINT SHOP 217-10 MCON 82 68 14 CM 86 86 2.900 EA 23,460 P-517 COMBAT VEHICLE MAINT SHOP 214-51 CM 44 0 MCON 86 86 12 2,300 EA 21,000 SF P-065 GYMNASIUM 740-43 \$56,900

CLASSIFICATION



B. ACTIVITY CODE

SUMMARY FOR CORRECTION OF FACILITY DEFICIENCIES
NAVMC 10956 (8-74) SN 0000-00-006-5360 U/I: PH (100 SHEETS PER PAD)

REPORT SYMBOL MO-11000-06 .

DATE PREPARED

CLASSIFICATION

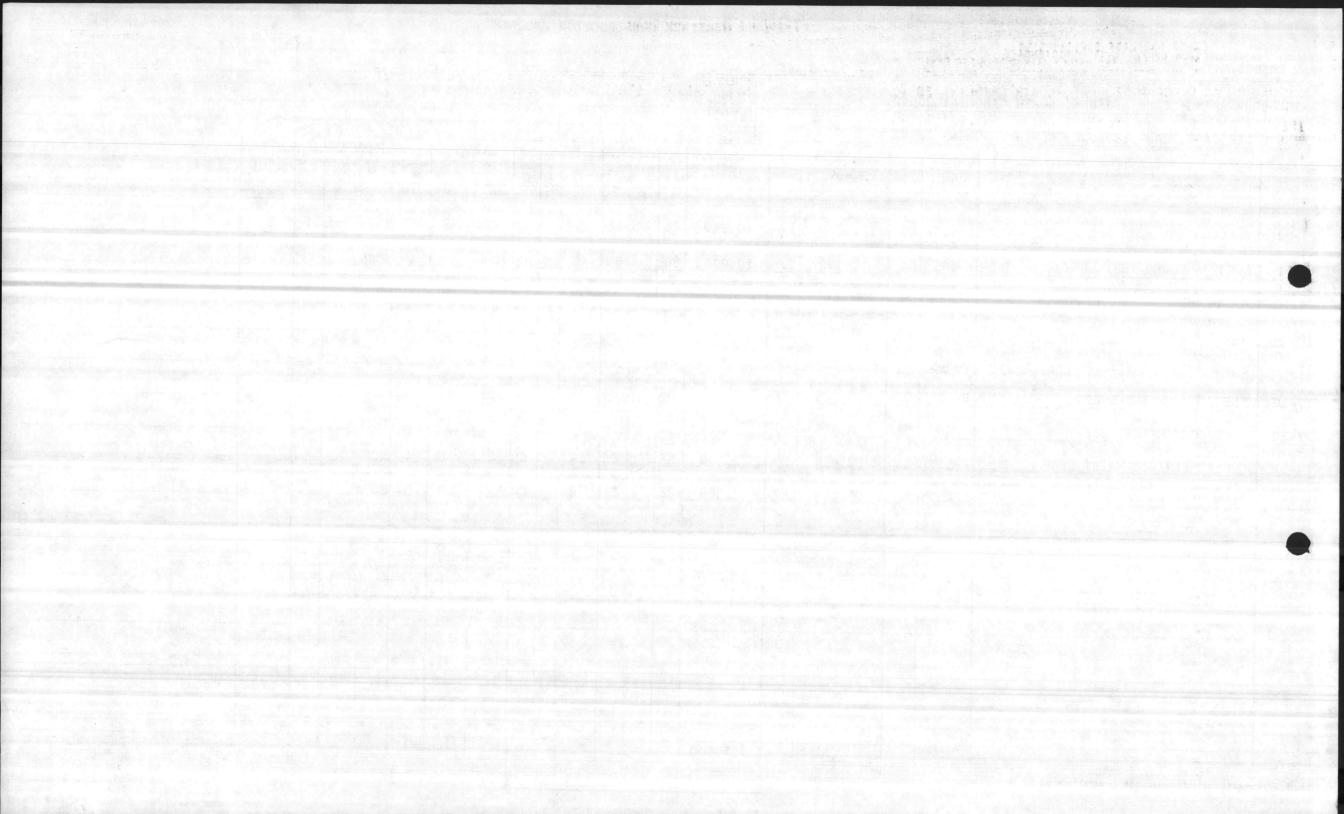
F. COMPONENT NAME

D. AREA COORD. CODE | E. MC CODE

6 JUL 1983

G. COMP. UIC

	ACTIVITY AND LOCATION	OLTNA 2	8542			8270-17		c. (	57001			05A	JORD. COD		R		No. of				
H. HOST ACTIV	CORPS BASE, CAMP LEJEUNE, NORTH CAR	OLINA Z			-	. ACTIVITY CO		J. (			K. N	A-LS		L. B	ASED ON N	VMC 108	OI DATED I				
MARINE C	CORPS BASE, CAMP LEJEUNE, NORTH CAR	OLINA 2	8542						EAR	BOD		R	% RI	EO.	Τ.	INVE	STMENT	1.	T:	T	
CATEGORY	PROJECT TITLE	ITEM ID NO.	S A	OUANTITY	U.M.	COST (\$000)	EST. YEAR		. FUND		CODE	C C O D E T.	% RI SATIS	W/O	SP CAT	PROG.	MASTER	C N A L	PRIOR	HTY	REMARKS
1	2	3	4	5	6	7	8	9	10	1:	12	13	14	15	16	17	18	19	.20	-	21
721-11	UNACCOM ENL PERS HSG	P-624	DA	1,350	PN	19,700	86		86	18		RM	79	73	F	мсог	V				
21 51	LIGHT ARMORED VEHICLE FACILITIES	P-806	DA	76,902	SF	19,000	86		86	. 4		NM	100	-	Α.	мсог	N	-			
171-20	OF-35 MECH SCHOOL (INCR 1)	P-808	FA	26,961	SF	3,600	86		86	12		_CM	_27_	-	C	мсо	N				
610-70	2ND FSSG HQ	P-057	EA	41,919	SF	4,900	86		86	12		_CM	100	0	A	MCO	N				
217-10	ELEC/COMM MAINT SHOP	P-505	EA	3,950	SF	500	86		86	14		CM	30	21	A	мсо	N		-		
217-10	ELEC/COMM MAINT SHOP	P-527	DA	29,775	SF	3,500	86	-	86	14		RM	34_	17	A	MCO	N	-	-		
217-10	ELEC/COMM MAINT SHOP	P-565	DA	4,505	SF	500	.86	-	86	14		RM	37	34	_A_	МСО	N	-	-		
214-51	COMBAT VEHICLE MAINT SHOP	P-517	EA	23,460	J.JF.	2,900	86	-	86	14	1	CM	82	68	A	мсо	N		-		100 mm
740-43	GYMNASIUM	P-065	EA	21,000	SF	2,300	86	-	86	12		CM	44	0	G	мсо	N				
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CLASSIFICATION

DATE PREPARED

3 Aug 82

8270-175 . AREA COORD. CODE 67001 05A MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 L. BASED ON HAVIC TOBOT DATED . ACTIVITY CODE MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 INVESTMENT % RFO. SATISFIED SCOPE ESTIMATED REMARKS EST. CATEGORY PRIORITY (\$000) PROJECT TITLE CODE AUTH. FUND QUANTITY 21 11 12 13 MCON 85 6.900 14 WATER TRI:ATMENT PLANT P-785 41-09 A MCON 85 CM 100 50 393,009 SF 10,300 14 P-802 CONVERT HOSPITAL TO DIV HQ 10-70 721-18,000 85 18 RM 73 F MCON 1,350 PN 79 UNACCOM ENL PERS HSG P-624 DA A MCON 5,400 85 14 CM 59 44 26,570 SF P-054 EA 83 14-51 COMBAT VEH MAINT SHOP 85 CM 30 21 MCON 3,950 SF 390 14 17-10 ELEC/COMM MAINT SHOP P-505 EA 82 85 CM 27 MCON 12 3,100 P-808 26,961 SF 171-20 OF-35 MECH SCHOOL INCR 1 FA MCON 2,400 | 82 85 14 CM 82 68 COMBAT VEH SHOP EA 23,460 SF 214-51 P-517 MCON CM 85 12 1,900 | 82 44 740-43 GYMNASIUM P-065 EA 21,000 SF 85 NM 100 MCON 76,902 SF 7.100 214-51 LIGHT ARMORED VEHICLE SHOP P-806 55,490

FU. I. SOVERNMENT PRINTING OFFICE: 1975-527-317/:80 3:1

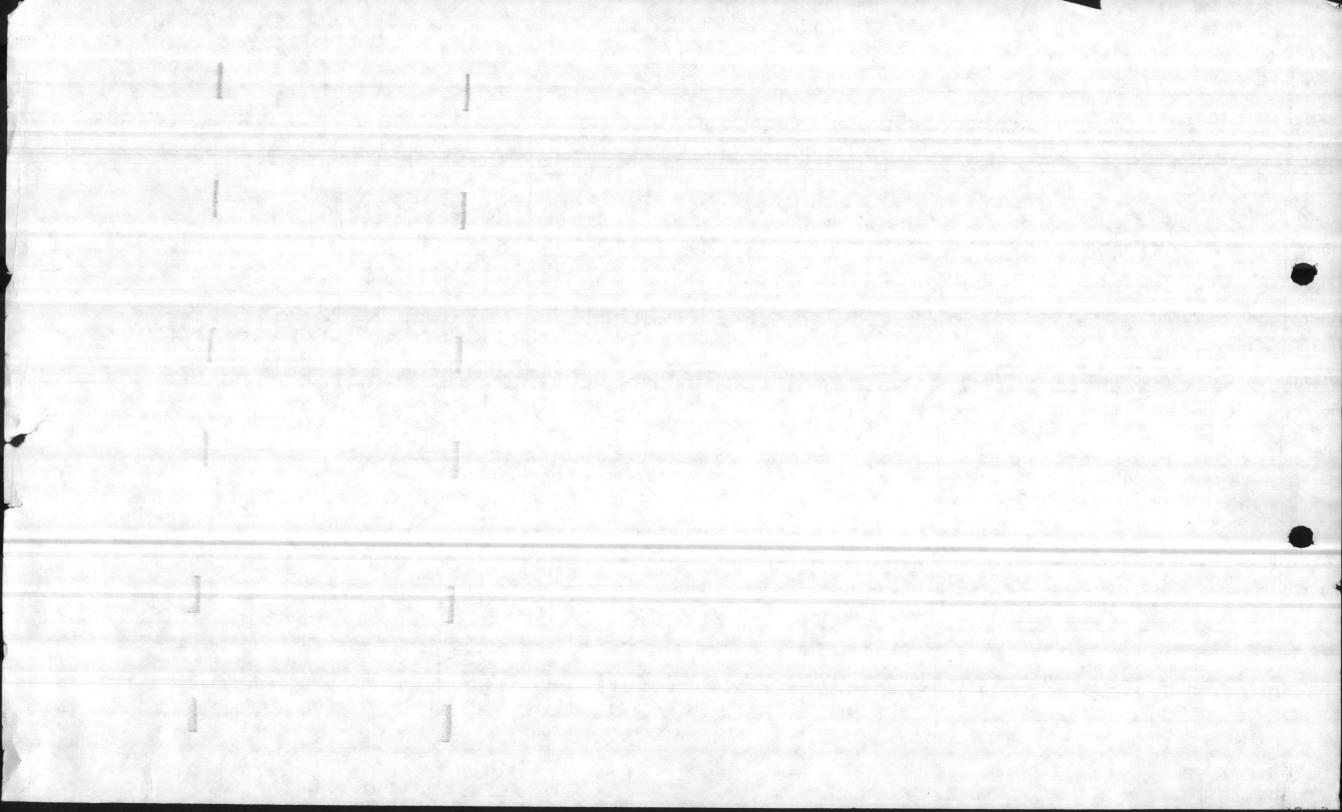
TOTAL:

MHARY FOR CORRECTION OF FACILITY DEFICITIONS

WMC 10956 (6-74) SH GOOD-00-006-5360 U/1: TH (120 BHESTS FEE FAD)

CLASSIFICATION

SHEET \_ OF \_ 5



1. COMPONENT
NAVY

FY 19 84 MILITARY CONSTRUCTION PROJECT DATA

2. DATE 1 AUG 1980

4. PROJECT TITLE

MARINE CORPS BASE

3. INSTALLATION AND LOCATION

CAMP LEJEUNE, NORTH CAROLINA 28542

GYMNASIUM

5. PROGRAM ELEMENT 6. CATEGORY CODE

740-43

7. PROJECT NUMBER

8. PROJECT COST (\$000) 1.900

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT	(\$000)
GYMNASIUM  Building  Built-in Equipment  Solar Hot Water System  SUPPORTING FACILITIES  Utilities  Roads, Parking, Sidewalks  Site Improvements  Special Construction Features  SUBTOTAL  CONTINGENCY - 5%  SUBTOTAL  SUPERVISION, INSPECTION & OVERHEAD - 5.5%  TOTAL REQUEST  TOTAL (ROUNDED)  EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	SF SF LS LS LS LS LS LS	21,000 21,000	66.05	1,387 (1,267) (63) (57) 322 (128) (86) (45) (63) 1,709 85 1,794 99 1,893 1,900

### 10. DESCRIPTION OF PROPOSED CONSTRUCTION

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air Conditioning: 5 Ton)

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF
PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel.
REQUIREMENT: A facility to support the 2d FSSG planned athletic program.
CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area.
The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions.
IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 8,000 plus personnel assigned to the 2d FSSG forces.

LCH

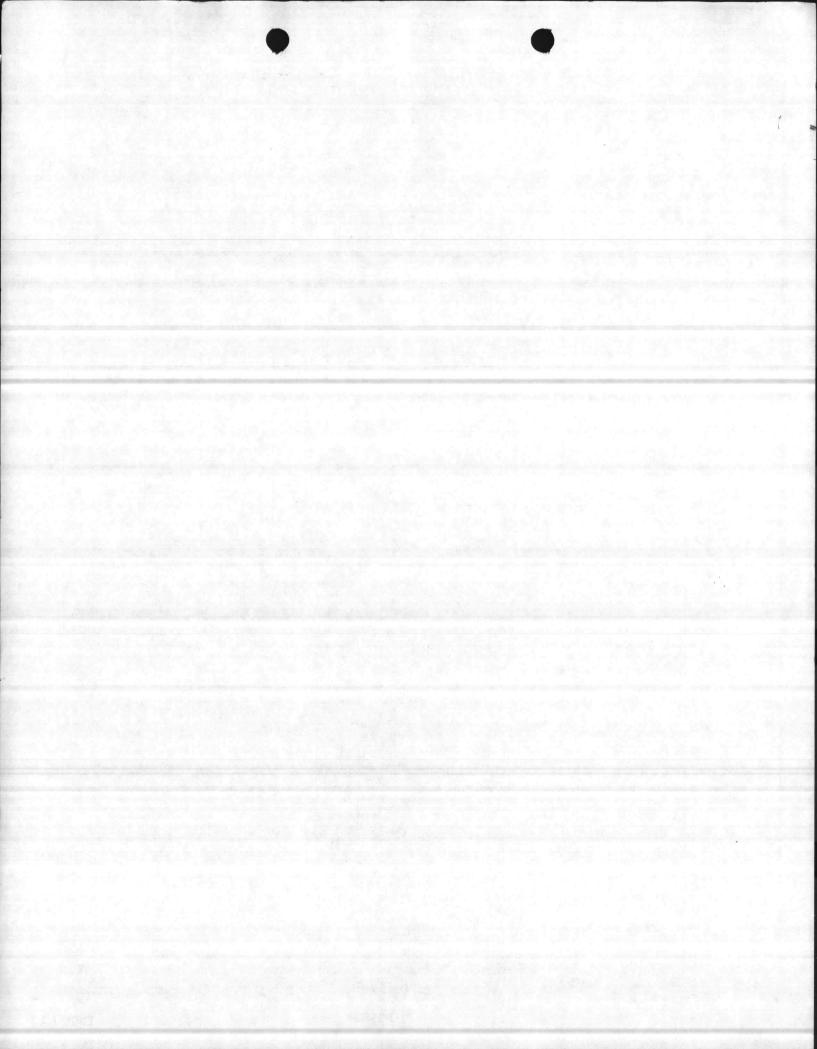
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PREVIOUS EDITIONS MAY BE USED INTERNALLY UNTIL EXHAUSTED

PAGE NO. 1 of 2

**☆**U. S. Government Printing Office: 1979—603-076/6547 2-1



1. COMPONENT FY 19 84 MILITARY CONSTRUCTION PROJECT DATA NAVY 4. PROJECT TITLE

2. DATE 1 AUG 1980

3. INSTALLATION AND LOCATION MARINE CORPS BASE

CAMP LEJEUNE, NORTH CAROLINA 28542

GYMNASIUM

5. PROGRAM ELEMENT 6. CATEGORY CODE 740-43

7. PROJECT NUMBER P-065

8. PROJECT COST (\$000) 1,900

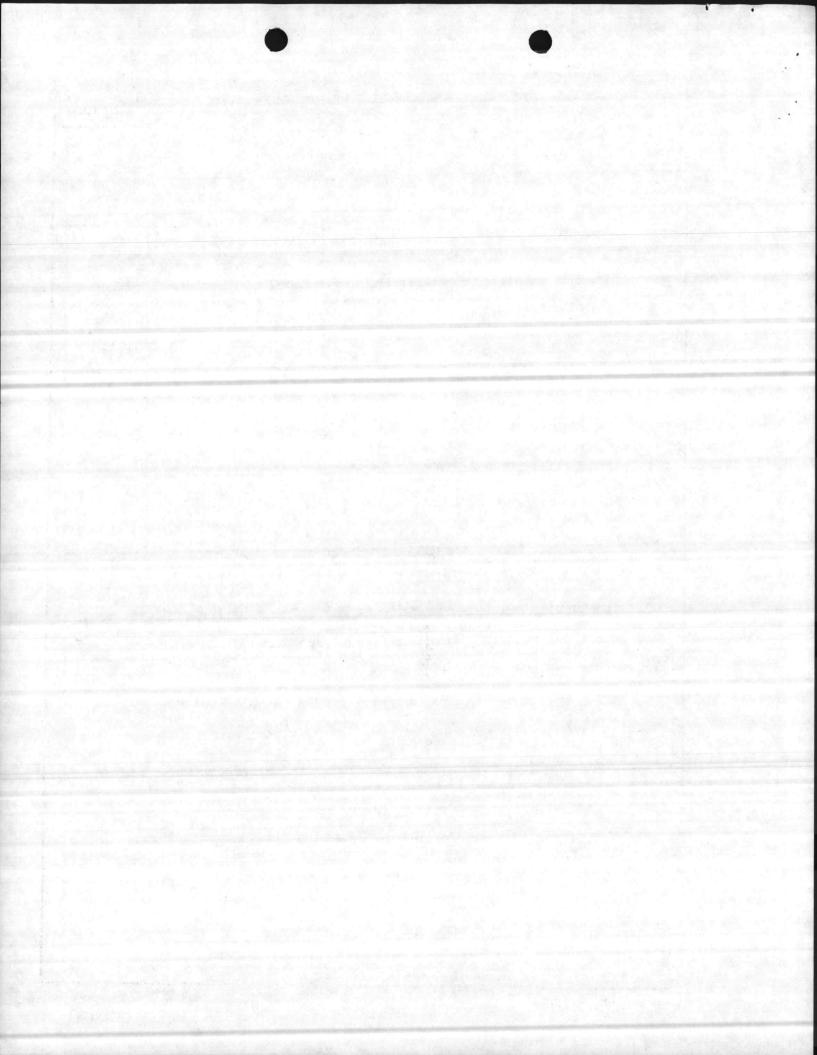
9 COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST,	(\$000)
GYMNASIUM  Building  Built-in Equipment  Solar Hot Water System  SUPPORTING FACILITIES  Utilities  Roads, Parking, Sidewalks  Site Improvements  Special Construction Features  SUBTOTAL  CONTINGENCY - 5%  SUBTOTAL  SUPERVISION, INSPECTION & OVERHEAD - 5.5%  TOTAL REQUEST  TOTAL (ROUNDED)  EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	SF SF LS LS LS LS LS LS	21,000 21,000 - - - - -	66.05	1,387 (1,267) (63) (57) 322 (128) (86) (45) (63) 1,709 85 1,794 99 1,893 1,900

#### 10. DESCRIPTION OF PROPOSED CONSTRUCTION

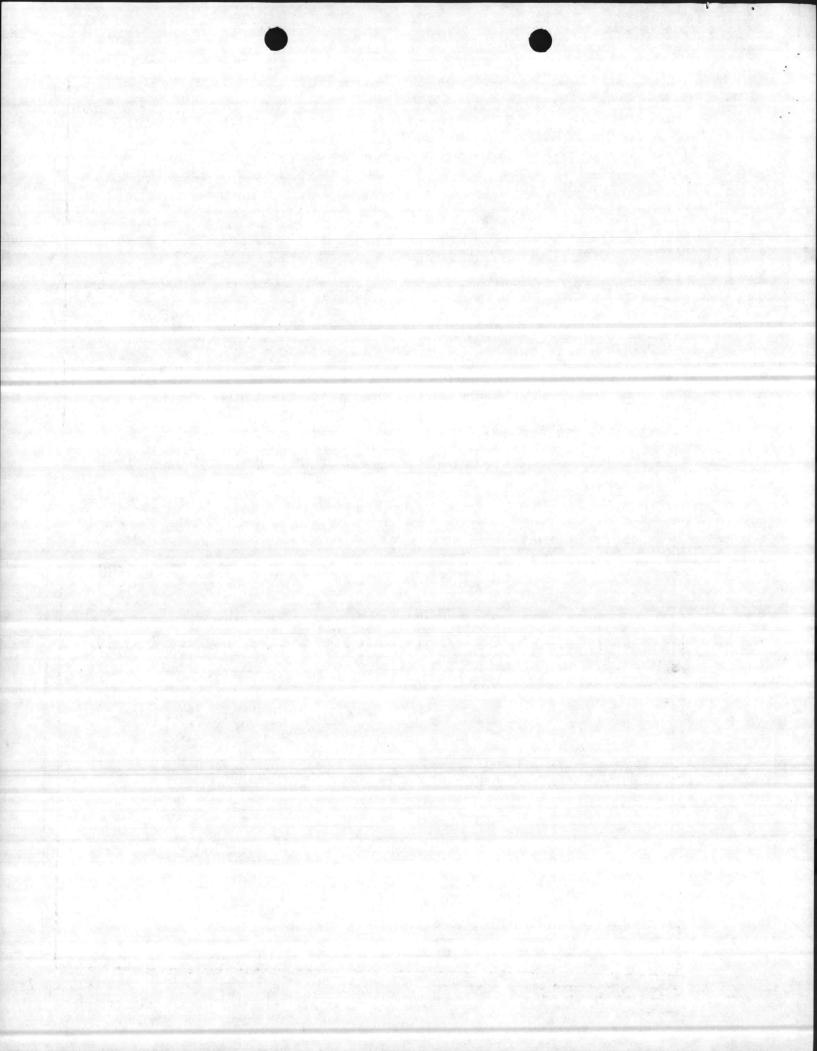
Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air Conditioning: 5 Ton)

SUBSTANDARD: 0 SF ADEQUATE: 0 SF 11. REOUIREMENTS: 48,000 SF PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: A facility to support the 2d FSSG planned athletic program. There is no physical fitness facility located in the CURRENT SITUATION: 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions. IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 8,000 plus personnel assigned to the 2d FSSG forces.



## SPECIAL CONSIDERATIONS

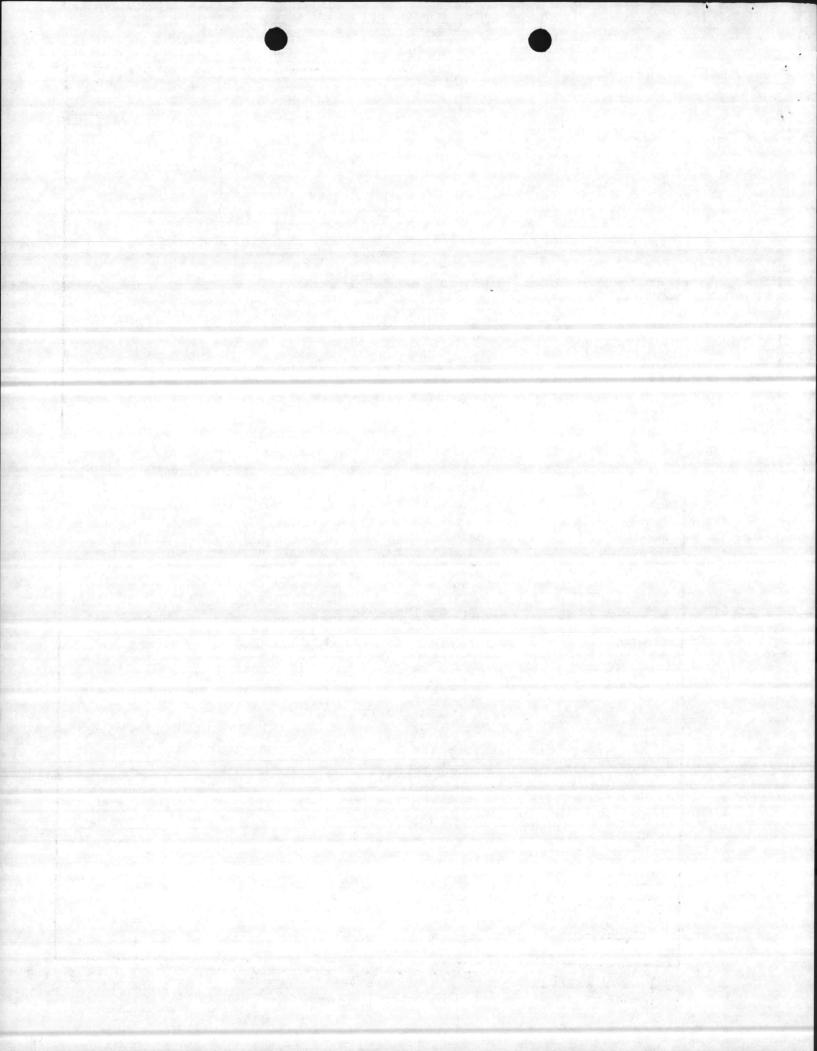
- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is incorporated in the facility.
- 5. Design for Accessibility of Physically Handicapped Personnel: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform with DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: The project facility does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.



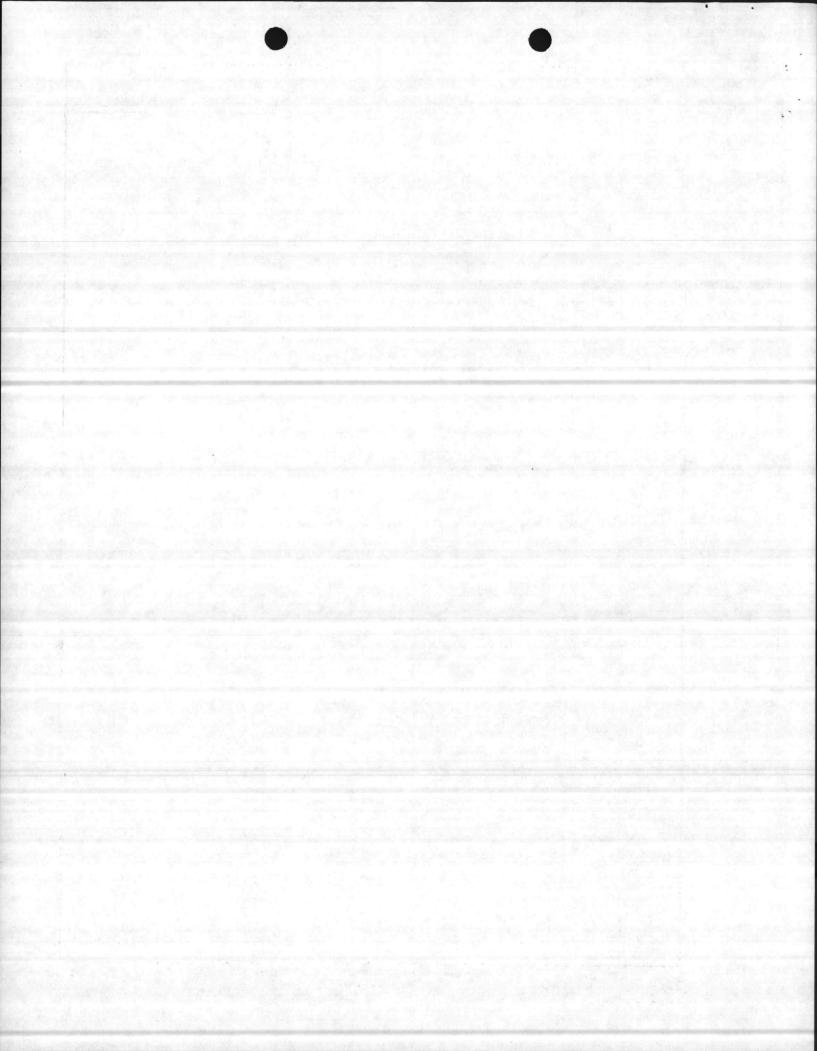
1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	1 AUG 1980
3. INSTALLATION . MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	£
4. PROJECT TITLE GYMNASIUM	5. PRO	P-065

## FACILITY STUDY

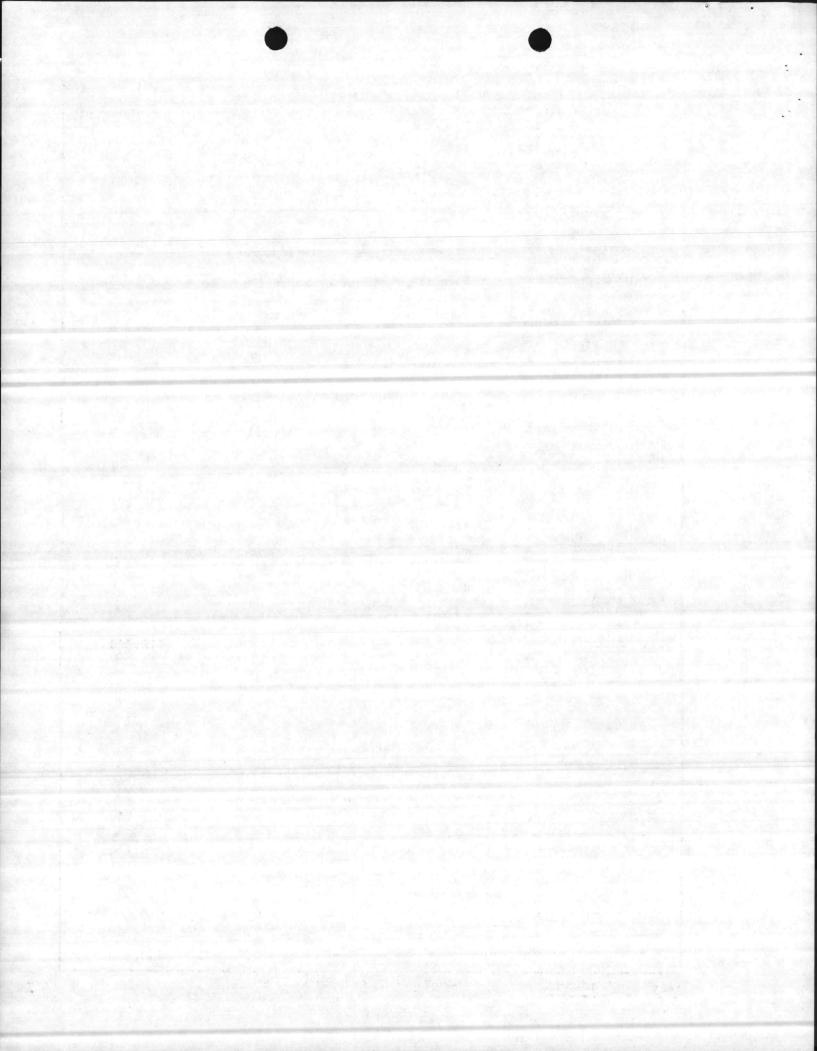
- 1. Project: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. <u>Current and Planned Workload with Regard to this Project</u>: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. Description of Proposed Construction:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) Primary Facility. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) <u>Support Facilities</u>. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



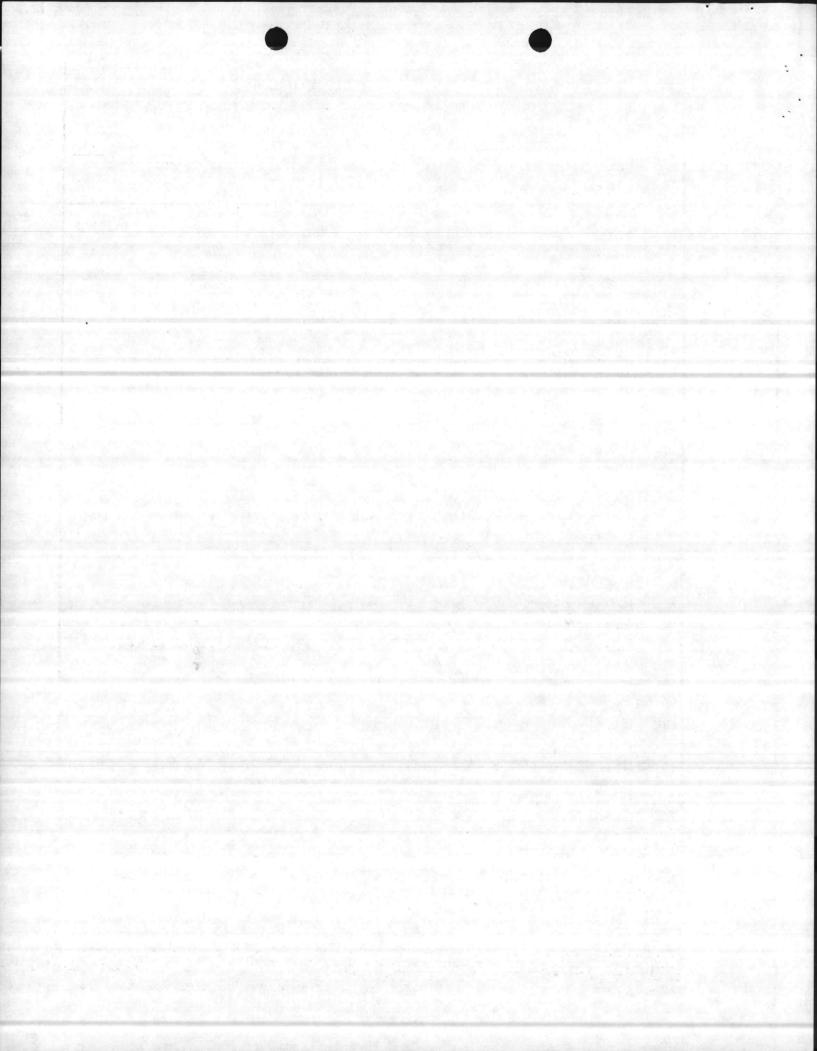
				2. DATE
FY 19 84	MILITARY C	ONSTRUCTIO	N PROJECT DATA	1 AUG 1980
ND LOCATIO	N			
BASE, CAN	MP LEJEUNE, N	ORTH CAROLIN		
2			5. PR	OJECT NUMBER
, de la companya de l				P-065
*Inte	erior ventila	tion systems		
*P1ur	mbing system			
*Tel	ephone, fire	alarm, and i	ntercom systems	
*Dri	nking water c	coolers		
*Loc	kers - person	al storage		
*Cha	1kboards			
*Cab	inets, displa	y ·		
*Loc	kers - equipm	ment storage		
*Sau	na (steam or	electric)		
*Ble	acher seats,	folding		
*Bas	ketball backs	stops, glass		
*Sco	reboard, elec	ctric w/clock		
*Div	ider curtain		1	
*PA	system			
*Cli	mbing rope ho	ooks		
*Bu1	letin board			
(b) <u>Expe</u>	ense Items:	UNIT OF	UNIT	
<u>NC</u>	QUANTITY	ISSUE	PRICE \$	TOTAL COST \$
g press	1	EΑ	240 100	240 400
cline,				460
e 1f				170
, super	4	EA	200	800
ell, w/				
	*Into *Plus *Tel *Dris *Loc *Cha *Cab *Loc *Sau *Ble *Bas *Sco *Div *PA *Cli *Bul (b) Expe	*Interior ventila  *Plumbing system  *Telephone, fire  *Drinking water of  *Lockers - person  *Chalkboards  *Cabinets, displated and steam or  *Sauna (steam or  *Bleacher seats,  *Basketball backs  *Scoreboard, elect  *Divider curtain  *PA system  *Climbing rope hot  *Bulletin board  (b) Expense Items:  ON  OUANTITY  g press  minal  cline,  e  4  If	*Interior ventilation systems  *Interior ventilation systems  *Plumbing system  *Telephone, fire alarm, and i  *Drinking water coolers  *Lockers - personal storage  *Chalkboards  *Cabinets, display  *Lockers - equipment storage  *Sauna (steam or electric)  *Bleacher seats, folding  *Basketball backstops, glass  *Scoreboard, electric w/clock  *Divider curtain  *PA system  *Climbing rope hooks  *Bulletin board  (b) Expense Items:  ON QUANTITY ISSUE  g press 1	*Interior ventilation systems  *Interior ventilation systems  *Plumbing system  *Telephone, fire alarm, and intercom systems  *Drinking water coolers  *Lockers - personal storage  *Chalkboards  *Cabinets, display  *Lockers - equipment storage  *Sauna (steam or electric)  *Bleacher seats, folding  *Basketball backstops, glass  *Scoreboard, electric w/clock  *Divider curtain  *PA system  *Climbing rope hooks  *Bulletin board  (b) Expense Items:  ON QUANTITY ISSUE PRICE \$  g press 1 EA 240  EA 100  cline,  e 4 EA 115  EA 200  If EA 200



NAVY FY 19 84 M	ILITARY	CONSTRUCTIO	N PROJECT D	ATA 1 AUG 198
INSTALLATION AND LOCATION			00540	
MARINE CORPS BASE, CAMP	LEJEUNE,	NORTH CAROL	INA 28542	
PROJECT TITLE				5. PROJECT NUMBER
GY MNAS I UM				P-065
DESCRIPTION QUA	ANTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$
Stands, curling	4	EA	60	240
Platform, pro striking				
bag, super	1	EA	900	900
Bag, boxing, training	2	EA	220	440
Bag, karate, training	1	EA	120	120
Kickboard, karate	1	EA	60	60
Barbell set, 310-1b				
01ympic	4	EA	450	1,800
Bench, super power	4	EA.	40	160
Dumbbell, solid, 5-25				
lbs (5-1b increments)	4	EA	55	220
Dumbell, solid, 25-75				
lbs (5-lb incre-				
ments)	2	EA	140	280
Machine, rowing,			-10	
hydraulic	1	EA	865	865
Trainer, bicycle,	nel for the		500	
double	1	EA	1,700	1,700
Bench, standard	8	EA	45	360
(1) - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			75	300
Bar, wall, parallel,		EA	85	85
w/belt	1	EA	00	03
Scales, personal	1	EA	225	225
weighing	1	EA	275	825
Desk, flat top	3	EA	213	023
Chairs, rotary,	2	EA	95	190
tilting, w/arms	3	EA	30	190
Chairs, straight back,	2	EΛ	60	120
adjustable, w/o arms	2	EA	00	120
Cabinets, file, 4-dwr,	2	ΕΛ	155	465
letter-size	3	EA	155	403
Cabinet, file, 4-dwr,	2	EA	190	570
legal size	3		30	60
Net, volleyball	2	EA	30	00
Pole, net, volleyball,		ΕΔ.	226	236
w/floor plates	1 3	EA	236	18
Net, badminton	3	EA	6	10
Pole, net, badminton,	1	ΕΛ.	226	226
w/floor plates	1	EA	236	236
Bars, stall, exercise	1	EA	284	284
Bag, training, heavy-	2	ΕΛ.	10	96
weight	2	EA	48	
Weight, chest, pulley	2	EA	327	654

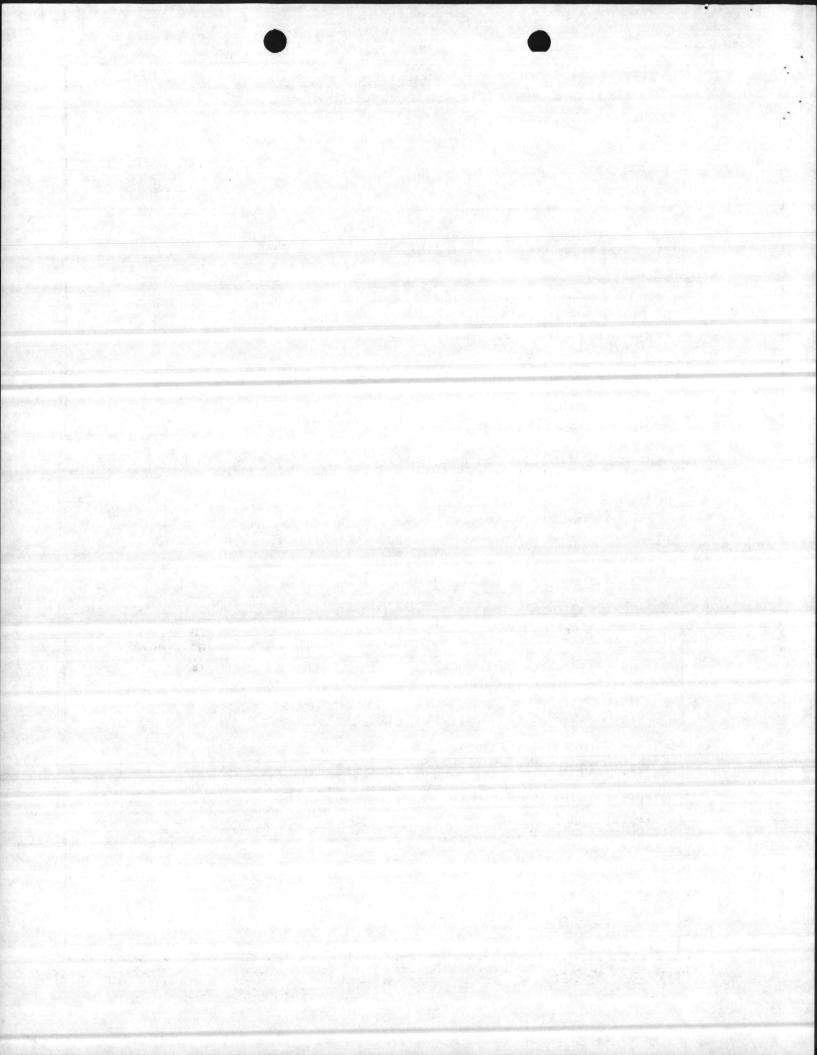


NAVI			N PROJECT DA	1 AUG 1980
3. INSTALLATION AND LOCAT				
MARINE CORPS BASE,	CAMP LEJEUNE	, NORTH CAROL		
1. PROJECT TITLE			5.	PROJECT NUMBER
GYMNASIUM				P-065
DESCRIPTION	QUANTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$
Mirror, weight- lifting (4x6')	2	EA	100	200
Bar, horizontal, w/floor plates Table, massage	1	EA EA	312 173	312 173
Bath, whirlpool, mobile Washer, clothes	1 2	EA EA	1,815	1,815
Dryer, clothes Mirror, locker-	2	EA .	*	300
room (4x6') Case, display	3 1	EA EA	100 300	300
rental/lease of equ maintained by contr	uipment from	nment to prov civilian cont	ide washers an ractor with ed	quipment
maintained by contr TOTAL EXPENSE ITEMS SHIPPING, PACKING, F	uipment from ractor.	civilian cont	ractor with ed	16,404
rental/lease of equi maintained by contr TOTAL EXPENSE ITEMS SHIPPING, PACKING, F CONTINGENCY - 10%	ractor.	civilian cont	ractor with ed	16,404 
rental/lease of equination of maintained by contract to the second of th	ractor. HANDLING, INS	civilian cont	ractor with ed	16,404
rental/lease of equi maintained by contr TOTAL EXPENSE ITEMS SHIPPING, PACKING, F CONTINGENCY - 10%	ractor. HANDLING, INS	civilian cont	ractor with ed	16,404 
rental/lease of equivalent rental/lease of equivalent rental rent	ractor. HANDLING, INS	civilian cont	ractor with ed	16,404 
rental/lease of equivalent rental/lease of equivalent rental rent	HANDLING, INS  ent Items:	civilian cont TALLATION CHA EA	ractor with ed	16,404 1,640 \$18,044
rental/lease of equivalent rental/lease of equivalent rental rent	HANDLING, INS  ent Items:  2 2 1e 1	civilian cont TALLATION CHA EA EA	5,760 3,600	16,404 1,640 \$18,044 11,520 3,600
rental/lease of equimaintained by contractions TOTAL EXPENSE ITEMS SHIPPING, PACKING, FONTINGENCY - 10%  TOTAL EXPENSE ITEMS:  (c) Investment Combo units, super (Universal Gyms) Ring, boxing, portab TOTAL INVESTMENT ITE SHIPPING, PACKING, FONTINGENCY - 10%  (d) APA (e) Train	HANDLING, INS  ent Items:  2 2 1e 1	EA EA TALLATION CHA	5,760 3,600	16,404  1,640  \$18,044  11,520 3,600  \$15,120
rental/lease of equimaintained by contractions TOTAL EXPENSE ITEMS SHIPPING, PACKING, FOONTINGENCY - 10%  TOTAL EXPENSE ITEMS:  (c) Investment Combo units, super (Universal Gyms) Ring, boxing, portab TOTAL INVESTMENT ITE SHIPPING, PACKING, FOONTINGENCY - 10%  (d) APA (e) Train	Aipment from ractor.  HANDLING, INS  Ent Items:  2 1e 1  MS: HANDLING, INS  Equipment: ining Equipme ipment on Han	EA EA TALLATION CHA None nt: None d: None	5,760 3,600	16,404  1,640  \$18,044  11,520 3,600  \$15,120  \$ 1,512



NAVY	FY 19 <u>84</u> N	ILITARY CON	STRUCTION	PROJECT	DATA	1 AUG 1980
3. INSTALLATION MARINE CORPS	1	LEJEUNE, NORT	H CAROLINA	28542		
4. PROJECT TITLE GYMNAS IUM					5. PRO	P-065

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.95, from the <u>Military Construction Cost Review Guide</u>, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-82 to provide the cost for the proposed facility.
- 5. Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned athletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. <u>Common Support Facilities</u>. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased 0&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



1. COMPONENT.	FY 19 <u>84</u> MILI	TARY CONSTRUCTION PROJE	CT DATA	2. DATE 1 AUG 1980
3. INSTALLATION	N AND LOCATION			
MARINE CORP	S BASE, CAMP LEJ	EUNE, NORTH CAROLINA 2854	2	
4. PROJECT TITL	E		5. PROJ	ECT NUMBER
GYMNASIUM	3 X 4 X			P-065
	8	UTILITY REQUIREMENTS		n exe was
a. Ele	ectricity:	Consumption $71,995$ KWHI Peak Demand $56$ KW Avg. Demand $41$ KW	R/yr	
b. Ste	am:	Consumption 10,690,250 Demand 3,830	lbs/yr lbs/hr	1010
c. Coa	1:	418.0	tons/yr	*A ( )
d. Ade	quate utility re	quirements are available.		re availy

Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1).

Other Graphic Presentations, including Photographs.

11. <u>Economic Analysis</u>. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area.

Siting of the Project. The facility will be located in the French

12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly controversial.

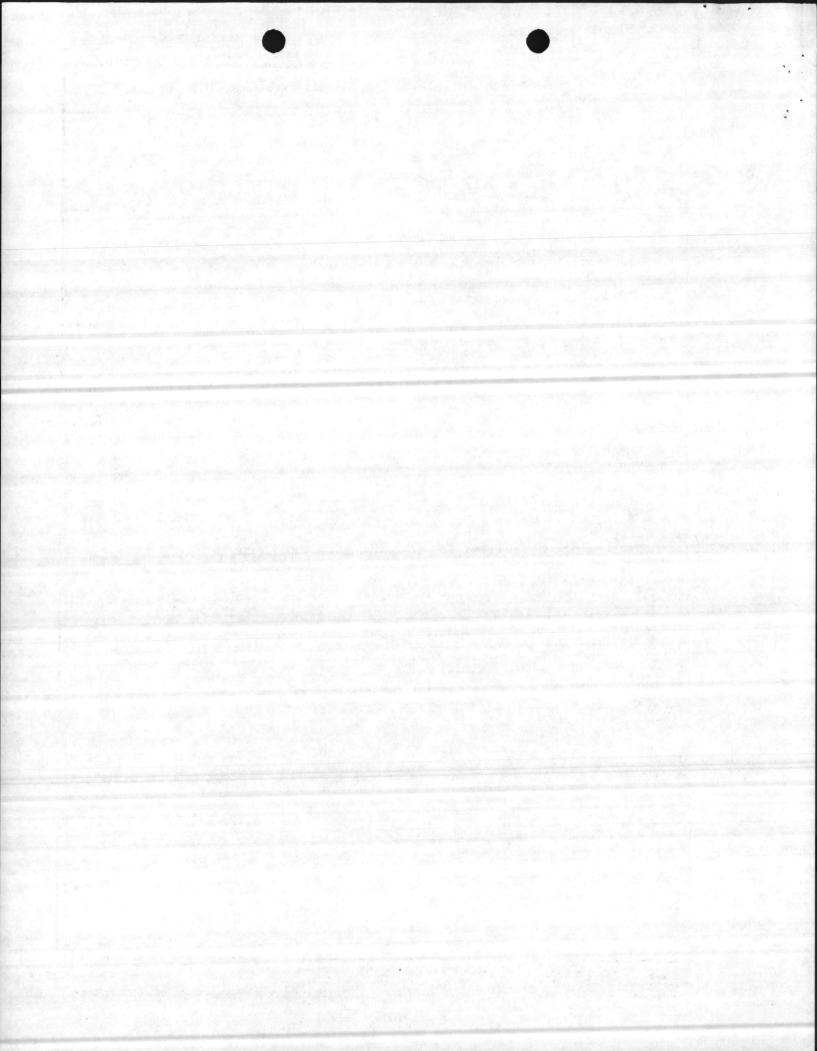
# 13. Quantitative Data:

10.

a. <u>BFRL Requirement</u>. French Creek Area - 48,000 SF. NAVFAC P-80 states that the requirement for Category Code 740-43, Gymnasium, is determined from definitive drawings given in NAVFAC P-272, Part IV. The total requirement is 48,000 SF.

NAVFAC Drawing No.	Activity	Area (SF)
1294390 & 1294391 (M)	2d FSSG	21,000
	TOTAL:	21,000

b. Existing Assets: None

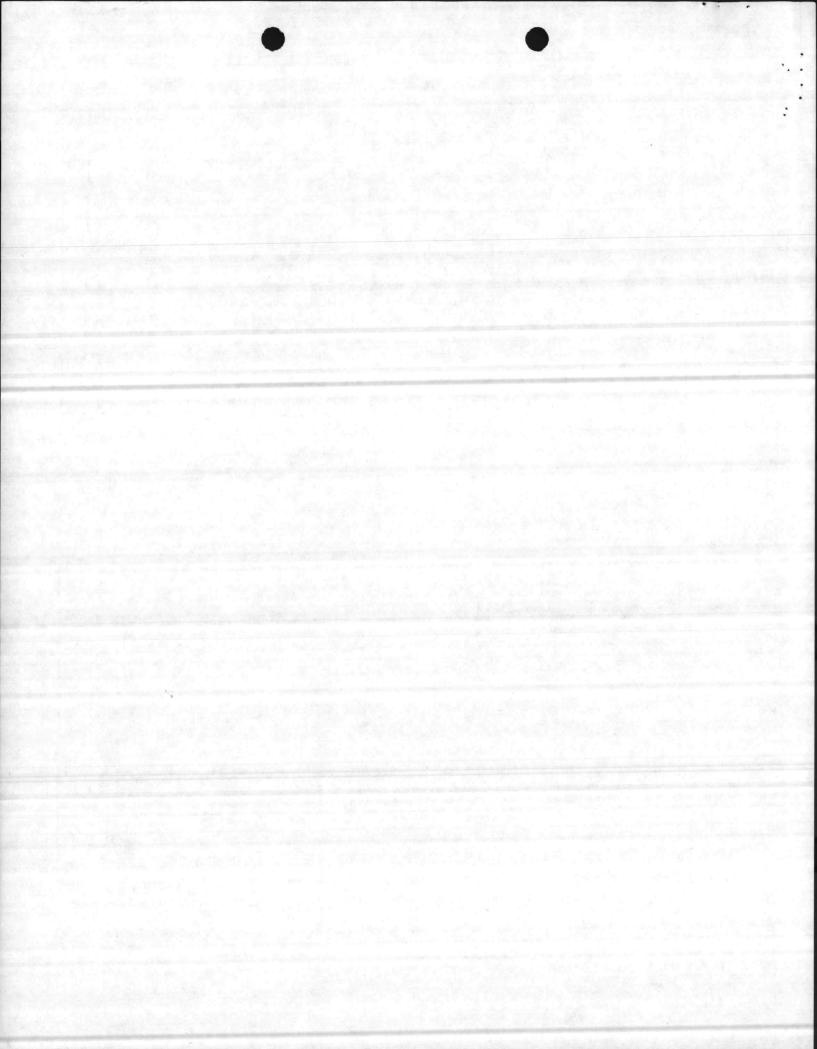


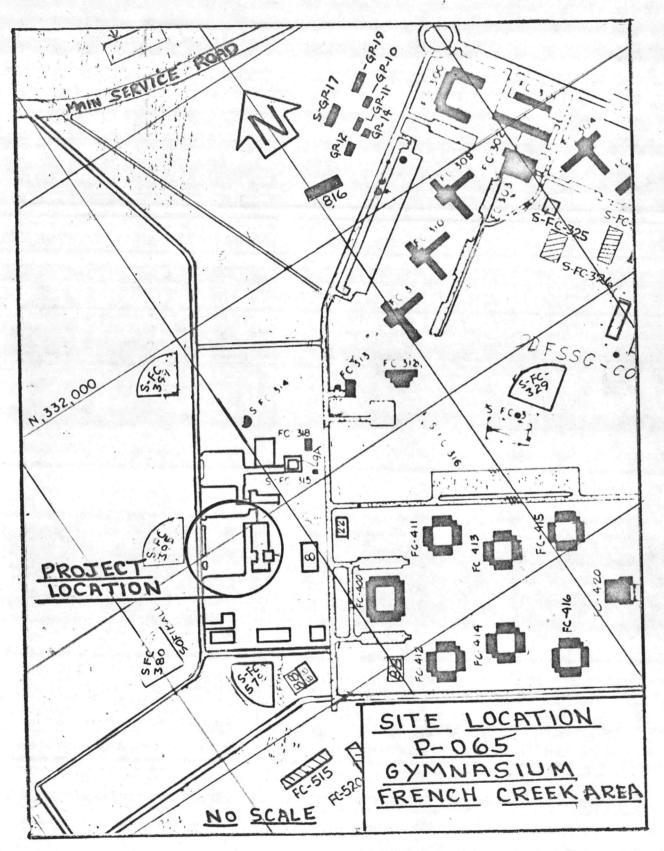
1. COMPONENT	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	1 AUG 1980
3. INSTALLATION MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	y v manyahi.
4. PROJECT TITLE  GYMNAS IUM		P-065

# c. Planned Facilities:

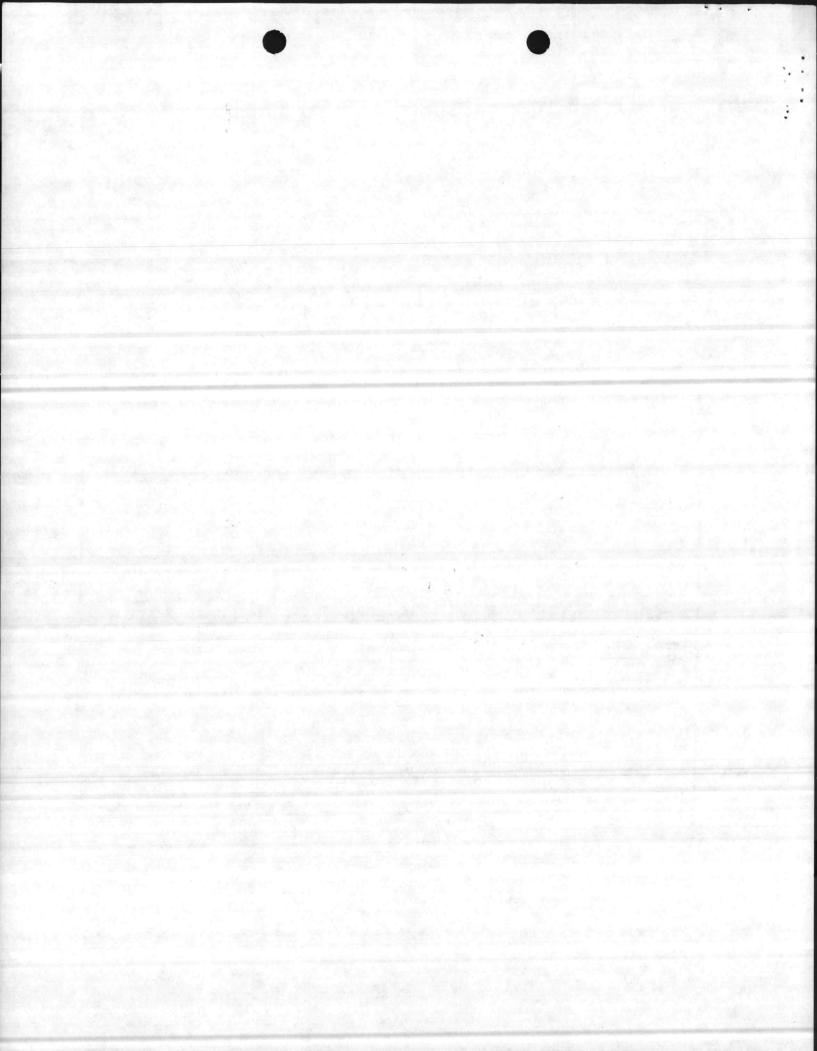
Project No.	Area (SF)	Status
P-065	21,000	To be constructed in FY-84
P-693	9,000	Unprogrammed Physical Fitness Center
P-694	9,000	Unprogrammed Physical Fitness Center
P-707	9,000	Unprogrammed Physical Fitness Center
	0	TOTAL FACILITIES UNDER CONSTRUCTION
	48,000	TOTAL PLANNED FACILITIES
	0	TOTAL EXISTING ASSETS (ADEQUATE)
	48,000	BFRL

THE





ENCLOSURE (1)



Read

PWO:408:EGJ:bjd P-786/P-065

From: Commanding General

To: Commandant of the Marine Corps (Code LFF-1)

Subj: FY-83 through FY-87 Military Construction (MCON) Program for Marine Corps Base, Camp Lejeune, NC; resubmission of projects P-786 and P-065

Ref: (a) CG MCB CLNC ltr PWO:408:EGJ:bb 11000 of 29 Jul 1980 (b) CMC ltr LFF-1-LAW:jql 11000/CLNC of 25 Feb 1981

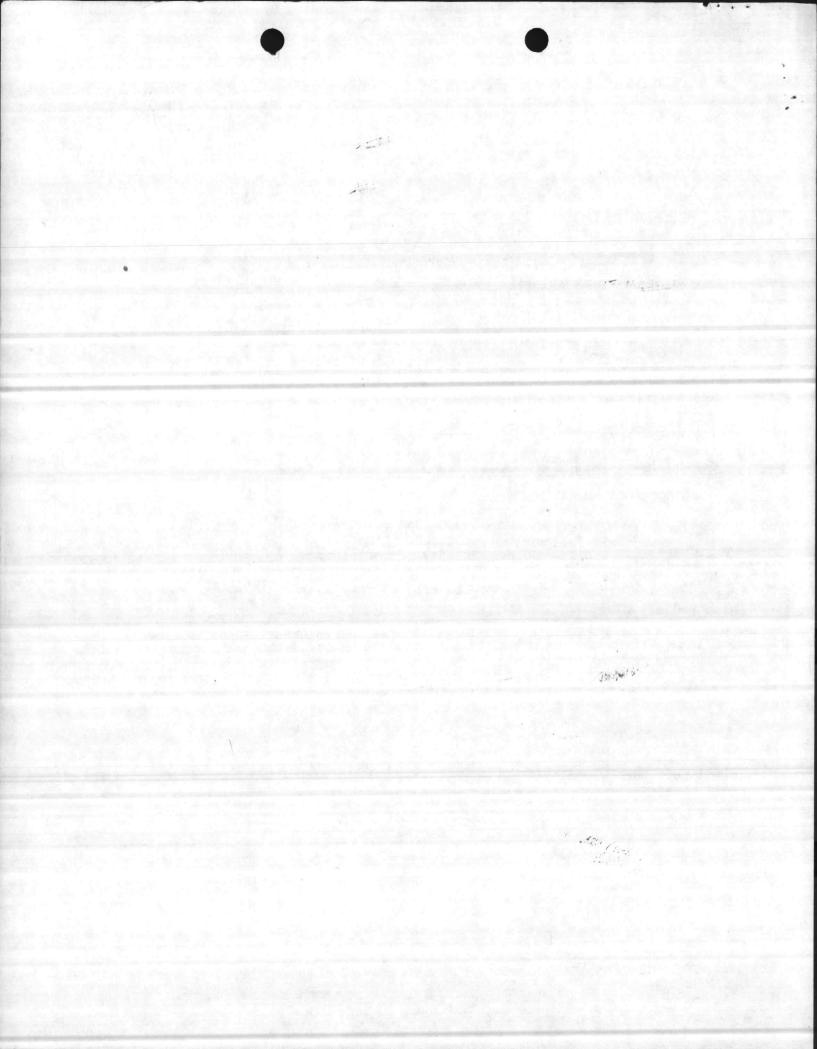
Encl: (1) Project package for FY-85 MCON Project P-786, Cold Storage Plant, consisting of DD Form 1391/1391c of 28 May 1981 and Site Location Map

(2) Project package for FY-84 MCON Project P-065, Gymnasium, consisting of DD Form 1391/1391c of 1 Aug 1980 and Site Location Map

- 1. Subject Program was previously submitted by reference (a).
- 2. Reference (b) provided detailed guidance for various Camp Lejeune MCON programs. It further requested submission of a revised DD Form 1391 reflecting a valid scope of 45,647 SF for FY-85 MCON Project P-786, Cold Storage Plant, with current site location map. A complete documentation package for FY-84 MCON Project P-065, Gymnasium, was also requested.
- 3. In accordance with references (a) and (b), enclosures (1) and (2) are hereby submitted.

Blind copy to: (w/encls) AC/S, Fac BMO

Ration to FWD Planning Branch



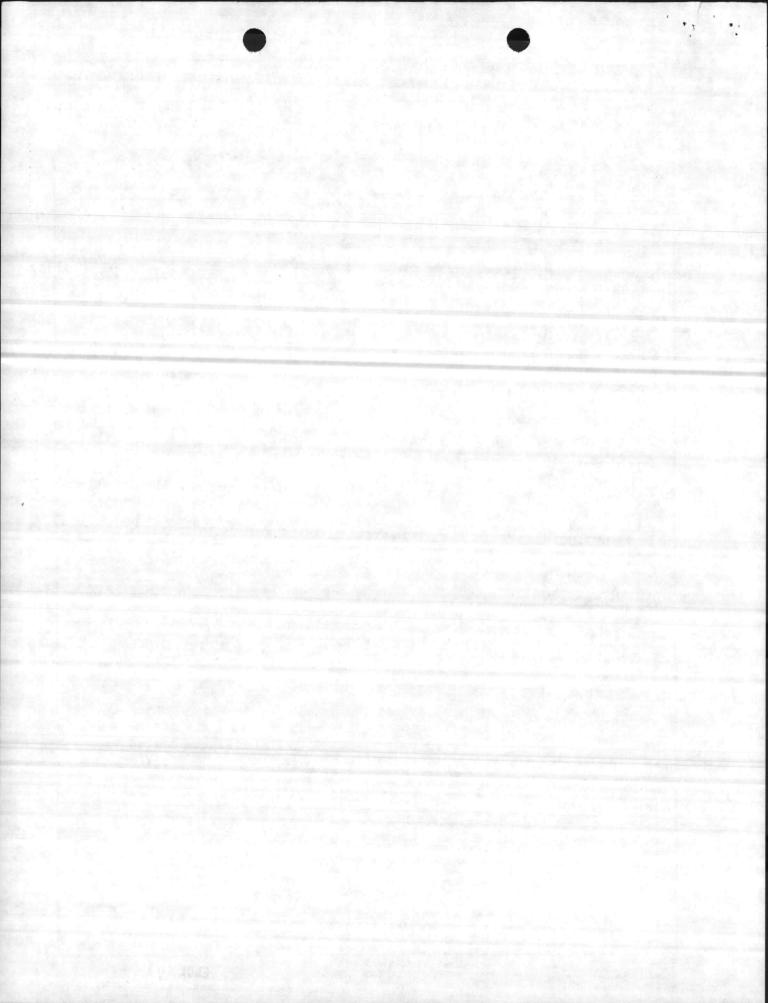
NAVY	FY 1984 MILITARY CONSTRUCTION PROJECT DATA					2. DATE 1 AUG 1980
3. INSTALLATION AND LOCATION MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542			4. PROJECT TITLE  GYMNAS IUM			
5. PROGRAM ELEMENT 6. CATEGORY CODE 740-43			T NUMBER	8. PROJECT C		

ITEM	U/M	QUANTITY	COST	(\$000)
GYMNASIUM	SF	21,000	66.05	1,387
Building	SF	21,000	60.33	(1,267)
Built-in Equipment	LS	-		(63)
Solar Hot Water System	LS	-	-	(57)
SUPPORTING FACILITIES	LS		-	322
Utilities	LS	-	-	(128)
Roads, Parking, Sidewalks	LS	-	-	(86)
Site Improvements	LS		-	(45)
Special Construction Features	LS			(63)
SUBTOTAL				1.709
CONTINGENCY - 5%				85
SUBTOTAL				1,794
SUPERVISION, INSPECTION & OVERHEAD - 5.5%				99
				1,893
TOTAL REQUEST				
TOTAL (ROUNDED)				1,900
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		10 E	1.00 CM	-

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area. (Air Conditioning: 5 Ton)

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF PROJECT: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel. REQUIREMENT: A facility to support the 2d FSSG planned athletic program. CURRENT SITUATION: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area. which is currently in support of seven (7) battalions. IMPACT IF NOT PROVIDED: There will continue to be a lack of physical fitness facilities available to the 8,000 plus personnel assigned to the 2d FSSG forces.

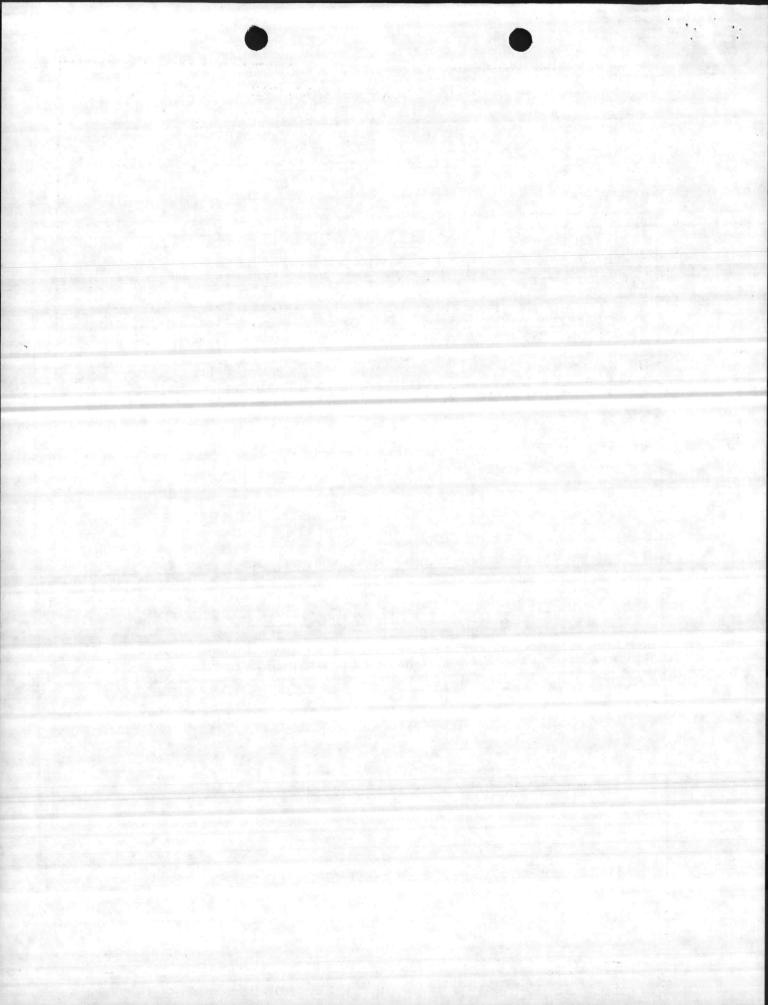
LCH



1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 1 AUG 1980
3. INSTALLATION	AND LOCATION	
the second of the second second second	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE GYMNASIUM	5. PROJ	P-065

### SPECIAL CONSIDERATIONS

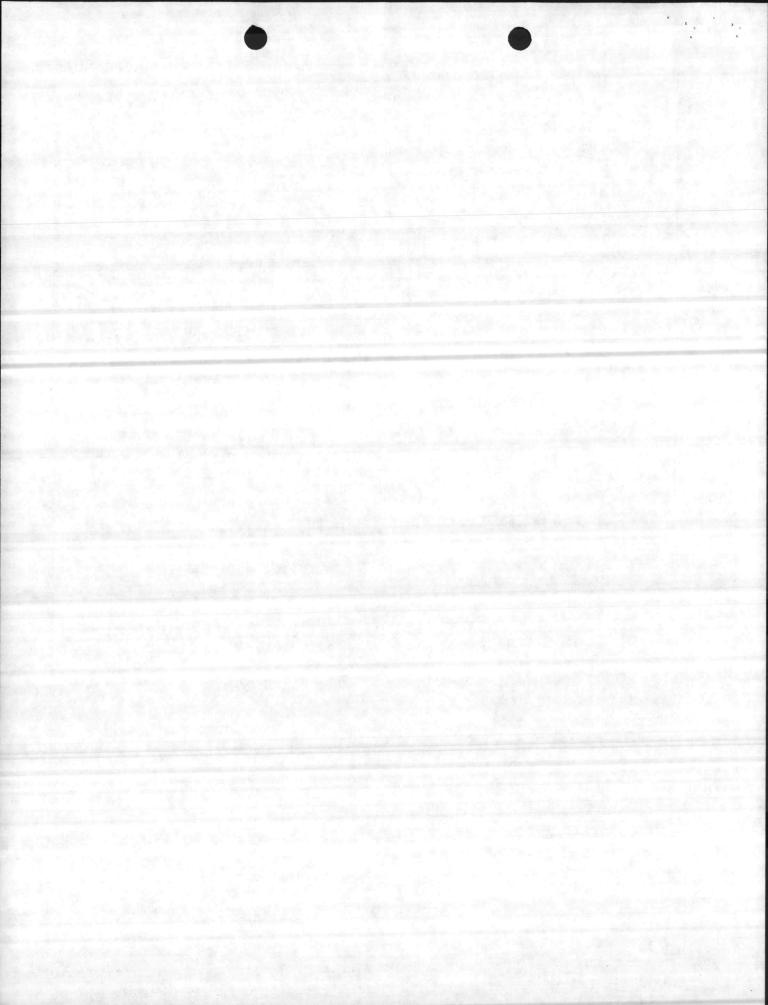
- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is incorporated in the facility.
- 5. Design for Accessibility of Physically Handicapped Personnel: Provisions for physically handicapped personnel are not required in this facility.
- 6. Use of Air Conditioning: Ceiling "U" factors will be made to conform with DOD 4270.1-M.
- 7. Preservation of Historical Sites and Structures: The project facility does not directly or indirectly affect a district, site, building, structure, object, or setting which is listed in the National Register or otherwise possesses a significant quality of American history.



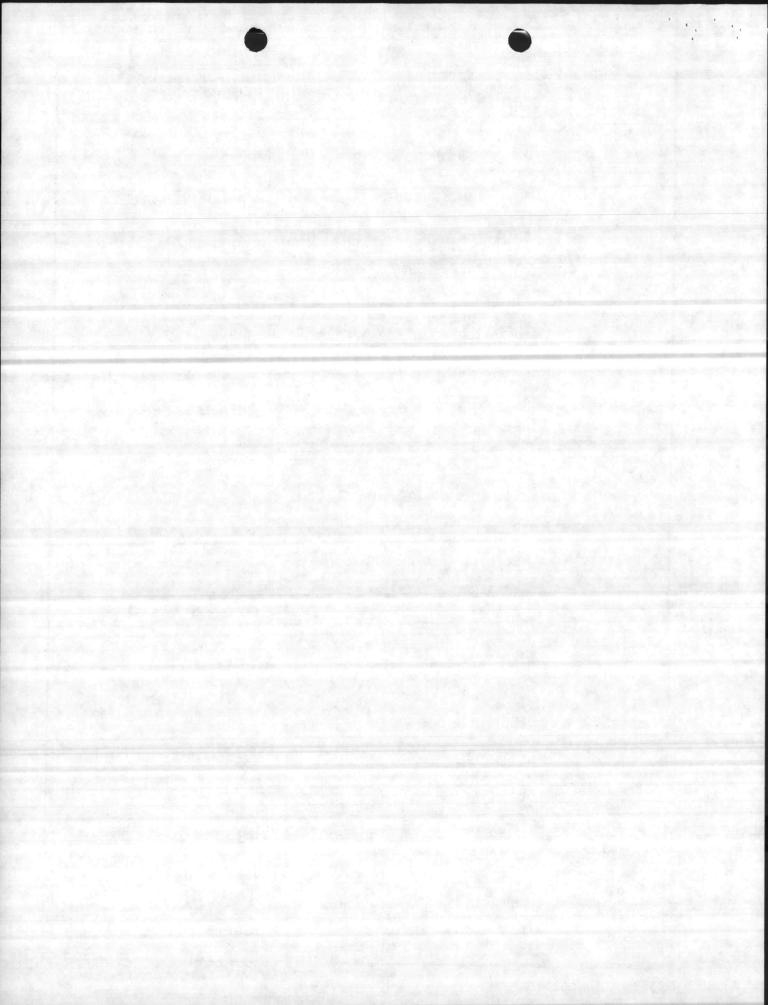
1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	1 AUG 1980
3. INSTALLÀTION MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE GYMNASIUM	5. PRO	P-065

### FACILITY STUDY

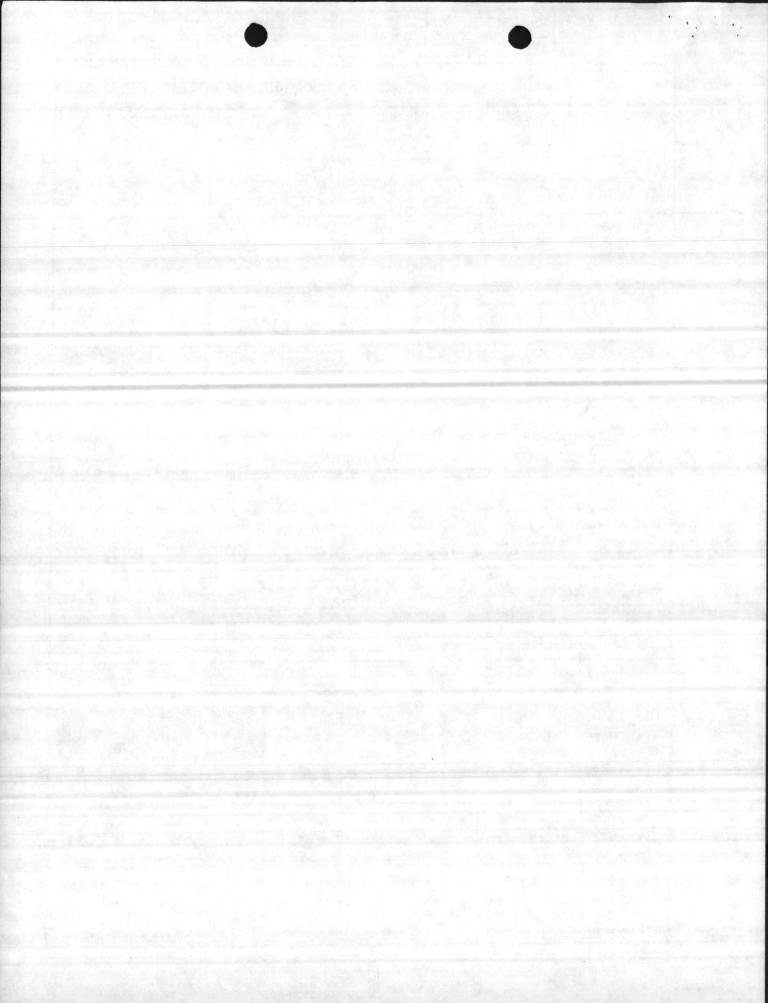
- Project: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. <u>Current and Planned Workload with Regard to this Project</u>: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. Description of Proposed Construction:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) Primary Facility. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) <u>Support Facilities</u>. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) Energy Conservation. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) Collateral Equipment:
    - (a) Built-in MCON Funded:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



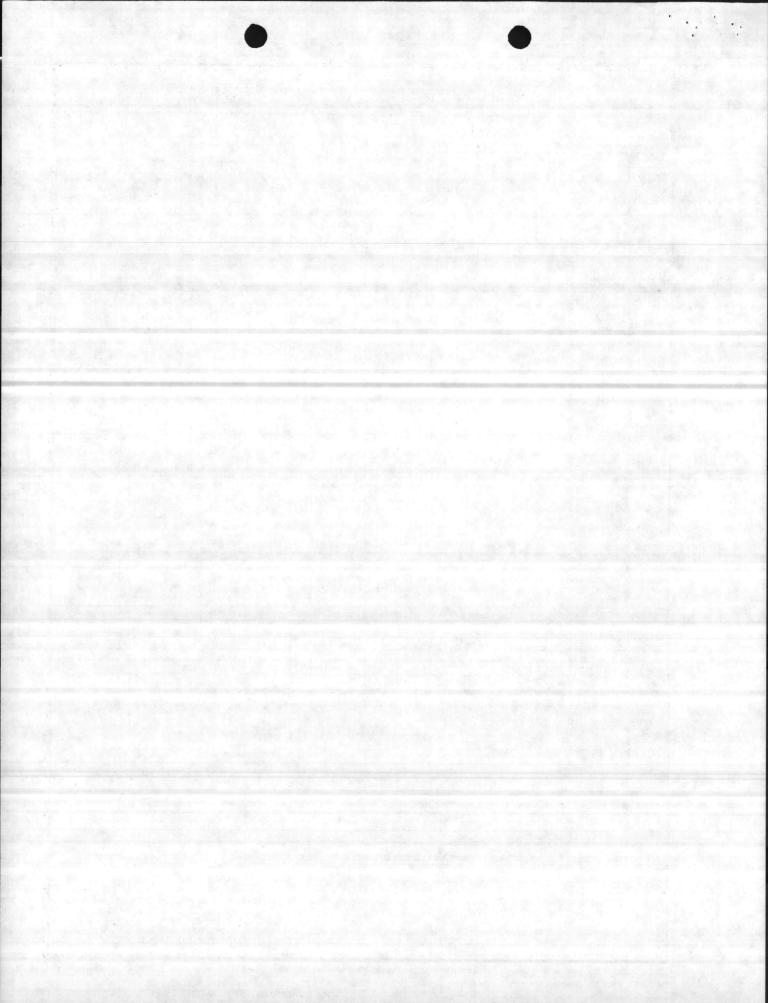
COMPONENT					2. DATE
NAVY	FY 19 84	MILITARY CO	NSTRUCTION	PROJECT DATA	1 AUG 1980
INSTALLATION A	AND LOCATIO	N			
ARINE CORPS	BASE, CAN	P LEJEUNE, NO	ORTH CAROLINA	28542	
PROJECT TITLE				5. PRC	DJECT NUMBER
YMNASIUM					P-065
1111110101	*Inte	erior ventila	tion systems		
		nbing system			
		ni je Taj Dajiraji je na politika ili dajiraji na politika ili dajiraji na politika ili dajiraji na politika i Dajiraji na politika ili dajiraji na politika ili dajiraji na politika ili dajiraji na politika ili dajiraji n	alarm, and i	ntercom systems	
		nking water c			
		kers - person			
		lkboards			
	*Cab	inets, displa	y		
	*Loc	kers - equipm	ent storage		
		na (steam or			
		acher seats,			
		ketball backs			
		reboard, elec			
		ider curtain			
		system			
		mbing rope ho	oks		
		letin board			
DESCRIPT		QUANTITY	UNIT OF	UNIT PRICE \$	TOTAL COST \$
Machine, 1		1	EA	240	240
Board, abd	ominal	4	EA	100	400
Benches, i	ncline,		ΕΛ.	115	460
adjustab	le	4	EA EA	170	170
Machine, c	alt	1	EA	200	800
Rack, powe		4	LA		777.000
		1- 1-	EA	870	870
Racks, bar barbells		1	EA	870	870



NAVY	FY 19 84 MI	LITARY	CONSTRUCTIO	N PROJECT DA	2. DATE 1 AUG 1980
INSTALLATION AT			a firm to say the	- 900 ·	1 1100 1300
		LEJEUNE,	NORTH CAROLI	INA 28542	
PROJECT TITLE					5. PROJECT NUMBER
GYMNASIUM					P-065
7			UNIT OF	UNIT	
DESCRIPTION	N OHA	NTITY	UNIT OF ISSUE	PRICE \$	TOTAL COST \$
				60	240 .
Stands, curl		4	EA	00	240 .
Platform, pr		1	EA	900	900
bag, super		1	EA		440
Bag, boxing	, training	2	EA	220 120	120
Bag, karate		1			60
Kickboard,		1	EA	60	00
Barbell set	, 310-1b			450	1 000
01ympic		4	EA	450	1,800
Bench, super		4	EA	40	160
Dumbbell, so					000
1bs (5-1b	increments)	4	EA	55	220
Dumbell, so					
1bs (5-1b					
ments)	THE C	2	EA	140	280
	ing	_	LA	140	200
Machine, row		1	EA	865	865
hydraulic		1	EA	000	000
Trainer, bid	cycle,		FΛ	1 700	1 700
double		1	EA	1,700	1,700
Bench, stand	dard	8	EA	45	360
Bar, wall,	parallel,				
w/belt		1	EA	85	85
Scales, per	sonal				
weighing		1	EA	225	225
Desk, flat	ton	3	EA	275	825
Chairs, rot		3	EA	95	190
tilting,		3	LA	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Chairs, str		2	EA	60	120
	e, w/o arms	2	EA	00	120
Cabinets, f		•		155	465
letter-si		3	EA	155	400
Cabinet, fi				100	
legal siz		3	EA	190	570
Net, volley		2	EA	30	60
Pole, net,					
w/floor p		1	EA	236	236
Net, badmin		1 3	EA	6	18
Pole, net,			7		
w/floor p		1	EA	236	236
Bars, stall		1	EA	284	284
		1	LA	201	
Bag, traini	ng, neavy-	2	EA	48	96
weight	a.b. m.,11a	2		327	654
Weight, che	st, pulley	2	EA	321	034

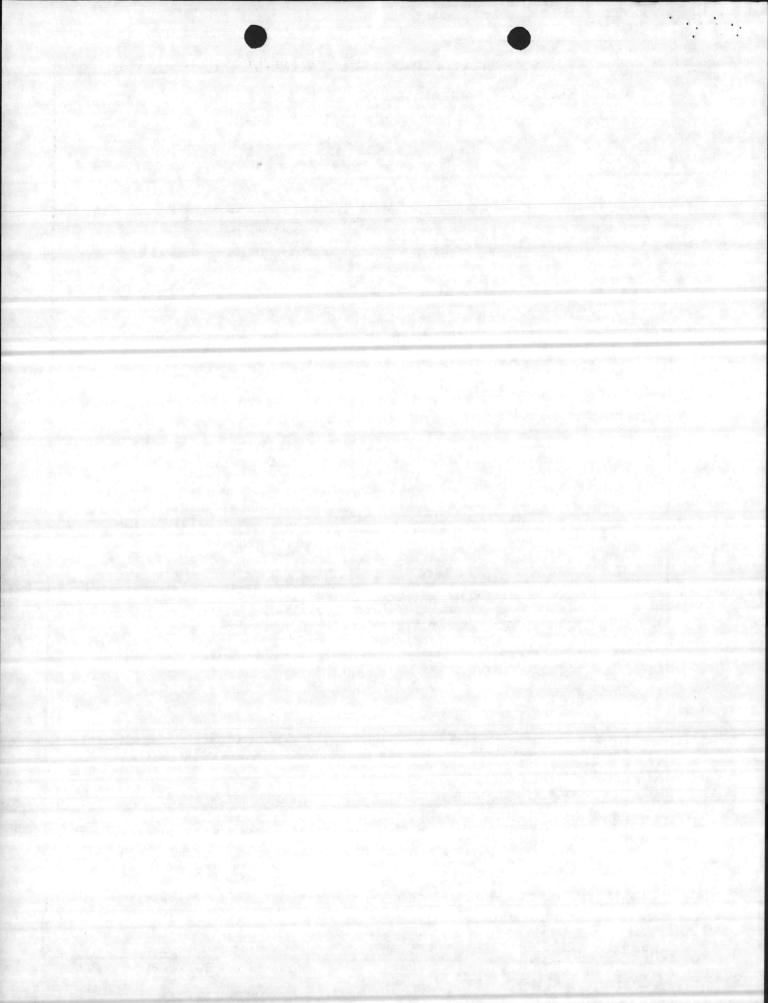


. COMPONENT	19 84 MILITARY	CONSTRUCTIO	N PROJECT DA	TA 1 AUG 1980
IVAVI				1 AUG 1980
. INSTALLATION AND LO				
MARINE CORPS BAS	E, CAMP LEJEUNE	, NORTH CAROL	INA 28542	
. PROJECT TITLE			5.	PROJECT NUMBER
GYMNASIUM				P-065
DESCRIPTION	QUANTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$
Mirror, weight-			100	200
lifting (4x6')	2	EA	100	200
Bar, horizontal,		ΕΛ.	312	312
w/floor plates	and a second second	EA	173	173
Table, massage	1	EA	1/3	
Bath, whirlpool, mobile	1	EA	1,815	1,815
Washer, clothes	1 2	EA	*	
Dryer, clothes	2	EA	*	
Mirror, locker-				
room (4x6')	3	EA	100	300
Case, display	1	EA	300	300
rental/lease of maintained by co	equipment from ontractor.	nment to prov civilian cont	ide washers an ractor with e	qu i pilieri c
maintained by co	equipment from ontractor.	civilian cont	ractor with e	nd dryers by quipment 16,404
rental/lease of maintained by co	equipment from ontractor.  EMS  G, HANDLING, INS	civilian cont	ractor with e	qu i pilieri c
rental/lease of maintained by co	equipment from ontractor.  EMS  G, HANDLING, INS	civilian cont	ractor with e	16,404
rental/lease of maintained by continued by c	equipment from ontractor.  EMS  G, HANDLING, INS	civilian cont	ractor with e	16,404 
rental/lease of maintained by commaintained by commaintai	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  stment Items:	STALLATION CHA	RGES, &	16,404 
rental/lease of maintained by commaintained by commaintai	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  stment Items:	civilian cont	ractor with e	16,404 
rental/lease of maintained by commaintained by commaintai	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  stment Items:  er  2  table 1	CIVILIAN CONT	ractor with ed	16,404 1,640 \$18,044
rental/lease of maintained by comaintained by comaintained by comaintained by comaintained by comountained by comountained by comountained by comountained by combo units, super (Universal Gyms) Ring, boxing, por	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  stment Items:  cr  2 ctable 1  ITEMS:  G, HANDLING, INS	EA EA	5,760 3,600	16,404 1,640 \$18,044 11,520 3,600
rental/lease of maintained by comaintained by comaintained by comaintained by comaintained by comaintained by comountal expense ITE (c) Investigation (c) In	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  stment Items:  cr  2 ctable 1  ITEMS:  G, HANDLING, INS	EA EA STALLATION CHA	5,760 3,600	16,404  1,640  \$18,044  11,520  3,600  \$15,120
rental/lease of maintained by comaintained by comaintained by comaintained by comaintained by comaintained by comountained by comountained process of the contingency - 10% combo units, super (Universal Gyms) Ring, boxing, por contal investment Shipping, Packing Contingency - 10% (d) 4 (e) 1 (f) 1	equipment from ontractor.  EMS  G, HANDLING, INS  EMS:  Stment Items:  Practice 1  ITEMS:  G, HANDLING, INS  APA Equipment:  Training Equipment	EA EA STALLATION CHA	5,760 3,600	16,404  1,640  \$18,044  11,520  3,600  \$15,120  \$1,512



1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	1 AUG 1980
3. INSTALLÀTION MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE	5. PROJ	P-065

- (4) Supporting Facilities: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.95, from the Military Construction Cost Review Guide, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-82 to provide the cost for the proposed facility.
- 5. Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. Common Support Facilities. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



1. COMPONENT
NAVY
FY 19\_84\_MILITARY CONSTRUCTION PROJECT DATA

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

GYMNASIUM

DILITY REQUIREMENTS

2. DATE
1 AUG 1980

5. PROJECT NUMBER
P-065

a. Electricity:

 $\begin{array}{c} \text{Consumption} & \underline{71,995} \text{ KWHR/yr} \\ \text{Peak Demand} & \underline{56} \text{ KW} \\ \text{Avg. Demand} & 41 \text{ KW} \\ \end{array}$ 

b. Steam:

Consumption 10,690,250 lbs/yr Demand 3,830 lbs/hr

c. Coal:

418.0 tons/yr

- d. Adequate utility requirements are available.
- 9. <u>Siting of the Project</u>. The facility will be located in the French Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1).
- 10. Other Graphic Presentations, including Photographs. None.
- 11. Economic Analysis. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area.
- 12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly controversial.

## 13. Quantitative Data:

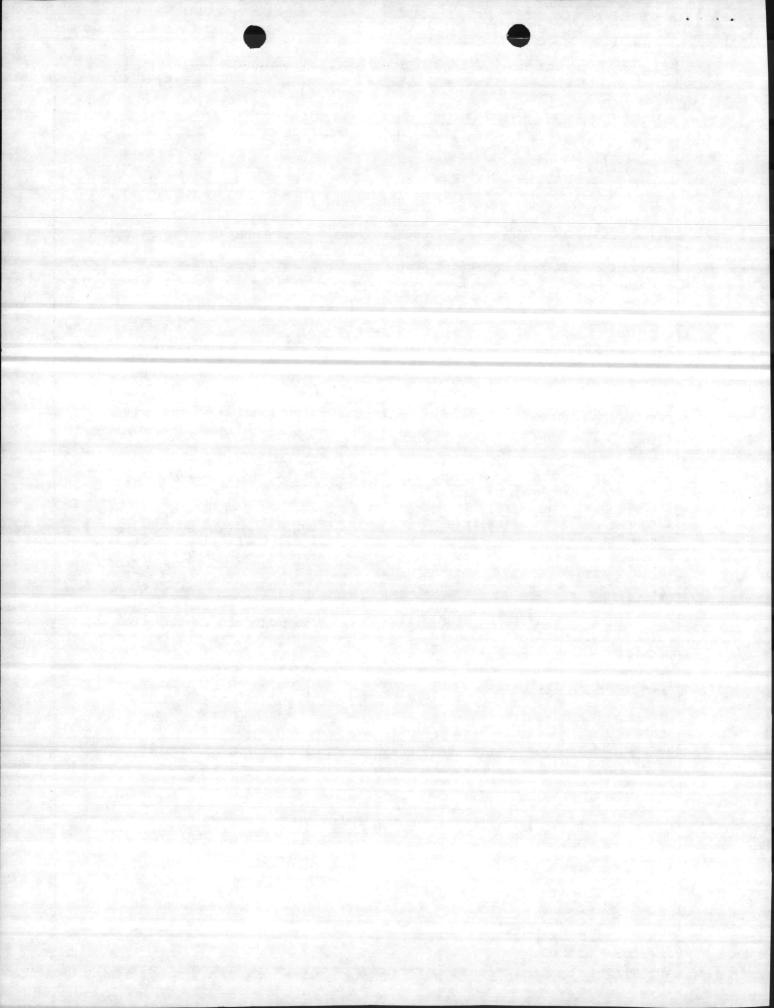
a. <u>BFRL Requirement</u>. French Creek Area - 48,000 SF. NAVFAC P-80 states that the requirement for Category Code 740-43, Gymnasium, is determined from definitive drawings given in NAVFAC P-272, Part IV. The total requirement is 48,000 SF.

NAVFAC Drawing No. Activity Area (SF)

1294390 & 1294391 (M) 2d FSSG 21,000

TOTAL: 21,000

b. Existing Assets: None



1. COMPONENT
NAVY
FY 19 84 MILITARY CONSTRUCTION PROJECT DATA

3. INSTALLATION AND LOCATION
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

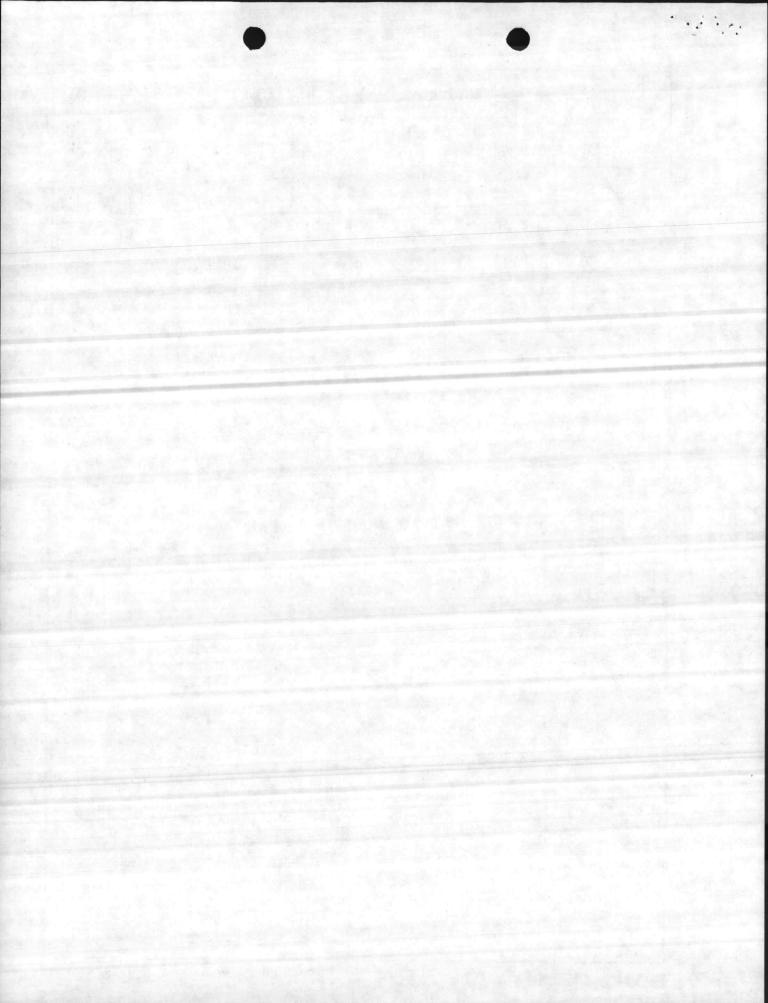
4. PROJECT TITLE
GYMNASIUM

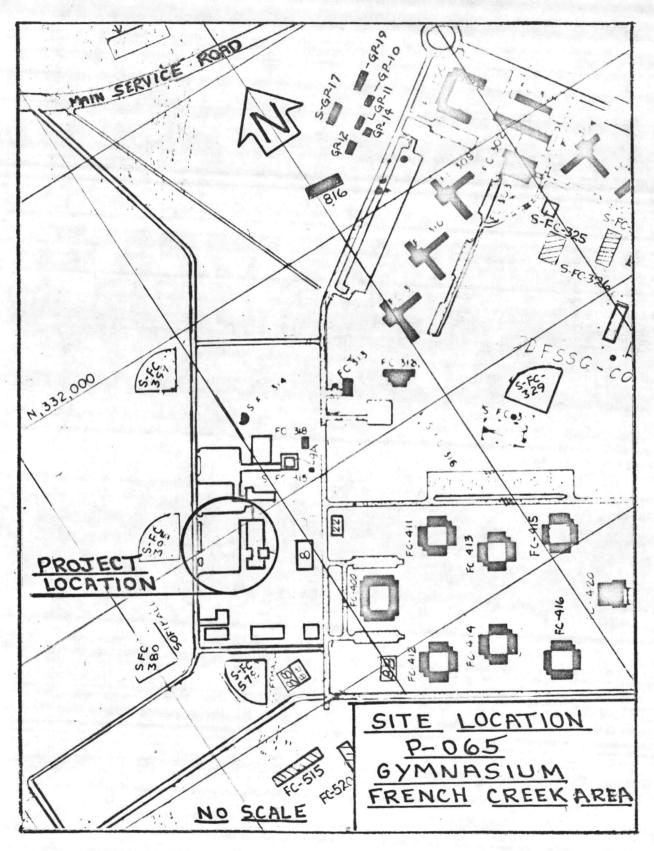
2. DATE
1 AUG 1980

5. PROJECT NUMBER
P-065

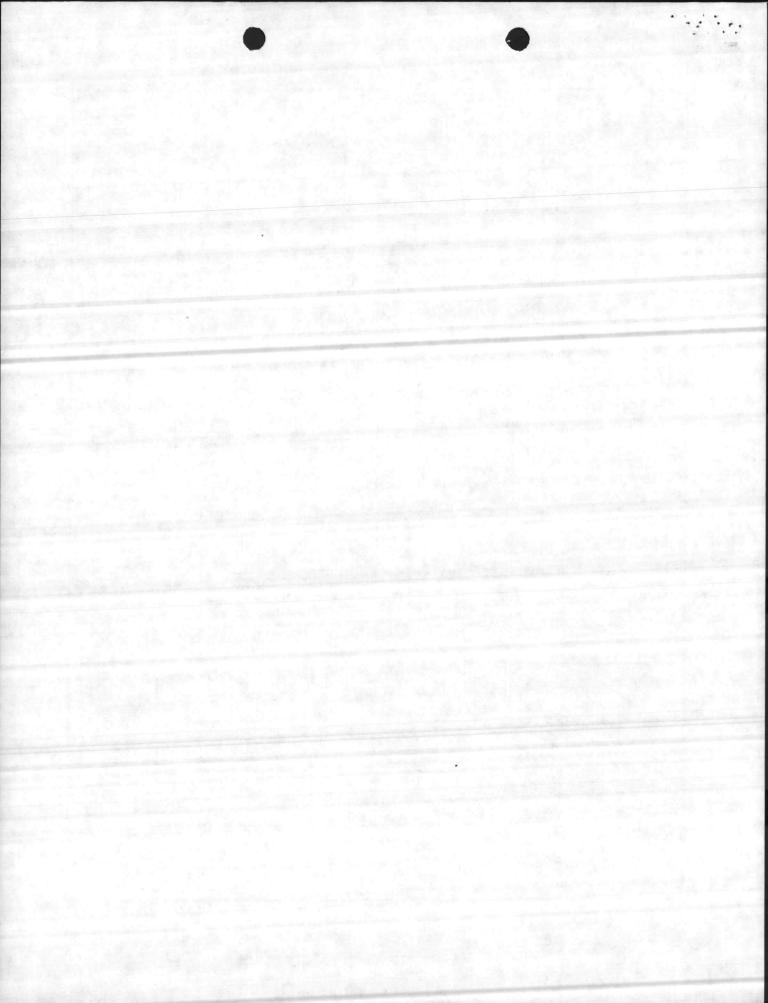
# c. Planned Facilities:

Project No.	Area (SF)	Status
P-065	21,000	To be constructed in FY-84
P-693	9,000	Unprogrammed Physical Fitness Center
P-694	9,000	Unprogrammed Physical Fitness Center
P-707	9,000	Unprogrammed Physical Fitness Center
	0 .	TOTAL FACILITIES UNDER CONSTRUCTION
	48,000	TOTAL PLANNED FACILITIES
	0	TOTAL EXISTING ASSETS (ADEQUATE)
	48,000	BFRL





ENCLOSURE (1)



PWO:408:CWB:bb

3 0 MAY 1980

From: Commanding General

To: Commandant of the Marine Corps (LFF-1)

Subj: FY-84 Military Construction Program; submission of projects for

Ref: (a) MCO P11000.12A

(b) CMC 1tr LFF-1-LAM-tjw over 11000/CLNC of 29 Feb 1980

Encl: (1) Project Package for P-065, Gymnasium, consisting of DD Forms 1391 and 1391c atd 27 May 1980

(2) Project Package for P-124, Unaccompanied Officer Personnel Housing, consisting of DD Forms 1391 and 1391c dtd 27 May 1980

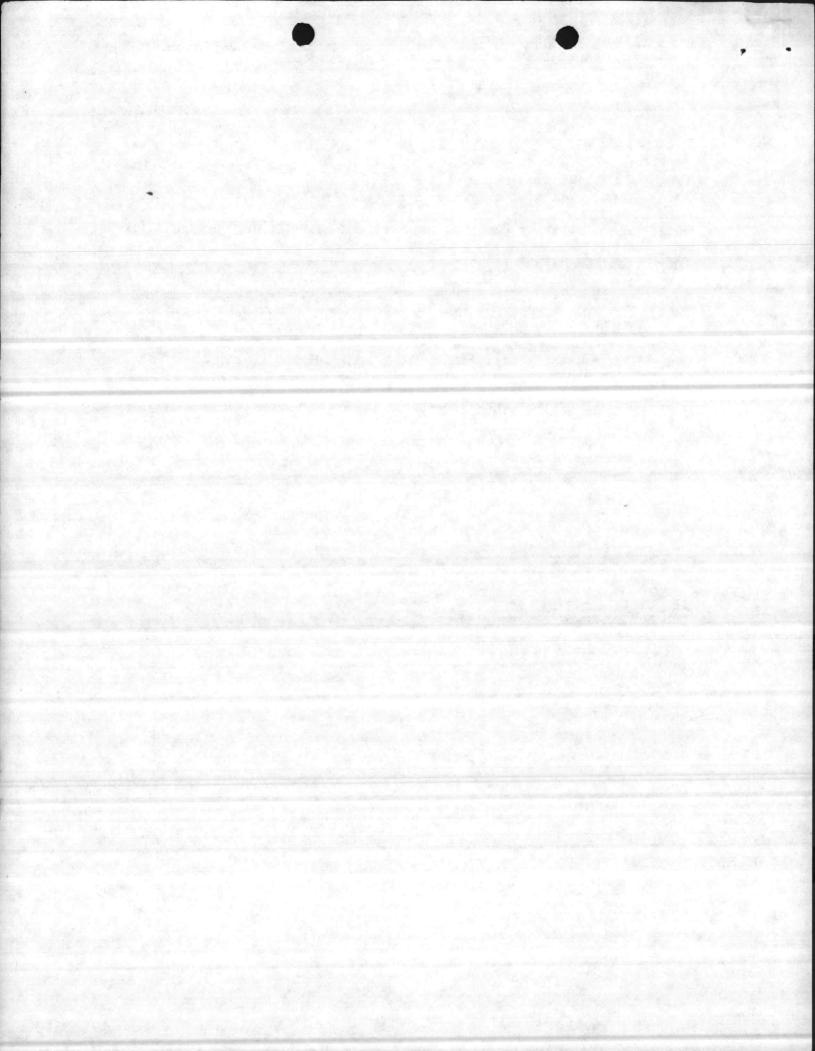
1. Reference (a) provided detailed guidance for submission of Military Construction projects. Reference (b) requested submission of project documentation for P-065, Gymnasium, and P-124, Unaccompanied Officer Personnel Housing. Accordingly, requested project documentation is hereby submitted as enclosures (1) and (2).

V. PODBIELSKI By direction

Copy to: (w/encls) CONLANTNAVFACENGCOM (09A21E)

Blind copy to: (w/encls)
2d FSSG (encl (1) only)
Dir, Bachelor Housing Office
AC/S, Fac

BMO



1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA						MAY 1980
MARINE CORPS	BASE	CATION . TH CAROLINA 2854		PROJECT		ASIUM	
5. PROGRAM ELEN	IENT	6. CATEGORY CODE 740-43	7. PROJECT N		8. PROJE	1,700	
SCALATED TO	FY-82	9. C	OST ESTIMATES				
		ITEM		U/M	QUANTITY	UNIT	COST (\$000)
SITE IMPRO SPECIAL CO SUBTOTAL CONTINGENCY SUBTOTAL SUPERVISION TOTAL REQUES TOTAL ROUND	FACILI UTIL UTIL UTIL RE ALA RKING OVEMEN ONSTRU - 5% INSI ST ED	TTIES ITTIES ITTIES ARM SIDEWALKS		SF PN - LS LS LS LS - -	21,000	60.33 50.00	1,267 5 272 (54) (64) (4) (50) (45) (55) 1,544 77 1,621 89 1,710 1,700

### 10. DESCRIPTION OF PROPOSED CONSTRUCTION

Construct a 21,000 SF gymnasium facility. Structure will consist of reinforced concrete foundation on pilings, floor slab, masonry walls, built-up roof with insulation, and connecting utilities. Facility includes space for: basketball court, exercise room, trainer's room, laundry, men's and women's locker rooms, office, and other related items. Architectural motif compatible with existing buildings in the French Creek Area.

Air conditioning: 5 Ton

11. REQUIREMENTS: 48,000 SF ADEQUATE: 0 SF SUBSTANDARD: 0 SF

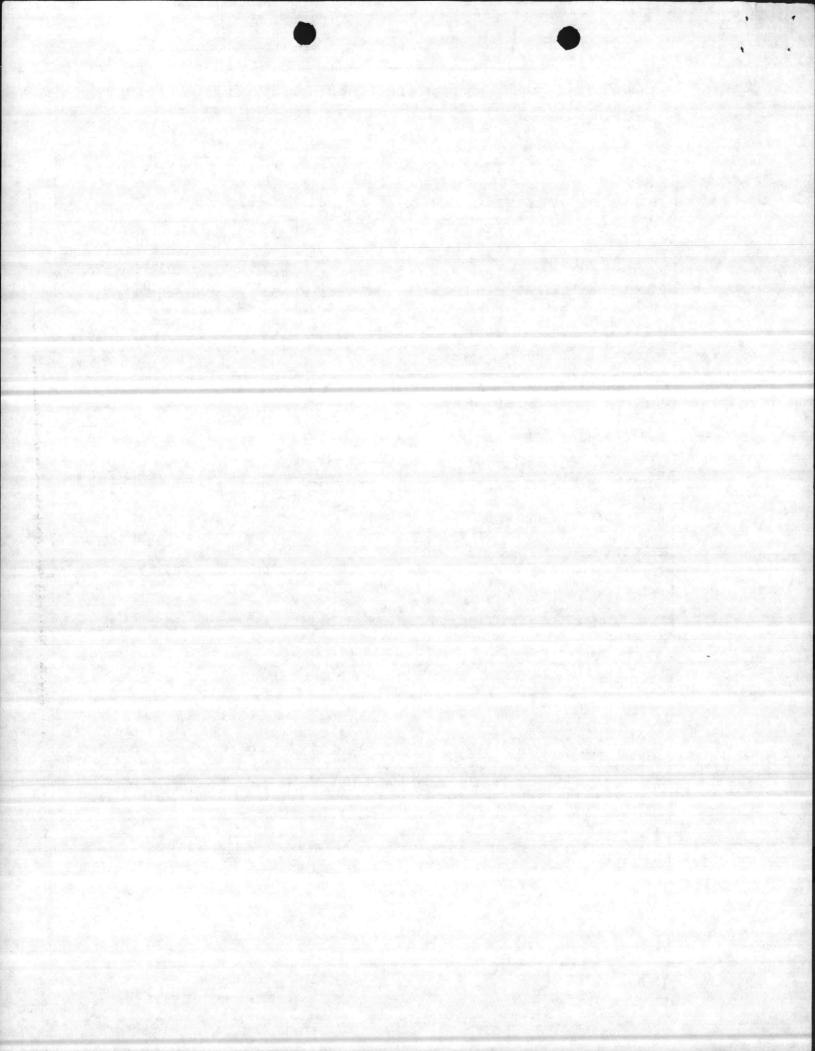
Project: Provide a physical fitness gymnasium for 2d FSSG (FMF) personnel.

Requirement: A facility to support the 2d FSSG planned athletic program.

Current Situation: There is no physical fitness facility located in the 2d FSSG complex currently under construction in the French Creek Area. The nearest area gymnasium is over 2 miles away in the 2d MARDIV, 5th Area, which is currently in support of seven (7) battalions.

Impact if Not Provided: There will continue to be a lack of physical fitness facilities available to the 8,000 plus personnel assigned to the 2d FSSG forces.

LCH



1. C	OMPON	E.
	NAVV	

# FY 1984 MILITARY CONSTRUCTION PROJECT DATA

2. DATE

27 MAY 1980

3. INSTALLATION AND LOCATION

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542

4. PROJECT TITLE

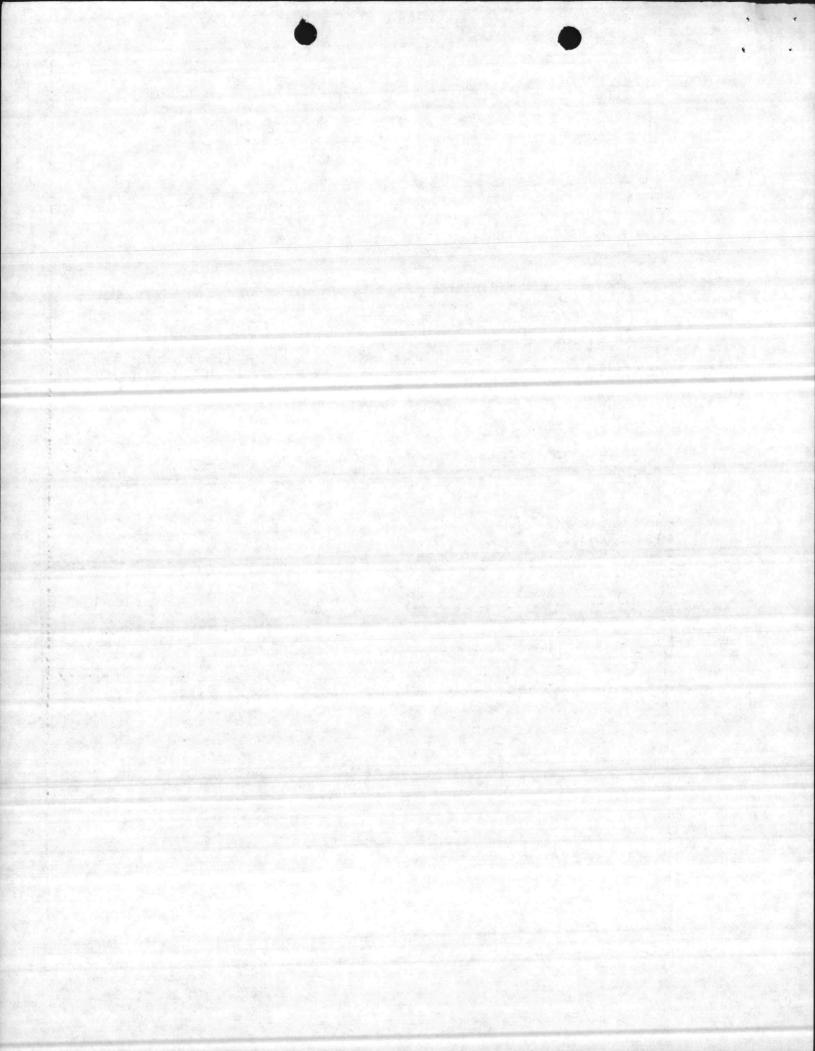
5. PROJECT NUMBER

GYMNASIUM

P-065

# SPECIAL CONSIDERATIONS

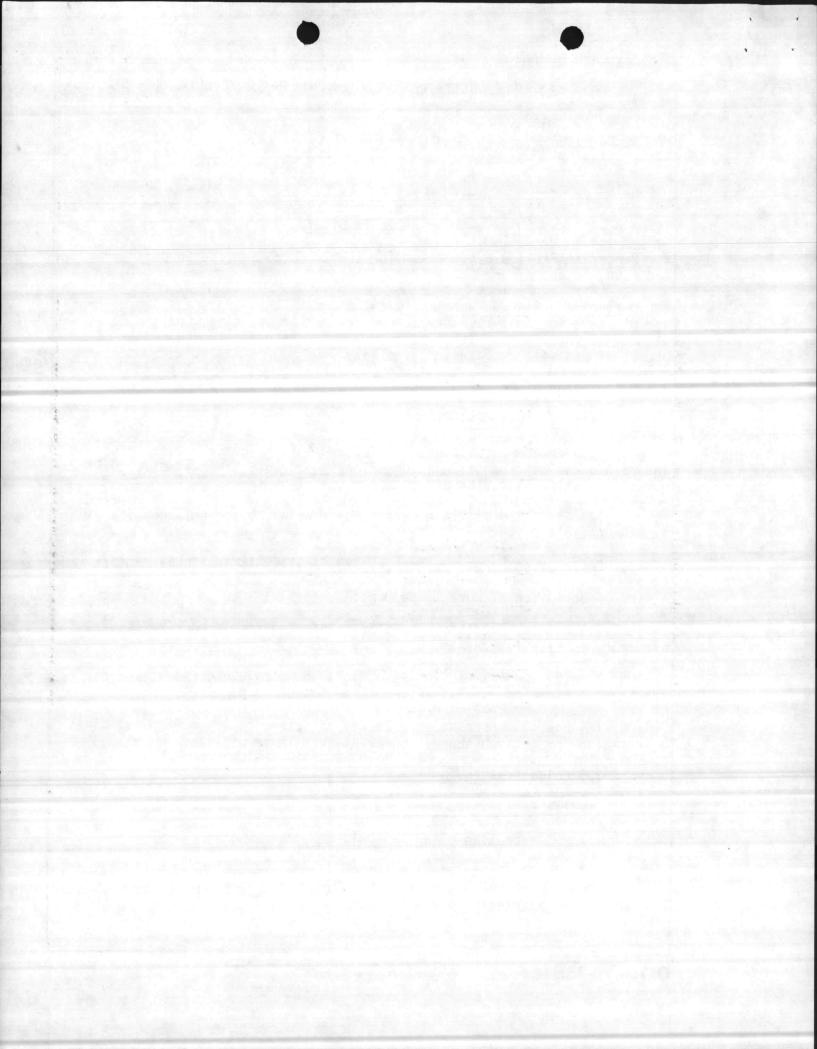
- 1. Pollution Prevention, Abatement, and Control: This project will not cause additional air or water pollution.
- 2. Flood Hazard Evaluation: Requirements of Executive Order No. 11296 (Flood Hazards) are not applicable.
- 3. Environmental Impact: The project Environmental Impact Assessment has been made, reviewed, and where required, the design concepts give consideration to eliminating adverse environmental effects consistent with applicable directives.
- 4. Fallout Shelter Construction: Fallout shelter protection is incorporated in the facility.
- 5. <u>Design for Accessibility of Physically Handicapped Personnel</u>: Provisions for physically handicapped personnel are not required in this
- 6. <u>Use of Air Conditioning</u>: Ceiling "U" factors will be made to conform with DOD 4270.1-M.



1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DATA	27 MAY 1980
3. INSTALLATION MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE	5. PRO	P-065

### FACILITY STUDY

- 1. Project: Provide a gymnasium for the 2d Force Service Support Group (2d FSSG) in the French Creek Area.
- 2. <u>Current and Planned Workload with Regard to this Project</u>: The percentage of usage for this facility is 100 percent of the time, and the duration of need is indefinite. There is no projected decrease in the number of personnel who will utilize this facility.
- 3. <u>Description of Proposed Construction</u>:
  - a. Type of Construction:
- (1) Permanent building of steel and masonry construction on piling and reinforced concrete foundation, floors and roof, masonry wall, built-up roof, insulation, interior and exterior utility systems.
- (2) Rigid and flexible pavements, fencing, lighting, and site improvements.
  - b. Replacement: Not applicable. No facility is available in this area
  - c. Description of Work to be Done:
- (1) Primary Facility. Modular reinforced steel/concrete/masonry structure on pile foundation.
- (a) <u>Support Facilities</u>. Rigid and flexible pavements, security fencing and lighting, utilities, and site improvement.
- (2) <u>Energy Conservation</u>. Energy efficient equipment and building orientation for maximum energy conservation will be utilized.
  - (3) <u>Collateral Equipment</u>:
    - (a) <u>Built-in MCON Funded</u>:
      - \*Venetian blinds and window screens
      - \*Air-conditioning system (Admin Area)
      - \*Interior steam system



1. COMPONENT
NAVY
FY 19 84 MILITARY CONSTRUCTION PROJECT DATA
27 MAY 1980

3. INSTALLATION AND LOCATION
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542
4. PROJECT TITLE
GYMNASIUM
FY 19 84 MILITARY CONSTRUCTION PROJECT DATA
5. PROJECT NUMBER
P-065

\*Plumbing system

\*Telephone, fire alarm, and intercom systems

\*Drinking water coolers

\*Lockers - personal storage

\*Chalkboards

\*Cabinets, display

\*Lockers - equipment storage

\*Sauna (steam or electric)

\*Bleacher seats, folding

\*Basketball backstops, glass

\*Scoreboard, electric w/clock

\*Divider curtain

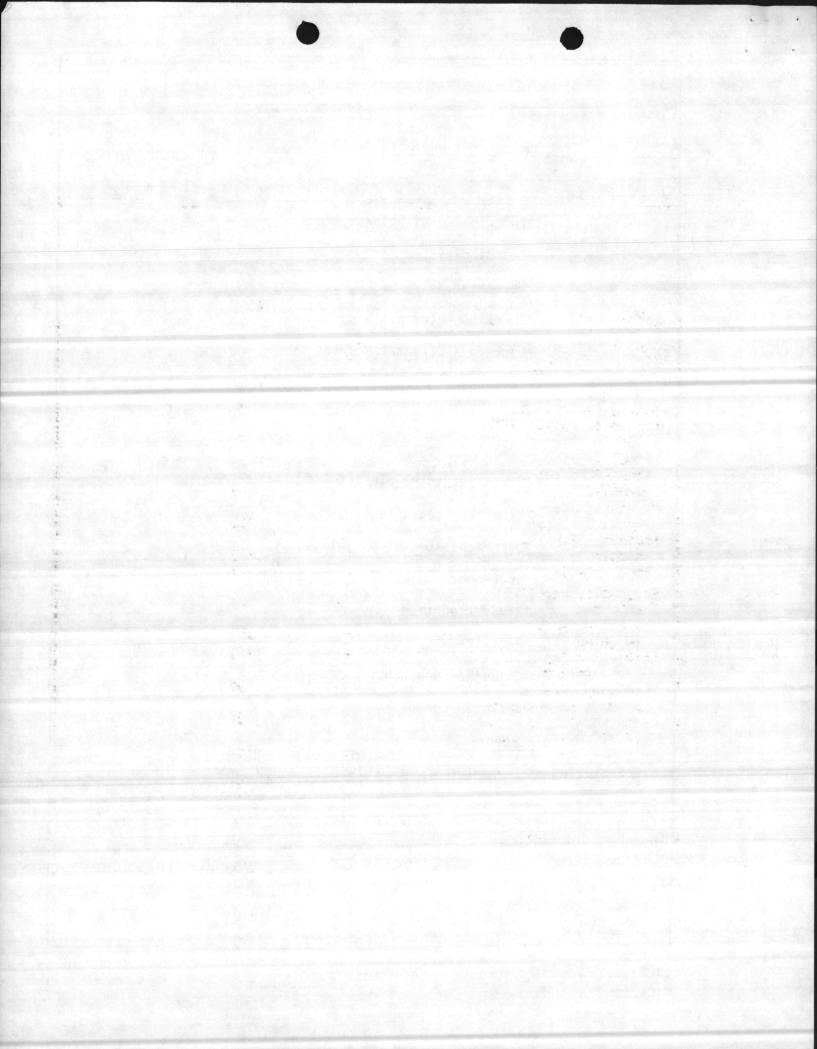
\*PA system

\*Climbing rope hooks

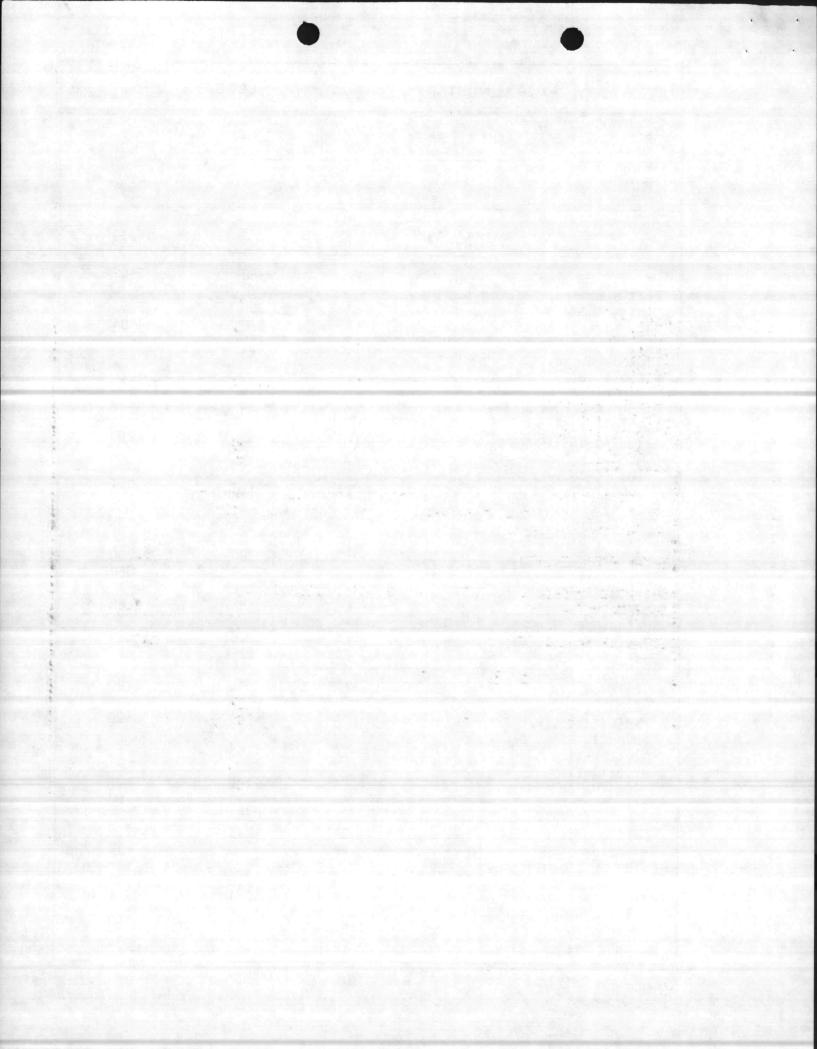
\*Bulletin board

(b)	Expense	I tems:
•	production of the same	

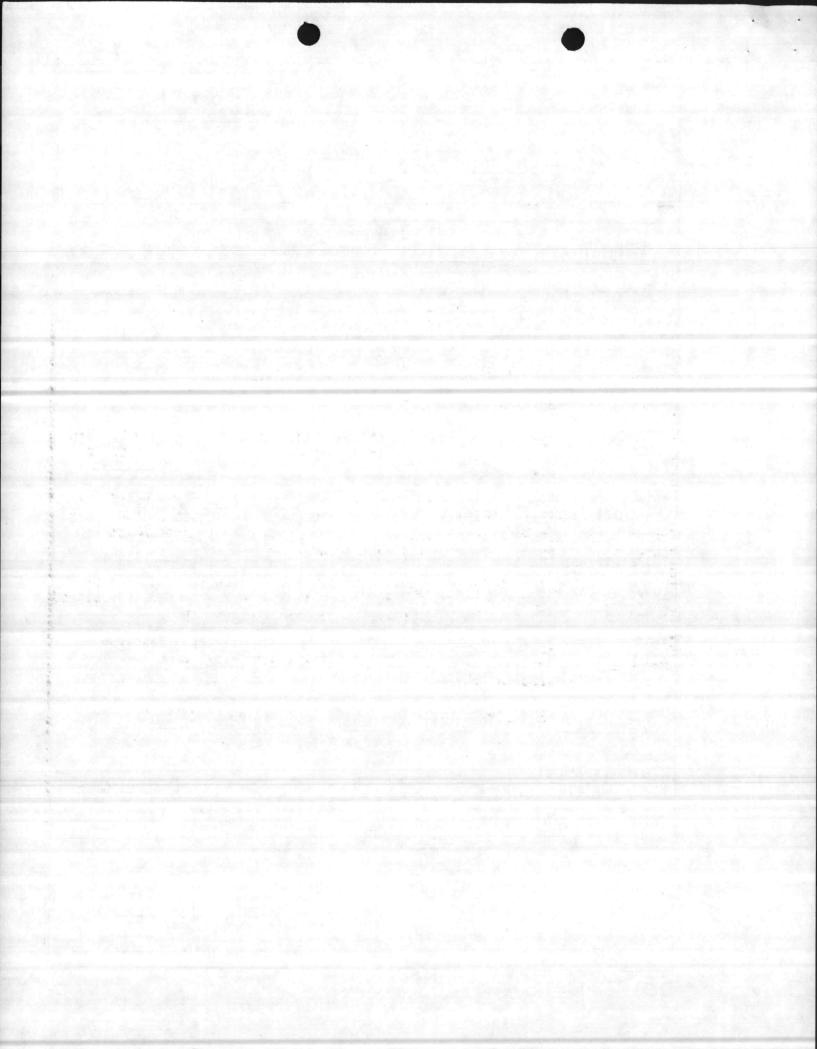
DESCRIPTION	QUANTITY	UNIT OF ISSUE	UNIT PRICE \$	TOTAL COST \$	
Machine, leg press Board, abdominal	1 4	EA EA	240 100	240 400	
Benches, incline, adjustable Machine, calf Rack, power, super	4 1 4	EA EA EA	115 170 200	460 170 800	
Racks, barbell, w/ barbells	1	EA	870	870	



. COMPONENT	NAVY FY 19 84 MILITARY CONSTRUCTION PROJECT DATA				2. DATE 27 MAY 1980	
INSTALLATION AND LOCATION					27 181 1300	
	일하다 내가 되었다면 하는 것이 되었다.	LEJEUNE,	NORTH CAROL	INA 28542		
PROJECT TITLE					ROJECT NUMBER	
GY MNAS I UM					P-065	
DESCRIPTIO	<u>n</u> <u>Q</u> U	ANTITY	UNIT OF	UNIT PRICE \$	TOTAL COST \$	
Stands, cur	ling	4	EA	60	240	
Platform, p						
bag, supe		1	EA	900	900	
Bag, boxing	. training	2	EA	220	440	
Bag, karate	. training	1	EA	120	120	
Kickboard,		ī	EA	60	60	
Barbell set						
Olympic .	, 010 15	4	EA	450	1,800	
Bench, supe	r nower	4	EA	40	160	
Dumbbell, s	olid 5-25		7.			
Dullibbell, 5	incomments	١ ٨	EA	55	220	
	increments	, 4				
Dumbell, so						
1bs (5-1b	incre-					
ments)		2	EA	140	280	
Machine, ro	wing,					
hydraulic		1	EA	865	865	
Trainer, bi	cycle,					
double		1	EA	1,700	1,700	
Bench, stan	dard	8	EA	45	360	
Bar, wall,	parallel,		EA	85	85	
w/belt		1	EA	05	- 00	
Scales, per	sonal			225	225	
weighing		1	EA			
Desk, flat		3	EA	275	825	
Chairs, rot					100	
tilting,		3	EA	95	190	
Chairs, str	aight back,				100	
	e, w/o arms		EA	60	120	
	ile, 4-dwr,					
letter-si		3	EA	155	465	
Cabinet, fi						
legal siz		3	EA	190	570	
Net, volley		2	EA	30	60	
	volleyball,					
w/floor p		1	EA	236	236	
Net, badmin		3	ĒĀ	6	18	
Pole, net,			The state of the s			
w/floor p		1	EA	236	236	
Bars, stall		1	EA	284	284	
		<u>.</u>	LA.	204		
Bag, traini	ng, neavy-	2	EA	48	96	
weight 2					654	
Weight, che	st, pulley	2	EA	327	004	

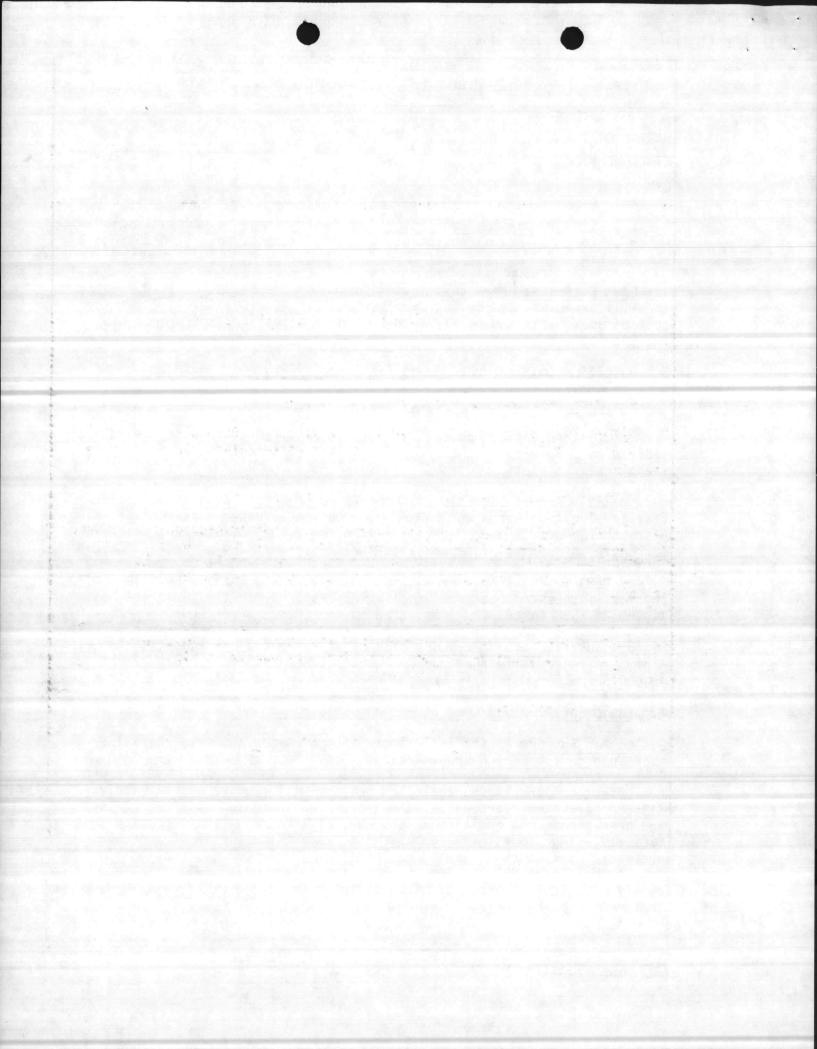


2. DATE COMPONENT FY 19 84 MILITARY CONSTRUCTION PROJECT DATA 27 MAY 1980 NAVY 3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROJECT NUMBER 4. PROJECT TITLE P-065 **GYMNASIUM** UNIT UNIT OF TOTAL COST \$ ISSUE PRICE \$ OUANTITY DESCRIPTION Mirror, weight-200 EA 100 lifting (4x6') 2 Bar, horizontal, 312 EA 312 w/floor plates 173 173 EA Table, massage Bath, whirlpool, 1.815 EA 1.815 mobile FA Washer, clothes FA Dryer, clothes Mirror, locker-room (4x6') 300 EA 100 300 300 EA Case, display \*It is least costly to the Government to provide washers and dryers by rental/lease of equipment from civilian contractor with equipment maintained by contractor. . 16,404 TOTAL EXPENSE ITEMS SHIPPING, PACKING, HANDLING, INSTALLATION CHARGES, & 1,640 CONTINGENCY - 10% \$18,044 TOTAL EXPENSE ITEMS: (c) Investment Items: UNIT UNIT OF TOTAL COST \$ PRICE \$ OUANTITY ISSUE DESCRIPTION Combo units, super 11,520 5.760 (Universal Gyms) EA 3,600 EA 3,600 Ring, boxing, portable \$15,120 TOTAL INVESTMENT ITEMS: (d) APA Equipment: None (e) Training Equipment: None (f) Equipment on Hand: None **EXPENSE ITEMS:** \$18,044 . (g) Summary: \$15,120 INVESTMENT ITEMS: \$33,164 GRAND TOTAL:



1. COMPONENT NAVY	FY 19 84 MILITARY CONSTRUCTION PROJECT DA	27 MAY 1980
3. INSTALLATION		
MARINE CORPS	BASE, CAMP LEJEUNE, NORTH CAROLINA 28542	
4. PROJECT TITLE GYMNAS I UM	5	P-065

- (4) <u>Supporting Facilities</u>: Special piling, foundation, solar hot water system, collateral equipment, site improvement, pollution abatement, etc.
- 4. <u>Cost Estimate</u>. Area cost factor for Camp Lejeune, N. C. is 0.95, from the Military Construction Cost Review Guide, FY-82 (DOD 4270.1-CG). The book data is escalated to FY-82 to provide the cost for the proposed facility.
- 5. Justification for Project and for Scope of Project.
  - a. Justification for Project:
- (1) <u>Project</u>: Proposed facility is required to provide the 2d FSSG (FMF) with a physical fitness/recreational structure in which to support the planned atheletic program.
- (2) <u>Current Situation</u>: There is no physical fitness/recreational facility located in the 2d FSSG complex currently under construction. The nearest area gym is over 2 miles away in the 2d MARDIV 5th Area which is currently in support of seven (7) battalions.
- (3) Impact if not Provided: There will continue to be a lack of physical fitness/recreational facilities available to the personnel assigned to the 2d FSSG forces (FMF) billeted in the French Creek Area.
- b. <u>Justification for Scope of Project</u>: The project scope is the minimum size facility that can meet part of the deficiency requirements of 48,000 SF required for the French Creek Area.
- 6. Equipment Provided from Other Appropriations: Not applicable.
- 7. <u>Common Support Facilities</u>. There are no common support facilities available in the French Creek Area.
- 8. Effect on Other Resources. The project will require approximately \$18,680 per year in increased O&MMC funds for increased utility services and operations. No additional personnel will be required to operate this facility. The project will enhance and improve the morale of personnel presently working and billeted in the area. Proposed construction should be responsible to the challenges presented by the energy situation and comply with the requirements of Executive Order 12003 of 20 July 1977 and implemented by NAVFACINST 4100.5A.



1. COMPONENT NAVY	FY 19 84	MILITAR	CONST	RUCTION	PROJECT	DATA	2. DATE 27 MAY 1980
3. INSTALLATION A		LEJEUNE	, NORTH	CAROLINA	28542		
4. PROJECT TITLE GYMNASIUM				-	*	5. PROJ	P-065
		<u>n</u>	TILITY F	EQUIREMEN	ITS .		
a Floor	minitu.	C	. n. c	on 71 00	E VIJUD/	1/10	

Consumption /1,995 KWHR/yr Peak Demand 56 KW Avg. Demand 41 KW

Steam:

Consumption 10,690,250 lbs/yr Demand 3,830 lbs/yr

c. Coal:

418.0 tons/yr

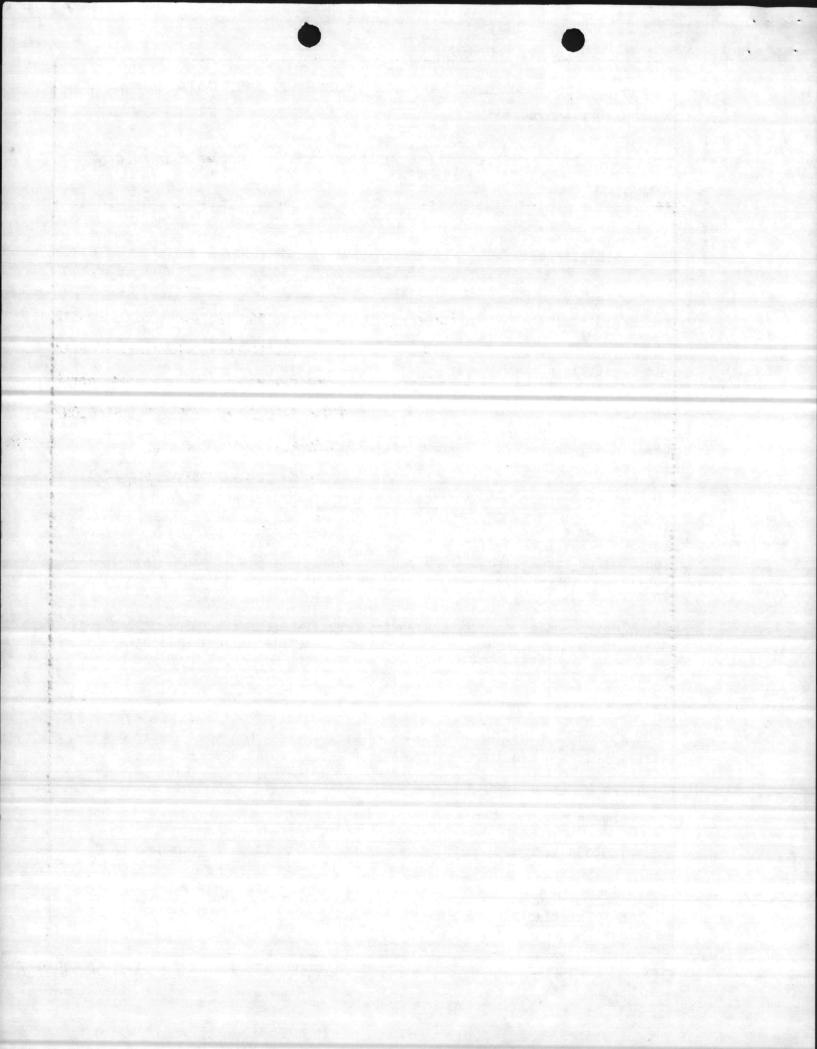
- Adequate utility requirements are available.
- 9. Siting of the Project. The facility will be located in the French Creek Area, in keeping with the Camp Lejeune Master Plan. See enclosure (1).
- 10. Other Graphic Presentations, including Photographs.
- 11. Economic Analysis. This facility is being constructed on a developed site near existing facilities. Economic saving will be in nominal energy consumption savings to be realized from efficient operations. This is a morale and recreational project in support of personnel working and living in this area.
- 12. Environmental Impact. An environmental impact assessment of the area has been made and it has been determined that this project will have neither a significant impact on the environment nor is it highly controversial.

# 13. Quantitative Data:

a. BFRL Requirement. French Creek Area - 48,000 SF. NAVFAC P-80 states that the requirement for Category Code 740-43, Gymnasium, is determined from definitive drawings given in NAVFAC P-272, Part IV. total requirement is 48,000 SF.

NAVFAC Drawing No.	Activity	Area (SF) 21,000	
1294390 & 1294391 (M)	2d FSSG		
	TOTAL :	21,000	

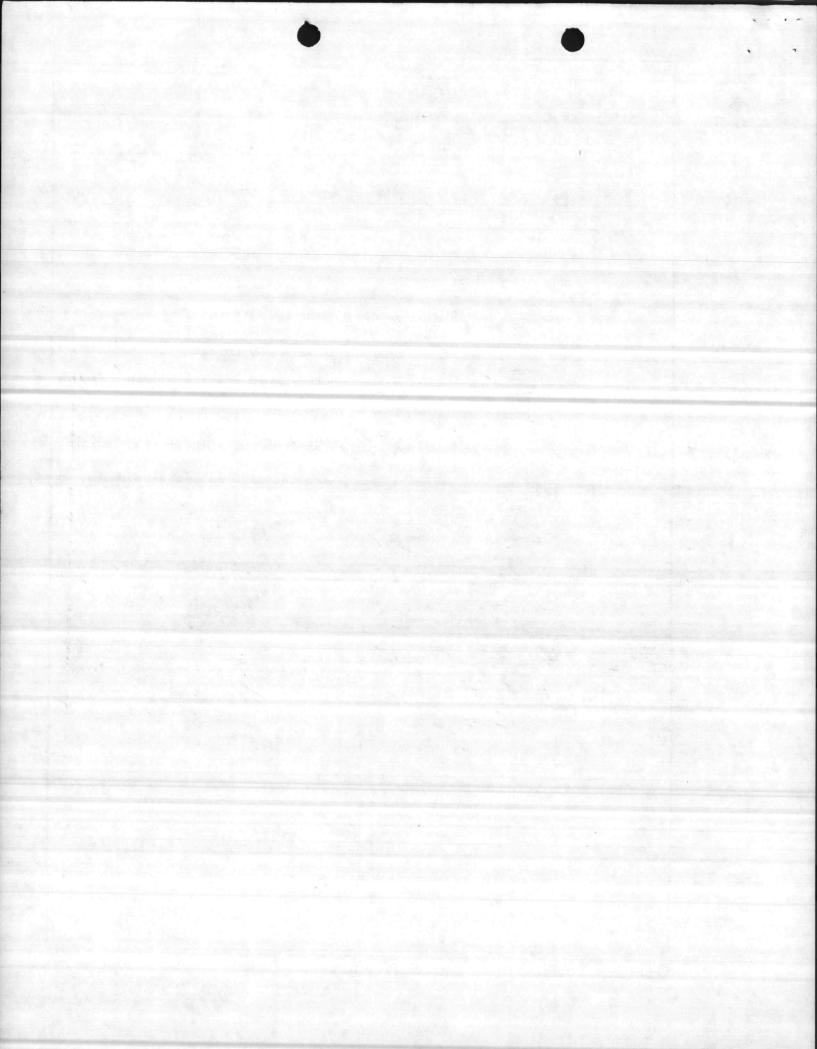
b. Existing Assets: None

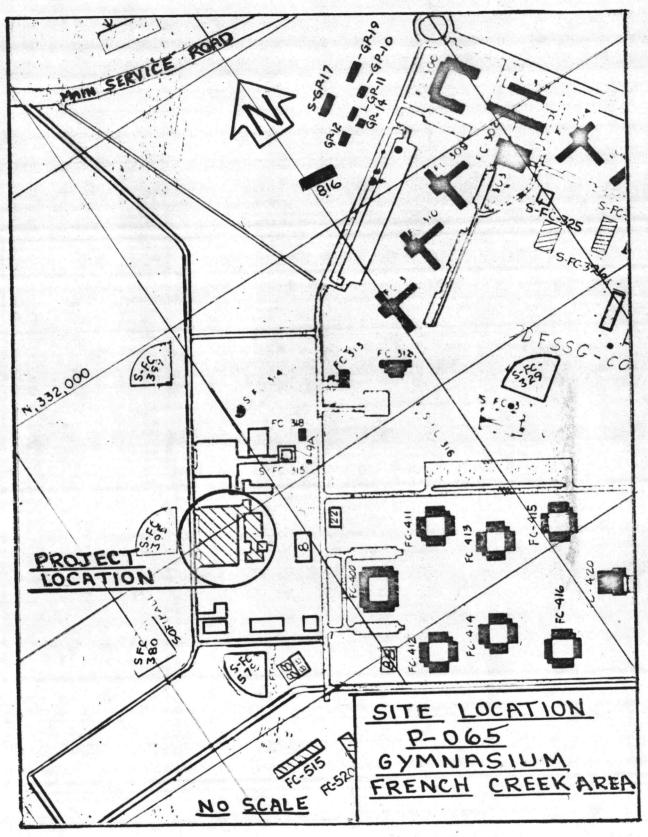


2. DATE 1. COMPONENT FY 19 84 MILITARY CONSTRUCTION PROJECT DATA 27 MAY 1980 NAVY 3. INSTALLATION AND LOCATION MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542 5. PROJECT NUMBER 4. PROJECT TITLE P-065 **GYMNASIUM** 

# c. Planned Facilities:

Project No.	Area (SF)	<u>Status</u>
P-065	21,000	To be constructed in FY-84
P-693	9,000	Unprogrammed Physical Fitness Center
P-694	9,000	Unprogrammed Physical Fitness Center
P-707	9,000	Unprogrammed Physical Fitness Center
	0	TOTAL FACILITIES UNDER CONSTRUCTION
	48,000	TOTAL PLANNED FACILITIES
	0	TOTAL EXISTING ASSETS (ADEQUATE)
	48,000	BFRL





ENCLOSURE (1)

