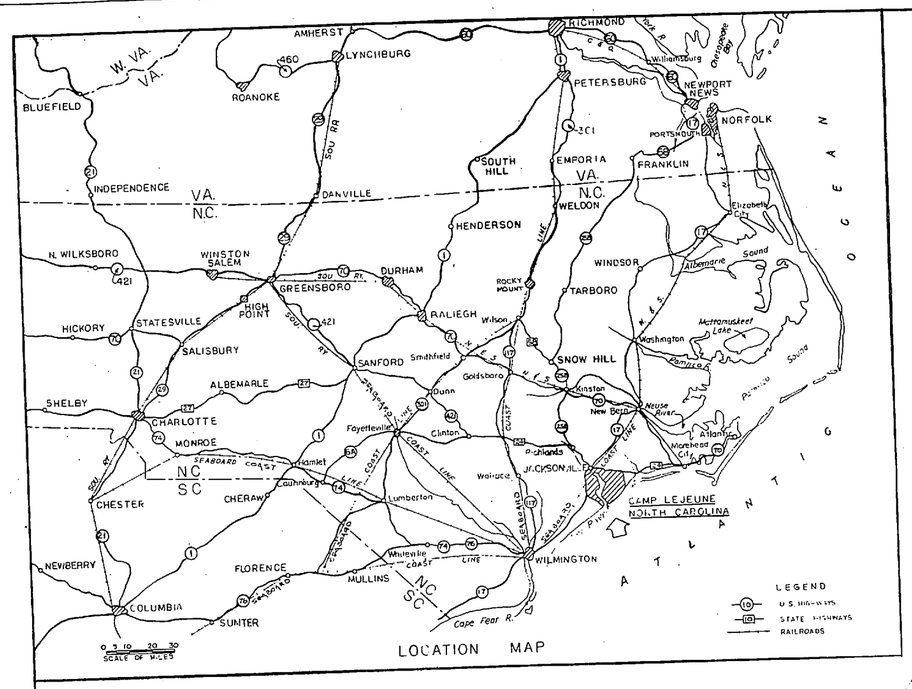
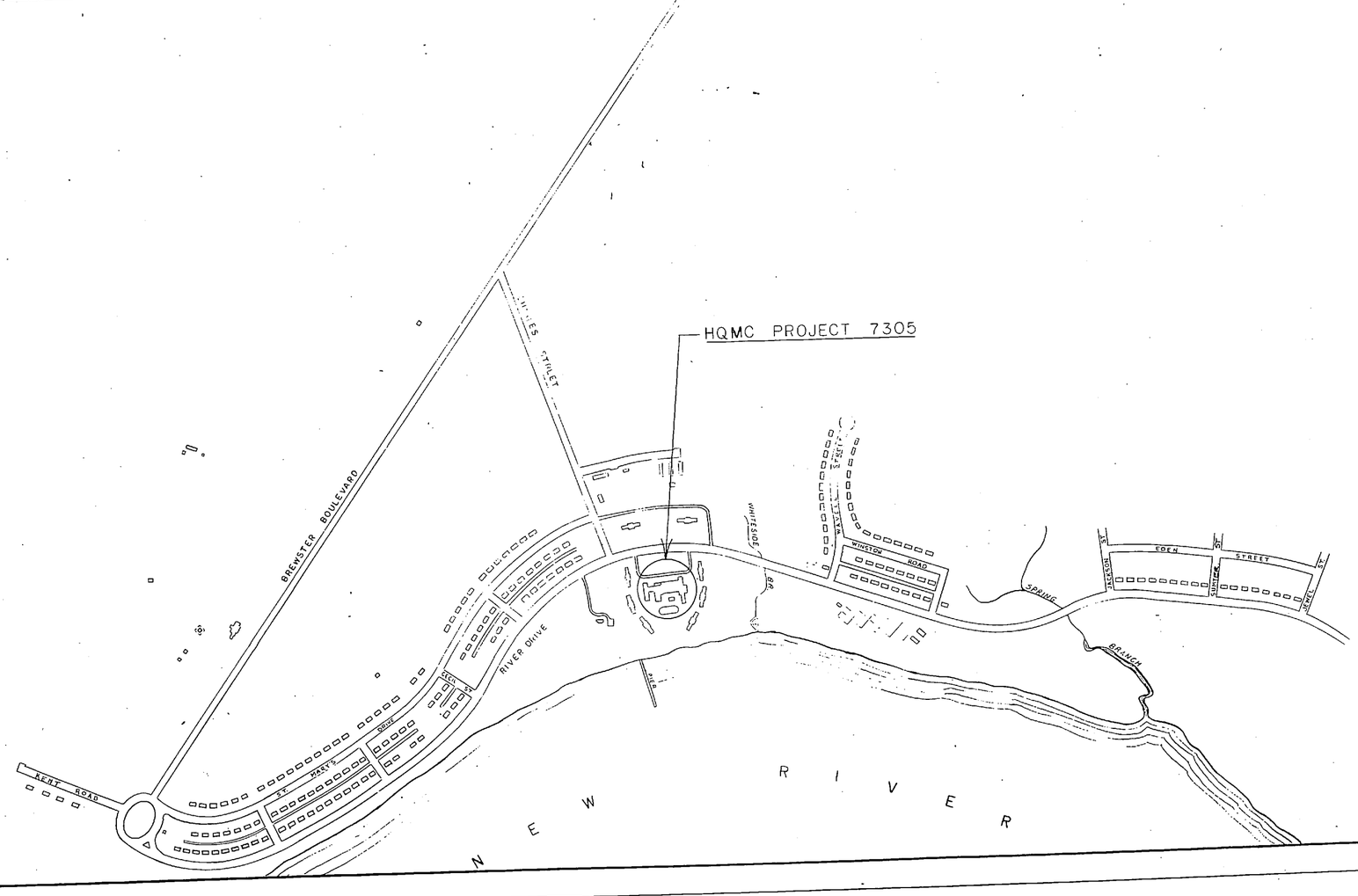
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



LOCATION MAP



INDEX OF DRAWINGS

NAVFAC DWG. NO.	SHEET NO.	DESCRIPTION
4030241	C1	LOCATION PLAN
4030242	C2	SITE PLAN
4030243	A1	PARTIAL FIRST FLOOR PLAN, SHEET 1 OF 2
4030244	A2	PARTIAL FIRST FLOOR PLAN, SHEET 2 OF 2
4030245	A3	SECOND FLOOR & PARTIAL ATTIC PLAN
4030246	A4	PARTIAL ATTIC PLAN & SECTIONS
4030247	A5	ROOF PLAN
4030248	A6	CEILING PLAN & MISC. DETAILS
4030249	A7	ELEVATIONS
4030250	S1	REFRIGERATION ROOM & BUILDING DETAILS
4030251	S2	TRUSS REVISIONS - DETAILS
4030252	M1	DEMOLITION - DUCTWORK PARTIAL PLAN, SHEET 1 OF 2
4030253	M2	DEMOLITION - DUCTWORK PARTIAL PLAN, SHEET 2 OF 2
4030254	M3	DEMOLITION - EQUIPMENT SCHEDULE & SECOND FLOOR DUCTWORK
4030255	M4	DEMOLITION - DUCTWORK SECTIONS, SHEET 1 OF 2
4030256	M5	DEMOLITION - DUCTWORK SECTIONS, SHEET 2 OF 2
4030257	M6	DEMOLITION - UNDERFLOOR PIPING, SHEET 1 OF 3
4030258	M7	DEMOLITION - UNDERFLOOR PIPING, SHEET 2 OF 3
4030259	M8	DEMOLITION - UNDERFLOOR PIPING, SHEET 3 OF 3
4030260	M9	DEMOLITION - PIPING ATTIC PLAN, SHEET 1 OF 3
4030261	M10	DEMOLITION - PIPING ATTIC PLAN, SHEET 2 OF 3
4030262	M11	DEMOLITION - PIPING ATTIC PLAN, SHEET 3 OF 3
4030263	M12	DEMOLITION - PIPING & EQUIPMENT SECOND FLOOR PLAN & DETAILS
4030264	M13	HVAC LAYOUT PARTIAL PLAN, SHEET 1 OF 2
4030265	M14	HVAC LAYOUT PARTIAL PLAN, SHEET 2 OF 2
4030266	M15	HVAC EQUIPMENT SCHEDULE & SECOND FLOOR LAYOUT
4030267	M16	HVAC SECTIONS & DETAILS, SHEET 1 OF 2
4030268	M17	HVAC SECTIONS & DETAILS, SHEET 2 OF 2
4030269	M18	UNDERGROUND & UNDERFLOOR PIPING PARTIAL PLAN & DETAILS
4030270	M19	UNDERFLOOR PIPING PARTIAL PLAN
4030271	M20	UNDERFLOOR & MECHANICAL ROOM PIPING PARTIAL PLAN & DETAILS
4030272	M21	HVAC CONTROL SCHEMATICS
4030273	M22	HVAC COIL DETAILS & CONTROLS
4030274	M23	REFRIGERATION EQUIPMENT ROOM LAYOUT & DETAILS
4030275	E1	ELECTRICAL - ONE LINE DIAGRAM
4030276	E2	ELECTRICAL - POWER PLAN, SHEET 1 OF 4
4030277	E3	ELECTRICAL - POWER PLAN, SHEET 2 OF 4
4030278	E4	ELECTRICAL - POWER PLAN, SHEET 3 OF 4
4030279	E5	ELECTRICAL - POWER PLAN, SHEET 4 OF 4
4030280	E6	ELECTRICAL - DEMOLITION PLAN, SHEET 1 OF 3
4030281	E7	ELECTRICAL - DEMOLITION PLAN, SHEET 2 OF 3
4030282	E8	ELECTRICAL - DEMOLITION PLAN, SHEET 3 OF 3

C-1

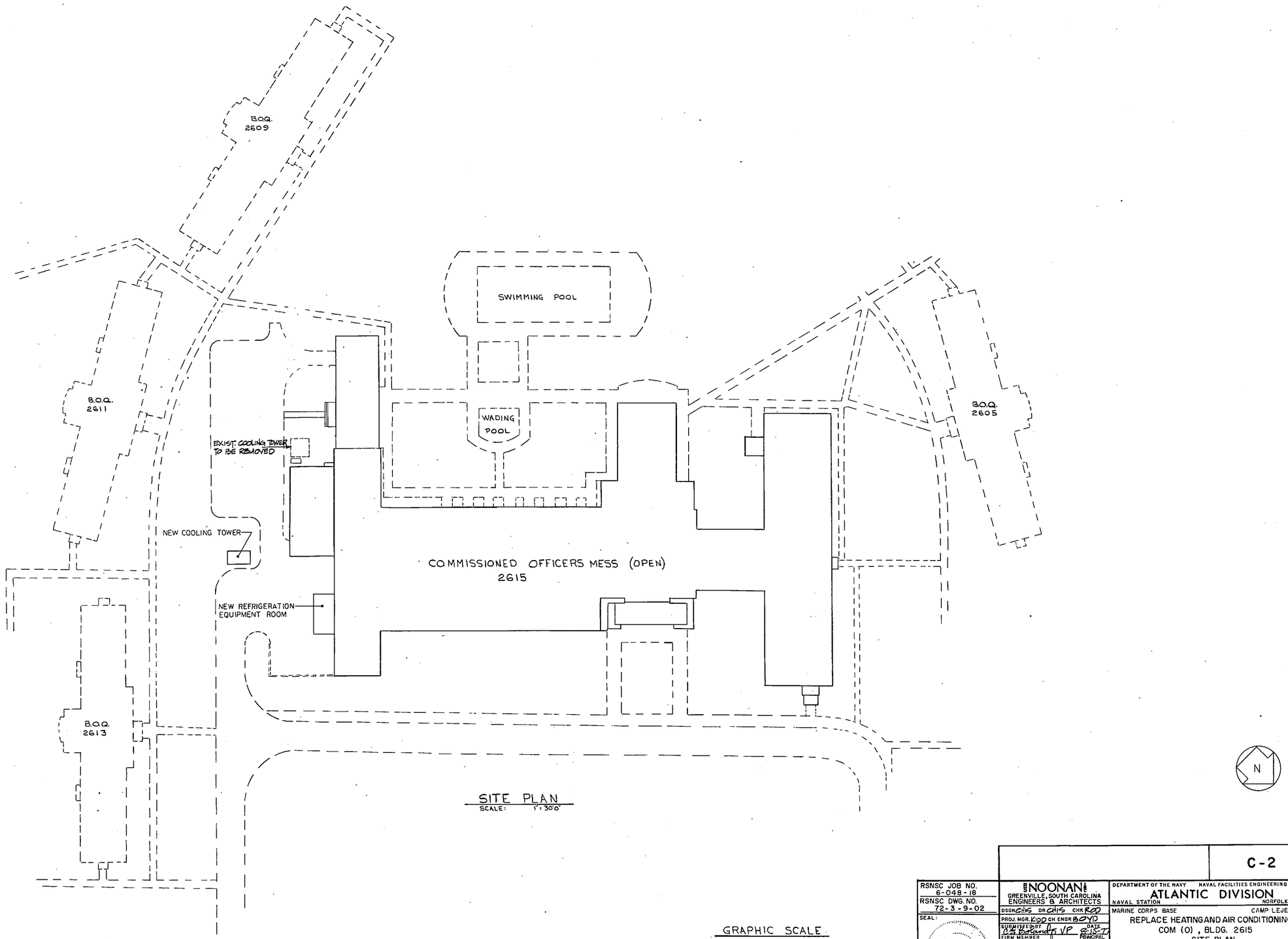
RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-3-9-01
SEAL:

NOONAN & NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DSGN CHS DR CHS CHK RJD
PROJ. MGR. KJDD CH ENGR BOYD
SUBMITTED BY R.E. Boyd Jr. VP 8-15-77 DATE PRINCIPAL
FIRM MEMBER
EFD: FP ____ RVD ____
HO ____ DIR ____
APPROVED OFFICER IN CHARGE 10/22/77 DATE
APPROVED EFD FOR COMMANDER, NAVFAC 10/11/78 DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION NORFOLK, VIRGINIA
NAVAL STATION
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
LOCATION PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030241
SCALE AS NOTED	SPEC 05-77-2563	CONSTR CONTR NO. N62470-77-B-2563
		SHEET 1 OF 42
		EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SITE PLAN
SCALE: 1" = 30'0"

GRAPHIC SCALE
1" = 30'
25' 0' 25' 50' 75' 100' 125'

C-2

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-3-9-02

SEAL:

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DSGN CHS DR CHS CHK RDD
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY VP DATE 8-15-77
FIRM MEMBER PRINCIPAL
EFD: FP RVD
HO DIR
APPROVED DATE 11/22/77
OFFICER IN CHARGE
APPROVED DATE 10/11/78
EFD FOR COMMANDER, NAVFAC

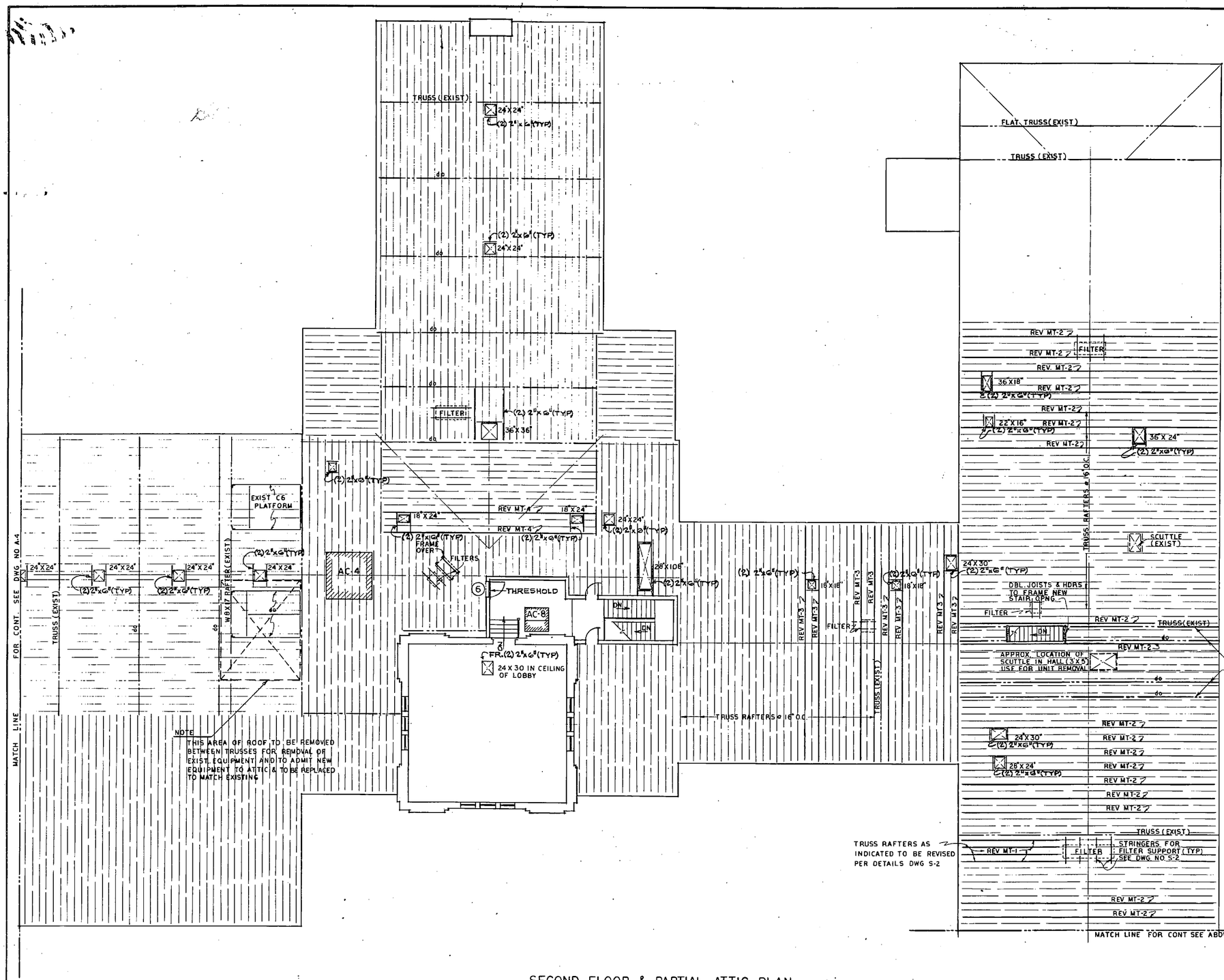
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
SITE PLAN

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030242
		CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED		SPEC 05-77-2563 SHEET 2 OF 42

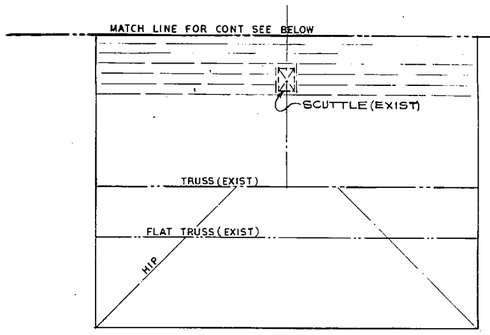
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

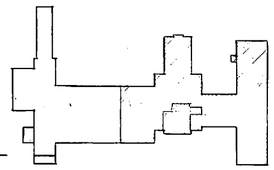


GENERAL NOTES

1. OPENINGS SHOWN ARE THOSE REQUIRING REVISIONS TO EXISTING TRUSS RAFTERS AND JOISTS
2. DIMENSIONS SHOWN REFER TO DUCT SIZE
3. ALL OPENINGS SHOULD BE ADJUSTED TO FIT EXIST. JOIST PLACEMENT
4. FOR TRUSS REVISIONS SEE DWG NO. S-2
5. ALL HEADERS WILL BE DOUBLE AND OF THE SAME SIZE OF CEILING JOISTS



NOTE:
THESE FOUR TRUSS WERE ADDED FOR EQUIPMENT SUPPORT AND MAY BE CUT AFTER A.C. UNITS ARE REMOVED.



KEY PLAN

SECOND FLOOR & PARTIAL ATTIC PLAN

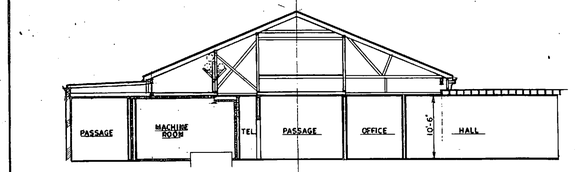
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE

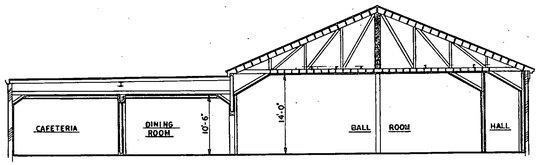
1/8" = 1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

A-3

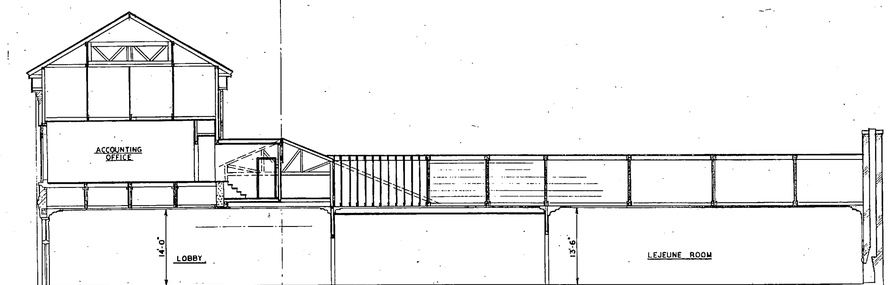
RSNSC JOB NO. 6-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NAVAL STATION NORFOLK, VIRGINIA
RSNSC DWG. NO. 72-1-0-05	DSGN LOWES DRN LOWES CHK TRANT	MARINE CORPS BASE CAMP LEJEUNE, N.C.
SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 5438	PROJ. MGR. FOD CH ENGR. RWD; SUBMITTED BY FOD VP DATE 8-15-77; FIRM MEMBER; EFD FP RVD; HD DIR WLK	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 SECOND FLOOR & PARTIAL ATTIC PLAN
	APPROVED OIC Tack OFFICER IN CHARGE DATE 11/23/77	SIZE F; CODE IDENT NO. 80091; NAVFAC DRAWING NO. 4030245
	APPROVED OIC Tack EFD FOR COMMANDER, NAVFAC DATE 10/6/77	CONSTR CONTR NO. N62470-77-B-2563
		SCALE AS NOTED; SPEC 05-77-2563; SHEET 5 OF 42; EFD DWG. NO.



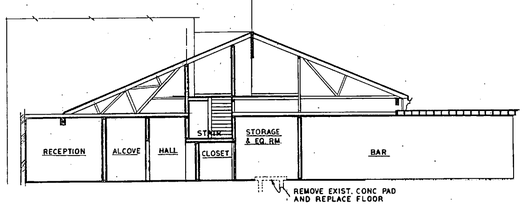
SECTION 4
SCALE: 1/8"=1'-0" A1/A4



SECTION 4
SCALE: 1/8"=1'-0" A2/A4



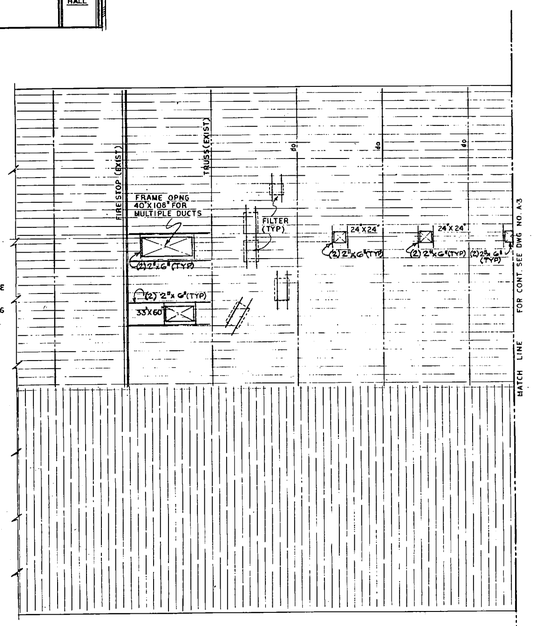
SECTION 5
SCALE: 1/8"=1'-0" A1/A4



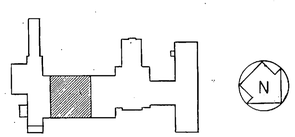
SECTION 6
SCALE: 1/8"=1'-0" A1/A4

NOTE
THESE SECTIONS ARE SHOWN FOR CLARITY

NOTE
ALL HEADERS WILL BE DOUBLE AND OF THE SAME SIZE AS EXISTING CEILING JOISTS



PARTIAL ATTIC PLAN
SCALE: 1/8"=1'-0"



KEY PLAN

GRAPHIC SCALE
1/8"=1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

A-4

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-1-0-06
SEAL:

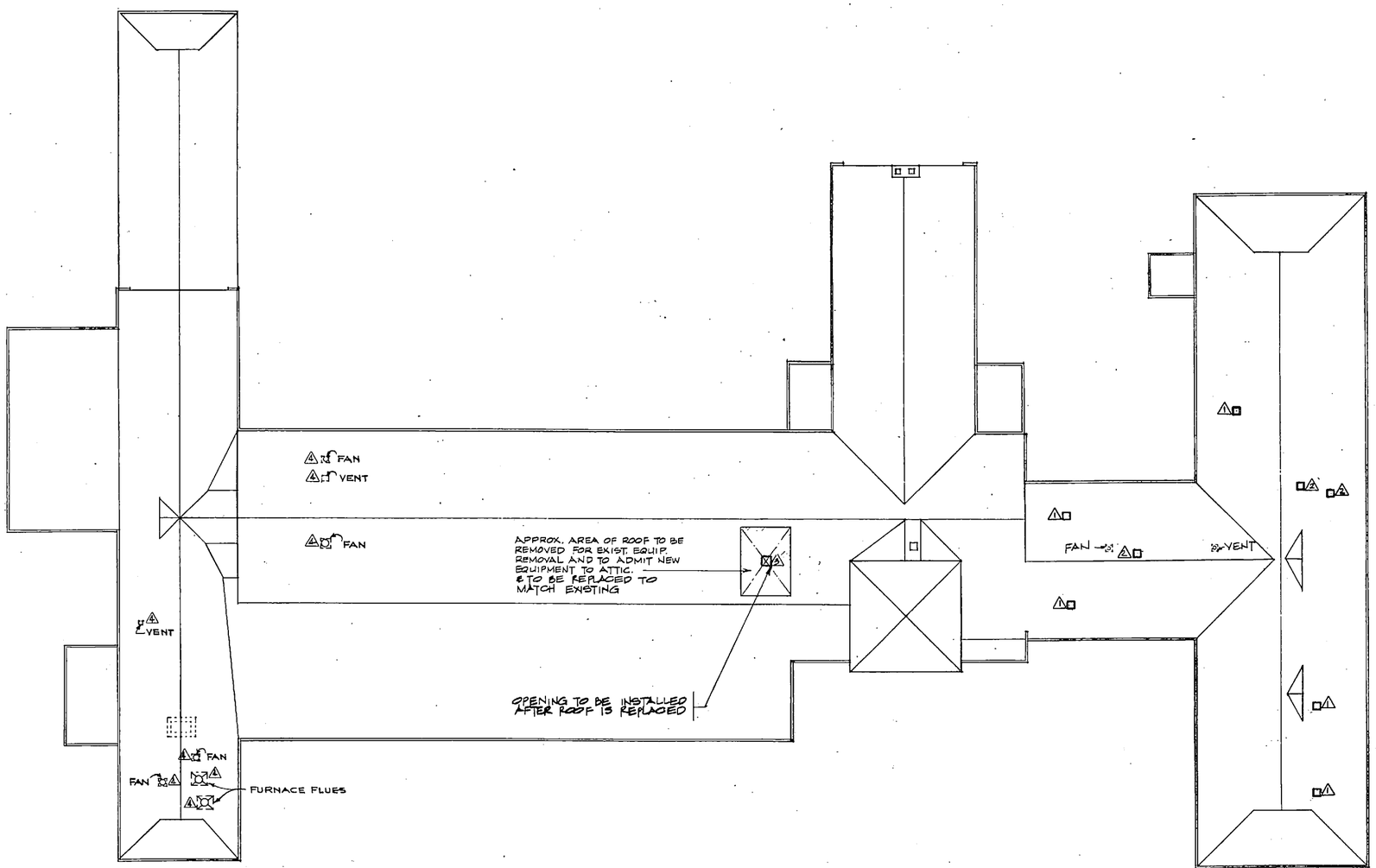
NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DSGN LOWES OR LOWES CHK TRANT
PROJ. MGR. KOCH ENGR BOYD
SUBMITTED BY
FIRM MEMBER
EFD PP
NO. DIR. RHK
APPROVED DATE 4/22/77
OFFICER IN CHARGE
APPROVED DATE 5/17/77
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS BASE — CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG 2615
PARTIAL ATTIC PLAN & SECTIONS

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030246
SCALE AS NOTED		CONSTR CONTR NO. N62470-77-B-2563
		SPEC 05-77-2563 SHEET 6 OF 42

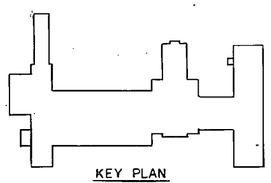
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



ROOF PLAN
SCALE 1/16"=1'-0"

ROOF OPENING SCHEDULE			
MARK	SIZE	DESCRIPTION	REMARKS
1	14' x 14'	EXHAUST	NEW
2	10' x 10'	EXHAUST	NEW
3	20' x 20'	EXHAUST	NEW
4	EXISTING	EXISTING	



KEY PLAN

N

GRAPHIC SCALE
1/16"=1'-0" 10' 0' 10' 20' 30' 40' 50' 60' 70' 80'

A-5

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-1-0-07

SEAL: NORTH CAROLINA REGISTERED SEAL X 5568 ENGINEER CLYDE F. BOLAND, JR.

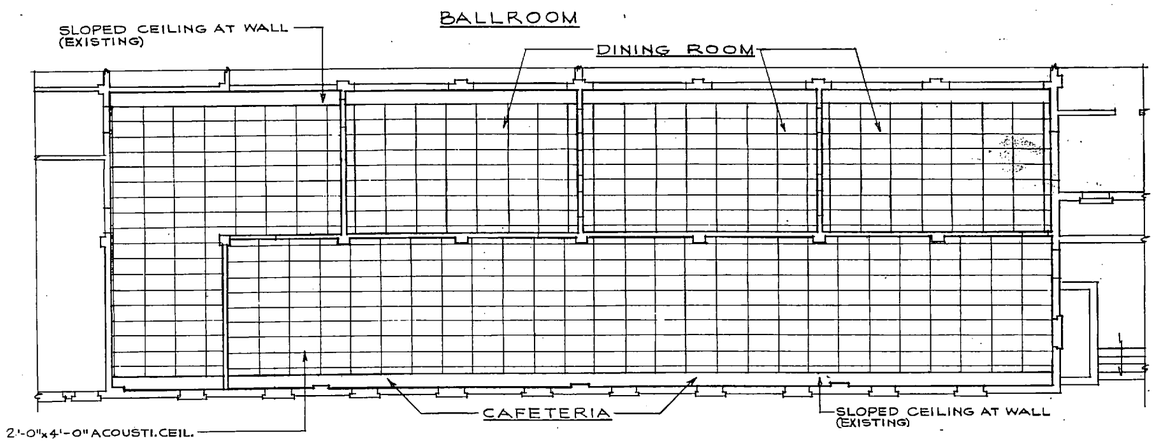
NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS
DSGN HUEY DR HUEY CHK TRANT
PROJ. MGR. KIDD CH ENGR BOYD
PREPARED BY B.G. VP DATE 1-3-77
FIRM MEMBER
EPD-PA RVD
HD DIR KHK
APPROVED OFFICER IN CHARGE 4/22/77
APPROVED EPD FOR COMMANDER, NAVFAC 10/11/78

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ROOF PLAN

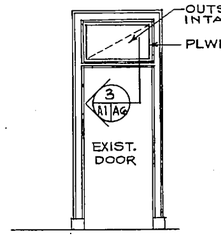
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030247
		CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED	SPEC 08-77-2563	SHEET 7 OF 42

EPD DWG. NO.

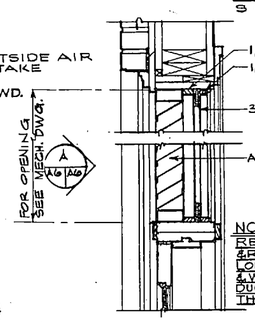
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



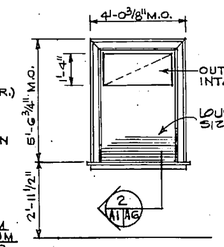
REFLECTED CEILING PLAN
SCALE 1/8" = 1'-0"



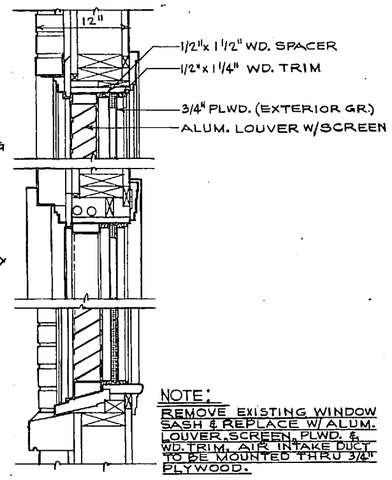
ELEVATION (A A1/A6)
SCALE 3/8" = 1'-0"



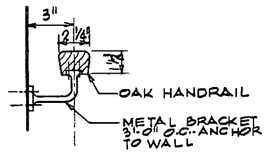
SECTION (3 A1/A6)
SCALE 1 1/2" = 1'-0"



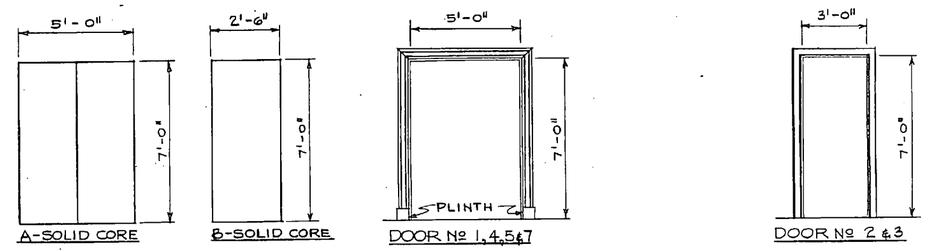
ELEVATION (B A6/A6)
SCALE 3/8" = 1'-0"



SECTION (2 A1/A6) LOUVER & AIR INTAKE
SCALE 1 1/2" = 1'-0"

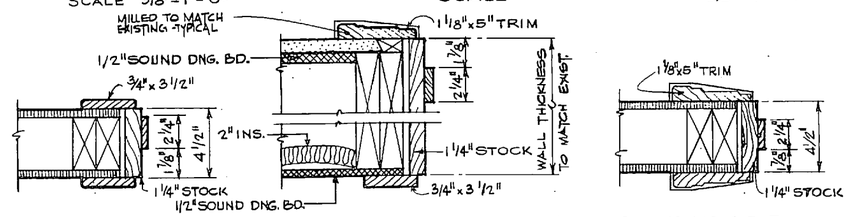


DETAIL - HANDRAIL & SUPPORT
SCALE 3" = 1'-0"



DOOR TYPES
SCALE 3/8" = 1'-0"

DOOR FRAME-FACE & PLINTH
SCALE 3/8" = 1'-0"

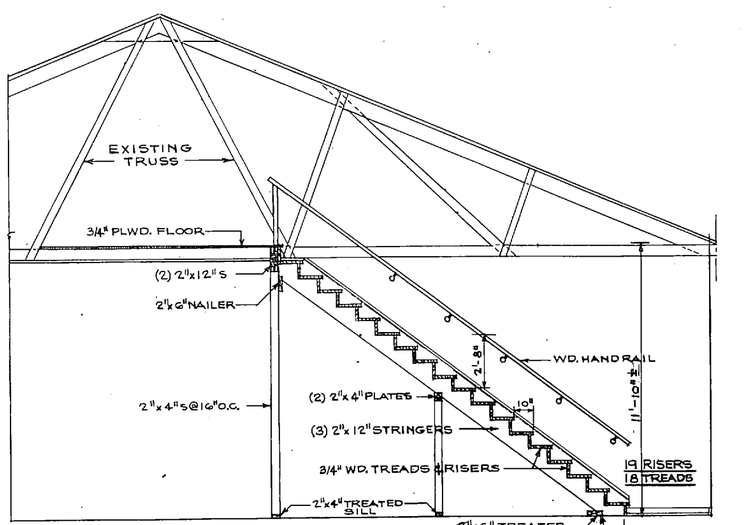


DOOR JAMB DETAILS
SCALE 3" = 1'-0"

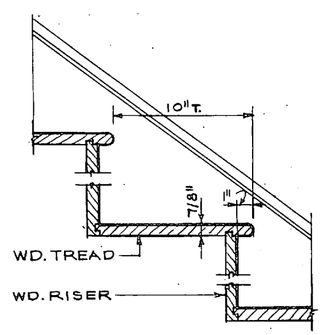
F.S. THRESHOLD

NEW DOOR SCHEDULE

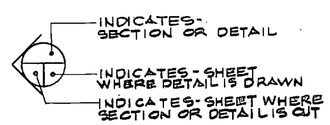
MARK	SIZE	TYPE	THRESH.	REMARKS
1	(2) 2-6 x 7-0 x 1 3/4	A - FLUSH	ALUMINUM	KITCHEN TO EQUIPT. ROOM
2	3-0 x 7-0 x 1 3/4	B - FLUSH	ALUMINUM	STAIR TO ATTIC
3	3-0 x 7-0 x 1 3/4	B - FLUSH	—	CLOSET TO UNDERSTAIR
4	(2) 2-6 x 7-0 x 1 3/4	A - FLUSH	—	HALL TO EQUIPT. ROOM
5	(2) 2-6 x 7-0 x 1 3/4	A - FLUSH	—	BAR TO EQUIPT. ROOM
6	3-0 x 7-0 x 1 3/4	B - FLUSH	ALUMINUM	SECOND FLOOR TO ATTIC
7	(2) 3-0 x 7-0 x 1 3/4	A - FLUSH	—	BALLROOM TO SERVICE CORRIDOR
8	(2) 4-0 x 9-0 x 1 3/4	A - FLUSH	—	REFRIGERATION ROOM
9	4-0 x 9-0 x 1 3/4	B - FLUSH	—	REFRIGERATION ROOM

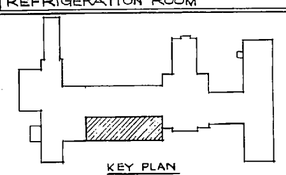


SECTION (1 A1/A6) THRU STAIR TO ATTIC
SCALE 3/8" = 1'-0"



DETAIL STAIR TREAD & RISER
SCALE 3" = 1'-0"





KEY PLAN

N

GRAPHIC SCALE

1 1/2" = 1'-0"
3/8" = 1'-0"
1/8" = 1'-0"
3" = 1'-0"

A-6

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-1-0-08

SEAL: NORTH CAROLINA REGISTERED SEAL X 5568 ENGINEER CLYDE F. BOLAND, JR.

NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

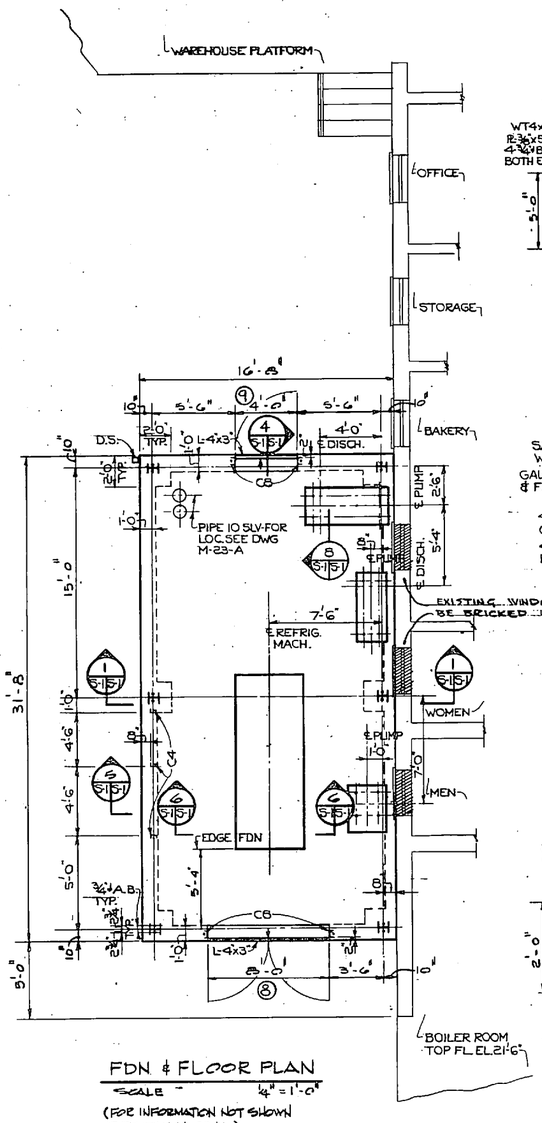
DSGN HUEY DR HUEY CH TRANT
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY DATE
FIRM MEMBER
EFD-FP RVD
HD DIR RHK
APPROVED DATE 1/26/72
OFFICER IN CHARGE
APPROVED DATE 11/1/71
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS BASE — CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
CEILING PLAN & MISC. DETAILS

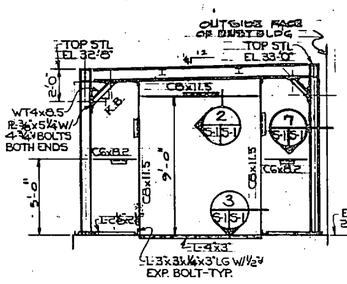
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030248
SCALE AS NOTED		CONSTR CONTR NO. N62470-77-B-2563
		SPEC 05-77-2563 SHEET 8 OF 42

EFD DWG. NO.

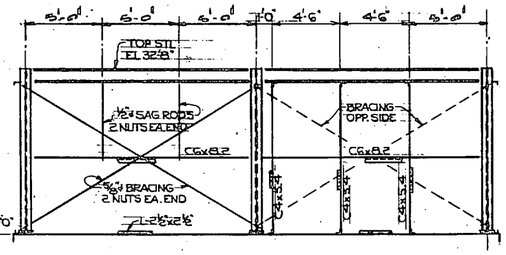
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



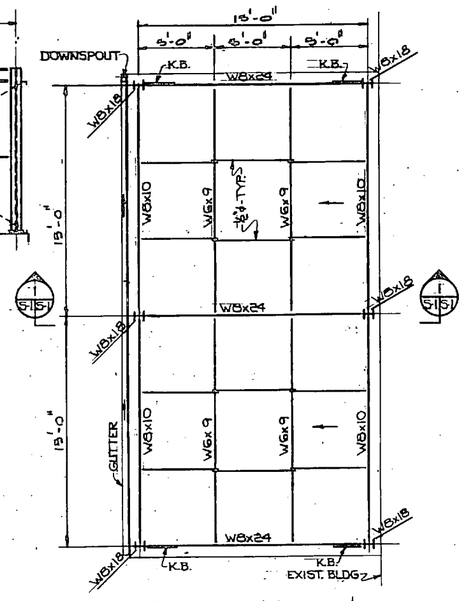
FDN & FLOOR PLAN
SCALE 1/4" = 1'-0"
(FOR INFORMATION NOT SHOWN SEE DWG M-23-A)



NORTH ELEVATION
OPPOSITE END SIMILAR
SCALE 1/4" = 1'-0"

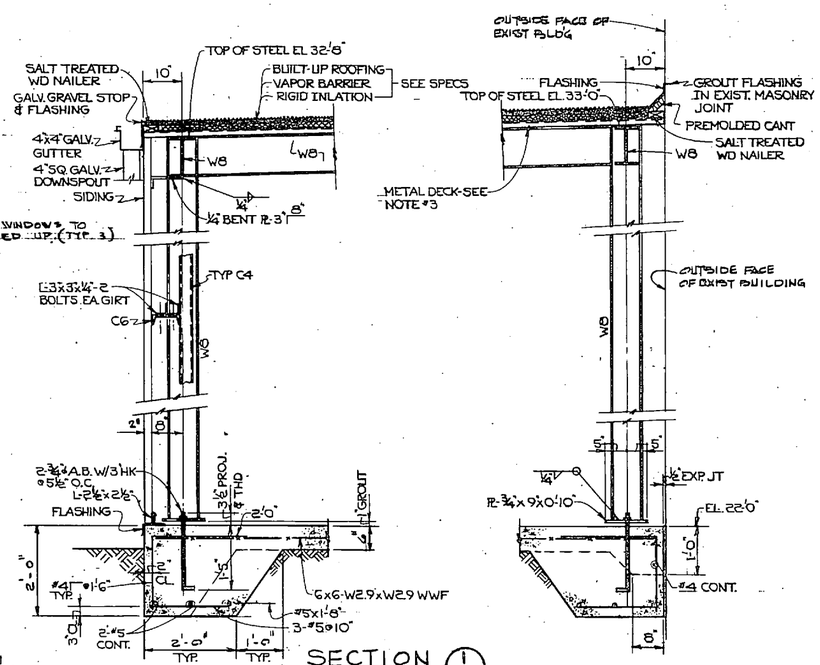


EAST ELEVATION
OPPOSITE SIDE SIMILAR
SCALE 1/4" = 1'-0"

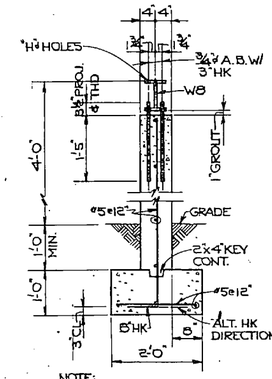


ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"
(LIVE LOAD = 20 PSF
WIND LOAD = 80 PSF)

NOTES:
1. STRUCTURAL STEEL - ASTM A36-36,000 P.S.I.
2. BOLTS - ASTM A325 - 3/4" HIGH STRENGTH
3. METAL DECK - 1 1/2" DP. - 22 GA. INTERMEDIATE RIB. WELD TO BEAMS @ 12" O.C.
4. CONCRETE - f'c = 3000 P.S.I. @ 28 DAYS
5. REINFORCING - ASTM A615 GRADE 60
6. WELDED WIRE FABRIC - ASTM A185

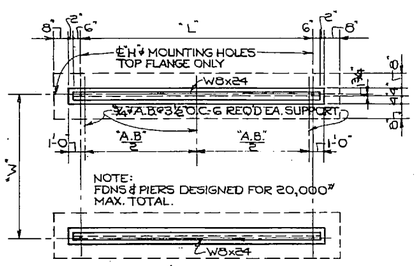


SECTION 1
SCALE 3/4" = 1'-0"

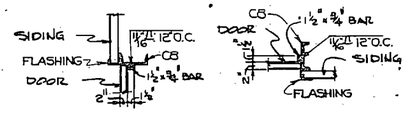


NOTE:
BACKFILL TO 95% PROCTOR

SECTION 9
SCALE 3/4" = 1'-0"

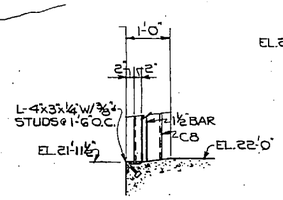


COOLING TOWER FDN
SCALE 1/4" = 1'-0"
(SEE DWG M-18 FOR LOCATION & ORIENTATION)

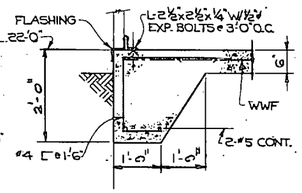


SECTION 2
SCALE 3/4" = 1'-0"

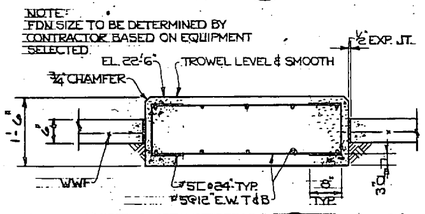
SECTION 3
SCALE 3/4" = 1'-0"



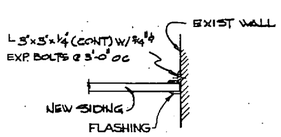
SECTION 4
SCALE 3/4" = 1'-0"



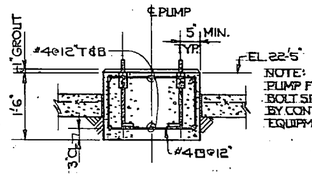
SECTION 5
SCALE 3/4" = 1'-0"



SECTION 6
SCALE 3/4" = 1'-0"

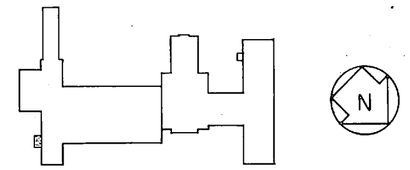


SECTION 7
SCALE 3/4" = 1'-0"



NOTE:
PUMP FDN SIZE & ANCHOR BOLT SIZE TO BE DETERMINED BY CONTRACTOR BASED ON EQUIPMENT SELECTED

SECTION 8
SCALE 3/4" = 1'-0"

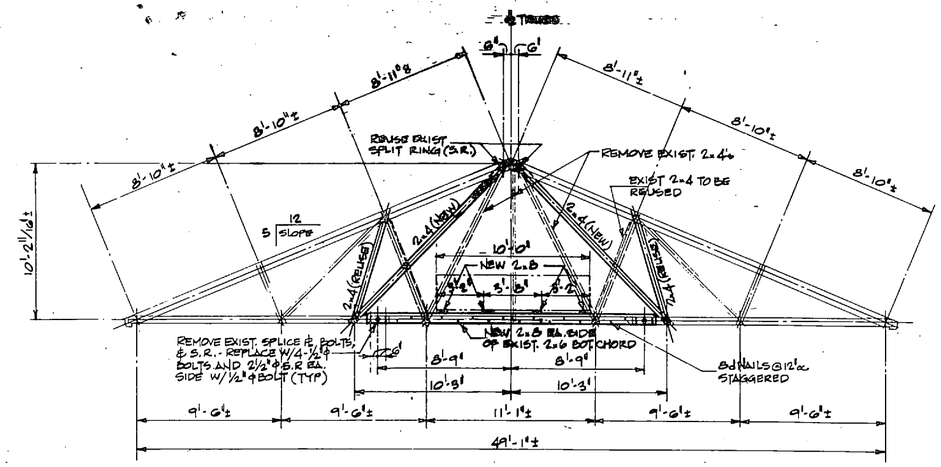


KEY PLAN

GRAPHIC SCALES
1/4" = 1'-0"
5/8" = 1'-0"

RSNSC JOB NO. 6-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND	S-1
RSNSC DWG. NO. 72-1-0-10	DSGN KAPP DRN NICKL CHK LOWE	ATLANTIC DIVISION — NAVAL STATION NORFOLK, VIRGINIA	
SEAL: NORTH CAROLINA REGISTERED SEAL 5568 PROFESSIONAL ENGINEER CLYDE K. BOLAND JR.	PROJ. MGR. KIDDOCH ENGR. BDVD	MARINE CORPS BASE — CAMP LEJEUNE, N.C.	
	SUBMITTED BY / DATE	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615	
	FIELD ENGINEER / PROJ. ENGR.	REFRIGERATION ROOM & BUILDING DETAILS	
	BVD-FP / RVD		
	HD / DIR RNK		
	APPROVED / DATE — OFFICER IN CHARGE 1/22/77	SIZE F — CODE IDENT NO. 80091 — NAVFAC DRAWING NO. 4030250	
	APPROVED / DATE — EFD FOR COMMANDER, NAVFAC 10/11/78	SCALE AS NOTED — SPEC 05-77-2563 — SHEET 10 OF 42 — CONSTR CONTR NO. N62470-77-B-2563	EFD DWG. NO.

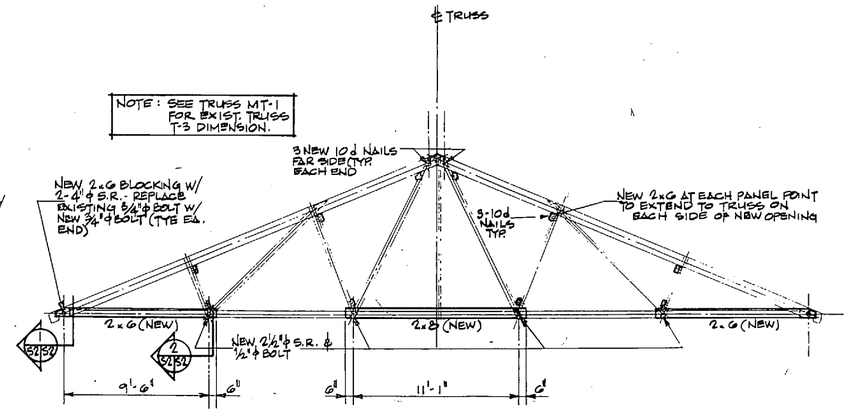
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



EXISTING TRUSS T-3'

MODIFIED TRUSS "MT-1"

(4 REQUIRED)
SCALE: ¼" = 1'-0"



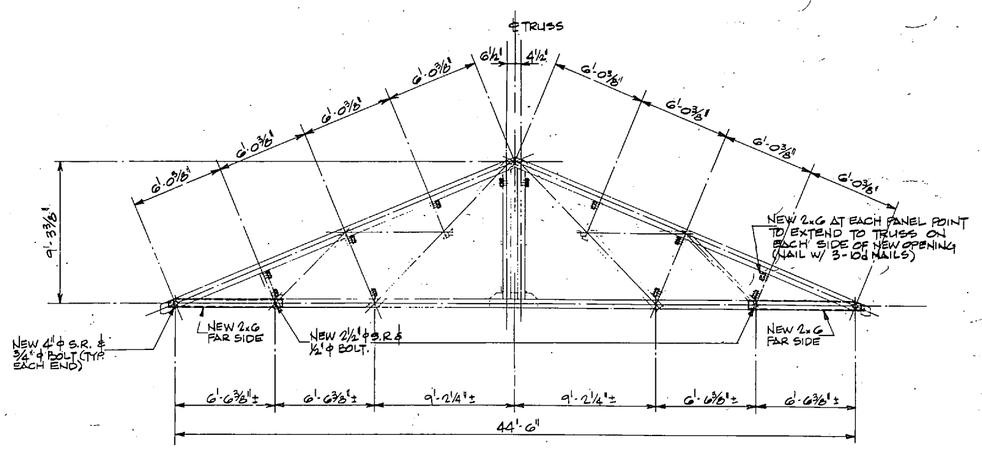
EXISTING TRUSS T-3'

MODIFIED TRUSS "MT-2"

(18 REQUIRED)
SCALE: ¼" = 1'-0"

GENERAL NOTE

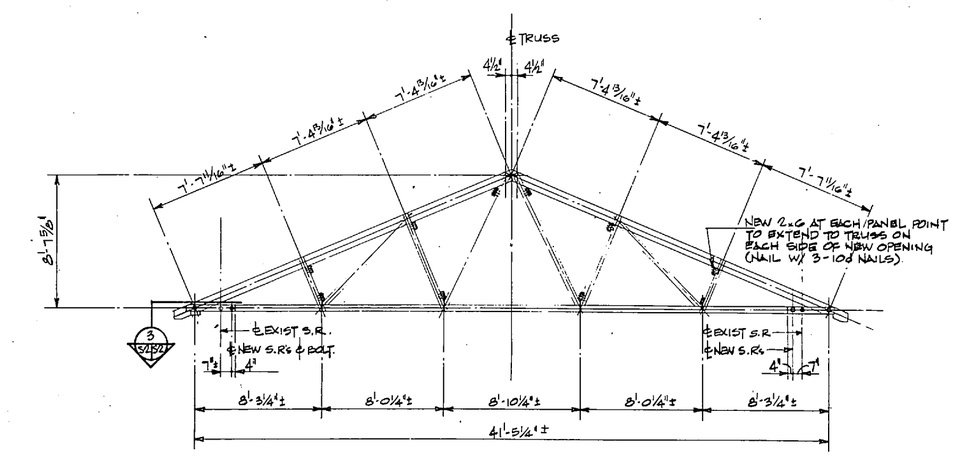
1. FOR LOCATION OF TRUSS RAFTERS TO BE MODIFIED SEE DRAWING A-3.



EXISTING TRUSS T-1B

MODIFIED TRUSS "MT-3"

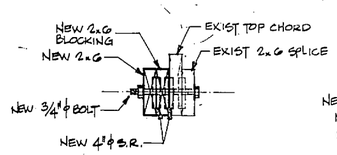
(8 REQUIRED)
SCALE: ¼" = 1'-0"



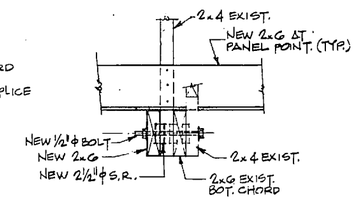
EXISTING TRUSS T-1S

MODIFIED TRUSS "MT-4"

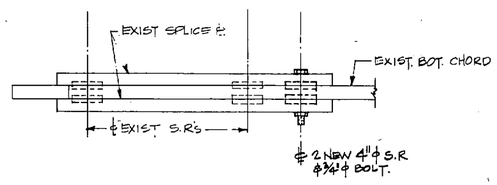
(2 REQUIRED)
SCALE: ¼" = 1'-0"



SECTION 1 / S2/S2
SCALE: 1½" = 1'-0"



SECTION 2 / S2/S2
SCALE: 1½" = 1'-0"



SECTION 3 / S2/S2
SCALE: 1½" = 1'-0"

GRAPHIC SCALES

¼" = 1'-0" 5' 0' 5' 10' 15'

1½" = 1'-0" 1' 9" 6" 3" 0' 1' 2' 3'

S-2

RSNSC JOB NO 6-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
RSNSC DWG. NO. 72-1-0-11	DSGN KAPP DR TRANT CHK LOWE	ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
SEAL:	PROJ. MGR. KIDD CH ENGR BOYD	MARINE CORPS BASE CAMP LEJEUNE, N.C.	
	SUBMITTED BY / FIRM MEMBER / PRINCIPAL / DATE	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 TRUSS REVISIONS-DETAILS	
	EFD FP / RVD. / DATE		
	HO / DIR.		
	APPROVED OFFICER IN CHARGE / DATE 11/22/72	SIZE F / CODE IDENT NO. 80091	NAVFAC DRAWING NO. 4030251
	APPROVED EFD FOR COMMANDER, NAVFAC / DATE 10/11/72	SCALE AS NOTED	CONSTR CONTR NO. N6 2470-77-B-2563
			SPEC 05-77-2563 SHEET 11 OF 42
			EFD DWG. NO.

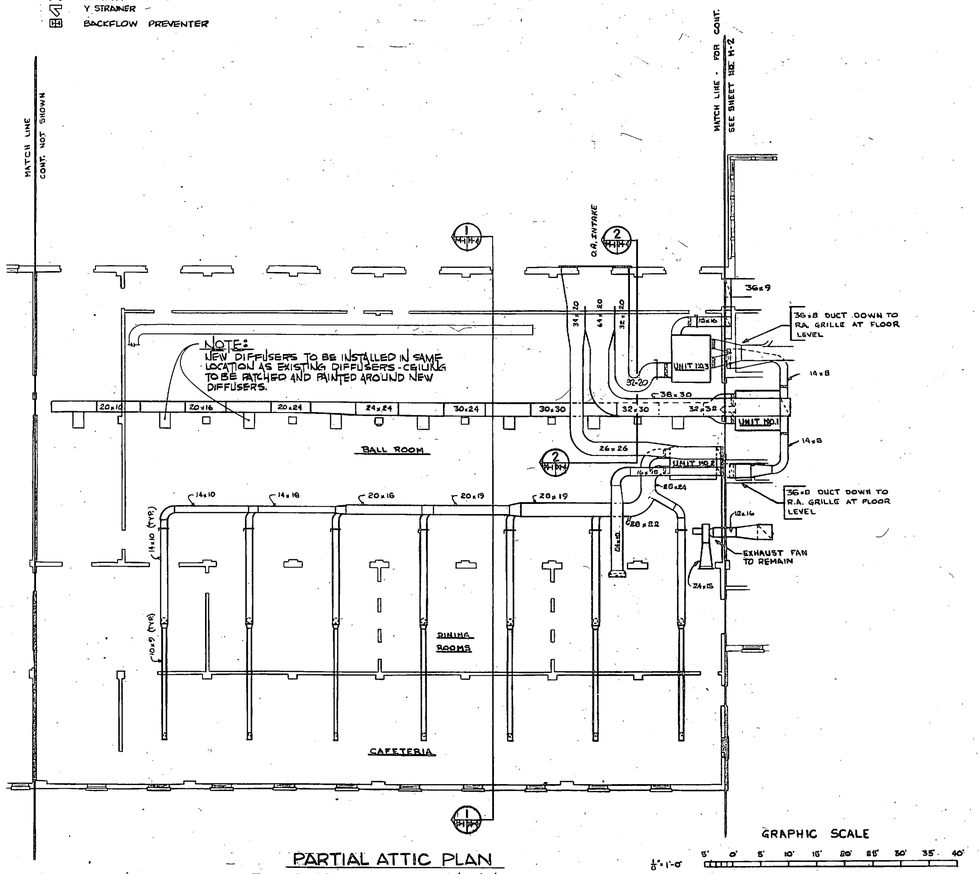
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

LEGEND:

- EXISTING PIPING TO BE REMOVED OR ABANDONED.
- STEAM LINES
- CONDENSATE LINES
- REFRIGERANT LINES
- PNEUMATIC CONTROL LINES
- CAPILLARY TUBING
- ELECTRIC SIGNAL
- INSTRUMENT AIR SUPPLY
- ΔP PRESSURE DIFFERENTIAL
- CW SYSTEM MAKE-UP WATER
- CWS CHILLED WATER SUPPLY
- CWR CHILLED WATER RETURN
- HWS HOT WATER SUPPLY
- HWR HOT WATER RETURN
- STM STEAM SUPPLY
- COND CONDENSATE RETURN
- D DRAIN
- GATE VALVE
- GLOBE VALVE
- CHECK VALVE
- REGULATOR VALVE
- Y STRAINER
- BACKFLOW PREVENTER
- STEAM TRAP
- FLEXIBLE CONNECTIONS-DUCTWORK
- GAGE COCK
- ECC RED
- CON RED
- TEMPERATURE INDICATOR
- PRESSURE INDICATOR
- FLOW SWITCH
- AIR VENT
- T THERMOSTAT
- F FIRESTAT
- T 2-1 THERMOSTAT FOR MULTIZONE UNIT (ZONE Nº / UNIT Nº)
- CARBON FILTER
- FLEXIBLE CONNECTIONS-PUMPS

NOTES:

1. ALL DUCTWORK AND EQUIPMENT ON THIS DWG. TO BE REMOVED UNLESS NOTED OTHERWISE. SEE EQUIP. SCHEDULE ON DWG. M-3.



PARTIAL ATTIC PLAN

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

GRAPHIC SCALE

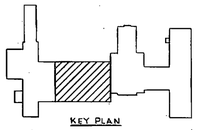
1/8" = 1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

SECTION NUMBER

DWG. Nº SECTION SHOWN ON

DWG. Nº SECTION TAKEN FROM

SECTION SYMBOL



KEY PLAN

N

M-1

RSNSC JOB NO. 6-048-19
RSNSC DWG. NO. 72-8-4-12

SEAL: NORTH CAROLINA REGISTERED SEAL & ESGIL ENGINEER CENTRAL F. BOLAND, JR.

NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

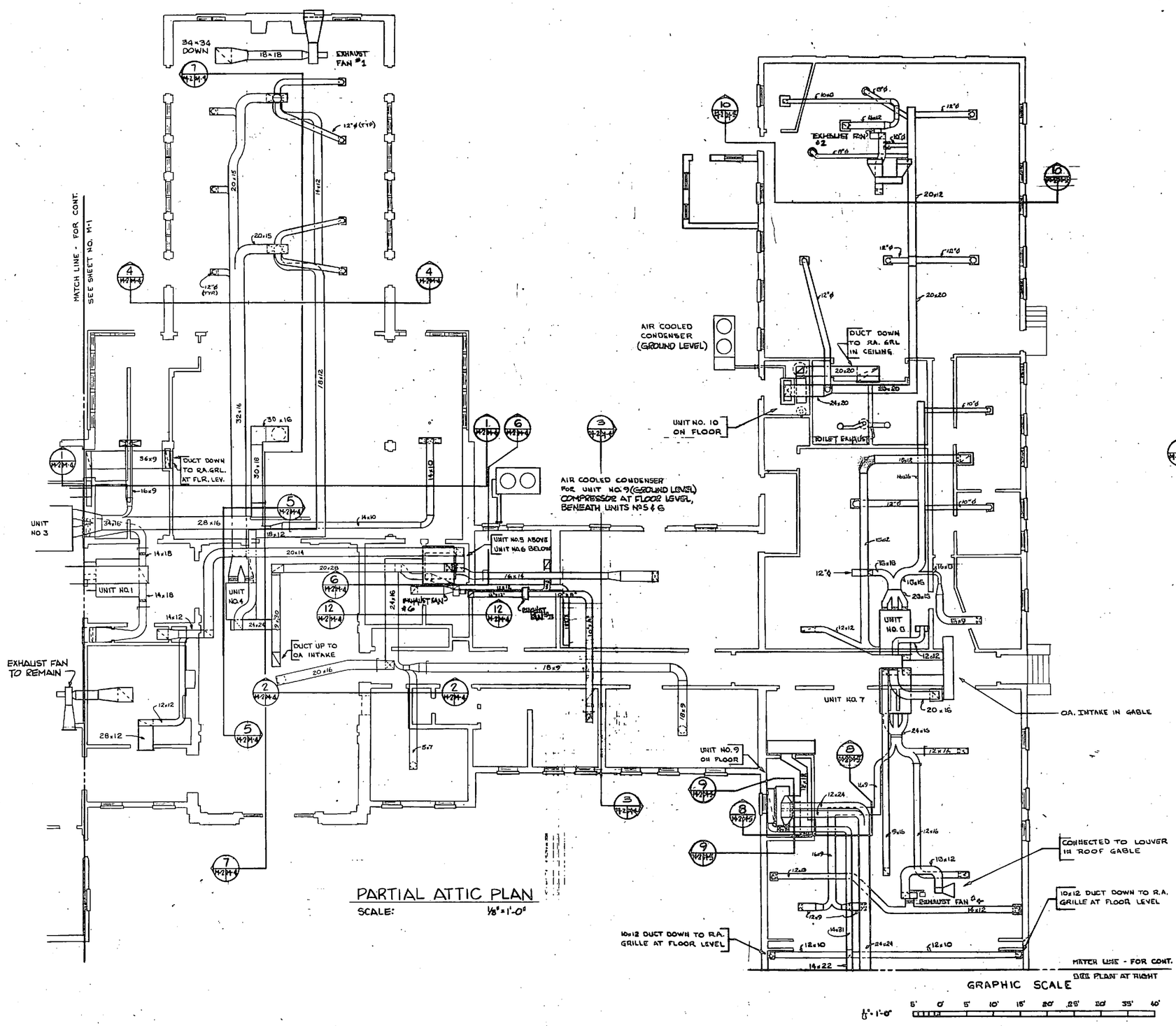
DESIGN LEAD ENGR CHK
PROJ. MGR. KIDDER ENGR POND
DRAWING BY D.R. VP
DATE 8-4-72 REVISIONS
DFD PB REVISIONS
APPROVED 4/4/73
APPROVED 10/11/72
SPEC ENG ENGINEERING, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
DEMOLITION-DUCTWORK
PARTIAL PLAN SHEET 1 OF 2

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030252
SCALE AS NOTED | CONTR CONTR NO. N62470-71-B-2560
SPEC NO. 08-77 | SHEET 1/2 OF 4

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

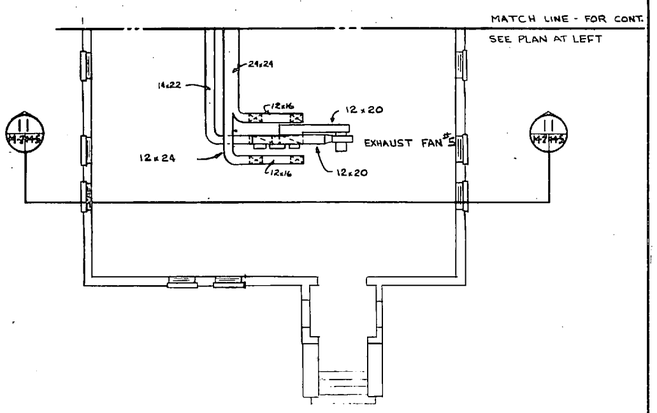


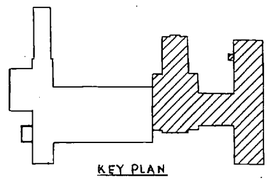
PARTIAL ATTIC PLAN

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

NOTES:

1. ALL DUCTWORK AND EQUIPMENT ON THIS DWG. TO BE REMOVED UNLESS NOTED OTHERWISE. SEE EQUIP SCHEDULE ON M-3.





KEY PLAN

N

M-2

RSNSC JOB NO. 6-049-18
RSNSC DWG. NO. 72-6-4-13

SEAL: NORTH CAROLINA REGISTERED SEAL X 5568 ENGINEER CLYDE F. BOLARD, JR.

NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

DRAWN CHK
PROJ. MGR. KOD CH ENGR BOYD
SUBMITTED BY DATE
DIR. DIV. CHK
APPROVED DATE
APPROVED DATE
APPROVED DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
DEMOLITION-DUCTWORK
PARTIAL PLAN SHEET 2 OF 2

SIZE F | CODE IDENT NO. 80091 | DAVAC DRAWING NO. 4050283
CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED | SHEET 13 OF

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

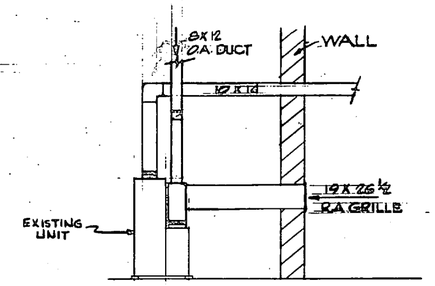
NOTE: ALL EQUIPMENT LISTED BELOW IS TO BE REMOVED

EXISTING AIR HANDLING UNIT

ITEM Nº	MANUFACTURER	MODEL	DIMENSIONS L	W	H
1	———	———	4'-6"	5'-2"	4'-6"
2	———	———	7'-6"	7'-5"	5'-8"
3	G.E.	8K225D9	9'-11"	7'-1"	
4	———	———	7'-9"	7'-4"	5'-6"
5	AMER. STD.	HV-H2100	6'-2"	7'-3"	5'-0"
6	AMER. STD.	HV-H1100	9'-3"	5'-6"	2'-6"
7	MARLO	———	6'-6"	5'-5"	2'-8"
8	MARLO	———	7'-5"	5'-2"	2'-8"
9	MARLO	P15.5	—	—	—
10	WESTINGHOUSE	AB 640 BIX	—	—	—
2ND FL.	CARRIER	50FG-119	—	—	—

EXISTING EXHAUST FANS

ITEM No.	LOCATION	TYPE	CFM	H.P.
1	LEARNING ROOM CEILING	CENTRIFUGAL	2400	1/3
2	INFORMAL BAR CEILING	CENTRIFUGAL	2250	1/4
3	ATTIC DUCTWORK	CENTRIFUGAL	800	1/6
4	FORMAL BAR	CENTRIFUGAL	—	1/2
5	FORMAL BAR	CENTRIFUGAL	1200	—
6	GAME ROOM CEILING	CENTRIFUGAL	2500	1/3



SECTION 1
SCALE 1/4"=1'-0"

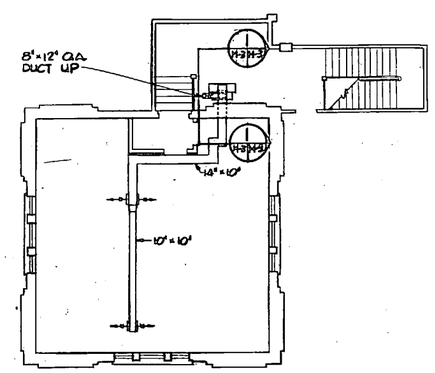
EXISTING REFRIGERATION EQUIPMENT

ITEM Nº	MANFACTURER	ITEM & MODEL Nº	H.P.	REMARKS
1	WORTHINGTON	COMPRESSOR 4HFG-100	50	SERVING UNITS 1-8
2	WORTHINGTON	COMPRESSOR 4HFG-100	50	SERVING UNITS 1-8
3	WORTHINGTON	COMPRESSOR 4HFG-100	60	SERVING UNITS 1-8
–	WESTINGHOUSE	AIR COOLED CONDENSOR LSBC-432	—	SERVING UNIT 9
–	DUNHAM BUSH	AIR COOLED CONDENSOR SL 120 CAS	—	SERVING UNIT 10
–	YORK	COMPRESSOR HG25N12	—	SERVING UNIT 10

NOTE:
ALL DUCTWORK AND EQUIPMENT ON THIS DRAWING TO BE REMOVED UNLESS OTHERWISE NOTED.

EXISTING COOLING TOWER

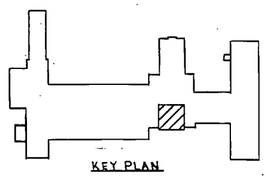
ITEM Nº	MANFACTURER	MODEL	H.P.	REMARKS
1	MARLOY	———	7 1/2	WOODEN TOWER APPRX. 12'×12'×14' HIGH.



SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"

EXISTING MISC. EQUIPMENT

ITEM	SIZE	LOCATION
COMPRESSION TANK	30 GAL.	IN ATTIC
CONDENSER	1'-6" DIA. x 12'-0" L.	IN ATTIC
CHILLER	1'-6" DIA. x 12'-0" L	IN ATTIC
LIQUID RECEIVER	1'-6" DIA. x 12'-0" L	IN MECH. EQUIP. ROOM



KEY PLAN

N

EXISTING PUMPS

ITEM NO.	DESCRIPTION	H.P.	LOCATION
1	COOLING TOWER	15	IN MECH. EQUIP. ROOM
2	CHILLED WATER	5	IN MECH. EQUIP. ROOM
3	CHILLED WATER	3	IN MECH. EQUIP. ROOM

GRAPHIC SCALE

1" = 1'-0" : 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

1/4" = 1'-0" : 10' 0' 5' 10' 15'

M-3

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-4-14

REAL:

NORTH CAROLINA REGISTERED SEAL X 5568 ENGINEER CHAS. F. BOLAND, JR.

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

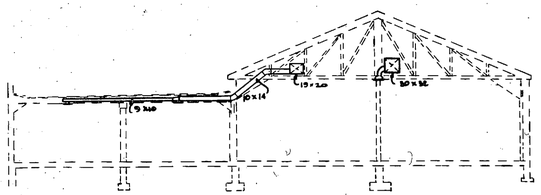
DESIGN DR CHK
PROJ. MGR. KIDD CH. ENGR. BOYD
SUBMITTED BY DATE
DIR. DIVISION
CHF. EN. DIV. CHIEF
NO. DIR. DIR.
APPROVED DATE 4/26/72
DATE
DATE 10/11/72

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

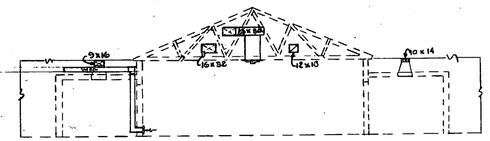
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2515
DEMOLITION-EQUIPMENT SCHEDUCE
& SECOND FLOOR DUCTWORK

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030254
CONTR. CONTR NO. [redacted]70-77-B-2563
SCALE AS NOTED | SHEET 16 of 42
REV DWG NO.

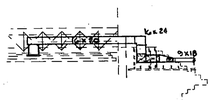
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



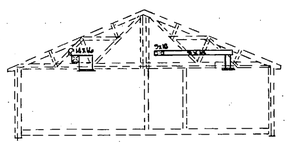
SECTION 1 SCALE: 1/8"=1'-0"



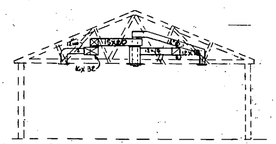
SECTION 1 SCALE: 1/8"=1'-0"



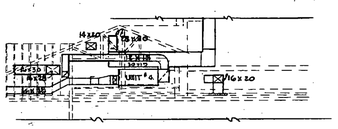
SECTION 2 SCALE: 1/8"=1'-0"



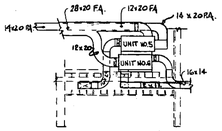
SECTION 3 SCALE: 1/8"=1'-0"



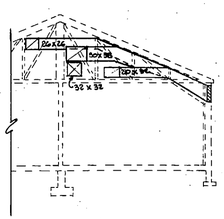
SECTION 4 SCALE: 1/8"=1'-0"



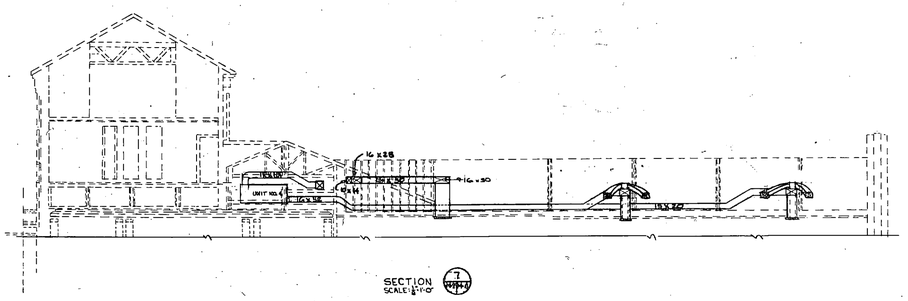
SECTION 5 SCALE: 1/8"=1'-0"



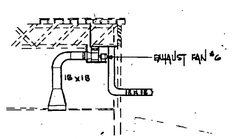
SECTION 6 SCALE: 1/8"=1'-0"



SECTION 2 SCALE: 1/8"=1'-0"



SECTION 7 SCALE: 1/8"=1'-0"



SECTION 12 SCALE: 1/8"=1'-0"

GRAPHIC SCALE

1/8"=1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

RSNSC JOB NO. 6-048-B
RSNSC DWG. NO. 72-8-4-13
SEAL: NORTH CAROLINA REGISTERED SEAL 5568 PROFESSIONAL ENGINEER ALBERT E. BOLANDER, JR.

NOONAN & GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

DRAWN ER CHKD
PROJ. MGR. KIDDER ENGR BOYD
PREPARED BY Ax VP 2-21-77
CHK BY 2-21-77
APP'D BY RVD. 7-18-77
ID. DIR. 7-18-77
APPROVED BY 4/22/77 DATE
APPROVED BY 4/22/77 DATE
NAVY FIELD ENGINEERING SERVICE

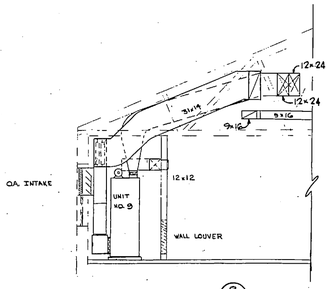
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2515
DEMOLITION-DUCTWORK
SECTIONS SHEET 1 OF 2

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030255
CONTR CONTR NO. N62470-77-B-2063
SCALE AS INDICATED | SHEET 16 OF 42
CFD DWG NO.

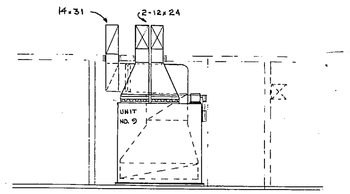
M-4

BLDG 2615

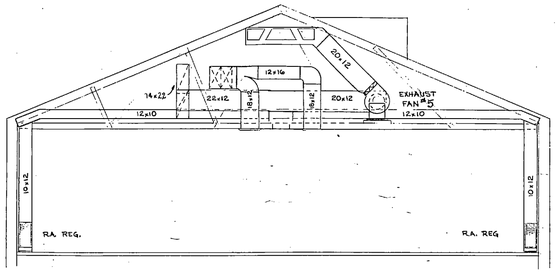
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



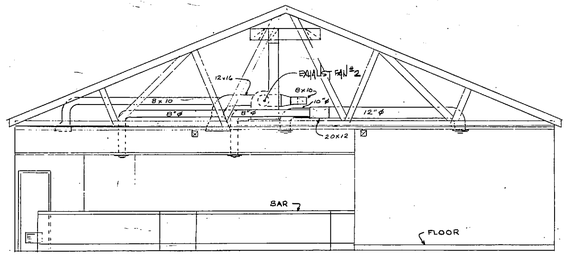
SECTION 8
SCALE: 1/4"=1'-0"



SECTION 9
SCALE: 1/4"=1'-0"



SECTION 11
SCALE: 1/4"=1'-0"



SECTION 10
SCALE: 1/4"=1'-0"

GRAPHIC SCALE

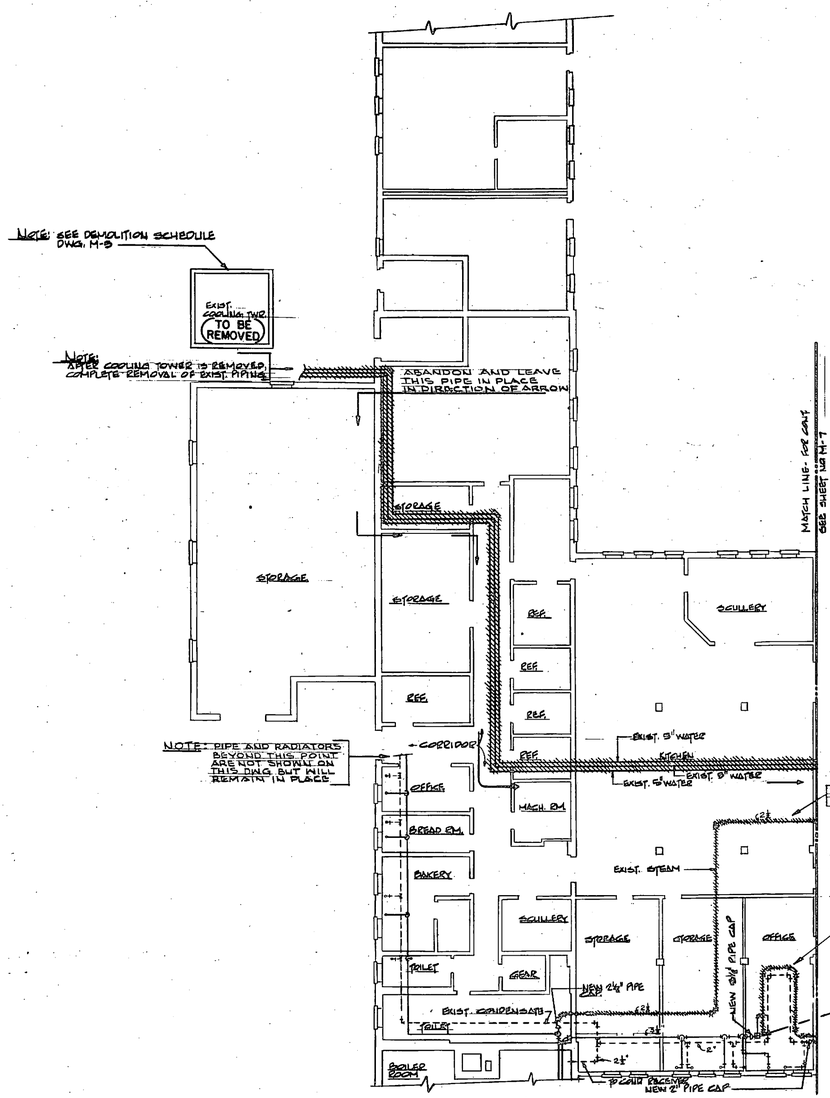
1/4"=1'-0"

5' 0' 5' 10' 15'

M-5

RSNSC JOB NO. 6-048-18 RSNSC DWG. NO. 72-6-4-16 SEAL: NORTH CAROLINA REGISTERED SEAL 5568 ENGINEER CLIFF F. SOLAND JR.	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS DSGN DR CHK PROJ. MGR. KIDD CH ENGR. POND SUBMITTED BY C.F. Soland JR DATE 11-22-77 FIRM MEMBER EFD FP RVD. 7-8-76 HD DIR. YRAK APPROVED C.F. Soland DATE 11/22/77 OFFICER IN CHARGE APPROVED C.F. Soland DATE 12/11/77 EFD FOR COMMANDER, NAVFAC	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA MARINE CORPS BASE CAMP LEJEUNE, N.C. REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 DEMOLITION-DUCTWORK SECTIONS SHEET 2 OF 2
		SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 4030256 CONSTR CONTR NO. N62470-77-B-2563 SCALE AS NOTED · SPEC 05-77-2563 · SHEET 16 OF 42 EFD DWG. NO.

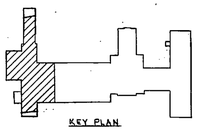
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL FLOOR PLAN
SCALE 1/8"=1'-0"

GRAPHIC SCALE
1/8"=1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

NOTE:
1. FOR LEGEND SEE SHEET NO. M-1



KEY PLAN

N

M-6

RSNSC JOB NO. 6-048-10
RSNSC DWG. NO. 72-6-3-17

SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL X 5568 GEORGE E. BOLLING, JR.

INOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DESIGNED SOSE DRAWN SOSE CHECKED
PROJ. MGR. ROYD CH. ENGR. ROYD
SUPERVISED BY GEB DATE 11/28/77
FIELD ENGINEER VP DATE 11/28/77
DFG/W RVD
NO. DIS. MAK

APPROVED: GEB DATE 11/28/77
OFFICER-IN-CHARGE
APPROVED: WJ DATE 12/1/77
SYSTEM COMMANDER, NAVFAC

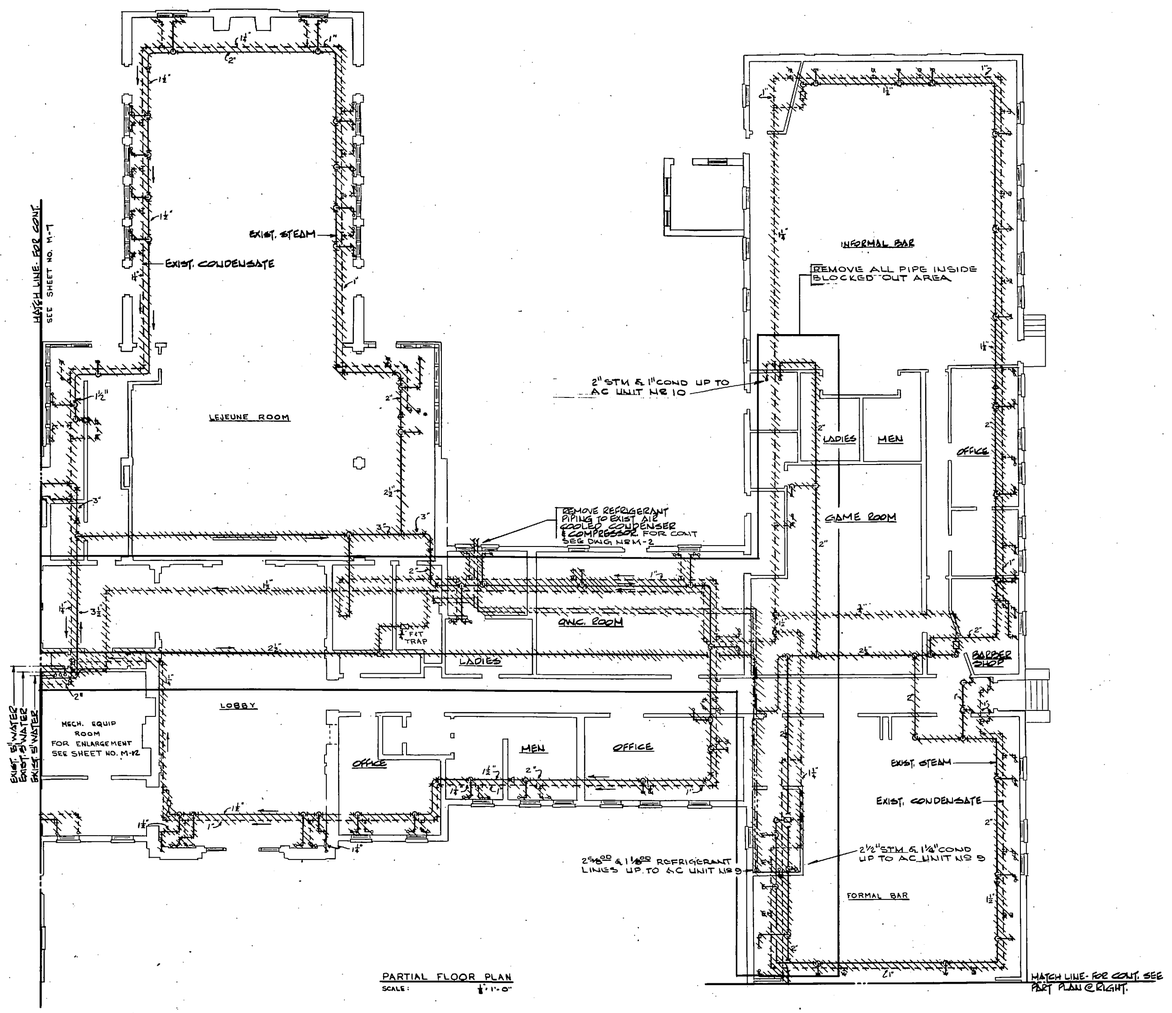
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2315
DEMOLITION-UNDERFLOOR PIPING
SHEET 1 OF 5

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030297

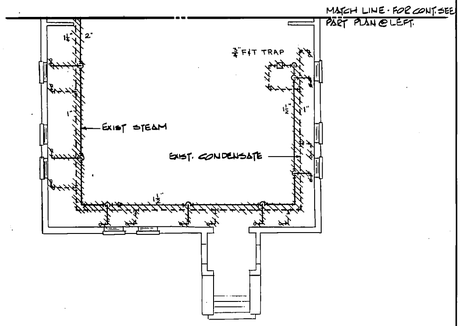
CONSTR CONTR NO. 62470-77-B-2563
SCALE AS NOTED SPEC 05-77-B-2563 SHEET 17 OF 42
ETD DWG. NO.

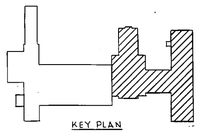
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

NOTE:
1- FOR LEGEND SEE SHEET NO M-1
2- ABANDON ALL PIPE AND LEAVE IN PLACE EXCEPT AS NOTED BY BLOCKED OUT AREA
3- REMOVE ALL RADIATORS AS INDICATED ON THIS DWG





KEY PLAN

N

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

M-8

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-5-19
SEAL: NORTH CAROLINA REGISTERED SEAL X 5558 Engineer DATE F. BOYLE D.

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS BASE — CAMP LEJEUNE, N.C.

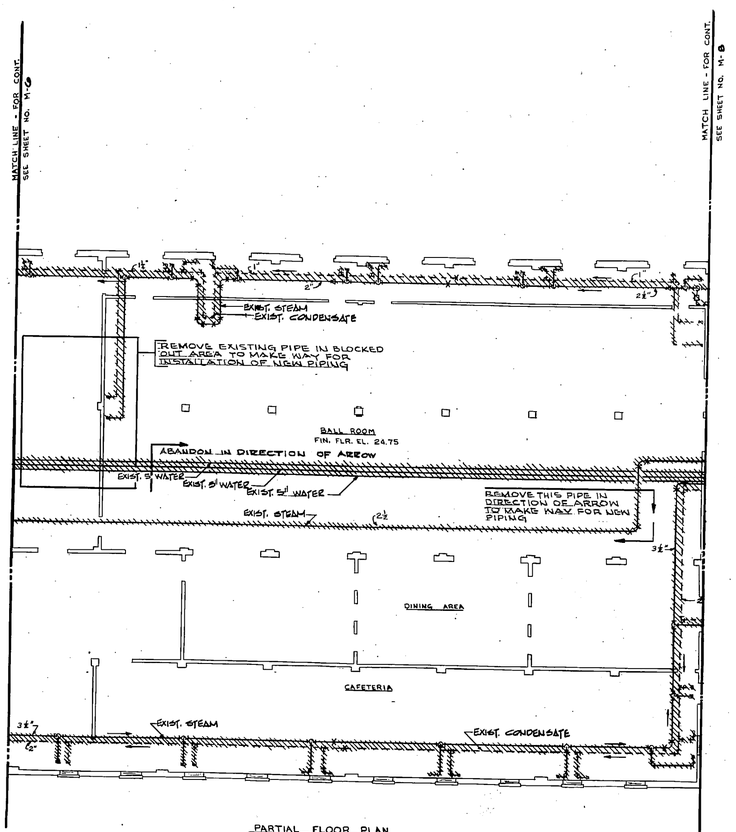
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
DEMOLITION-UNDERFLOOR PIPING
SHEET 3 OF 3

DSN CODE 08 CODE CHIEF
PROJ. MGR. LCDR CH EMBR
SUBMITTED BY F.F. DATE 8-26-77
FIRM MEMBER
EFD TR. REVD. LMC
NO. DIR. RAK
APPROVED LCDR DATE 11/23/77
OFFICER IN CHARGE
APPROVED DATE 11/11/77
EFD FOR COMMANDER, NAVFAC

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030259
SCALE AS NOTED		CONSTR CONTR NO. N62470-77-B-2563
		SPEC 05-77-2563 SHEET 19 OF 42

EFD DWG. NO.

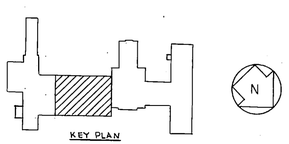
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

NOTE:
1- FOR LEGEND SEE SHEET NO M-1
2- REMOVE ALL RADIATORS INDICATED ON THIS DWG
3- ABANDON EXISTING PIPE AND LEAVE IN PLACE EXCEPT AS NOTED



KEY PLAN

N

M-7

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-5-18

SEAL: NORTH CAROLINA REGISTERED SEAL X 9568 ENGINEER CLYDE E. BOLD JR.

NOONANI
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

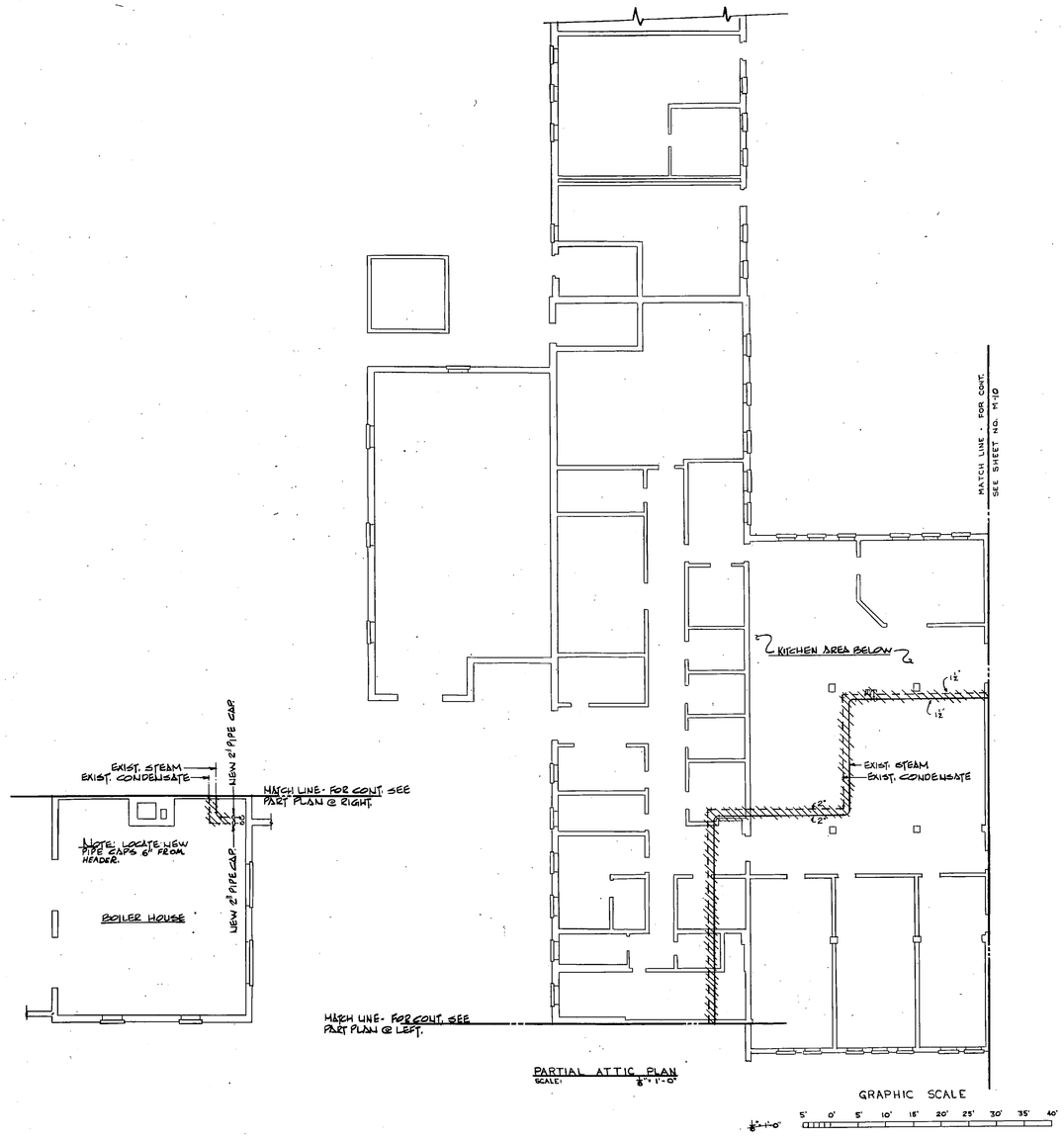
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
DEMOLITION-UNDERFLOOR PIPING
SHEET 2 OF 3

DESIGN: Jose Dr Gomez CHECK: [illegible]
PROJ. MGR. Kodi CH. ENGR. [illegible]
SUBMITTED BY: [illegible] DATE 8-25-77
LEAD MEMBER: [illegible] DATE 8-25-77
DETP: [illegible] RVD. [illegible]
MD: [illegible] DIR. [illegible]
APPROVED: [illegible] DATE 11/22/77
OFFICER IN CHARGE
APPROVED: [illegible] DATE 10/18/78
EFD FOR COMMANDER, NAVFAC

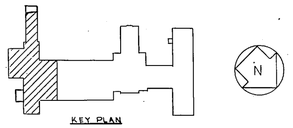
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030258

SCALE AS NOTED
CONSTR CONTR NO. N62470-77-B-2563
SPEC 05-77-2563 SHEET 18 OF 42
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTE:
1- FOR LEGEND SEE SHEET NO. M-1
2- REMOVE ALL EXISTING PIPE TO MAKE WAY FOR NEW DUCTWORK



KEY PLAN

M-9

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-5-5-20

SEAL: NORTH CAROLINA ARCHITECT SEAL X 5668 ENGINEER SEAL 8326

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DRAWN: DR GOVE CHK: GOVE
PROJ. MGR: WOOD CH ENGR: BOYD
SUBMITTED BY: DATE
FOR ENGINEER: DATE
DFP: RVD. DIR.
NO. NAK
APPROVED: DATE 4/22/77
OFFICER IN CHARGE
APPROVED: DATE 10/11/77
EFD FOR COMMANDER, NAVFAC

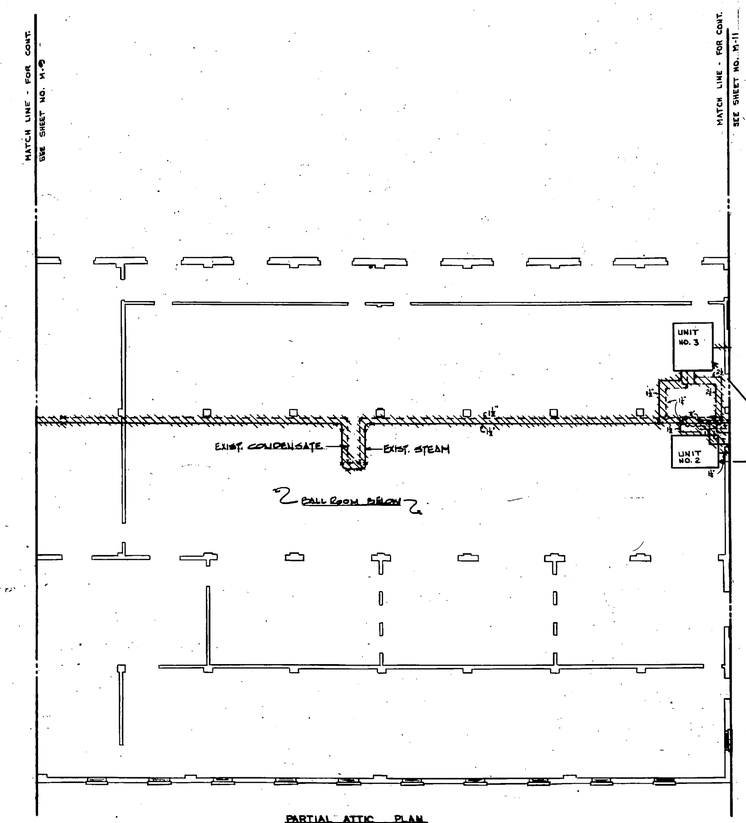
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
DEMOLITION - PIPING
ATTIC PLAN SHEET 1 OF 3

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030260

CONTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED
SPEC 05-77-2563 SHEET 20 OF 42
EFD DWG. NO.

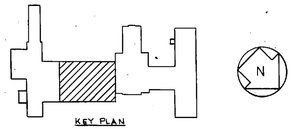
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL ATTIC PLAN
SCALE: 1/8" = 1'-0"

NOTE:
SEE DEMOLITION SCHEDULE.
DWG. M-9.

NOTE:
1- FOR LEGEND SEE SHEET NO. M-1
2- REMOVE EXISTING PIPE TO MAKE WAY FOR NEW DUCTWORK



KEY PLAN

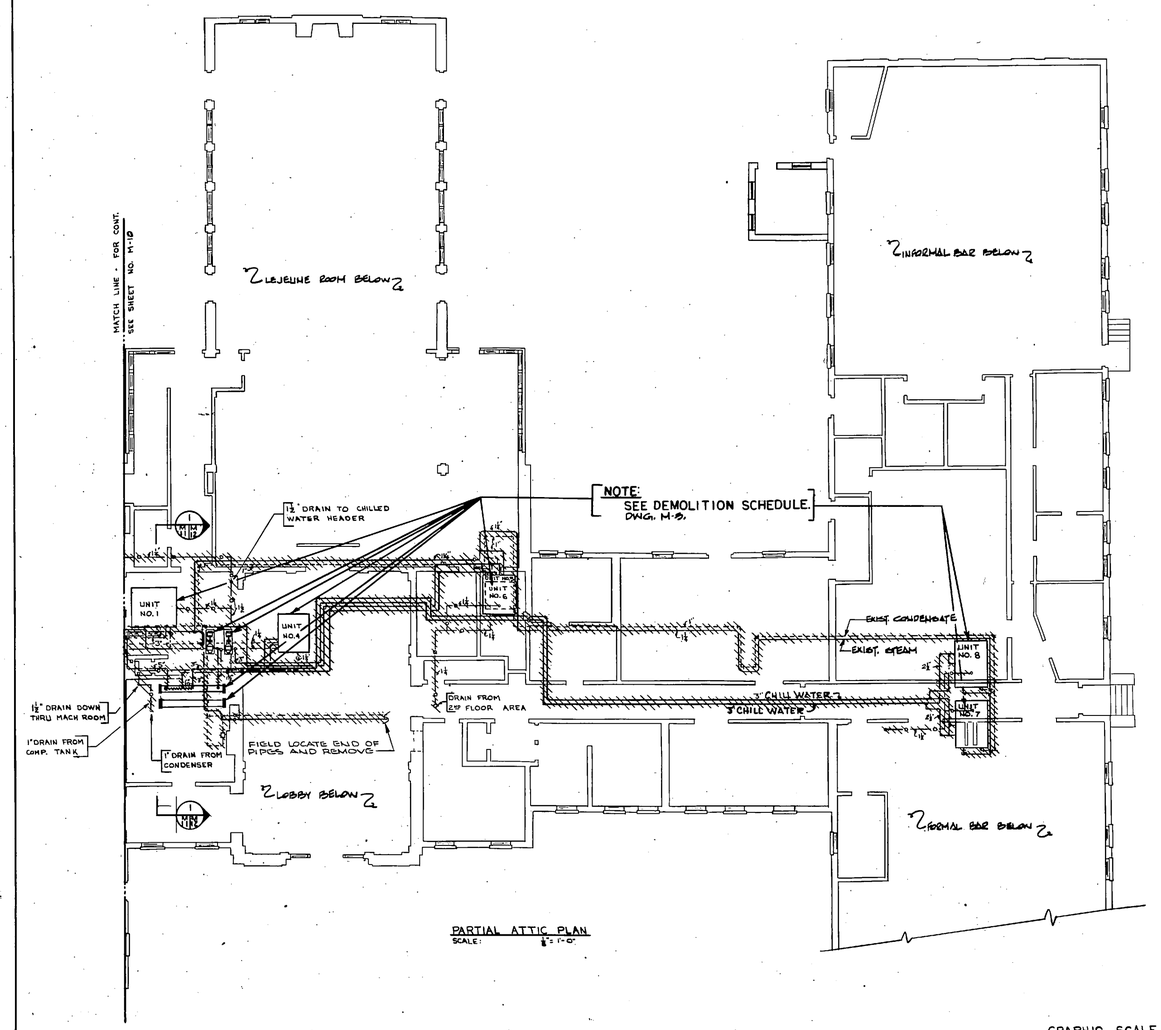
N

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

M-10

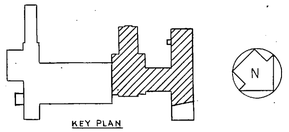
RSNSC JOB NO. 6-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
RSNSC DWG. NO. 72-6-5-21	DRAWN DR CHECKED DR CHIEF ENGINEER	ATLANTIC DIVISION	NAVAL STATION NORFOLK, VIRGINIA
SEAL: NORTH CAROLINA REGISTERED ARCHITECT SEAL X 9888 CLAUDE F. BOLZ JR.	PROJ. MGR. DR CHIEF DR ENGR. BOYD	MARINE CORPS BASE	CAMP LEJEUNE, N.C.
	SUBMITTED BY: DATE	REPLACE HEATING AND AIR CONDITIONING	
	DISC'D BY: SVD. DIR.	COM (O), BLDG. 2615	
	HD. DIR.	DEMOLITION - PIPING	
	APPROVED: DATE	ATTIC PLAN SHEET 2 OF 3	
	OFFICER IN CHARGE DATE	SIZE F / CODE IDENT NO. 80091	NAVFAC DRAWING NO. 4030261
	EFD/FES COMMANDER, LANTDIV	SCALE AS NOTED	CONSTR CONTR NO. N62470-77-B-2563
			SPEC 05-77-2563 SHEET 21 OF 42
			EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL ATTIC PLAN
SCALE: ⅛" = 1'-0"

NOTE:
1. FOR LEGEND SEE SHEET NO. M-1.
2. REMOVE ALL EXISTING PIPE TO MAKE WAY FOR NEW DUCTWORK



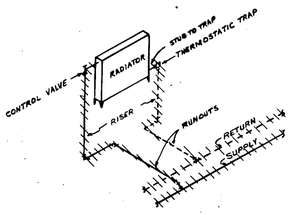
KEY PLAN

N

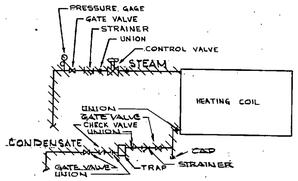
GRAPHIC SCALE
⅛" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

RSNSC JOB NO. 6-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	M-11
RSNSC DWG. NO. 72-6-5-25	DRAWN SHIP DR. CHECKED CHIEF DRAFTSMAN	ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
SEAL: NORTH CAROLINA REGISTERED ARCHITECT 5505 JOHN F. SOLANO JR.	PROJ. MGR. GDD CH. ENGR. BOYD	MARINE CORPS BASE CAMP LEJEUNE, N.C.	
	SUBMITTED BY: D. VP DATE	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG 2615	
	CHIEF ENGINEER	DEMOLITION - PIPING	
	EFD-FP	ATTIC PLAN SHEET 3 OF 3	
	HD. DIR. RAK		
	APPROVED CHIEF ENGINEER 11/22/77 DATE	SIZE F / CODE IDENT NO. 80091 / NAVFAC DRAWING NO. 4030262	
	APPROVED DATE	SCALE AS NOTED / CONSTR CONTR NO. N62470-77-B-2563	
	EFD FOR COMMANDER, NAVFAC	SPEC 05-77-2563 / SHEET 22 OF 42	
		EFD DWG. NO.	

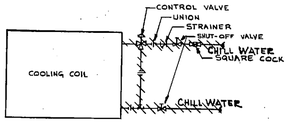
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



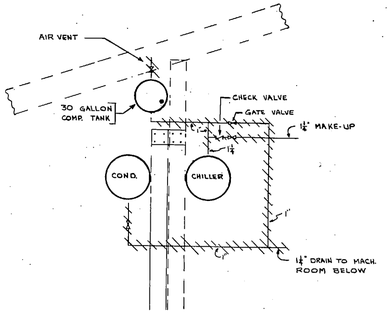
TYPICAL RADIATOR CONNECTIONS
NOT TO SCALE



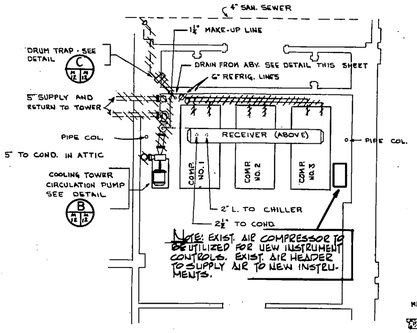
TYPICAL HEATING COIL CONNECTION
NOT TO SCALE



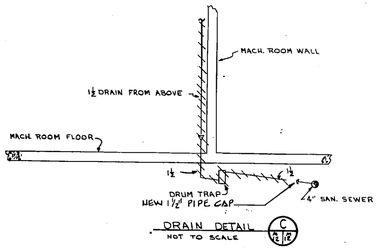
TYPICAL COOLING COIL CONNECTION
NOT TO SCALE



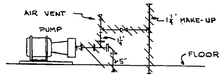
DETAIL
SCALE: ¼"=1'-0" (A 12/12)



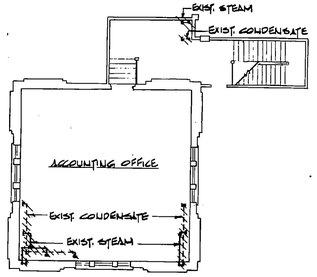
MECH. EQUIP. ROOM
SCALE: ¼"=1'-0"



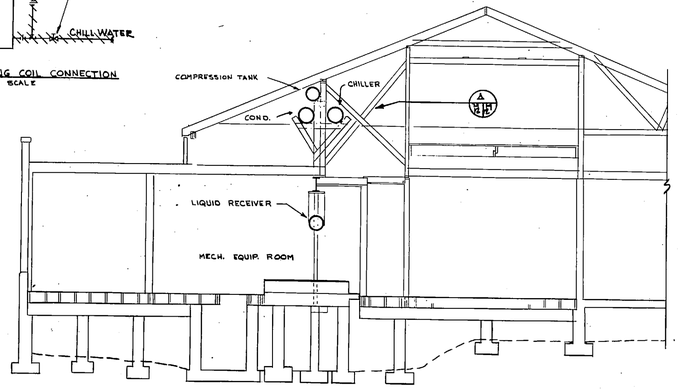
DRAIN DETAIL (C 12/12)
NOT TO SCALE



PUMP DETAIL (B 12/12)
NOT TO SCALE

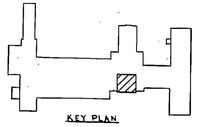


SECOND FLOOR PLAN
SCALE: ¼"=1'-0"



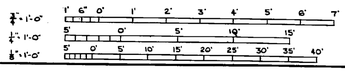
SECTION (1 11/12)
SCALE: ¼"=1'-0"

Notes:
1- FOR LEGEND SEE SHEET NO. M-1
2- ALL EQUIPMENT ON THIS SHEET TO BE REMOVED. (UNLESS NOTED OTHERWISE) SEE DEMOLITION SCHEDULE ON DWG. M-3
3- REMOVE PIPE AS NOTED BY CROSS HATCHING



KEY PLAN

GRAPHIC SCALES



M-12

RSNSC JOB NO. 6-068-18
RSNSC DWG. NO. 72-6-5-23

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

DRAWN GOSE DR. CHECKED
PROJ. MGR. KIDD CH. ENGR. BOYD
SUBMITTED BY [illegible] DATE 8-25-77
FOR REVIEW [illegible] DATE [illegible]
DR/CK REV. DATE
AR DIR. RK

APPROVED [illegible] DATE 1/23/77
OFFICER IN CHARGE
APPROVED [illegible] DATE 11/1/77
FOR COMMANDER, NAVFAC

SEAL: NORTH CAROLINA REGISTERED ARCHITECT SEAL X 5363 GEORGE F. BOYLAN, JR.

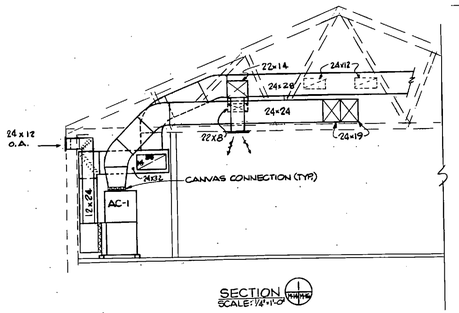
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG 2615
DEMOLITION-PIPING & EQUIPMENT
SECOND FLOOR PLAN & DETAILS

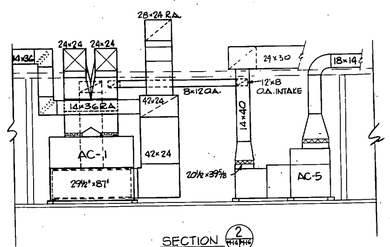
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030263

CONTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED
SPEC 05-77-2563 SHEET 23 OF 42
EFD DWG. NO.

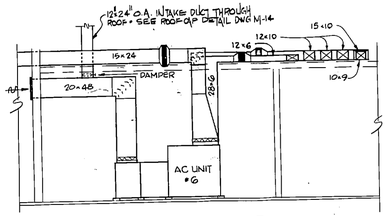
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



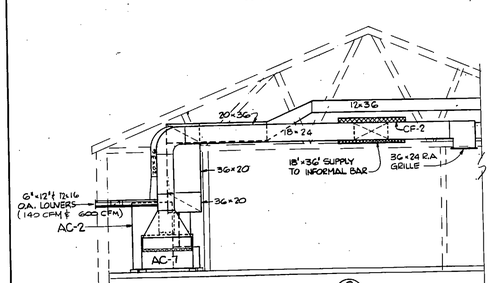
SECTION 1 (M-16) SCALE: 1/4"=1'-0"



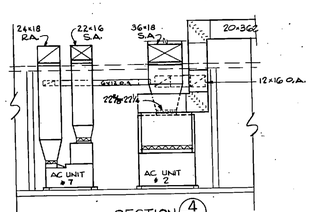
SECTION 2 (M-16) SCALE: 1/4"=1'-0"



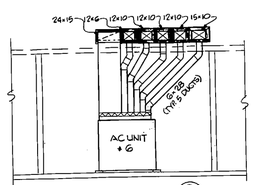
SECTION 5 (M-16) SCALE: 1/4"=1'-0"



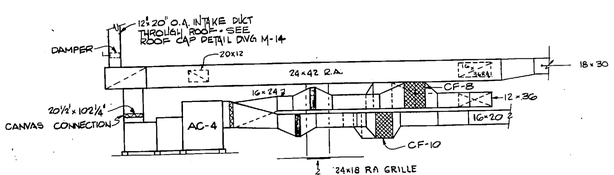
SECTION 3 (M-16) SCALE: 1/4"=1'-0"



SECTION 4 (M-16) SCALE: 1/4"=1'-0"



SECTION 6 (M-16) SCALE: 1/4"=1'-0"



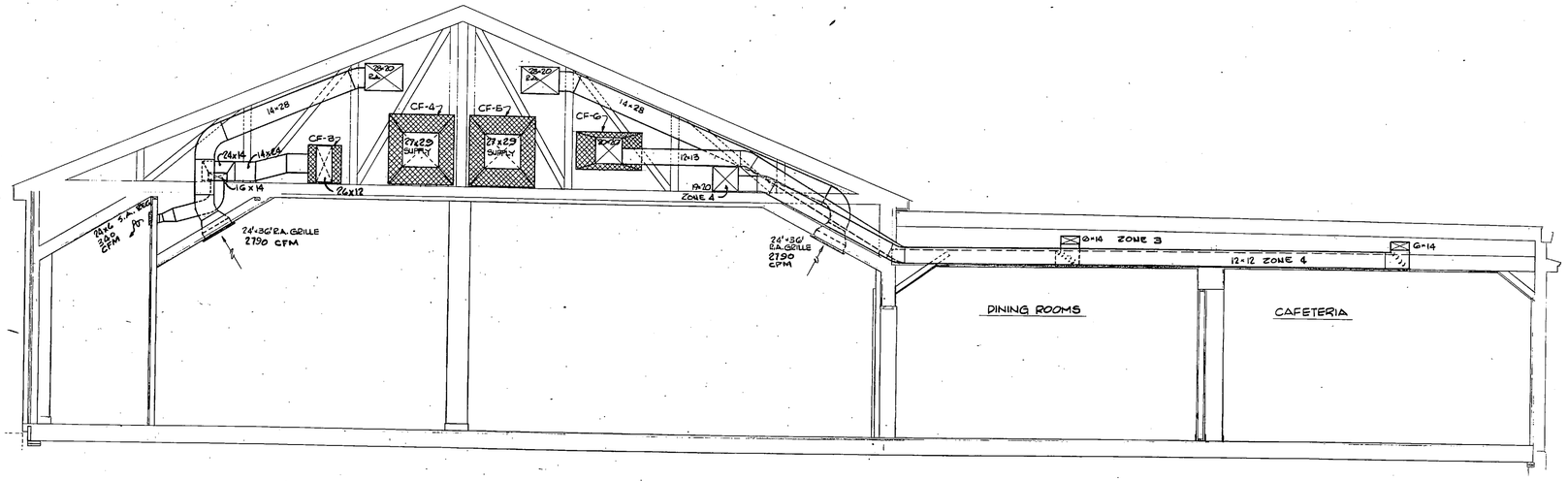
SECTION 8 (M-16) SCALE: 1/4"=1'-0"

1/4" = 1'-0" 5' 0' 5' 10' 15'

M-16

RSNSC JOB NO. S-048-18	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA
RSNSC DWG NO. 72-6-4-27	DSGN DR CHK	NAVAL STATION MARINE CORPS BASE CAMP LEJEUNE, N.C.
SEAL: NORTH CAROLINA REGISTERED ARCHITECT	PROJ MGR KDD CH ENGR RDW	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG 2615 HVAC SECTIONS & DETAILS SHEET 1 OF 2
	SUPERV JOB RIP / JR VP / DATE 6-20-77	
	FIRM MGR RDW / DATE 6-20-77	
	EFD FP / DWG 4-4-77	
	NO. / DIR. 4-4-77	
	APPROVED / DATE 11/23/77 OFFICER IN CHARGE	SIZE F / CODE IDENT NO. 80091 / NAVFAC DRAWING NO. 4030267
	APPROVED / DATE 10/11/77 EFD FOR COMMANDER, NAVFAC	CONSTR CONTR NO. N62470-77-B-2563
		SCALE AS NOTED / SPEC 05-77-2563 / SHEET 27 OF 42
		EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



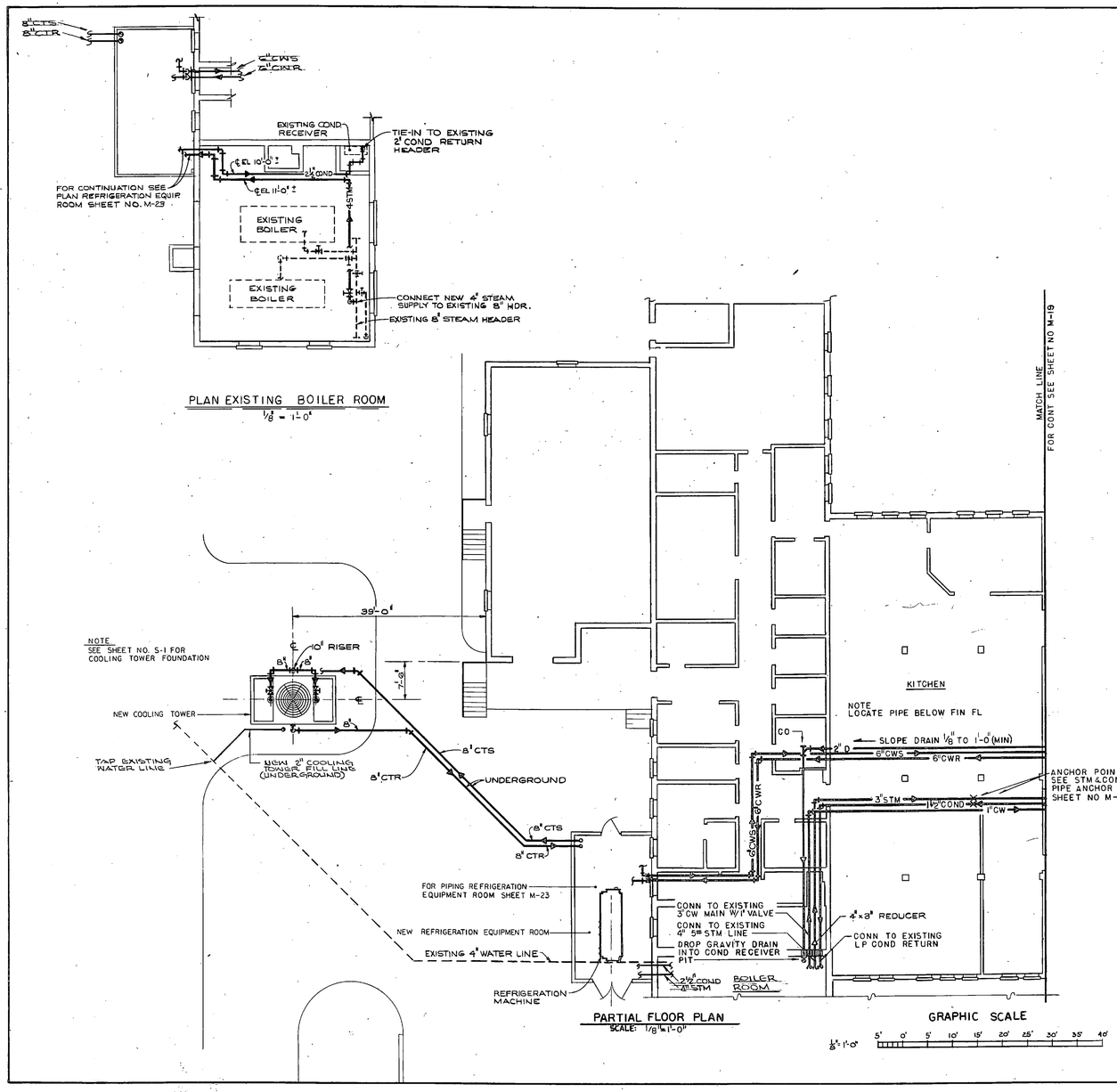
SECTION 3
SCALE: 3/8"=1'-0"

3/8"=1'-0" 1' 0 2' 4' 6' 8' 10' 12' 14'

M-17

RSNSC JOB NO. 6-048-18 RSNSC DWG. NO. 72-6-4-28	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA
SEAL: NORTH CAROLINA REGISTERED SEAL X 5538 ENGINEER CLIVE F. BOLAND, JR.	DSGN DR. GINN CHK PROJ. MGR. KIDD CH. ENGR. BOND SUBMITTED BY [signature] DATE 8-10-77 FIRM MEMBER [signature] EFD/FP RVD. TYPE NO. DIR. RJK APPROVED [signature] DATE 11/23/77 OFFICER IN CHARGE APPROVED [signature] DATE 10/11/78 EFD FOR COMMANDER, DAVY NO.	MARINE CORPS BASE CAMP LEJEUNE, N.C. REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 HVAC SECTIONS & DETAILS SHEET 2 OF 2
		SIZE F · CODE IDENT NO. 80091 · NAVFAC DRAWING NO. 4030268 CONSTR CONTR NO. NS2470-77-B-2563 SCALE AS NOTED · SPEC 08-77-2563 · SHEET 28 OF 42 EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTES
1 FOR LEGEND SEE SHEET M-1
2 FOR HANGER DETAILS SEE DWG M-19

M-18

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-5-23

NOONAN & GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS BASE — CAMP LEJEUNE, N.C.

DSGN F.L. Mc Gee CHK. DSGN
PROJ. MGR. K.D. CH ENGR B.GYD.
SUBMITTED BY FOR CHIEF ENGINEER
EFD OP
NO
APPROVED OFFICER IN CHARGE
APPROVED EFD FOR COMMANDER, NAVFAC

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG 2615
UNDERGROUND & UNDERFLOOR PIPING
PARTIAL PLAN & DETAILS

SIZE F — CODE IDENT NO. 80091 — NAVFAC DRAWING NO. 4030269
CONTR CONT'R NO. N62470-77-B-2563
SCALE AS NOTED — SPEC 05-77-2563 — SHEET 29 OF 42
EFD DWG. NO.

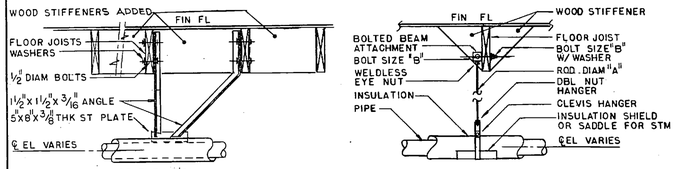
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SIDE ELEVATION

NOTE
SEE ANCHOR POINTS THIS SHEET & SHEET NO M-18

FRONT ELEVATION

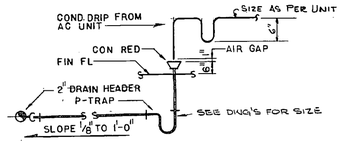
STM & COND PIPE ANCHOR DET
NOT TO SCALE



INSULATED PIPE HANGER DETAIL
NOT TO SCALE

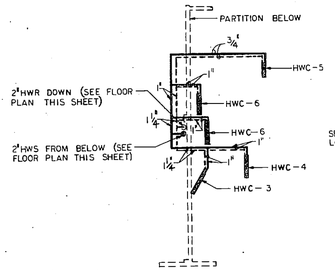
IPS	A	B	MAX SPAN
3/4	3/8	1/2	7'-0"
1	3/8	1/2	7'-0"
1 1/2	3/8	1/2	9'-0"
2	3/8	1/2	10'-0"
3	1/2	5/8	12'-0"
4	5/8	3/4	14'-0"
6	3/4	7/8	17'-0"

HANGER SPACING TABLE



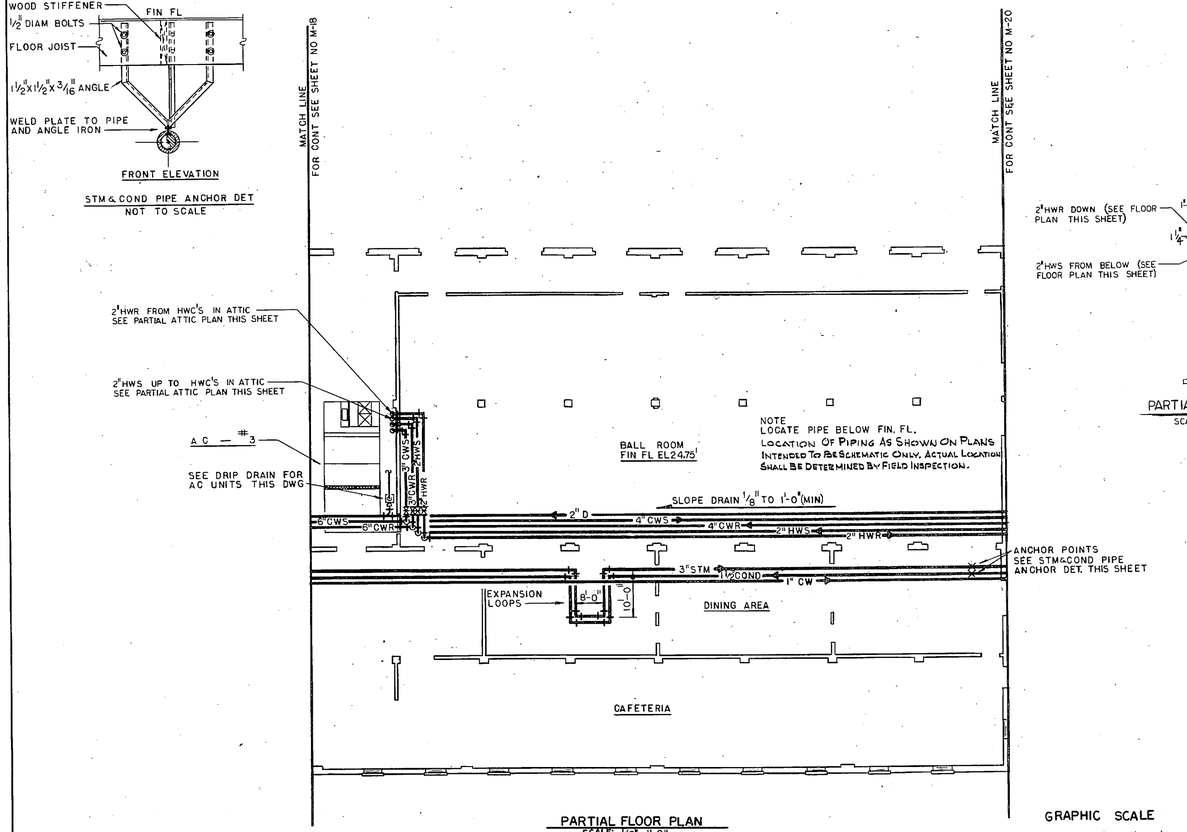
COND. DRAIN FOR AC UNITS
NOT TO SCALE

NOTE:
1. FOR LEGEND SEE SHEET NO M-1



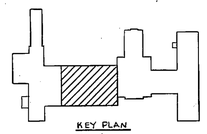
SEE SHEET NO M 13 FOR LOCATION OF COILS

PARTIAL ATTIC PLAN
SCALE: 1/8" = 1'-0"



PARTIAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'



KEY PLAN

N

M-19

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-5-30

SEAL: NORTH CAROLINA REGISTERED SEAL 7 ARCHITECT ROBERT LEE BOYD JR.

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

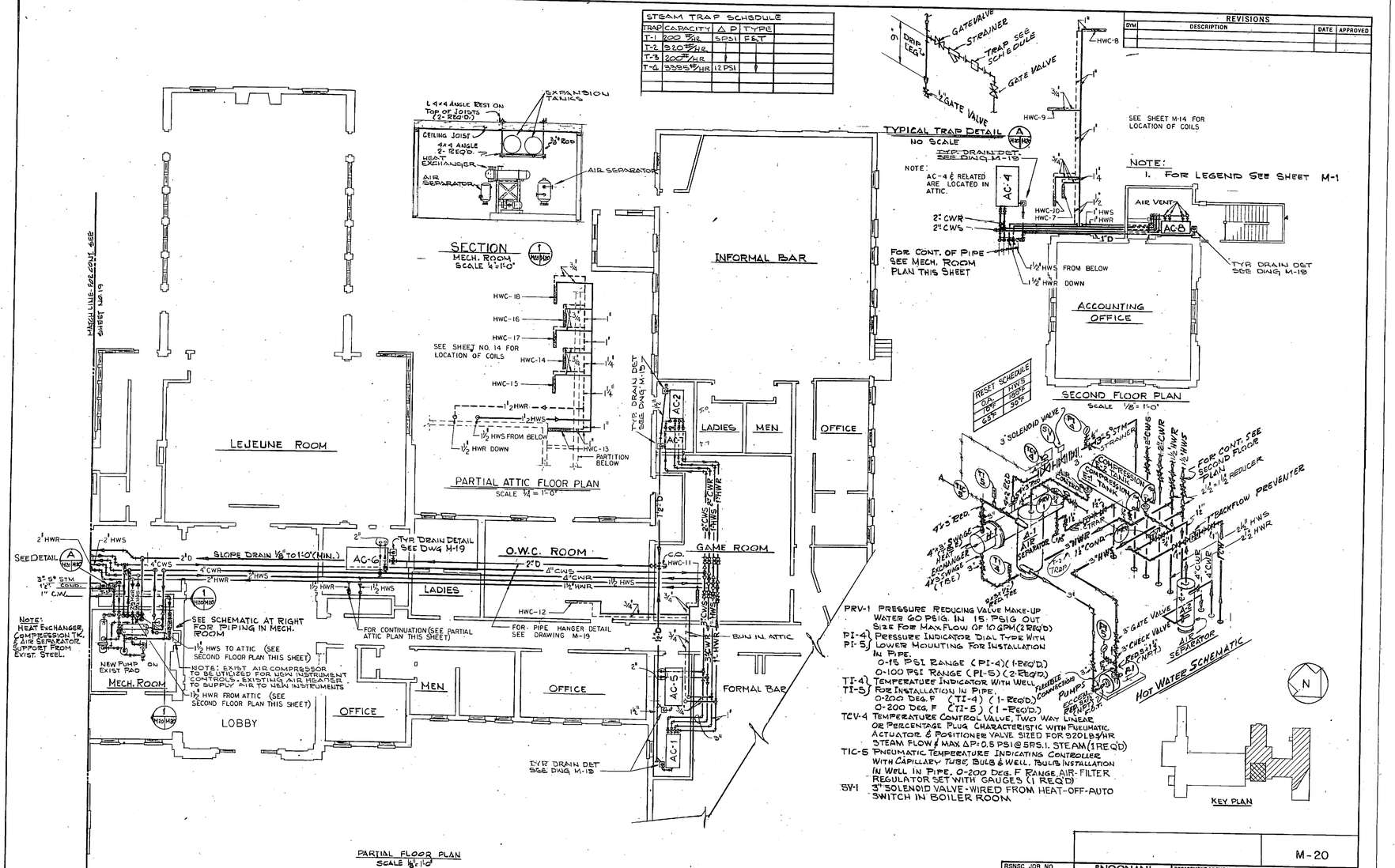
DESIGN PLEM DR CHK
PROJ MGR KIDDCH ENGR BOYD
SUPERVISOR RVD. DATE 6-5-77
ITEM NUMBER
EFD FP RVD.
ID DIR. RBK
APPROVED DATE 11/29/77
OFFICER IN CHARGE
APPROVED DATE
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG 2615
UNDERFLOOR PLAN
PARTIAL PLAN

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030270
CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED | SPEC 05-77-2563 | SHEET 30 of 42
EFD DWG NO.

STEAM TRAP SCHEDULE			
TRAP	CAPACITY	ΔP	TYPE
T-1	200 #/HR	5 PSI	F&T
T-2	920 #/HR		
T-3	200 #/HR		
T-4	33995 #/HR	12 PSI	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



M-20

RSNSC JOB NO. 6-048-18
RSNSC DWG NO. 72-6-5-31

SEAL:

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

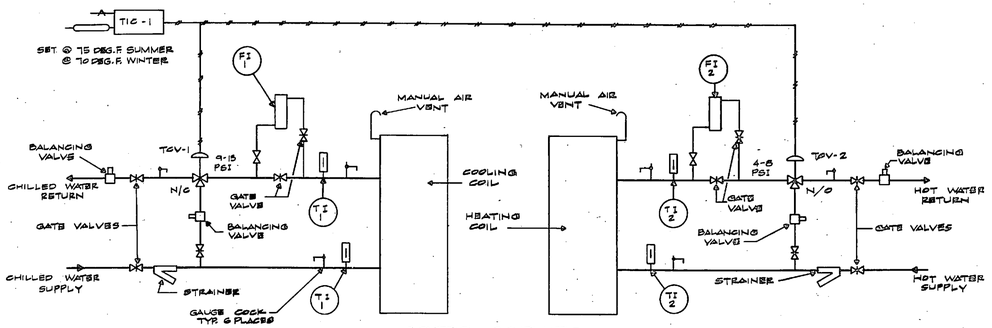
DRAWN/DR. DR. GOFF CHKD/CHKT
PROJ. NOR. KIDDON ENGR. BOYD
SUBMITTED BY
REVIEWED
EFD/FP
ID DIR. TRK
APPROVED DATE 11-2-77
OFFICER IN CHARGE
APPROVED 10/19/77
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 265
UNDERFLOOR & MECHANICAL ROOM PIPING
PARTIAL PLAN & DETAILS

SIZE F
CODE IDENT NO. 80091
NAVFAC DRAWING NO. 4030271
SCALE AS NOTED
CONSTR CONTR NO. N62470-77-B-2543
SPEC 05-77-2563 SHEET 31 OF 42
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

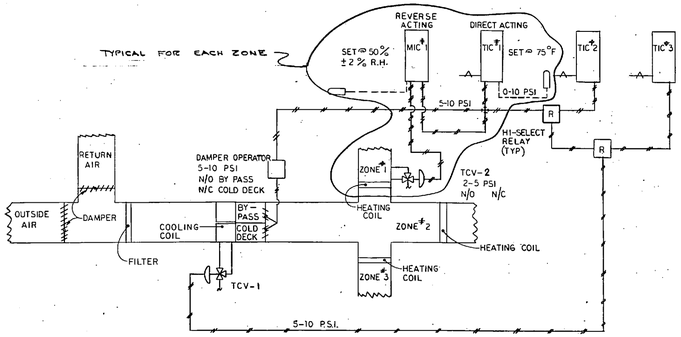


CONTROL SCHEMATIC
TYPICAL FOR AC-1, AC-2, AC-7 & AC-8 UNITS

TIC-1 TEMPERATURE INDICATING CONTROLLER DIRECT ACTING 3-15 PSIG OUTPUT, PROPORTIONAL CONTROL MODE, WITH AIR FILTER REGULATOR SET @ 0-20 PSIG GAUGE, 55 TO 85 DEG. F RANGE, CONTROLLER TO INCLUDE SENSING ELEMENT AND TO BE SURFACE MOUNTED. CONTROLLER TO BE FURNISHED WITH PLASTIC COVER & LOCK.

SEQUENCE OF OPERATION:

UPON INCREASE IN ROOM TEMPERATURE OVER SET POINT, ROOM THERMOSTAT TIC-1 WILL MODULATE CHILLED WATER CONTROL VALVE TCV-1 TO INCREASE FLOW THROUGH COOLING COIL. UPON DECREASE IN ROOM TEMPERATURE BELOW SET POINT, ROOM THERMOSTAT TIC-1 WILL MODULATE HOT WATER CONTROL VALVE TCV-2 TO INCREASE FLOW THROUGH HEATING COIL.



(TYPICAL 3-ZONE UNIT SYSTEM)

CONTROL SCHEMATIC
TYPICAL FOR AC-3, AC-4, AC-5 & AC-6 UNITS

MIC-1 R.H. INDICATING CONTROLLER REVERSE ACTING 3-15 PSIG OUTPUT SURFACE MOUNTED, 20-100 % R.H. RANGE PROP & INTEGRAL CONTROL MODES; WITH AIR FILTER REGULATOR SET @ 0-20 PSIG GAGE, SENSOR TO BE TEMP. CONDENSATED.

SEQUENCE OF OPERATION:

UPON INCREASE IN TEMPERATURE ABOVE SET POINT ROOM THERMOSTAT TIC-1 WILL MODULATE DAMPER OPERATOR TO CLOSE BY PASS DAMPER & OPEN COLD DECK DAMPER AND CLOSE HOT WATER CONTROL VALVE TCV-1. UPON FUTHER INCREASE IN TEMPERATURE TIC-1 WILL MODULATE TCV TO OPEN MORE. MIC-1 WILL MODULATE TCV-1 WHEN RELATIVE HUMIDITY REACHES ABOVE SET POINT.
UPON DECREASE IN TEMPERATURE BELOW SET POINT TIC-1 WILL MODULATE DAMPER OPERATOR TO CLOSE COLD DECK DAMPER AND OPEN BY-PASS DAMPER. UPON FUTHER DECREASE IN TEMPERATURE TIC-1 WILL MODULATE TCV-1 TO OPEN, RETURN & OUTSIDE AIR DAMPERS ARE CONTROLLED MANUALLY.

NOTES:

1. FOR DESCRIPTION FI-1 & FI-2, TI-1 & TI-2 AND TCV-1 & TCV-2 REFER TO TYPICAL PIPING DETAIL - COOLING COIL & HEATING COIL ON SHEET M-22
2. EXISTING AIR COMPRESSOR LOCATED IN MECHANICAL EQUIPMENT ROOM TO PROVIDE INSTRUMENT AIR TO NEW INSTRUMENTS. INSTRUMENT AIR SUPPLY LINES TO BE TIED INTO EXISTING AIR HEADER.
3. FOR LEGEND SEE SHEET M-1
4. FOR LOCATION OF THERMOSTATS SEE SHEET M-13, M-14 & M-15.

M-21

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-4-32

NOONAN & GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

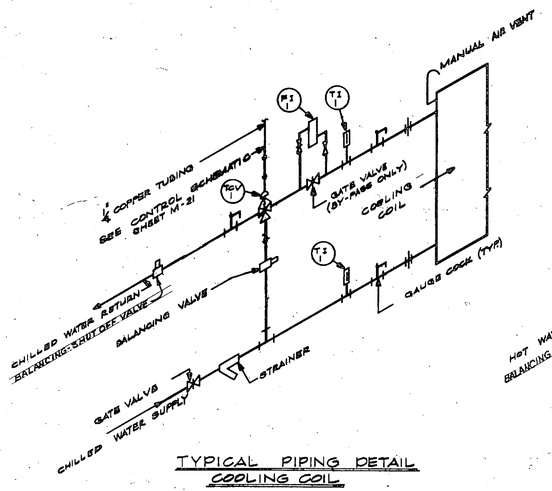
DSGN DESI DR HEND CHK NILS
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY: JP DATE 11/22/77
RECOMMENDED: DATE
CHIEF ENGINEER
EFD FP: RVD. SPEC.
ID: DIR. RNK
APPROVED: DATE 11/22/77
OFFICER IN CHARGE
APPROVED: DATE 12/14/77
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS BASE — CAMP LEJEUNE, N.C.

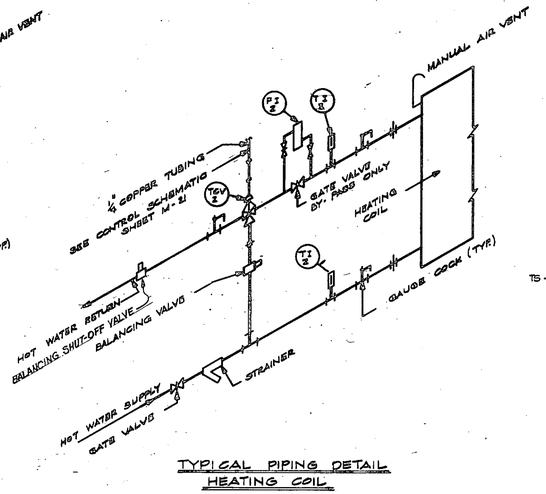
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
HVAC CONTROL SCHEMATICS

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030272
SCALE NONE | CONSTR CONTR NO. N62470-77-B-2563
SPEC 05-77-2563 | SHEET 32 OF 42
EFD DWG. NO.

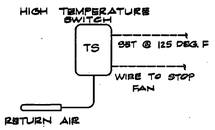
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



TYPICAL PIPING DETAIL
COOLING COIL



TYPICAL PIPING DETAIL
HEATING COIL



TYPICAL FIRESTAT DETAIL

TS - TEMPERATURE SWITCH (FIRESTAT) 100-170 DEGREE F, SPST CONTACT 10 AMPS (MIN), 110 VAC, MANUAL RESET, CONTACTS TO OPEN ABOVE 125 DEGREE F. (1 REQ'D FOR EACH ZONE). SWITCH LOCATED IN RETURN AIR DUCT TO UNIT STOPS UNIT FAN IF RETURN AIR RISES ABOVE 125 DEG. F.

NOTES:

1. FOR LEGEND SEE SHEET M-1
2. FOR FIRESTAT LOCATION SEE SHEET M-10, M-14 & M-15

TI-1 TEMPERATURE INDICATOR 0-100 DEG. F. RANGE WITH WELL FOR INSTALLATION IN PIPE (2 REQ'D EACH).

FI-1 ROTAMETER TYPE, DIRECT READING FLOW INDICATOR (1 REQ'D. EACH). DESIGNED FOR:

MAX GPM 10B: MAX. ΔP = 12" WC (AC - 1 UNIT)
MAX GPM 9E: MAX. ΔP = 12" WC (AC - 2 UNIT)
MAX. GPM 16C: MAX ΔP = 12" WC (AC - 3 UNIT)
MAX. GPM 7G: MAX. ΔP = 12" WC (AC - 4 UNIT)
MAX. GPM 2G: MAX. ΔP = 12" WC (AC - 5 UNIT)
MAX. GPM 4G: MAX. ΔP = 12" WC (AC - 6 UNIT)
MAX. GPM 14: MAX ΔP = 12" WC (AC - 7 UNIT)
MAX. GPM 8: MAX. ΔP = 12" WC (AC - 8 UNIT)

TCV-1 TEMPERATURE CONTROL VALVE, THREE WAY LINEAR OR PERCENTAGE PLUG CHARACTERISTIC, WITH PNEUMATIC ACTUATOR, 3-15 PSIG. SIGNAL FROM DIRECT ACTING CONTROLLER (1 REQ'D. EACH)

VALVE SIZE FOR: MAX. FLOW 10B GPM, MAX. ΔP = 3PSI (AC -1 UNIT)
MAX. FLOW 9E GPM, MAX. ΔP = 2PSI (AC -2 UNIT)
MAX. FLOW 16C GPM, MAX. ΔP = 3PSI (AC -3 UNIT)
MAX. FLOW 7G GPM, MAX. ΔP = 2PSI (AC -4 UNIT)
MAX. FLOW 2G GPM, MAX. ΔP = 1PSI (AC -5 UNIT)
MAX. FLOW 4G GPM, MAX. ΔP = 2PSI (AC -6 UNIT)
MAX. FLOW 14 GPM, MAX. ΔP = 1PSI (AC -7 UNIT)
MAX. FLOW 8 GPM, MAX. ΔP = 1PSI (AC -8 UNIT)

TI-2 TEMPERATURE INDICATOR 100-300 DEG. F. RANGE WITH WELL FOR INSTALLATION IN PIPE (2 REQ'D EACH).

FI-2 ROTAMETER TYPE, DIRECT READING FLOW INDICATOR (1 REQ'D EACH). DESIGNED FOR:

MAX. GPM 5: MAX. ΔP = 12" WC (AC-1 & AC-2 UNIT)
MAX. GPM 19: MAX ΔP = 12" WC (AC-3 UNIT)
MAX. GPM 9: MAX. ΔP = 12" WC (AC-4, AC-5, AC-7 AND AC-8 UNIT)
MAX. GPM 14: MAX. ΔP = 12" WC (AC-6 UNIT)

TCV-2 TEMPERATURE CONTROL VALVE, THREE WAY LINEAR OR PERCENTAGE PLUG CHARACTERISTIC, WITH PNEUMATIC ACTUATOR, 3-13 PSIG SIGNAL FROM DIRECT ACTING CONTROLLER (1 REQ'D EACH)

VALVE SIZE FOR: MAX. FLOW 5 GPM, MAX. ΔP = 1PSI (AC-1 & AC-2 UNIT)
MAX. FLOW 19 GPM, MAX. ΔP = 1PSI (AC-3 UNIT)
MAX. FLOW 9 GPM, MAX. ΔP = 1PSI (AC-4, AC-5, AC-7, AND AC-8 UNIT)
MAX. FLOW 14 GPM, MAX. ΔP = 1PSI (AC-6 UNIT)

M-22

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-6-4-33

SEAL: NORTH CAROLINA REGISTERED VOL. 5-8 ENGINEER STEPHEN F. BULAWSKI III

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

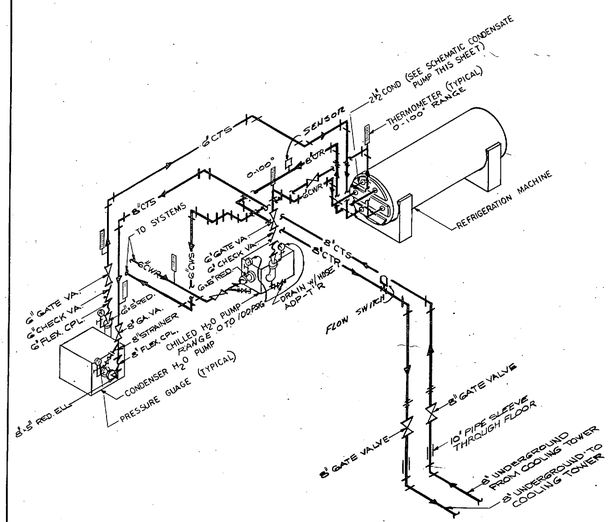
DRAWN DESIGNED CHECKED
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY
OFFICER IN CHARGE
APPROVED DATE 11/22/72
APPROVED DATE 10/12/72
CITY FOR CONSTRUCTION, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
HVAC COIL DETAILS & CONTROLS

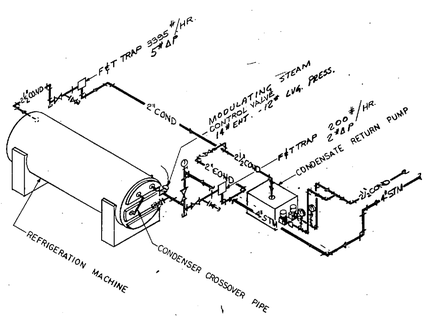
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030273
CONSTR CONTR NO. 06 2470-77-B-2563
SCALE NONE | SPEC 06-77-2563 | SHEET 33 OF 42
OPD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



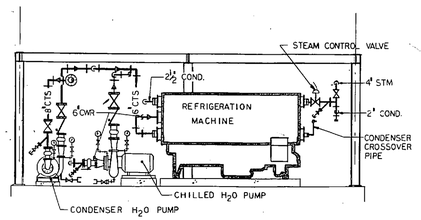
SCHEMATIC REFRIGERATION EQUIPMENT ROOM

N.T.S.



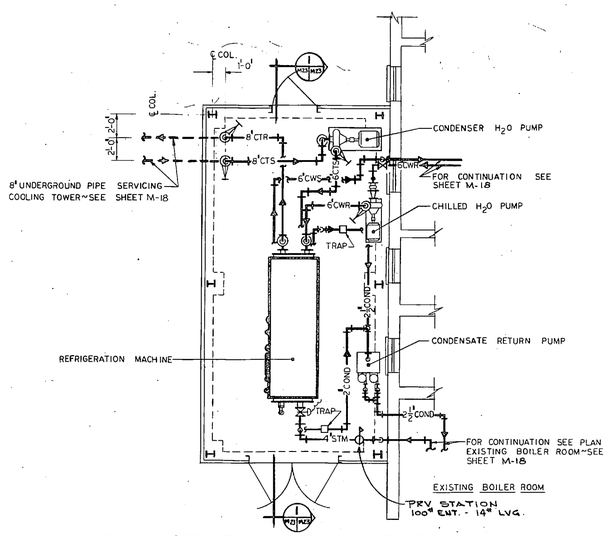
SCHEMATIC CONDENSATE PUMP

N.T.S.



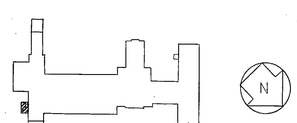
SECTION

1/4" = 1'-0"



PLAN REFRIGERATION EQUIPMENT ROOM

1/4" = 1'-0"



KEY PLAN

N

M - 23

RSNSC JOB NO. 8-048-18
RSNSC DWG. NO. 72-6-5-43

SEAL: REGISTERED PROFESSIONAL ENGINEER NORTH CAROLINA REGISTERED SEAL X 5568 ENGINEER JOHN E. BULLARD, JR.

NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS

DSGN SUPV. DR. TIPTON CHK. SUPV.
PROJ. MGR. CH ENGR.
SUPERVISOR OF CONSTRUCTION VP 8-15-78
FIRM MEMBER
SFC FP RVD DATE
HQ DIR. DATE
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE
LTD-759 COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
MARINE CORPS BASE CAMP LEJEUNE, N.C.

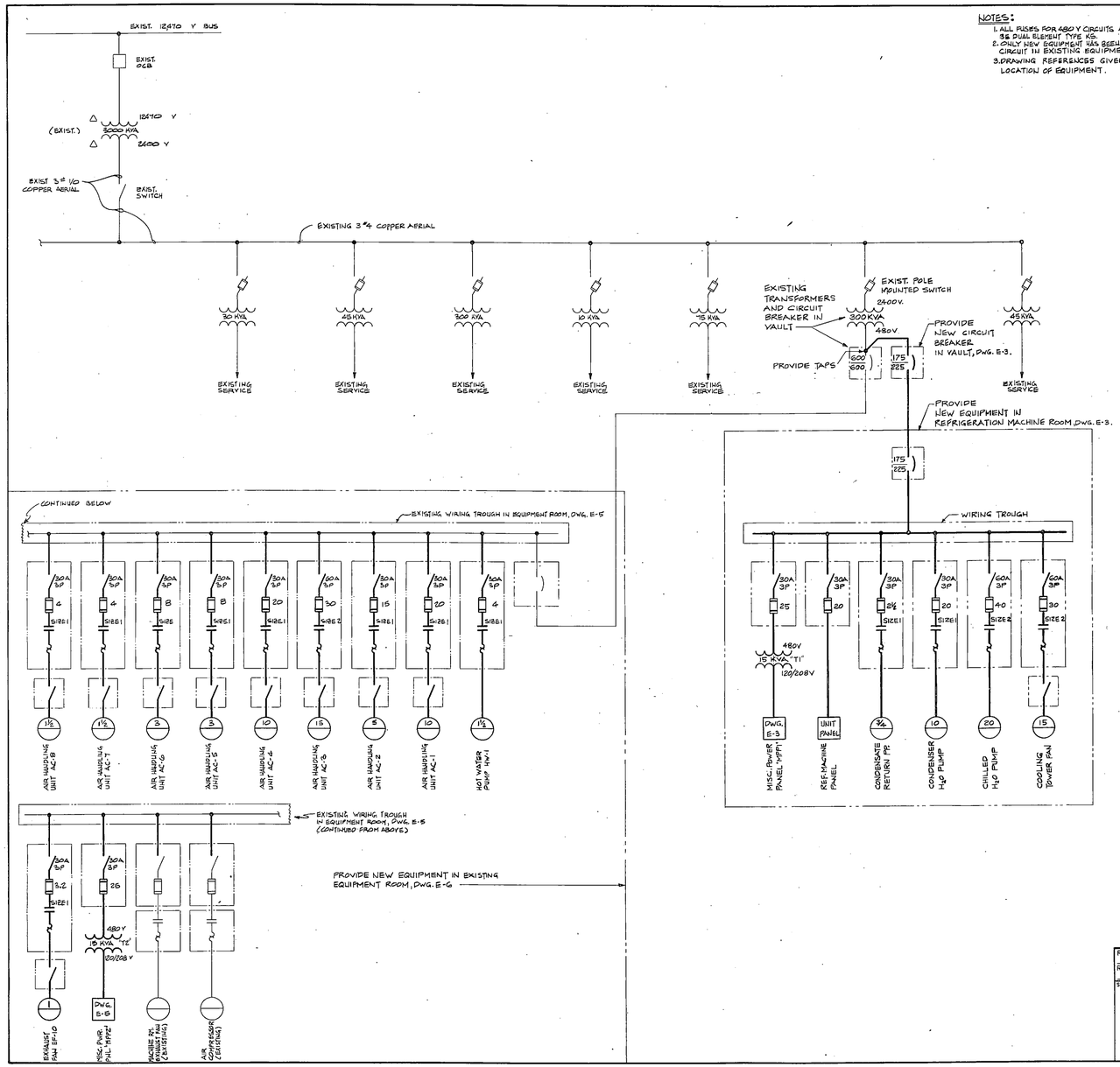
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG 2615
REFRIGERATION EQUIPMENT ROOM LAYOUT & DETAILS

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030274

CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED SPEC 05-77-2563 SHEET 34 OF 42
STD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:
1. ALL FUSES FOR 480 Y CIRCUITS AND LOWER SHALL BE DUAL ELEMENT TYPE KS.
2. ONLY NEW EQUIPMENT HAS BEEN SHOWN ON 480 V CIRCUIT IN EXISTING EQUIPMENT ROOM.
3. DRAWING REFERENCES GIVEN ARE FOR LOCATION OF EQUIPMENT.



LEGEND

- 150 KVA — TRANSFORMER
- NON-FUSED DISCONNECT SWITCH
- FUSED CUTOUT OR POLE MTD. SWITCH
- FUSE
- MAIN POWER OIL CIRCUIT BREAKER
- 1000 / 1200 — CIRCUIT BREAKER — 1000 = TRIP RATING, 1200 = FRAME SIZE
- CONTACTOR
- OVERLOAD UNIT
- HP / RPM — MOTOR
- INDICATES EQUIPMENT ENCLOSURE OR OUTLINE
- INDICATES NEW WIRING
- INDICATES EXISTING WIRING

E-1

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-3-3-34

SEAL

BNOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS

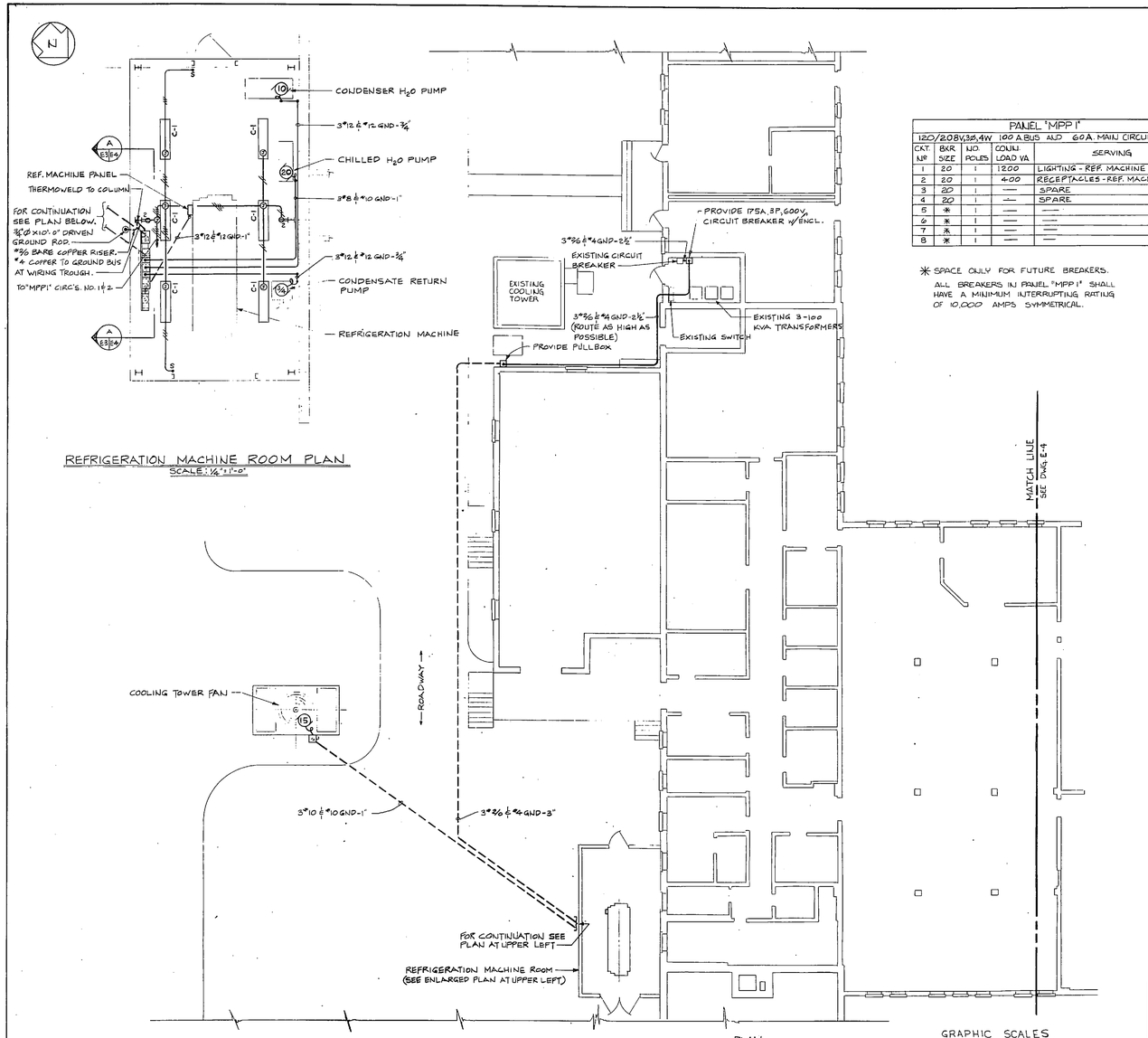
SSGN HYDER-DELANCE CHK LEIGH
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY Ark Condon DATE 11/6/77
CHIEF ENGINEER DATE
EFD FP RVD
HQ DIR
APPROVED 11/6/77 DATE
OFFICER-IN-CHARGE
APPROVED 11/17/77 DATE
EFD JOB COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ELECTRICAL-ONE LINE DIAGRAM

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030275
CONSTR CONTR NO. N62470-77-B-2563
SCALE NONE | SPEC 05-77-2563 | SHEET 35 of 42
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



REFRIGERATION MACHINE ROOM PLAN
SCALE: 1/4" = 1'-0"

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

GRAPHIC SCALES

1/8" = 1'-0": 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

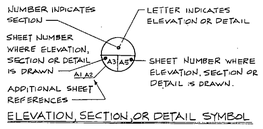
1/4" = 1'-0": 5' 0' 5' 10' 15'

PANEL "MPP 1"				
120/208V, 3Ø, 4W 100 A BUS AND 60 A. MAIN CIRCUIT BREAKER				
CKT. NO	BKR SIZE	NO. POLES	COND. LOAD VA	SERVING
1	20	1	1200	LIGHTING - REF. MACHINE ROOM
2	20	1	400	RECEPTACLES - REF. MACHINE ROOM
3	20	1	—	SPARE
4	20	1	—	SPARE
5	*	1	—	—
6	*	1	—	—
7	*	1	—	—
8	*	1	—	—

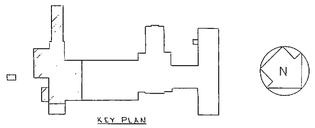
* SPACE ONLY FOR FUTURE BREAKERS.

ALL BREAKERS IN PANEL "MPP 1" SHALL HAVE A MINIMUM INTERRUPTING RATING OF 10,000 AMPS SYMMETRICAL.

LEGEND	
SYMBOL	DESCRIPTION
3"12 & 1/2"12 GND-3/4" TO "SP"	CONDUIT RUN CONCEALED IN WALL, CEILING OR EXPOSED IN ATTIC SPACE. 3"#12 POWER LEADS AND 1"#12 GROUND WIRE IN A 3/4" CONDUIT TO STARTER PANEL "SP".
	CONDUIT RUN EXPOSED. RUN AT RIGHT ANGLES OR PARALLEL TO BUILDING STRUCTURE.
	CONDUIT RUN BELOW GRADE OR UNDER CONCRETE SLAB OR ROADWAY.
J	JUNCTION BOX. SIZED FOR APPLICATION PER NEC.
S	120/277 V, AC 20 AMP. SINGLE POLE SWITCH
	125 V, 20 AMP., DUPLEX GROUNDING TYPE RECEPTACLE.
	NON-FUSED SAFETY SWITCH. 30 AMP. 3P. UNLESS OTHERWISE NOTED.
	FUSED SAFETY SWITCH. 30 AMP, 3P, UNLESS OTHERWISE NOTED.
	FUSIBLE COMBINATION, FULL VOLTAGE NON-REVERSING TYPE STARTER, SIZE AND RATING PER NEC FOR APPLICATION.
M	MANUAL MOTOR STARTER WITH OVERLOAD UNIT. SIZE AND RATING PER NEC TO SUIT APPLICATION.
	DRY TYPE TRANSFORMER. KVA RATING & VOLTAGE PER ONE LINE DIAGRAM
5	MOTOR 460 V. 3Ø UNLESS OTHERWISE NOTED NUMBER INDICATES HORSEPOWER.
	FLOW SWITCH.
F	THERMO-ELECTRIC FIRE STOP DEVICE IN AIR DUCT.
A-21	FLUORESCENT LIGHTING FIXTURE TYPE "A" ON CIRCUIT 21. SEE FIXTURE SCHEDULE, DWG. E-4
2 S 2 F	FLEXIBLE CONDUIT CONNECTION AT EQUIPMENT (TYPICAL)
	CONDUIT RUN EXPOSED. HASH MARKS INDICATE QUANTITY OF NO. 12 AWG CONDUCTORS IN 3/4" CONDUIT. ADD GROUND WIRE.



ELEVATION, SECTION, OR DETAIL SYMBOL



KEY PLAN

E-2

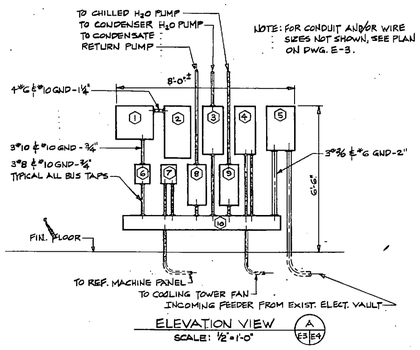
RSNSC JOB NO. 6-048-18 RSNSC DWG. NO. 78-9-2-36	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
SEAL:	DSIGN/YDER DR RONDS CHK LEIGH PROJ MGR. KIDD CH ENGR BOYD	MARINE CORPS BASE CAMP LEJEUNE, N.C. REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 ELECTRICAL-POWER PLAN SHEET 1 OF 4	
	SUBMITTED BY / FIRM MEMBER / PRINCIPAL	DATE	
	EFD RP / HO.	REVD. / DIR.	
	APPROVED / OFFICER IN CHARGE	DATE	SIZE F / CODE IDENT NO. 80091 / NAVFAC DRAWING NO. 4030276
	APPROVED / EFD FOR COMMANDER, NAVFAC	DATE	CONSTR CONTR NO. N62470-77-B-2563
			SCALE AS NOTED / SPEC 05-77-2563 / SHEET 36 OF 42
			EFD DWG. NO.

NOTES:
1. FOR LEGEND SEE DWG. E-3
2. FOR ONE LINE DIAGRAM SEE DWG. E-1.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

LIGHTING FIXTURE SCHEDULE

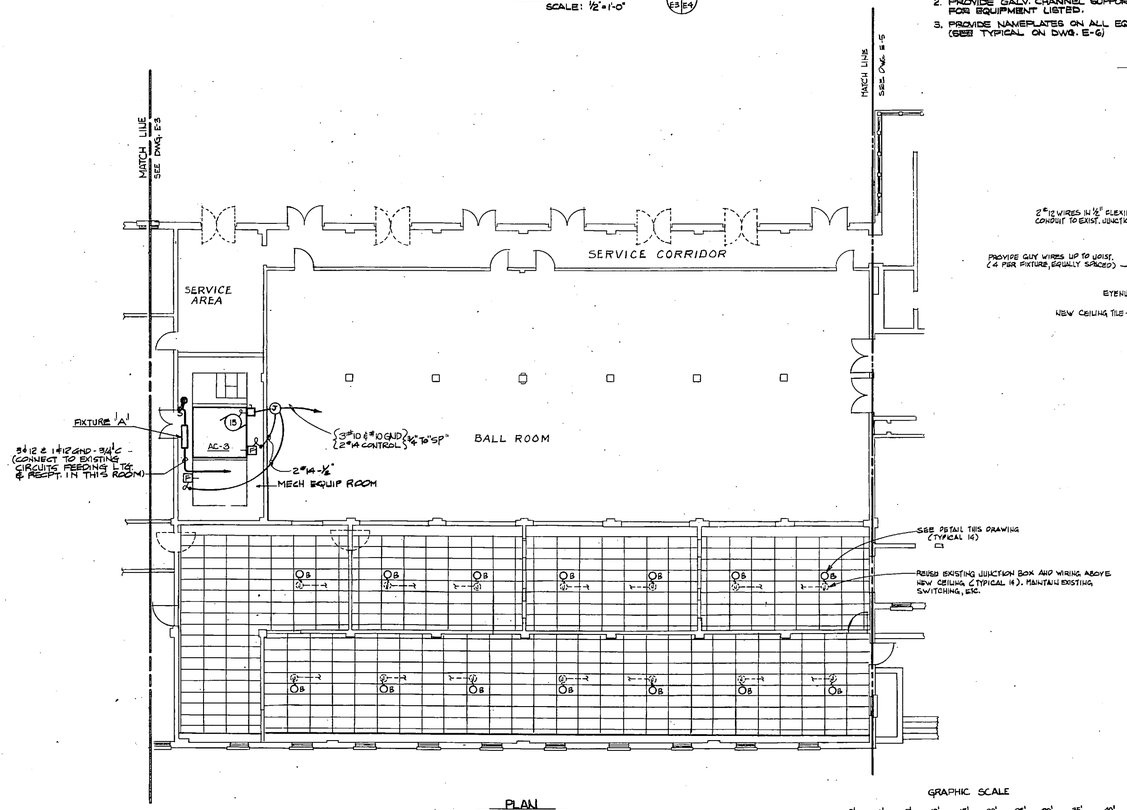
FIXTURE TYPE SYMBOL	LANTDIV PLATE AND TYPE - SEE SPECS OR DETAIL AS NOTED	NUMBER AND TYPE OF LAMPS	VOLTS	MOUNTING	REMARKS
A	16-F TYPE I	2-40W T-12	120	SURFACE CEILING	
B	DETAIL 'A' THIS DRAWING	—	120	PENDANT	EXIST. FIXTURES REINSTALLED
C	16-F TYPE I	2-40W T-12	120	PENDANT	10'-0" A.F.F.



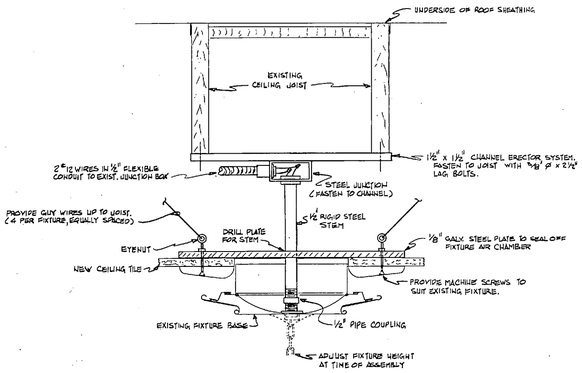
ELEVATION VIEW (A / E3 | E4)
SCALE: ½"=1'-0"

EQUIPMENT LIST FOR ELEVATION VIEW (1 / E3	E4)	
ITEM	NAMEPLATE	DESCRIPTION
1	TRANSFORMER 'T1'	15 KVA, 480V-120/208V, 3Ø, 60HZ
2	MISC. POWER PANEL 'MPP1'	100A, 120/208V, 3Ø, 4W
3	CONDENSER H2O PUMP	FVNR, FUSIBLE, COMB. TYPE STARTER
4	COOLING TOWER FAN	ditto
5	MAIN DISC. SWITCH	175 AMP, 3P, CIRCUIT BREAKER
6	TRANSFORMER 'T1' FEEDER	30 AMP, 3P, FUSED DISC. SWITCH
7	REF. MACHINE PANEL	ditto
8	CONDENSATE RETURN PUMP	FVNR, FUSIBLE, COMB. TYPE STARTER
9	CHILLED H2O PUMP	ditto
10	WIRING TROUGH	8" x 8" x 7'-0" GALV. STEEL

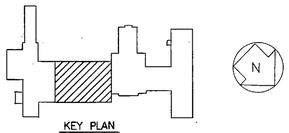
NOTES:
1. FOR ADDITIONAL EQUIPMENT INFORMATION SEE DWG. E-1 ONE LINE DIAGRAM.
2. PROVIDE GALV. CHANNEL SUPPORT SYSTEM FOR EQUIPMENT LISTED.
3. PROVIDE NAMEPLATES ON ALL EQUIPMENT. (SEE TYPICAL ON DWG. E-6)



PLAN
SCALE: ⅛"=1'-0"



FIXTURE TYPE 'B' MOUNTING DETAIL
NOT TO SCALE



KEY PLAN

GRAPHIC SCALE
7/8"=1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

E-3

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-S-2-37

SEAL:

NOONAN & NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DRAWN HYDER/BONDS CHK. LEIGH
PROJ. MGR. KIDD CH. ENGR. BOYD
SUBMITTED BY: DATE
FOR ENGINEERING DIVISION: DATE
EFD FP: RVD.
HD: DIR. KAK
APPROVED: DATE 11/3/77
DIRECTOR OF ENGINEERING
APPROVED: DATE 10/11/78
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.

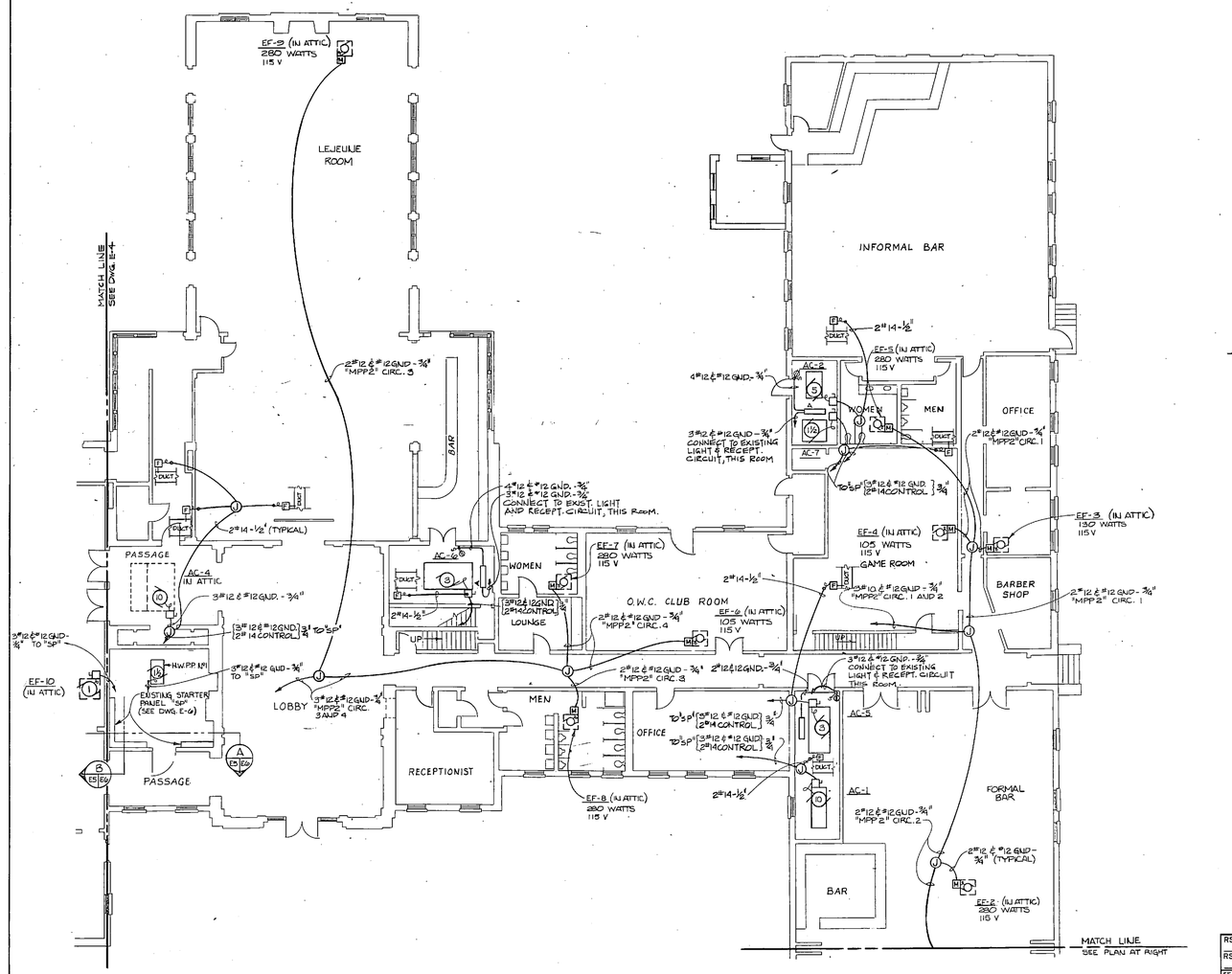
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ELECTRICAL - POWER PLAN
SHEET 2 OF 4

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030277

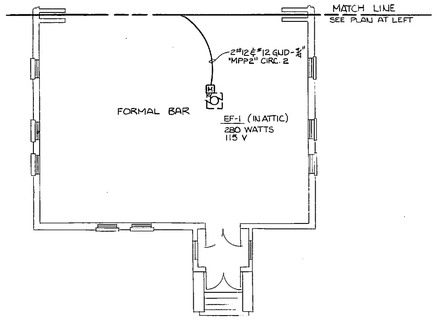
SCALE AS NOTED
CONSTR CONTR NO. N62470-77-B-2563
SPEC 06-77-2563 SHEET 37 OF 42
EFD DWG. NO.

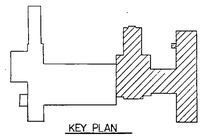
NOTES:
1. FOR LEGEND SEE DWG. E-3.
2. FOR ONE LINE DIAGRAM SEE DWG. E-1.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



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





KEY PLAN

GRAPHIC SCALE
1/8" = 1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

E-4

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-5-2-38
SEAL:

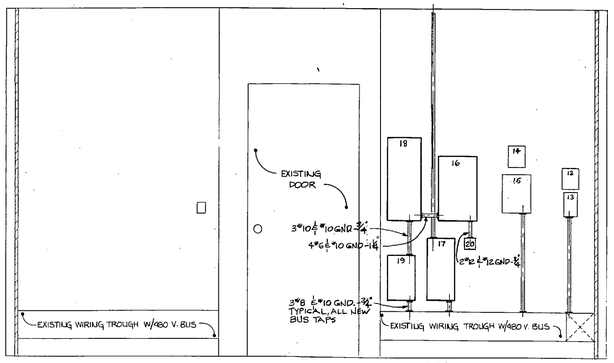
NOONAN & NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DSGN HYDERS & ROADS CHK LEIGH
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY DATE
FIELD ENGINEER
CHIEF ENGINEER
DIV. DIR.
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ELECTRICAL - POWER PLAN
SHEET 3 OF 4

SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 4030278
CONSTR CONTR NO. N62470-77-B-2563
SCALE AS NOTED | SPEC 05-77-2563 | SHEET 38 OF 42
EFD DWG. NO.

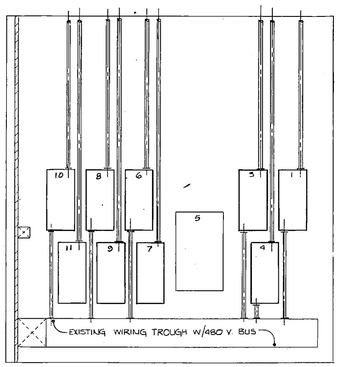
NOTES:
1. FOR LEGEND SEE DWG. E-3.
2. FOR ONE LINE DIAGRAM SEE DWG. E-1.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTE: SEE PLANS FOR WIRE & CONDUIT SIZES NOT SHOWN

STARTER PANEL "SP"
ELEVATION
SCALE: 3/8"=1'-0"
A E5 E6



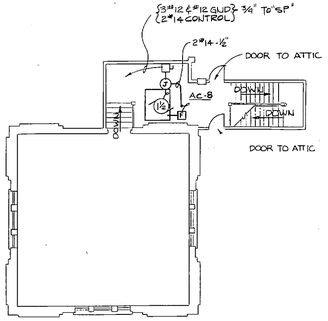
STARTER PANEL "SP" CONTINUED
ELEVATION
SCALE: 3/8"=1'-0"
B E5 E6

PANEL "MPP 2"					
120/208, 3Ø, 4W 100 A. BUS & 60A. MAIN CIRCUIT BREAKER					
CKT. NO.	BKR SIZE	NO. POLES		CONN. WATTS	SERVING
1	20A		1P	515	EXHAUST FAN EF-3, EF-4, EF-5
2				560	EXHAUST FAN EF-1, EF-2
3				560	EXHAUST FAN EF-8, EF-9
4				385	EXHAUST FAN EF-6, EF-7
5				–	SPARE
6				–	SPARE
7	*			–	–
8	*			–	–
9	*			–	–
10	*			–	–
11	*			–	–
12	*			–	–

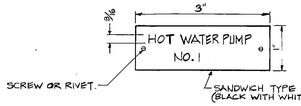
* SPACE ONLY FOR FUTURE BREAKERS

ALL BREAKERS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 10,000 AMPS, SYMMETRICAL.

EQUIPMENT LIST FOR STARTER PANEL "SP"			
ITEM NO.	NAMEPLATE	DESCRIPTION	REMARKS
1	HOT WATER PUMP No. 1	FVNR, FUSIBLE, COMB. TYPE STARTER	NEW
2	HOT USED		
3	AIR HANDLING UNIT AC-1	FVNR, FUSIBLE, COMB. TYPE STARTER	NEW
4	AIR HANDLING UNIT AC-2		
5	MAIN CIRCUIT BREAKER	600AMP CIRCUIT BREAKER	EXISTING
6	AIR HANDLING UNIT AC-3	FVNR, FUSIBLE, COMB. TYPE STARTER	NEW
7	AC-4		
8	AC-8		
9	AC-6		
10	AC-7		
11	AC-5		
12	AIR COMPRESSOR	CONTACTOR	EXISTING
13	AIR COMPRESSOR	DISCONNECT SWITCH	
14	MACH. RM. EXHAUST FAN	CONTACTOR	
15	MACH. RM. EXHAUST FAN	DISCONNECT SWITCH	
16	MISC. POWER PANEL "MPP2"	100A, 120/208V, 3Ø, 4W	NEW
17	EXHAUST FAN EF-10	FVNR, FUSIBLE, COMB. TYPE STARTER	
18	TRANSFORMER "T2"	15 KVA, 480V-120/208V, 3Ø, 60HZ	
19	XFMR "T2" DISCONNECT	30A, 3P, FUSIBLE DISCONNECT SW.	
20	120V OUTLET	120V, 20A, DUPLEX RECEPTACLE	

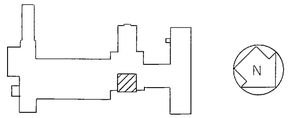


SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"



TYPICAL NAMEPLATE
SCALE: FULL SIZE

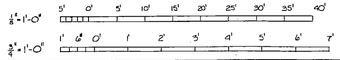
NOTE:
1. FURNISH AND INSTALL NAMEPLATES ON ALL ELECTRICAL EQUIPMENT PER DETAIL THIS DRAWING.



KEY PLAN

N

GRAPHIC SCALE



E-5

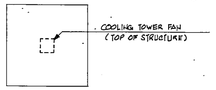
RSNSC JOB NO. 6-048-18	NOONAN & GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	ATLANTIC DIVISION NORFOLK, VIRGINIA
RSNSC DWG. NO. 72-5-2-39	DIGHTHYDER OR ROMOS CHK LEIGH	NAVAL STATION	MARINE CORPS BASE CAMP LEJEUNE, N.C.
SEAL:	PROJ. MGR. KIDDER ENGR BDKD	REPLACE HEATING AND AIR CODITIONING COM (O), BLDG. 2615 ELECTRICAL - POWER PLAN SHEET 4 OF 4	
	SUBMITTED BY DATE		
	APPROVED DATE	SIZE F	CODE IDENT NO. 80091
	APPROVED DATE	NAVFAC DRAWING NO. 4030279	
	EFD FOR COMMANDER, NAVFAC	SCALE AS NOTED	CONSTR CONTR NO. N62470-77-B-2563
			SPEC 05-77-2563 SHEET 39 OF 42
			EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

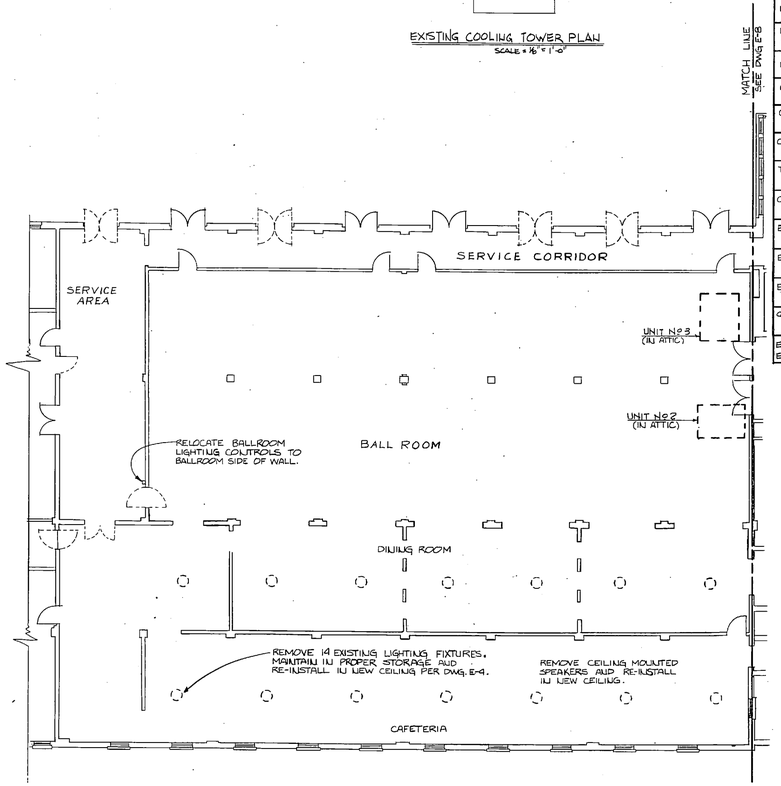
EQUIPMENT DEMOLITION SCHEDULE

ITEM	DESCRIPTION OF WORK	LOCATION
UNIT Nº 1	DISCONNECT MOTOR LEADS; REMOVE CONDUIT AND WIRE, STARTER, AND SWITCH.	E-8
UNIT Nº 2		E-7
UNIT Nº 3		E-7
UNIT Nº 4		E-8
UNIT Nº 5		E-8
UNIT Nº 6		E-8
UNIT Nº 7		E-8
UNIT Nº 8		E-8
UNIT Nº 9		E-8
UNIT Nº 9 CONDENSER		E-8
UNIT Nº 10		E-8
UNIT Nº 10 CONDENSER		E-8
UNIT Nº 11		E-9
COMPRESSOR Nº 1		E-8
COMPRESSOR Nº 2		E-8
COMPRESSOR Nº 3		E-8
TOWER CIRC. PUMP		E-8
CHILLED WATER PUMPS (2)		E-8
EXHAUST FAN ZONE 8		E-8
EXHAUST FANS ZONE 7 (2)		E-8
EXHAUST FAN ZONE 4		E-8
COOLING TOWER FAN	DITTO, EXCEPT ABANDON BURIED CONDUIT.	E-7
EQUIP. ROOM EXHAUST FAN	DISCONNECT MOTOR LEADS; REMOVE CONDUIT AND WIRE, STARTER, AND SWITCH.	E-8

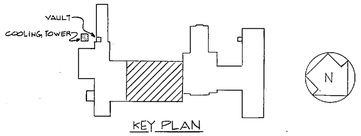
NOTE:
STARTERS AND DISCONNECTS LOCATED REMOTE FROM EQUIPMENT ARE SHOWN ON STARTER PANEL DETAIL, DWG E-9.



EXISTING COOLING TOWER PLAN
SCALE = 1/8" = 1'-0"



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



KEY PLAN

GRAPHIC SCALES

1/8" = 1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

1/2" = 1'-0" 1' 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

E-6

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-S-2-40
SEAL:

NOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DSGN HYDER CH ROHDS CHK LEIGH
PROJ MGR. KIDD CH ENGR BOYD
SUBMITTED BY: [signature] DATE 8-18-77
FIRM MEMBER PRINCIPAL
EFD FP RVD [signature]
HO DIR RAK
APPROVED [signature] DATE 11/22/77
OFFICER IN CHARGE
APPROVED [signature] DATE 10/11/78
EFD FOR COMMANDER, NAVFAC

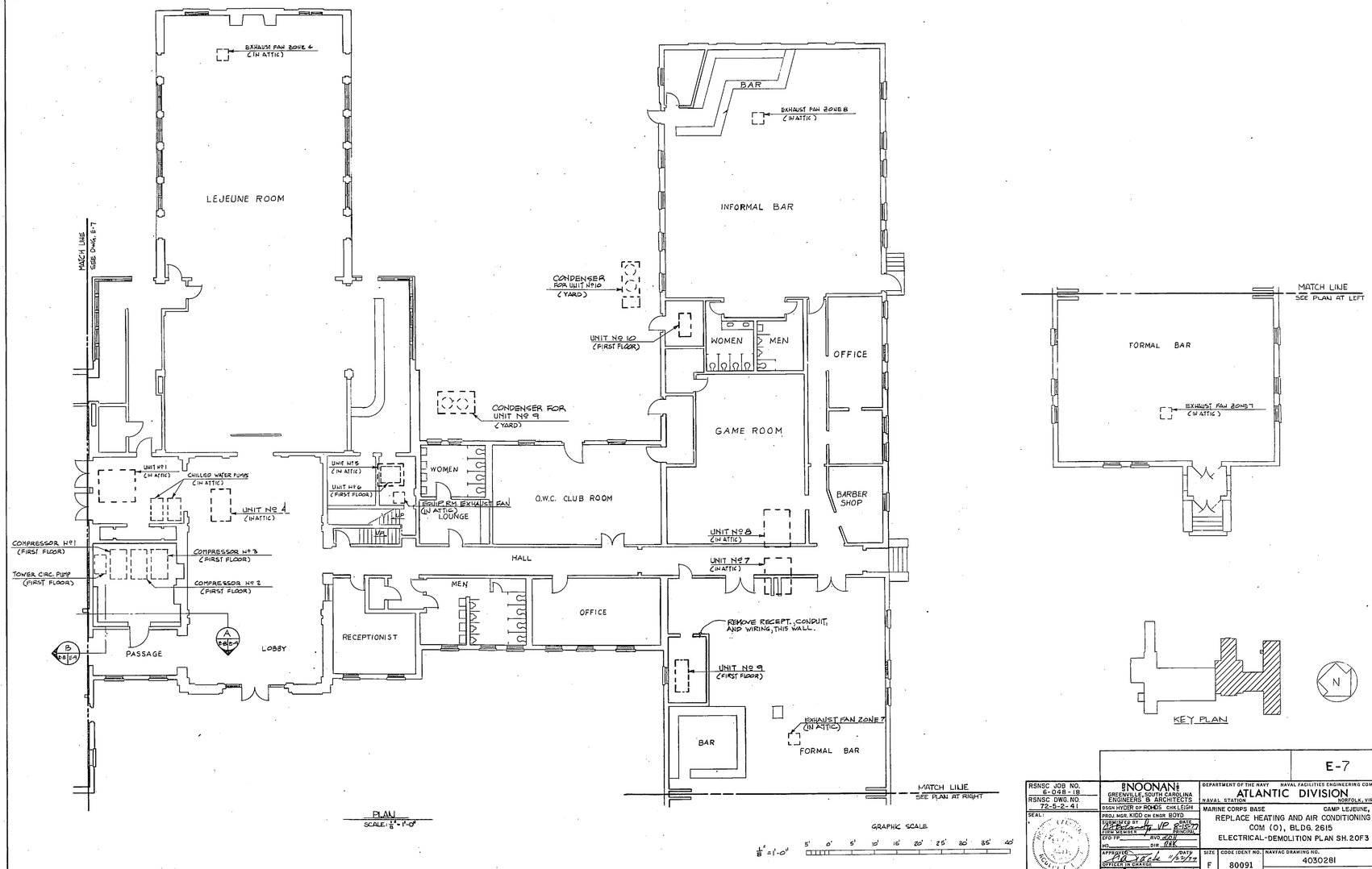
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ELECTRICAL-DEMOLITION PLAN SH. 1 OF 3

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030280
		CONSTR CONTR NO. N62470-B-77-2563
SCALE AS NOTED		SPEC 05-77-2563 SHEET 40 OF 42

EFD DWG. NO.

NOTES:
1. SEE DEMOLITION SCHEDULE ON DRAWING E-7 FOR DESCRIPTION OF WORK AT EACH PUMP OR UNIT.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



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

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

E-7

RSNSC JOB NO. 6-048-18
RSNSC DWG. NO. 72-5-2-41
SEAL:

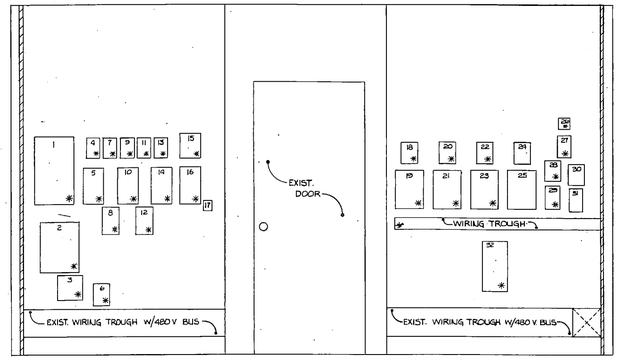
BNOONAN
GREENVILLE, SOUTH CAROLINA
ENGINEERS & ARCHITECTS
DSGN HYDER DP ROHDS CHK LEIGH
PROJ. MGR. KIDD CH ENGR BOYD
SUBMITTED BY [signature] DATE 8-15-77
FIRM MEMBER PROCURE
EFD FP RVD JOH
HD DIR RAK
APPROVED [signature] DATE 11/22/77
OFFICER IN CHARGE
APPROVED [signature] DATE 10/4/77
EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS BASE CAMP LEJEUNE, N.C.
REPLACE HEATING AND AIR CONDITIONING
COM (O), BLDG. 2615
ELECTRICAL-DEMOLITION PLAN SH. 2 OF 3

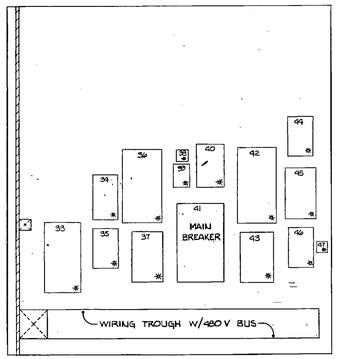
SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4030281
SCALE AS NOTED		CONSTR CONTR NO. N62470-77-B-2563
		SPEC 05-77-2563 SHEET 41 OF 42

EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



STARTER PANEL "SP"
ELEVATION (A) (E8/E9)
SCALE: 3/4" = 1'-0"

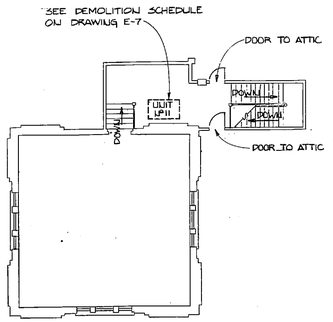


STARTER PANEL "SP" CONTINUED
ELEVATION (B) (E8/E9)
SCALE: 3/4" = 1'-0"

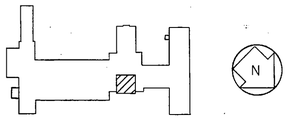
* INDICATES ITEM TO BE REMOVED AND INCLUDES ASSOCIATED POWER AND CONTROL WIRING AND CONDUIT.

DEMOLITION SCHEDULE FOR STARTER PANEL "SP"		
ITEM Nº	DESCRIPTION	REMARKS
1	COMPRESSOR Nº 3, DISCONNECT SWITCH	REMOVE
2	COMPRESSOR Nº 3, CONTACTOR	
3	RELAY PANEL	
4	UNIT Nº 8, DISCONNECT SWITCH	
5	UNIT Nº 8, CONTACTOR	
6	RELAY PANEL	
7	EXHAUST FAN ZONE 8, CONTACTOR	
8	EXHAUST FAN ZONE 8, DISCONNECT SWITCH	
9	UNIT Nº 7, CONTACTOR	
10	UNIT Nº 7, DISCONNECT SWITCH	
11	EXHAUST FAN ZONE 7, CONTACTOR	
12	EXHAUST FAN ZONE 7, DISCONNECT SWITCH	
13	UNIT Nº 6, CONTACTOR	
14	UNIT Nº 6, DISCONNECT SWITCH	
15	CHILLED WATER CIRC. PUMP, CONTACTOR	
16	CHILLED WATER CIRC. PUMP, DISCONNECT SWITCH	
17	MACHINE ROOM LIGHT SWITCH	TO REMAIN "AS IS"
18	SUPPLY FAN ZONE 1, CONTACTOR	REMOVE
19	SUPPLY FAN ZONE 1, DISCONNECT SWITCH	
20	SUPPLY FAN ZONE 2, CONTACTOR	
21	SUPPLY FAN ZONE 2, DISCONNECT SWITCH	
22	SUPPLY FAN ZONE 4, CONTACTOR	
23	SUPPLY FAN ZONE 4, DISCONNECT SWITCH	
24	MACHINE ROOM EXHAUST FAN, CONTACTOR	TO REMAIN "AS IS"
25	MACHINE ROOM EXHAUST FAN, DISCONNECT SWITCH	
26	115 V DUPLEX RECEPTACLE	REMOVE
27	115 V CONTROL CIRCUIT, DISCONNECT SWITCH	
28	EXHAUST FAN ZONE 4, CONTACTOR	
29	EXHAUST FAN ZONE 4, DISCONNECT SWITCH	
30	AIR COMPRESSOR, CONTACTOR	TO REMAIN "AS IS"
31	AIR COMPRESSOR, DISCONNECT SWITCH	
32	CONTROL CIRCUIT TRANSFORMER 480-120/240, 3 KVA	REMOVE
33	YORK SYSTEM, DISCONNECT SWITCH	
34	CHILLED WATER PUMP, DISCONNECT SWITCH	
35	CHILLED WATER PUMP, CONTACTOR	
36	COMPRESSOR Nº 2, DISCONNECT SWITCH	

DEMOLITION SCHEDULE FOR STARTER PANEL "SP" CONTINUED		
ITEM Nº	DESCRIPTION	REMARKS
37	COMPRESSOR Nº 2, CONTACTOR	REMOVE
38	PRESSURE SWITCH	
39	COOLING TOWER FAN, CONTACTOR	
40	COOLING TOWER FAN, DISCONNECT SWITCH	
41	MACHINE ROOM FEEDER, MAIN DISCONNECT SWITCH	TO REMAIN "AS IS"
42	COMPRESSOR Nº 1, DISCONNECT SWITCH	REMOVE
43	COMPRESSOR Nº 1, CONTACTOR	
44	CONTACTOR	
45	TOWER CIRC. PUMP, DISCONNECT SWITCH	
46	TOWER CIRC. PUMP, CONTACTOR	
47	PRESSURE SWITCH	



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"



KEY PLAN

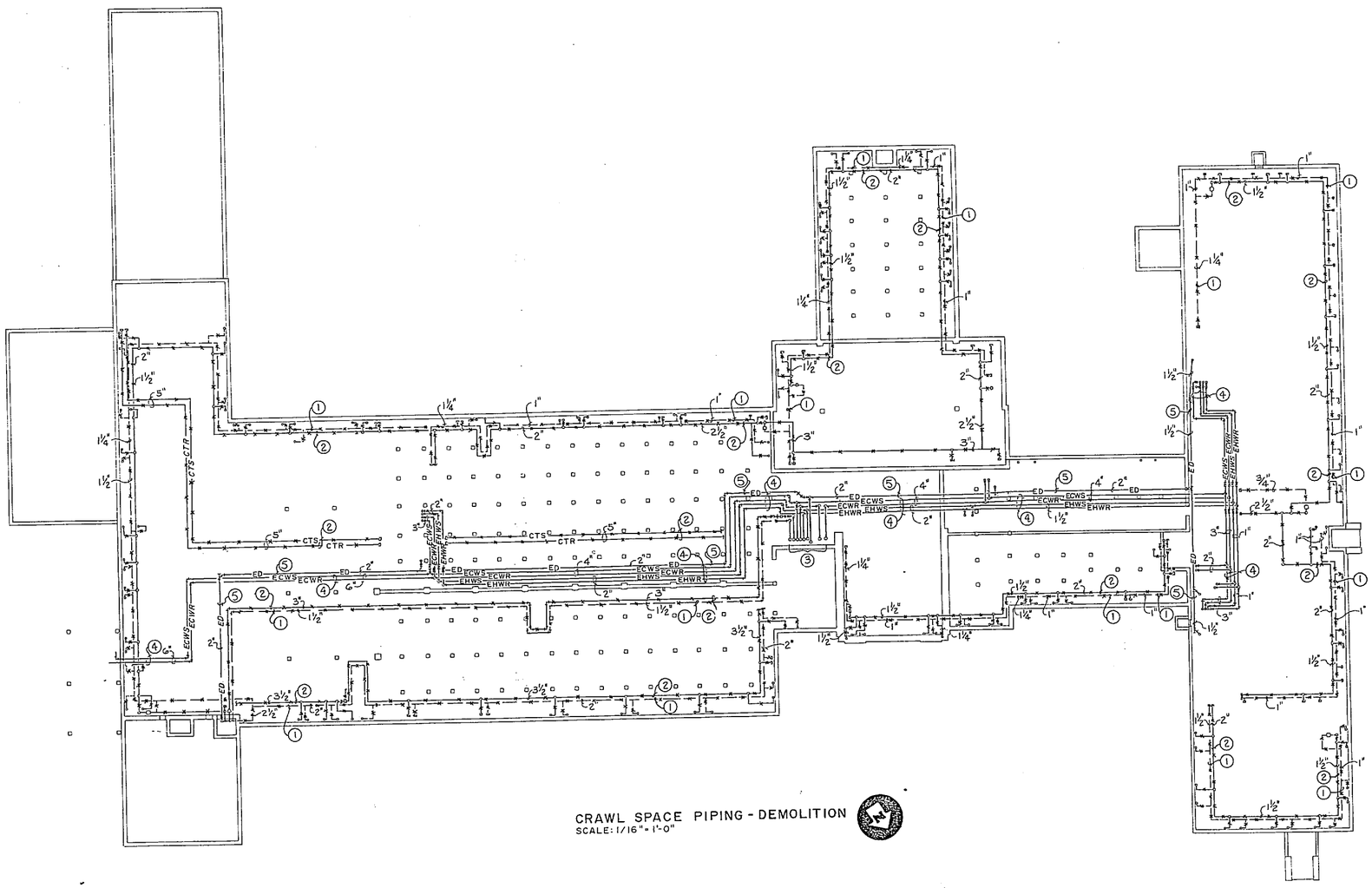
GRAPHIC SCALES

1/8" = 1'-0" 5' 0' 5' 10' 15' 20' 25' 30' 35' 40'

3/4" = 1'-0" 1' 6" 0' 1' 2' 3' 4' 5' 6' 7'

RSNSC JOB NO. 6-048-8	NOONAN GREENVILLE, SOUTH CAROLINA ENGINEERS & ARCHITECTS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	E-8
RSNSC DWG. NO. 7.5-2-42	DRN: HYDER CH: BOHDS CHK: LEIGH	ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
SEAL: NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22111 ROBERT A. LEIGH	PROJ. MGR. KIDD CH ENGR BOYD	MARINE CORPS BASE CAMP LEJEUNE, N.C.	
	SUBMITTED BY: DIVISION ENGINEER Lt VP 8/22/77	REPLACE HEATING AND AIR CONDITIONING COM (O), BLDG. 2615 ELECTRICAL-DEMOLITION PLAN SH 3 OF 3	
	EFD PM REVD. RAC		
	ID. DIR. RAC		
	APPROVED: OFFICER IN CHARGE DATE 11/22/77	SIZE F / CODE IDENT NO. 80091 / NAVFAC DRAWING NO. 40302 82	
	APPROVED: EFD FOR COMMANDER, NAVFAC DATE 12/1/77	SCALE AS NOTED / SPEC 05-77-2565 / SHEET 42 OF 42	EFD DWG. NO.
		CONSTR CONTR NO. N62470-77-B-2565	

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	



CRAWL SPACE PIPING - DEMOLITION
SCALE: 1/16" = 1'-0"

LEGEND

- REMOVE EXISTING PIPING (LINE SYMBOL INDICATES SERVICE)
- REMOVE EXISTING EQUIPMENT
- EXISTING EQUIPMENT TO REMAIN
- REMOVE EXISTING DUCTWORK
- EXISTING DUCTWORK TO REMAIN
- NEW DUCTWORK
- NEW STEAM PIPING (60 PSIG)
- NEW STEAM PIPING (15 PSIG)
- NEW STEAM CONDENSATE PIPING
- —HWS— NEW HOT WATER SUPPLY PIPING
- —HWR— NEW HOT WATER RETURN PIPING
- —CWS— NEW CHILLED WATER SUPPLY PIPING
- —CWR— NEW CHILLED WATER RETURN PIPING
- —D— NEW AIR CONDITIONING DRAIN PIPING
- GATE VALVE
- CHECK VALVE
- BALANCING VALVE
- SQUARE HEAD COCK
- PRESSURE REDUCING VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- UNION
- FLANGE
- GATE VALVE IN RISE
- PRESSURE GAUGE WITH GAUGE COCK
- THERMOMETER
- PIPE ANCHOR
- TERMINATION POINT OF DEMOLITION
- POINT OF NEW CONNECTION TO EXISTING
- M.D. MANUAL DAMPER
- Tc COOLING THERMOSTAT
- T HEATING & COOLING THERMOSTAT
- —EHWS— EXISTING HOT WATER SUPPLY PIPING
- —EHWR— EXISTING HOT WATER RETURN PIPING
- —ECWS— EXISTING CHILLED WATER SUPPLY PIPING
- —ECWR— EXISTING CHILLED WATER RETURN PIPING
- —ED— EXISTING AIR CONDITIONING DRAIN PIPING
- —CTS— COOLING TOWER SUPPLY PIPING
- —CTR— COOLING TOWER RETURN PIPING
- NEW STEAM PIPING (100 P.S.I.G.)
- NEW HIGH PRESSURE STEAM CONDENSATE
- NEW PUMPED STEAM CONDENSATE

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING UNINSULATED PIPING.
2. REMOVE EXISTING PIPING WITH ASBESTOS PIPE INSULATION.
3. EXISTING PIPING UP TO MECHANICAL ROOM, SEE DETAIL 'A', SHEET M-2 FOR CONTINUATION. PIPING FROM LEFT TO RIGHT, 1-1/2" CONDENSATE, 3" STEAM, 2" CHILLED WATER SUPPLY, 2" CHILLED WATER RETURN, 2-1/2" HOT WATER SUPPLY, 2-1/2" HOT WATER RETURN, 4" CHILLED WATER RETURN FROM BUILDING AND 4" CHILLED WATER TO CHILLER. REMOVE EXISTING STEAM AND CONDENSATE PIPING. CHILLED WATER AND HOT WATER PIPING TO REMAIN. SEE DRAWING M-4 FOR NEW WORK.
4. EXISTING INSULATED CHILLED WATER SUPPLY, CHILLED WATER RETURN, HOT WATER SUPPLY AND HOT WATER RETURN PIPING TO REMAIN. CLEAN PIPE INSULATION CONTAMINATE WITH ASBESTOS.
5. EXISTING AIR CONDITIONING CONDENSATE DRAIN PIPING TO REMAIN.

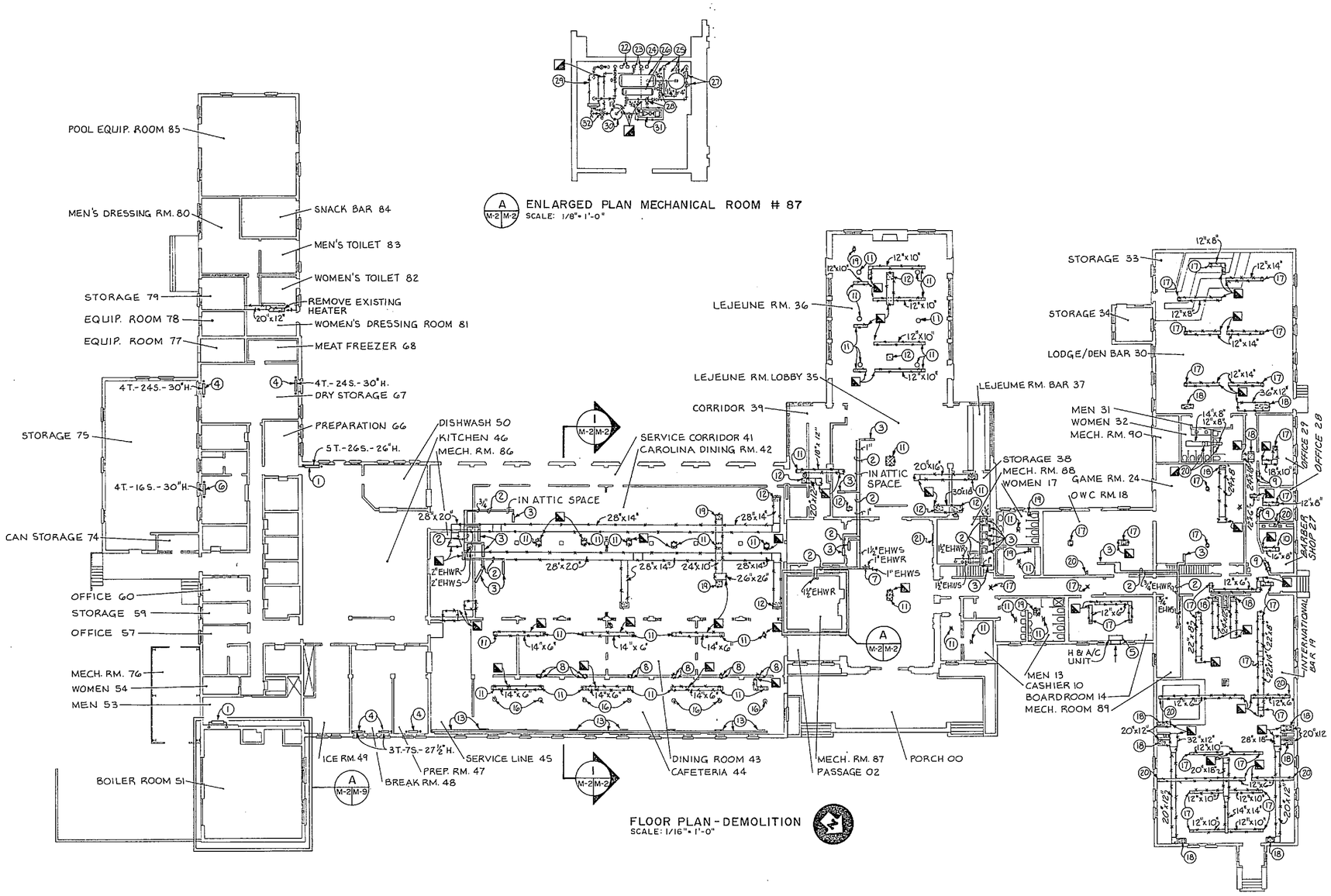
GRAPHIC SCALES:

8' 0 8' 16' 40'
1/16" = 1'-0"

RECORD DRAWING	M-1
CHEATHAM & ASSOCIATES CONSULTING ENGINEERS WILMINGTON, NORTH CAROLINA	THE SMITH-SINNETT ASSOCIATES, P.A. 110 WIND CHIME CT. RALEIGH, NC 27615
86.33	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA PROFESSIONAL SEAL 4168 ENGINEER JAMES M. CHEATHAM, JR.	DES. JGW; DR. JEM, LAB; CHK. JHC; SUBMITTED BY: RJL; DESIGN DIR. JEC; APPROVED: PWO OR OICC DATE 7-20-87; SATISFACTORY TO: DATE
	RENOVATE BUILDING 2615
	CRAWL SPACE PIPING DEMOLITION
	SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4160633; CONSTR. CONTR. NO. N62470-86-B-9517
	SCALE: NOTED; SPEC. 05-86-9517; SHEET 53 OF 74

AT 45673

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	

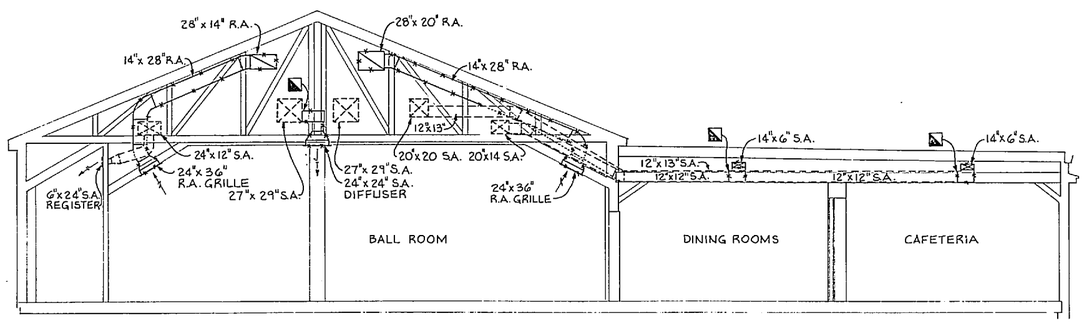


A M-2 M-2 ENLARGED PLAN MECHANICAL ROOM # 87
SCALE: 1/8" = 1'-0"

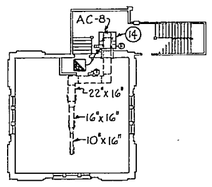
FLOOR PLAN - DEMOLITION
SCALE: 1/16" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING RADIATOR TO REMAIN. REMOVE EXISTING RADIATOR VALVE AND TRAP. SEE SHEET M-3 FOR NEW WORK.
2. EXISTING HOT WATER SUPPLY AND RETURN PIPING WITH INSULATION TO REMAIN. CLEAN INSULATION CONTAMINATED WITH ASBESTOS.
3. EXISTING HEATING COIL, PIPING AND CONTROL VALVE TO REMAIN. SEE SHEET M-3 FOR NEW WORK.
4. REMOVE EXISTING CAST IRON RADIATOR WITH RELATED PIPING.
5. EXISTING THRU-THE-WALL AIR CONDITIONING UNIT TO REMAIN.
6. EXISTING RADIATOR TO BE RELOCATED. REMOVE EXISTING RADIATOR VALVE AND TRAP. SEE SHEET M-3 FOR NEW WORK.
7. SEE SECOND FLOOR PLAN, THIS SHEET, FOR CONTINUATION.
8. REMOVE EXISTING LOW SIDEWALL TRANSFER AIR GRILLES.
9. REMOVE EXISTING HIGH SIDEWALL TRANSFER AIR GRILLES.
10. REMOVE EXISTING CEILING DIFFUSER AND BRANCH RUNOUT TO TRUNK DUCT. PATCH TRUNK DUCT AIR TIGHT AND INSULATE.
11. REMOVE EXISTING CEILING DIFFUSER. SEE FLOOR PLAN, SHEET M-7 FOR NEW WORK.
12. REMOVE EXISTING CEILING RETURN AIR GRILLE. SEE FLOOR PLAN, SHEET M-7 FOR NEW WORK.
13. REMOVE EXISTING 12" X 9" DUCT WITH SIDEWALL SUPPLY AIR REGISTERS.
14. RELOCATE EXISTING AIR HANDLING UNIT WITH HEATING COIL, COOLING COIL AND 'EMS' SENSORS, 2832 CFM.
15. EXISTING EXPOSED DUCTWORK TO REMAIN.
16. REMOVE EXISTING CEILING DIFFUSER WITH LIGHTING FIXTURE MOUNTED IN CENTER.
17. REMOVE EXISTING CEILING DIFFUSER. SEE FLOOR PLAN, SHEET M-8 FOR NEW WORK.
18. REMOVE EXISTING CEILING RETURN AIR GRILLE. SEE FLOOR PLAN, SHEET M-8 FOR NEW WORK.
19. REMOVE EXISTING EXHAUST FAN, RELATED DUCTWORK AND EXHAUST REGISTER. SEE FLOOR PLAN, SHEET M-7 FOR NEW WORK.
20. REMOVE EXISTING EXHAUST REGISTER, SEE FLOOR PLAN, SHEET M-8 FOR NEW WORK.
21. REMOVE EXISTING SIDEWALL RETURN AIR GRILL. SEE FLOOR PLAN, SHEET M-7, FOR NEW WORK.
22. EXISTING 2" CHS AND 2" CHR TO ATTIC SPACE FROM CRAWL SPACE TO REMAIN.
23. EXISTING 1-1/2" HWS AND 1-1/2" HWR TO ATTIC SPACE, 2-1/2 HWS AND 2-1/2" HWR TO CRAWL SPACE TO REMAIN.
24. EXISTING AIR CONDITIONING CONDENSATE DOWN TO CRAWL SPACE FROM ATTIC TO REMAIN.
25. EXISTING 4" CWR AND AIR SEPARATOR TO REMAIN.
26. EXISTING EXPANSION TANKS TO REMAIN.
27. EXISTING BACKFLOW PREVENTER AND MAKE-UP WATER STATION TO REMAIN.
28. EXISTING RELIEF VALVES TO REMAIN.
29. REMOVE EXISTING CONVERTOR WITH RELATED PIPING.
30. REMOVE EXISTING AIR SEPARATOR.
31. REMOVE EXISTING END SUCTION PUMP.
32. REMOVE EXISTING RELIEF VALVE.



I M-2 M-2 SECTION
SCALE: 3/16" = 1'-0"



SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

GRAPHIC SCALES:

8' 0 8' 16' 40' — 1/16" = 1'-0"
4' 0 4' 12' — 3/16" = 1'-0"
4' 0 4' 8' 12' 16' 20' — 1/8" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 4189 WILLIAM CHEATHAM, JR.

RECORD DRAWING — M-2

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

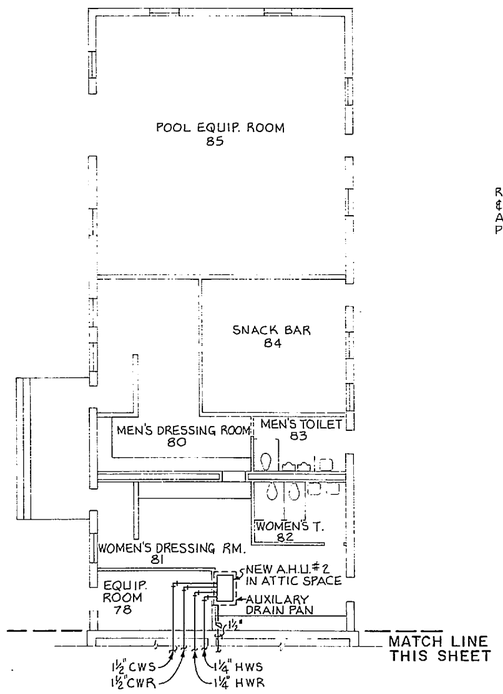
FLOOR PLAN DEMOLITION

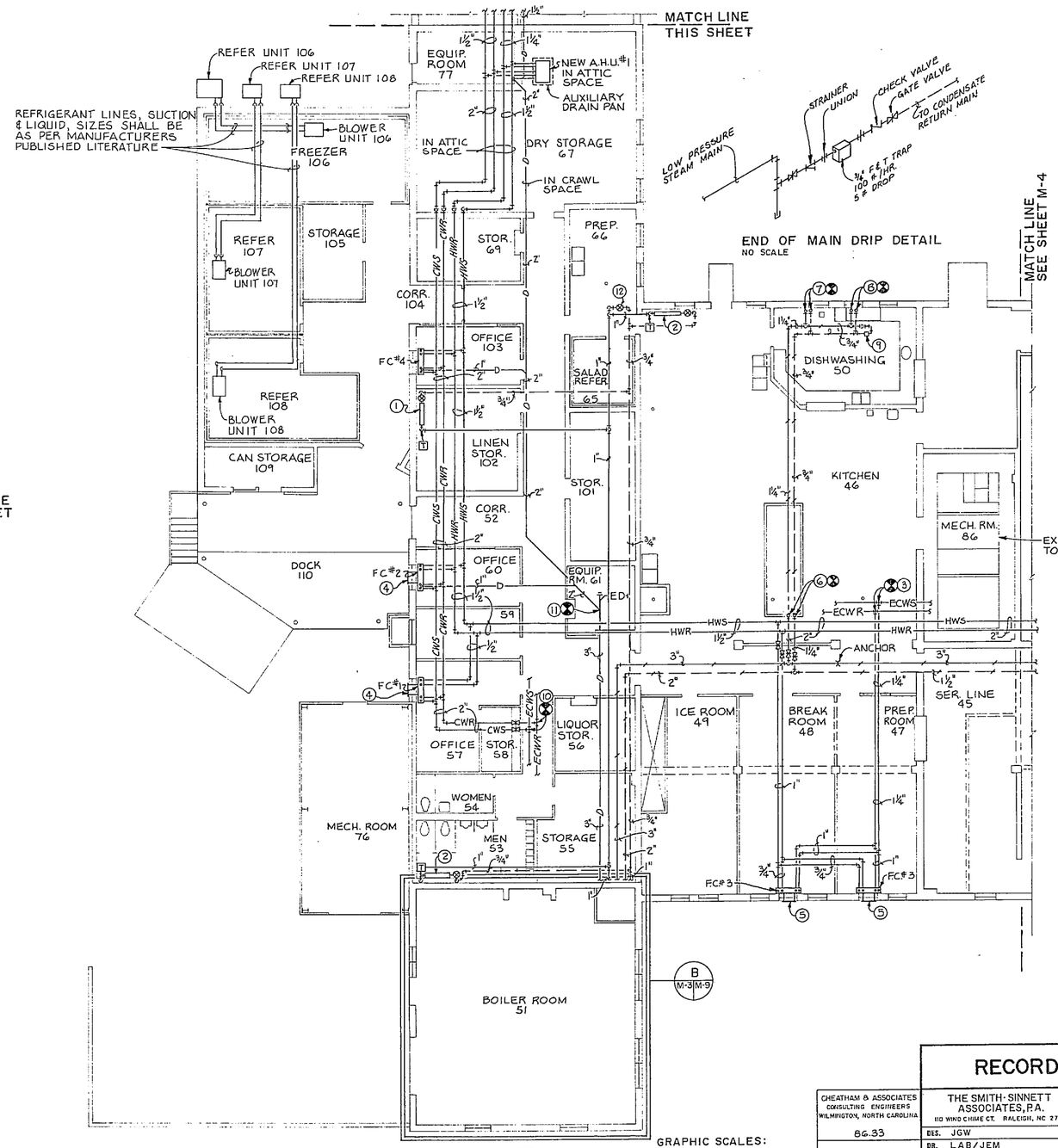
DES.	J G W
DR.	L A B / J E M
CHK.	J H C
SUBMITTED BY:	R J L
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-20-87
SATISFACTORY TO:	DATE

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160634
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 54 OF 74

AF 45675

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	





END OF MAIN DRIP DETAIL
NO SCALE

KEYED NOTES: (THIS SHEET ONLY)

1. NEW LOCATION OF EXISTING 4 TUBE, 16 SECTION, 30" HIGH CAST IRON RADIATOR. PROVIDE NEW PUSH NIPPLES, TIE RODS, THERMOSTATICALLY CONTROLLED RADIATOR VALVE AND TRAP. SEE DETAIL 'A', SHEET M-11.
2. EXISTING 5 TUBE, 26 SECTION, 26" HIGH CAST IRON RADIATOR. PROVIDE NEW PUSH NIPPLES, TIE RODS, THERMOSTATICALLY CONTROLLED RADIATOR VALVE AND TRAP. SEE DETAIL 'A', SHEET M-11.
3. PROVIDE NEW 1-1/4" VALVED CONNECTION TO EXISTING CWS AND CWR MAINS DURING SHUT DOWN PERIOD.
4. PROVIDE NEW 2" X 8" BRICK VENT OUTSIDE AIR INTAKE LOUVER, 40 CFM.
5. PROVIDE NEW 4" X 8" BRICK VENT OUTSIDE AIR INTAKE LOUVER, 80 CFM.
6. PROVIDE NEW 2" STEAM AND 1-1/4" CONDENSATE CONNECTION TO EXISTING RISERS IN CRAWL SPACE SERVING EXISTING COOKING ISLAND.
7. PROVIDE NEW 1" STEAM AND 3/4" CONDENSATE CONNECTION TO EXISTING RISERS IN CRAWL SPACE SERVING EXISTING DISHWASHER BOOSTER HEATER.
8. PROVIDE NEW 3/4" STEAM AND 3/4" CONDENSATE CONNECTIONS TO EXISTING RISERS IN CRAWL SPACE SERVING EXISTING DISHWASHER.
9. NEW MEDIUM PRESSURE END OF MAIN DRIP STATION, SEE DETAIL 'C', SHEET M-11.
10. PROVIDE NEW 2" VALVED CONNECTION TO EXISTING CWS AND CWR MAINS DURING SHUT DOWN PERIOD.
11. PROVIDE NEW 2" AIR CONDITIONING CONDENSATE DRAIN CONNECTION TO AIR CONDITIONING CONDENSATE DRAIN CONNECTION EXISTING IN CRAWL SPACE.
12. PROVIDE NEW END OF MAIN LOW PRESSURE DRIP. SEE DETAIL 'A', THIS SHEET.

PIPING FLOOR PLAN - AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES:
4' 0 4' 8' 20'
1/8" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL 11168 ENGINEER JOHN CHEATHAM, JR.

RECORD DRAWING

M-3

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

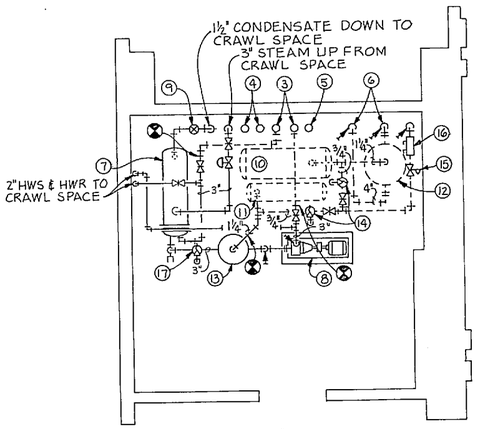
PIPING FLOOR PLAN - AREA A
NEW WORK

DES. JGW
DR. LAB/JEM
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR. JEM
APPROVED: PWO OR OICC DATE 7-20-87
SATISFACTORY TO: DATE

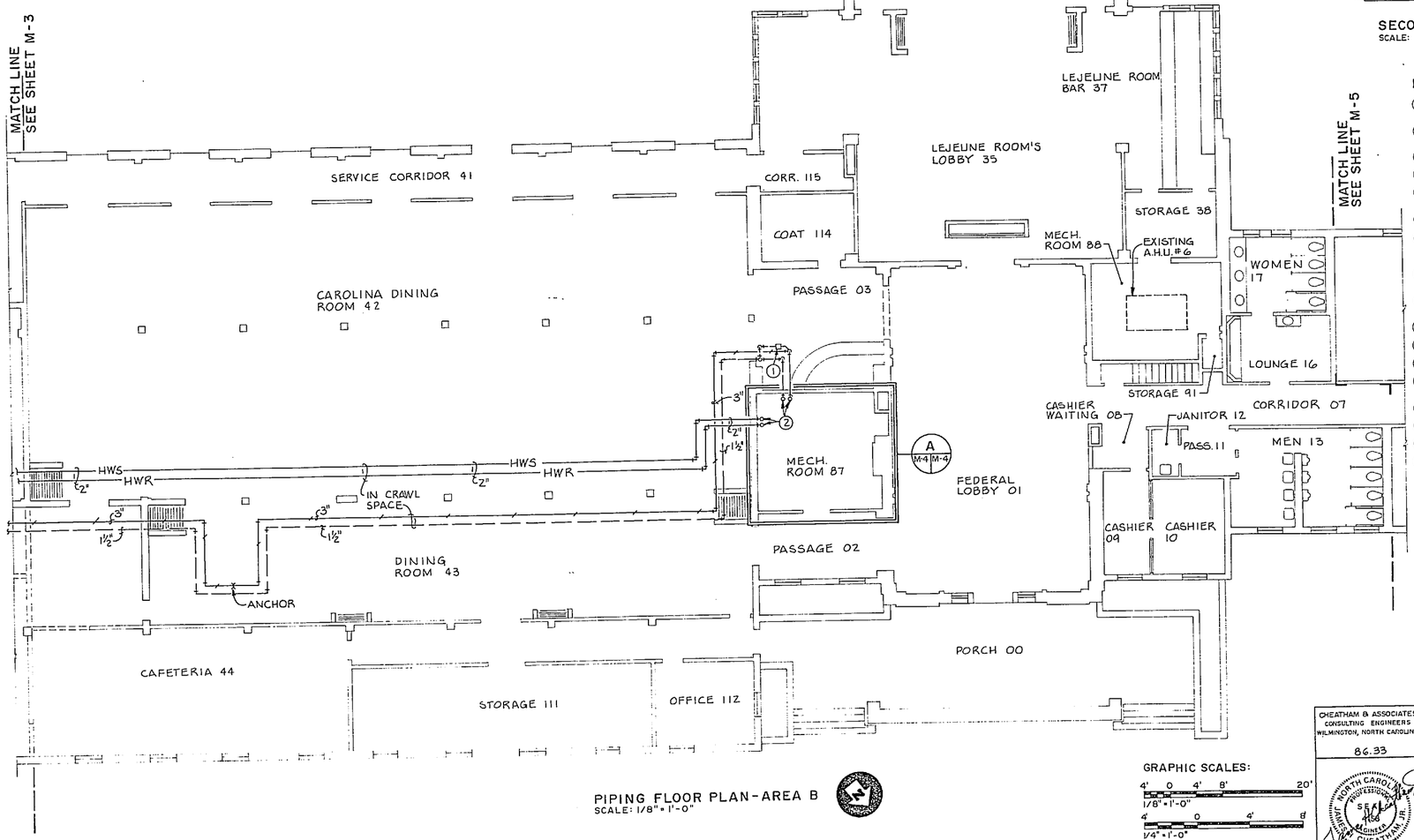
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160635
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 55 OF 74

AF 43675

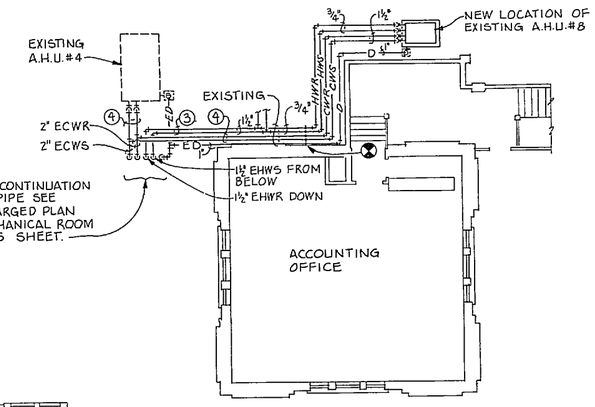
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/81	



A M-4 M-4 ENLARGED PLAN MECHANICAL ROOM # 87
SCALE: 1/4" = 1'-0"



PIPING FLOOR PLAN-AREA B
SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. NEW END OF MAIN DRIP, 100 LBS/HR, 45 PSIG DROP. SEE DETAIL 'C', SHEET M-11.
2. SEE ENLARGED MECHANICAL ROOM PLAN, DETAIL 'A', THIS SHEET FOR CONTINUATION.
3. EXISTING HWS AND HWR TO REMAIN.
4. EXISTING CWS AND CWR TO REMAIN.
5. EXISTING AIR CONDITIONING CONDENSATE DRAIN DOWN FROM ATTIC SPACE TO REMAIN.
6. EXISTING 4" CWR TO AND FROM CRAWL SPACE TO REMAIN.
7. PROVIDE NEW STEAM TO WATER CONVERTOR, 98.5 GPM, 152.8° F. EWT. 180° F. LWT, 1341 LBS/HR 45 PSIG STEAM TO SHELL. SEE CONVERTOR PIPING SCHEMATIC, DETAIL 'A', SHEET M-5.
8. PROVIDE NEW END SUCTION PUMP, 98.5 GPM AT 50' TDH, 63% EFF., 1750 RPM, 3 HP, 480 VOLT, THREE PHASE MOTOR.
9. NEW F & T TRAP, 3350 LBS/HR WITH 40 PSIG PRESSURE DROP. SEE CONVERTOR PIPING SCHEMATIC, DETAIL 'B', THIS SHEET.
10. EXISTING CHILLED WATER EXPANSION TANK TO REMAIN.
11. EXISTING HOT WATER EXPANSION TANK TO REMAIN.
12. EXISTING CHILLED WATER AIR SEPARATOR TO REMAIN.
13. PROVIDE NEW 3" AIR SEPARATOR WITH STRAINER, 1" GATE VALVE BLOWDOWN VALVE AND PIPE STAND. ANCHOR PIPE STAND TO FLOOR WITH LEAD ANCHOR SHIELDS.
14. EXISTING PRESSURE RELIEF VALVE TO REMAIN.
15. EXISTING PRESSURE REDUCING VALVE TO REMAIN.
16. EXISTING BACKFLOW PREVENTER TO REMAIN.
17. PROVIDE NEW TEMPERATURE RELIEF VALVE, 1700 MBH, SET AT 30 PSIG DISCHARGE PRESSURE.

GRAPHIC SCALES:
4' 0 4' 8' 20' 1/8" = 1'-0"
4' 0 4' 8' 1/4" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL JAMES M. CHEATHAM, JR.

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DES. JGW
DR. LAB / JEM
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR.
APPROVED: PWO OR OICC DATE 7-20-81
SATISFACTORY TO: DATE

RECORD DRAWING **M-4**

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

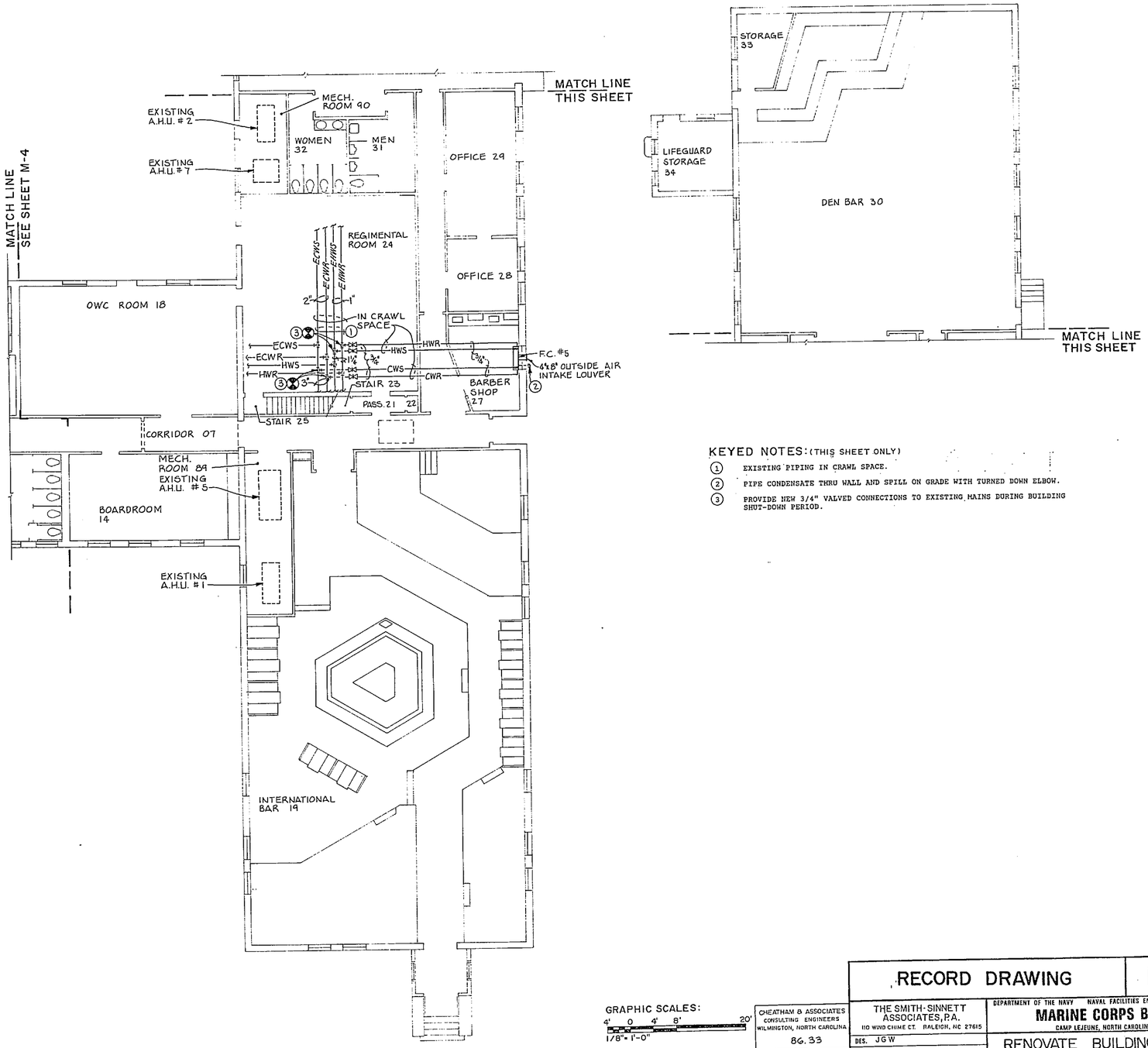
RENOVATE BUILDING 2615

PIPING FLOOR PLAN AREA B
NEW WORK

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160636
		CONSTR. CONTR. NO. N62470-86-B-9517

SCALE: NOTED | SPEC. 05-86-9517 | SHEET 56 OF 74

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	



KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING PIPING IN CRAWL SPACE.
2. PIPE CONDENSATE THRU WALL AND SPILL ON GRADE WITH TURNED DOWN ELBOW.
3. PROVIDE NEW 3/4" VALVED CONNECTIONS TO EXISTING MAINS DURING BUILDING SHUT-DOWN PERIOD.

PIPING FLOOR PLAN-AREA C
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES:
4' 0 4' 8' 20'
1/8" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 4188 JAMES H. CHEATHAM, JR.

RECORD DRAWING — M-5

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

PIPING FLOOR PLAN-AREA C
NEW WORK

DES.	JGW
DR.	LAB/JEM
CHK.	JHC
SUBMITTED BY:	RJL
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-30-87
SATISFACTORY TO:	DATE

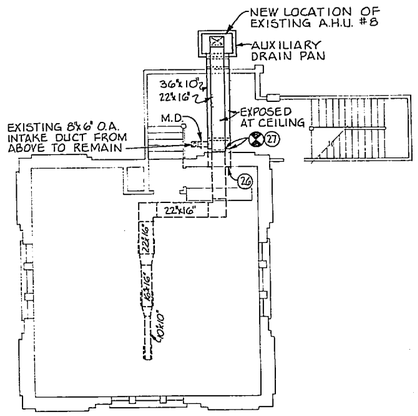
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160637

CONSTR. CONTR. NO. N62470-86-B-9517

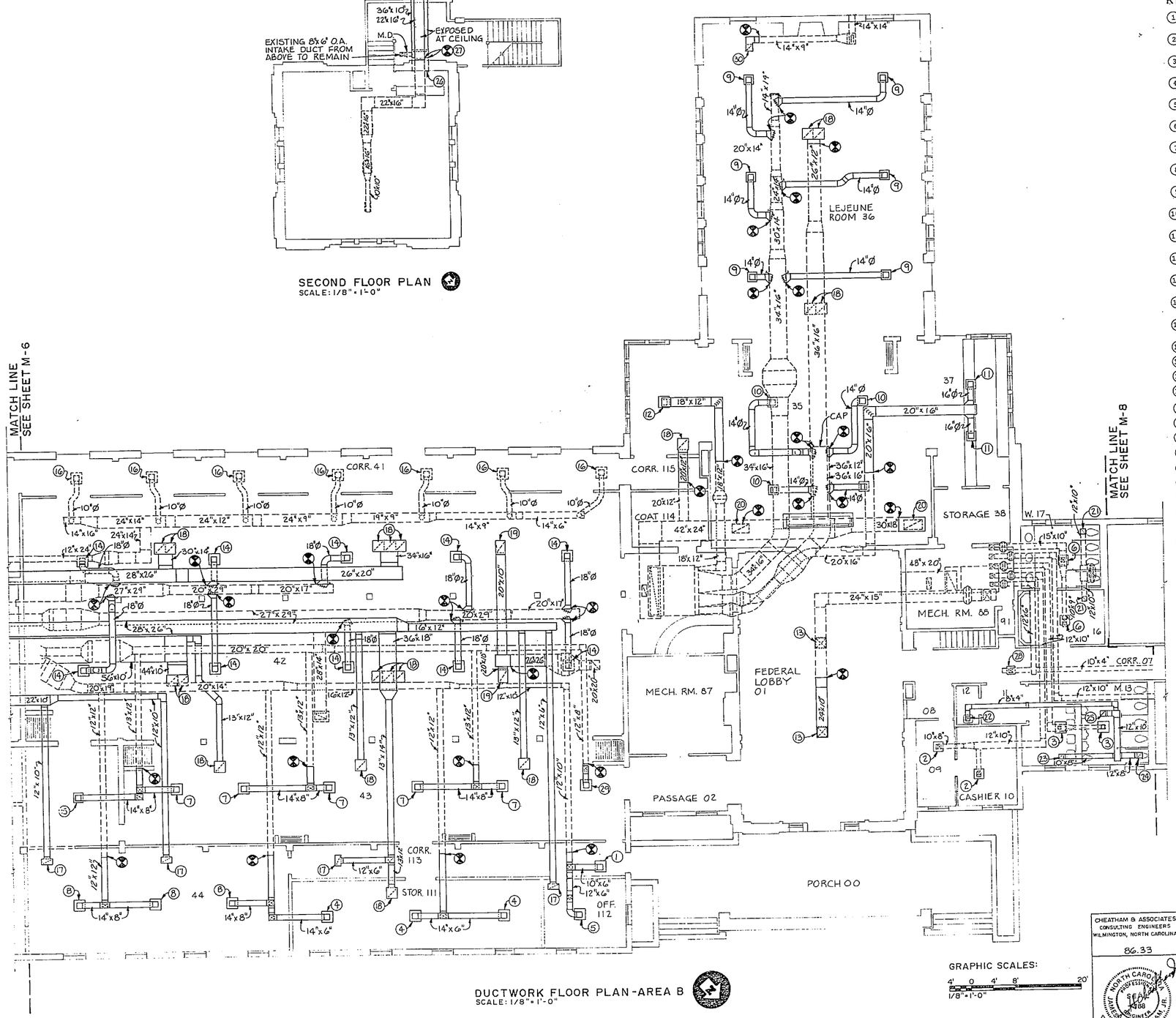
SCALE: NOTED | SPEC. 05-86-9517 | SHEET 57 OF 74

AP 43675

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"



DUCTWORK FLOOR PLAN-AREA B
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES:
4' 0 4' 8' 20'
1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 9" X 9" SQUARE NECK, 200 CFM, 4 WAY BLOW.
2. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 9" X 9" SQUARE NECK, 285 CFM, 4 WAY BLOW.
3. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 293 CFM, 4 WAY BLOW.
4. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 325 CFM, 4 WAY BLOW.
5. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 330 CFM, 4 WAY BLOW.
6. PROVIDE NEW SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 440 CFM, 4 WAY BLOW.
7. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 467 CFM, 4 WAY BLOW.
8. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 481 CFM, 4 WAY BLOW.
9. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 15" X 15" SQUARE NECK, 770 CFM, 4 WAY BLOW.
10. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 15" X 15" SQUARE NECK, 754 CFM, 4 WAY BLOW.
11. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 18" X 18" SQUARE NECK, 1115 CFM, 4 WAY BLOW.
12. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 18" X 18" SQUARE NECK, 1215 CFM, 4 WAY BLOW.
13. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 21" X 21" SQUARE NECK, 1365 CFM, 4 WAY BLOW.
14. PROVIDE NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER WITH 21" X 21" SQUARE NECK, 1613 CFM, 4 WAY BLOW.
15. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 467 CFM, 4 WAY BLOW.
16. EXISTING LAY-IN CEILING DIFFUSER TO REMAIN. (NO WORK)
17. NEW 1' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 10" X 10" NECK.
18. NEW 2' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 20" X 20" NECK.
19. NEW 20" X 28" CEILING EXHAUST GRILLE, 1300 CFM.
20. NEW 32" X 24" CEILING RETURN AIR GRILLE.
21. NEW 12" X 12" CEILING EXHAUST GRILLE, 440 CFM.
22. NEW 8" X 4" CEILING EXHAUST GRILLE, 60 CFM.
23. NEW 10" X 10" CEILING EXHAUST GRILLE, 270 CFM.
24. NEW 12" X 12" CEILING EXHAUST GRILLE, 360 CFM.
25. PROVIDE NEW 12" X 12" DUCT UP TO NEW POWER VENTILATOR F-6 ON ROOF.
26. NEW 36" X 24" SIDEWALL RETURN AIR GRILLE, 2802 CFM.
27. PROVIDE NEW 36" X 24" DUCT CONNECTION TO EXISTING RETURN AIR DUCT AND NEW 22" X 16" DUCT CONNECTION TO EXISTING SUPPLY AIR DUCT. EXTEND TO NEW UNIT LOCATION.
28. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 150 CFM, 2 WAY BLOW.
29. PROVIDE NEW CEILING SUPPLY AIR DIFFUSER WITH 12" X 12" SQUARE NECK, 467 CFM, 4 WAY BLOW.
30. PROVIDE NEW 14" X 14" CEILING EXHAUST GRILLE, 675 CFM.

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL 4188 ENGINEER JAMES H. CHEATHAM, JR.

RECORD DRAWING

M-7

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

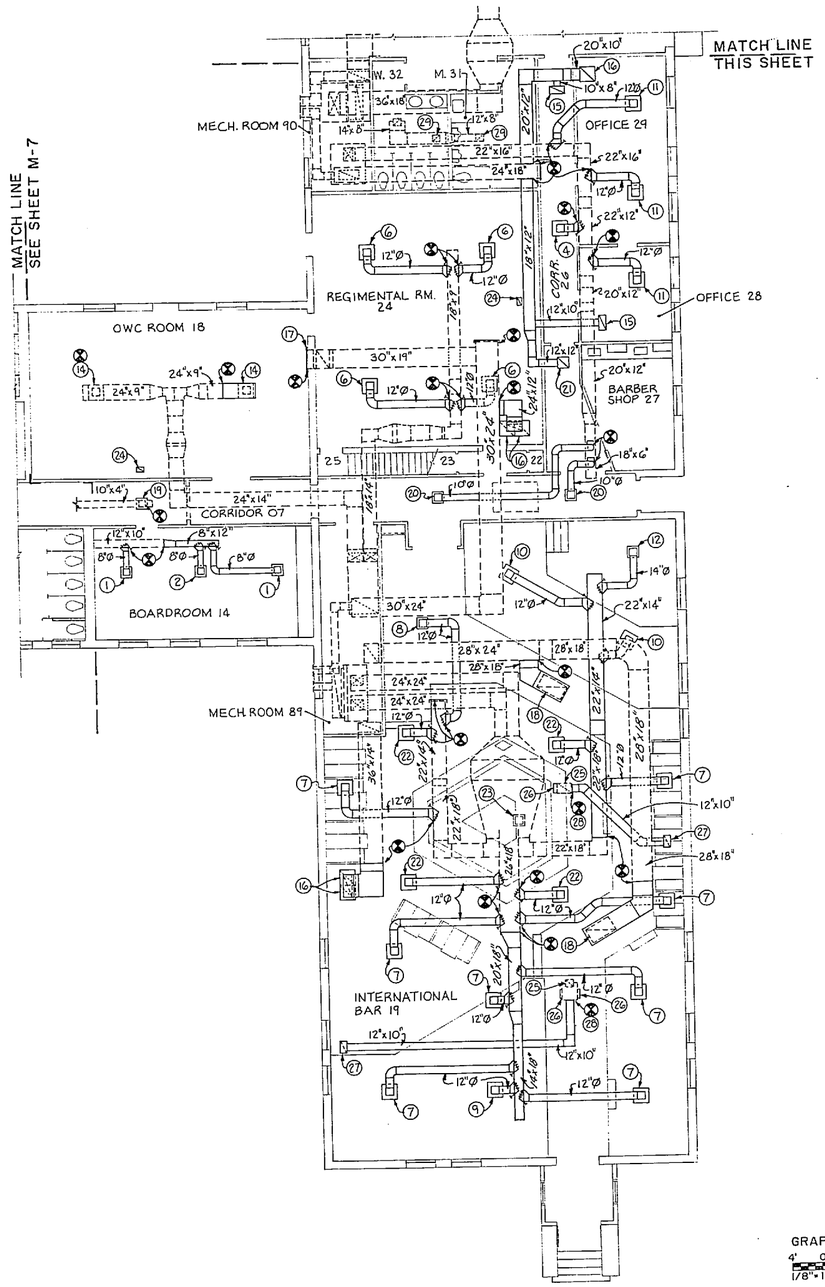
DUCTWORK FLOOR PLAN-AREA B
NEW WORK

DES.	JGW
DR.	LAB / JEM
CHK.	JHC
SUBMITTED BY:	RJL
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-20-87
SATISFACTORY TO:	DATE

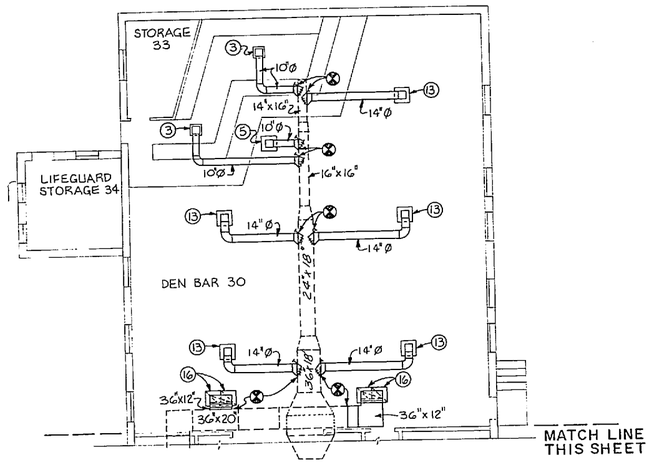
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160639
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 59 OF 74

AP 45675

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	9/30/89	



DUCTWORK FLOOR PLAN-AREA C
SCALE: 1/8" = 1'-0"



KEYED NOTES: (THIS SHEET ONLY)

1. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 200 CFM, 4 WAY BLOW.
2. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 220 CFM, 4 WAY BLOW.
3. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 300 CFM, 4 WAY BLOW.
4. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 342 CFM, 2 WAY BLOW.
5. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 350 CFM, 4 WAY BLOW.
6. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 464 CFM, 4 WAY BLOW.
7. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 545 CFM, 4 WAY BLOW.
8. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 545 CFM, 4 WAY BLOW.
9. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 560 CFM, 4 WAY BLOW.
10. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 575 CFM, 4 WAY BLOW.
11. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 583 CFM, 4 WAY BLOW.
12. NEW CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 750 CFM, 4 WAY BLOW.
13. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 950 CFM, 4 WAY BLOW.
14. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 21" X 21" NECK, 1155 CFM, 4 WAY BLOW.
15. NEW 1' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 10" X 20" NECK.
16. NEW 2' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 20" X 20" NECK.
17. NEW 36" X 24" SIDEWALL RETURN AIR GRILLE.
18. NEW 24" X 42" CEILING RETURN AIR GRILLE.
19. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 150 CFM, 2 WAY BLOW.
20. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 342 CFM, 2 WAY BLOW.
21. NEW 12" X 12" CEILING RETURN AIR GRILLE WITH 10" X 20" NECK.
22. NEW 24" X 24" LAY-IN CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 703 CFM, 4 WAY BLOW.
23. NEW CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 703 CFM, 4 WAY BLOW.
24. NEW 10" X 6" CEILING EXHAUST GRILLE WITH 10" X 6" DUCT CONNECTION TO EXISTING 10" X 6" EXHAUST DUCT IN ATTIC. (155 CFM)
25. EXISTING EXHAUST FAN IN ATTIC SPACE. (625 CFM)
26. PROVIDE NEW 12" X 6" AIR TIGHT CLOSURE ON EXISTING PLENUM.
27. PROVIDE NEW 12" X 18" CEILING EXHAUST GRILLE. (625 CFM)
28. PROVIDE NEW 12" X 10" EXHAUST DUCT CONNECTION TO EXISTING PLENUM.
29. PROVIDE NEW 12" X 12" CEILING EXHAUST AIR GRILLE. (300 CFM)

GRAPHIC SCALES: 4' 0 4' 8' 20' — 1/8" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL 4109 ENGINEER JAMES G. CHEATHAM, JR.

RECORD DRAWING

M-8

THE SMITH·SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

DUCTWORK FLOOR PLAN-AREA C
NEW WORK

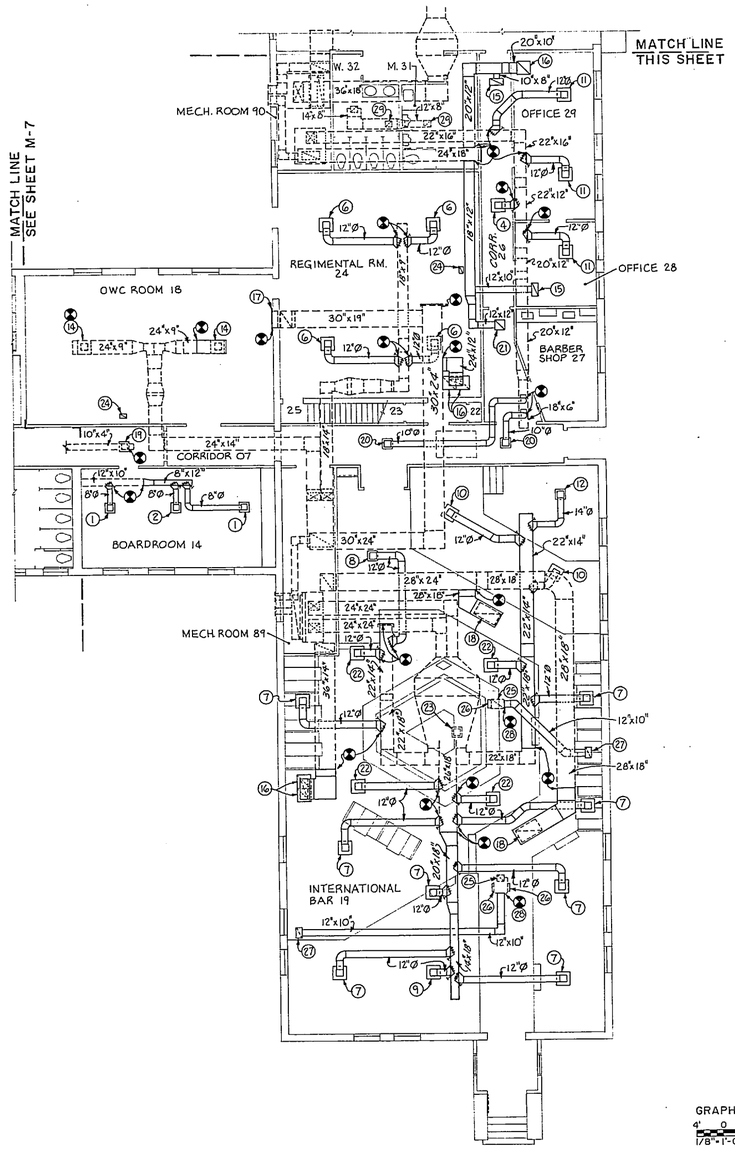
DES.	JGW
DR.	LAB/JEM
CHK.	JHC
SUBMITTED BY:	RJL
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-20-87
SATISFACTORY TO:	DATE

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160640
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 60 OF 74

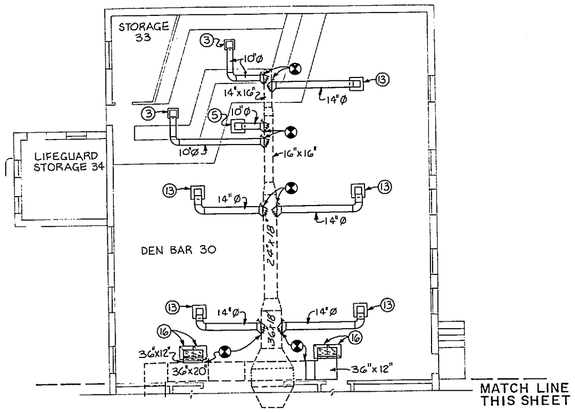
Jimmy Carter

AF 43675

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	9/30/89	



DUCTWORK FLOOR PLAN-AREA C
SCALE: 1/8" = 1'-0"



KEYED NOTES: (THIS SHEET ONLY)

1. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 200 CFM, 4 WAY BLOW.
2. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 220 CFM, 4 WAY BLOW.
3. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 300 CFM, 4 WAY BLOW.
4. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 342 CFM, 2 WAY BLOW.
5. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 350 CFM, 4 WAY BLOW.
6. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 464 CFM, 4 WAY BLOW.
7. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 545 CFM, 4 WAY BLOW.
8. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 545 CFM, 4 WAY BLOW.
9. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 560 CFM, 4 WAY BLOW.
10. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 575 CFM, 4 WAY BLOW.
11. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 583 CFM, 4 WAY BLOW.
12. NEW CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 750 CFM, 4 WAY BLOW.
13. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 950 CFM, 4 WAY BLOW.
14. NEW 2' X 2' LAY-IN CEILING SUPPLY AIR DIFFUSER, 21" X 21" NECK, 1155 CFM, 4 WAY BLOW.
15. NEW 1' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 10" X 20" NECK.
16. NEW 2' X 2' LAY-IN CEILING RETURN AIR GRILLE WITH 20" X 20" NECK.
17. NEW 36" X 24" SIDEWALL RETURN AIR GRILLE.
18. NEW 24" X 42" CEILING RETURN AIR GRILLE.
19. NEW CEILING SUPPLY AIR DIFFUSER, 9" X 9" NECK, 150 CFM, 2 WAY BLOW.
20. NEW CEILING SUPPLY AIR DIFFUSER, 12" X 12" NECK, 342 CFM, 2 WAY BLOW.
21. NEW 12" X 12" CEILING RETURN AIR GRILLE WITH 10" X 20" NECK.
22. NEW 24" X 24" LAY-IN CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 703 CFM, 4 WAY BLOW.
23. NEW CEILING SUPPLY AIR DIFFUSER, 15" X 15" NECK, 703 CFM, 4 WAY BLOW.
24. NEW 10" X 6" CEILING EXHAUST GRILLE WITH 10" X 6" DUCT CONNECTION TO EXISTING 10" X 6" EXHAUST DUCT IN ATTIC. (155 CFM)
25. EXISTING EXHAUST FAN IN ATTIC SPACE. (625 CFM)
26. PROVIDE NEW 12" X 6" AIR TIGHT CLOSURE ON EXISTING PLENUM.
27. PROVIDE NEW 12" X 18" CEILING EXHAUST GRILLE. (625 CFM)
28. PROVIDE NEW 12" X 10" EXHAUST DUCT CONNECTION TO EXISTING PLENUM.
29. PROVIDE NEW 12" X 12" CEILING EXHAUST AIR GRILLE. (300 CFM)

GRAPHIC SCALES: 4' 0 4' 8' 20' — 1/8" = 1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DES. JGW
DR. LAB/JEM
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR. JGW
APPROVED: PWO OR OICC — DATE 7-20-87
SATISFACTORY TO: — DATE

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER CHEATHAM, JR.

RECORD DRAWING

M-8

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

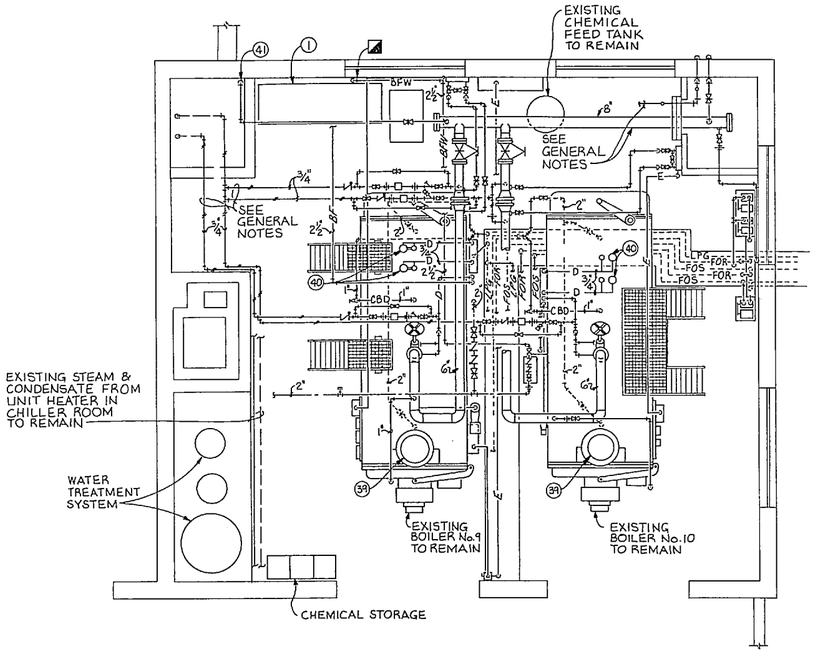
RENOVATE BUILDING 2615

DUCTWORK FLOOR PLAN-AREA C
NEW WORK

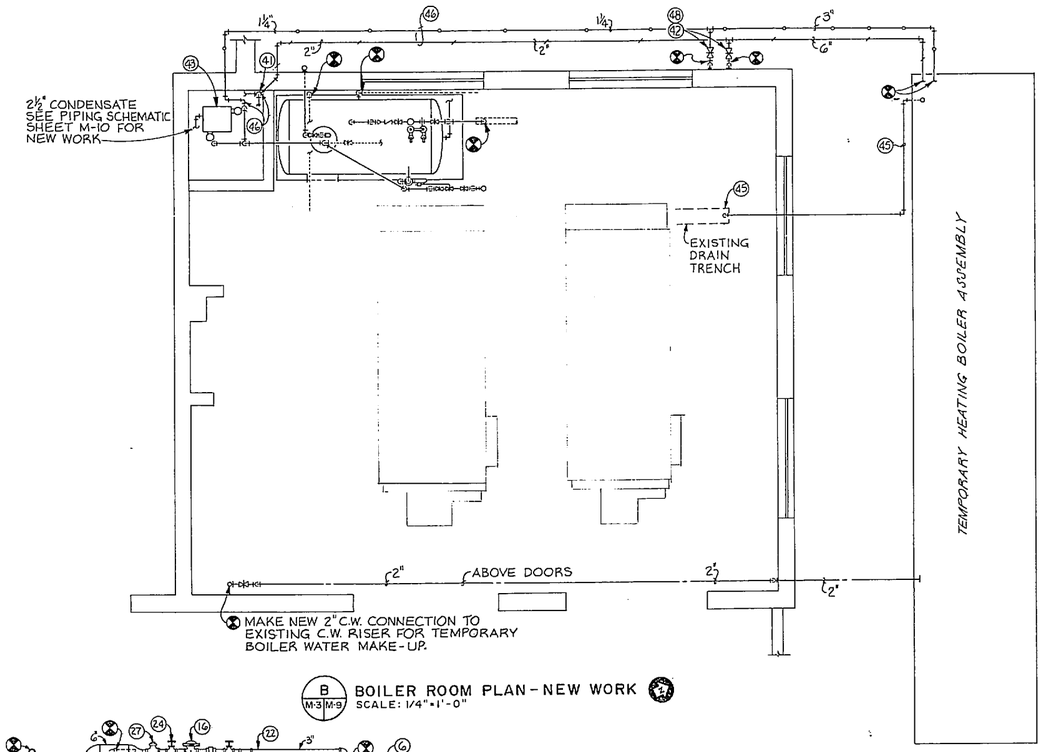
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160640
		CONSTR. CONTR. NO. N62470-86-B-9517

SCALE: NOTED — SPEC. 05-86-9517 — SHEET 60 OF 74

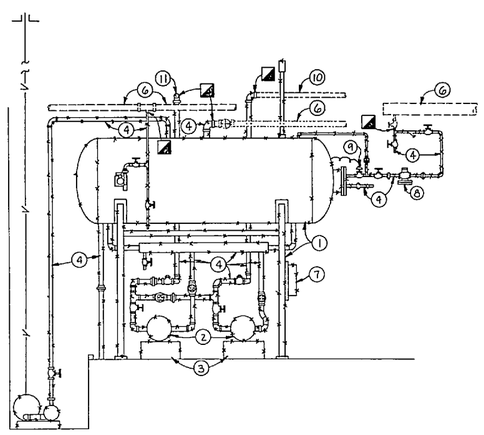
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	



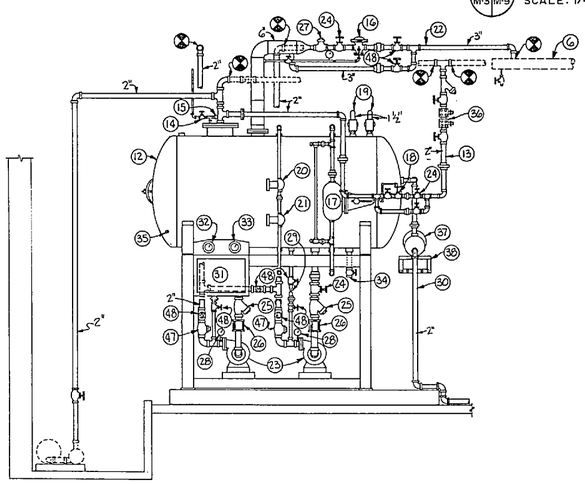
A M-2 M-9 BOILER ROOM PLAN-DEMOLITION
SCALE: 1/4"=1'-0"



B M-3 M-9 BOILER ROOM PLAN-NEW WORK
SCALE: 1/4"=1'-0"



A M-9 M-9 EXISTING FEEDWATER RECEIVER
NO SCALE



B M-9 M-9 NEW DEAERATOR TANK
NO SCALE

KEYED NOTES: (THIS SHEET ONLY)

1. REMOVE EXISTING BOILER FEED WATER STORAGE TANK WITH RELATED PIPING AND STAND. SEE EXISTING FEEDWATER RECEIVER, DETAIL 'A', THIS SHEET.
2. REMOVE EXISTING BOILER FEED WATER PUMP.
3. REMOVE EXISTING CONCRETE PUMP BASE.
4. REMOVE EXISTING PIPING.
5. REMOVE EXISTING SIMPLEX CONDENSATE PUMP, RELATED PIPING AND CONCRETE PAD.
6. EXISTING PIPING TO REMAIN.
7. REMOVE EXISTING ELECTRICAL CONTROL PANEL WITH RELATED STARTERS AND WIRING TO DISCONNECT SWITCH.
8. REMOVE EXISTING PRESSURE REDUCING VALVE.
9. REMOVE EXISTING CONTROL VALVE.
10. EXISTING PUMPED BOILER FEED WATER TO BOILER NO. 10 TO REMAIN.
11. EXISTING PUMPED BOILER FEED WATER TO BOILER NO. 9 TO REMAIN.
12. NEW 600 GALLON DEAERATOR TANK (TO OVERFLOW). SEE NEW DEAERATOR TANK, DETAIL 'B', THIS SHEET.
13. 2" COLD WATER MAKE-UP INLET.
14. MANUAL AIR VENT.
15. AUTOMATIC AIR VENT.
16. NEW STEEL STEAM PRESSURE REDUCING VALVE, 3,000 LBS/HR, 100 PSIG INLET, 45 PSIG OUTLET.
17. WATER LEVEL CONTROLLER.
18. 1" WATER INLET CONTROL VALVE, 45 GPM, SET AT 45 PSIG.
19. RELIEF VALVE, 1875 LBS/HR, SET AT 50 PSIG.
20. HIGH WATER ALARM.
21. LOW WATER ALARM.
22. NEW 3 STEAM SUPPLY.
23. BOILER FEED WATER PUMP, 50 GPM, 280' TOTAL DISCHARGE HEAD, 3450 RPM, 15 HP, 208 VOLT, 3 PHASE.
24. GATE VALVE.
25. STRAINER.
26. SUCTION FLEXIBLE COUPLING.
27. CHECK VALVE.
28. PRESSURE GAUGE, 0-200 PSI.
29. BY-PASS ORIFICE.
30. OVERFLOW DRAINER.
31. CONTROL PANEL.
32. CONTROL PANEL PRESSURE GAUGE.
33. CONTROL PANEL TEMPERATURE GAUGE.
34. 2 TANK DRAIN.
35. 3/4" PORT FOR OXYGEN SCAVENGER.
36. 2" REDUCED PRESSURE BACKFLOW PREVENTER.
37. OVERFLOW VALVE
38. WALL MOUNTED SUPPORT BRACKET FOR OVERFLOW VALVE.
39. EXISTING BOILER BREECHING AND STACK TO REMAIN. REMOVE DURING DEMOLITION OF EXISTING ROOF AND PROVIDE FOR REINSTALLATION OF EXISTING BREECHING AND STACK DURING NEW CONSTRUCTION.
40. EXISTING BOILER SAFETY RELIEF VALVE VENT PIPING UP THRU ROOF TO REMAIN. PROTECT DURING REMOVAL OF EXISTING ROOF AND INSTALLATION OF NEW ROOF.
41. EXISTING HIGH PRESSURE STEAM RISER, SEE REDUCING STATION PIPING SCHEMATIC, DETAIL 'A', SHEET M-10 FOR DEMOLITION AND NEW WORK.
42. PROVIDE NEW 6" STEAM VALVE AND 3" CONDENSATE VALVE FOR CONNECTION TO TEMPORARY BOILER WITH FEED WATER SYSTEM. PROVIDE BLIND FLANGE AT COMPLETION OF PROJECT.
43. PROVIDE NEW DUPLEX CONDENSATE PUMP, 14 GALLON RECEIVER, 12 GPM AT 50 PSIG DISCHARGE PRESSURE, 1-1/2 HP, 208 VOLT, 3 PHASE MOTORS.
44. 2" BY-PASS GATE VALVE. NORMALLY CLOSED.
45. BLOW DOWN FROM TEMPORARY BOILER SHALL BE PIPED, FULL SIZE, THRU BOILER ROOM WALL AND DISCHARGED INTO EXISTING DRAIN TRENCH.
46. PROVIDE TEMPORARY 2" HIGH PRESSURE STEAM CONNECTION TO EXISTING MAIN AT PRESSURE REDUCING STATION AND TEMPORARY 1-1/4" PUMPED CONDENSATE FROM CONDENSATE PUMP FOR BUILDING OPERATION.
47. NEW STEEL CHECK VALVE.
48. NEW STEEL GATE VALVE.

GENERAL NOTES:

A. REMOVE ASBESTOS INSULATION FROM BOILER NO. 9 PIPING, STEAM HEADER, AND EXISTING PUMPED CONDENSATE MAIN. PROVIDE NEW INSULATION.

B. ALL BOILER ROOM PIPING AND EQUIPMENT TO REMAIN SHALL BE PROTECTED DURING DEMOLITION AND CONSTRUCTION OF NEW ROOF STRUCTURE. PIPING SHALL BE DISCONNECTED FROM BOILERS DURING DEMOLITION AND NEW CONSTRUCTION. PROVIDED TEMPORARY SUPPORTS FOR ALL PIPING. PROVIDE RECONNECTION OF ALL PIPING DISASSEMBLED FOR DEMOLITION. PROVIDE NEW HANGER ROD ASSEMBLIES FOR ALL PIPE HANGERS. SEE TYPICAL HANGER, DETAIL 'H', SHEET M-11.

C. ALL PIPING SHALL BE TESTED UNDER NORMAL OPERATING CONDITIONS AFTER CONSTRUCTION TO PROVIDE FOR A TIGHT OPERATING PIPING SYSTEM.

GRAPHIC SCALES:
4' 0 4' 8'
1/4"=1'-0"

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL 4168 ENGINEER JAMES E. CHEATHAM, JR.

RECORD DRAWING

M-9

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

BOILER ROOM PLANS
DEMOLITION & NEW WORK

DES.	J G W
DR.	L A B / J E M
CHK.	J H C
SUBMITTED BY:	R J L
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-20-89
SATISFACTORY TO:	DATE

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160641
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 61 OF 74

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/87	

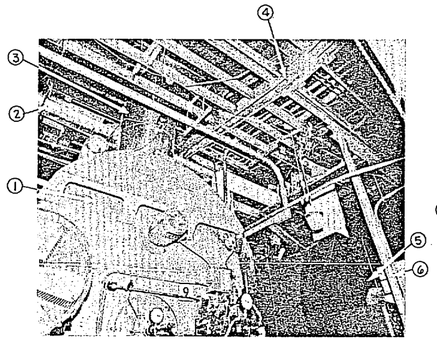


PHOTO-BOILER No. 9
(LOOKING NORTHWEST)
NO SCALE

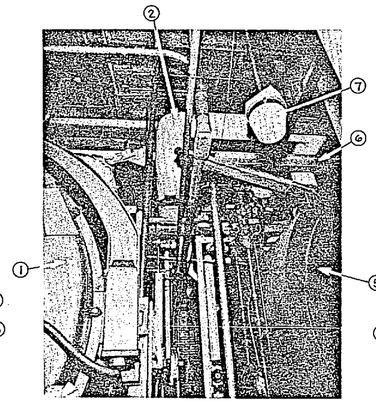


PHOTO-BETWEEN FRONT OF BOILERS
(LOOKING NORTHWEST)
NO SCALE

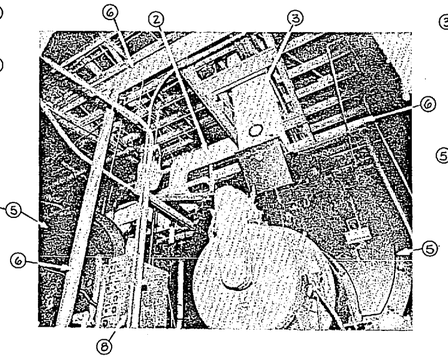


PHOTO-BOILER No. 10
(LOOKING NORTHWEST)
NO SCALE

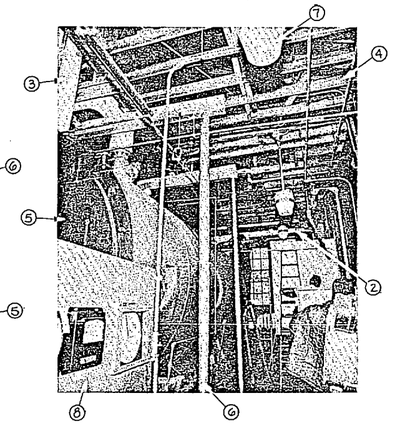


PHOTO-BOILER No. 10
(LOOKING NORTHWEST)
NO SCALE

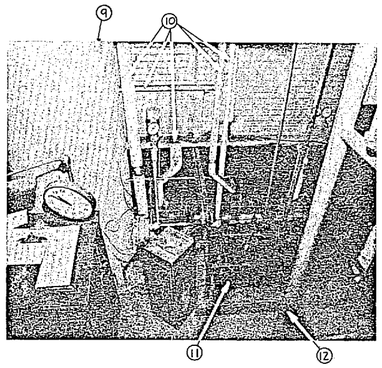


PHOTO-CONDENSATE PIT AREA
(LOOKING WEST-SOUTHWEST)
NO SCALE

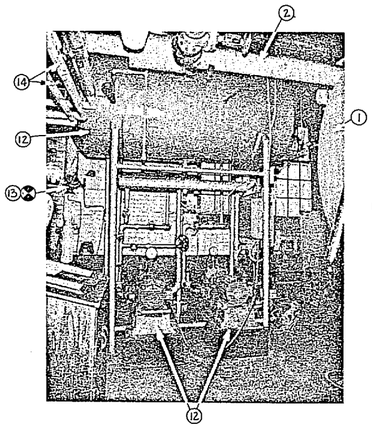


PHOTO-LEFT SIDE OF BOILER No. 9
(LOOKING NORTHWEST)
NO SCALE

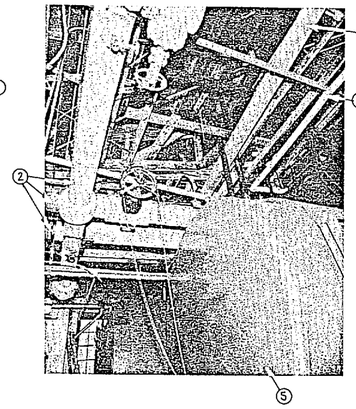


PHOTO-BACK OF BOILER No. 9
(LOOKING NORTHEAST)
NO SCALE

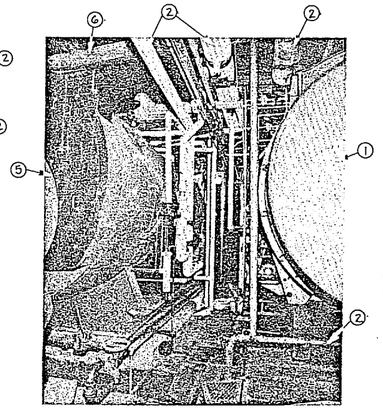


PHOTO-BACK OF BOILERS
(LOOKING SOUTHEAST)
NO SCALE

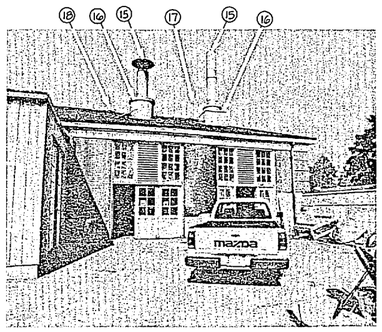
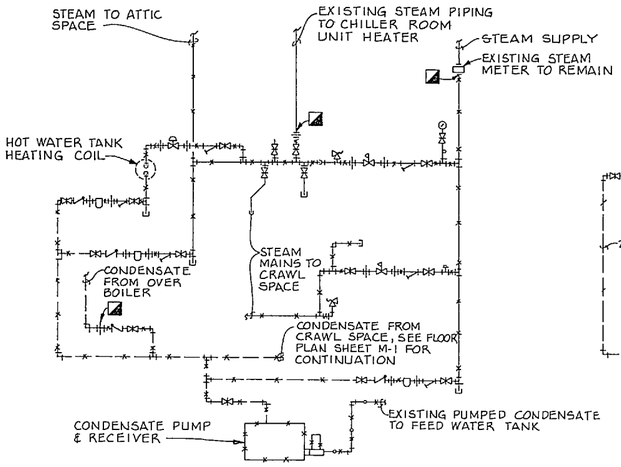
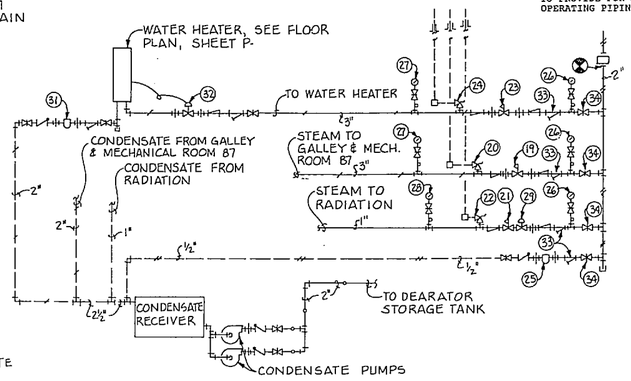


PHOTO-OUTSIDE BOILER ROOM
(LOOKING NORTHWEST)
NO SCALE



DEMOLITION WORK



NEW WORK

A M-9 M-10 REDUCING STATION PIPING SCHEMATIC
NO SCALE

KEYED NOTES: (THIS SHEET ONLY)

1. EXISTING BOILER NO. 9 WITH RELATED PIPING TO REMAIN. PROVIDE TEMPORARY DISCONNECTION OF ALL PIPING TO BOILER. REMOVE ASBESTOS PIPE INSULATION ON ALL PIPING AND PROVIDE NEW INSULATION. PROVIDE RECONNECTION OF ALL PIPING.
2. EXISTING PIPING TO REMAIN. PROVIDE TEMPORARY DISCONNECTION OF ALL PIPING TO BOILERS. PROVIDE TEMPORARY SUPPORT FOR ALL PIPING DURING DEMOLITION OF EXISTING ROOF STRUCTURE AND INSTALLATION NEW ROOF STRUCTURE AND ROOFING. PROVIDE NEW HANGERS TO NEW ROOF STRUCTURE. PROVIDE RECONNECTION OF ALL PIPING.
3. EXISTING BOILER STACK TO REMAIN. PROVIDE TEMPORARY DISCONNECTION OF EXISTING STACK FROM BOILERS. PROTECT STACK DURING DEMOLITION OF EXISTING ROOF STRUCTURE AND INSTALLATION. NEW ROOF STRUCTURE AND ROOFING. PROVIDE RECONNECTION OF EXISTING STACKS.
4. EXISTING EXPOSED ROOF STRUCTURE TO BE REMOVED, SEE DEMOLITION PLANS, SHEET D-8.
5. EXISTING BOILER NO. 10 WITH RELATED PIPING TO REMAIN. PROVIDE TEMPORARY DISCONNECTION OF ALL PIPING TO BOILER. PROVIDE RECONNECTION OF ALL PIPING.
6. EXISTING PIPE SUPPORT STRUCTURE TO REMAIN.
7. EXISTING LIGHTING FIXTURE, SEE ELECTRICAL DRAWINGS FOR WORK.
8. EXISTING BOILER CONTROL PANEL TO REMAIN. (NO WORK)
9. EXISTING WATER STORAGE TANK TO BE REMOVED, SEE PLUMBING DRAWINGS FOR DEMOLITION AND NEW WORK.
10. REMOVE EXISTING STEAM AND CONDENSATE PIPING. SEE SHEET M-9 FOR DETAILED WORK.
11. EXISTING CONDENSATE PUMP PIT. SEE SHEET M-9 FOR DETAILED WORK.
12. REMOVE EXISTING BOILER FEED WATER TANK, PUMPS, STAND, RELATED PIPING AND WIRING.
13. TERMINATION POINT OF STEAM PIPE DEMOLITION. EXISTING STEAM METER TO REMAIN.
14. REMOVE EXISTING WATER PIPING WITH INSULATION. SEE PLUMBING DRAWINGS FOR DETAILED WORK.
15. EXISTING BOILER STACK TERMINAL. PROTECT STACK DURING DEMOLITION OF EXISTING ROOF STRUCTURE AND NEW ROOF STRUCTURE AND ROOFING.
16. EXISTING BOILER STACK BASE FLASHING. PROTECT STACK DURING DEMOLITION OF EXISTING ROOF STRUCTURE AND NEW ROOF STRUCTURE AND ROOFING.
17. EXISTING RELIEF PIPING THRU ROOF TO REMAIN. PROTECT STACK DURING DEMOLITION OF EXISTING ROOF STRUCTURE AND NEW ROOF STRUCTURE AND ROOFING.
18. REMOVE EXISTING POWER VENTILATOR. SEE FLOOR PLAN, SHEET M-2, FOR DEMOLITION WORK AND FLOOR PLAN, SHEET M-6 FOR NEW WORK.
19. PROVIDE NEW STEEL STEAM PRESSURE REDUCING VALVE, 2350 LBS/HR, 100 PSIG INLET, 50 PSIG OUTLET PRESSURE.
20. PROVIDE NEW STEAM PRESSURE RELIEF, 3500 LBS/HR, SET AT 55 PSIG. SEE RELIEF VALVE DISCHARGE PIPING DETAIL 'G', SHEET M-11.
21. PROVIDE NEW STEEL STEAM PRESSURE REDUCING VALVE, 135 LBS/HR, 100 PSIG INLET, 15 PSIG OUTLET PRESSURE.
22. PROVIDE NEW STEAM PRESSURE RELIEF, 250 LBS/HR, SET AT 20 PSIG. SEE RELIEF VALVE DISCHARGE PIPING DETAIL 'G', SHEET M-11.
23. PROVIDE NEW STEEL STEAM PRESSURE REDUCING VALVE, 2125 LBS/HR, 100 PSIG INLET, 60 PSIG OUTLET PRESSURE.
24. PROVIDE NEW STEAM PRESSURE RELIEF, 3200 LBS/HR, SET AT 65 PSIG. SEE RELIEF VALVE DISCHARGE PIPING DETAIL 'G', SHEET M-11.
25. PROVIDE NEW STEEL 1/2" BUCKET TRAP, 100 LBS/HR, 95 PSIG DROP.
26. PROVIDE NEW PRESSURE GAUGE WITH SIPHON TUBE AND GAUGE COCK, 0-200 PSIG.
27. PROVIDE NEW PRESSURE GAUGE WITH SIPHON TUBE AND GAUGE COCK, 0-100 PSIG.
28. PROVIDE NEW PRESSURE GAUGE WITH SIPHON TUBE AND GAUGE COCK, 0-30 PSIG
29. PROVIDE NEW STEEL 3/4" STEAM SUMMER SHUT-OFF VALVE.
30. PROVIDE NEW 1/2" END OF MAIN BUCKET TRAP, 150 LBS/HR, 95 PSIG PRESSURE DROP.
31. PROVIDE NEW 2" BUCKET TRAP, 5300 LBS/HR, 55 PSIG PRESSURE DROP.
32. WATER HEATER STEAM TEMPERATURE CONTROL VALVE BY WATER HEATER MANUFACTURE.
33. PROVIDE NEW STEEL STRAINER.
34. PROVIDE NEW STEEL GATE VALVE.

GENERAL NOTES:

A. REMOVE ASBESTOS INSULATION FROM BOILER NO. 9 PIPING, STEAM HEADER, AND EXISTING PUMPED CONDENSATE MAIN. PROVIDE NEW INSULATION.

B. ALL BOILER ROOM PIPING AND EQUIPMENT TO REMAIN SHALL BE PROTECTED DURING DEMOLITION AND CONSTRUCTION OF NEW ROOF STRUCTURE. PIPING SHALL BE DISCONNECTED FROM BOILERS DURING DEMOLITION AND NEW CONSTRUCTION. PROVIDED TEMPORARY SUPPORTS FOR ALL PIPING. PROVIDE RECONNECTION OF ALL PIPING DISASSEMBLED FOR DEMOLITION. PROVIDE NEW HANGER ROD ASSEMBLIES FOR ALL PIPE HANGERS. SEE TYPICAL HANGER, DETAIL 'H', SHEET M-11.

C. ALL PIPING SHALL BE TESTED UNDER NORMAL OPERATING CONDITIONS AFTER CONSTRUCTION TO PROVIDE FOR A TIGHT OPERATING PIPING SYSTEM.

RECORD DRAWING

M-10

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. JGW
DR. LAB / JEM
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR. JGC
APPROVED: PWO OR OIC DATE 7-20-87
SATISFACTORY TO: DATE

RENOVATE BUILDING 2615

PHOTOS

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4160642
CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: GRAPHIC | SPEC. 05-86-9517 | SHEET 62 OF 74

AF 45675

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
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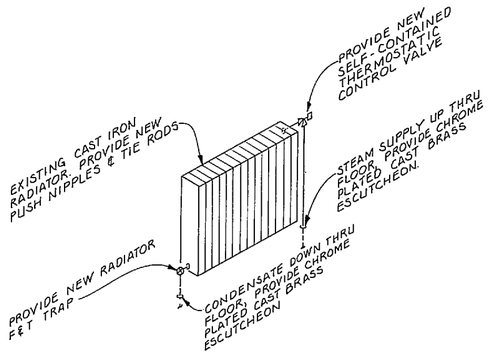
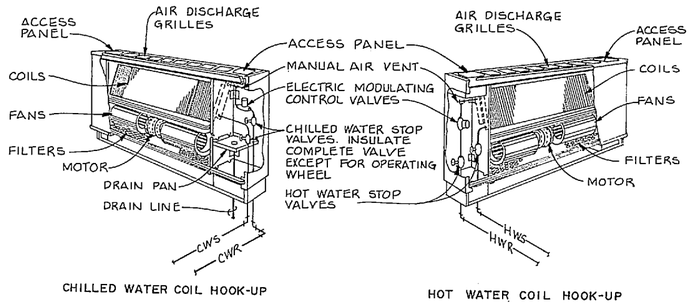
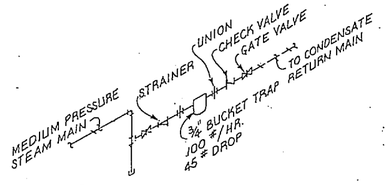


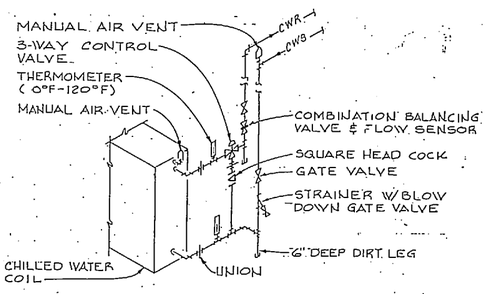
A (M-3 | M-11) TYPICAL RADIATOR DETAIL
NO SCALE



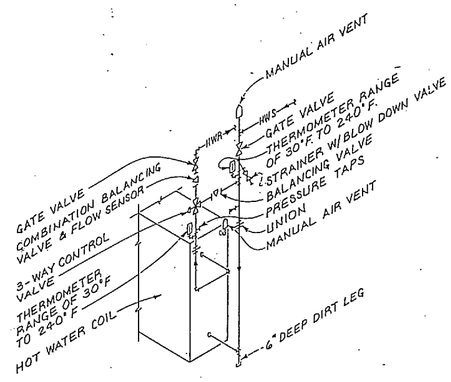
B (M-3 | M-11) FAN COIL UNIT DETAILS
NO SCALE
M-5



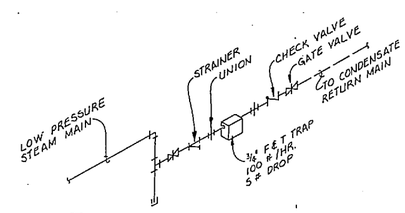
C (M-4 | M-11) END OF MAIN DRIP DETAIL
NO SCALE



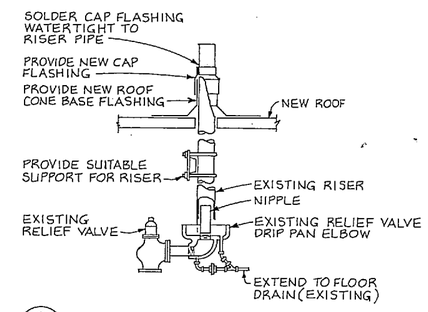
D (M-3 | M-11) CHILLED WATER COIL PIPING DETAIL
NO SCALE
M-4



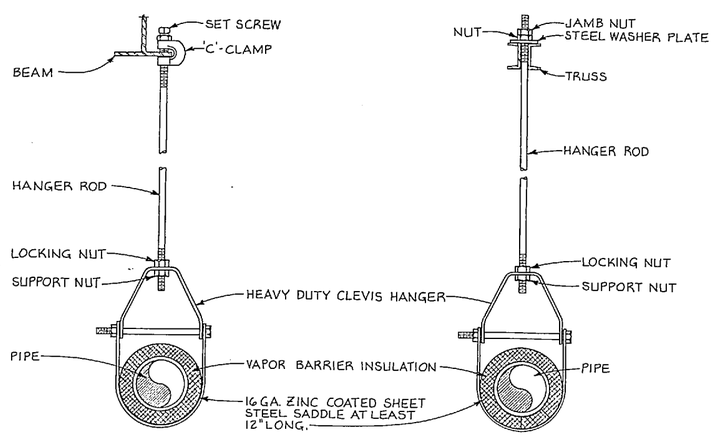
E (M-3 | M-11) HOT WATER COIL PIPING DETAIL
NO SCALE
M-4



F (M-3 | M-11) END OF MAIN DRIP DETAIL
NO SCALE



G (M-10 | M-11) RELIEF VALVE DISCHARGE PIPING DETAIL
NO SCALE



H (M-9 | M-11) HANGER DETAILS
NO SCALE
M-10

RECORD DRAWING

M-11

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

MECHANICAL DETAILS

DES. JGW
DR. JEM, LAB
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR.
APPROVED: PWO OR OICC DATE 7-20-81
SATISFACTORY TO: DATE

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4160643
CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED | SPEC. 05-86-9517 | SHEET 63 OF 74

To: *@MAIN1, *@MAIN2, YOUNG@MAIN1@MCAS NEW RIVER
Cc:
Bcc:
From: GS-6 KATHY M WINBERRY@MAIN1@MCB LEJEUNE
Subject: FUNERAL ARRANGEMENTS
Date: Thursday, July 24, 1997 16:14:11 EDT
Attach:
Certify: N
Priority: Normal
Defer until:
Expires:
Forwarded by:

THE FOLLOWING FUNERAL ARRANGEMENTS HAVE BEEN MADE FOR GENE PRICE:

VISITATION AT JONES FUNERAL HOME IN SWANSBORO 7-9 PM FRIDAY, 25 JULY

FUNERAL AT JONES FUNERAL HOME CHAPEL IN SWANSBORO 2:00 PM SATURDAY, 26 JULY

KATHY.

AP 45675

FAN COIL UNIT SCHEDULE

SYMBOL	CFM		COOLING COIL *			HEATING COIL**		RUNOUT SIZE		ELECTRICAL			REMARKS
	TOTAL	O.A.	GPM	SENSIBLE CAPACITY	TOTAL CAPACITY	GPM	TOTAL CAPACITY	COOLING	HEATING	HP	VOLTAGE	PHASE	
F.C.#1	300	40	1.8	6,500	8,800	1.2	12,000	½"	½"	1/30	120	1	
F.C.#2	200	40	1.3	5,000	6,400	.8	8,000	½"	½"	1/60	120	1	
F.C.#3	800	80	4.8	17,600	23,600	3.2	32,000	1"	¾"	1/12	120	1	
F.C.#4	200	—	1.3	5,000	6,400	.8	8,000	½"	½"	1/60	120	1	
F.C.#5	600	80	3.3	11,800	16,000	2.4	24,000	¾"	¾"	1/20	120	1	

* FAN COIL BASED ON 78°F. E.A.T. D.B., 65°F. W.B., 10°F. WATER TEMP. RISE & 45°F. E.W.T.
* * HEATING COIL BASED ON 65°F. E.A.T. & 180°F. E.W.T., MAXIMUM OF 10' FOR COIL & CONTROL VALVE.

MAKE-UP AIR UNIT SCHEDULE

SYMBOL	CFM	ESP "H_2O	ELECTRICAL			REMARKS
			HP	VOLTAGE	PHASE	
M.A.#1	1440	.25	1/3	120	1	INTERLOCK WITH EXISTING RANGE HOOD FAN

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	9/30/89	

AIR HANDLING UNIT SCHEDULE

SYMBOL	AIR QUANTITY		EXT. S.P. "H_2O*	ELECTRICAL			COOLING COIL ****							HEATING COIL**				REMARKS
	TOTAL CFM	OUTSIDE AIR CFM		H.P	VOLTAGE	PHASE	EDB °F	EWB °F	LDB °F	LWB °F	GTH-MBH	GPM ***	RUNOUT SIZE	EAT °F	GTH-MBH	GPM	RUNOUT SIZE	
A.H.U.#1	800	100	.35	1/3	120	1	78.2	66.8	58.1	57.1	24.5	5	1"	62	30	3	¾"	
A.H.U.#2	1600	740	.35	1	208	3	83.6	71.5	53.0	52.9	95.7	19.1	1½"	47.2	109	11	1¼"	

* EXT. S.P. INCLUDES SUPPLY & RETURN AIR DUCTWORK & GRILLES. FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
** BASED ON 180°F. E.W.T. & 20°F. DROP. MAXIMUM WATER PRESSURE DROP OF 10' FOR COIL & CONTROL VALVE.
*** BASED ON 45°F. E.W.T. & 10°F. TEMPERATURE RISE. MAXIMUM WATER PRESSURE DROP OF 15' FOR COIL & CONTROL VALVE.
**** BASED ON MAXIMUM COIL VELOCITY OF 600 F.P.M. & A MAXIMUM AIR SIDE PRESSURE DROP OF 2.0" WATER COLUMN. COIL SHALL HAVE A MINIMUM OF 6 ROWS & MAXIMUM OF 132 FINS PER INCH.

POWER VENTILATOR SCHEDULE

SYMBOL	CFM	E.S.P. "H_2O	RPM	TIP SPEED	ELECTRICAL			TYPE	DRIVE	REMARKS
					H.P.	VOLTAGE	PHASE			
F-1	380	.125	1300	3701	1/30	120	1	ROOF MOUNTED CENTRIFUGAL	DIRECT	
F-2	1150	.20	1490	4340	¼	120	1		BELT	W/COOLING THERMOSTAT
F-3	470	.125	1300	3701	1/25	120	1		DIRECT	
F-4	2500	.125	700	3390	¼	120	1		BELT	W/COOLING THERMOSTAT
F-5	2500	.125	700	3390	¼	120	1		BELT	W/COOLING THERMOSTAT
F-6	690	.125	840	2446	¼	120	1		BELT	

RECORD DRAWING

M-12

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL SEAL 17168 ENGINEER JOHN H. CHEATHAM JR.

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DES. JGW
DR. JEM, LAB
CHK. JHC
SUBMITTED BY: RJL
DESIGN DIR. JEC
APPROVED: PWO OR OICC — DATE 7-20-87
SATISFACTORY TO: — DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

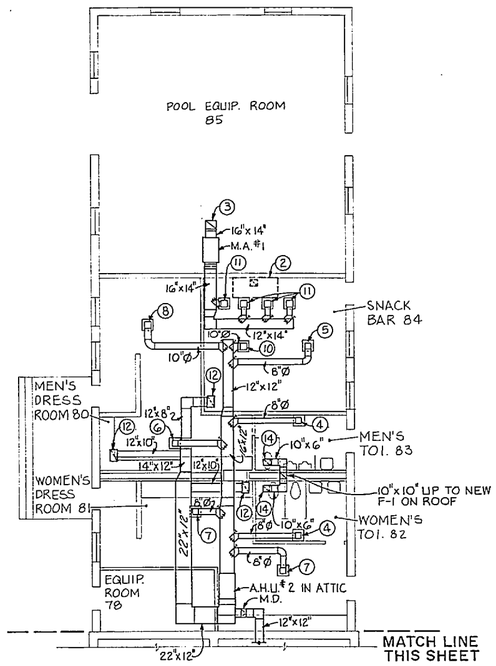
RENOVATE BUILDING 2615

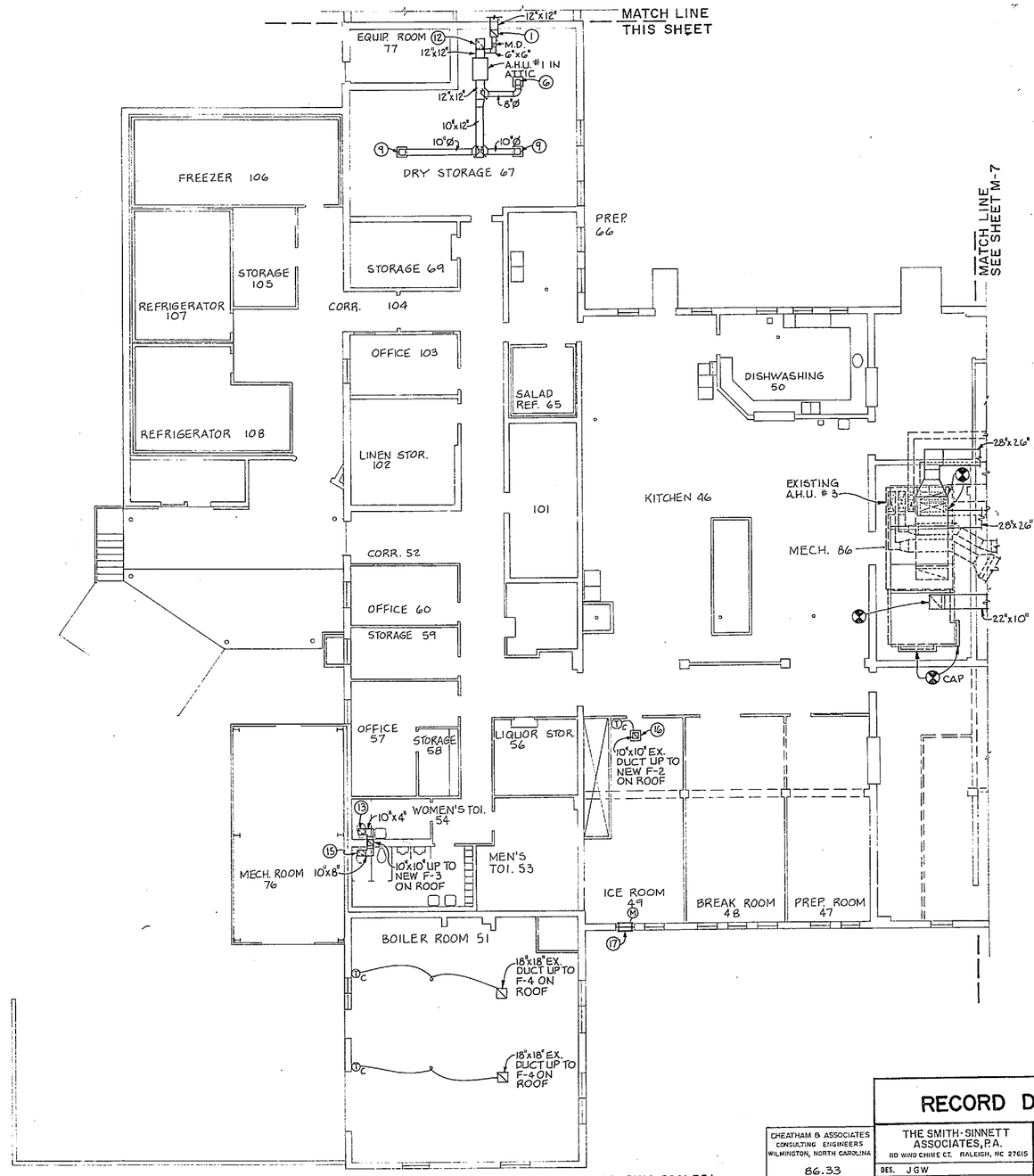
SCHEDULES

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160644
		CONSTR. CONTR. NO. N62470-86-B-9517

SCALE: NOTED | SPEC. 05-86-9517 | SHEET 64 OF 74

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
1	AS BUILT DRAWINGS	5/30/89	





DUCTWORK FLOOR PLAN-AREA A
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES:
4' 0 4' 8' 20'
1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

1. 14" X 12" FRESH AIR DUCT DOWN FROM NEW FRESH AIR INTAKE GOOSENECK ON ROOF, SEE DETAIL C, SHEET M-11.
2. EXISTING RANGE HOOD WITH EXHAUST FAN ON ROOF. INTERLOCK EXISTING EXHAUST FAN WITH NEW H.A. # 1.
3. 16 X 14" FRESH AIR DUCT DOWN FROM NEW FRESH AIR INTAKE GOOSENECK ON ROOF, SEE DETAIL C, SHEET M-11.
4. NEW 8" X 8" CEILING SUPPLY AIR DIFFUSER, 150 CFM.
5. NEW 8" X 8" CEILING SUPPLY AIR DIFFUSER, 175 CFM.
6. NEW 8" X 8" CEILING SUPPLY AIR DIFFUSER, 200 CFM.
7. NEW 8" X 8" CEILING SUPPLY AIR DIFFUSER, 250 CFM.
8. NEW 10" X 10" CEILING SUPPLY AIR DIFFUSER, 275 CFM.
9. NEW 10" X 10" CEILING SUPPLY AIR DIFFUSER, 300 CFM.
10. NEW 10" X 10" CEILING SUPPLY AIR DIFFUSER, 350 CFM.
11. NEW 10" X 10" CEILING SUPPLY AIR DIFFUSER, 360 CFM.
12. NEW 18" X 12" CEILING RETURN AIR GRILLE.
13. NEW 10" X 6" CEILING EXHAUST REGISTER, 145 CFM.
14. NEW 10" X 8" CEILING EXHAUST REGISTER, 190 CFM.
15. NEW 10" X 10" CEILING EXHAUST REGISTER, 325 CFM.
16. NEW 18" X 18" CEILING EXHAUST REGISTER, 1150 CFM.
17. PROVIDE NEW 24" X 16" FIXED BLADE FRESH AIR INTAKE AIR LOUVER WITH MOTORIZED DAMPER. INTERLOCK DAMPER MOTOR WITH POWER VENTILATOR F-2. MOUNT BOTTOM OF LOUVER 12" A.F.F.

RECORD DRAWING — M-6

CHEATHAM & ASSOCIATES
CONSULTING ENGINEERS
WILMINGTON, NORTH CAROLINA
86.33

NORTH CAROLINA PROFESSIONAL ENGINEER 4188 JAMES H. CHEATHAM, JR.

THE SMITH-SINNETT ASSOCIATES, P.A.
110 WIND CHIME CT. RALEIGH, NC 27615

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

RENOVATE BUILDING 2615

DUCTWORK FLOOR PLAN-AREA A
NEW WORK

DES.	JGW
DR.	LAB / JEM
CHK.	JHC
SUBMITTED BY:	RJL
DESIGN DIR.	
APPROVED: PWO OR OICC	DATE 7-30-89
SATISFACTORY TO:	DATE

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4160638
		CONSTR. CONTR. NO. N62470-86-B-9517
SCALE: NOTED	SPEC. 05-86-9517	SHEET 58 OF 74