ALL DRAWINGS ARE 1/2 SCALE REDUCTIONS

GRAPHIC SCALES SHOWN HEREON APPLY

NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

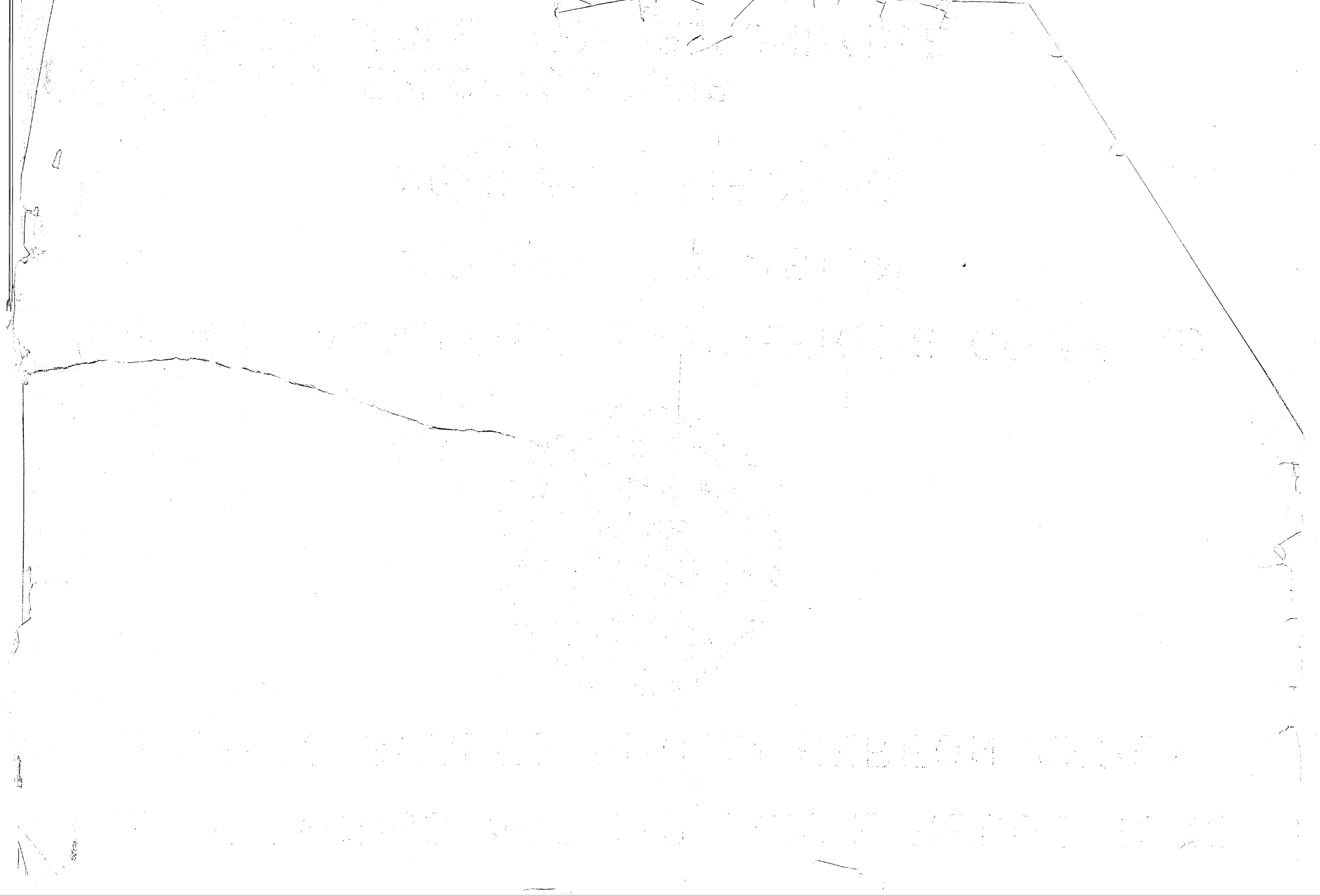
NORFOLK, VIRGINIA

84 4174 Main Hangar

PLANS AND SPECIFICATIONS

NON-RETURNABLE, NON-REFUNDABLE

Main Hangar



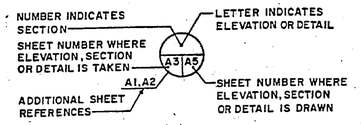
MAINTENANCE HANGARS

MAINTENANCE HANGAR

MARINE CORPS AIR STATION (HELICOPTER)

NEW RIVER

JACKSONVILLE, NORTH CAROLINA



ELEVATION, SECTION OR DETAIL SYMBOL

NOTE: SYMBOL SHOULD ALWAYS APPEAR AS PART OF THE TITLE, PLACED UNDER THE VIEW.

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C-2	238753	4138753	DEMOLITION PLAN SOUTH SECTION - BASE BID
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A-16	238790	4138790	PARTIAL INTERIOR ELEVATIONS
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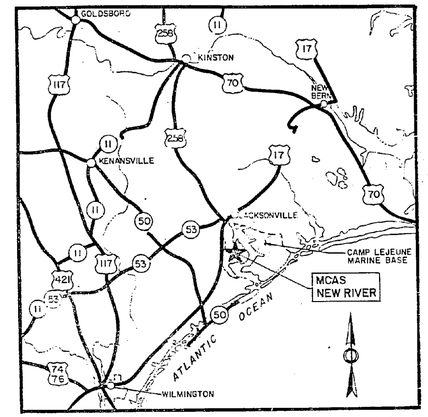
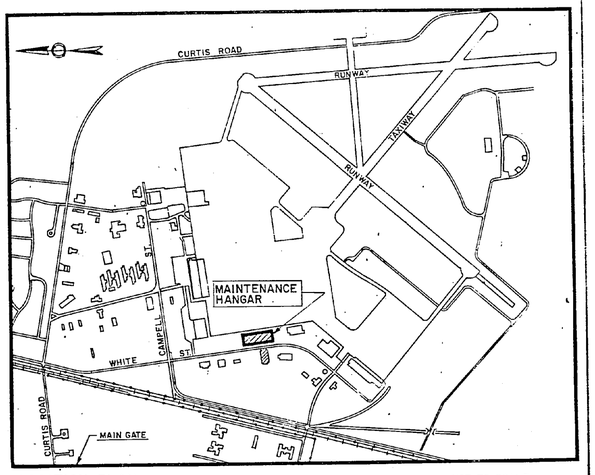
FP-3	238878	4138878	SECTION - DETAILS - FIRE PROTECTION

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



VICINITY MAP NOT TO SCALE



LOCATION PLAN. NOT TO SCALE

T-1

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

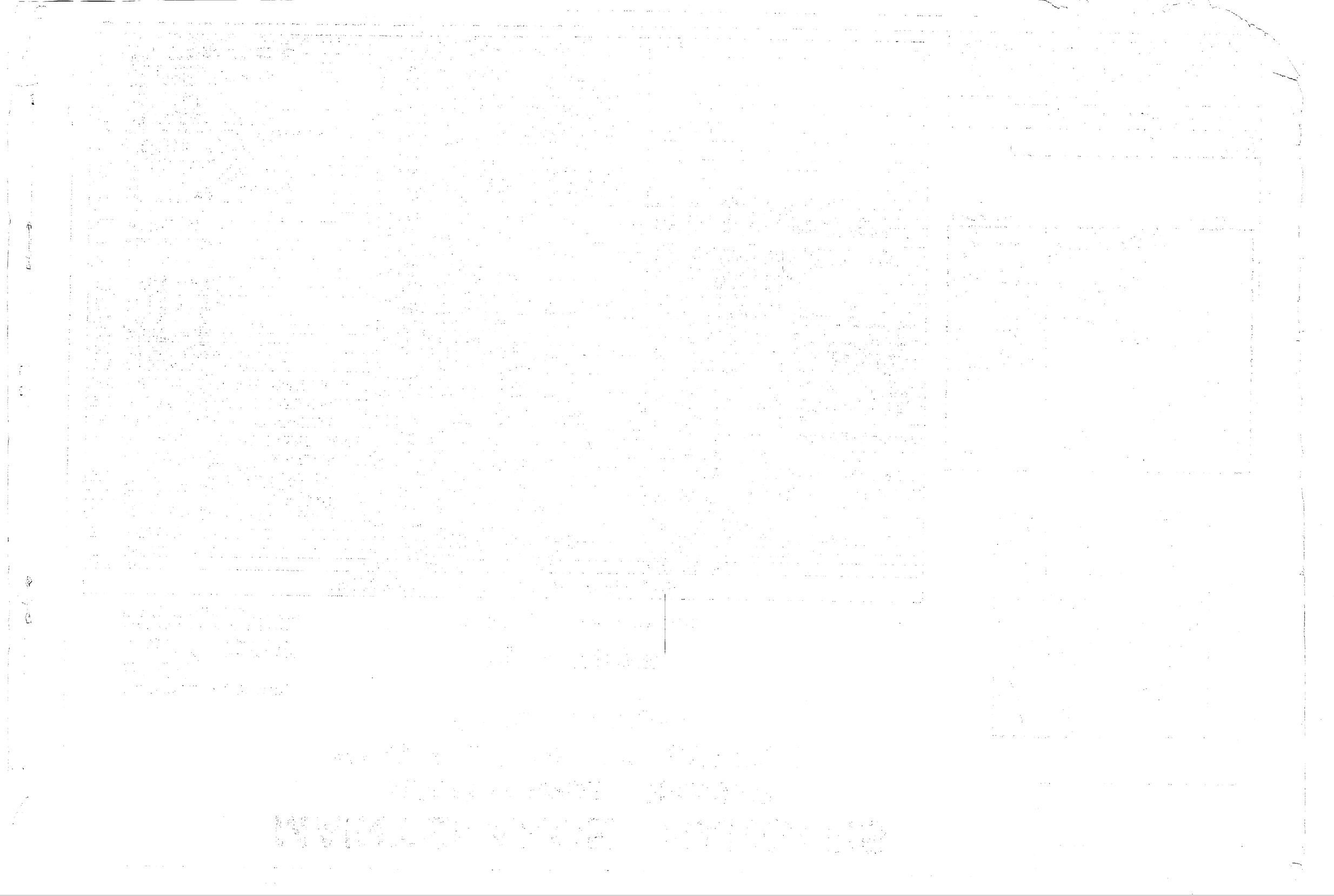
TITLE SHEET

NORTH CAROLINA PROFESSIONAL SEAL 2669 ENGINEER STEPHEN A. EASON 4/3/96

DES. S. Gunnell DFT. J. Mulvihill CHK. OHK
PROJ. MGR. GAE in ENGR. OHK
SUBMITTED BY: DATE: 4 MAR '96
FIRM MEMBER PRINCIPAL
EFD: FP RVD
NO DIR
APPROVED: DATE 3-4-96
OFFICER IN CHARGE
APPROVED: DATE 1-12-97
FOR EFD, FOR COMMANDER NAVFAC

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138750
CONSTR. CONTR. NO. N62470-94-B-4174
SCALE NONE | SPEC. 05-94-4174 | SHEET 1 OF 129
EFD DWG. NO. 238750

AUTOCAD VERSION 11 (DOS) 3/4" = 1'-0"



BORING LOGS

SCALE: 1" = 5'

B1

Description	Blows
Firm Dark Brown Very Sandy CLAY	8
Firm Gray Silty CLAY (water table)	5
Very Firm Gray-Brown Slightly Silty Fine SAND	24
Dense Gray Fine To Medium To Coarse SAND	32
Very Loose Dark Gray Silty Fine SAND	3
Very Firm Gray Calcareous Silty Fine SAND With Some Cemented Pieces	29, 22
Very Firm Gray-Tan Silty Fine SAND	23, 39
Dense Light Gray Calcareous Silty Fine SAND With Cemented Pieces	32, 41
Dense Gray Silty Fine SAND	47, 65, 46, 40

BT @ 70'

B2

Description	Blows
Firm Dark Brown Very Silty Fine SAND	12
Very Loose Black Silty Fine SAND And Peat	4
Soft Gray Silty CLAY (water table)	
Firm Brown Silty Fine SAND With Clayey Silt Seams	15
Dense Gray-Tan Fine To Medium SAND	45
Firm Dark Gray Very Silty Fine SAND	18
Dense To Very Firm Light Gray Calcareous Silty Fine To Medium SAND With Shell And Cemented Pieces	37, 21
Very Firm Tan Silty Fine SAND	21, 28
Dense To Very Dense Light Gray Calcareous Silty Fine To Medium SAND With Shell And Cemented Pieces	44, 65

BT @ 50'

B3

Description	Blows
Firm Tan Slightly Clayey Fine SAND	17
Soft Gray-Tan Silty CLAY	3
Firm Gray Fine SAND With Silty Clay Seams	17
Very Firm Gray-Tan Silty Fine SAND With Silty Clay Seams	22
Firm Gray Fine To Medium SAND	12
Very Loose Dark Gray Silty Fine SAND	2
Firm To Very Firm Light Gray Calcareous Silty Fine SAND With Cemented Pieces	19, 19, 22
Very Dense Gray Slightly Silty Fine SAND	50/5"
Dense Light Gray Calcareous Silty Fine SAND With Cemented Pieces	36

BT @ 50'

B4

Description	Blows
Firm Dark Brown Silty Fine SAND With Some Organics	16
Firm Gray-Brown Silty CLAY	6 (water table)
Very Soft Gray Silty CLAY	0
Dense Gray Fine To Medium SAND	57
Very Firm Tan To Medium To Coarse SAND	24
Loose Dark Gray Silty Fine SAND	6
Very Firm Light Gray Calcareous Silty Fine SAND With Shell And Cemented Pieces	32, 26, 21, 29
Very Dense Light Gray Cemented Calcareous Silty Fine To Medium SAND	50/6"

BT @ 50'

B5

Description	Blows
Brown Silty Fine SAND With Roots	7
Firm Gray-Brown Fine Sandy Silty CLAY	5 (water table)
Very Firm Gray Fine SAND	26
Very Firm Gray Fine To Medium SAND	21
Very Loose Gray Slightly Clayey Silty Fine SAND	2
Very Firm Gray Calcareous Silty Fine SAND With Cemented Pieces Of Shell	29, 28
Very Firm To Dense Gray Silty Fine SAND	24, 48
Dense Gray Calcareous Silty Fine SAND With Cemented Piece Of Shell	36, 41

BT @ 50'

B6

Description	Blows
Loose Black Silty Fine SAND With Organics	7, 7
Very Soft Gray Silty CLAY (water table)	WOH
Loose Gray Clayey Fine SAND With Piece Of Wood	9
Very Firm Gray-Tan Fine SAND	26
Very Loose To Coarse Gray Silty Fine SAND	2, 42
Dense Gray Calcareous Silty Fine SAND With Cemented Pieces Of Shell	33
Firm Gray-Brown Silty Fine SAND	19, 19
Dense Gray Calcareous Silty Fine SAND With Cemented Pieces Of Shell	41

BT @ 50'

B7

Description	Blows
Firm Dark Brown Clayey Fine SAND	16
Soft Tan Silty CLAY	3
Very Loose Gray Silty Clayey Fine SAND	WOH
Dense Tan Slightly Silty Fine SAND	32
Dense Tan Medium To Coarse SAND	32
Firm Dark Gray Slightly Clayey Silty Fine SAND	15
Very Firm Light Gray Calcareous Silty Fine SAND With Shell And Cemented Pieces	28, 22, 22
Dense Gray-Brown Silty Fine SAND	38
Very Dense Gray Fine To Medium SAND With Shell Frag.	54

BT @ 50'

B8

Description	Blows
Very Loose Orange Fine SAND (Fill)	2
Soft Gray Silty CLAY	2
Very Loose Dark Brown Silty Fine SAND With Pieces Of Wood	2
Dense Gray Fine SAND	32
Firm Gray Silty Fine SAND With Fine Gravel	18
Loose Dark Greenish-Gray Silty Fine SAND	9
Firm Light Gray Calcareous Silty Fine SAND With Shell Fragments	16
Firm Gray-Tan Silty Fine SAND	20, 18
Very Dense Light Gray Calcareous Silty Fine SAND With Shell Fragments And Cemented Pieces	45, 50

BT @ 50'

B9

Description	Blows
Loose Dark Brown Silty Fine SAND And PEAT	9
Firm To Soft Gray And Tan Fine Sandy Silty CLAY	6, 3 (water table)
Very Loose Gray Slightly Clayey Silty Fine SAND	2

BT @ 10'

B10

Description	Blows
Brown Fine SAND	
Firm To Very Soft Gray And Tan Silty CLAY	6, 3 (water table)
Very Loose Gray Silty Fine SAND	2
*	
Firm Gray Silty Fine SAND With Pieces Of Wood	8

BT @ 10'

* Very Loose Dark Brown Silty Fine SAND And Organics

B13

Description	Blows
Very Hard Gray-Brown Sandy CLAY With Cemented Pieces (Fill)	67
Soft Gray-Tan Silty CLAY	3 (water table)
Very Firm Dark Brown Slightly Silty Fine SAND	21
Very Dense Light Gray Fine SAND	60
Very Loose Gray Fine SAND	3
Very Dense To Very Firm Gray Calcareous Silty Fine SAND With Cemented Pieces	72, 27
Very Firm Tan Silty Fine SAND	30, 23
Very Firm To Dense Light Gray Calcareous Silty Fine To Medium SAND With Shell And Cemented Pieces	22, 42

BT @ 50'

Depth Ft.: 5.0, 10.0, 15.0, 20.0, 25.0, 30.0, 35.0, 40.0, 45.0, 50.0 (B1: to 70.0)

LEGEND

- TOPSOIL
- CLAY
- SAND
- WATER TABLE
- SILT
- CALCAREOUS MATERIAL
- ORGANIC
- BT — BORING TERMINATED

LOCATION PLAN
SCALE: 1"=200'

NOTE: BORINGS B11 OR B12 WERE NOT MADE

GRAPHIC SCALE: 5' 0 5' 10'

REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

QUANTITIES THUS 1110/557 DENOTE BASE BID/ADDITIVE No. 1

BUILDING FOUNDATION NOTES

1. FOR STRIPPING, PROOFROLLING, AND FILLING OPERATIONS, BUILDING AREAS SHALL EXTEND 10' BEYOND THE BUILDING LIMITS. STRIPPING AND FILLING OPERATIONS SHALL BE DONE WITH EQUIPMENT CAPABLE OF MANEUVERING OVER VERY SOFT MATERIAL.
2. THE SITE SHALL BE STRIPPED OF TOPSOIL TO A DEPTH OF 4" AND STOCKPILED FOR FINISH GRADING. EXCAVATE AND/OR PROVIDE FILL MATERIAL AS REQUIRED WITHIN THE BUILDING AREA TO ELEVATION 19.0'
3. AFTER LEVELING THE EXPOSED SUBGRADE (AT ELEVATION 19.0), THE BUILDING AREA SHALL BE PROOFROLLED WITH A 15 TON ROLLER (OR OTHER APPROVED COMPACTION EQUIPMENT). THE PROOFROLLING OPERATION SHALL BE DONE IN THE PRESENCE OF THE CONTRACTING OFFICER. AREAS THAT EXHIBIT RUTTING OR PUMPING SHALL BE UNDERCUT AS DIRECTED BY THE CONTRACTING OFFICER. BASE BIDS ON A TOTAL OF 1110/557 CY OF UNDERCUTTING REQUIRED.
4. COMPACTED SELECT FILL MATERIAL SHALL THEN BE PLACED OVER THE BUILDING AREA TO THE UNDERSIDE OF POROUS FILL OR STONE BASE COURSE (AS INDICATED ON SHEET S-17).
5. SEE SPECIFICATIONS FOR FILL/BACKFILL AND SELECT FILL MATERIAL AND COMPACTION REQUIREMENTS.
6. ALL FILL/BACKFILL MATERIAL PLACED WITHIN THE BUILDING AREA SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698); SELECT MATERIAL SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF ASTM D 698, EXCEPT THE HANGAR AREA SHALL BE COMPACTED TO A MINIMUM OF 100 PERCENT OF ASTM D 1557.
7. PILES SHALL BE DRIVEN TO AN ALLOWABLE VERTICAL DESIGN CAPACITY OF 50 TONS WITH A MINIMUM PENETRATION OF 30' BELOW CUT-OFF ELEVATION.
8. PILES MAY BE PRE-AUGERED TO ELEVATION 0.0'.
9. BASE BIDS ON PROVIDING 9170/2485 LF OF STANDARD JOB PILES (EACH OF 35' LENGTH MEASURED TIP TO CUT-OFF); 350/140 LF OF TEST PILES (EACH OF 35' LENGTH MEASURED TIP TO CUT-OFF, WITH ORDERED LENGTHS OF 40 LF); AND 3 LOAD TESTS.
10. TEST PILE LOCATIONS ARE AS INDICATED ON SHEETS S-2,3,4. LOAD TEST LOCATIONS SHALL BE AS DETERMINED BY THE CONTRACTING OFFICER.
11. ADJUSTMENTS IN THE DRIVING CRITERIA FOR THE STANDARD JOB PILES MAY BE MADE BY THE ROICC BASED ON THE RESULTS OF LOAD TESTS AND TEST PILES.

GENERAL NOTES FOR BORING LOGS

1. LOGS TAKEN FROM GEOTECHNICAL INVESTIGATION REPORT BY SOIL & MATERIAL ENGINEERS, INC. DATE: 10-22-84.
2. BORINGS ADVANCED . HOLLOW STEM AUGERING.
3. "BLOWS" COLUMN INDICATES DEPTH OF SAMPLE AND NUMBER OF BLOWS REQUIRED TO DRIVE A 2' O.D. SPLIT SPOON SAMPLER ONE FOOT INTO UNDISTURBED SOIL IN 6" INCREMENTS WITH A 140 LB. HAMMER FALLING 30" AS PER ASTM TEST D-1586-84. "WOH" INDICATES WEIGHT OF HAMMER REQUIRED FOR 1 FOOT PENETRATION.
4. ALL DEPTHS AND LOCATIONS ARE APPROXIMATE. GROUNDWATER OBSERVATIONS AND DEPTHS REFERENCED TO GRADES EXISTING AT TIME OF BORING.

B-1

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE DR. Wright CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: [signature] DATE: 4 MAR. '86
FIRM MEMBER PRINCIPAL
EFD: FP RVD
HD DIR KD
APPROVED [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 2569 GLENN A. BASON 4/3/86

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION ..., VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

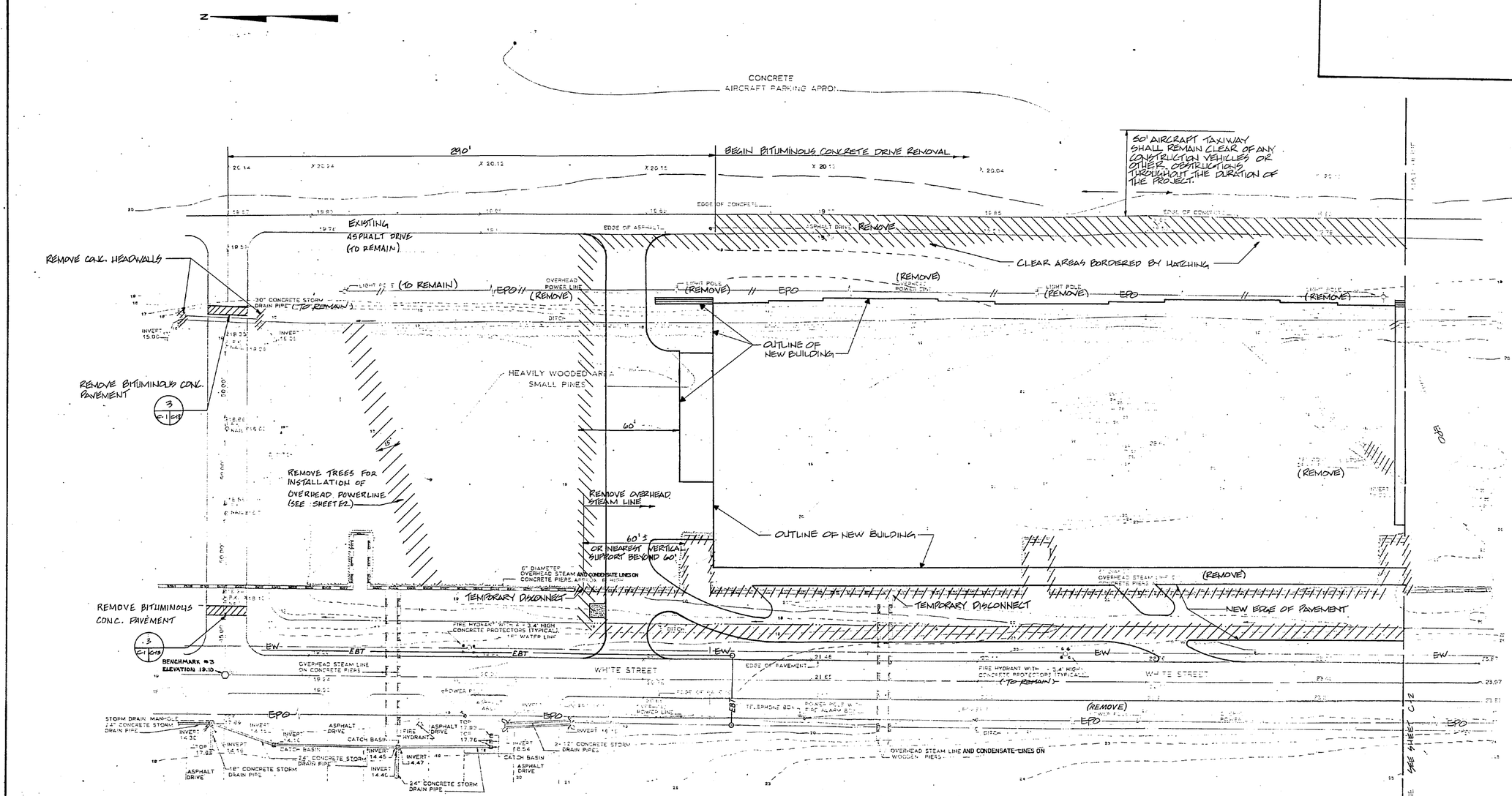
MAINTENANCE HANGAR

SOIL BORING LOGS

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

CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN SPEC. 05-84-4174 SHEET 2 OF 129
EFD DWG. NO.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



LEGEND (C-1 TO C-23)

EXISTING		NEW	REMOVE EXISTING
EBT	BURIED TELEPHONE W/HANDHOLE	BT	
EUGP	POWER (UNDERGROUND)		
EPO	POWER (OVERHEAD)		EPO
	STEAM		
21	CONTOUR	21	
EW	WATER AND VALVE W/BOX	W	
ES	SANITARY SEWER (W/MANHOLES)	S	
	STORM DRAINAGE (W/CATCH BASINS)		
	DRAINAGE SWALES		
	SOIL BORINGS - SEE B-1 FOR LOGS		
	TREE LINE		
	ROOF LEADER		
	CURB AND GUTTER		
	FLARED END SECTION (FES)		
	CONCRETE SIDEWALK		
	FIRE HYDRANT		
	BENCHMARK		
	FLOW DIRECTION ARROW		
	DRAINAGE STRUCTURE NUMBERS		
x 19.20	SPOT ELEVATION	+ 19.20	

NOTES:

1. BENCHMARK #3 PK NAIL IN CENTER OF EXISTING DRIVE AND CENTER WHITE STREET ELEVATION 19.10 (NORTH AMERICAN 1927 DATUM) 0+00=MSL.
2. LOCATIONS AND SIZES OF NON-VISIBLE UTILITIES WERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-5 FOR DEMOLITION PLAN FOR PARKING AREA WEST OF WHITE STREET.
4. SEE MECHANICAL SHEET M-20 AND M-21 FOR TEMPORARY ALTERATIONS AND FINAL LOCATION OF STEAM LINE.
5. ALL POLES REMOVED TO REMAIN PROPERTY OF GOVERNMENT.

GRAPHIC SCALE

1" = 25'. 25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-1

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

DEMOLITION PLAN NORTH SECTION - BASE BID

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138752

CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1"=25' — SPEC. 05-84-4174 — SHEET 3 OF 129
EFD DWG. NO. 238752

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

N

MATCHLINE

CONCRETE AIRCRAFT PARKING APRON

WASH RACK FACILITY TO REMAIN IN FULL OPERATION THROUGHOUT THE DURATION OF THE PROJECT.

EDGE OF CONCRETE

ASPHALT DRIVE (REMOVE)

EDGE OF ASPHALT

LIGHT POLE

ANODE BED

ELECTRIC MANHOLE (TO REMAIN)

TOP 20.81 INVERT 17.80

12" CONCRETE STORM DRAIN PIPE (REMOVE)

INVERT 18.00

CATCH BASIN TOP 20.05

INVERT 18.05

TOP 20.76 INVERT 18.81

SUMP PUMP (REMOVE)

CONCRETE OIL & WATER SEPARATOR WITH GALVANIZED STEEL GRATING (REMOVE, SEE NOTE 4)

INVERT 17.9

TOP 20.7 INVERT 18.0

24" CONCRETE CURB & GUTTER

CONCRETE-PAVED WASH RACK AREA (TO REMAIN)

12" CONCRETE STORM DRAIN PIPE

CATCH BASIN TOP 20.97 INVERT 18.10

INVERT 18.21

TEMPORARY DISCONNECT

24" CONCRETE CURB & GUTTER (ELEVATIONS TO TOP OF CURB)

22.69

22.64

TOP 23.13 INVERT 19.13

ELECTRIC MANHOLE

TOP 22.83 INVERT 19.80

FIRE HYDRANT

GATE VALVE

CONCRETE BLOCK BUILDING

22.39

GUY WIRE

POLE

TELEPHONE BOX

STEAM MANHOLE TOP 22.42 INVERT 16.53

MANHOLE FILLED WITH STONE APPARENT BLOW, SEE MANHOLE (REMAIN)

STEAM MANHOLE (REMAIN)

CONCRETE C & G GUTTER (REMAIN)

21.09

21.49

22.00

CLEAN OUT (REMAIN)

OVERHEAD LIGHT

OVERHEAD POWER LINE (REMAIN)

(REMAIN)

(REMAIN)

(TO REMAIN)

OUTLINE OF NEW BUILDING

AREAS BORDERED BY CROSSHATCHING INDICATES EXTENT OF CLEARING

OVERHEAD POWER LINE (REMOVE)

HEAVILY WOODED AREA SMALL PINES

INVERT 17.77

18" CONCRETE STORM DRAIN PIPE

INVERT 18.23

SWALE ENDS

SMALL SWALE

GRAVEL

INVERT 18.30

30" CONCRETE STORM DRAIN PIPE (REMOVE)

NEW EDGE OF PAVEMENT

2" DIAMETER OVERHEAD STEAM AND CONDENSATE LINES ON CONCRETE PIERS (REMOVE)

6" DIAMETER OVERHEAD STEAM LINE AND CONDENSATE LINES ON CONCRETE PIERS APPROX. 6' HIGH (REMOVE)

6" DIAMETER OVERHEAD STEAM LINE ON CONCRETE PIERS APPROX. 6' HIGH

PROTECT VALVE PIT DURING CONSTRUCTION (SEE DETAIL 1/C-2 C-2)

HEAVILY WOODED AREA SMALL PINES

REMOVE OVERHEAD STEAM LINE

TEMPORARY DISCONNECT

(REMOVE)

TEMPORARY DISCONNECT UNDERGROUND FUEL LINE

VALVE PIT

5" DIAMETER

(TO REMAIN)

LIGHT POLE (REMOVE & REPLACE SEE E-3)

HEAVILY WOODED AREA SMALL PINES

22.62 X 22.60

18" WATER LINE

BENCHMARK #2

℄ WHITE ST.

FIRE HYDRANT WITH 4-2.4" HIGH CONCRETE PROTECTORS (TYPICAL) BENCHMARK #2 ELEVATION 26.09 (REMAIN)

WHITE STREET

EDGE OF PAVEMENT

15" CONCRETE STORM DRAIN PIPE (REMAIN)

15" CONCRETE STORM DRAIN PIPE (REMOVE)

SHORT POLE (TO REMAIN)

OVERHEAD SUPPORT CABLE

TREES TO REMAIN

15" WATER LINE

GUY WIRE

SMALL PINES NEW POLE (SEE E-3)

WOODED AREA

OVERHEAD LIGHT (TO REMAIN)

POWER POLE (REMAIN)

OVERHEAD POWER LINE

UNDERGROUND FUEL LINE

EPO

WHITE STREET

POWER POLE

2- TELEPHONE BOXES

UNDERGROUND STEAM LINE

POWER POLE (TO REMAIN)

EDGE OF PAVEMENT

21.89 X 22.03

22.24

MATCHLINE SEE SHEET

(3) 8'x 2" ø STEEL FENCE POSTS WRAPPED WITH YELLOW OR ORANGE SURVEYOR'S FLAGGING.

EXISTING GROUND

12" MAX.

EXISTING FUEL LINE VALVE PIT

EXISTING 5" ø FUEL LINE

TEMPORARY PROTECTION OF FUEL LINE VALVE PIT

NO SCALE

1/C-2 C-2

NOTE: SEE SITE PLANS FOR UNDERGROUND FUEL LINE. PROTECT FROM ALL OPERATIONS IN VICINITY.

NOTES:

1. BENCHMARK #2 IS A FLANGE BOLT PAINTED RED ON FIRE HYDRANT. ELEVATION 26.09 (NORTH AMERICAN 1927 DATUM).
2. LOCATIONS AND SIZES OF NON-VISIBLE UTILITIES WERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-5 FOR DEMOLITION PLAN FOR PARKING AREA WEST OF WHITE STREET.
4. EXISTING OIL & WATER SEPARATOR SHALL NOT BE REMOVED FROM SERVICE UNTIL THE NEW WASTEWATER DIVERSION STRUCTURE IS CONSTRUCTED AND CONNECTED TO THE NEW SANITARY SEWER SYSTEM.
5. SEE MECHANICAL M-20 AND M-21 FOR TEMPORARY ALTERATIONS AND FINAL LOCATION OF STEAM LINES.

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-2

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

DES. DR. CHK. PROJ. MGR. CDR. CH. ENGR.

SUBMITTED BY: DATE: 4 Nov 86

FIRM MEMBER PRINCIPAL

EFD FIELD REP. RVD

NO. DIV. DIR.

APPROVED DATE 2-4-87 OFFICER IN CHARGE

APPROVED DATE 1-22-87

FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED 12376 2-28-86 SURVEYOR SEAL

MAINTENANCE HANGAR

DEMOLITION PLAN SOUTH SECTION - BASE BID

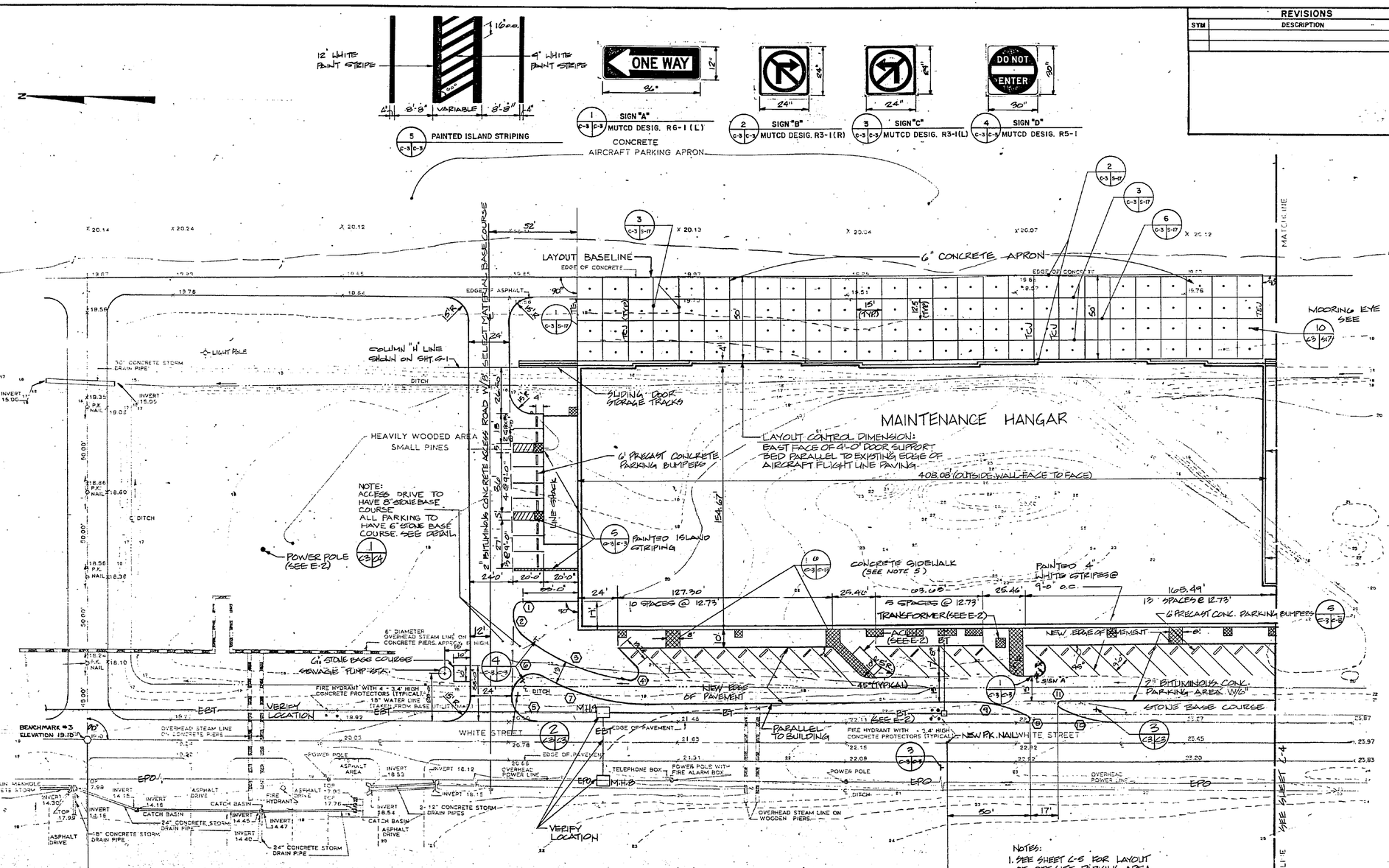
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138753

CONSTR. CONTR. NO. N62470-84-B-4174

SCALE 1"=25' SPEC. 05-84-4174 SHEET 4 OF 129

EFD DWG. NO. 238753

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTES:
1. SEE SHEET C-5 FOR LAYOUT OF OFF-SITE PARKING AREA.
2. SEE SHEET C-1 FOR LEGEND
3. TRAFFIC SIGNS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
4. SEE SHEETS S-17 FOR CONCRETE PAVEMENT JOINT DETAILS.
5. SEE SHEETS A-2, A-3, A-4 FOR SIDEWALK LOCATIONS.
6. PROVIDE ALSO 5' LONG CONC. PADS AT MINOR DOORS AS SHOWN ON SHEETS A-2, A-3, A-4.

CURVE DATA TABLE

Curve No.	Delta	Radius	Tangent	Length	Chd. Length
1	90-00-00	5.00	5.00	7.85	7.07
2	46-00-52	15.00	6.37	12.05	11.73
3	38-12-28	112.00	38.79	74.69	73.31
4	140-46-40	5.00	14.03	12.29	9.42
5	89-38-23.5	15.00	14.91	23.47	21.15
6 * 3	118-12-21	12.50	20.89	25.79	21.45
7 & 1	28-12-21	125.00	31.40	61.54	60.92
8 & 4	151-36-36	2.00	7.91	5.29	3.88
9	28-45-00	75.00	19.22	37.63	37.24
10 & 28-57-52		75.00	19.37	37.91	37.51
11	150-40-32	2.00	7.66	5.26	3.87
12	08-56-10	700.00	54.70	109.17	109.06
13	98-56-10	15.00	17.34	25.90	22.80
14	96-29-36	15.00	16.80	25.26	22.38
15	160-48-58	6.00	35.50	16.84	11.83
16	59-26-06	5.00	2.85	5.19	4.96
17	04-46-56	667.33	27.67	55.31	55.29

NOTE: (1) DENOTES CURVE NUMBER IN REFERENCE TO CURVE DATA TABLE.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-3

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. JHL DR. AJ Mills CHK. DHK
PROJ. MGR. GWF CH. ENGR. DHK
SUBMITTED BY: [signature] DATE: 4 MAR 86
FIRM MEMBER / PRINCIPAL
EFD FY 83 NTC RYD [signature]
HD [signature] DIR KD
APPROVED: [signature] DATE: 3-4-86
OFFICER IN CHARGE
RECOMMENDED: [signature] DATE: 1-12-87
FOR EFD FOR COMMANDER NAVFAC

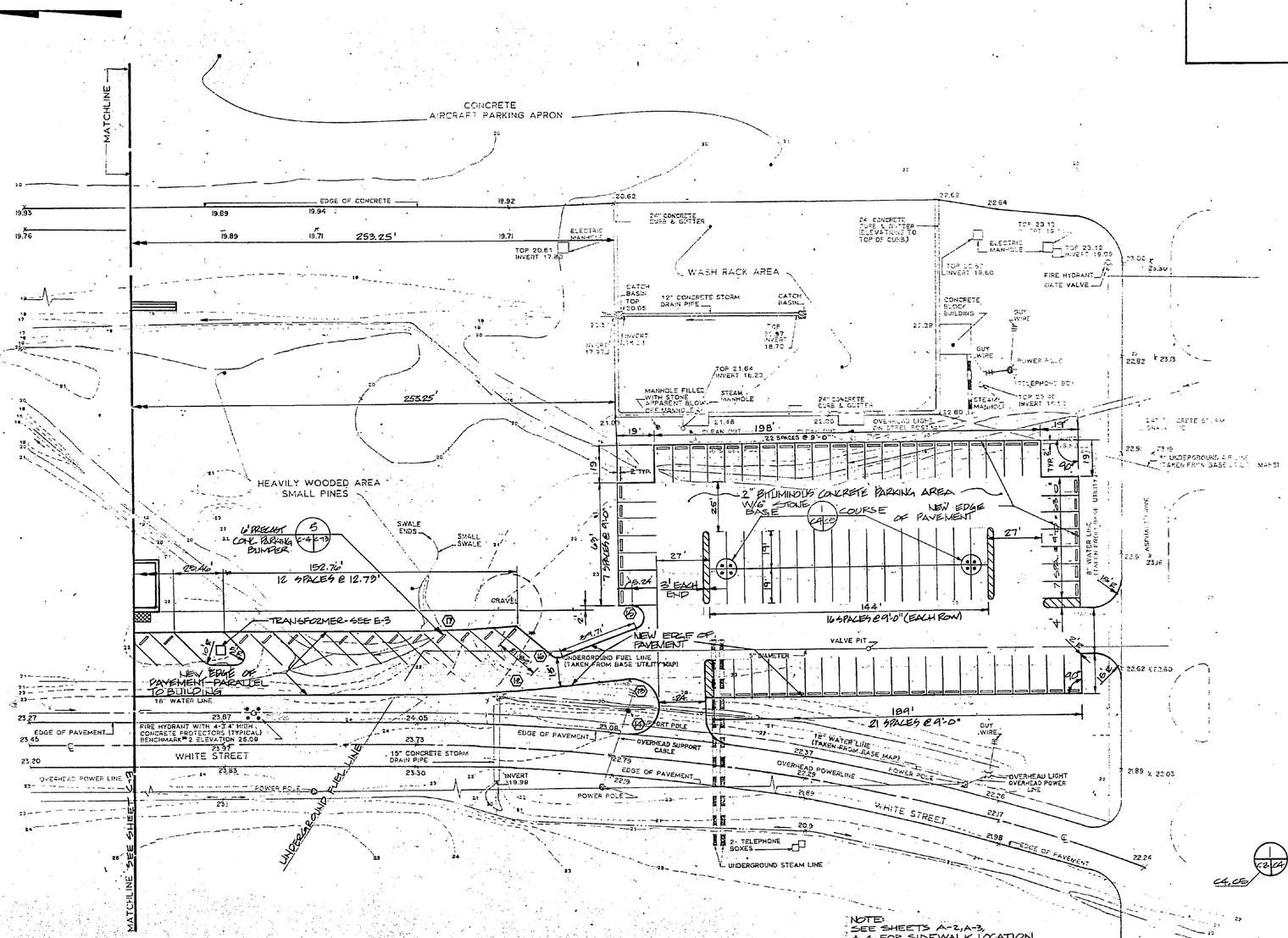
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 9778 JOHN G. WILLIAMS 3-20-86 REGISTERED ENGINEER & SURVEYOR

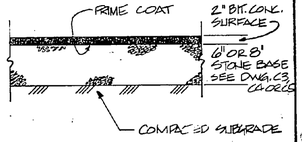
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
SITE LAYOUT PLAN NORTH SECTION – BASE BID

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138754
CONSTR. CONTR. NO. N 62470-84-B-4174
SCALE 1"=25' | SPEC. 05-84-4174 | SHEET 5 OF 129
EFD DWG. NO. 238754

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED





TYPICAL PAVEMENT SECTION
NTS

NOTE:
SEE SHEETS A-2, A-3, A-4 FOR SIDEWALK LOCATION AND ALSO FOR 5' LONG PADS AT MINOR DOORS

(17) DENOTES CURVE NUMBER, FOR CURVE DATA TABLE SEE SHT. C-3.

SEE SHEET C3 FOR OTHER NOTES.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

NOTE:
1. SEE S17 FOR PAVEMENT CONSTRUCTION AND JOINT DETAILS.
2. PROVIDE WIRE FABRIC IN ANY CONCRETE PAVEMENT SECTION CONTAINING PENETRATION FOR DROP INLET, PIT, ETC. AS ON SHEET S-17.

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-4

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
SITE LAYOUT PLAN SOUTH SECTION - BASE BID

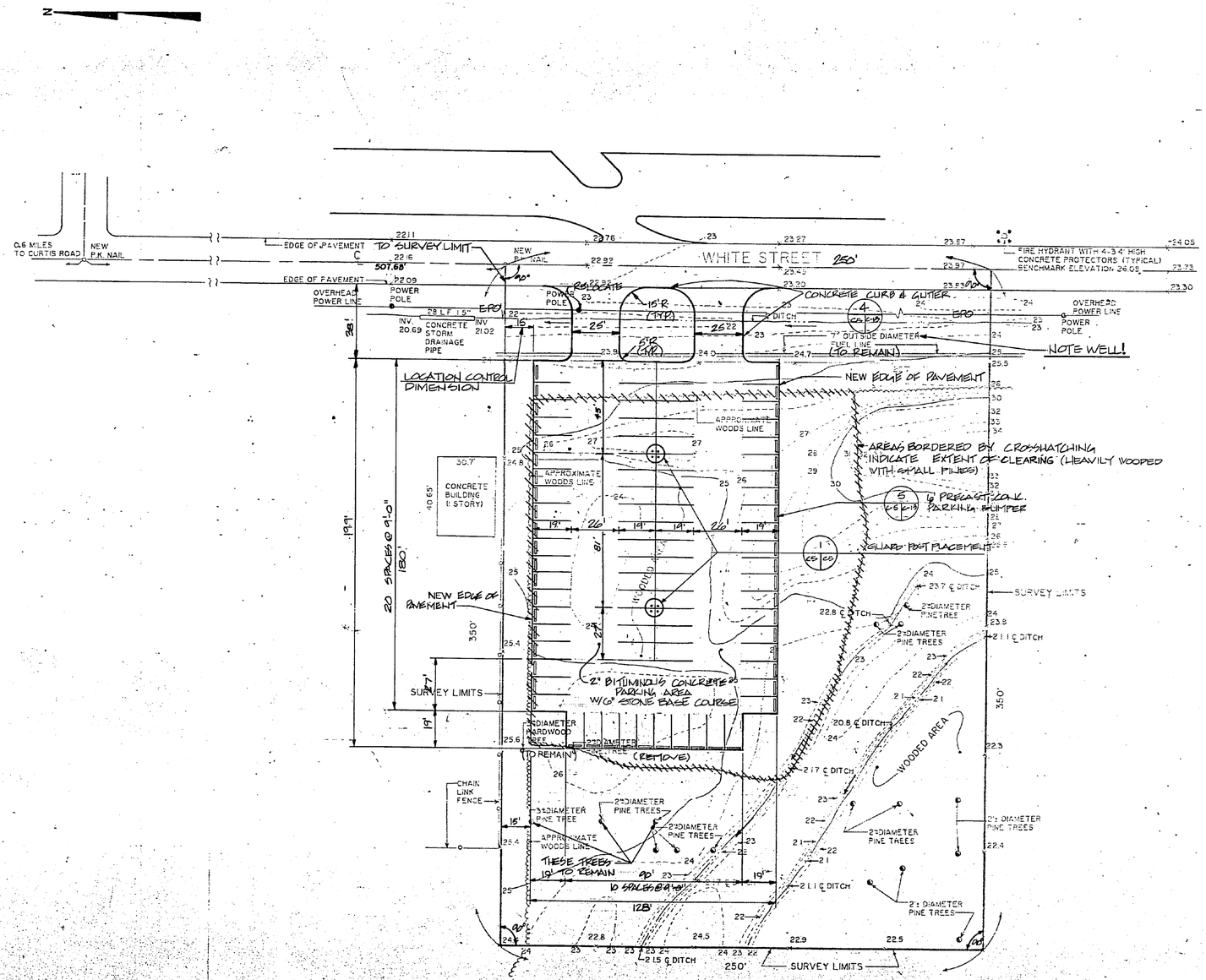
SERIES	CODE IDENT. NO.
F	80091
SCALE 1"=25'	SPEC. 05-84-4174
NAVFAC DRAWING NO.	4136755
CONSTR. CONTR. NO.	N 62470-84-B-4174
SHEET	6 OF 129
EFD DWG. NO.	238755

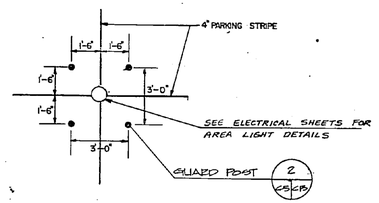
PROJ. MGR. GRE CH. ENGR. CHK
SUBMITTED BY: DATE 6 MAY 85
FIRM MEMBER OF: ORIGINAL
EFD FF. STACK RVD DIR
NO. 00
APPROVED: DATE 5-4-85
OFFICER IN CHARGE
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1195 7-28-85 CHARLES STEGERTH III

BRANCO CO. #1178 81 800 242 3000 4 —

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED





1 GUARD POST PLACEMENT DETAIL
N.T.S.

GRAPHIC SCALE

1" = 25' 25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-5

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA

MARINE CORPS AIR STATION DE — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

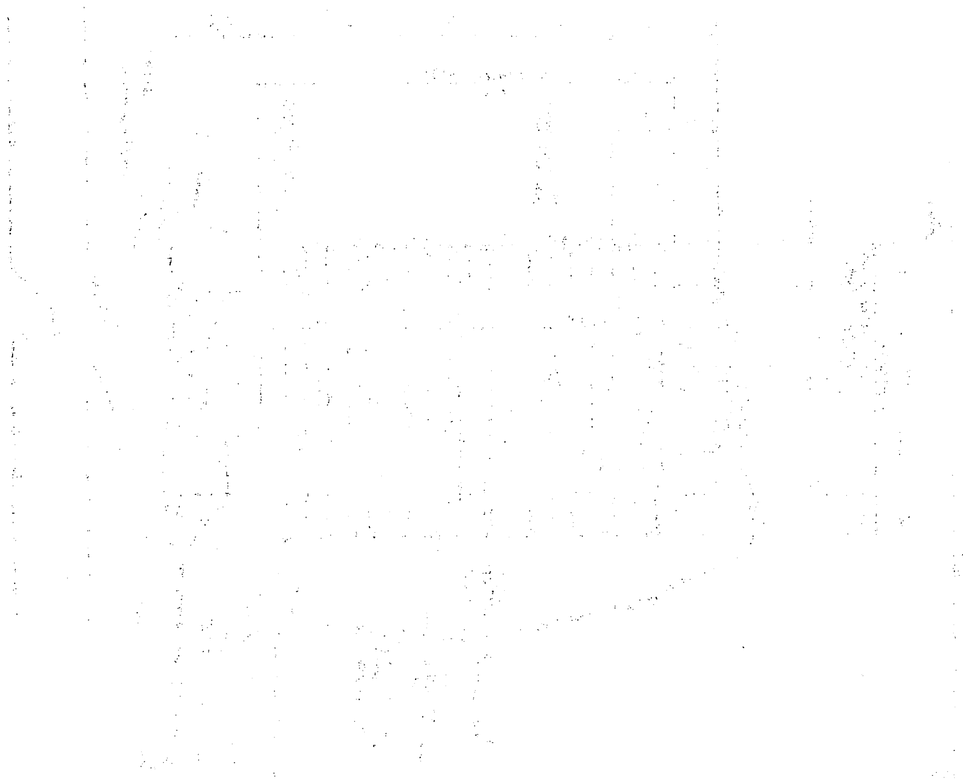
SITE LAYOUT, DEMOLITION, AND UTILITY PLAN. OFF-SITE PARKING AREA.

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138756

CONSTR. CONR. NO. N 62470-84-B-4174

SCALE 1"=25' | SPEC. 05-84-4174 | SHEET 7 OF 129

EFD DWG. NO. 238756



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

CONCRETE AIRCRAFT PARKING APRON

DISCHARGE AREA EROSION CONTROL (1 C-6 C-14)

NEW HEADWALLS FOR DOUBLE 30" PIPES (7 C-6 C-13)

EXISTING 30" CONCRETE STORM DRAIN PIPE

NEW 30" CONC. STORM DRAIN

LIGHT POLE

INVERT 15.00

INVERT 15.05

P.K. NAIL 19.35

P.K. NAIL 19.08

30" RCP INVERT 15.10

HEAVILY WOODED AREA SMALL PINES

TEMPORARY SILT FENCE (8 C-6 C-14)

WASTE WATER DIVERSION STRUCTURE NO. 2 (1 C-6 C-15)

TOP 19.30 INVERT 15.20

TOP 20.50 INV. 15.50

FOR CONTINUATION SEE SHT. C-2

EDGE OF ASPHALT

EDGE OF CONCRETE

TOP 19.60 INV. 15.48

TOP 19.60 INV. 15.92

TOP 19.60 INVERT 16.30

22" x 34"

19" x 30"

MATCHLINE

MAINTENANCE HANGAR

(SEE SHEET C-1 FOR FIN. FL. ELEVATIONS)

FOR ROOF DRAIN CLEANOUT DETAIL SEE (1 C-6 C-7)

43'-8"@ 1.00%

67'-8" @ 1.00%

75'-12"@ 1.00%

ECCENTRIC INCREASER 18.M

CONNECT TO DOWNSPOUTS

16'-10"@ 1.00%

115'-15"@ 1.00%

ECCENTRIC INCREASER 18.24

C.O. 19.34

TOP 20.10 INV. 16.71

TOP 20.40 INVERT 16.04

TOP 20.90 INVERT 16.40

TOP 21.0 INVERT 16.76

TOP 20.90 INVERT 17.21

6" DIAMETER OVERHEAD STEAM LINE ON CONCRETE PIERS APPROX. 6'

NEW PUMP STATION LOCATION

STONE BASE COURSE ACCESS DRIVE

BENCHMARK #1 ELEVATION 18.22

P.K. NAIL 18.10

BENCHMARK #3 ELEVATION 19.10

FIRE HYDRANT WITH 4" - 3.4' HIGH CONCRETE PROTECTORS (TYPICAL) 18" WATER LINE (TAKEN FROM BASE)

OVERHEAD STEAM LINE ON CONCRETE PIERS

WHITE STREET

EDGE OF PAVEMENT

POWER POLE

TELEPHONE BOX

POWER POLE WITH FIRE ALARM BOX

OVERHEAD POWER LINE

FIRE HYDRANT WITH 3.4' HIGH CONCRETE PROTECTORS (TYPICAL)

OVERHEAD STEAM LINE ON WOODEN PIERS

STORM DRAIN MANHOLE 24" CONCRETE STORM DRAIN PIPE

CATCH BASIN

ASPHALT DRIVE

ASPHALT AREA

DITCH

18" CONCRETE STORM DRAIN PIPE

24" CONCRETE STORM DRAIN PIPE

2-12" CONCRETE STORM DRAIN PIPES

54" CONCRETE STORM DRAIN PIPE

OFF-SITE PARKING AREA SEE SHEET C-8 FOR GRADING & STORM DRAINAGE

MATCHLINE SEE SHEET C-7

DRAINAGE STRUCTURE SCHEDULE			
STRUCTURE NO.	STRUCT. DETAIL DETAIL NO./SHT.NO.	FRAME TYPE/STYLE/SIZE FED. SPEC. RFP621	COVERS & GRATES TYPE/STYLE/SIZE FED.SPEC. RFP621
7	3 / C-14	VI / - / 22 A	G / 2 /22 A
8	3 / C-14	VI / - / 22 A	G / 2 / 22A
9	3 / C-14	VI / - / 22 A	G / 2 / 22 A
10	3 / C-14	VI / - / 22 A	G / 2 / 22 A
11	3 / C-14	VI / - / 22 A	G / 2 / 22 A
12	3 / C-14	VI / - / 22 A	G / 2 / 22 A

AIRFIELD DRAINAGE STRUCTURES			
STRUCTURE NO.	STRUCTURE DETAIL NO./TYPE/SHT. NO.	FRAME DETAIL NO./SHT NO.	GRATE DETAIL NO./SHT NO.
13	7 / A / C-14	6 / C-14	5 / C-14
14	7 / A / C-14	6 / C-14	5 / C-14
15	7 / A / C-14	6 / C-14	5 / C-14

FOR STORM DRAIN PROFILES SEE C-12

SEE SHEET A-6 FOR LOCATIONS OF BUILDING DOWNSPOUTS

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-6

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DESIGNED BY: [illegible] DR: [illegible] CHK. DWK

FROM NGR. GRE ON ENGR. DWK

SUBMITTED BY: [illegible] DATE: 1 NOV 86

FIELD MEMBER: PRINCIPAL

EFD-FP MGR: RVD DIR: KT

APPROVED: [illegible] DATE: 5-4-86

OFFICER IN CHARGE

APPROVED: DATE:

FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 11 2-28-86 DONALD W. KIMLEY

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

GRADING AND STORM DRAINAGE PLAN - NORTH SECTION-BASE BID

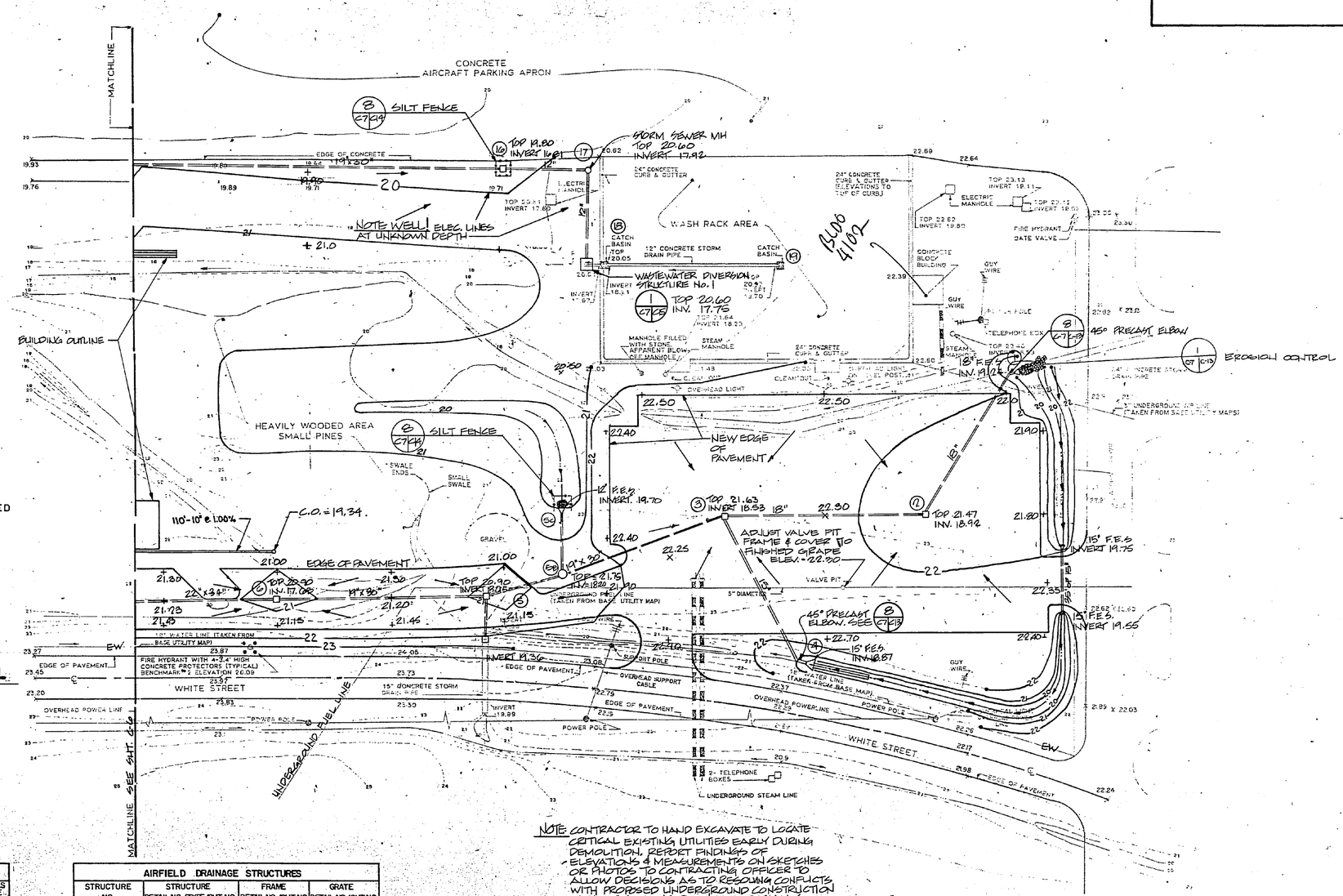
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138757

CONSTR. CONTR. NO. N 62470-84-B-4174

SCALE 1"=25' | SPEC. 05-84-4174 | SHEET 8 OF 129

EFD DWG NO. 238757

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



EXISTING GRADE
4" REMOVABLE THREADED PLUG
2' SQ. X 4" THK. CONCRETE SLAB (IF NOT IN PAV'T.)
4" PIPE
PLUG AT END OF LINE

1 C-7/C7 ROOF DRAIN CLEANOUT DETAIL
N.T.S.

DRAINAGE STRUCTURE SCHEDULE			
STRUCTURE NO.	STRUCT. DETAIL DETAIL NO./SHT.NO.	FRAME TYPE/STYLE/SIZE FED. SPEC. RRF621	COVERS & GRATES TYPE/STYLE/SIZE FED. SPEC. RRF621
1	10 / C-14	—	—
2	2 / C-14	VI / - /22A	G / 2 / 22A
3	2 / C-14	VI / - / 22A	G / 2 / 22A
4	10 / C-14	—	—
5	2 / C-14	VI / - /22A	G / 2 / 22A
5B	2 / C-15	I / A / 22A	A / - /22A
5C	10 / C-14	—	—
6	3 / C-14	VI / - / 22A	G / 2 / 22A
17	2 / C-15	I / A / 22A	A / - /22A
18	1 / C-15	I / A / 22A	A / - /22A

AIRFIELD DRAINAGE STRUCTURES			
STRUCTURE NO.	STRUCTURE DETAIL NO./TYPE/SHT. NO.	FRAME DETAIL NO./SHT NO	GRATE DETAIL NO./SHT.NO.
16	7 / A / C-14	6 / C-14	5 / C-14

NOTE: CONTRACTOR TO HAND EXCAVATE TO LOCATE CRITICAL EXISTING UTILITIES EARLY DURING DEMOLITION. REPORT FINDINGS OF ELEVATIONS & MEASUREMENTS ON SKETCHES OR PHOTOS TO CONTRACTING OFFICER TO ALLOW DECISIONS AS TO RESOLVING CONFLICTS WITH PROPOSED UNDERGROUND CONSTRUCTION WITHOUT CAUSING DELAYS. ESPECIALLY LOCATE TELEPHONE BANK, FUEL LINE, & ELECTRICAL CONDUITS.

FOR STORM DRAINAGE PROFILES SEE C-12
SEE SHEET A-6 FOR LOCATIONS OF BUILDING DOWNSPOUTS.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.B. NEW RIVER AIR STATION (NI NO. 2, PAGES 1-43.

C-7

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. DR. CH. CHK. DIR.
PROJ. MGR. CHE CH. CHCK. CHE
SUBMITTED BY: DATE 8 MAR 86
FIRM MEMBER PRINCIPAL
EFD FP-100 RVD
HD DIR
APPROVED DATE 8-4-86
OFFICER IN CHARGE
APPROVED DATE 8-22-86
FOR EFD FOR COMMANDER NAVFAC

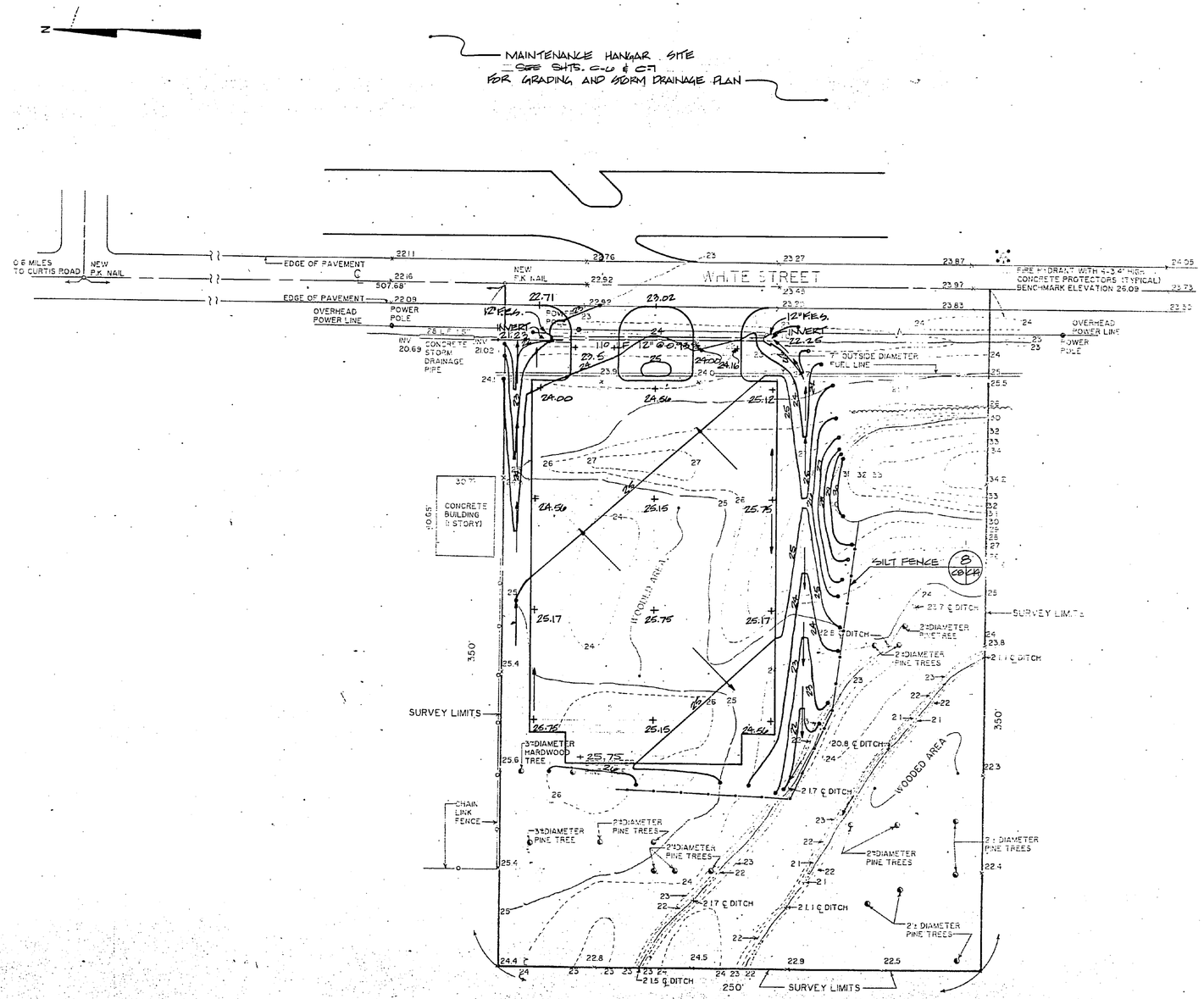
NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT S. STEERMAN 1132 2-22-86

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
GRADING AND STORM DRAINAGE PLAN SOUTH SECTION - BASE BID

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138758
CONSTR. CONTR. NO. N 62470 - 84 - B - 4174
SCALE 1"=25' | SPEC. 05 - 84 - 4174 | SHEET 9 OF 129
EFD DWG. NO. 238758

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SEE SHEET C-1 FOR LEGEND

GRAPHIC SCALE

1" = 25' 25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-8

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA

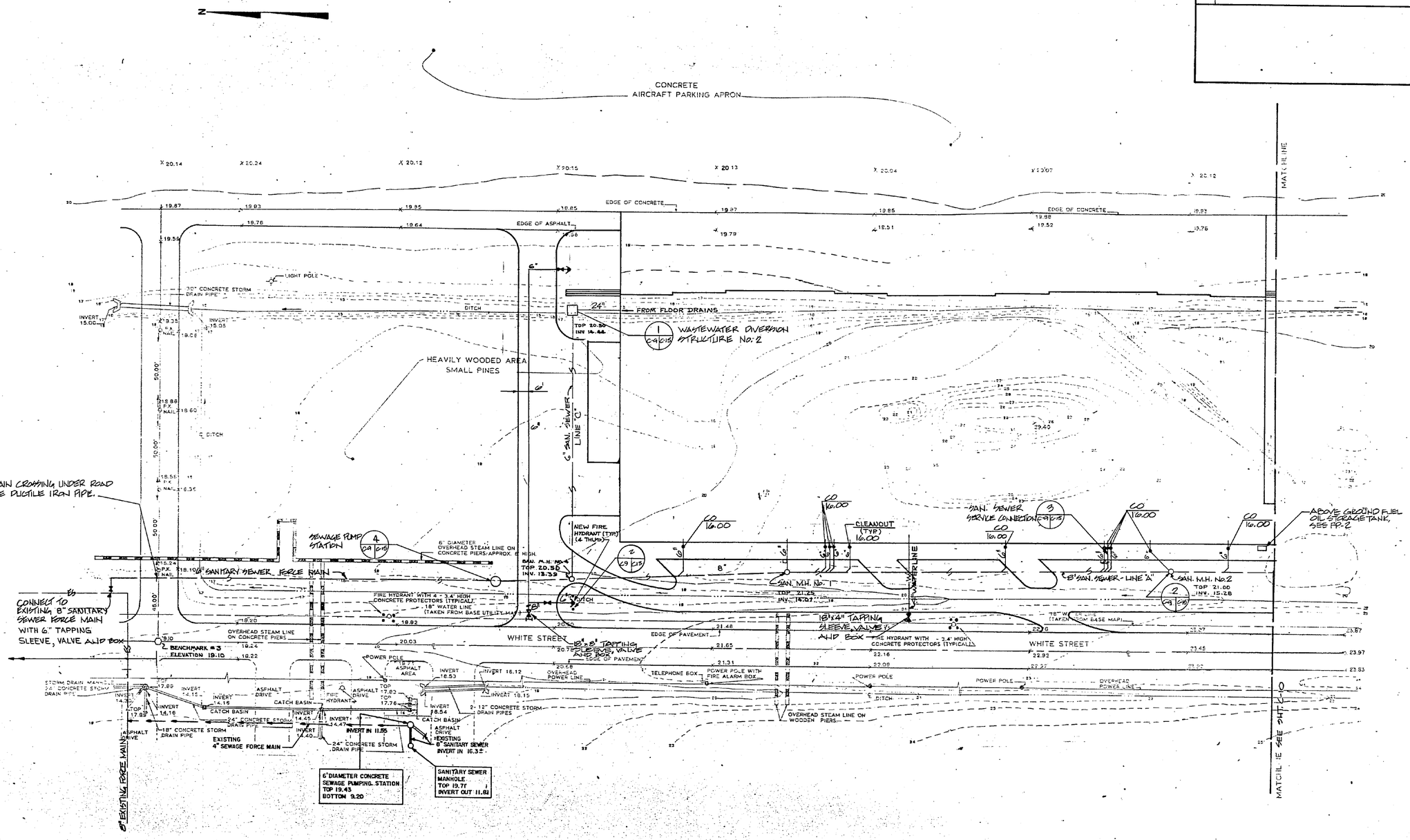
MARINE CORPS AIR STATION DO — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

GRADING AND STORM DRAINAGE PLAN
OFF-SITE PARKING AREA.

SIZE: F | CODE IDENT. NO.: 80091 | NAVFAC DRAWING NO.: 4138759
CONSTR. CONR. NO. N 62470-84-B-4174
SCALE: 1"=25' | SPEC. 05-84-4174 | SHEET 10 OF 129
EFD DWG. NO. 238759

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FOR SANITARY SEWER PROFILES SEE SHT. C-11
FOR CONTINUATION OF SEWER AND WATER LINES INTO BUILDING, SEE SHEET P1 THRU P4

GRAPHIC SCALE

1" = 25' 25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

C-9

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

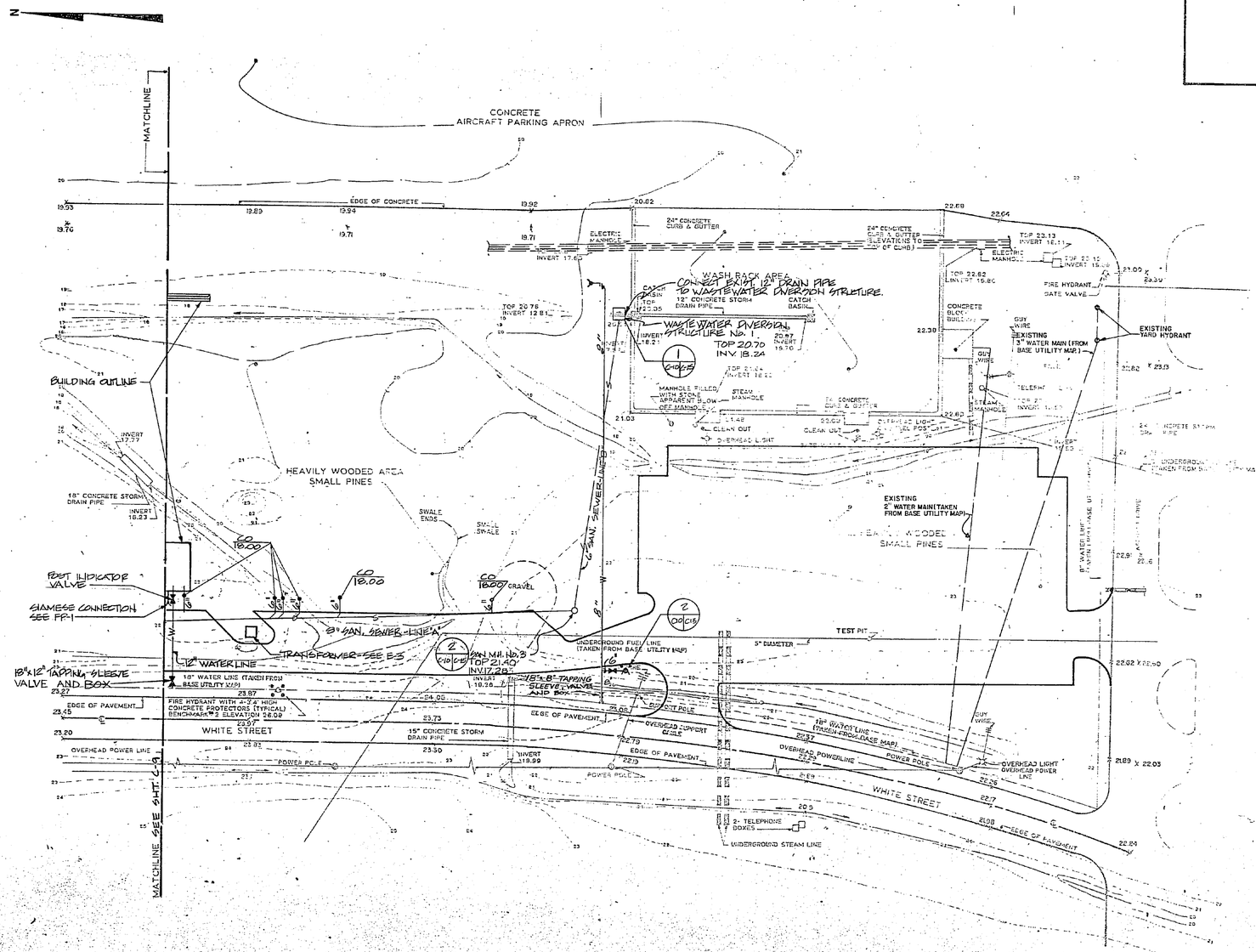
MAINTENANCE HANGAR

WATER AND SANITARY SEWER PLAN
NORTH SECTION - BASE BID

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138760

CONSTR. CONR. NO. N 62470-84-B-4174
SCALE 1"=25' | SPEC. 105-84-4174 | SHEET 11 OF 129
EFD DWG. NO. 238760

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FOR SANITARY SEWER PROFILES SEE SHT. C-11
FOR CONTINUATION OF SEWER AND WATER LINES INTO BUILDING, SEE SHEETS P1 THRU P4 AND FP-1.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.D. NEW RIVER AIR STATION (HQ NO. 2, PAGES 1-43.

C-10

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (HQ) NEW RIVER, NORTH CAROLINA

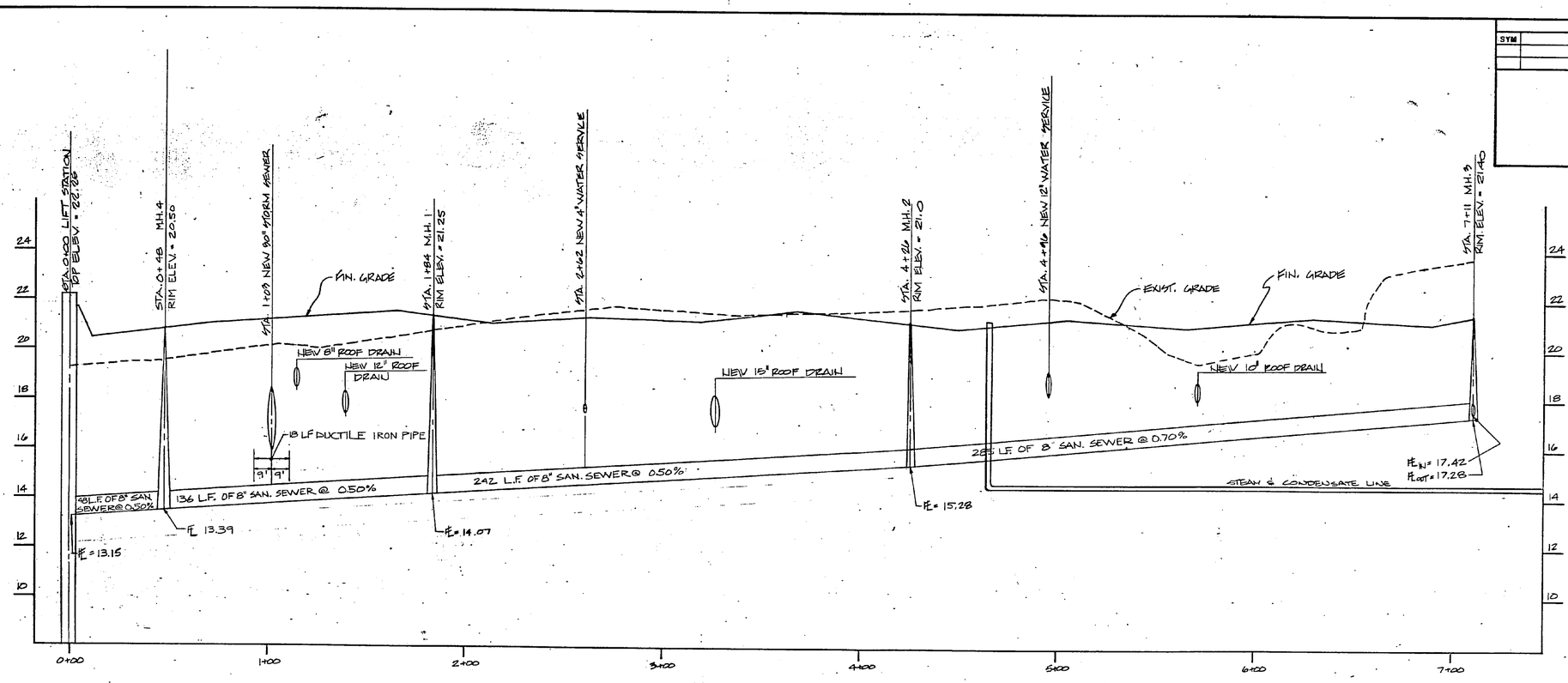
MAINTENANCE HANGAR
WATER AND SANITARY SEWER PLAN SOUTH SECTION - BASE BID

SUBMITTED BY: [signature] DATE: 4 MAR 96
FROM ENGR. CHIEF OR ENGR. DIVISION
APPROVED: [signature] DATE: 2-28-96
FOR CO. OR DIV. DIRECTOR
APPROVED: [signature] DATE: 2-4-96
FOR EFD FOR COMMANDER (NAVFAC)

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 12126 2-28-96 GERALD L. STEVENS

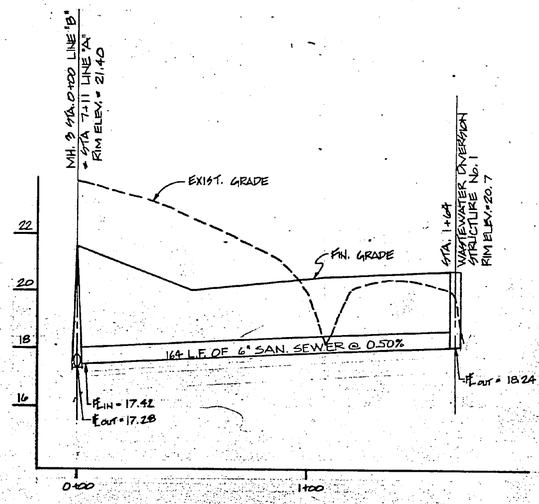
DESIGNED: F
CODE IDENT NO. 80091
NAVFAC DRAWING NO. 418751
CONTR. CONST. NO. N 62470-84-B-4174
SCALE: 1"=25'
DATE: 05-84-4174
SHEET 12 OF 129
EFD DWG. NO. 238751

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

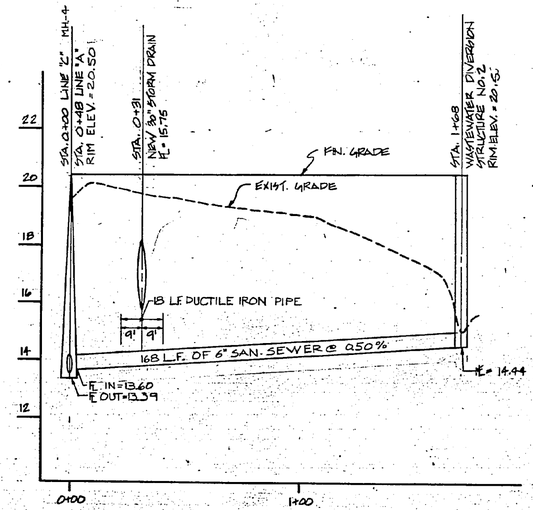


SEE SHEETS C-9 AND C-10 FOR PLAN OF SEWER LINES.

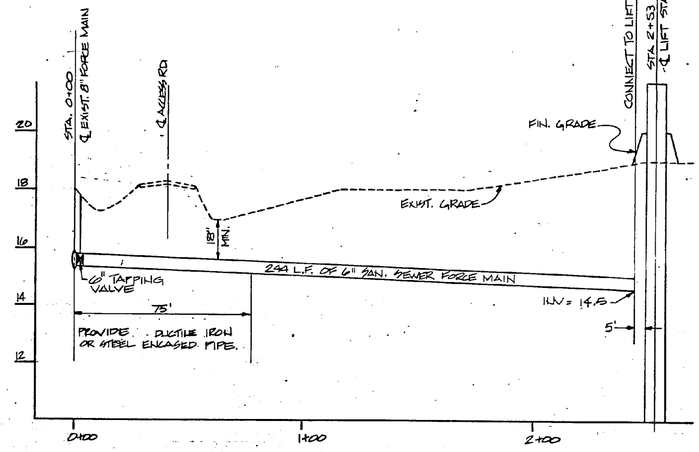
SANITARY SEWER LINE "A"



SANITARY SEWER LINE "B"



SANITARY SEWER LINE "C"



SANITARY SEWER FORCE MAIN

SCALE: HORIZONTAL = 1" = 25'
VERTICAL = 1" = 2'

GRAPHIC SCALE
1" = 25' (HORIZ) 25 10 0 25 50
1" = 2' (VERT) 2 1 0 2 4

C-11

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

DES. GMH DR. RWH CHK. DHK
PROJ. MGR. GRF CH. ENGR. DHK
SUBMITTED BY: DATE: 5 MAR 86
FIRM MEMBER PRINCIPAL
EFD-FF (NAVY) RVD DIR
NO. 111 DIR KD
APPROVED: DATE: 3-4-86
OFFICER IN CHARGE
APPROVED: DATE: 1-30-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 12126 2-28-86 DANIEL S. STEDMAN III

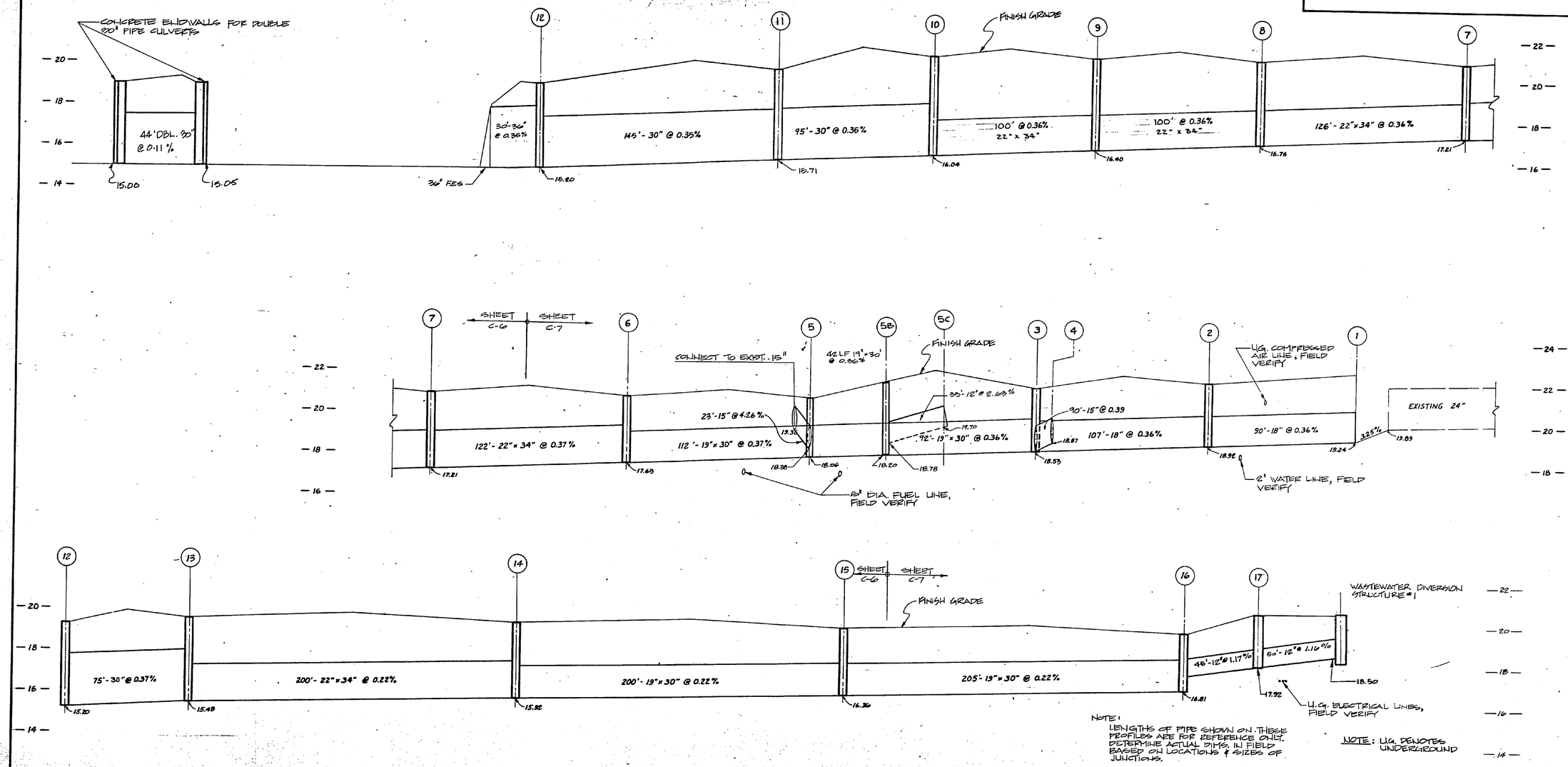
MAINTENANCE HANGAR

SANITARY SEWER PROFILES

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138762
CONSTR. CONTR. NO. N 62470 - 84 - B - 4174
SCALE AS PLOTTED | SPEC. 05 - 84 - 4174 | SHEET 13 OF 129
EFD DWG. NO. 236762

BUYERS CO. WHITE #1 BID SET 2003

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTE:
LENGTHS OF PIPE SHOWN ON THESE PROFILES ARE FOR REFERENCE ONLY. DETERMINE ACTUAL DIMS. IN FIELD BASED ON LOCATIONS & SIZES OF JUNCTIONS.

NOTE: U.G. DENOTES UNDERGROUND

GRAPHIC SCALE

1" = 25' 25 10 0 25 50

1" = 2' 2 1 0 2 4

SCALE: HORIZONTAL = 1" = 25'
VERTICAL = 1" = 2'

C-12

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

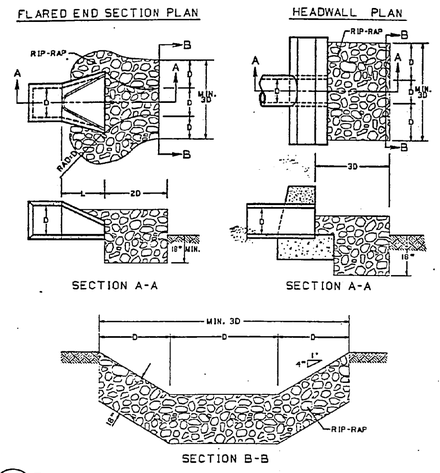
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NO. NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

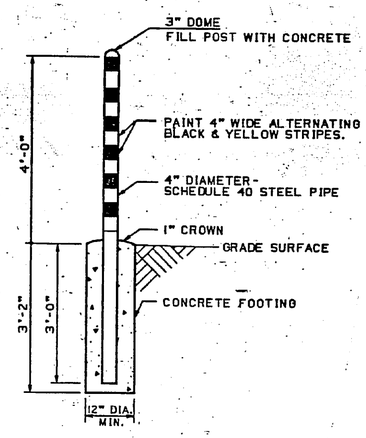
STORM DRAINAGE PROFILES

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138763
CONSTR. CONR. NO. N 62470-84-B-4174
SCALE AS NOTED | SPEC. 05-84-4174 | SHEET 14 OF 129
EFD DWG. NO. 238763

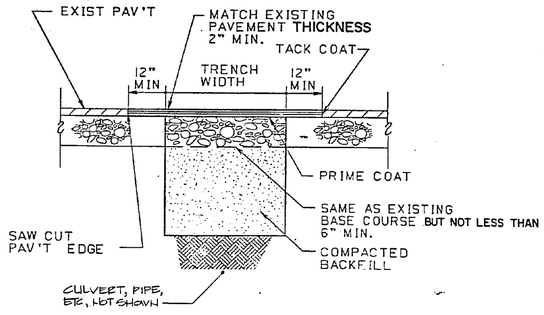
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



1 TYPICAL DISCHARGE AREA EROSION CONTROL DETAIL
NTS
C-7 C-6 C-15

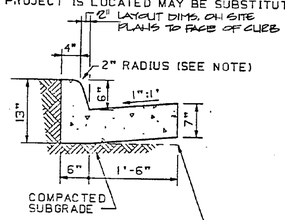


2 GUARD POST DETAIL
NTS
C-6 C-15



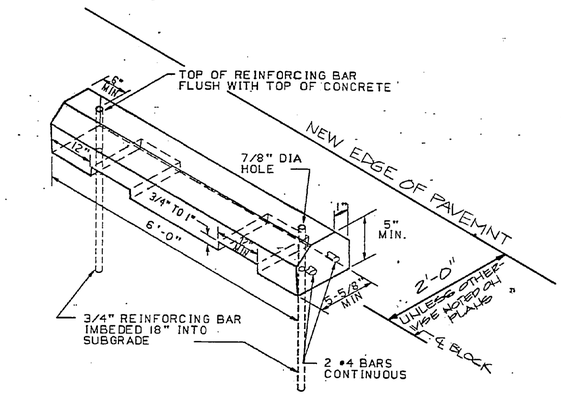
3 PAVEMENT PATCHING
NTS
C-1 C-15

NOTE: STANDARD CURB SHAPE OF THE STATE IN WHICH THE PROJECT IS LOCATED MAY BE SUBSTITUTED.

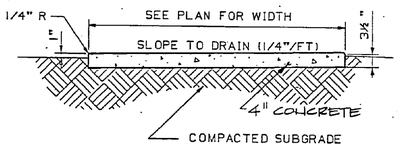


THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBSURFACE COURSES PROVIDED A MINIMUM THICKNESS OF 7" IS MAINTAINED.

4 CURB AND GUTTER
NTS
C-5 C-15

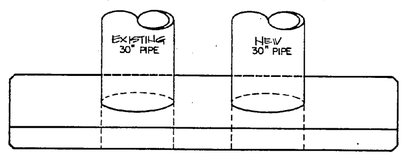


5 PARKING BUMPER
(PRECAST CONCRETE)
C-4 C-5 C-3 C-19

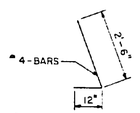


6 CONCRETE SIDEWALK
NTS
C-3 C-4 C-19

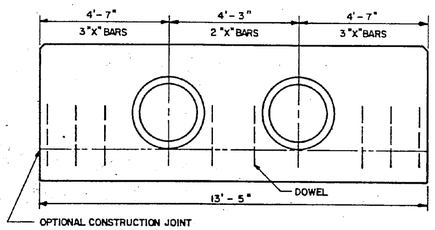
7 STANDARD CONCRETE ENDWALL FOR DOUBLE 30" PIPE CULVERTS
C-6 C-19
NTS



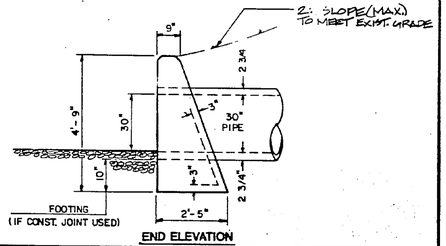
PLAN



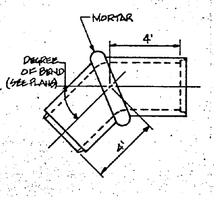
DOWEL BAR - 'X'



ELEVATION



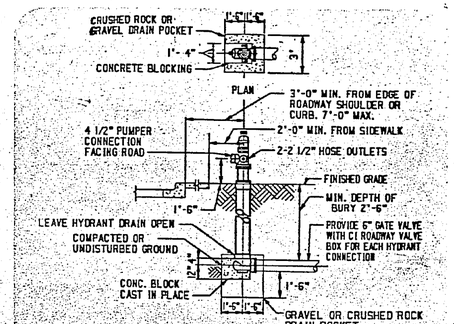
END ELEVATION



SIZES:
15' - 1 EA.
18' - 1 EA.

NOTE: ELBOW FOR REINFORCED CONC. PIPE SHOWN, IF A DIFFERENT PIPE MATERIAL IS USED THE CONTRACTOR SHALL PROVIDE A PREFABRICATED ELBOW OF A MATERIAL THAT IS COMPATIBLE WITH THE PIPE MATERIAL USED

8 PREFABRICATED ELBOW
C-7 C-12



FIRE HYDRANT
NTS

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

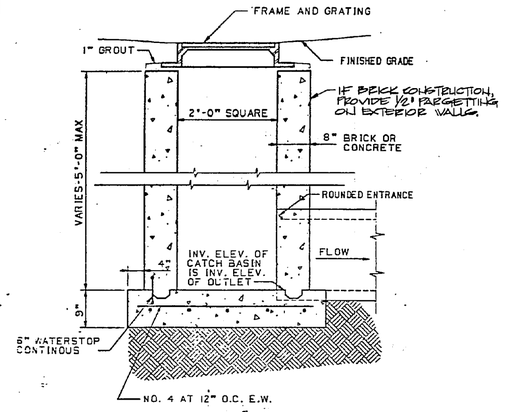
MISCELLANEOUS DETAILS

DES. JM DRN. DJ CHK. DHE
PROJ. MGR. GME CH. ENGR. DHE
SUBMITTED BY: DATE: 1 MAR 96
FIRM MEMBER / PRINCIPAL
EFD FP RVD
HD DIR
APPROVED: DATE: 12-4-96
OFFICER IN CHARGE
APPROVED: DATE: 1-12-97
FOR EFD FOR COMMANDER NAVFAC

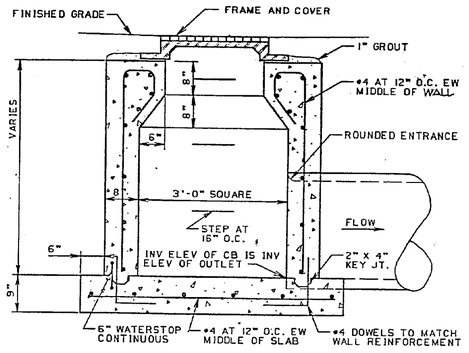
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 17218 2-26-96 DANIEL S. STEFFEN

SIZE: F
CODE IDENT. NO.: 80091
NAVFAC DRAWING NO.: 458764
CONSTR. CONTR. NO.: N 62470-84-B-4174
SCALE: (AS SHOWN)
SPEC.: 05-84-4174
SHEET: 15 OF 129
EFD DWG NO.: 238764

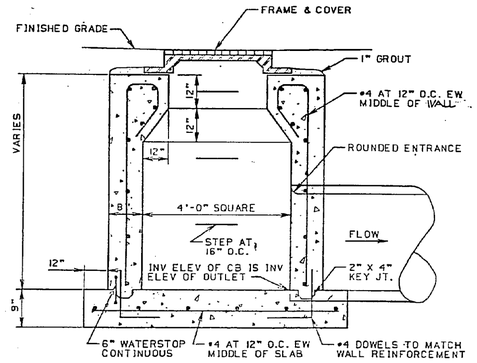
C-13



1 C-6 C-14 CATCH BASIN
18" PIPE AND SMALLER

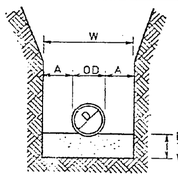


2 C-7 C-14 CATCH BASIN
21" TO 27" PIPE
C-6



3 C-6 C-14 CATCH BASIN (30" AND 36" PIPE)
NTS
C-7

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

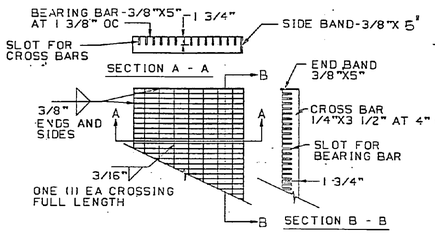


PIPE DIA "D"	MAXIMUM "A"
TO 15"	8"
16" TO 21"	10"
24" TO 30"	12"
33" TO 42"	15"
48" & LARGER	18"

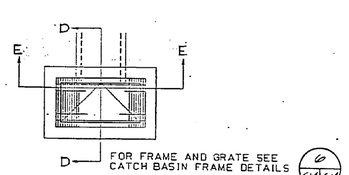
MAXIMUM TRENCH WIDTH "W" TAKEN AT TOP OF PIPE

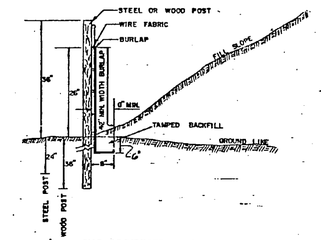
NOTE: PROVIDE BEDDING IN ACCORDANCE WITH THE SPECIFICATIONS.

4 C-6 C-14 STANDARD PIPE TRENCH WIDTH
NOT TO SCALE
C-7



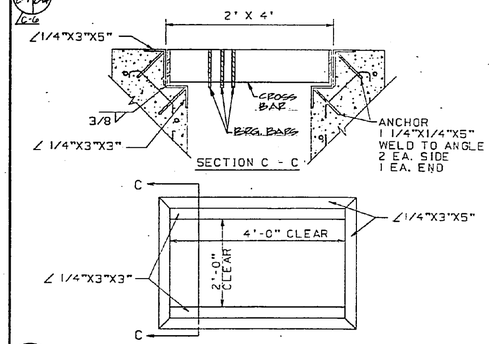
5 C-7 C-14 AIRFIELD CATCH BASIN GRATE DETAIL
C-6



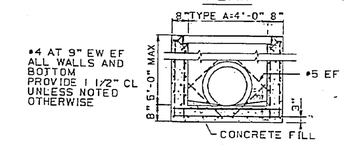


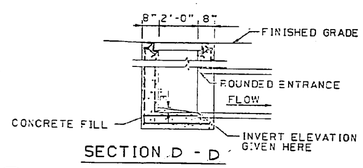
NOTES:
(1) FENCE FABRIC SHALL BE A MINIMUM OF 32 INCHES IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
(2) BURLAP SHALL BE 7-1/2 OZ. WEIGHT AND A MINIMUM OF 42" IN WIDTH. BURLAP SHALL BE FASTENED ADEQUATELY TO THE FABRIC AS DIRECTED BY THE CONTRACTING OFFICER.
(3) STEEL POSTS SHALL BE 5'0" IN LENGTH AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
(4) WOOD POST SHALL BE 6 FEET IN LENGTH AND 3 TO 4 INCHES IN DIAMETER. WIRE FABRIC SHALL BE FASTENED TO WOODEN POST WITH NOT LESS THAN #9 WIRE STAPLES 1-1/2 INCHES LONG.

8 C8,C7 C-6 C-14 DETAIL OF TEMPORARY SILT FENCE
N.T.S.

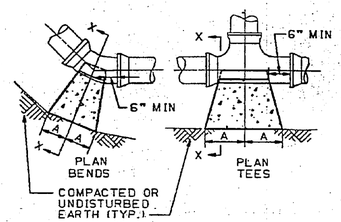


6 C-7 C-14 C-6, C-16 AIRFIELD CATCH BASIN FRAME DETAIL



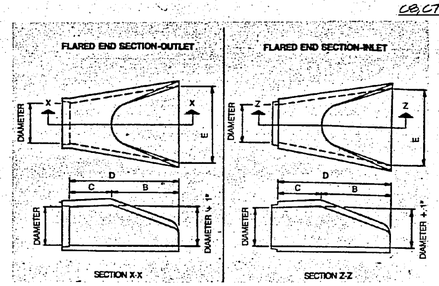


7 C-7 C-14 AIRFIELD SHALLOW CATCH BASIN
TYPE "A"
C-6



SIZE	1/4 BENDS A	1/4 BENDS B	1/8 BENDS A	1/8 BENDS B	1/16 BENDS A	1/16 BENDS B	TEES A	TEES B	PLUGS C	PLUGS D
6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
14"	35"	24"	19"	24"	12"	20"	22"	27"	18"	48"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"

9 C9 C-14 G10 THRUST BLOCKS
NTS



PIPE DIAMETER	WALL THICKNESS	SLOPE	B	C	D	E	UNIT WEIGHT
12	2¼	3:1	24	49	73	24	730
15	2¼	3:1	27	46	73	30	910
18	2½	3:1	27	46	73	36	1190
21	2¾	3:1	36	37	73	42	1370
24	3	3:1	42	31½	73½	48	1770
27	3¼	3:1	48	25½	73½	54	2130
30	3½	3:1	54	19¾	73¾	60	2380
36	4	3:1	63	34¾	97¾	72	5320
42	4½	3:1	63	35	98	78	5520
48	5	3:1	72	26	98	84	7470
54	5½	2.4:1	66	34	100	90	8810
60	6	2:1	60	39	99	96	11180
72	7	2:1	78	21	99	108	13980

DIMENSIONS IN INCHES. WEIGHTS IN POUNDS.

10 C-7 C-14 FLARED END SECTIONS
N.T.S.

C-14

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

MISCELLANEOUS DETAILS

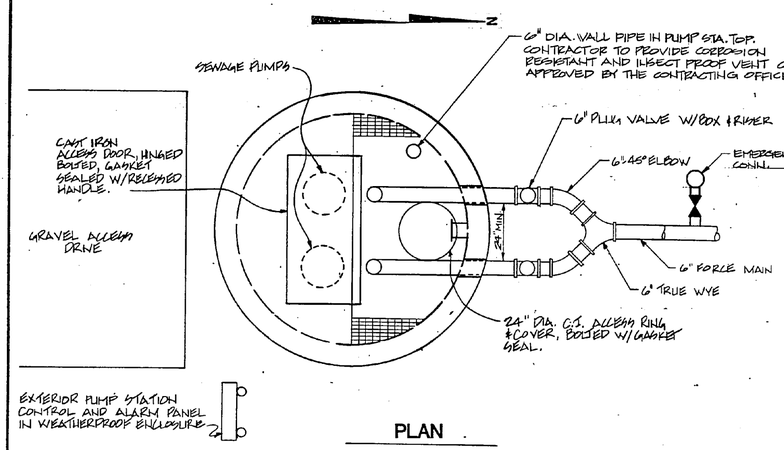
DES.	DR.
PROJ. MGR.	CHK.
SUBMITTED BY:	DATE
FIRM MEMBER	PRINCIPAL
EFD/FP TEAM	RVD
HD	DIR
APPROVED	DATE
OFFICER IN CHARGE	
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	

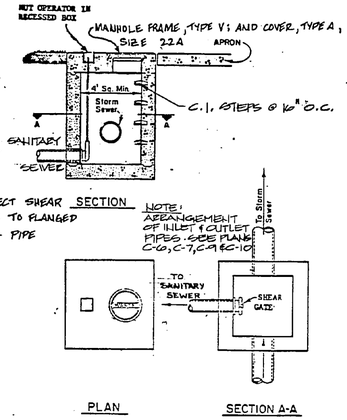
NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 12126 ENGINEERING SYSTEMS III

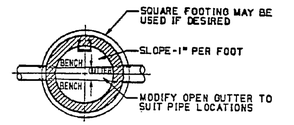
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138765
SCALE NTS	SPEC. 05-84-4174	CONSTR. CONTR. NO. N 62470-84-B-4174
		SHEET 16 OF 129
		EFD DWG NO. 238765

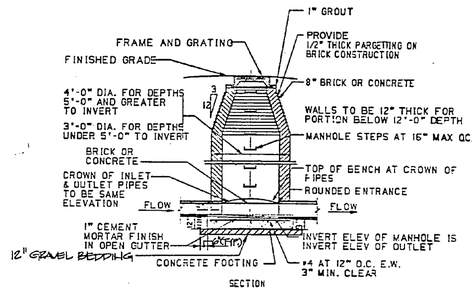
SHADED ICE WIDTH AT 800-642-2405

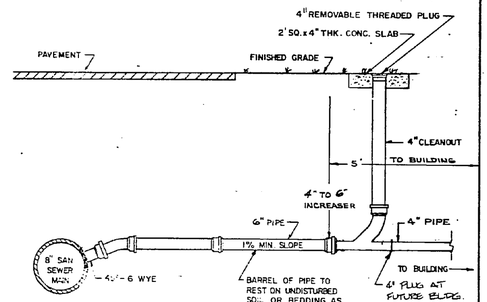
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

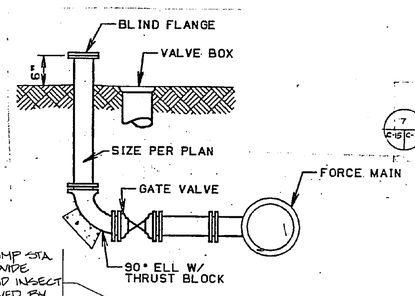




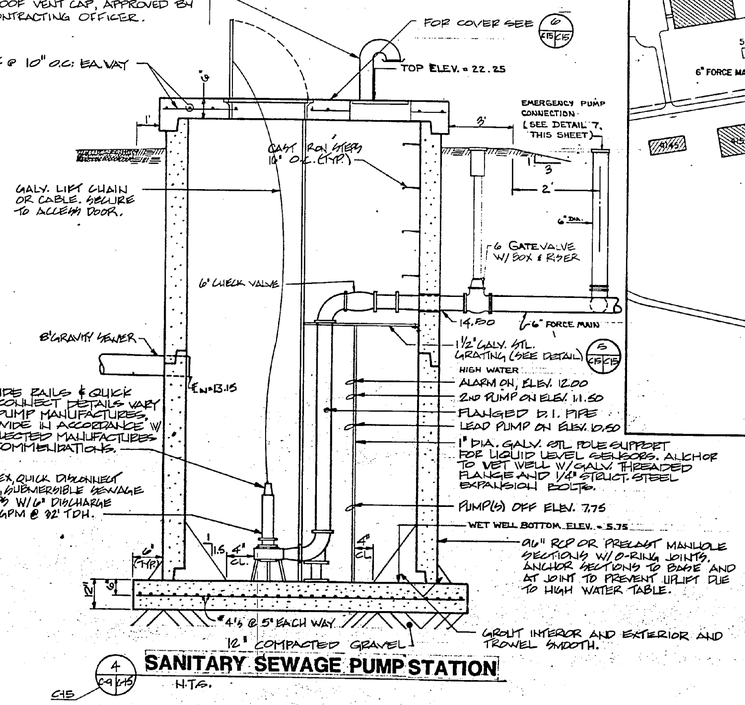


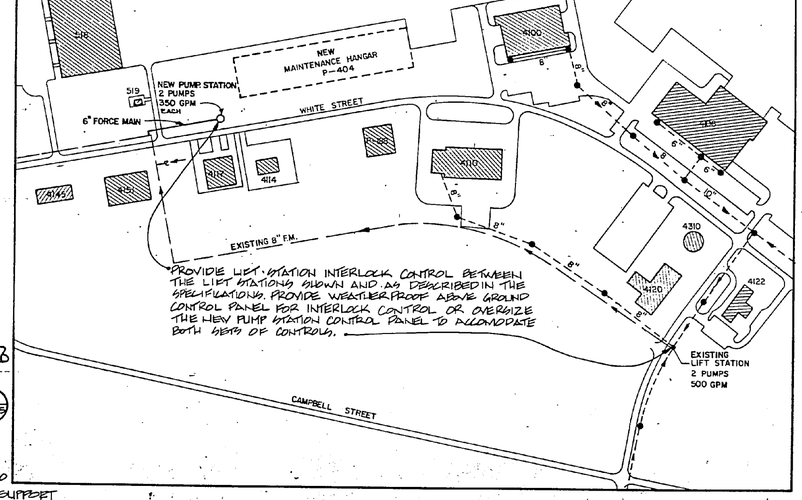


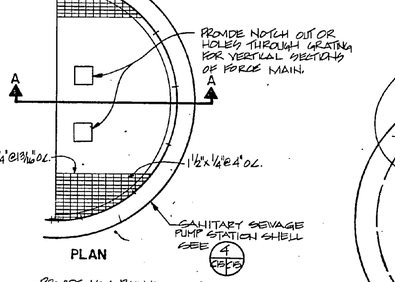


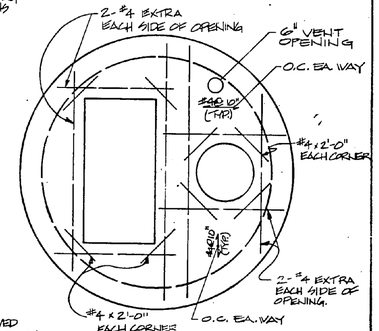


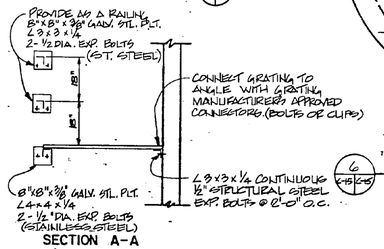
6" DIA. WALL PIPE IN PUMP STA TOP. CONTRACTOR TO PROVIDE CORROSION RESISTANT AND INSECT PROOF VENT CAP, APPROVED BY CONTRACTING OFFICER.











WASTEWATER DIVERSION STRUCTURE
1/C15 — C-7, C-6, C-9 — N.T.S.

MANHOLE
2/C15 — C-7, C-9 — N.T.S.

SANITARY SEWER SERVICE CONNECTION
3/C15 — C-9 — N.T.S.

EMERGENCY PUMP CONNECTION
7/C15 — NTS

SANITARY SEWER PUMP STATION
4/C15 — N.T.S.

SANITARY SEWER PUMP STATION VICINITY MAP
N.T.S.

PUMP STATION COVER STRUCTURAL DETAIL
6/C15 — N.T.S.

STEEL GRATING CONNECTION DETAIL
5/C15 — N.T.S.

C-15

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
SANITARY SEWER DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	468766

CONSTR. CONTR. N 62470-84-B-4174
SCALE N.T.S. SPEC. 05-84-4174 SHEET 17 OF 129
EFD DWG NO. 238766

PROFESSIONAL ENGINEER — NORTH CAROLINA — 17115 — 2-28-86 — SAMUEL S. STEVENS III

DES. DP RJL/LS CHK. CWK
PROJ. MGR. GRC CH. ENGR. DWE
SUBMITTED BY DATE 4-84-86
FIRM MEMBER PRINCIPAL
EFD/FPO/NIRF RVP
HD W DIR
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE MAR 5
FOR EFD FOR COMMANDER NAVFAC

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

N

CONCRETE AIRCRAFT PARKING APRON

290'

BEGIN BITUMINOUS CONCRETE DRIVE REMOVAL

50' AIRCRAFT TAXIWAY SHALL REMAIN CLEAR OF ANY CONSTRUCTION VEHICLES OR OTHER OBSTRUCTIONS THROUGHOUT THE DURATION OF THE PROJECT.

MATCH LINE

EXISTING ASPHALT DRIVE (TO REMAIN)

EDGE OF CONCRETE

EDGE OF ASPHALT

ASPHALT DRIVE REMOVE

CLEAR AREAS BORDERED BY HATCHING

REMOVE CONC. HEADWALLS

LIGHT POLE (TO REMAIN)

OVERHEAD POWER LINE (REMOVE)

LIGHT POLE (REMOVE)

EPO

DITCH

30" CONCRETE STORM DRAIN PIPE (TO REMAIN)

INVERT 15.00

INVERT 15.05

OUTLINE OF NEW BUILDING

HEAVILY WOODED AREA SMALL PINES

REMOVE BITUMINOUS CONC. PAVEMENT

3 / C-13

50.00'

60'

C. DITCH

REMOVE TREES FOR INSTALLATION OF OVERHEAD POWERLINE (SEE SHEET E2)

REMOVE OVERHEAD STEAM LINE

60'± OR NEAREST VERTICAL SUPPORT BEYOND 60'

OUTLINE OF NEW BUILDING

6" DIAMETER OVERHEAD STEAM AND CONDENSATE LINES ON CONCRETE PIERS. APPROX. 6' HIGH.

6" DIAMETER OVERHEAD STEAM LINE ON CONCRETE PIERS. APPROX. 6' HIGH. (REMOVE)

TEMPORARY DISCONNECT

NEW EDGE OF PAVEMENT

REMOVE BITUMINOUS CONC. PAVEMENT

FIRE HYDRANT WITH 4 - 3.4" HIGH CONCRETE PROTECTORS (TYPICAL) 18" WATER LINE

WHITE STREET

BENCHMARK #3 ELEVATION 19.10

OVERHEAD STEAM LINE ON CONCRETE PIERS

EDGE OF PAVEMENT

FIRE HYDRANT WITH 4 - 3.4" HIGH CONCRETE PROTECTORS (TYPICAL) TO REMAIN

POWER POLE

TELEPHONE BOX

POWER POLE WITH FIRE ALARM BOX

(REMOVE) POWER POLE

OVERHEAD POWER LINE

STORM DRAIN MANHOLE

24" CONCRETE STORM DRAIN PIPE

CATCH BASIN

ASPHALT DRIVE

FIRE HYDRANT

2-12" CONCRETE STORM DRAIN PIPES

OVERHEAD STEAM LINE AND CONDENSATE LINES ON WOODEN PIERS

18" CONCRETE STORM DRAIN PIPE (REMOVE)

SEE SHEET C-2

MATCHLINE

LEGEND (C-1 TO C-15)

EXISTING		NEW	REMOVE EXISTING
EBT	BURIED TELEPHONE W/HANDHOLE	BT	
EUGP	POWER (UNDERGROUND)		
EPO	POWER (OVERHEAD)		EPO
	STEAM		
	CONTOUR	21	
EW	WATER AND VALVE W/BOX	W	
ES	SANITARY SEWER (W/MANHOLES)	S	
	STORM DRAINAGE (W/CATCH BASINS)		
	DRAINAGE SWALES		
	SOIL BORINGS - SEE B-1 FOR LOGS		
	TREE LINE		
	ROOF LEADER		
	CURB AND GUTTER		
	FLARED END SECTION (FES)		
	CONCRETE SIDEWALK		
	FIRE HYDRANT		
	BENCHMARK		
	FLOW DIRECTION ARROW		
	DRAINAGE STRUCTURE NUMBERS		
x 19.20	SPOT ELEVATION	+ 19.20	

NOTES:

1. BENCHMARK "3 PK NAIL IN CENTER OF EXISTING DRIVE AND CENTER WHITE STREET. ELEVATION 19.10 (NORTH AMERICAN 1927 DATUM) 0+00=MSL
2. LOCATIONS AND SIZES OF NON-VISIBLE UTILITIES WERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-5 FOR DEMOLITION PLAN FOR PARKING AREA WEST OF WHITE STREET.
4. SEE MECHANICAL SHEET M-20, M-21 AND M-22 FOR TEMPORARY ALTERATIONS AND FINAL LOCATION OF STEAM LINE.
5. ALL POLES REMOVED TO REMAIN PROPERTY OF GOVERNMENT.

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION DO NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-16

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RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DU NEW RIVER, NORTH CAROLINA

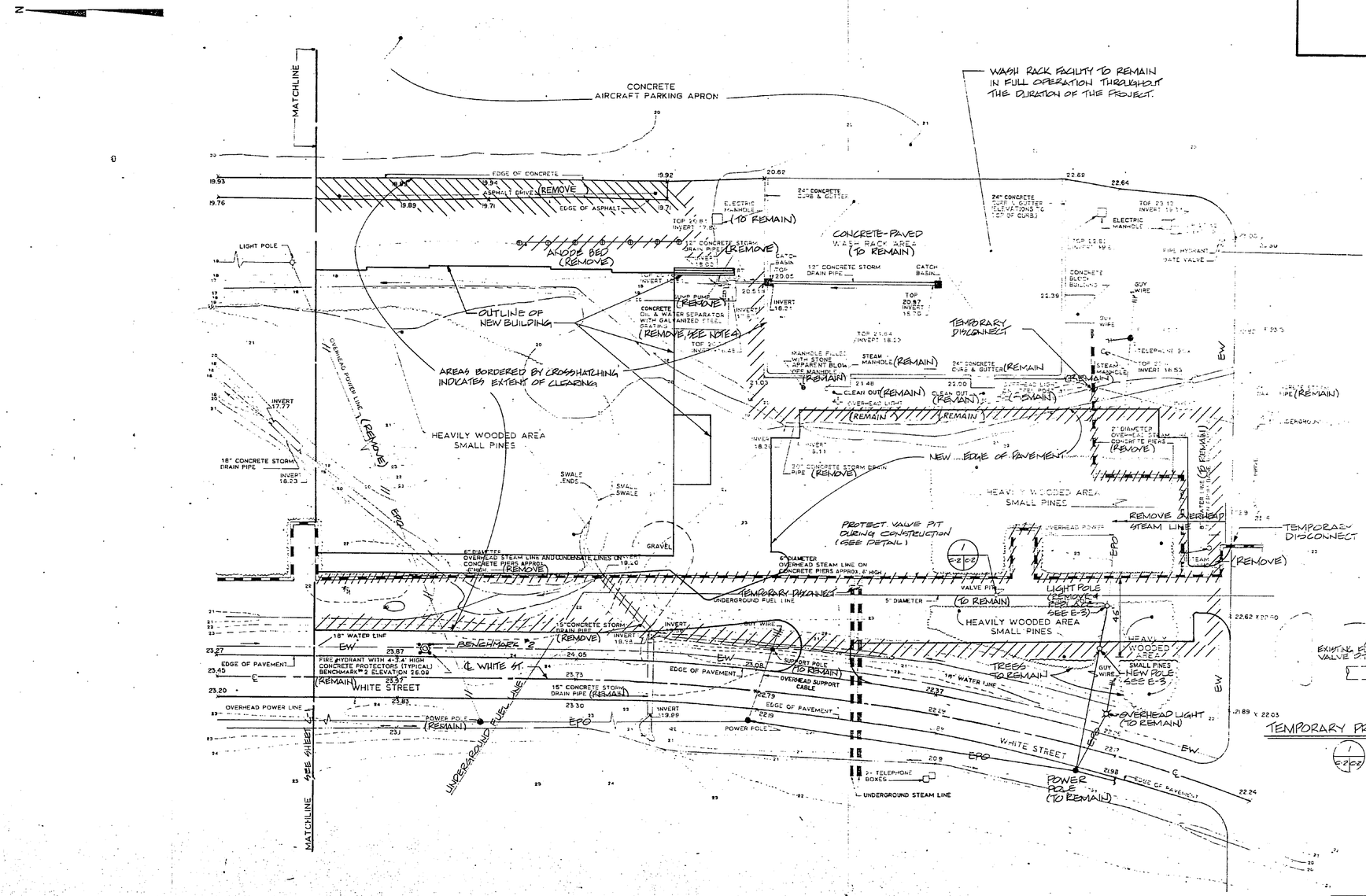
MAINTENANCE HANGAR
DEMOLITION PLAN NORTH SECTION - BASE BID WITH ADD. NO. 1

DES.	DR.
PROJ. MGR.	CH. ENGR. DHK
SUBMITTED BY	DATE
FIRM MEMBER	PRINCIPAL
EFD/FP	RVD
NO.	DIR
APPROVED	DATE 3-4-86
OFFICER IN CHARGE	
APPROVED FOR EFD FOR COMMANDER NAVFAC	DATE 1-13-87

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 11126 12-28-86 SURVEYOR STEPHENS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138767
	CONSTR. CONR. NO.	N62470-84-B-4174
SCALE 1"=25'	SPEC. 05-84-4174	SHEET 18 OF 129
		EFD DWG. NO. 238767

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



TEMPORARY PROTECTION OF FUEL LINE VALVE PIT

NO SCALE

NOTE: SEE SITE PLANS FOR UNDERGROUND FUEL LINE PROTECTION FROM ALL OPERATIONS IN VICINITY.

NOTES:

1. BENCHMARK #2 IS A FLANGE BOLT PAINTED RED ON FIRE HYDRANT. ELEVATION 26.09 (NORTH AMERICAN 1927 DATUM)
2. LOCATIONS AND SIZES OF NON-VISIBLE UTILITIES WERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-5 FOR DEMOLITION PLAN FOR PARKING AREA WEST OF WHITE STREET.
4. EXISTING OIL & WATER SEPARATOR SHALL NOT BE REMOVED FROM SERVICE UNTIL THE NEW WASTEWATER DIVERSION STRUCTURE IS CONSTRUCTED AND CONNECTED TO THE NEW SANITARY SEWER SYSTEM.
5. SEE MECHANICAL M-20, M-21 AND M-22 FOR TEMPORARY ALTERATIONS AND FINAL LOCATION OF STEAM LINES.

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION (HO NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-17

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 12705 CHRISTOPHER S. STESSEL

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

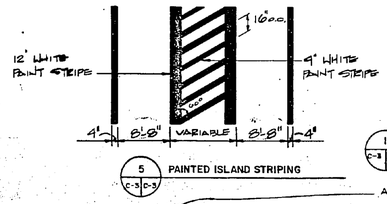
MAINTENANCE HANGAR
DEMOLITION PLAN SOUTH SECTION– BASE BID WITH ADD. NO.1

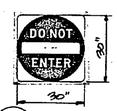
DES.	DR. RM Hinton
PROJ. MGR.	CHK. CH ENGR. CHK
SUBMITTED BY	DATE: 4 Mar 96
FIRM MEMBER	PRINCIPAL
EFD FP	RVD
HO	DIR KTD
APPROVED: OFFICER IN CHARGE	DATE 3-4-96
APPROVED: FOR EFD FOR COMMANDER, NAVFAC	DATE 11/27

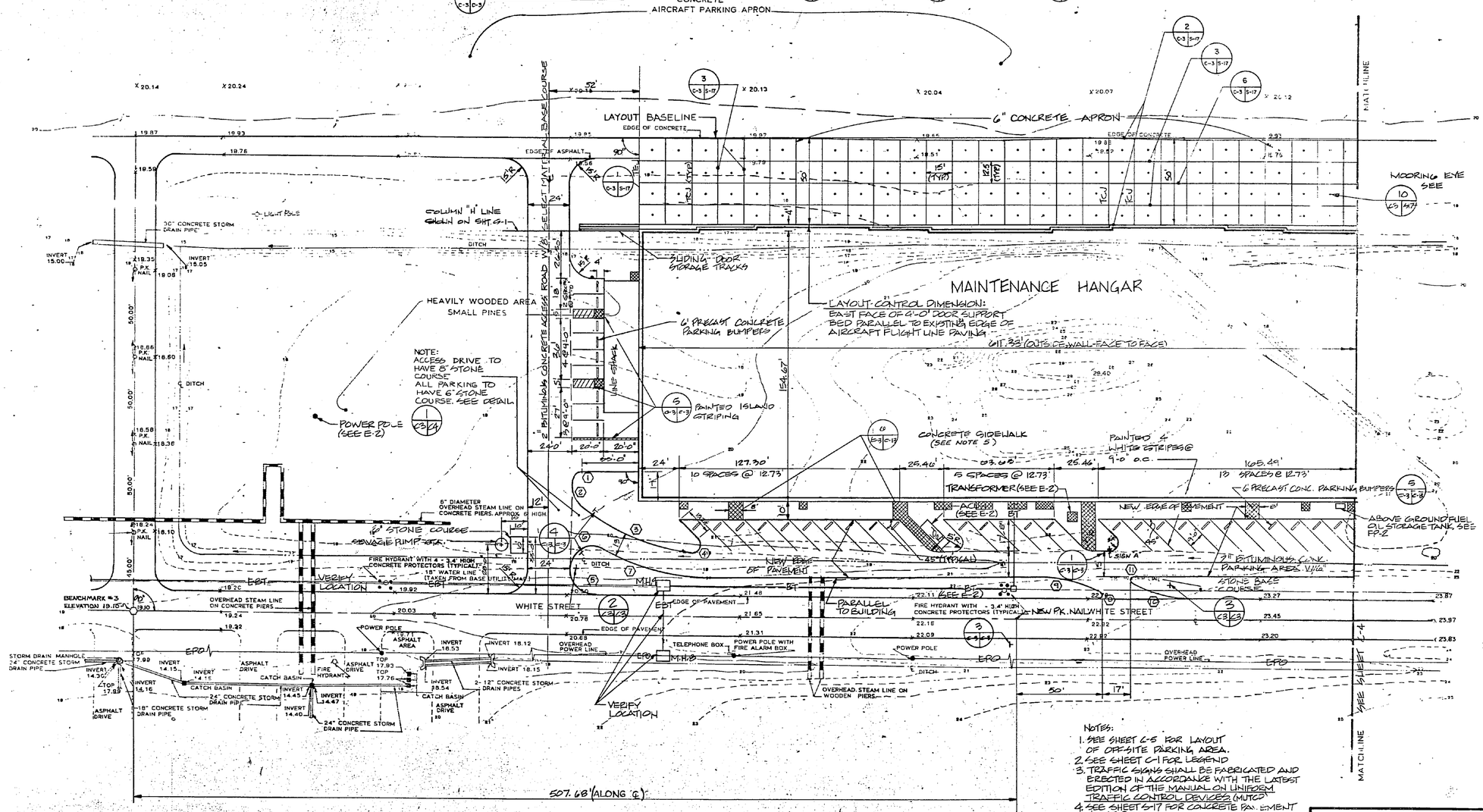
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138768

CONSTR. CONT. NO. N62470-84-B-4174
SCALE 1"=25' SPEC. 05-84-4174 SHEET 19 OF 129
EFD DWG NO 238768

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED







CURVE DATA TABLE					
Curve No.	Delta	Radius	Tangent	Length	Chd. Length
1	90-00-00	5.00	5.00	7.85	7.07
2	46-00-52	15.00	6.37	12.05	11.73
3	38-12-28	112.00	38.79	74.59	73.31
4	140-46-40	5.00	14.03	12.29	9.42
5	89-38-23.5	15.00	14.91	23.47	21.15
6	118-12-21	12.50	20.89	25.79	21.45
7	28-12-21	125.00	31.40	61.54	60.92
8	151-36-36	2.00	7.91	5.29	3.88
9	28-45-00	75.00	19.22	37.63	37.24
10	28-57-52	75.00	19.37	37.91	37.51
11	150-40-32	2.00	7.64	5.26	3.87
12	08-56-10	700.00	54.70	109.17	109.06
13	28-56-10	15.00	17.54	23.90	22.80
14	96-29-36	15.00	16.80	25.26	22.38
15	160-48-58	6.00	35.50	16.84	11.83
16	59-26-06	5.00	2.85	5.19	4.96
17	84-44-56	667.33	27.69	55.31	55.29

NOTE: ① DENOTES CURVE NUMBER IN REFERENCE TO CURVE DATA TABLE.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

NOTES:
1. SEE SHEET C-5 FOR LAYOUT OF OFF-SITE PARKING AREA.
2. SEE SHEET C-1 FOR LEGEND
3. TRAFFIC SIGNS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
4. SEE SHEET C-17 FOR CONCRETE PAVEMENT JOINT DETAILS.
5. SEE SHEETS A-2, A-3, A-4 FOR SIDEWALK LOCATIONS.
6. PROVIDE ALSO 5' LONG CONC. PADS AT MINOR DOORS AS SHOWN ON SHEETS A-2, A-3, A-9.

F.B. NEW RIVER AIR STATION (MCAS) NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-18

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RALEIGH, NORTH CAROLINA

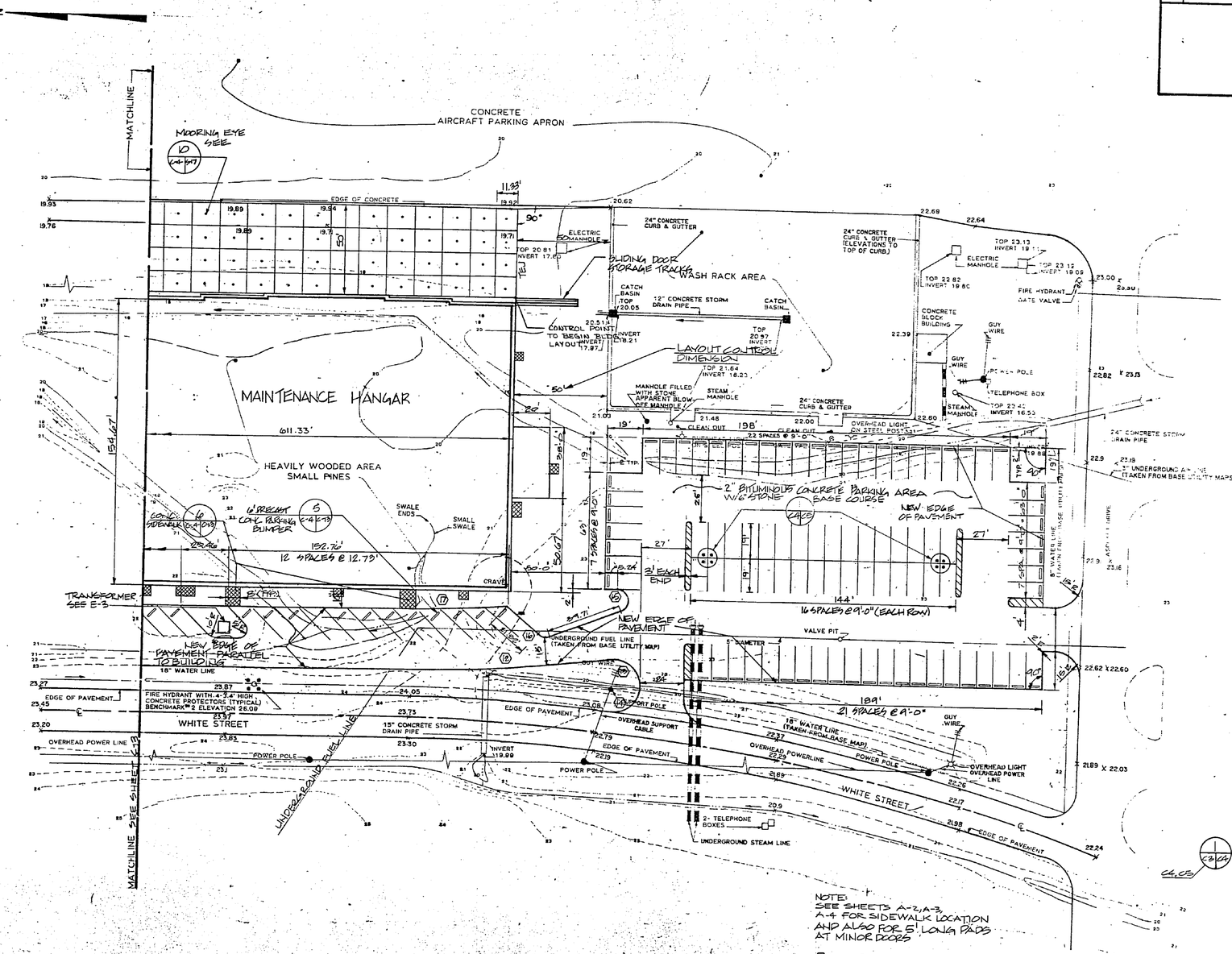
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

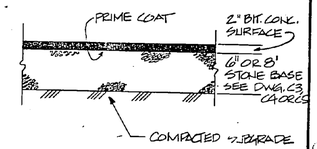
MAINTENANCE HANGAR
SITE LAYOUT PLAN NORTH SECTION - BASE BID WITH ADD. NO. 1

SIZE F	CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 4138769	
SCALE 1"=25'	SPEC. 05-84-4174	CONSTR. CONTR. NO. 62470-84-B-4174	SHEET 20 OF 129

EFD DWG. NO. 238769

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED





1 C-3/CA — TYPICAL PAVEMENT SECTION
NTS
C4, C5

NOTES:
SEE SHEETS A-2, A-3, A-4 FOR SIDEWALK LOCATION AND ALSO FOR 5' LONG PADS AT MINOR DOORS

① DENOTES CURVE NUMBER, FOR CURVE DATA TABLE SEE SHT. C-3.

SEE SHEET C-3 FOR OTHER NOTES

NOTE:
1. SEE S17 FOR PAVEMENT CONSTRUCTION AND JOINT DETAILS.
2. PROVIDE WIRE FABRIC IN ANY CONCRETE PAVEMENT SECTION CONTAINING PENETRATION FOR DROP INLET, PIT, ETC. AS ON SHEET S-17.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.B. NEW RIVER AIR STATION (HQ NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-19

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. DR. CHK. DHW
PROJ. MGR. CHK. ENG'R. CHK.
SUBMITTED BY: DATE
FIRM MEMBER
EFD/FP: RVD PRINCIPAL
HD: DIR KD
APPROVED: DATE
OFFICER IN CHARGE
APPROVED: DATE
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 7216 DANIEL S. STEBBINS III

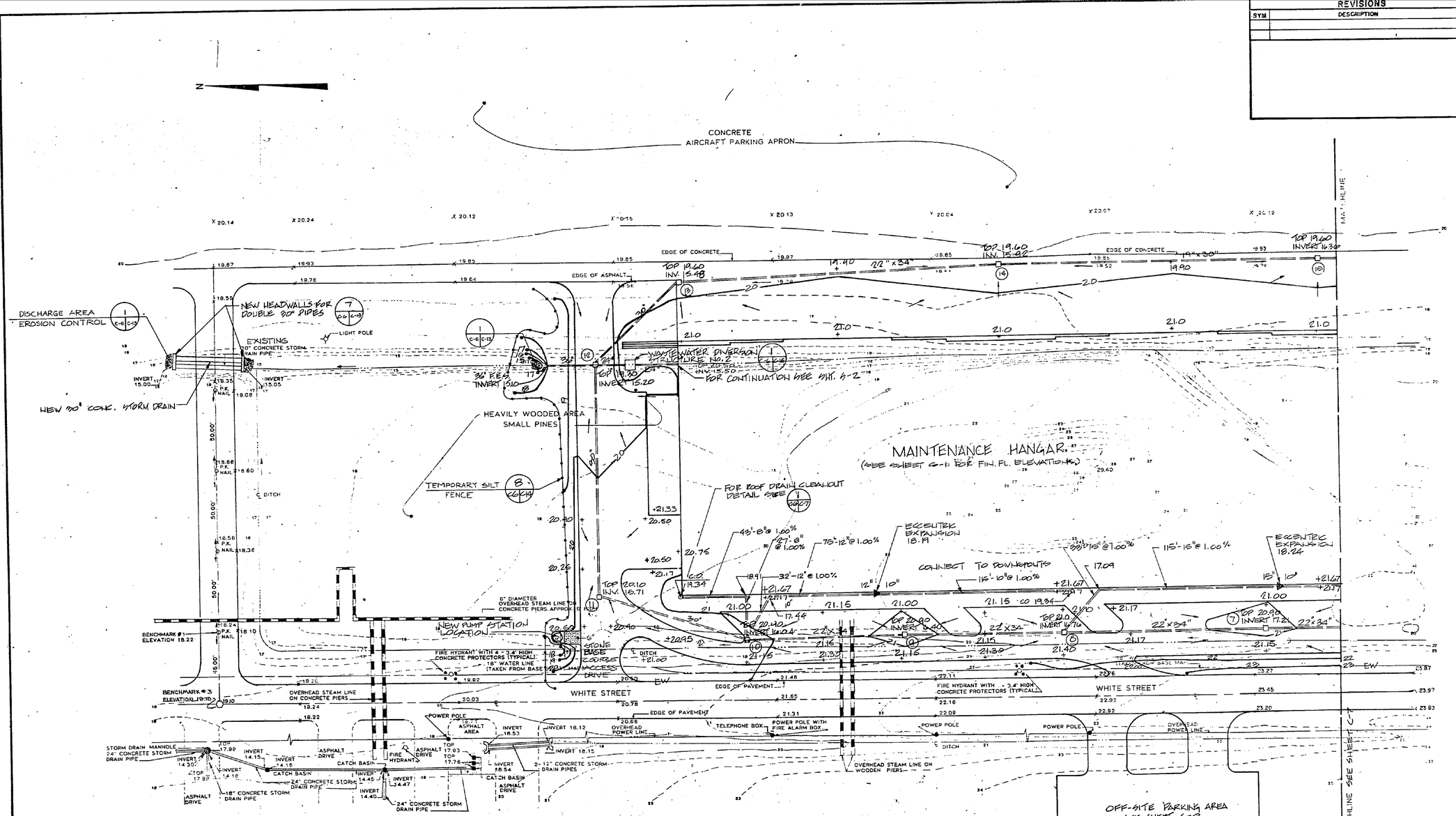
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (HI) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

SITE LAYOUT PLAN SOUTH SECTION
BASE BID WITH ADD. NO. 1

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138770
CONSTR. CONTR. NO. N 62470 - 84 - B - 4174
SCALE 1"=25' | SPEC. 05 - 84 - 4174 | SHEET 21 OF 129
EFD DWG. NO. 238770

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



DRAINAGE STRUCTURE SCHEDULE			
STRUCTURE NO.	STRUCT. DETAIL DETAIL NO./SHT.NO.	FRAME TYPE/STYLE/SIZE FED. SPEC. RRF621	COVERS & GRATES TYPE/STYLE/SIZE FED.SPEC. RRF621
7	3 / C-14	VI / - /22 A	G/ 2 /22 A
8	3 / C-14	VI / - /22 A	G/ 2/22A
9	3 / C-14	VI / - / 22 A	G/ 2/ 22 A
10	3 / C-14	VI / - /22 A	G/ 2/ 22 A
11	3/ C -14	VI/ - /22 A	G/ 2 / 22 A
12	3/ C -14	VI / - / 22 A	G/ 2/ 22 A

AIRFIELD DRAINAGE STRUCTURES			
STRUCTURE NO.	STRUCTURE DETAIL NO./TYPE/SHT. NO.	FRAME DETAIL NO./SHT.NO.	GRATE DETAIL NO./SHT.NO.
13	7/ A / C-14	6/C-14	5/C-14
14	7/ A / C-14	6/C-14	5/C-14
15	7/ A / C-14	6/C-14	5/C-14

FOR STORM DRAIN PROFILES SEE C-12
SEE SHEET A-6 FOR LOCATIONS OF BUILDING DOWNSPOUTS

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.B. NEW RIVER AIR STATION (NO NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-20

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NORFOLK, VIRGINIA
NAVAL STATION
MARINE CORPS AIR STATION (H): NEW RIVER, NORTH CAROLINA

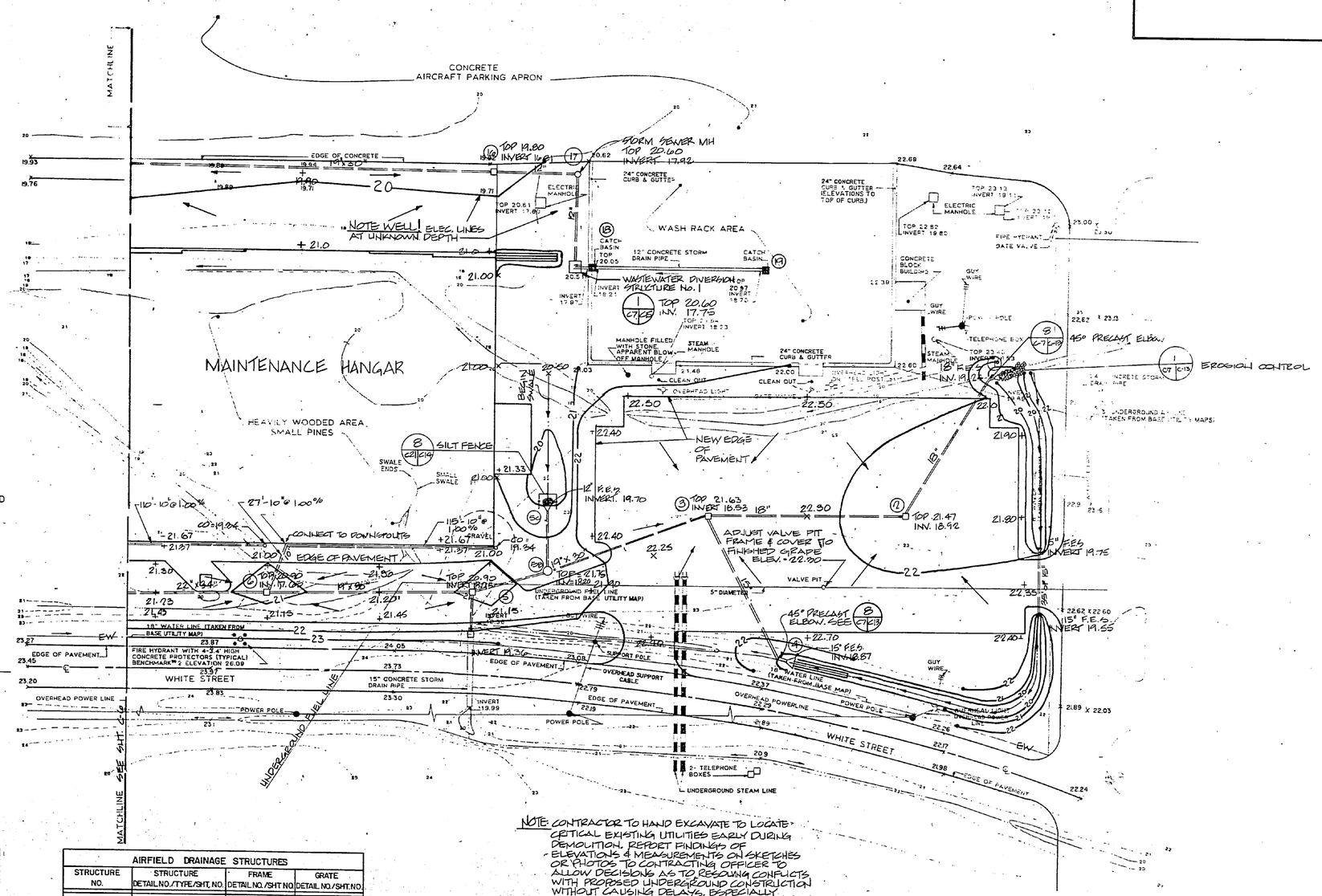
MAINTENANCE HANGAR

GRADING AND STORM DRAINAGE PLAN
NORTH SECTION-BASE BID WITH ADD NO.1

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138771

CONSTR. CONT. NO. N 62470-84-B-4174
SCALE 1"=25' SPEC. 05-84-4174 SHEET 22 OF 129
EFD DWG. NO. 238771

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



ROOF DRAIN CLEANOUT DETAIL

(1) (C-7/C-7) N.T.S.

DRAINAGE STRUCTURE SCHEDULE			
STRUCTURE NO.	STRUCT. DETAIL DETAIL NO./SHT.NO.	FRAME TYPE/STYLE/SIZE FED. SPEC. RRF621	COVERS & GRATES TYPE/STYLE/SIZE FED. SPEC. RRF621
1	10 / C-14	—	—
2	2 / C-14	VI / – / 22A	G / 2 / 22A
3	2 / C-14	VI / – / 22A	G / 2 / 22A
4	10 / C-14	—	—
5	2 / C-14	VI / – / 22A	G / 2 / 22A
5B	2 / C-15	I / A / 22A	A / – / 22A
5C	10 / C-14	—	—
6	3 / C-14	VI / – / 22A	G / 2 / 22A
17	2 / C-15	I / A / 22A	A / – / 22A
18	1 / C-15	I / A / 22A	A / – / 22A

AIRFIELD DRAINAGE STRUCTURES			
STRUCTURE NO.	STRUCTURE DETAIL NO./TYPE/SHT. NO.	FRAME DETAIL NO./SHT NO.	GRATE DETAIL NO./SHT NO.
16	7 / A / C-14	6/C-14	5/C-14

NOTE: CONTRACTOR TO HAND EXCAVATE TO LOCATE CRITICAL EXISTING UTILITIES EARLY DURING DEMOLITION. REPORT FINDINGS OF ELEVATIONS & MEASUREMENTS ON SKETCHES OR PHOTOS TO CONTRACTING OFFICER TO ALLOW DECISIONS AS TO RESOLVING CONFLICTS WITH PROPOSED UNDERGROUND CONSTRUCTION WITHOUT CAUSING DELAYS, ESPECIALLY LOCATE TELEPHONE BANK, FUEL LINE, & ELECTRICAL CONDUITS.

FOR STORM DRAINAGE PROFILES SEE C-12
SEE SHEET A-6 FOR LOCATIONS OF BUILDING DOWNSPOUTS.

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.S. NEW RIVER AIR STATION DD NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-21

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

DES. DM. CHK. DWG
PROJ. MGR. CHE ENGR. PHE
SUBMITTED BY: DATE 6 MAR 86
FIRM MEMBER PRINCIPAL
EFD-FP RVD
HD DIR
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE
FOR EFD, FOR COMMANDER NAVFAC

MAINTENANCE HANGAR
GRADING AND STORM DRAINAGE PLAN
SOUTH SECTION-BASE BID WITH ADD. NO.4

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4136772
CONSTR. CONTR. NO. N 62470-84-B-4174
SCALE 1"=25' | SPEC. 05-84-4174 | SHEET 23 OF 129
EFD DWG. NO. 238772

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

N

CONCRETE AIRCRAFT PARKING APRON

MATCHLINE

EDGE OF CONCRETE

EDGE OF ASPHALT

LIGHT POLE

30" CONCRETE STORM DRAIN PIPE

DITCH

24"

FROM FLOOR DRAINS

WASTEWATER DIVERSION STRUCTURE No. 2

C-4/C15

HEAVILY WOODED AREA
SMALL PINES

6" SAN. SEWER LINE "C"

FORCE MAIN CROSSING UNDER ROAD SHALL BE DUCTILE IRON PIPE.

SEWAGE PUMP STATION 4 C4/C5

6" DIAMETER OVERHEAD STEAM LINE ON CONCRETE PIERS. APPROX. 6' HIGH

SAN. M.H. No. 3
TOP 20.55
INV. 13.55

NEW FIRE HYDRANT (TYP.) 14' THUST

2 C22/C13

CLEANOUT (TYP.) 16.00

SAN. SEWER SERVICE CONNECTION C14/C15

13

8" SAN. SEWER LINE "A"

SAN. M.H. No. 2
TOP 21.00
INV. 15.28

SAN. M.H. No. 1
TOP 21.25
INV. 16.07

8" WATER LINE

16" WATER LINE (TAKEN FROM BASE MAP)

FIRE HYDRANT WITH 4 - 3.4' HIGH CONCRETE PROTECTORS (TYPICAL)

16" WATER LINE (TAKEN FROM BASE UTILITY MAP)

CONNECT TO EXISTING 8" SANITARY SEWER FORCE MAIN WITH 6" TAPPING SLEEVE, VALVE AND BOX

8" SANITARY SEWER FORCE MAIN

BENCHMARK #3
ELEVATION 19.10

OVERHEAD STEAM LINE ON CONCRETE PIERS

WHITE STREET

6"x6" TAPPING SLEEVE, VALVE AND BOX

16"x4" TAPPING SLEEVE, VALVE AND BOX

FIRE HYDRANT WITH 4 - 3.4' HIGH CONCRETE PROTECTORS (TYPICAL)

EDGE OF PAVEMENT

POWER POLE

ASPHALT AREA

TELEPHONE BOX

POWER POLE WITH FIRE ALARM BOX

OVERHEAD POWER LINE

OVERHEAD STEAM LINE ON WOODEN PIERS

STORM DRAIN MANHOLE 24" CONCRETE STORM DRAIN PIPE

CATCH BASIN

ASPHALT DRIVE

FIRE HYDRANT

24" CONCRETE STORM DRAIN PIPE

18" CONCRETE STORM DRAIN PIPE

EXISTING 4" SEWAGE FORCE MAIN

2- 12" CONCRETE STORM DRAIN PIPES

HEADSTING 8" SANITARY SEWER INVERT IN 16.3±

6' DIAMETER CONCRETE SEWAGE PUMPING STATION
TOP 19.43
BOTTOM 9.20

SANITARY SEWER MANHOLE
TOP 19.71
INVERT OUT 11.61

8" EXISTING FORCE MAIN

MATCHLINE SEE SHT. C-11

FOR SANITARY SEWER PROFILES SEE SHT. C-11
FOR CONTINUATION OF SEWER AND WATER LINES INTO BUILDING, SEE SHEET P1 THRU P4

GRAPHIC SCALE
1" = 25'
25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-22

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

WATER AND SANITARY SEWER PLAN
NORTH SECTION-BASE BID WITH ADD. NO.1

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138773

CONSTR. CONTR. NO. N 62470-84-B-4174

SCALE 1"=25' | SPEC. 05-84-4174 | SHEET 24 OF 129

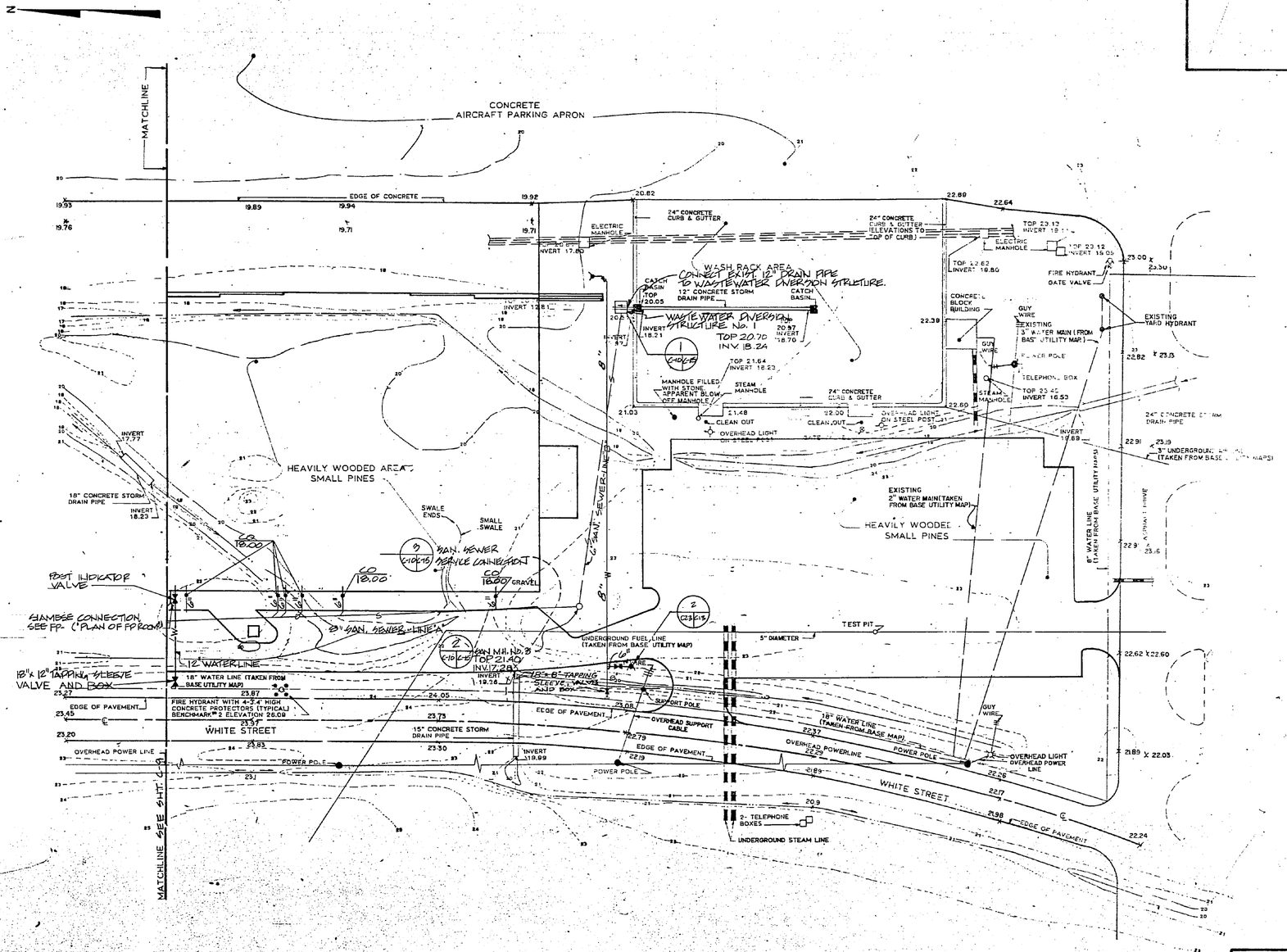
EFD DWG NO. 238773

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 12126 SAMUEL S STEELMAN III

DESIGNED BY DR CHK. DHF
PROJ. MGR. GAF CH. ENGR. DHF
SUBMITTED BY DATE 2 NOV 84
FIRM MEMBER PRINCIPAL
EFD PE RVD DATE
HD DIR
APPROVED DATE 3-4-85
OFFICER IN CHARGE
APPROVED DATE
FOR EFD FOR COMMANDER NAVFAC

BRANCH OFF WATTS # 1 800 845 8628

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FOR SANITARY SEWER PROFILES SEE SHT. C-11

FOR CONTINUATION OF SEWER AND WATER LINES INTO BUILDING, SEE SHEETS P1 THRU P4 AND FP-1.

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

NOT IN CONTRACT
NOT ISSUED

C-23

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

WATER AND SANITARY SEWER PLAN
SOUTH SECTION-BASE BID WITH ADD. NO. 1

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138774

CONSTR. CONR. NO. N 62470-84-B-4174
SCALE 1"=25' — SPEC. 05-84-4174 — SHEET 25 OF 129
EFD DWG. NO. 238774

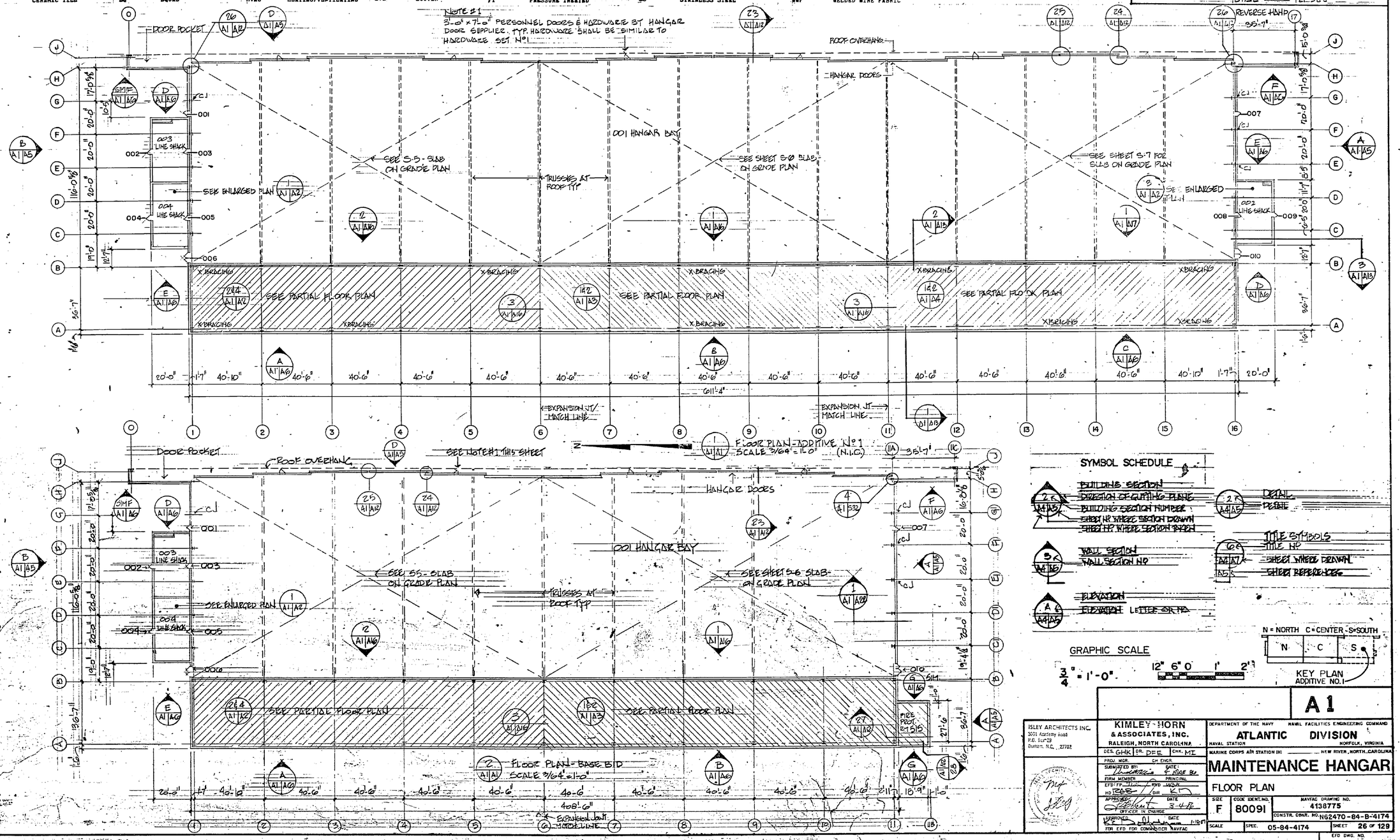
ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	CLR	CLEAR(ANCE)	EXH	EXHAUST	HT	HEIGHT	MACH	MACHINE	QT	QUARRY TILE	STD	STANDARD	W/	WITH
AD	ACCESS DOOR	COL	COLUMN	EXP	EXPANSION	HM	HOLLOW METAL	MH	MANHOLE	R	RADIUS	STRUCT	STRUCTURE(AL)	WD	WOOD
ADD	ADDENDUM	CONC	CONCRETE	EXT	EXTERIOR	HORIZ	HORIZONTAL	MFR	MANUFACTURER	REFL	REFLECT(ED)	SURF	SURFACE	WF	WOOD FRAME
ALT	ALTERNATE	CMU	CONCRETE MASONRY UNIT	FD	FINISH(ED)	HB	HOSE BIBB	MTL	MATERIAL(S)	REINF	REINFORCE(D)(ING)	SA	SYMMETRICAL ABOUT CENTERLINE	YD	YARD
ALUM	ALUMINUM	CONST	CONSTRUCTION	FF	FINISH FLOOR	HWH	HOT WATER HEATER	MAX	MAXIMUM	RCP	REINFORCED CONCRETE PIPE	SYM	SYMMETRY(ICAL)		
AB	ANCHOR BOLT	CONT	CONTINUOUS	FEXT	FIRE-EXTINGUISHER	HSKG	HOUSE KEEPING	MECH	MECHANICAL	REM	REMOVE	T	THERMOSTAT		
L	ANGLE	CONTR	CONTRACT(OR)	FLG	FLASH(ING)	INCL	INCLUDE(D)(ING)	MEMB	MEMBRANE	RET	RETAIN(ING)	TH	THICK(NESS)		
ANOD	ANODIZED	CJ	CONTROL JOINT	FD	FLOOR DRAIN	ID	INSIDE DIAMETER	MET	METAL	RH	RIGHT HAND	THR	THRESHOLD		
ARCH	ARCHITECT(URAL)	CORR	CORRUGATED	FL	FLOOR LINE	INSUL	INSULATION	MIN	MINIMUM	ROW	RIGHT OF WAY	THRU	THROUGH		
ASPH	ASPHALT	CS	COUNTER SUNK	FLUOR	FLUORESCENT	INT	INTERIOR	MISC	MISCELLANEOUS	RD	ROOF DRAIN	TOL	TOLERANCE		
BM	BENCH MARK	CFT	CUBIC FOOT	FJT	FLUSH JOINT	INV	INVERT	NOM	NOMINAL	RM	ROOM	T&G	TONGUE & GROOVE		
BETW	BETWEEN	CYD	CUBIC YARD	FT	FOOT	JCL	JANITOR CLOSET	NIC	NOT IN CONTRACT	RO	ROUGH OPENING	TOS	TOP OF STEEL		
BD	BOARD	DP	DAMPPROOFING	FTG	FOOTING	JT	JOINT	NTS	NOT TO SCALE	S	ROUND	TYP	TYPICAL		
BOS	BOTTOM OF STEEL	DL	DEAD LOAD	FM	FACTORY MUTUAL	JB	JUNCTION BOX	OC	ON CENTER(S)	RB	RUBBER BASE	UL	UNDERWRITERS' LABORATORY		
BRK	BRICK	DET	DETAIL	FH	FACE OF MASONRY	KP	KICK PLATE	OD	OUTSIDE DIAMETER	SCHED	SCHEDULE	UNF	UNFINISHED		
BLDG	BUILDING	DIAG	DIAGONAL	FND	FOUNDATION	KD	KNOCKED DOWN	PVMT	PAVEMENT	S	SCUPPER	UON	UNLESS OTHERWISE NOTED		
BUR	BUILT UP ROOFING	DIAM	DIAMETER	FS	FULL SIZE/FAR SIDE	KO	KNOCKOUT	PED	PEDESTAL	SNT	SEALANT	VAC	VACUUM		
CI	CAST IRON	DIM	DIMENSION	FBO	FURNISHED BY OTHERS	LAB	LABEL	d.	PENNY	SECT	SECTION	VB	VAPOR BARRIER		
CB	CATCH BASIN	DH	DOUBLE HUNG	FUT	FUTURE	LAM	LAMINATE	PERF	PERFORATE(D)	SHT	SHEET	VERT	VERTICAL		
CEIL	CEILING	DN	DOWN	GA	GAGE	LAV	LAVATORY	PL	PLATE	SIM	SIMILAR	VT	VINYL TILE		
℄	CENTERLINE	DS	DOWN SPOUT	GALV	GALVANIZED	LH	LEFT HAND	PLWD	PLYWOOD	SL	SLEEVE	WSCT	WAINSCOT		
CT	CERAMIC TILE	DWG	DRAWING	GC	GENERAL CONTRACTOR	LT	LIGHT	PVC	POLYVINYL CHLORIDE	SPEC	SPECIFICATION(S)	WH	WALL HUNG		
		ES	EACH SIDE	GL	GLASS	LF	LINEAR FEET	PSF	POUNDS PER SQUARE FEET	SQ	SQUARE	WC	WATER CLOSET		
		ELEC	ELECTRIC(AL)	GYPBD	GYPSUM WALL BOARD	LTL	LINTEL	PSI	POUNDS PER SQUARE INCH	SF	SQUARE FOOT	WF	WATERPROOFING		
		ELEV	ELEVATION	HTG	HEATING	LL	LIVE LOAD	PRCST	PRECAST	SY	SQUARE YARD	WS	WATERSTOP		
		EQ	EQUAL	HVAC	HEATING/VENTILATING	LVR	LOUVER	PT	PRESSURE TREATED	SS	STAINLESS STEEL	WWF	WELDED WIRE FABRIC		

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

GROSS AREA:
- HANGAR SERVICE BAY — 71832
- LOWER FLOOR — 23638
- UPPER FLOOR — 23638
- NE SHEDS — 2280
- TOTAL — 121,388

NOTE #1: 3'-0" x 7'-0" PERSONNEL DOORS & HARDWARE BY HANGAR DOOR SUPPLIER. TYP. HARDWARE SHALL BE SIMILAR TO HARDWARE SET NO 1



SYMBOL SCHEDULE

- BUILDING SECTION
- DIRECTION OF CUTTING PLANE
- BUILDING SECTION NUMBER
- SHEET NO WHERE SECTION DRAWN
- SHEET NO WHERE SECTION TAKEN
- WALL SECTION
- WALL SECTION NO
- ELEVATION
- ELEVATION LETTER OR NO
- DETAIL
- DETAIL NUMBER
- TITLE SYMBOLS
- TITLE NO
- SHEET WHERE DRAWN
- SHEET REFERENCE

GRAPHIC SCALE

3/4" = 1'-0"

12" 6" 0 1' 2'

N = NORTH C = CENTER - S = SOUTH

KEY PLAN ADDITIVE NO. 1

A1

ISLEY ARCHITECTS INC.
3601 Academy Road
P.O. Box 23
Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

DES. GHK | DR. PFE | CHK. ME
PROJ. MGR. | CH. ENGR.
SUBMITTED BY | DATE: 6 MAR 84
FIRM MEMBER | PRINCIPAL
EFD FP MGR. | FPO | ACOM
HD FAC | DIR | KT
APPROVED | DATE: 3 APR 84
OFFICER IN CHARGE
APPROVED | DATE: 1 MAY 84
FOR EFD FOR COMMANDER NAVFAC

MAINTENANCE HANGAR

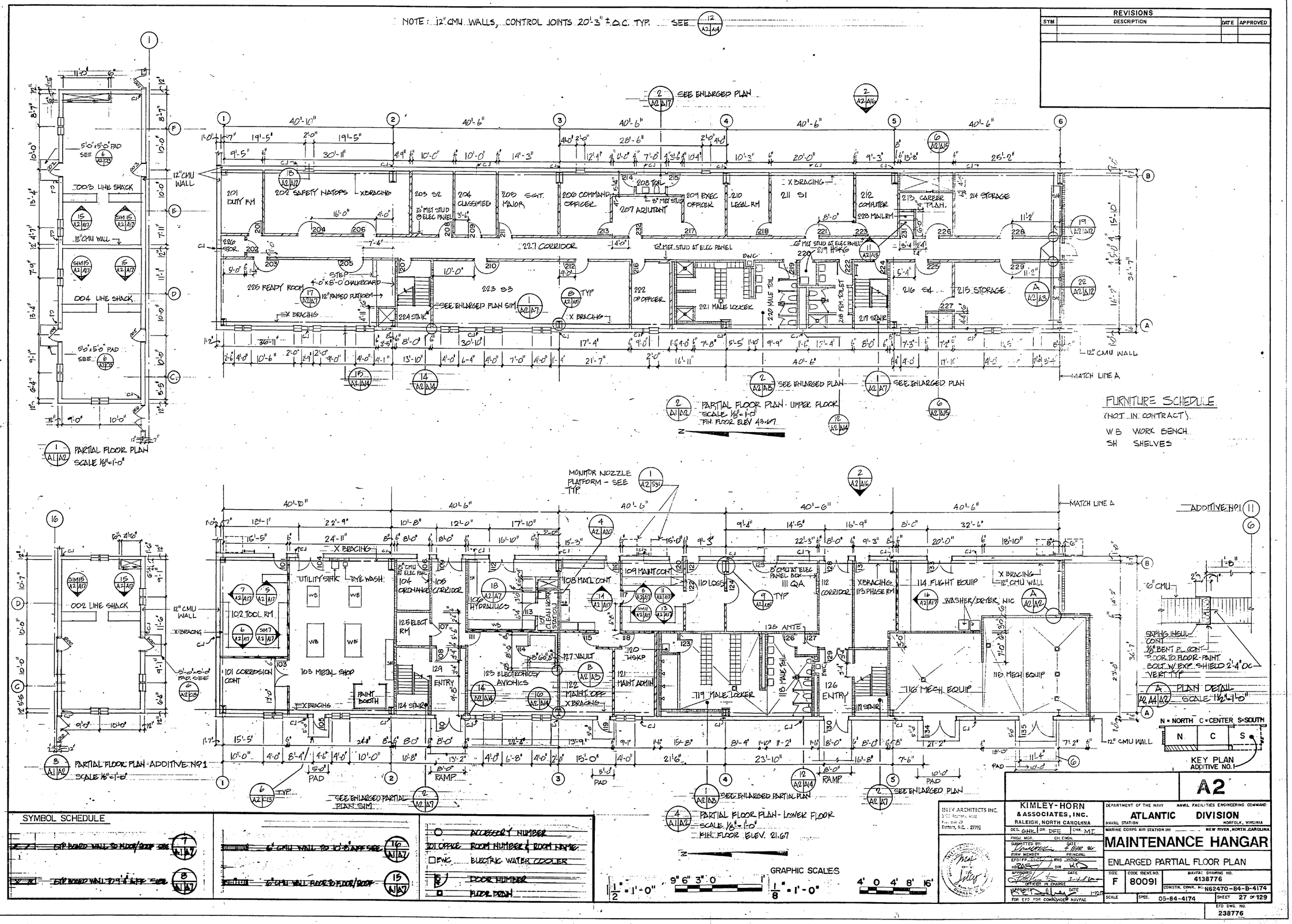
FLOOR PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138775

CONSTR. CONTR. NO. N62470-84-B-4174

SCALE | SPEC. 05-84-4174 | SHEET 26 OF 129

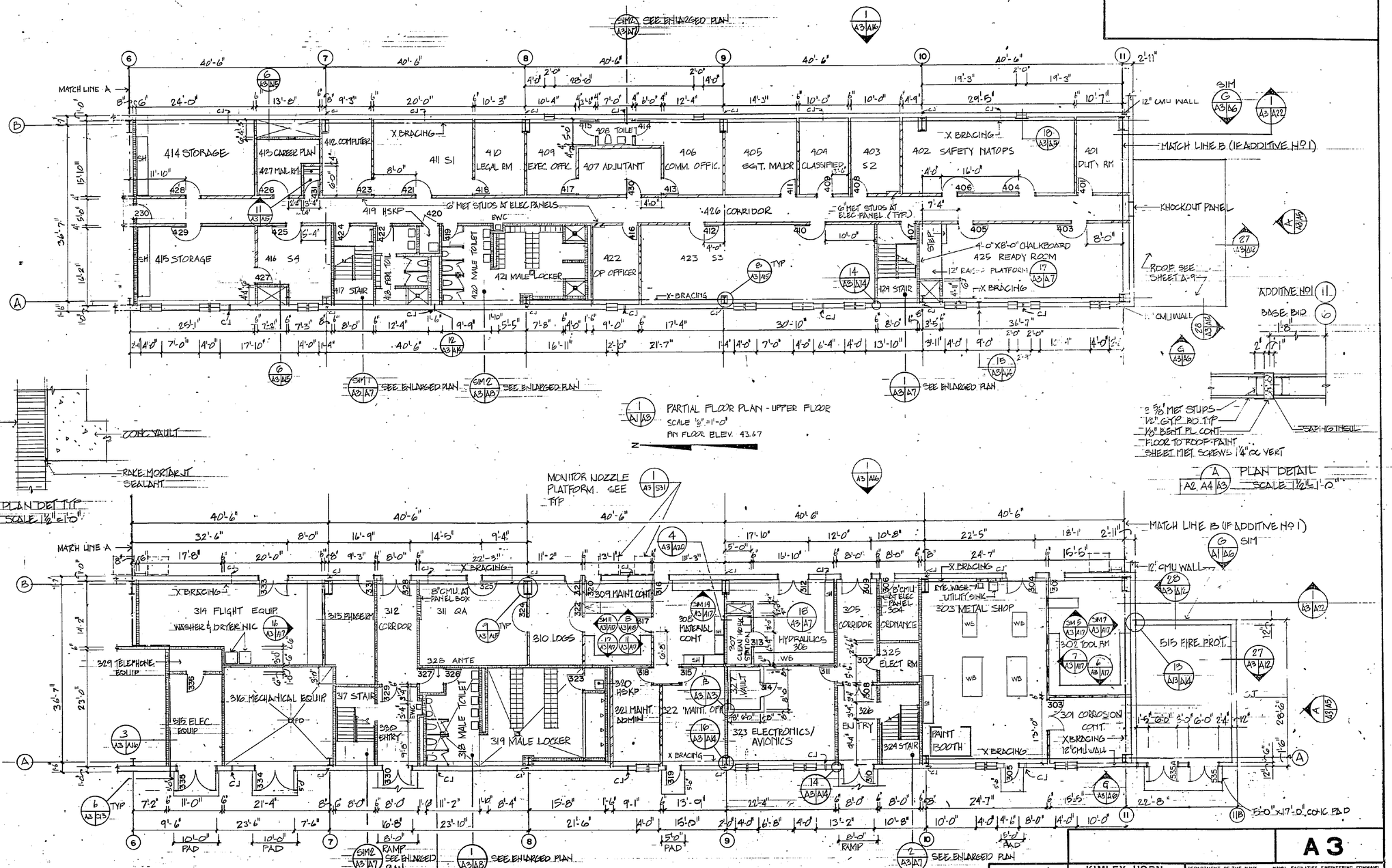
EFD DWG. NO. 238775



NOTE: 12" CMU WALLS, CONTROL JOINTS 20'-3" ± O.C. TYP. SEE 12 A2/A14
REVISIONS
SYM
DESCRIPTION
DATE
APPROVED
PARTIAL FLOOR PLAN SCALE 1/8"=1'-0"
PARTIAL FLOOR PLAN - UPPER FLOOR SCALE 1/8"=1'-0" FIN. FLOOR ELEV 43.67
FURNITURE SCHEDULE
(NOT IN CONTRACT)
WB WORK BENCH
SH SHELVES
MONITOR NOZZLE PLATFORM - SEE TYP.
PARTIAL FLOOR PLAN - ADDITIVE NO 1 SCALE 1/8"=1'-0"
PARTIAL FLOOR PLAN - LOWER FLOOR SCALE 1/8"=1'-0" FIN. FLOOR ELEV. 21.67
PLAN DETAIL SCALE 1 1/2"=1'-0"
KEY PLAN ADDITIVE NO. 1
N = NORTH C = CENTER S = SOUTH
SYMBOL SCHEDULE
ACCESSORY NUMBER
ROOM NUMBER & ROOM NAME
ELECTRIC WATER COOLER
DOOR NUMBER
FLOOR PLAN
GRAPHIC SCALES
1/2" = 1'-0"
1/8" = 1'-0"
A2
ISLEY ARCHITECTS INC.
KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION IHI NEW RIVER, NORTH CAROLINA
MAINTENANCE HANGAR
ENLARGED PARTIAL FLOOR PLAN
SIZE F
CODE IDENT. NO. 80091
NAVFAC DRAWING NO. 4138776
CONSTR. CONR. NO. N62470-84-B-4174
SCALE
SPEC. 05-84-4174
SHEET 27 OF 129
EFD DWG. NO. 238776

NOTE: 12" CMU WALLS, CONTROL JOINTS 20'-3" ± O.C. TYP. SEE 12/A3/A14

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FURNITURE SCHEDULE
(NOT IN CONTRACT)
WB WORKBENCH
SH SHELVES

A3

ISLEY ARCHITECTS INC.
P.O. Box 29

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DE — NEW RIVER, NORTH CAROLINA

DES. GHK | DR. DFE | CHK. MI
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: | DATE: 4 MAR 86
FIRM MEMBER | PRINCIPAL
EFD: FP | CRVD
HD | DIR. KD
APPROVED: | DATE 3-4-86
OFFICER IN CHARGE
APPROVED: | DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

MAINTENANCE HANGAR

ENLARGED PARTIAL FLOOR PLANS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138777
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 28 OF 129

EFD DWG. NO. 238777

NOTE: 12" CMU WALLS, CONTROL JOINTS 20'-3" ± OC TYP. SEE 12/A4/A14

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

PARTIAL FLOOR PLAN - UPPER FLOOR - ADDITIVE NO. 1 (N.I.C.)
SCALE 1/8" = 1'-0"
FIN FLOOR ELEV. 43.67

FURNITURE SCHEDULE

(NOT IN CONTRACT)

WB WORK BENCH
SH SHELVES

PARTIAL FLOOR PLAN - LOWER FLOOR - ADDITIVE NO 1 (N.I.C.)
SCALE 1/8" = 1'-0"
FIN FLOOR ELEV. 21.67

GRAPHIC SCALE

$\frac{1}{8}" = 1'-0"$

4' 0 4' 8' 16'

ISLEY ARCHITECTS INC.
3001 Academy Road
P.O. Box 29
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GHK | DR. DFE | CHK. MI

PROJ. MGR. | CH. ENGR.

SUBMITTED BY: [signature] DATE: 4 MAR 86
FIRM MEMBER | PRINCIPAL
EFD: FP | RVD
HD | DIR
APPROVED [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED [signature] DATE 4-1987
FOR EFD FOR COMMANDER NAVFAC

A 4

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

ENLARGED PARTIAL FLOOR PLANS

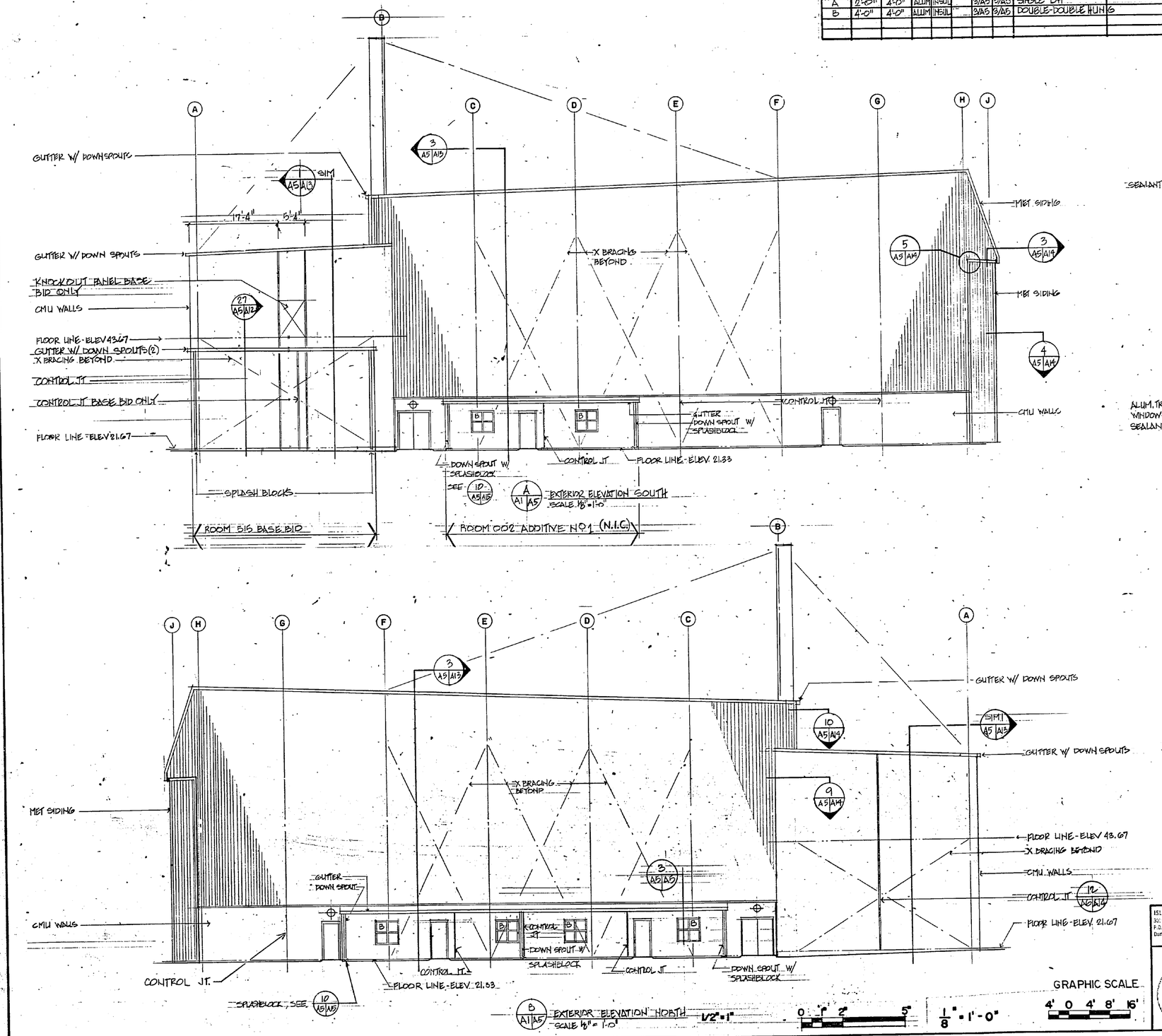
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138778
		CONSTR. CONTR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 29 OF 129

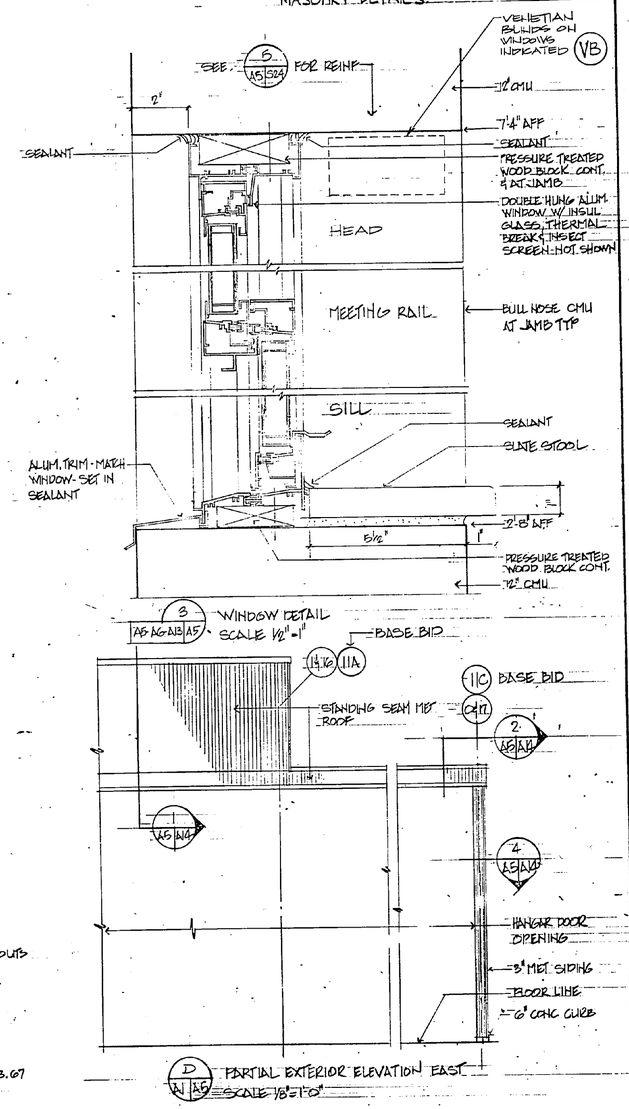
EFD DWG. NO. 238778

NO.	RGH. OPG. W	RGH. OPG. H	MAT	GLASS	DETAIL JAMB	DETAIL HEAD	DETAIL SILL	DESCRIPTION	REMARKS
A	2'-0"	4'-0"	ALUM	INSUL		3/A5	3/A5	SINGLE DH	
B	4'-0"	4'-0"	ALUM	INSUL		3/A5	3/A5	DOUBLE-DOUBLE HUNG	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTE: SEE SHT S-24 FOR REINFORCED MASONRY DETAILS.





A5

ISLEY ARCHITECTS, INC.
3001 Academy Road
P.O. Box 25
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

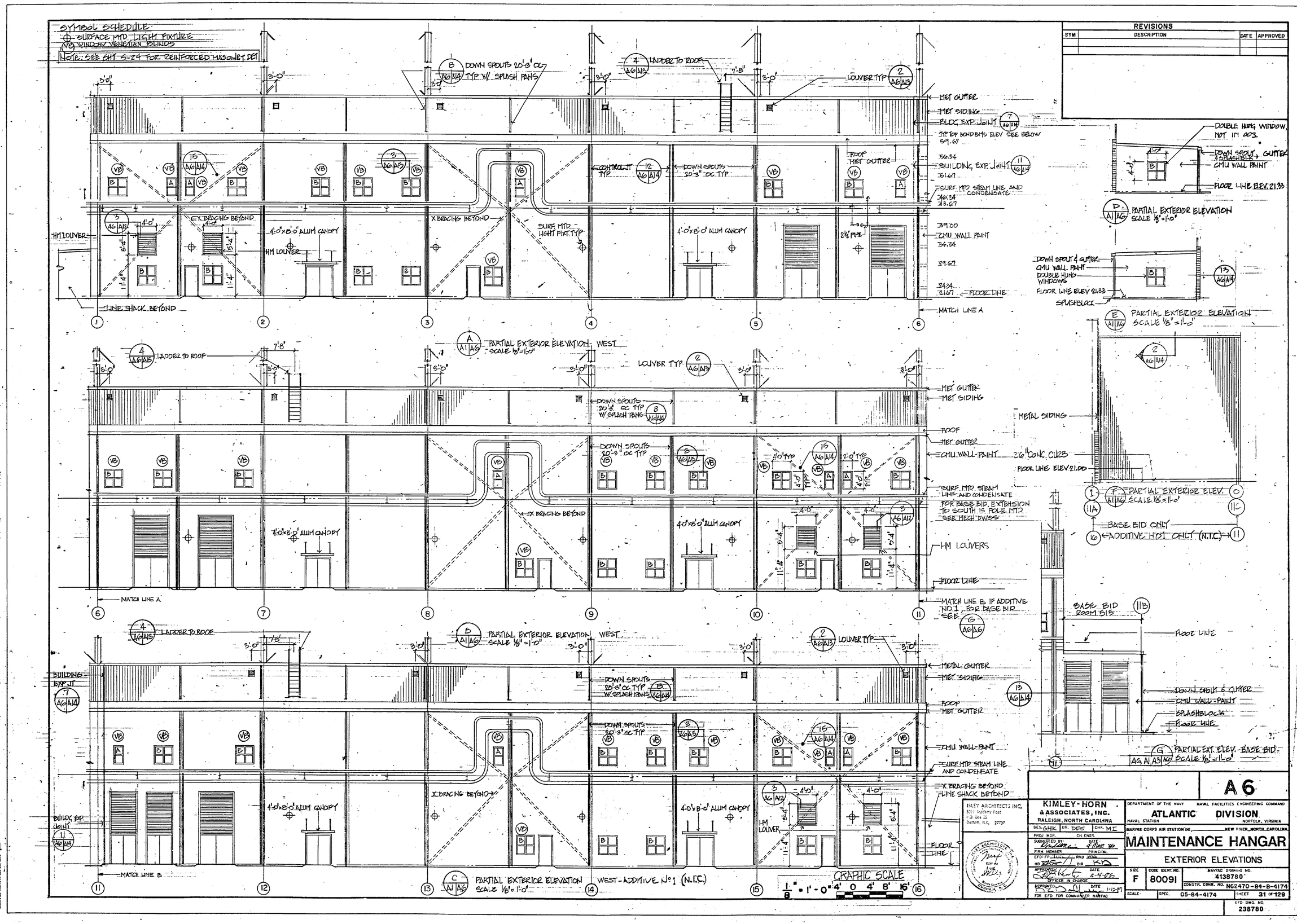
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

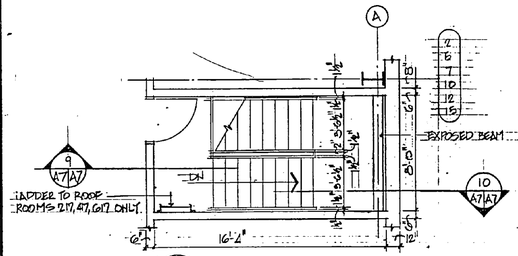
EXTERIOR ELEVATIONS

DES. GHK DR. DFE CHK. MI
PROJ. MGR. CH. ENGR.
SUBMITTED BY: DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD: FP RVD
HD RAF DIR KD
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED: DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

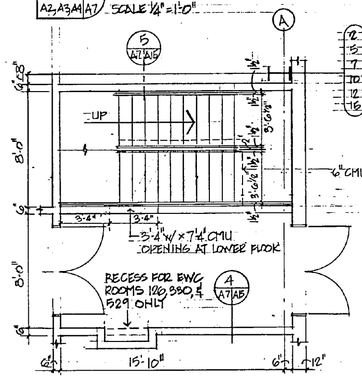
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138779
CONSTR. CONR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 30 OF 129
EFD DWG. NO. 238779


SYMBOL SCHEDULE
SURFACE MTD LIGHT FIXTURE
WINDOW VENETIAN BLINDS
NOTE: SEE SHT. S-24 FOR REINFORCED MASONRY DET
REVISIONS
SYM
DESCRIPTION
DATE
APPROVED
DOWN SPOUTS 20'-3" OC TYP W/ SPLASH PANS
LADDER TO ROOF
LOUVER TYP
MET GUTTER
MET SIDING
BLDG EXP JOINT
TYP TOP BOND BMS ELEV SEE BELOW
BUILDING EXP JOINT
SURF MTD STEAM LINE AND CONDENSATE
CONTROL JT TYP
DOWN SPOUTS 20'-3" OC TYP
ROOF
CMU WALL PAINT
HM LOUVER
X BRACING BEYOND
4'-0"x8'-0" ALUM CANOPY
SURF MTD LIGHT FIXT TYP
FLOOR LINE
LINE SHACK BEYOND
MATCH LINE A
PARTIAL EXTERIOR ELEVATION WEST SCALE 1/8"=1'-0"
DOUBLE HUNG WINDOW, NOT IN 003
DOWN SPOUT & GUTTER
CMU WALL PAINT
FLOOR LINE ELEV. 21.33
PARTIAL EXTERIOR ELEVATION SCALE 1/8"=1'-0"
DOWN SPOUT & GUTTER
CMU WALL PAINT
DOUBLE HUNG WINDOWS
FLOOR LINE ELEV 21.33
SPLASHBLOCK
PARTIAL EXTERIOR ELEVATION SCALE 1/8"=1'-0"
METAL SIDING
26" CONC. CURB
FLOOR LINE ELEV 21.00
PARTIAL EXTERIOR ELEV. SCALE 1/8"=1'-0"
BASE BID ONLY
ADDITIVE NO 1 ONLY (N.I.C.)
FOR BASE BID EXTENSION TO SOUTH IS POLE MTD SEE MECH DWGS
HM LOUVERS
MATCH LINE B IF ADDITIVE NO 1 FOR BASE BID SEE
BASE BID ROOM 515
BUILDING EXP JT
PARTIAL EXTERIOR ELEVATION WEST SCALE 1/8"=1'-0"
DOWN SPOUT & GUTTER
CMU WALL PAINT
SPLASHBLOCK
FLOOR LINE
PARTIAL EXT. ELEV. BASE BID SCALE 1/8"=1'-0"
MATCH LINE B
PARTIAL EXTERIOR ELEVATION WEST-ADDITIVE No 1 (N.I.C.) SCALE 1/8"=1'-0"
GRAPHIC SCALE
1/8" = 1'-0"
4' 0 4' 8' 16'
A6
ISLEY ARCHITECTS INC.
3001 Academy Road
P.O. Box 25
Durham, N.C. 27707
KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION
NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NO.
NEW RIVER, NORTH CAROLINA
MAINTENANCE HANGAR
EXTERIOR ELEVATIONS
SIZE F
CODE IDENT. NO. 80091
NAVFAC DRAWING NO. 4138780
CONSTR. CONT. NO. N62470-84-B-4174
SCALE
SPEC. 05-84-4174
SHEET 31 OF 129
EFD DWG. NO. 238780

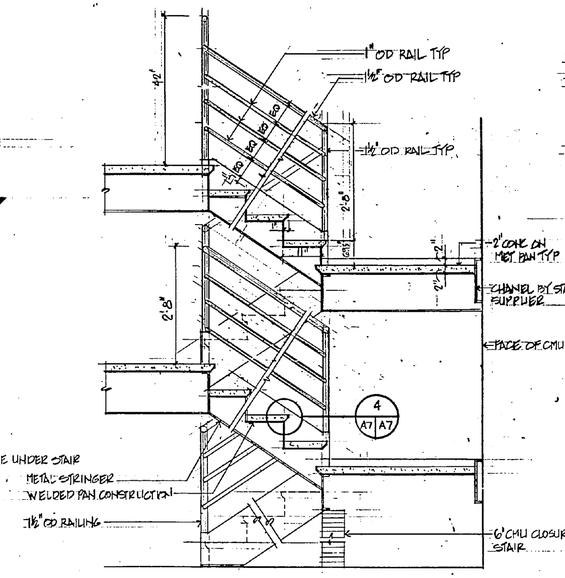
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



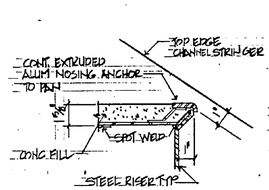
1 / A2,A3,A4|A7 ENLARGED TYP. STAIR UPPER FLOOR
SCALE 1/2" = 1'-0"



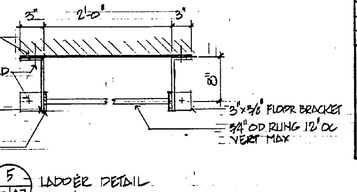
2 / A2,A3,A4|A7 ENLARGED TYP. STAIR LOWER FLOOR
SCALE 1/4" = 1'-0"



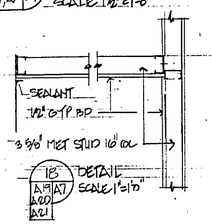
3 / A7|A7 ENLARGED STAIR SECTION
SCALE 3/4" = 1'-0"



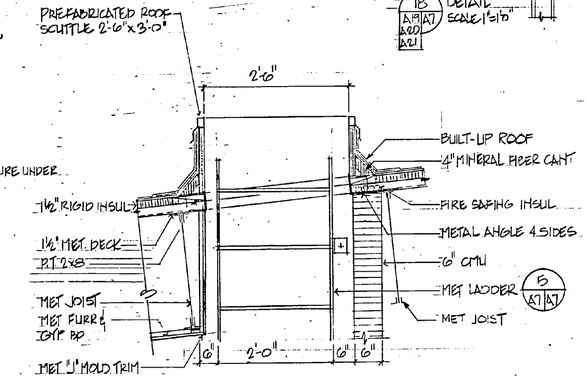
4 / A7|A7 NOSING DETAIL
SCALE 3" = 1'-0"



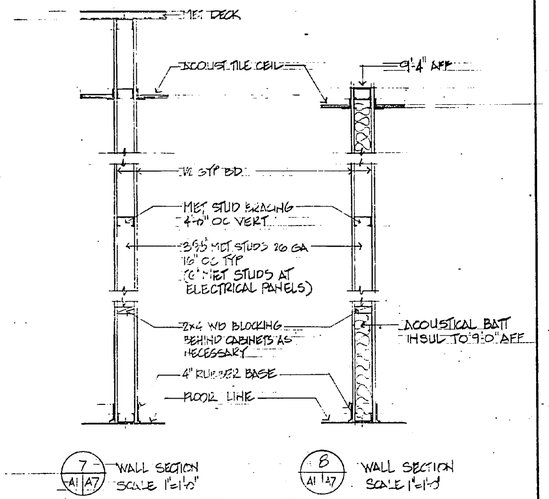
5 / A16,A17,A7|A7 LADDER DETAIL
SCALE 1 1/2" = 1'-0"



18 / A19|A7 A20 A21 DETAIL
SCALE 1" = 1'-0"

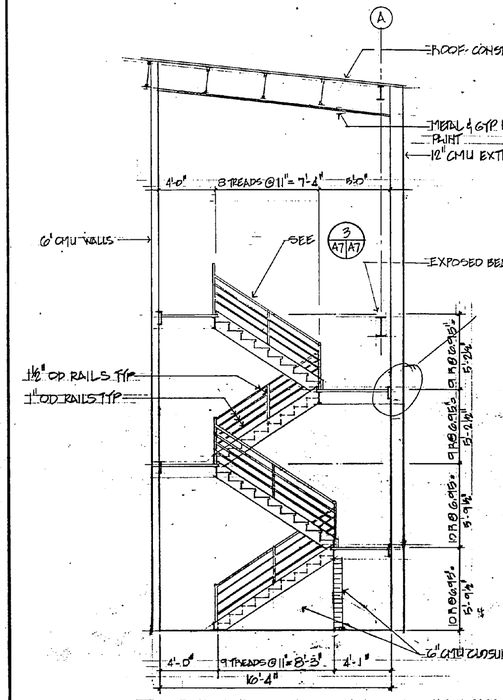


6 / A7-A9-A19-A20-A21|A7 ROOF SCUTTLE DETAIL
SCALE 1" = 1'-0"

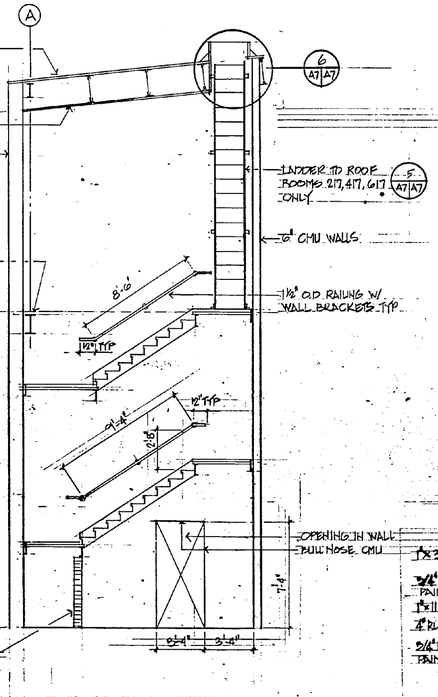


7 / A1|A7 WALL SECTION
SCALE 1" = 1'-0"

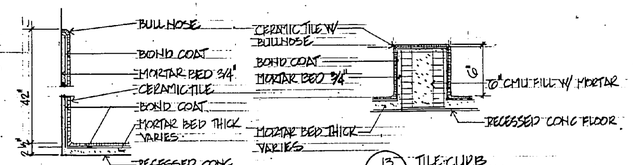
8 / A1|A7 WALL SECTION
SCALE 1" = 1'-0"



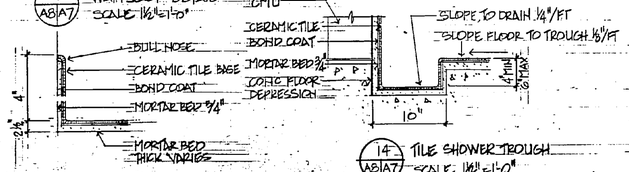
9 / A7-A9-A20-A21|A7 STAIR SECTION
SCALE 1/4" = 1'-0"



10 / A7|A7 STAIR SECTION
SCALE 1/4" = 1'-0"

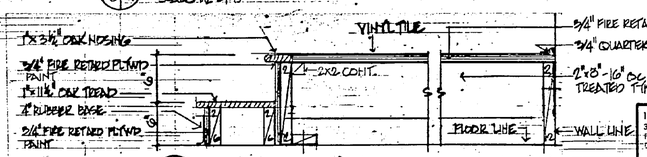


13 / A8|A7 TILE CURB
SCALE 1 1/2" = 1'-0"

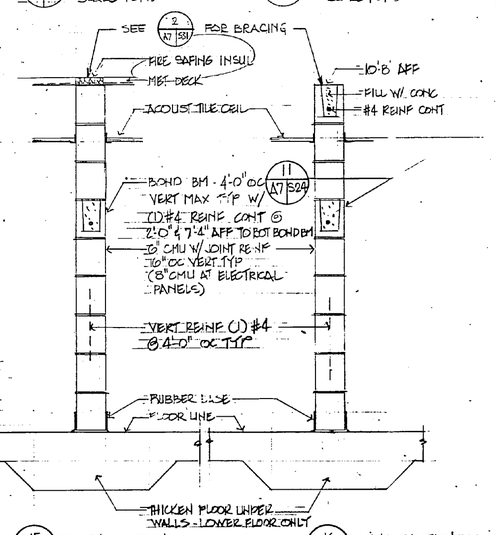


14 / A8|A7 TILE SHOWER TROUGH
SCALE 1 1/2" = 1'-0"

12 / A8|A7 C.T. BASE DETAIL
SCALE 1 1/2" = 1'-0"



17 / A3,A9,A4|A7 DETAIL
SCALE 1 1/2" = 1'-0"



15 / A1|A7 WALL SECTION
SCALE 1" = 1'-0"

16 / A1|A7 WALL SECTION
SCALE 1" = 1'-0"

GRAPHIC SCALES

1/4" = 1'-0" 2' 0 2' 4' 6' / 1" = 1'-0"

12" 6" 0 1' 2' / 1 1/2" = 1'-0"

9" 6" 3" 0 1' / 3" = 1'-0"

0 1' 2' 3' 6' 1'

ISLEY ARCHITECTS INC.
3001 Academy Road
Extension 23
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK | DR. DEE | CHK. MI
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: | DATE: 1-12-96
FIRM MEMBER | PRINCIPAL
EFD FP ____ | RVD ____ | DATE
HD PAT | DIR KD
APPROVED: | DATE: 3-6-96
OFFICER IN CHARGE
APPROVED: | DATE: 1-12-97
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NO ____ NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

STAIR PLANS AND DETAILS

A7

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138781
SCALE	SPEC. 05-84-4174	CONSTR. CONT. NO N62470-84-B 4174
		SHEET 32 OF 129

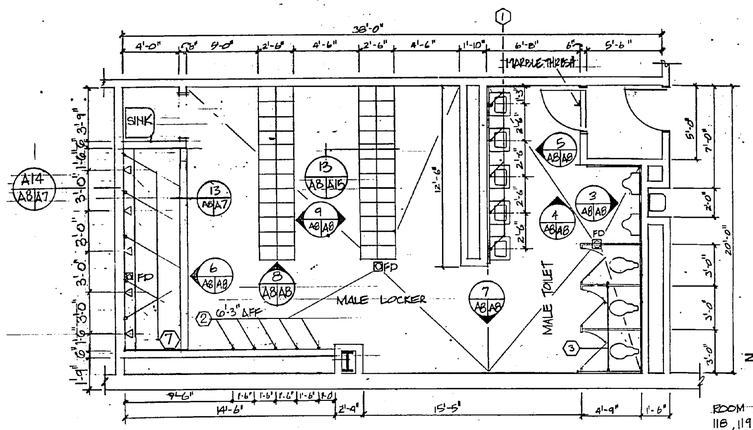
EFD DWG. NO. 238781

NOTE: SEE A12/A8|A7 TYP CERAMIC TILE BASE

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

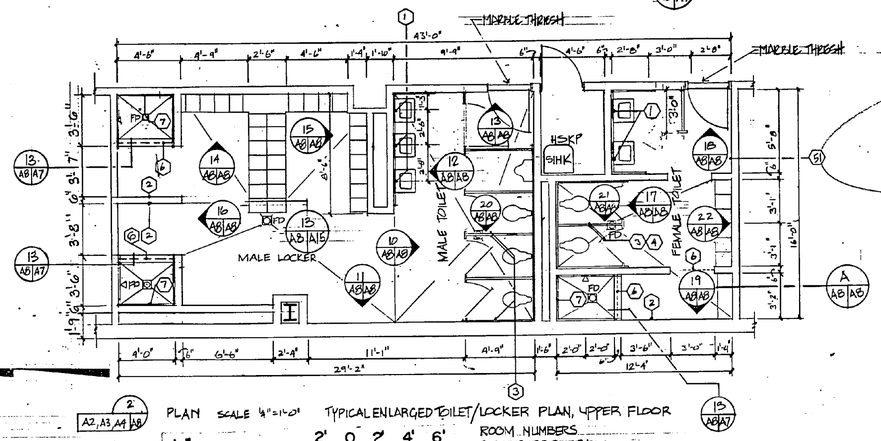
TOILET ACCESSORIES SCHEDULE

1. MIRROR, PAPER TOWEL & SOAP DISPENSER, SURFACE MTD.
2. TOWEL PIN
3. TOILET PAPER HOLDER, SURFACE MTD.
4. SANITARY NAPKIN DISPOSAL, SURFACE MTD.
5. SANITARY NAPKIN DISPENSER, NO CHARGE, SURFACE MTD.
6. CURTAIN ROD
7. SOAP DISH, CERAMIC



A1/A8|A7 PLAN SCALE 1/4"=1'-0" TYPICAL ENLARGED TOILET/LOCKER PLAN, LOWER FLOOR

ROOM NUMBERS
118, 119, 120
318, 319, 320
(518, 519, 520) ADDITIVE NO1 (N.I.C.)

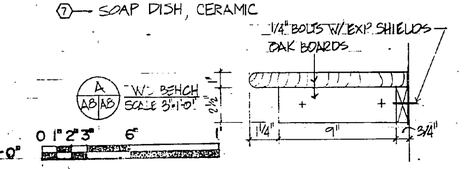


A2/A3|A4|A8 PLAN SCALE 1/4"=1'-0" TYPICAL ENLARGED TOILET/LOCKER PLAN, UPPER FLOOR

ROOM NUMBERS
218, 219, 220, 221
418, 419, 420, 421
(618, 619, 620, 621) ADDITIVE NO 1 (N.I.C.)

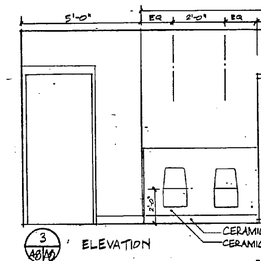
1/4" = 1'-0"

2' 0 2' 4' 6'

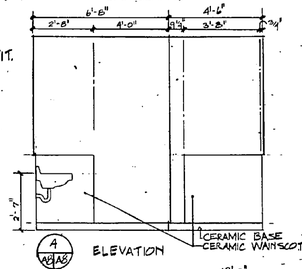


A/A8|A6 W.C. BENCH SCALE 3"=1'-0"

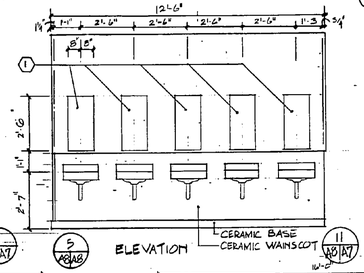
3" = 1'-0" 0 1" 2" 3" 6" 1'



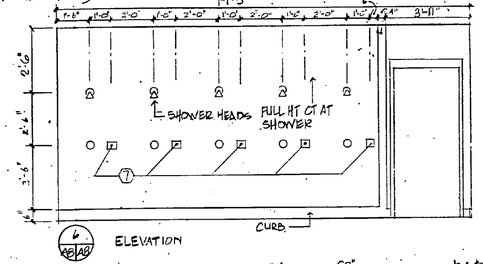
3/A8|A6 ELEVATION



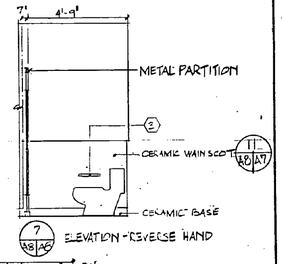
4/A8|A6 ELEVATION



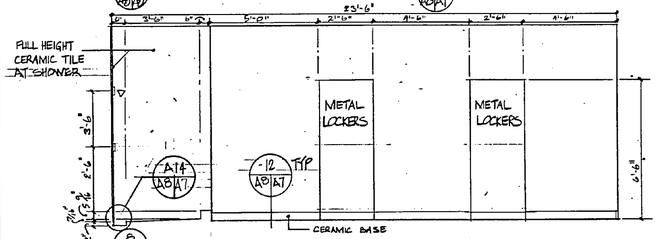
5/A8|A6 ELEVATION



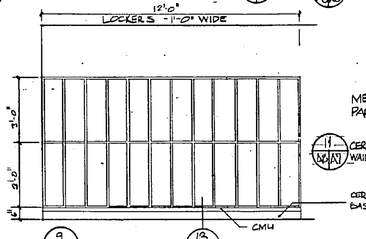
6/A8|A6 ELEVATION



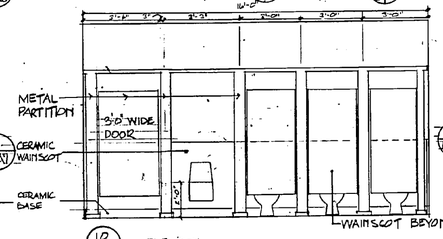
7/A8|A6 ELEVATION - REVERSE HAND



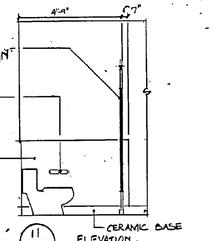
8/A8|A6 ELEVATION



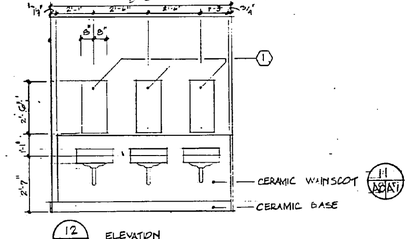
9/A8|A6 ELEVATION



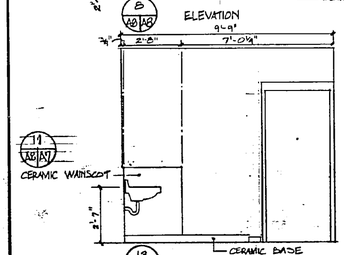
10/A8|A6 ELEVATION



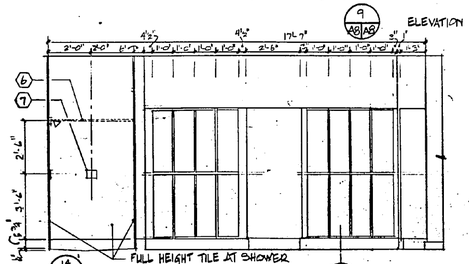
11/A8|A6 ELEVATION



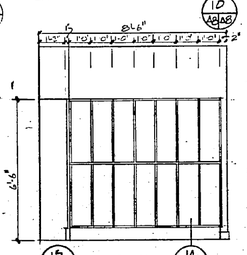
12/A8|A6 ELEVATION



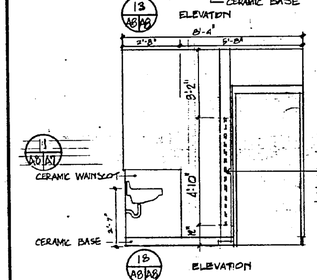
13/A8|A6 ELEVATION



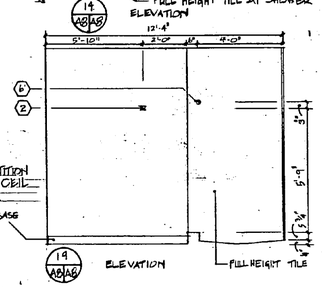
14/A8|A6 ELEVATION



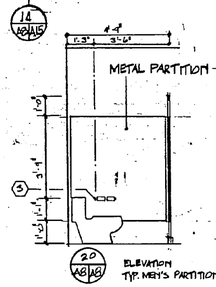
15/A8|A6 ELEVATION



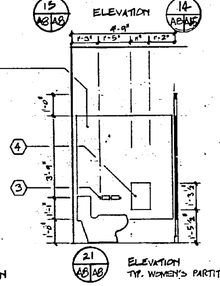
18/A8|A6 ELEVATION



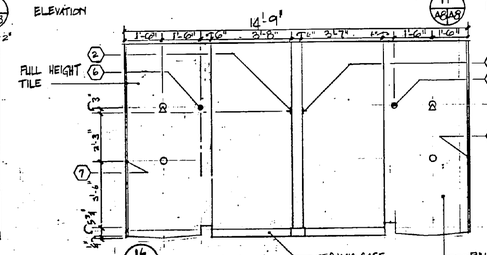
19/A8|A6 ELEVATION



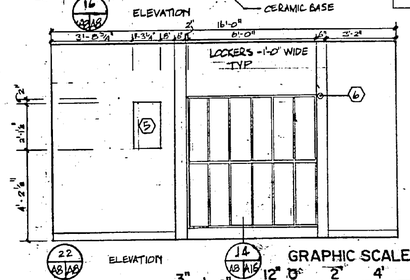
20/A8|A6 ELEVATION TYP. MEN'S PARTITION



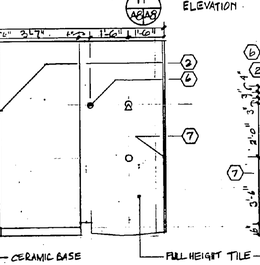
21/A8|A6 ELEVATION TYP. WOMEN'S PARTITION



16/A8|A6 ELEVATION



22/A8|A6 ELEVATION



17/A8|A6 ELEVATION

ALL INTERIOR ELEVATIONS - SCALE 3/8"=1'-0"

3/8"=1'-0" GRAPHIC SCALE 12" 0 2' 4' 6'

ESLEY ARCHITECTS INC.
300 Academy Road
P.O. Box 22
Garner, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK DR. DFE CHK. MI
PROJ. MGR. CH. ENGR.
SUBMITTED BY: DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD FP 1412 RVD
HQ RVD DIR

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

ENLARGED TOILET PLANS AND ELEV.

APPROVED: OFFICER IN CHARGE DATE 3-4-86
APPROVED: FOR EFD FOR COMMANDER NAVFAC DATE 1-12-87

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138782

CONSTR. CONR. NO. N62470-84-B-4174
SCALE SPEC. 05-84-4174 SHEET 33 OF 129
EFD DWG. NO. 238782

A8

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

FLASHING
FLASHING COMPOUND
BUILT-UP ROOF
RIGID INSUL
MET. DECK

8 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

BASE BID ONLY - SEE 10 A9 | A9

ADDITIVE N° 1 (N.I.C.)

1 A9 | A9

GUTTER & DOWNSPOUTS
BUILT-UP ROOF
(4) PITCH POCKETS - SIM 2 A9 | A9
2 A9 | A9 TYP
PITCH POCKETS TYP
6 A9 | A9
7 A9 | A9 SIM.
3 A9 | A9 SIM.
2 A9 | A9
3 A9 | A9
BUILDING EXP JT
2 A9 | A22
6 A9 | A9
3 A9 | A9 SIM
LADDER TO ROOF
METAL GUTTER 7.5 W x 6" D
ROOF CURB
5 A9 | A9
VTR
2 A9 | A22
3'-0"x6'-0" ROOF WALKWAY
2'-6"x3'-0" ACCESS HATCH
6 A9 | A7
8 A9 | A9
4 A9 | A9
3 A9 | A9 SIM
8 A9 | A11
(4) PITCH POCKETS SIM 2 A9 | A9
2 A9 | A22
VTR
1'-6½"
10'-0"
5 A9 | A9
7 A9 | A9
2 A9 | A22
LADDER TO ROOF
3'-0"x8'-0" ROOF WALKWAY
MET GUTTER 8.5" W x 7" D
6 A9 | A7
2'-6"x3'-0" ACCESS HATCH
8 A9 | A9
2 A9 | A22
BUILDING EXP. JT.
ADDITIVE NO 1 (N.I.C.)
PITCH POCKETS
1 A9 | A13
ROOF CURBS
VTR
5 A9 | A9
8'-0" TYP
(4) PITCH POCKETS SIM 2 A9 | A9
STANDING SEAM MET. ROOF
R-10 INSULATION
BUILT-UP ROOF 3 A9 | A13
GUTTER & DOWN SPOUTS
A A9 | A13
GUTTER & DOWN SPOUTS
BUILT-UP ROOF
R-20 INSULATION
GUTTER & DOWNSPOUTS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H J

1 A9 | A9 ROOF PLAN - ADDITIVE NO 1 (N.I.C.)
SCALE 3/64"=1'-0"

9 A9 | A9
SYMMETRICAL ABOUT ℄
STRUCTURAL STEEL
PITCH POCKET
BUILT-UP ROOF
RIGID INSUL.
MET DECK
MET JOIST
STRUCTURAL STEEL
3/16
2 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

METAL CAP FLASHING
CONT. MET. EDGE STRIP
4" CANT
BUILT-UP ROOF
RIGID INSUL
MET. DECK
3"x3"x¼" FORM PITCH POCKET
FILL & TAPER W/ POURABLE SEALER
FORM 10 GA. PLATE BOTTOM
WELD TO ANGLES & COLUMN WEB
P.T. WOOD BLOCK-THICKNESS VARIES TO MATCH INSUL.
MECH. FASTNERS 16" O.C.
½"x3¼" VENT SLOTS 18" OC
8"
9 A9 | A9 DETAIL TYP
A9, A22 | A9 SCALE 3"=1'-0"

3/16
PITCH POCKET
BUILT-UP ROOF
RIGID INSUL
MET DECK
MET JOIST
STRUCT. STEEL
1'-8"
2" EXP. J.T. FILLER
PREFAB. ROOF EXP. JT. 2"
FLASHING STRIP
P.T. WD. BLOCK CONT. W/ MECH. FASTNERS 16" O.C.
½"x3¼" VENT SLOTS 18" OC
RIGID INSUL W/ TAPER
METAL DECK
METAL JOIST
3 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

3/16
STRUCTURAL STEEL
PITCH POCKET
BUILT-UP ROOF
RIGID INSUL.
MET. DECK
MET ANGLE 2½"x2½"x¼"
STRUCT. STEEL
9 A9 | A9
MET JOIST
4 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

℄
1'-8"
PREFAB ROOF EXP JT 2"
2" EXP. JT. FILLER
FLASHING STRIP
P.T. WD BLOCKING CONT W/ MECHANICAL FASTNERS 16" OC
W/ ½"x3¼" VENT SLOTS 18" OC
BUILT-UP ROOF
RIGID INSULATION
METAL DECK
METAL JOIST
STRUCTURAL STEEL
7 A9 | A9 DETAIL
SCALE 1½"=1'-0"

11C
J
H STANDING SEAM MET. ROOF
G
F 12-10 INSULATION
E
BUILT-UP ROOF
PITCH POCKETS 2 A9 | A9
9 A9 | A9
D
C
6 A9 | A9
3 A9 | A9
B
BUILT-UP ROOF
R-20 INSULATION
SLOPE
A 1 A9 | A15
GUTTER & DOWNSPOUT
27 A9 | A12
A
GUTTER & DOWNSPOUT
6 A9 | A9
11
8 A9 | A9
11B
10 A9 | A9 PARTIAL ROOF PLAN - BASE BID ONLY
SCALE 3/16"=1'-0"

3'x3'x¼" FORM PITCH POCKET
FILL & TAPER W/ POURABLE SEALER
METAL CAP FLASHING
CONT. MET. EDGE STRIP
BUILT-UP ROOF
METAL FLASHING
P.T. WD. CONT. W/ BOLT 4'-0" O.C.
W/ ½"x3¼" VENT SLOTS 18" OC
GUTTER 7.5" W x 6" D
MET FLASHING
MET SIDING
STRUCT STEEL
9"
6 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

BITUMIN. STOP
PITCH POCKET
METAL CAP FLASHING
CONT. MET. EDGE STRIP
BUILT-UP ROOF
METAL FLASHING
P.T. WD. CONT. W/ BOLT 4'-0" O.C.
W/ ½"x3¼" VENT SLOTS 18" OC
GUTTER 7.5" W x 6" D
MET FLASHING
MET SIDING
STRUCT STEEL

BUILT-UP ROOF
FLASHING STRIP
EQUIP FLANGE
P.T. WD. NAILER
MET CURB (CUSTOM MADE)
RIGID INSUL
MET ANGLE 4"x4"x¼"
MET DECK
RIGID INSUL
8" MIN
5 A9 | A9 DETAIL TYP
SCALE 1½"=1'-0"

GRAPHIC SCALES
3/64" = 1'-0"
1½" = 1'-0"
3" = 1'-0"
16' 8' 0 16' 32'
9" 6" 3" 0 1'
0 1' 2' 3" 6" 1'

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GJK | DR. DFE | CHK. MJ
PROJ. MGR. | CH. ENGR.
SUBMITTED BY | DATE 6 MAR 06
FIRM MEMBER | PRINCIPAL
EFD FP 1.01 | RVD WEP
HD | DIR
APPROVED | DATE 3-4-06
OFFICER IN CHARGE
APPROVED | DATE 1-1987
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

ROOF PLAN & DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138783
SCALE	SPEC. 05-84-4174	CONSTR. CONTR. NO. N62470-84-B-4174
		SHEET 34 OF 129

EFD DWG. NO. 238783

A9

DRAWN ON MYLAR B.D. 800-344-0424

ROOM FINISH SCHEDULE

Column key — BASE: 1 Rubber, 2 Ceramic Tile, 3, 4, 5; FLOORS: 1 Vinyl Tile, 2 Ceramic Tile, 3 Carpet, 4 Exposed Conc., 5 Epoxy Paint, 6, 7, 8; WAIN.: 1 Ceramic Tile, 2, 3; WALLS: 1 Conc. Masonry, 2 Gypsum Board, 3 Exposed Conc., 4, P Paint; CEILING: P Paint, 1 Acoust. Tile, 2 Cement Plaster, 3 Gyp Board.

ROOM NO.	SPACES	BASE	FLOORS	WAIN.	WALLS	WALLS PAINT	CEILING PAINT	CEILING	CEILING HT.	NOTES
001	HANGAR BAY		4		1	P			35'-0"	△3
002	LINE SHACK	1	4		1	P		1	8'-4"	
003	LINE SHACK	1	4		1	P		1	8'-4"	
004	LINE SHACK	1	4		1	P		1	8'-4"	
101	CORROSION CONTROL	1	4		1	P		1	10'-4"	
102	TOOL ROOM	1	4		1	P		1	10'-4"	
103	METAL SHOP	1	4		1	P		1	10'-4"	
104	ORDNANCE	1	4		1	P		1	9'-0"	
105	CORRIDOR	1	1		1	P		1	9'-0"	
106	HYDRAULICS	1	4		1 2	P		1	10'-4"	
107	CLEAN WORK STA.	1	4 5		2	P	P	3	9'-0"	EPOXY PAINT WALLS
108	MATERIAL CONT	1	1		1 2	P		1	9'-0"	
109	MAINT. CONTROL	1	1		1 2	P		1	9'-0"	
110	LOGS	1	1		1 2	P		1	9'-0"	
111	QA	1	1		1 2	P		1	9'-0"	
112	CORRIDOR	1	1		1	P		1	9'-0"	
113	PHASE ROOM	1	4		1	P		1	9'-0"	
114	FLIGHT EQUIP	1	4		1	P		1	10'-4"	
115	MECHANICAL EQUIP		4		1	P			21'-6"	
116	MECHANICAL EQUIP		4		1	P			21'-6"	
117	STAIR	1	1		1	P				SEE 217
118	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
119	MALE LOCKER	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
120	HOUSEKEEPING	2	2		1	P		1	9'-0"	
121	MAINT ADMIN	1	1		1 2	P		1	9'-0"	
122	MAINT. OFFICE	1	1		1 2	P		1	9'-0"	
123	ELECTRONICS/AVIONICS	1	4		1	P		1	10'-4"	
124	STAIR	1	1		1	P				SEE 224
125	ELECTRICAL RM		4		1	P		1	9'-0"	
126	ENTRY	1	1		1	P		1	9'-0"	
127	VAULT		4		3	P			9'-0"	EXPOSED CONC. CEILING
128	ANTE ROOM	1	1		1	P		1	9'-0"	
129	ENTRY	1	1		1	P		1	9'-0"	
201	DUTY ROOM	1	1		1 2	P		1	9'-0"	
202	SAFETY NATOPS	1	1		1 2	P		1	9'-0"	
203	S-2	1	1		1 2	P		1	9'-0"	
204	CLASSIFIED	1	1		1 2	P		1	9'-0"	
205	SARGENT MAJOR	1	1		1 2	P		1	9'-0"	
206	COMMAND OFFICER	1	3		1 2	P		1	9'-0"	
207	ADJUTANT	1	1		2	P		1	9'-0"	
208	TOILET	2	2		1 2	P		1	9'-0"	
209	EXECUTIVE OFFICER	1	3		1 2	P		1	9'-0"	
210	LEGAL ROOM	1	1		1 2	P		1	9'-0"	
211	S-1	1	1		1 2	P		1	9'-0"	
212	COMPUTER RM	1	1		1 2	P		1	9'-0"	
213	CAREER PLANNING	1	1		1 2	P		1	9'-0"	
214	STORAGE	1	4		1 2	P		1	9'-0"	
215	STORAGE	1	4		1 2	P		1	9'-0"	
216	S-4	1	1		1 2	P		1	9'-0"	
217	STAIR	1	1		1	P	P	3	VARIES	△2
218	FEMALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
219	HOUSEKEEPING	1	1		1	P		1	9'-0"	
220	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
221	MALE LOCKER	2	2		1	P	P	2	9'-0"	EPOXY PAINT WALLS
222	O P OFFICER	1	1		1 2	P		1	9'-0"	
223	S-3	1	1		1 2	P		1	9'-0"	
224	STAIR	1	1		1	P	P	3	VARIES	△2
225	READY ROOM	1	1		1 2	P		1	9'-0"	
226	STORAGE	1	1		1 2	P		1	9'-0"	
227	CORRIDOR	1	1		1 2	P		1	9'-0"	
228	MAIL ROOM	1	1		2	P		1	9'-0"	
301	CORROSION CONTROL	1	4		1	P		1	10'-4"	
302	TOOL ROOM	1	4		1	P		1	10'-4"	
303	METAL SHOP	1	4		1	P		1	10'-4"	
304	ORDNANCE	1	4		1	P		1	9'-0"	
305	CORRIDOR	1	1		1	P		1	9'-0"	
306	HYDRAULICS	1	4		1 2	P		1	10'-4"	
307	CLEAN WORK STA.	1	4 5		2	P	P	3	9'-0"	EPOXY PAINT WALLS
308	MATERIAL CONTROL	1	1		1 2	P		1	9'-0"	
309	MAINT. CONTROL	1	1		1 2	P		1	9'-0"	
310	LOGS	1	1		1 2	P		1	9'-0"	
311	QA	1	1		1 2	P		1	9'-0"	
312	CORRIDOR	1	1		1	P		1	9'-0"	
313	PHASE ROOM	1	4		1	P		1	9'-0"	
314	FLIGHT EQUIP	1	4		1	P		1	10'-4"	
315	ELECTRIC EQUIP		4		1	P			21'-6"	
316	MECHANICAL EQUIP		4		1	P			21'-6"	
317	STAIR	1	1		1	P				SEE 417
318	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
319	MALE LOCKER	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
320	HOUSEKEEPING	2	2		1	P		1	9'-0"	
321	MAINT ADMIN	1	1		1 2	P		1	9'-0"	
322	MAINT. OFFICE	1	1		1 2	P		1	9'-0"	
323	ELECTRONICS/AVIONICS	1	4		1	P		1	10'-4"	
324	STAIR	1	1		1	P				SEE 424
325	ELECTRICAL RM.		4		1	P		1	9'-0"	
326	ENTRY	1	1		1	P		1	9'-0"	
327	VAULT		4		3	P			9'-0"	EXPOSED CONC. CEILING
328	ANTE RM.	1	1		1	P		1	9'-0"	
329	TELEPHONE RM.	1	4		1	P		1	9'-0"	
330	ENTRY	1	1		1	P		1	9'-0"	
401	DUTY RM.	1	1		1 2	P		1	9'-0"	
402	SAFETY NATOPS	1	1		1 2	P		1	9'-0"	
403	S-2	1	1		1 2	P		1	9'-0"	
404	CLASSIFIED	1	1		1 2	P		1	9'-0"	
405	SARGENT MAJOR	1	1		1 2	P		1	9'-0"	
406	COMMAND OFFICER	1	3		1 2	P		1	9'-0"	
407	ADJUTANT	1	1		2	P		1	9'-0"	
408	TOILET	2	2		1 2	P		1	9'-0"	
409	EXECUTIVE OFFICER	1	3		1 2	P		1	9'-0"	
410	LEGAL ROOM	1	1		1 2	P		1	9'-0"	
411	S-1	1	1		1 2	P		1	9'-0"	
412	COMPUTER RM	1	1		1 2	P		1	9'-0"	
413	CAREER PLANNING	1	1		1 2	P		1	9'-0"	
414	STORAGE	1	4		1 2	P		1	9'-0"	
415	STORAGE	1	4		1 2	P		1	9'-0"	
416	S-4	1	1		1 2	P		1	9'-0"	
417	STAIR	1	1		1	P		3	VARIES	△2
418	FEMALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
419	HOUSEKEEPING	1	1		1	P		1	9'-0"	
420	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS
421	MALE LOCKER	2	2		1	P	P	2	9'-0"	EPOXY PAINT WALLS
422	O P OFFICER	1	1		1 2	P		1	9'-0"	
423	S-3	1	1		1 2	P		1	9'-0"	
424	STAIR	1	1		1	P	P	3	VARIES	△2
425	READY ROOM	1	1		1 2	P		1	9'-0"	
426	CORRIDOR	1	1		1 2	P		1	9'-0"	
427	MAIL ROOM	1	1		2	P		1	9'-0"	
501	CORROSION CONTROL	1	4		1	P		1	10'-4"	△3
502	TOOL ROOM	1	4		1	P		1	10'-4"	△3
503	METAL SHOP	1	4		1	P		1	10'-4"	△3
504	ORDNANCE	1	4		1	P		1	9'-0"	△3
505	CORRIDOR	1	1		1	P		1	9'-0"	△3
506	HYDRAULICS	1	4		1 2	P		1	10'-4"	△3
507	CLEAN WORK STA.	1	4 5		2	P	P	3	9'-0"	EPOXY PAINT WALLS △3
508	MATERIAL CONTROL	1	1		1 2	P		1	9'-0"	△3
509	MAINT CONTROL	1	1		1 2	P		1	9'-0"	△3
510	LOGS	1	1		1 2	P		1	9'-0"	△3
511	QA	1	1		1 2	P		1	9'-0"	△3
512	CORRIDOR	1	1		1	P		1	9'-0"	△3
513	PHASE ROOM	1	4		1	P		1	9'-0"	△3
514	FLIGHT EQUIP.	1	4		1	P		1	10'-4"	△3
515	MECHANICAL EQUIP		4		1	P			21'-6"	
516	MECHANICAL EQUIP		4		1	P			21'-6"	△3
517	STAIR	1	1		1	P				SEE 617 △3
518	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS △3
519	MALE LOCKER	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS △3
520	HOUSEKEEPING	2	2		1	P		1	9'-0"	△3
521	MAINT ADMIN	1	1		1 2	P		1	9'-0"	△3
522	MAINT OFFICE	1	1		1 2	P		1	9'-0"	△3
523	ELECTRONICS/AVIONICS	1	4		1	P		1	10'-4"	△3
524	STAIR	1	1		1	P				SEE 624 △3
525	ELECTRICAL RM		4		1	P		1	9'-0"	△3
526	ENTRY	1	1		1	P		1	9'-0"	△3
527	VAULT		4		3	P			9'-0"	EXPOSED CONC. CEILING △3
528	ANTE ROOM	1	1		1	P		1	9'-0"	△3
529	ENTRY	1	1			P		1	9'-0"	△3
601	DUTY ROOM	1	1		1 2	P		1	9'-0"	△3
602	SAFETY NATOPS	1	1		1 2	P		1	9'-0"	△3
603	S-2	1	1		1 2	P		1	9'-0"	△3
604	CLASSIFIED	1	1		1 2	P		1	9'-0"	△3
605	SGT. MAJOR	1	1		1 2	P		1	9'-0"	△3
606	COMMAND OFFICER	1	3		1 2	P		1	9'-0"	△3
607	ADJUTANT	1	1		2	P		1	9'-0"	△3
608	TOILET	2	2		1 2	P		1	9'-0"	△3
609	EXECUTIVE OFFICER	1	3		1 2	P		1	9'-0"	△3
610	LEGAL ROOM	1	1		1 2	P		1	9'-0"	△3
611	S-1	1	1		1 2	P		1	9'-0"	△3
612	COMPUTER RM	1	1		1 2	P		1	9'-0"	△3
613	CAREER PLANNING	1	1		1 2	P		1	9'-0"	△3
614	STORAGE	1	4		1 2	P		1	9'-0"	△3
615	STORAGE	1	4		1 2	P		1	9'-0"	△3
616	S-4	1	1		1 2	P		1	9'-0"	△3
617	STAIR	1	1		1	P	P	3	VARIES	△2 △3
618	FEMALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS △3
619	HOUSEKEEPING	1	1		1	P		1	9'-0"	△3
620	MALE TOILET	2	2	1	1	P	P	2	9'-0"	EPOXY PAINT WALLS △3
621	MALE LOCKER	2	2		1	P	P	2	9'-0"	EPOXY PAINT WALLS △3
622	O P OFFICER	1	1		1 2	P		1	9'-0"	△3
623	S-3	1	1		1 2	P		1	9'-0"	△3
624	STAIR	1	1		1	P	P	3	VARIES	△2 △3
625	READY ROOM	1	1		1 2	P		1	9'-0"	△3
626	STORAGE	1	1		1 2	P	P	1	9'-0"	△3
627	CORRIDOR	1	1		1 2	P	P	1	9'-0"	△3
628	MAIL ROOM	1	1		2	P	P	1	9'-0"	△3

* SEE SPECIFICATIONS "HIGH BUILD GLAZE COATING" (TYPICAL)

GENERAL NOTES:

PAINT ALL EXPOSED "X" BRACING & COLUMNS

△1 TYPICAL FLOOR FINISH TRANSITIONS FROM VINYL TILE TO CARPET, VINYL TILE TO EXPOSED CONCRETE AND TYPICAL VINYL TILE PATTERN AS SHOWN ON SHT A-12.

△2 GYP. BD. FIRE PROOFING FINISH & PAINT.

△3 ADDITIVE NO. 1 (N.I.C.)

REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

A10

KEE'S ARCHITECTS INC. 3001 Academy Road P.O. Box 25 Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. GHK DR. DFE CHK. MI

PROJ. MGR. CH. ENGR.

SUBMITTED BY: DATE: 4 MAR 86 FIRM MEMBER PRINCIPAL

EFD: FP RVD HD DIR KID

APPROVED DATE 3-4-86 OFFICER IN CHARGE

APPROVED DATE 1-12-87 FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

ROOM FINISH SCHEDULE

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138784

CONSTR. CONR. NO. N62470-84-B-4174

SCALE | SPEC. 05-84-4174 | SHEET 35 OF 129

EFD DWG. NO. 238784

DOOR & FRAME SCEDULE

DOOR NO.	DOOR SIZE W	H	T	DOOR MAT.	DOOR TYPE	GLAS	FRAME MAT.	FRAME TYPE	DETAIL JAMB	DETAIL HEAD	DETAIL SILL	HARDWR. SET NO.	FIRE CLASS	REMARKS
001	3'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	7	1	11	1		
002	3'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
003	3'-0	6'-8"	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
004	3'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
005	3'-0	6'-8"	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
006	6'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
007	3'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	7	1	11	1		
008	3'-0	6'-8"	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	△4
009	3'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		△4
010	6'-0	6'-8"	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
101	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
102	—													
103	6'-0	7'-0	1¾"	HM	F		HM	2	9	5	—	102		△3
104	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
105	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
106	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	103	B	
107	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	103	B	
108	8'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	109	B	
109	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	
110	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
111	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	100	B	
112	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
113	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		
114	3'-6"	6'-7"	—	—	5	—	—	5	29	30	31	106	CLASS 5 VAULT DOOR	
115	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
116	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
117	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		
118	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
119	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
120	3'-0	7'-0	1¾"	HM	F		HM	2	7	1	12	100	B	
121	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
122	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	108		
123	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	105		△3
124	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	108		
125	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
126	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	109		△3
127	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	109	B	
128	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	
129	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	104	B	
130	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
131	3'-0	7'-0	1¾"	HM	F		HM	2	8	2	12	100	B	
132	—													
133	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
134	8'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		
135	8'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		
201	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100	C	
202	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		
203	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
204	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
205	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
206	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
207	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	
208	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
209	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
210	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
211	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
212	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
213	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
214	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3
215	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3
216	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
217	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
218	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
219	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3
220	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	105		△3
221	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	114		
222	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3
223	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	111		
224	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	
225	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
226	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
227	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107	C	
228	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
229	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
230	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	
231	3'-0	7'-0	1¾"	HM	FD	¼WIRE	HM	1	14	13	—	100	C	△3
232	3'-0	7'-0	1¾"	HM	F	¼WIRE	HM	1	14	13	—	114		
301	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	112	B	
302	—													
303	6'-0	7'-0	1¾"	HM	F		HM	2	9	5	—	102		△3
304	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
305	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
306	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	103	B	
307	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	103	B	
308	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	104	B	
309	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	
310	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
311	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	100	B	
312	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
313	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		
314	3'-6"	6'-7"	—	—	5	—	—	5	29	30	31	106	CLASS 5 VAULT DOOR	
315	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
316	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
317	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
318	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
319	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		
320	3'-0	7'-0	1¾"	HM	F		HM	2	7	1	12	100	B	
321	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
322	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
323	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	108		△3
324	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		
325	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	
326	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3
327	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	113	B	
328	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	
329	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	104	B	
330	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		
331	3'-0	7'-0	1¾"	HM	F		HM	2	8	1	12	100	B	
332	—													
333	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	
334	8'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		
335	8'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		
336	3'-6"	7'-0"	1¾"	HM	FL		HM	2	9	5	—	103	B	
401	3'-0"	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100	C	
402	—													
403	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
404	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
405	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
406	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
407	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	
408	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
409	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
410	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
411	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
412	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
413	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
414	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3
415	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3
416	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
417	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		
418	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
419	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3
420	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	112		△3
421	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
422	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3
423	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	111		
424	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	
425	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
426	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		
427	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105	C	
428	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	112	C	
429	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	112	C	
430	3'-0	7'-0	1¾"	HM	G		HM	1	14	13	—	100		
431	3'-0	7'-0	1¾"	HM	FD		HM	1	14	13	—	112	C	△3
501	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	112	B	△4
502	—													
503	6'-0	7'-0	1¾"	HM	F		HM	2	9	5	—	102		△3 △4
504	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	△4
505	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		△4
506	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	103	B	△4
507	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	103	B	△4
508	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	109	B	△4
509	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	△4
510	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		△4
511	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	100	B	△4
512	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	△4
513	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		△4
514	3'-6"	6'-7"	—	—	5	—	—	5	29	30	31	106	CLASS 5 VAULT DOOR △4	
515	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		△4
516	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	△4
517	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		△4

NOTES:

1. HEAD, JAMB AND SILL NUMBERS CORRESPOND TO DETAILS SHOWN ON SHEET A-12.
2. UNDERCUT HM DOORS 1" AT CARPET - SEE SHEET A-10
△3 UNDERCUT DOORS ¾" FOR HAC RETURN AIR
△4 ADDITIVE NO. 1 (N.I.C.)

REVISIONS SYM	DESCRIPTION	DATE	APPROVED

DOOR & FRAME SCHEDULE CONT'D

DOOR NO.	DOOR SIZE W	H	T	DOOR MAT.	DOOR TYPE	GLAS	FRAME MAT.	FRAME TYPE	DETAIL JAMB	DETAIL HEAD	DETAIL SILL	HARDWR. SET NO.	FIRE CLASS	REMARKS
518	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		△4
519	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	7	1	11	3		△4
520	3'-0	7'-0	1¾"	HM	F		HM	2	7	1	12	100	B	△4
521	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	△4
522	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		△4
523	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	108		△3 △4
524	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	107		△4
525	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	7	1	12	100	B	△4
526	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3 △4
527	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	113	B	△4
528	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	104	B	△4
529	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	5	—	104	B	△4
530	6'-0	7'-0	1¾"	HM	G	¼WIRE	HM	2	8	2	11	2		△4
531	3'-0	7'-0	1¾"	HM	F		HM	2	8	2	12	100		△4
532	—													
533	6'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	8	2	12	101	B	△4
534	8'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		△4
535	6'-0	7'-0	1¾"	HM	F		HM	3	8	3	11	4		
535A	6'-0"	7'-0"	1¾"	HM	F		HM	3	8	3	11	4		
601	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100	C	△4
602	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105		△4
603	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
604	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
605	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
606	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
607	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	△4
608	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
609	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		△4
610	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
611	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		△4
612	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
613	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		△4
614	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3 △4
615	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	6	110		△3 △4
616	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		△4
617	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	100		△4
618	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
619	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3 △4
620	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	—	112		△3 △4
621	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
622	3'-0	7'-0	1¾"	HM	F		HM	2	9	4	6	113		△3 △4
623	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	111		△4
624	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	114	B	△4
625	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100	C	△4
626	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100	C	△4
627	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	105	C	△4
628	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	112	C	△4
629	3'-0	7'-0	1¾"	HM	F		HM	1	14	13	—	112	C	△4
630	3'-0	7'-0	1¾"	HM	V	¼WIRE	HM	2	9	4	—	113	B	△4
631	3'-0	7'-0	1¾"	HM	G	¼WIRE	HM	1	14	13	—	100		△4
632	3'-0	7'-0	1¾"	HM	FD	¼WIRE	HM	1	14	13	—	112	C	△3 △4

DOOR TYPES
SEE DOOR SCHEDULE FOR DIMENSIONS - DIMENSIONS ARE NOMINAL.

HOLLOW METAL FRAME TYPES
✲ FOUR INCH HEAD DIMENSION FOR USE WITH MASONRY. · SEE DOOR SCHEDULE FOR DIMENSIONS - DIMENSIONS ARE NOMINAL.

DETAIL 1 A11 A11
NTS

A 11

ISLEY ARCHITECTS INC.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

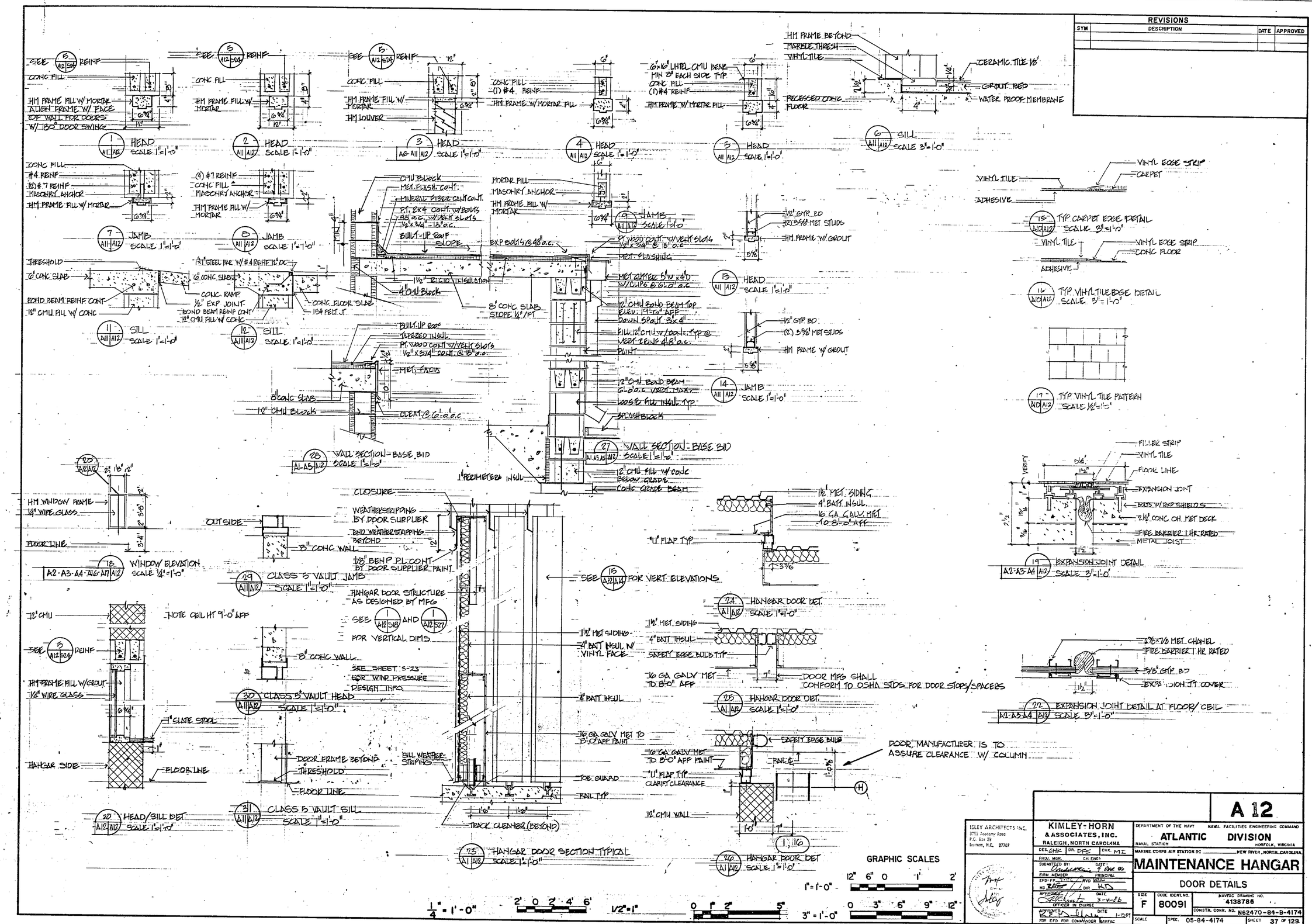
DES. GHK | DR. DFE | CHK. MI
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: | DATE: 6 MAR 86
FIRM MEMBER | PRINCIPAL
EFD: FP | RVD
HD | DIR KD
APPROVED | DATE 3-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

DOOR AND FRAME SCHEDULE

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138785
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 36 OF 129
EFD DWG. NO. 238785



A 12

ISLEY ARCHITECTS INC.
2000 Academy Road
P.O. Box 29
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DC — NEW RIVER, NORTH CAROLINA

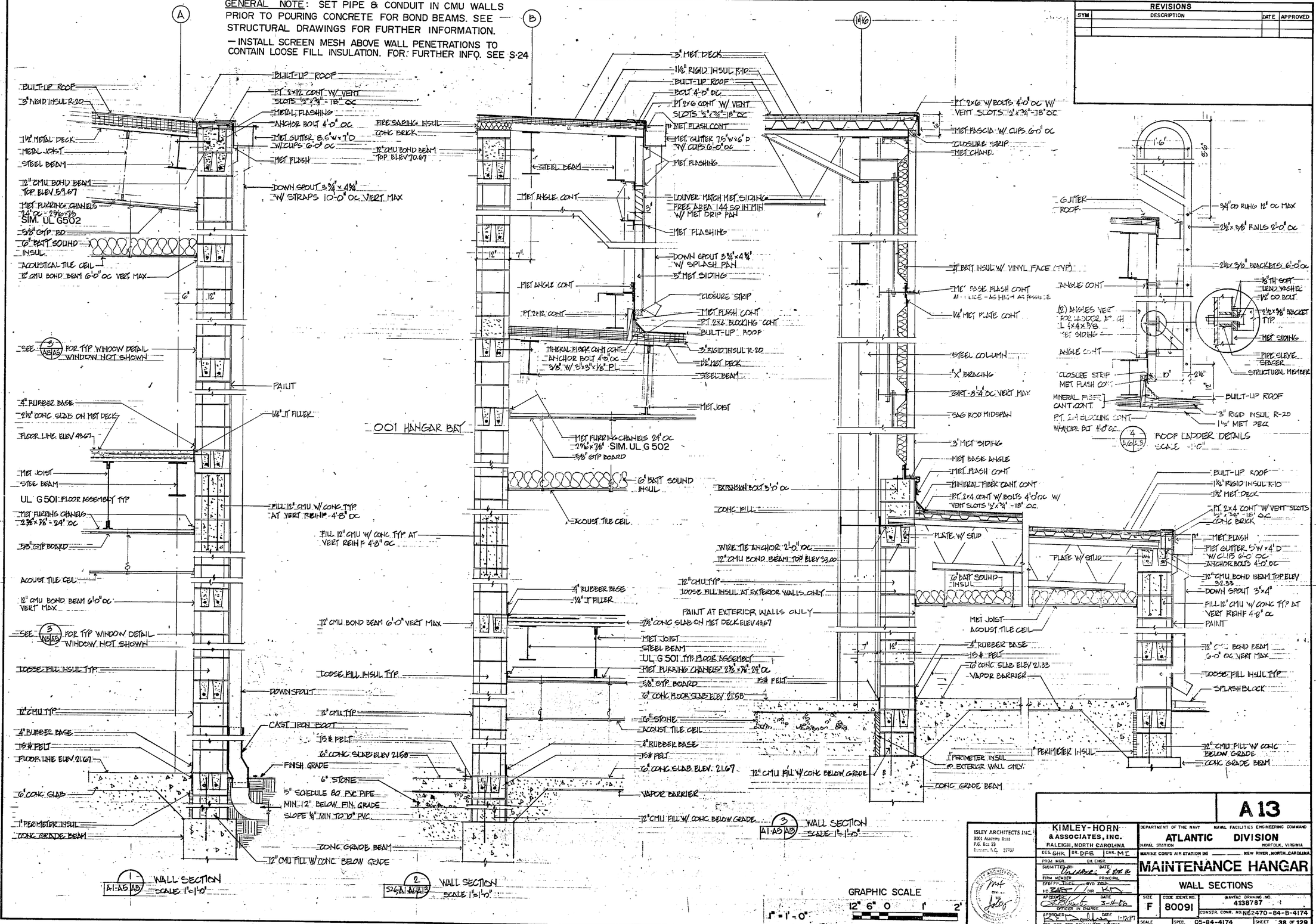
MAINTENANCE HANGAR

DOOR DETAILS

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138786
CONSTR. CONR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 37 OF 129
EFD DWG. NO. 238786

GENERAL NOTE: SET PIPE & CONDUIT IN CMU WALLS PRIOR TO POURING CONCRETE FOR BOND BEAMS. SEE STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
— INSTALL SCREEN MESH ABOVE WALL PENETRATIONS TO CONTAIN LOOSE FILL INSULATION. FOR FURTHER INFO. SEE S-24

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



ISLEY ARCHITECTS INC.
3301 Alderney Road
P.O. Box 29
Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK | DR. DFE | CHK. MT
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: | DATE:
FIRM MEMBER | PRINCIPAL
EFD: FP - TECH | RVD
HD | DIR
APPROVED | DATE
OFFICER IN CHARGE 3-4-86
APPROVED FOR EFD FOR COMMANDER NAVFAC | DATE 1-12-87

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

WALL SECTIONS

A 13

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138787
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 38 OF 129
EFD DWG. NO. 238787

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

HOTE: TOP OF RAIL BELOW EL 21.0

GRAPHIC SCALES

1 1/2" = 1'-0"

9" 6" 3" 0 1'

12" 6" 0 1' 2'

1" = 1'-0"

ISLEY ARCHITECTS INC.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
3201 Apsley Road P.O. Box 29 Durham, N.C. 27707	DES. CHK. DR. DFE CHK. ME PROJ. MGR. CH. ENGR. SUBMITTED BY DATE: FIRM MEMBER PRINCIPAL EFD: FP RYD HD DIR APPROVED DATE OFFICER IN CHARGE APPROVED DATE FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVFAC FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

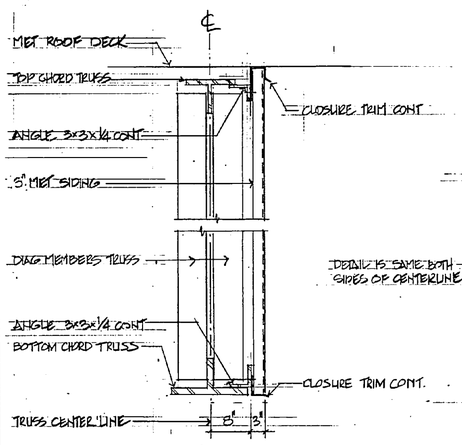
MAINTENANCE HANGAR

WALL SECTIONS AND DETAILS

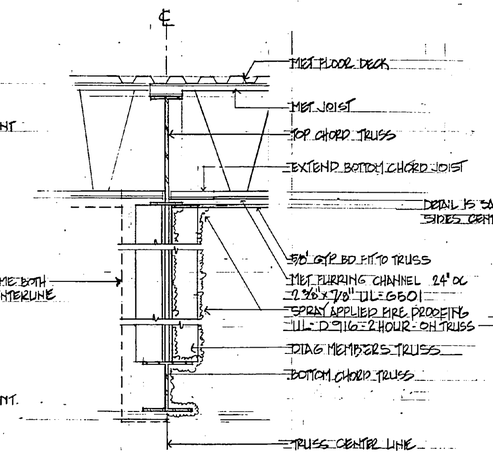
SIZE	COST IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138788
SCALE	SPEC. 05-84-4174	CONSTR. CONR. NO. N62470-84-B-4174
		SHEET 39 OF 129
		EFD DWG. NO. 238788

A 14

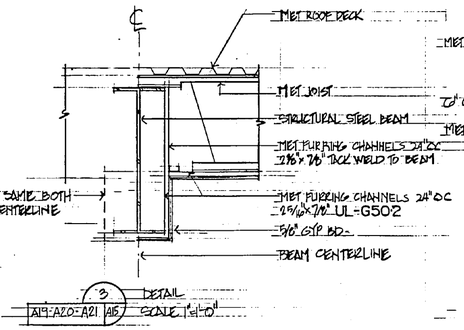
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



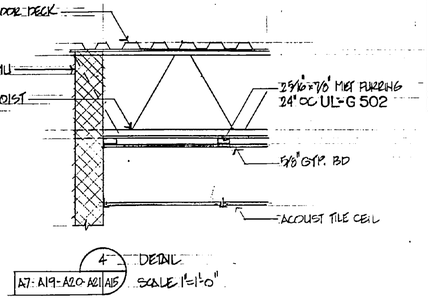
1 DETAIL DRAFT CURTAIN
S14, S13, S15, A10, A17, A18 | A15 SCALE 1"=1'-0"



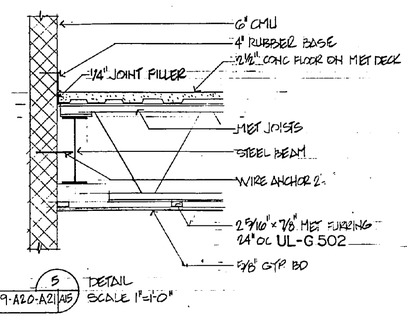
2 DETAIL TRUSS BETW/ COLS A & B
A21-A20-A19 | A15 SCALE 1"=1'-0"



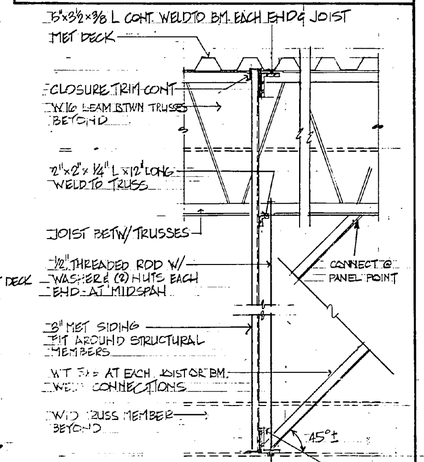
3 DETAIL
A19-A20-A21 | A15 SCALE 1"=1'-0"



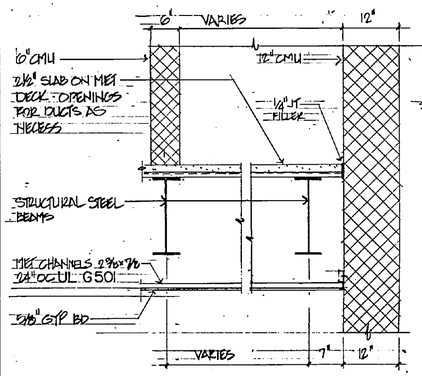
4 DEIAIL
A7: A19-A20-A21 | A15 SCALE 1"=1'-0"



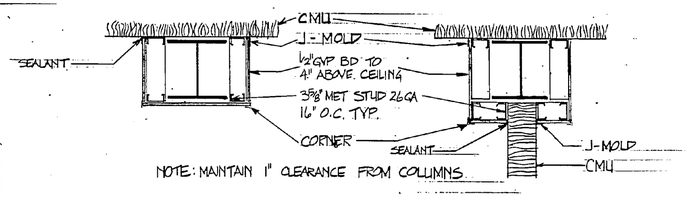
5 DETAIL
A7-A19-A20-A21 | A15 SCALE 1"=1'-0"



7 DETAIL TYP DRAFT CURTAIN
S13, S14 S15, A16, A17, A18 | A15 SCALE 1"=1'-0"

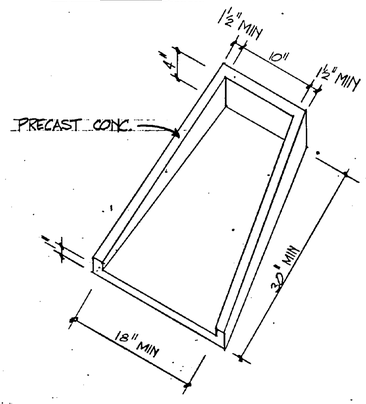


6 DEIAIL
A2-A3-A4 | A15 SCALE 1"=1'-0"

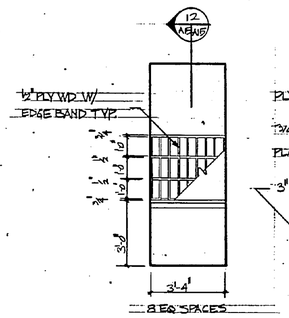


8 DETAIL TYP
A2, A3, A4 | A15 SCALE 1"=1'-0"

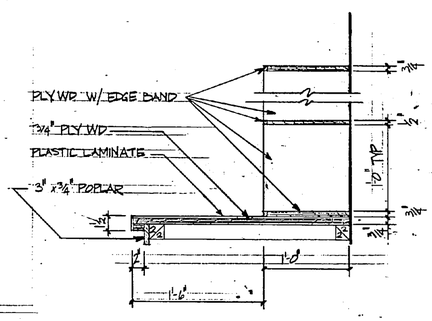
9 DETAIL TYP
A2, A3, A4 | A15 SCALE 1"=1'-0"



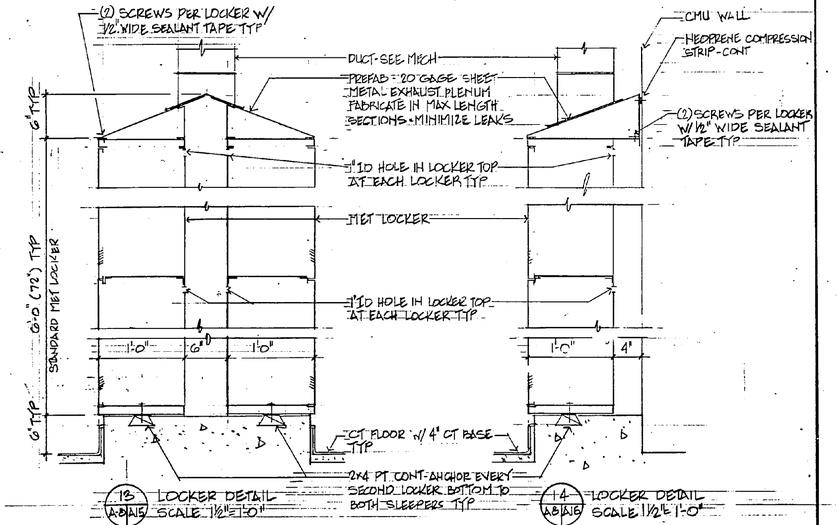
10 DETAIL TYP
A5 | A15 NOT TO SCALE



11 ELEV.
A2, A3, A4 | A15 SCALE 3/8"=1'-0"



12 SECTION
A5 | A15 SCALE 1 1/2"=1'-0"



13 LOCKER DETAIL
A8 | A15 SCALE 1 1/2"=1'-0"

14 LOCKER DETAIL
A8 | A15 SCALE 1 1/2"=1'-0"

GRAPHIC SCALES

3/8" = 1'-0" — 12" 0 2' 4' 6'

1 1/2" = 1'-0" — 9" 6" 3" 0 1'

1" = 1'-0" — 12" 6" 0 1' 2'

A 15

ISLEY ARCHITECTS INC.
3001 Academy Road
P.O. Box 29
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHL | DR. DFE | CHK. ME
PROJ. MGR. | CH. ENGR.
SUBMITTED BY | DATE 1 MAR 84
FIRM MEMBER | PRINCIPAL
EFD/FTP OFFICIAL | RVD | DRK
MD | DIR
APPROVED | DATE 8-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DC — NEW RIVER, NORTH CAROLINA

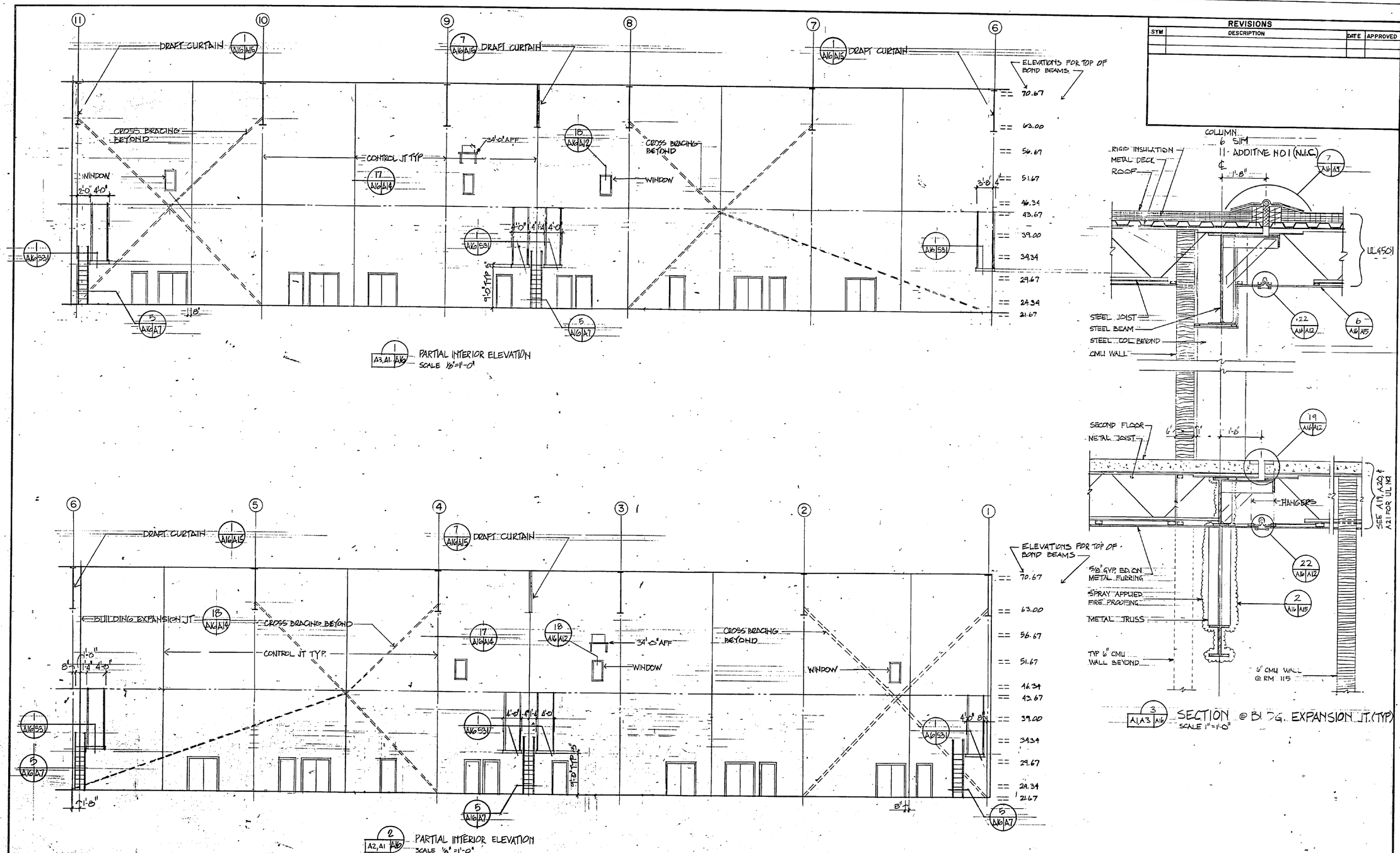
MAINTENANCE HANGAR

DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138789

CONSTR. CONR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 40 OF 129
EFD DWG. NO. 238789

BRANCH CO. WASTE # 1-800-242-2626



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

ISLEY ARCHITECTS INC.
3001 Hackney Road
P.O. Box 29
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GHK DR. DFE CHK. MI
PROJ. MGR. CH. ENGR.
SUBMITTED BY: DATE: 4 Nov 86
FIRM MEMBER PRINCIPAL
EFD: FP: RVD
HD: DIR KD
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED: DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NO. NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

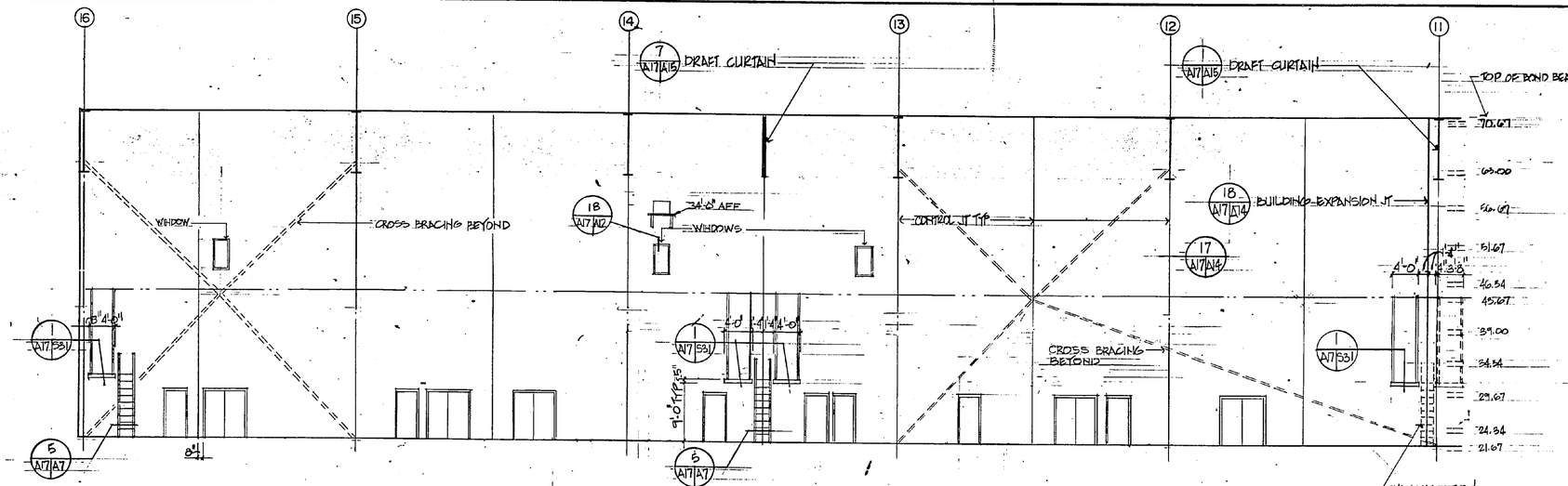
PARTIAL INTERIOR ELEVATIONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138790
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 41 OF 129

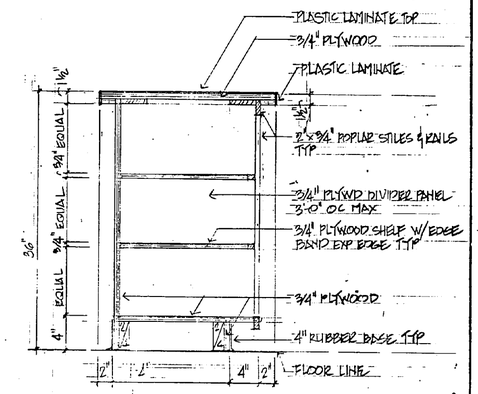
EFD DWG. NO. 238790

A16

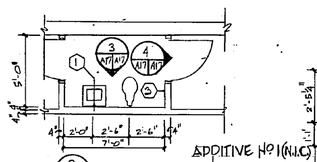
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



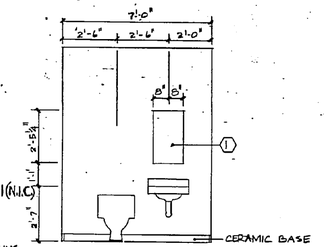
1 A1, A4 | A17 PARTIAL INTERIOR ELEVATION - ADDITIVE NO 1 (N.I.C.)
SCALE 1/8"=1'-0"



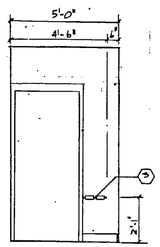
10 A17 | A18 | A17 CABINET DETAIL
SCALE 1½"=1'-0"



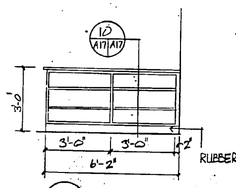
ADDITIVE NO 1 (N.I.C.)
2 A2-A3-A4 | A17 PLAN @ 208, A08 & 108 TOILETS
SCALE ¼"=1'-0"
SEE SHEET A-8 FOR TOILET ACCESSORIES SCHEDULE



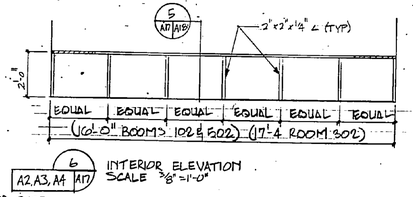
3 A17/A17 ELEVATION
SCALE ⅜"=1'-0"



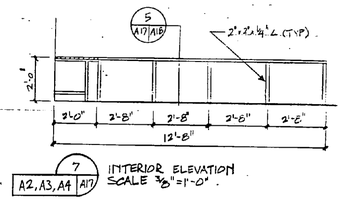
4 A17/A17 ELEVATION
SCALE ⅜"=1'-0"



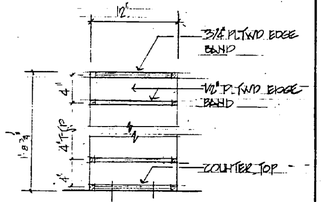
5 A2, A3, A4 | A17 INTERIOR ELEVATION
SCALE ⅜"=1'-0"

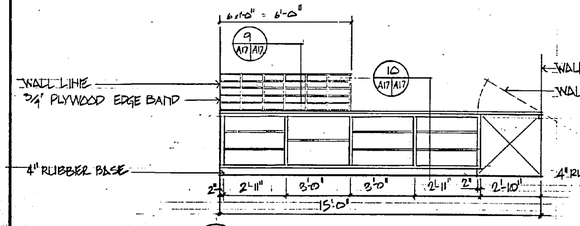


6 A2, A3, A4 | A17 INTERIOR ELEVATION
SCALE ⅜"=1'-0"

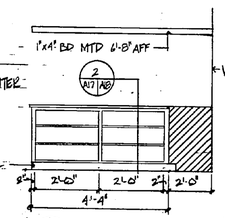


7 A2, A3, A4 | A17 INTERIOR ELEVATION
SCALE ⅜"=1'-0"

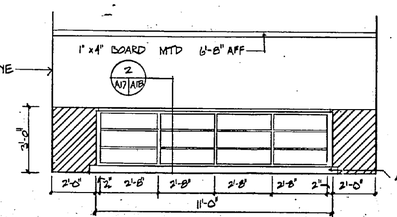




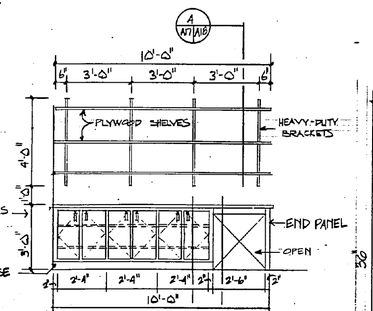
8 A2, A4 | A17 INTERIOR ELEVATION @ 109 & 509
SCALE ⅜"=1'-0"



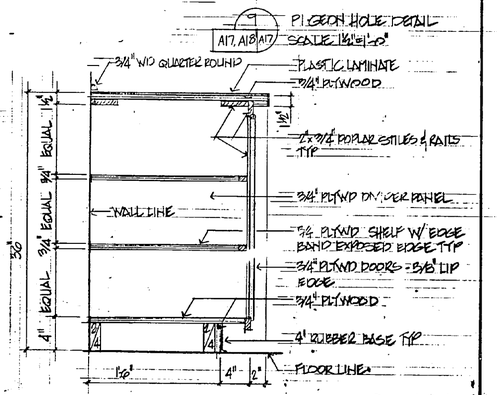
11 A2, A3, A4 | A17 INTERIOR ELEVATION
SCALE ⅜"=1'-0"



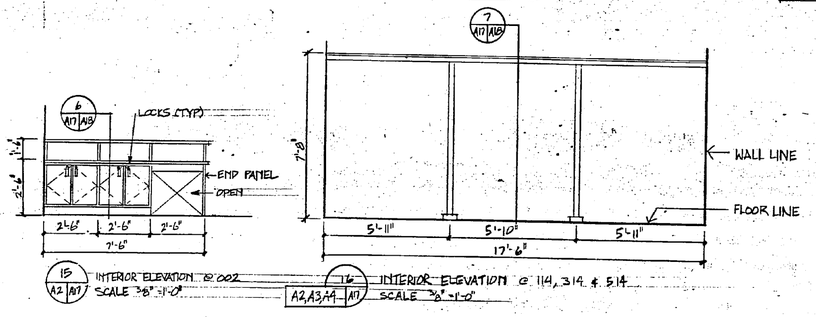
13 A2, A4 | A17 INTERIOR ELEVATION
SCALE ⅜" =1'-0"



14 A2, A3, A4 | A17 12 A17/A17 3 A17/A18
INTERIOR ELEVATION @ 108, 308 & 508
SCALE ⅜"=1'-0"

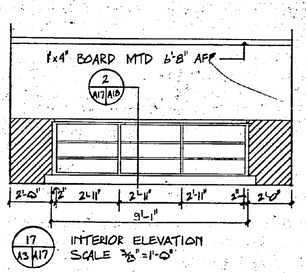


12 A17 | A17 | A17 CABINET DETAIL
SCALE 1½"=1'-0"



15 A2 | A17 INTERIOR ELEVATION @ 002
SCALE ⅜"=1'-0"

16 A2, A3, A4 | A17 INTERIOR ELEVATION @ 114, 314 & 514
SCALE ⅜"=1'-0"



17 A3 | A17 INTERIOR ELEVATION
SCALE ⅜"=1'-0"

GRAPHIC SCALES

1/4" = 1'-0" 2' 0 2' 4' 6'
3/8" = 1'-0" 12" 0 2' 4' 6'
1 1/2" = 1'-0" 9" 6" 3" 0 1'
1/8" = 1'-0" 4' 0 4' 8' 16'

ISLEY ARCHITECTS INC.
3301 Academy Road
P.O. Box 29
Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK | DR. DFE | CHK. MI
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: PRINCIPAL
FIRM MEMBER
EFD FPO - ENGR. DATE
HD DIR
APPROVED DATE 3-16-88
OFFICER IN CHARGE
APPROVED DATE 1-12-88
FOR EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

INTERIOR ELEVATIONS-CASEWORK

A 17

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138791
SCALE	SPEC. 05-84-4174	SHEET 42 OF 129

CONSTR. CONTR. NO. N62470-84-B-4174
EFD DWG. NO. 238791

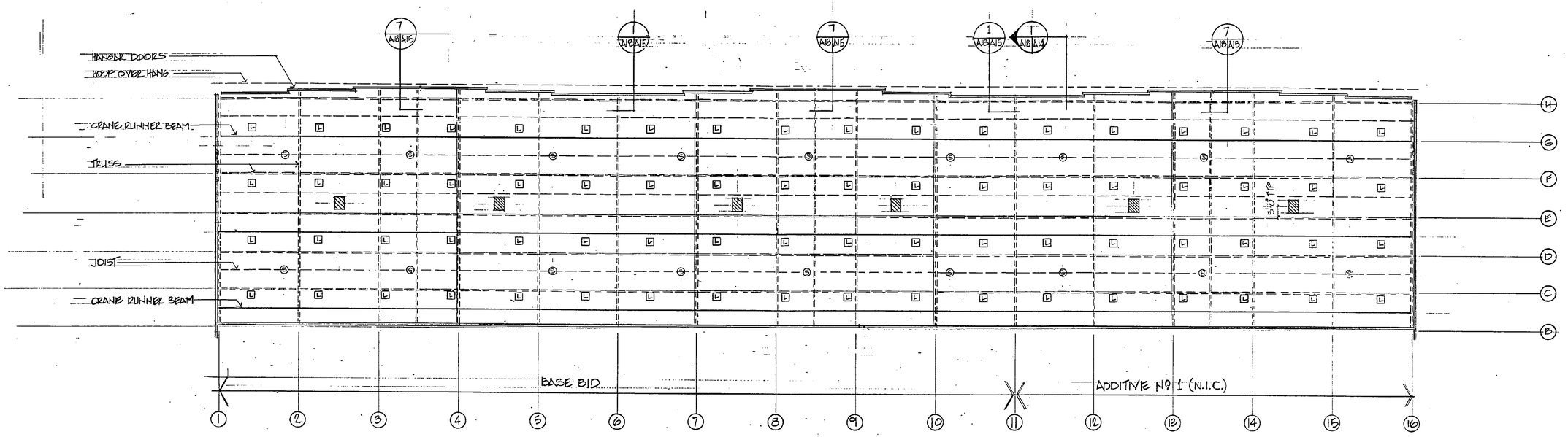
SYMBOL SCHEDULE

- PENDANT HEATING UNITS
- PENDANT SPEAKER
- PENDANT LIGHT FIXTURE

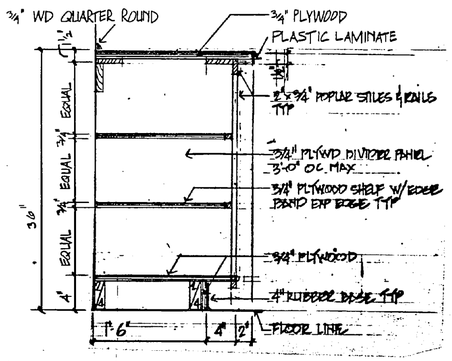
GENERAL NOTES

1. BOTTOM OF TRUSS ELEVATION VARIES FROM 61.67 TO 66.21 - VERIFY
2. SPRINKLER HEAD LOCATIONS NOT SHOWN

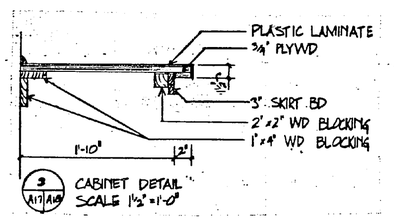
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



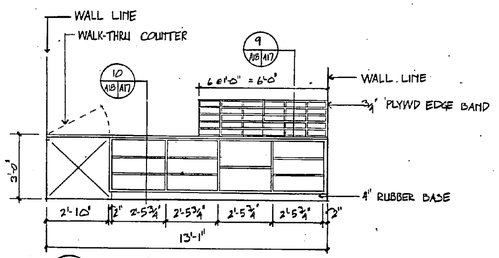
1 A18 A16 REFLECTED CEIL. PLAN - 001 HANGAR BAY
SCALE 3/64" = 1'-0"



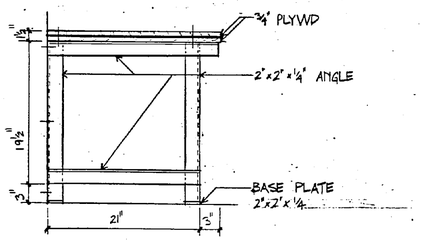
2 A17 A18 CABINET DETAIL
SCALE 1½" = 1'-0"



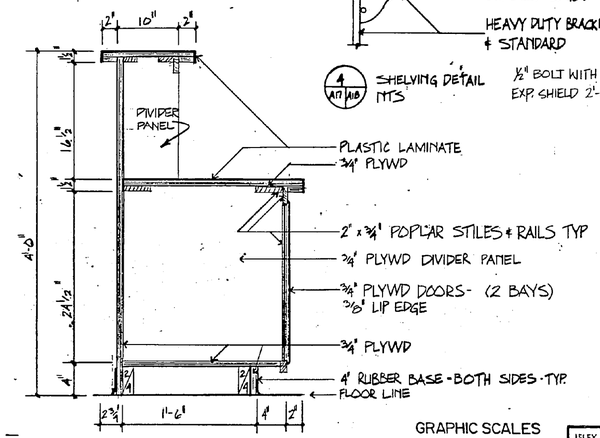
3 A17 A18 CABINET DETAIL
SCALE 1½" = 1'-0"



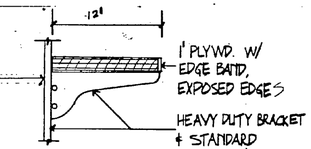
8 A3 A18 INTERIOR ELEVATION @ 309
SCALE 3/8" = 1'-0"



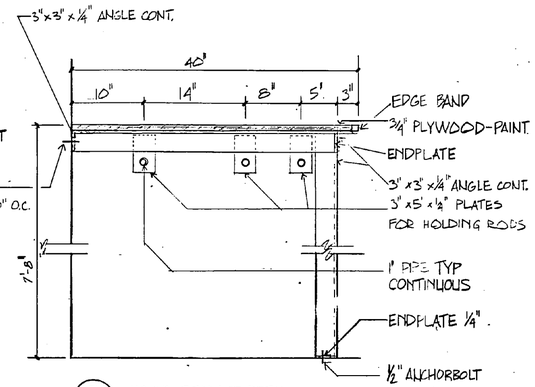
5 A17 A18 WORKBENCH DETAIL
SCALE 1½" = 1'-0"



6 A17 A18 CABINET DETAIL
SCALE 1½" = 1'-0"



4 A17 A18 SHELVING DETAIL
NTS



7 A17 A18 HOOK STORAGE DETAIL
SCALE 1½" = 1'-0"

GRAPHIC SCALES

1½" = 1'-0"
3/8" = 1'-0"
3/64" = 1'-0"

9" 6" 3" 0 1'
12" 0 2' 4' 6'
16' 8' 0 16' 32'

ISLEY ARCHITECTS INC
3501 Atrium Park
P.O. Box 25
Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK | DR. DRE | CHK. MI
PROJ. MGR. | CH. ENGR.
SUBMITTED BY: DATE 4 MAR 86
FIRM MEMBER | PRINCIPAL
EFD IN CHARGE | RVD | DOR
HD | DIR
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED FOR EFD FOR COMMANDER NAVFAC DATE 1-13-87

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

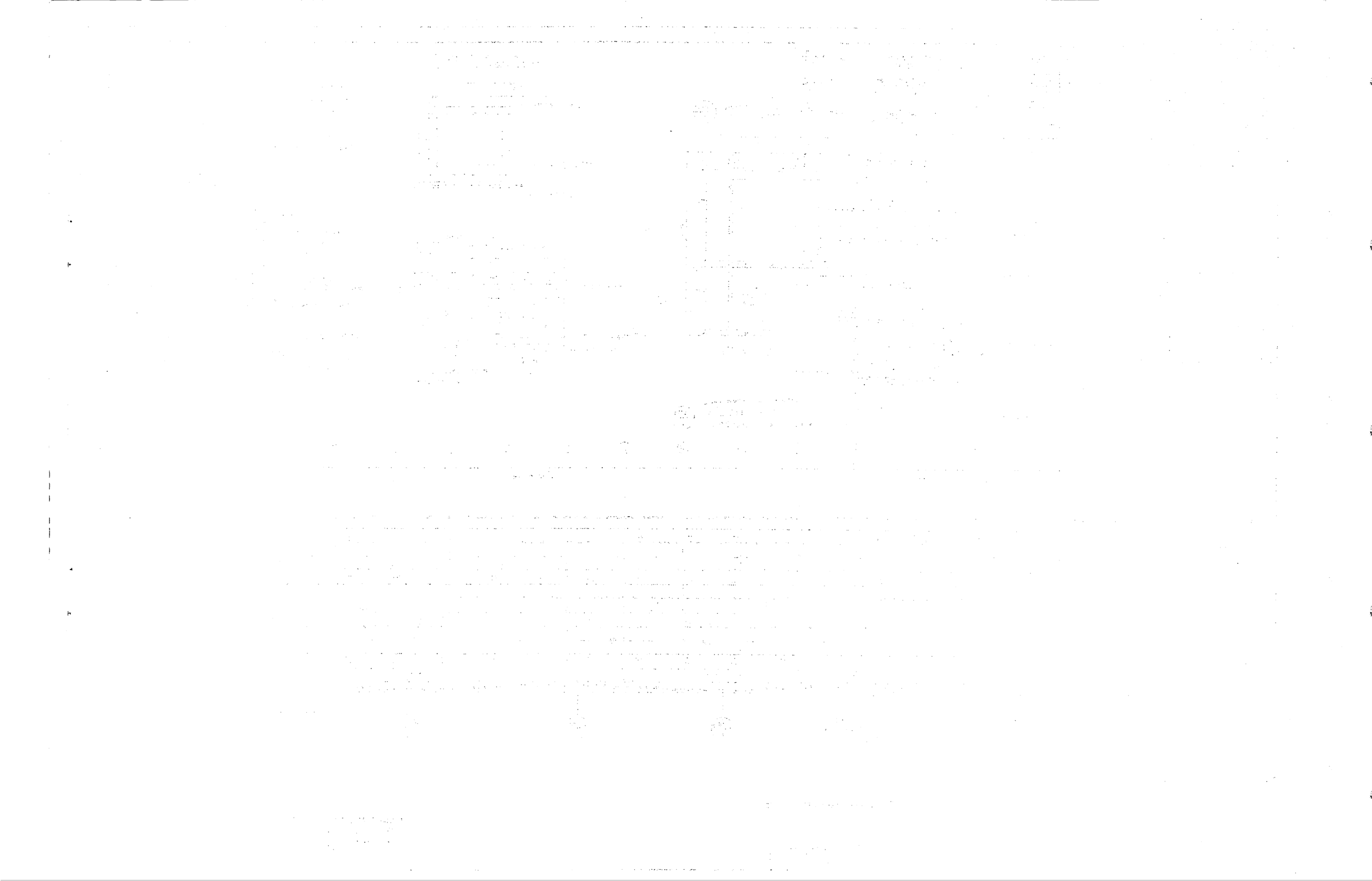
MAINTENANCE HANGAR

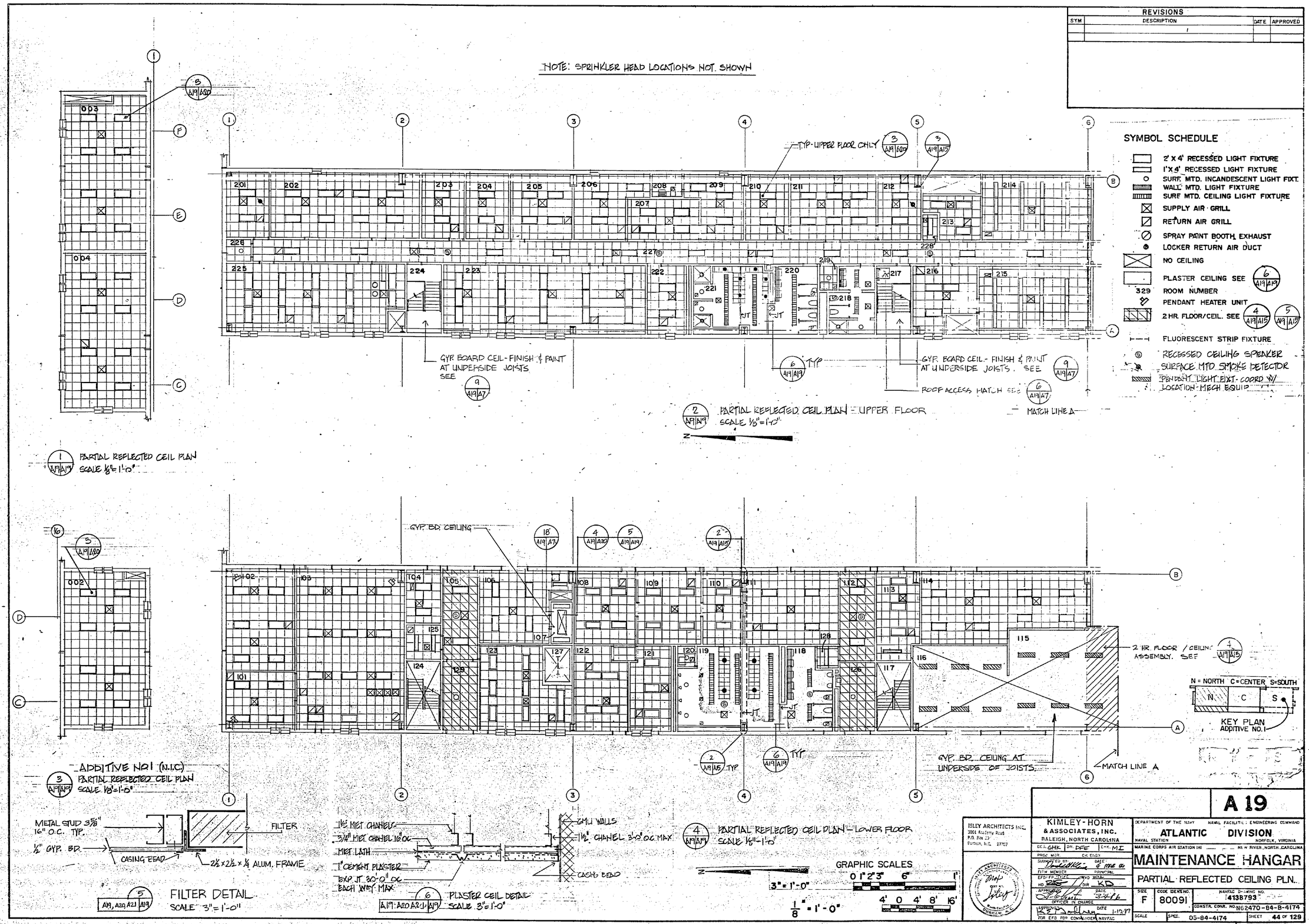
PART. REFL. CEIL., CASEWK. DET.

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138792
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 43 OF 129

EFD DWG. NO. 238792

A 18

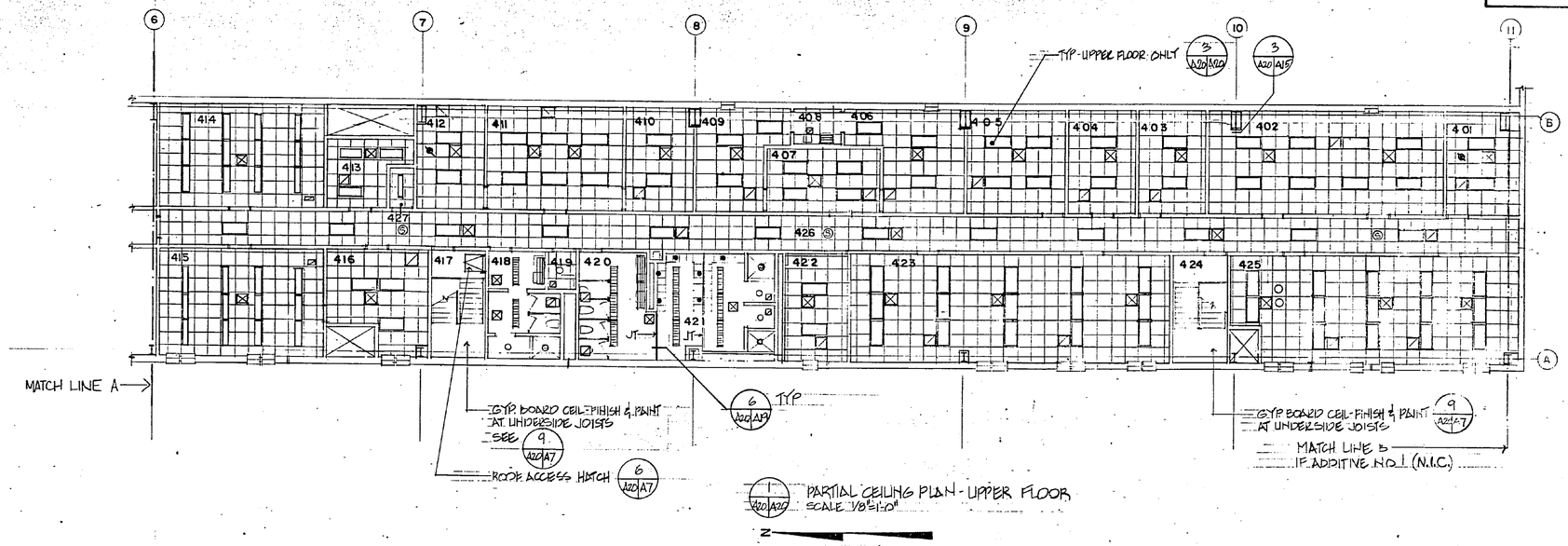




REVISIONS
SYM
DESCRIPTION
DATE
APPROVED
NOTE: SPRINKLER HEAD LOCATIONS NOT SHOWN
SYMBOL SCHEDULE
2' X 4' RECESSED LIGHT FIXTURE
1' X 4' RECESSED LIGHT FIXTURE
SURF. MTD. INCANDESCENT LIGHT FIXT.
WALL MTD. LIGHT FIXTURE
SURF MTD. CEILING LIGHT FIXTURE
SUPPLY AIR GRILL
RETURN AIR GRILL
SPRAY PAINT BOOTH EXHAUST
LOCKER RETURN AIR DUCT
NO CEILING
PLASTER CEILING SEE
329 ROOM NUMBER
PENDANT HEATER UNIT
2 HR. FLOOR/CEIL. SEE
FLUORESCENT STRIP FIXTURE
RECESSED CEILING SPEAKER
SURFACE MTD SMOKE DETECTOR
PENDANT LIGHT FIXT. COORD W/ LOCATION MECH EQUIP
TYP-UPPER FLOOR ONLY
GYP. BOARD CEIL-FINISH & PAINT AT UNDERSIDE JOISTS SEE
GYP. BOARD CEIL-FINISH & PAINT AT UNDERSIDE JOISTS. SEE
ROOF ACCESS HATCH SEE
MATCH LINE A
PARTIAL REFLECTED CEIL PLAN - UPPER FLOOR
SCALE 1/8"=1'-0"
PARTIAL REFLECTED CEIL PLAN
SCALE 1/8"=1'-0"
GYP. BD. CEILING
2 HR. FLOOR / CEILING ASSEMBLY. SEE
GYP. BD. CEILING AT UNDERSIDE OF JOISTS.
MATCH LINE A
N = NORTH C = CENTER S = SOUTH
KEY PLAN
ADDITIVE NO. 1
ADDITIVE NO 1 (N.I.C.)
PARTIAL REFLECTED CEIL PLAN
SCALE 1/8"=1'-0"
METAL STUD 3 5/8" 16" O.C. TYP.
1/2" GYP. BD.
CASING BEAD
FILTER
2 1/2 x 2 1/2 x 1/4 ALUM. FRAME
FILTER DETAIL
SCALE 3"=1'-0"
1 1/2" MET CHANEL
3/4" MET CHANEL 16" OC
MET LATH
1" CEMENT PLASTER
EXP. JT 30'-0" OC EACH WAY MAX
CMU WALLS
1 1/2" CHANEL 3'-0" OC MAX
CASING BEAD
PLASTER CEIL DETAIL
SCALE 3"=1'-0"
PARTIAL REFLECTED CEIL PLAN - LOWER FLOOR
SCALE 1/8"=1'-0"
GRAPHIC SCALES
3"=1'-0"
1/8"=1'-0"
ISLEY ARCHITECTS INC.
KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION
NORFOLK, VIRGINIA
MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA
MAINTENANCE HANGAR
PARTIAL REFLECTED CEILING PLN.
SIZE F
CODE IDENT NO. 80091
NAVFAC DRAWING NO. 4138793
CONSTR. CONR. NO. N62470-84-B-4174
SCALE
SPEC. 05-84-4174
SHEET 44 OF 129
EFD DWG. NO. 238793
A 19

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

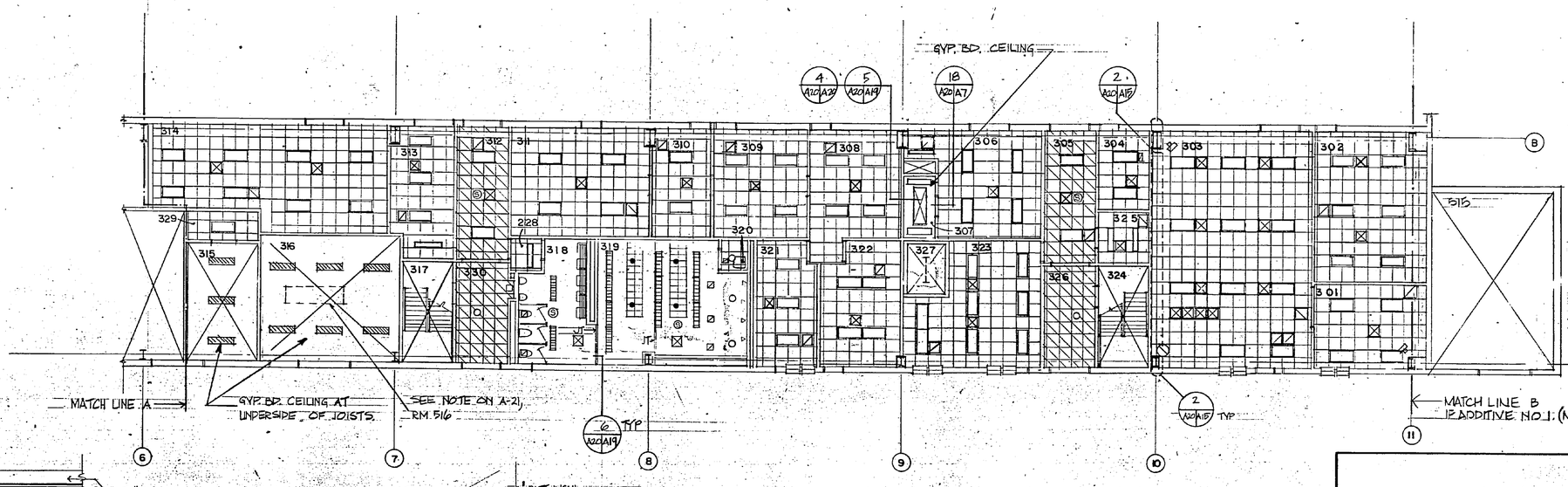
NOTE: SPRINKLER HEAD LOCATIONS NOT SHOWN

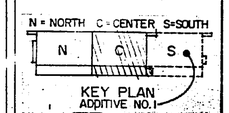


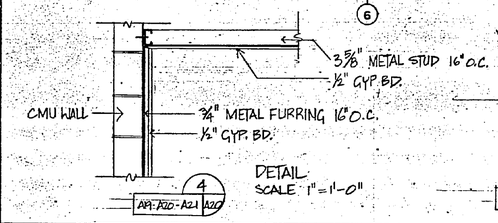
1 A20/A20 PARTIAL CEILING PLAN - UPPER FLOOR
SCALE 1/8"=1'-0"

SYMBOL SCHEDULE

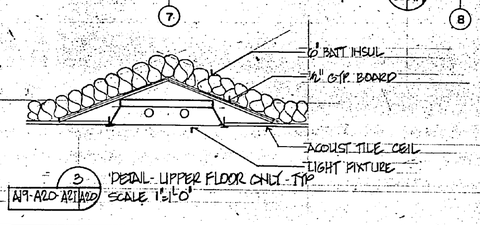
- 2' X 4' RECESSED LIGHT FIXTURE
- 1' X 4' RECESSED LIGHT FIXTURE
- SURF. MTD. INCANDESCENT LIGHT FIXT.
- WALL MTD. LIGHT FIXTURE
- SURF MTD. CEILING LIGHT FIXTURE
- SUPPLY AIR GRILL
- RETURN AIR GRILL
- SPRAY PAINT BOOTH EXHAUST
- LOCKER RETURN AIR DUCT
- NO CEILING
- PLASTER CEILING SEE 6 A20/A19
- 329 ROOM NUMBER
- PENDANT HEATER UNIT
- 2 HR. FLOOR/CEIL. SEE 4 A20/A15 5 A20/A15
- FLUORESCENT STRIP FIXTURE
- RECESSED CEILING SPEAKER
- SURF MTD SMOKE DETECTOR
- PENDANT LIGHT FIXTURE - COORD W/ LOCATION MECH EQUIP.







4 A19-A20-A21/A20 DETAIL
SCALE 1"=1'-0"



3 A19-A20-A21/A20 DETAIL - UPPER FLOOR ONLY - TYP
SCALE 1"=1'-0"

2 A20/A20 PARTIAL CEILING PLAN - LOWER FLOOR
SCALE 1/8"=1'-0"

GRAPHIC SCALES
1" = 1'-0" 12" 6" 0 1' 2'
1/8" = 1'-0" 4' 0 4' 8' 16'

ISLEY ARCHITECTS INC.
3001 Academy Road
P.O. Box 29
Durham, N.C. 27707

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL REFLECTED CEILING PLN.

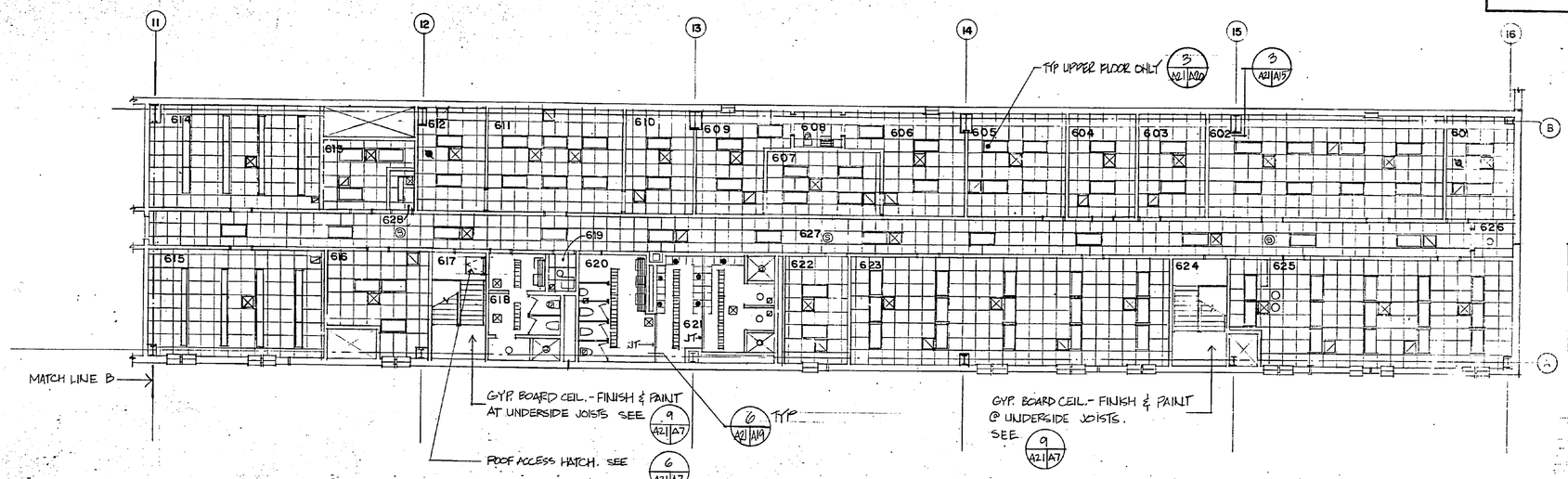
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138794
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 45 OF 129

A20

EFD DWG. NO. 238794

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTE: SPRINKLER HEAD LOCATIONS NOT SHOWN

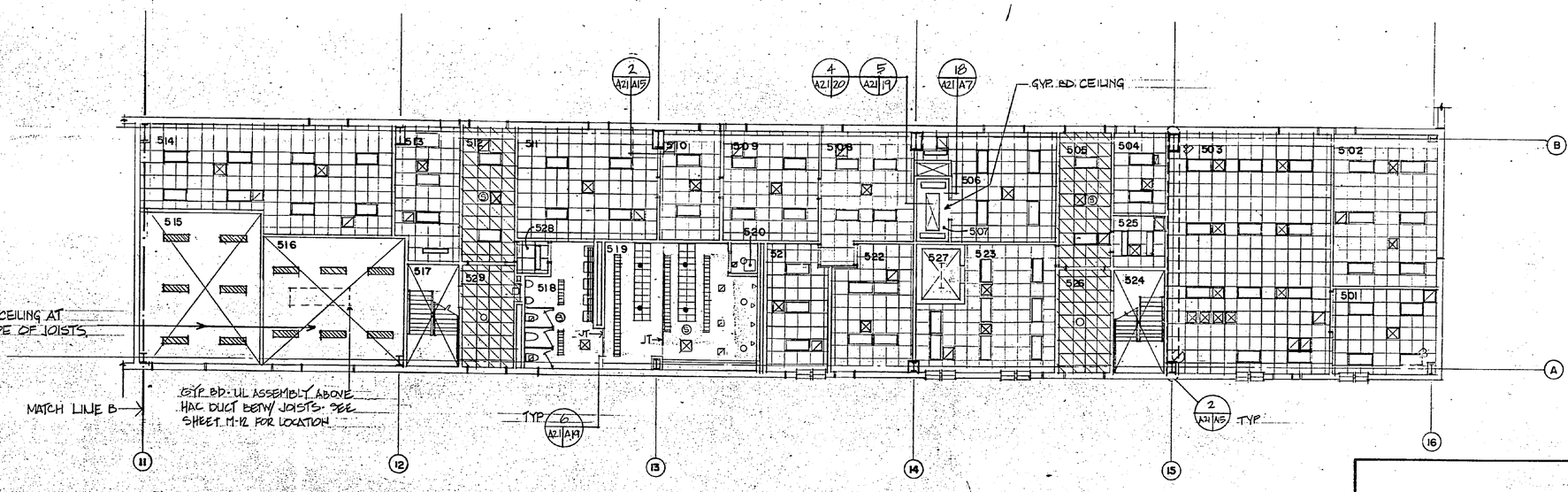


1 A21|A21 PARTIAL CEILING PLAN - UPPER FLOOR
SCALE 1/8" = 1'-0"

ADDITIVE NO. 1 (N.I.C.)

SYMBOL SCHEDULE

- 2' X 4' RECESSED LIGHT FIXTURE
- 1' X 4' RECESSED LIGHT FIXTURE
- SURF. MTD. INCANDESCENT LIGHT FIXT.
- WALL MTD. LIGHT FIXTURE
- SURF MTD. CEILING LIGHT FIXTURE
- SUPPLY AIR GRILL
- RETURN AIR GRILL
- SPRAY PAINT BOOTH EXHAUST
- LOCKER RETURN AIR DUCT
- NO CEILING
- PLASTER CEILING SEE 6 A21|A19
- 329 ROOM NUMBER
- PENDANT HEATER UNIT
- 2 HR. FLOOR/CEIL. SEE 4 A21|A15 5 A21|A15
- FLUORESCENT STRIP FIXTURE
- RECESSED CEIL SPEAKER
- SURF MTD SMOKE DETECTOR
- PENDANT LIGHT FIXT. E: COORD W/ LOCATION MECH. EQUIP.



2 A21|A21 PARTIAL CEILING PLAN - LOWER FLOOR
SCALE 1/8" = 1'-0"

ADDITIVE NO. 1 (N.I.C.)

N = NORTH C = CENTER S = SOUTH

KEY PLAN
ADDITIVE NO. 1

GRAPHIC SCALE
1/8" = 1'-0"
4' 0 4' 8' 16'

ISLEY ARCHITECTS INC.
3001 Longview Road
P.O. Box 29
Durham, N.C. 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK | DR. DFE | CHK. ME
PROJ. MGR. | CH. ENGR.
SUBMITTED BY | DATE 2 Nov 86
FIRM MEMBER | PRINCIPAL
E/D/ FP | RVD VSC
NO | DATE | DIR KD
APPROVED | DATE 3-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-13-87
FOR E/D FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

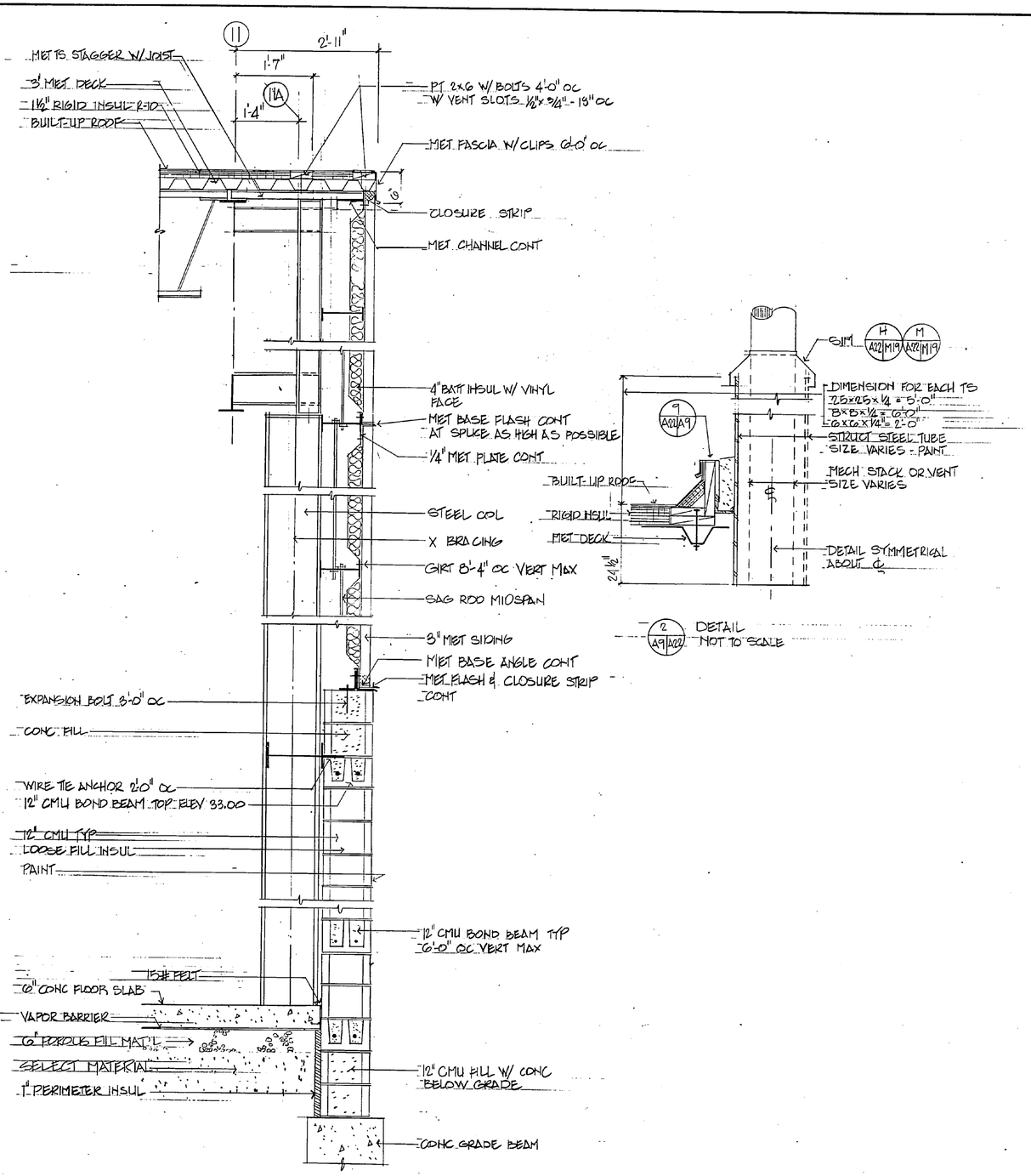
MAINTENANCE HANGAR

PARTIAL REFLECTED CEILING PLN.

A21

SIZE F | CODE IDENT. NO. 80091 | NAVFAC E-DWING NO. 4138795
SCALE | SPEC. 05-84-4174 | CONSTR. CONT. NO. N62470-84-B-4174
SHEET 46 OF 129
E/D DWG. NO. 238795

SCALE: WHEN PLOTTED ON 30 X 42 SHEET



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

GRAPHIC SCALE 1" = 1'-0"

12" 6" 0 1' 2'

ISLEY ARCHITECTS INC.
3008 Academy Blvd.
P.O. Box 79
Durham, NC 27702

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GHK DR. DPE CHK. MJ
PROJ. MGR. CH. ENGR.
SUBMITTED BY: DATE: 2 C JUN 86
FIRM MEMBER PRINCIPAL
EFD FP RVD
HD DIV.
APPROVED: DATE: 6-27-86
OFFICER IN CHARGE
APPROVED: DATE: 1-2-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

WALL SECTION & DETAILS

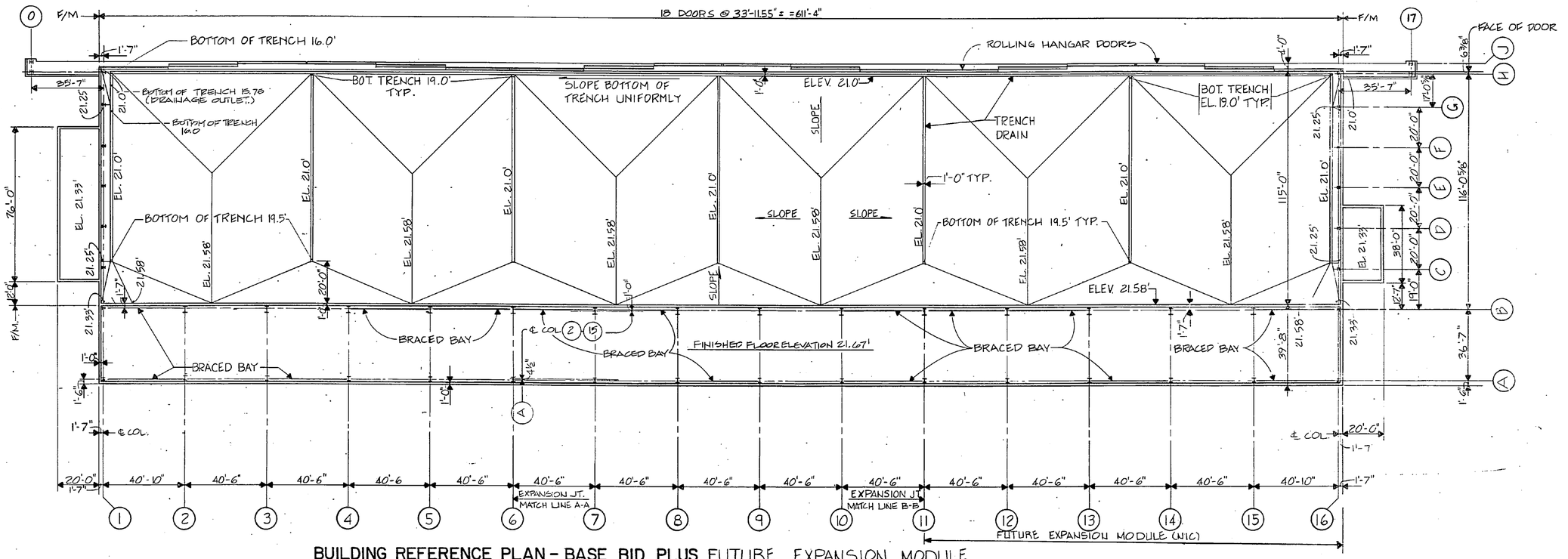
A22

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138796
SCALE	SPEC. 05-84-4174	CONSTR. CONTR. NO. N62470-84-B-4174
		SHEET 47 OF 129

EFD DWG. NO. 238796

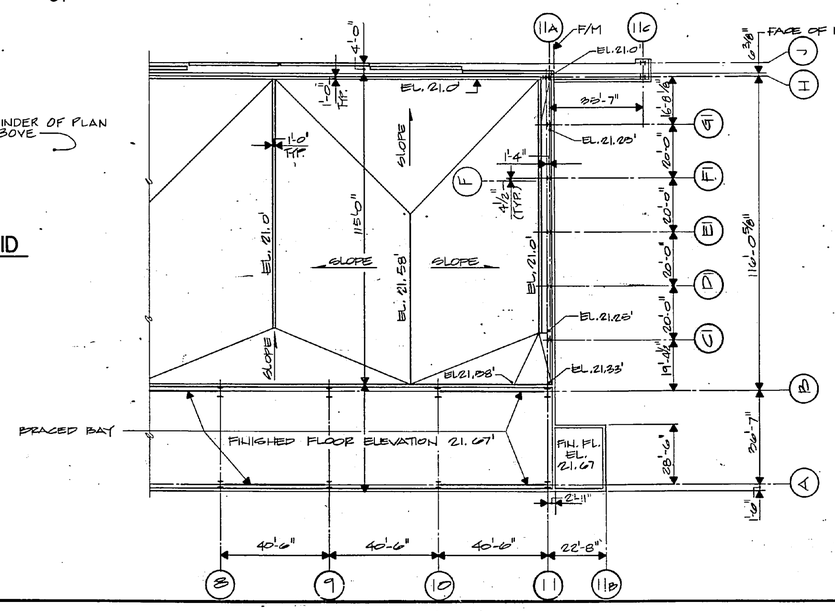
BLUEPRINTS WHITE 1-800-342-0838

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



BUILDING REFERENCE PLAN - BASE BID PLUS FUTURE EXPANSION MODULE

SCALE: $\frac{3}{64}$" = 1'-0"



BUILDING REFERENCE PLAN - BASE BID

SCALE: $\frac{3}{64}$" = 1'-0"

NOTE: F/M INDICATES FACE OF MASONRY.

GRAPHIC SCALE

$\frac{3}{64}$" = 1'-0" 16' 8' 0' 16' 32'

N.I.C.

KEY PLAN

S-1

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE DR. K. Williams CHK. DHK
PROJ MGR. GAECH ENGR. DHK
SUBMITTED BY: DATE 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD/FPO-11 RVD SAC
HD RDT DIR KJS
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED: DATE 1-10-89
FOR EFD, FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL SEAL 2669 ENGINEER GLENN A. BASON JR. 4/7/86

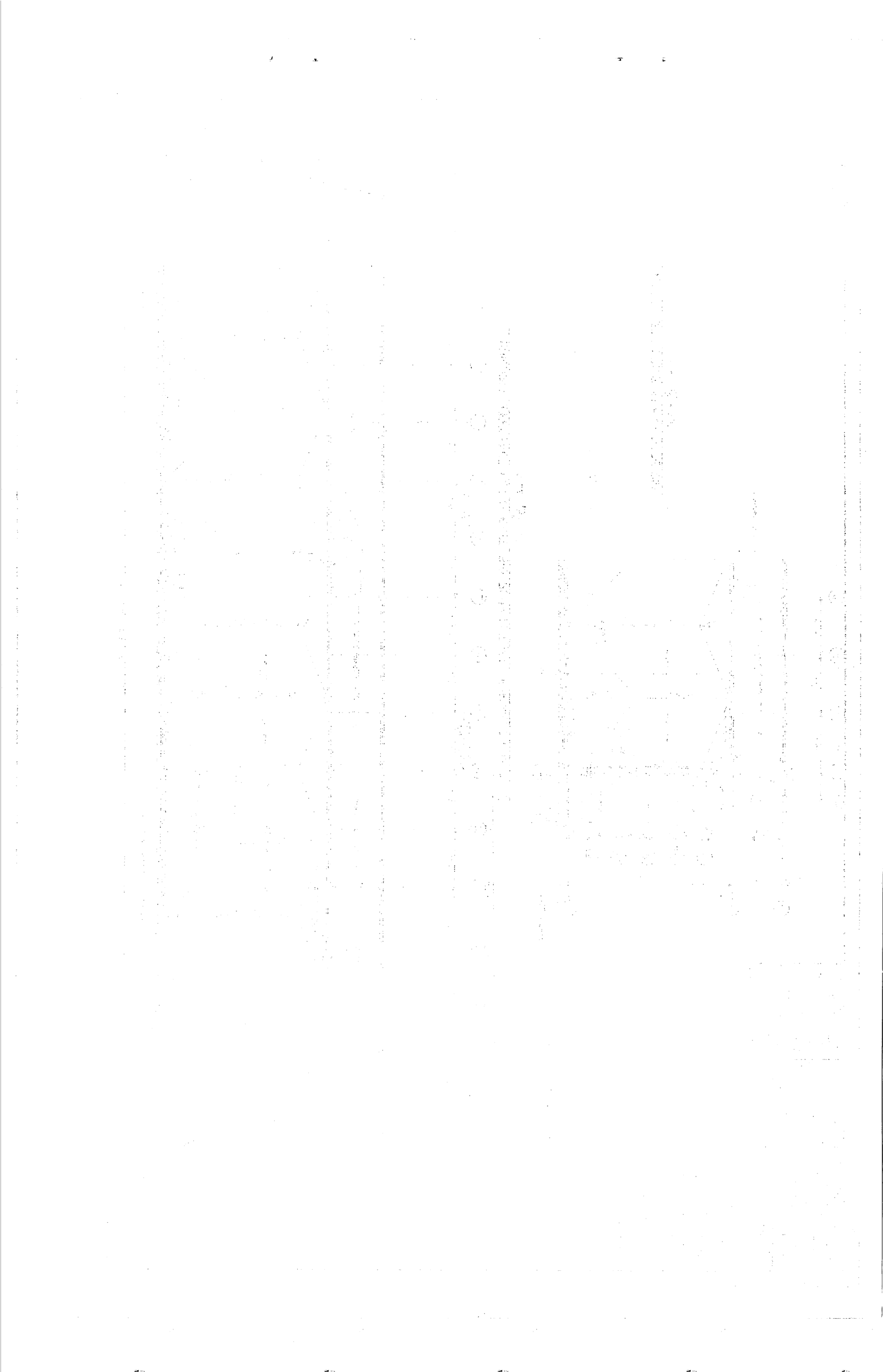
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

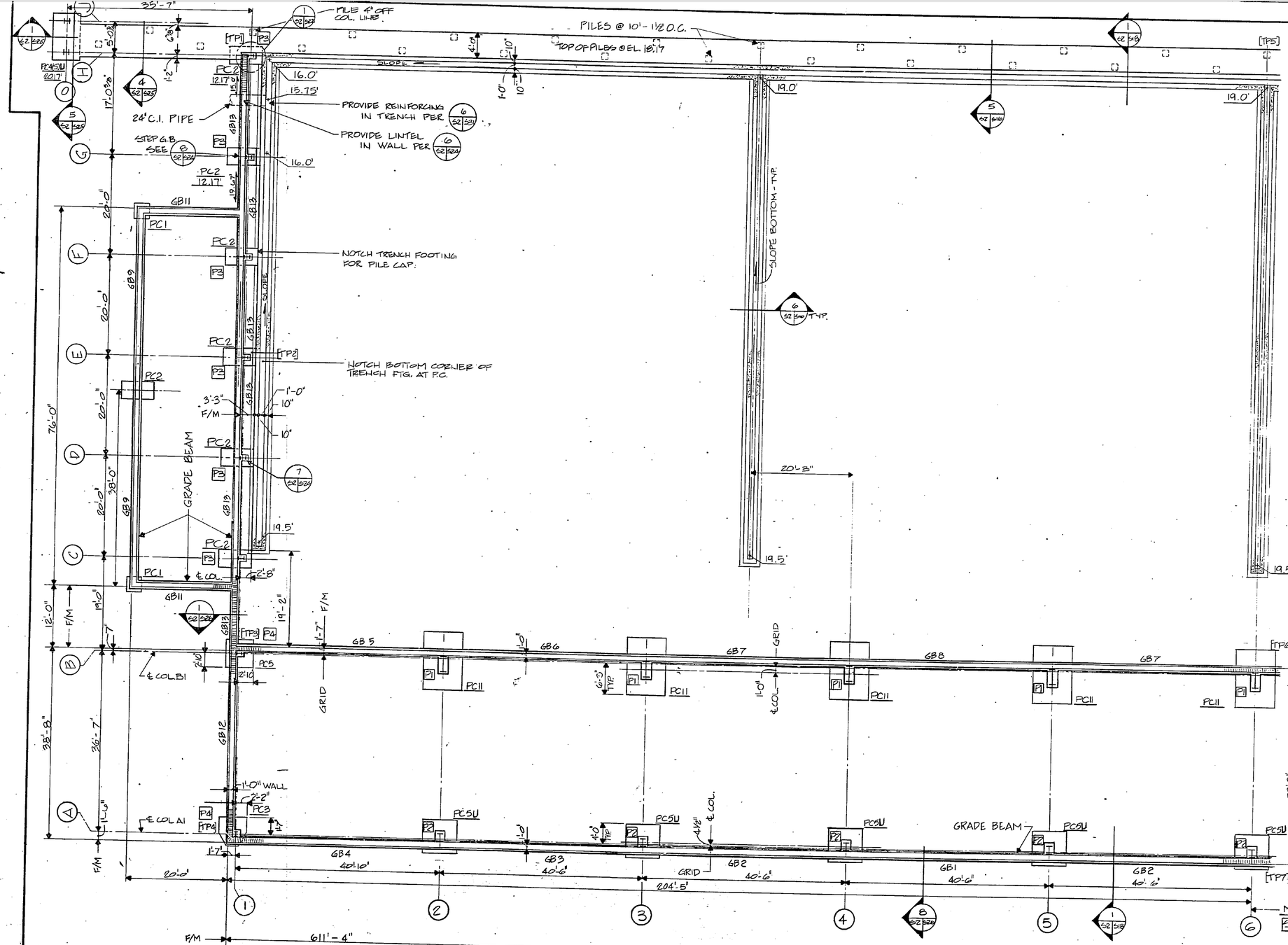
MAINTENANCE HANGAR

BUILDING REFERENCE PLANS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138797

CONSTR. CONTR. NO. N62470-84-B-4174
SCALE: 1"=1'-0" SPEC. 05-84-4174
SHEET 48 OF 129
EFD DWG. NO. 238797





PARTIAL FOUNDATION PLAN

SCALE: $\frac{1}{8}$" = 1'-0"

GRAPHIC SCALE

$\frac{1}{8}$" = 1'-0" 5' 0' 5' 10' 15'

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:

1. NO. THUS INDICATES ELEVATION TOP OF PILE CAP, 16.83' U.O.N
2. NO. THUS INDICATES ELEVATION TOP OF GRADE BEAM, 19.67' U.O.N
3. ELEVATION TOP OF COLUMN PEDESTAL 19.67' UNLESS NOTED (NO.).
4. PC4 INDICATES PILE CAP TYPE - U. INDICATES UPLIFT PILES. SEE DETAIL 1/S2/S16
5. GB6 INDICATES GRADE BEAM TYPE - SEE DETAIL 2/S2/S16
6. P4 INDICATES COLUMN PEDESTAL TYPE - SEE DETAIL. 7/S2/S24
7. TP2 INDICATES PILE OR ONE PILE IN CAP GROUP IS TO BE DESIGNATED A TEST PILE. SEE SPECS.
8. PILE CAPS ARE CENTERED UNDER WALLS OR COLUMNS UNLESS DIMENSIONED OTHERWISE ON PLAN.

N.I.C.

KEY PLAN

S-2

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

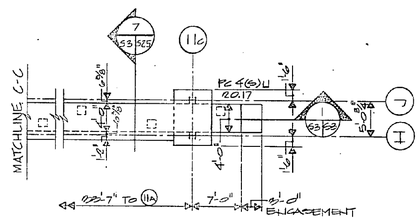
PARTIAL FOUNDATION PLAN

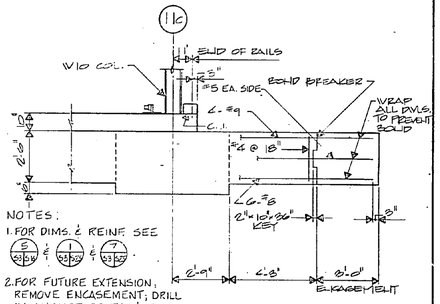
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138798

CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0" SPEC. 05-84-4174 SHEET 49 OF 129
EFD DWG. NO. 238798

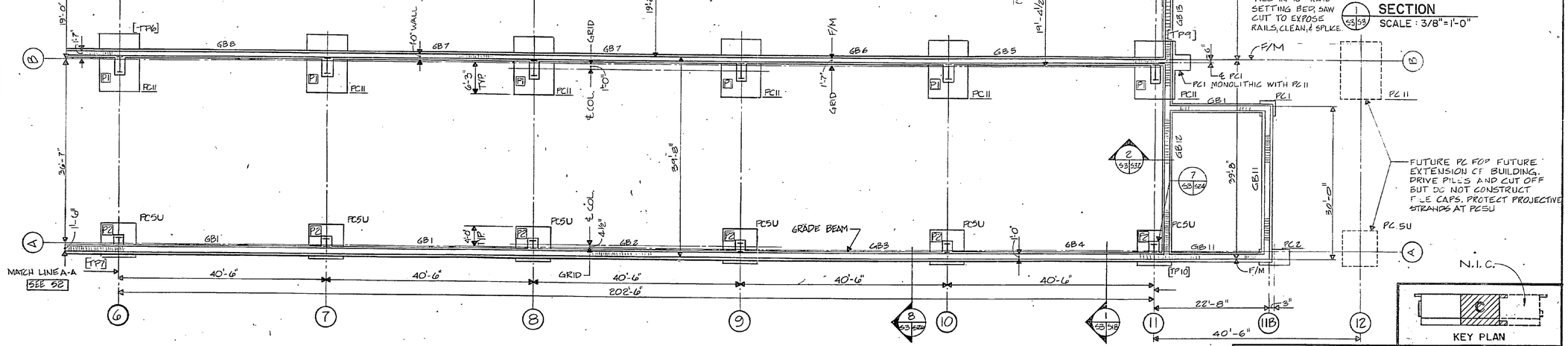
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE NOTES ON SHEET S2





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



PARTIAL · FOUNDATION PLAN – BASE BID
SCALE: 1/8"=1'-0"

GRAPHIC SCALE
1/8"=1'-0" 5' 0' 5' 10' 15'
3/8"=1'-0" 2' 0' 2' 4'

S-3

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
PARTIAL FOUNDATION PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138799

CONSTR. CONTR. NO. N62470-84-B-4174
SCALE: 1/8"=1'-0" SPEC. 05-84-4174 SHEET 50 OF 129
EFD DWG. NO. 238799

DES. GAE DR. EWK CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: 9 MAR '86
FIRM MEMBER PRINCIPAL
EFD-TP RYD
HO DIR
APPROVED DATE
OFFICER IN CHARGE 3-4-86
APPROVED DATE 3-10-87
FOR EFD, FOR COMMANDER NAVFAC

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 2669 DANIEL A. EASON 4/1/86

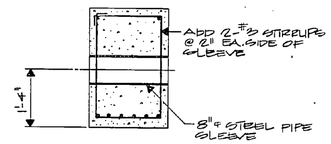
SHARON, MASS (1-800-343-5928)

REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED

WITH BASE BID PLUS ADDITIVE Nº 1.

1. EXTEND PILE-SUPPORTED DOOR SUPPORT BM. AS SHOWN.
2. CENTER TRENCH DRAIN ON (11) AS SHOWN.
3. END WALL FRAMING & FOUNDATIONS ALONG (11) AS SHOWN ON SHEET S2. TO BE DELETED.
4. FIRE PROTECTION ROOM BECOMES INTERIOR ROOM. BEARING WALLS, ROOF SLAB, & SPECIAL FOUNDATION TO BE DELETED.

SEE NOTES ON SHEET S2



1/S4/S4 SLEEVE THRU GRADE BEAM FOR PIPE
SCALE: 3/4" = 1'-0"

PARTIAL FOUNDATION PLAN - ADDITIVE Nº 1
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0" 5' 0 5' 10' 15'

KEY PLAN

S-4

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

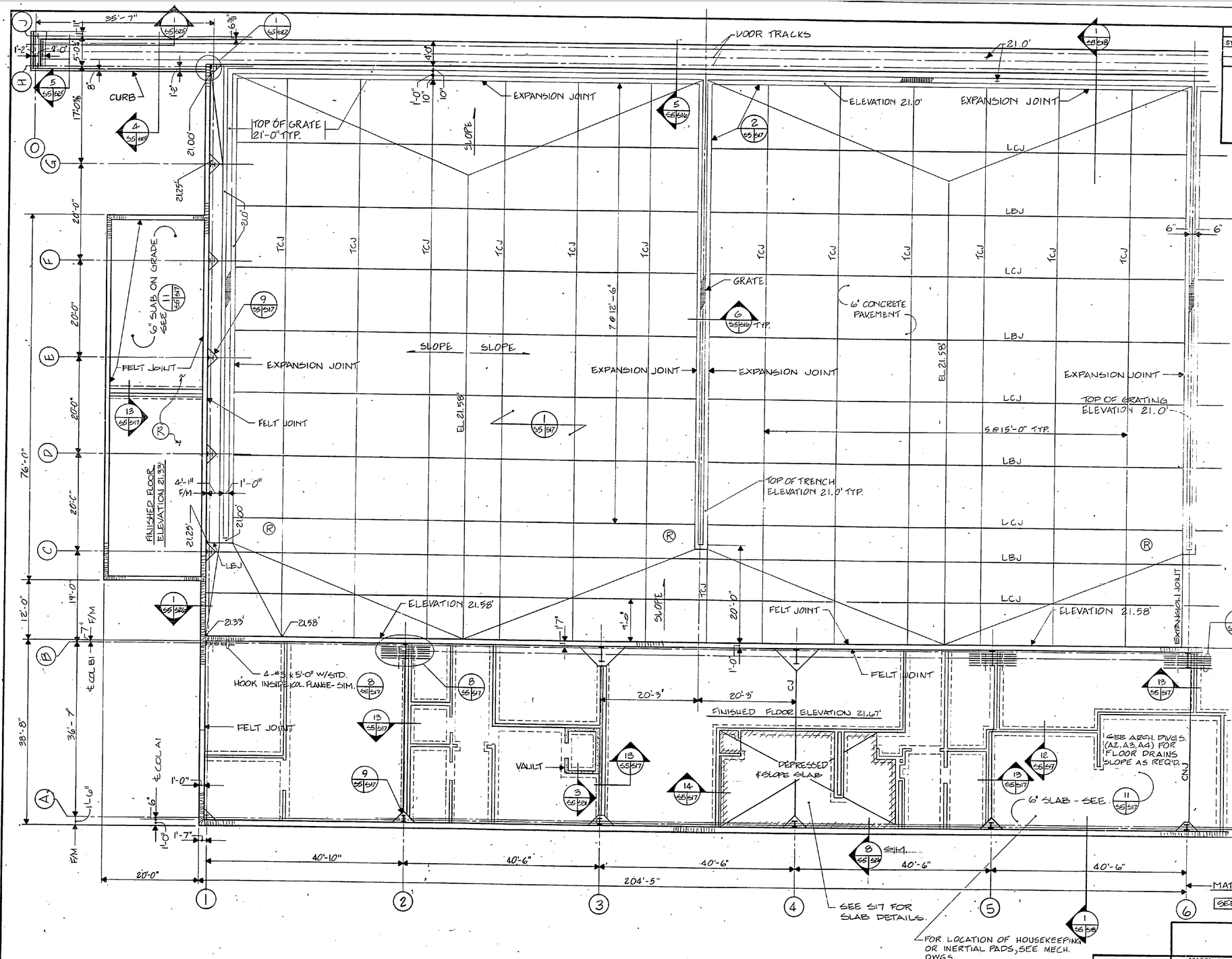
MAINTENANCE HANGAR
PARTIAL FOUNDATION PLAN

SIZE	F
CODE IDENT. NO.	80091
NAVFAC DRAWING NO.	4138800
CONSTR. CONTR. NO.	N62470-84-B-4174
SCALE	1/8"=1'-0"
SPEC.	05-84-4174
SHEET	51 OF 129
EFD DWG. NO.	238800

DES. GAE DRN. KD CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD: FP_____ MVD_____ ____
HD RDP DIR KD
APPROVED: DATE: 3-4-86
OFFICER IN CHARGE
APPROVED: DATE: 1-12-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA SEAL 2659 ENGINEER

BRUNTON, WASTE (1-800-962-2626)



REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

NOTES:

1. "TCJ" MEANS TRANSVERSE CONTRACTION JOINT. SEE 3/S5/S17
2. "LCJ" MEANS LONGITUDINAL CONTRACTION JOINT. SEE 3/S5/S17
3. "LBJ" MEANS LONGITUDINAL BUTT CONSTRUCTION JOINT. SEE 6/S5/S17
4. (R) – REINFORCED WITH W.W.F. SEE 1/S2/S17
5. CJ SAME AS 3/S5/S17
6. CNJ SAME AS 6/S5/S17
7. EXPANSION JOINT, SEE 2/S5/S17
8. REFER TO ARCHITECTURAL DWGS. (A2, A3, A4) FOR PARTITION FOOTING LOCATIONS.
9. REFER TO ARCHITECTURAL AND/OR PLUMBING DWGS. FOR FLOOR DRAINS. SLOPE SLAB TO DRAINS.

N.I.C.

KEY PLAN

PARTIAL SLAB ON GRADE PLAN

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

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

S-5

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

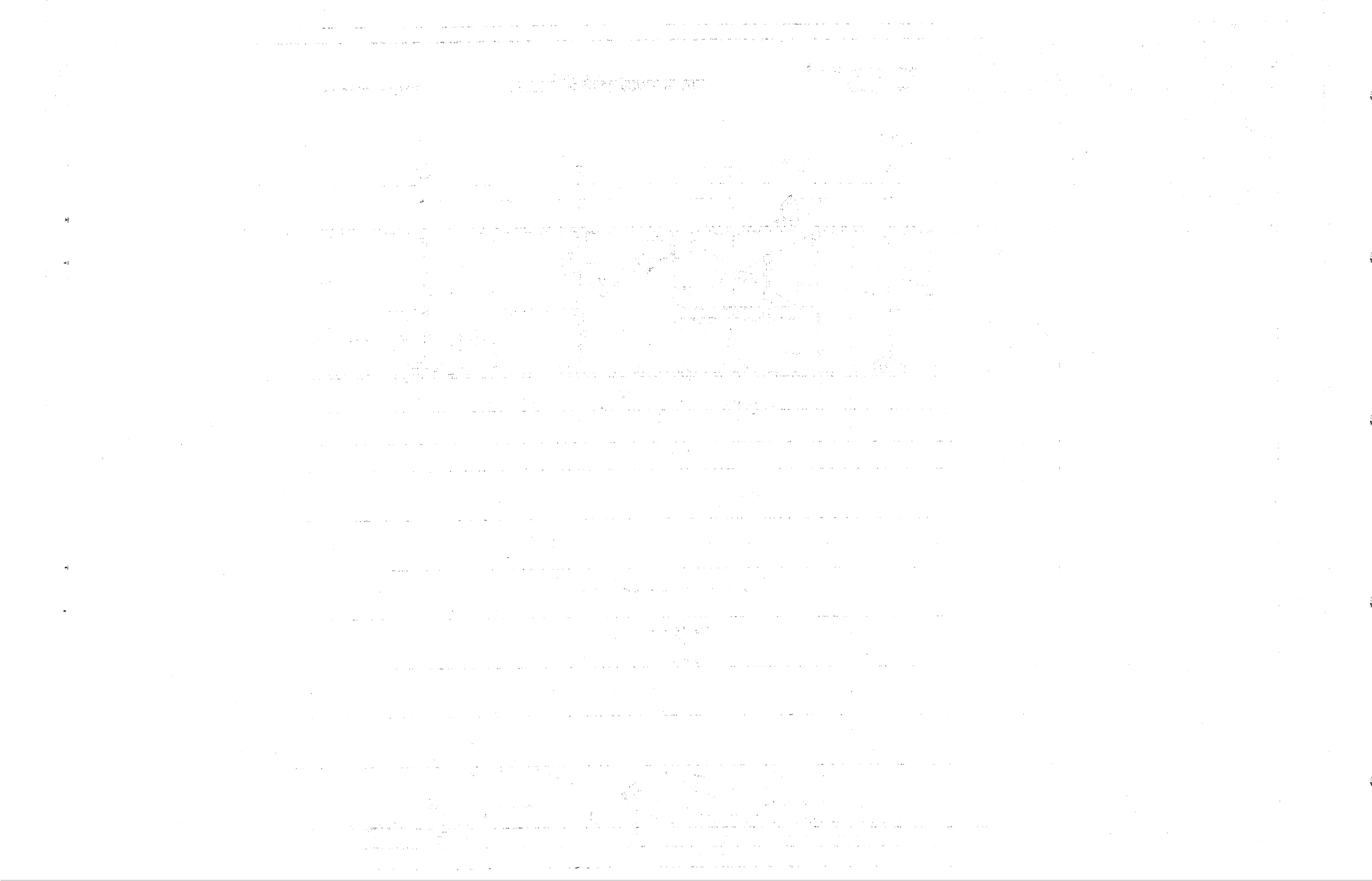
DES. GAE DR. JWH CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR '86
PRINCIPAL
EFD: FP RVD
FIRM MEMBER
HC RDP DIR KT
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

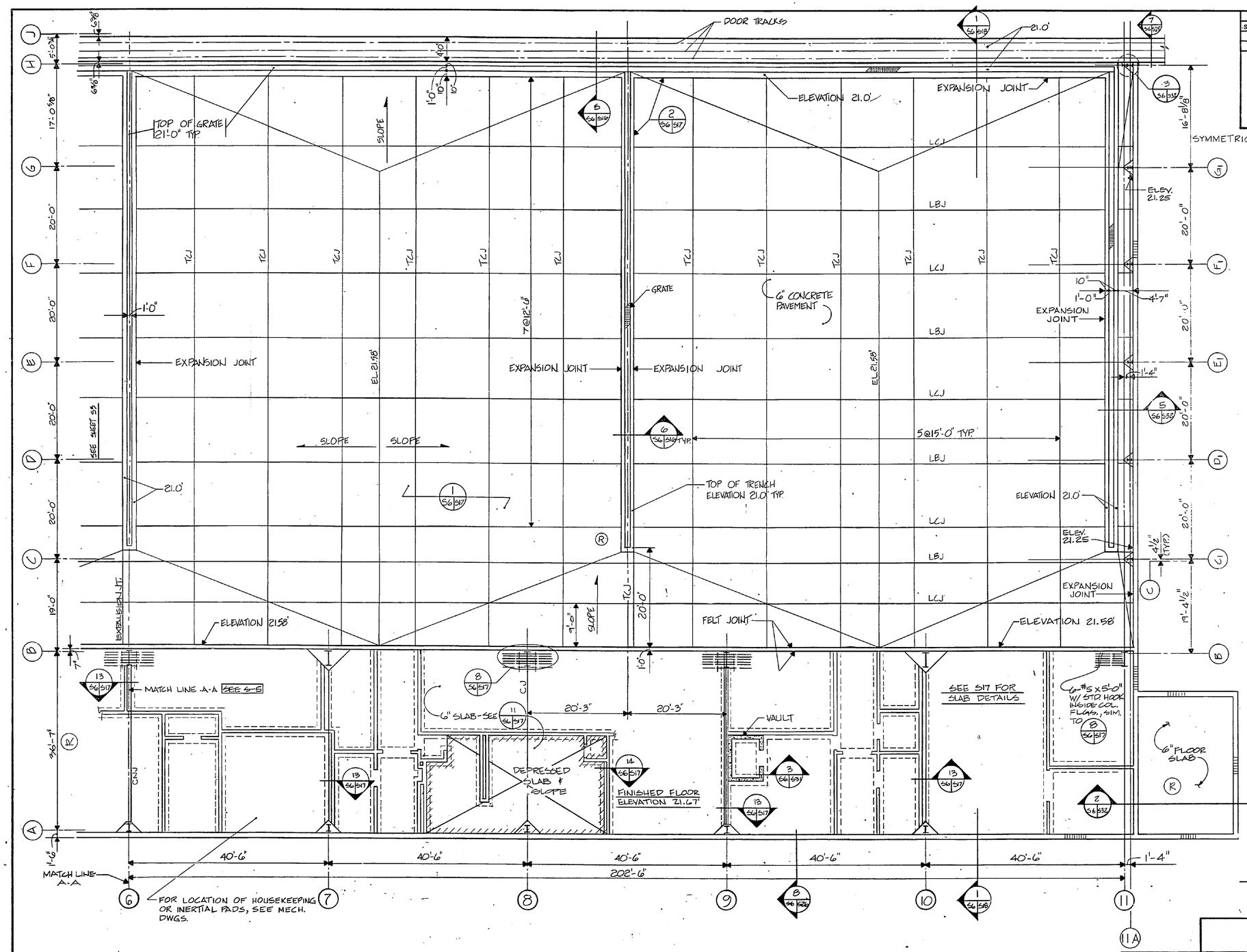
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 16609 GLENN A. EASON 4/3/87

MAINTENANCE HANGAR

PARTIAL SLAB ON GRADE PLAN.

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138801
CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0" | SPEC. 05-84-4174 | SHEET 52 OF 129
EFD DWG. NO. 238801





PARTIAL SLAB ON GRADE PLAN - BASE BID

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

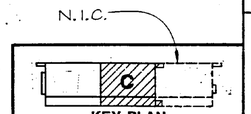
PARTIAL SLAB ON GRADE PLAN - N.I.C.

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

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

N.I.C.



KEY PLAN

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

S-6

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

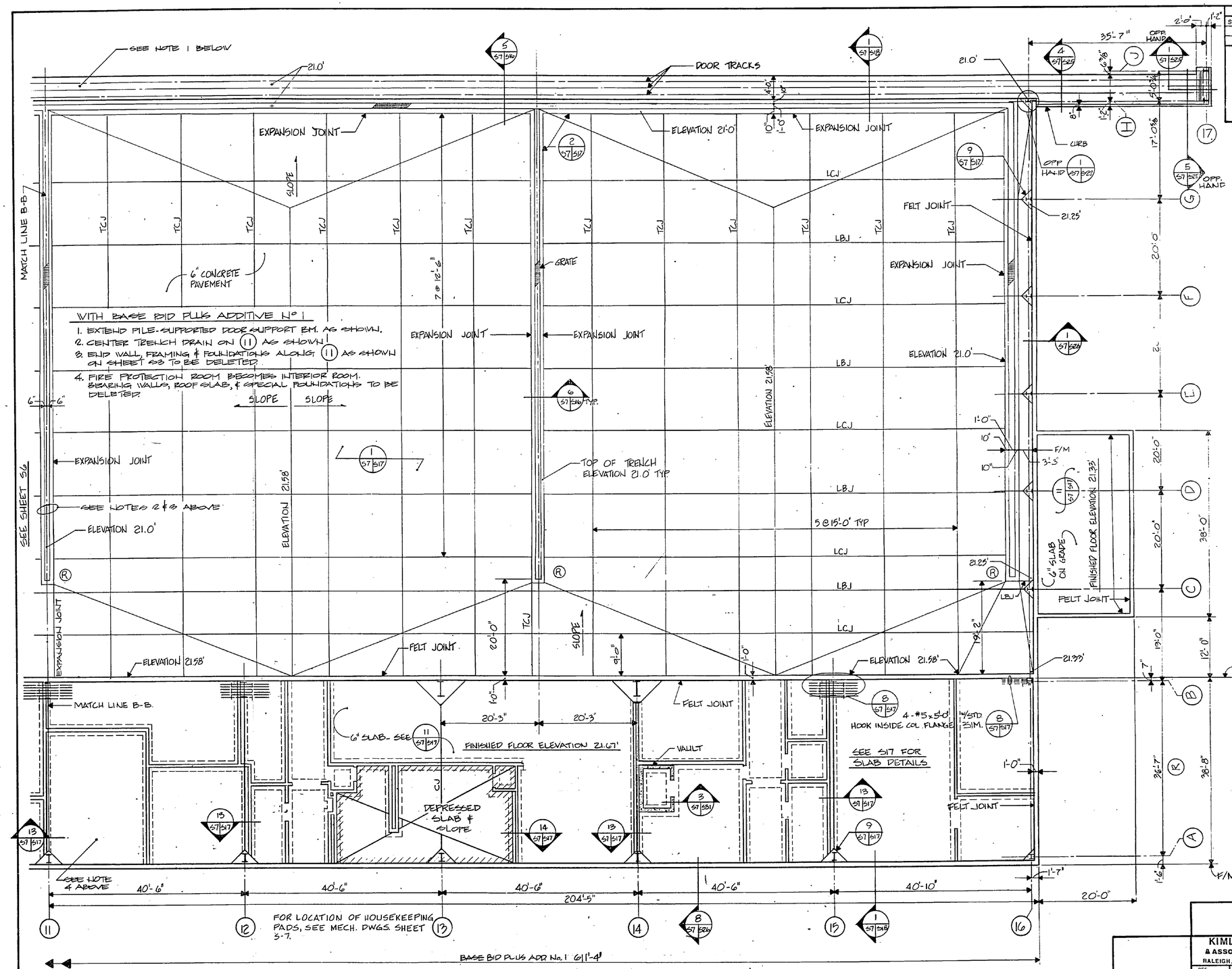
PARTIAL SLAB ON GRADE PLAN

DES. GAE DR. G. Gill CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: [signature] DATE: 4 MAR '86
FIRM MEMBER — PRINCIPAL
EFD FP DIVISION — RVD
HD RDP — DR KD
APPROVED: [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED: [signature] DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 12669 ENGINEER JOHN A. BASON 4/3/86

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138802
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0"	SPEC. 05-84-4174	SHEET 53 OF 129

EFD DWG. NO. 238802



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE NOTES ON SHEET S5

KEY PLAN

S-7

PARTIAL SLAB ON GRADE PLAN - ADDITIVE Nº 1

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

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL SLAB ON GRADE PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138803

CONSTR. CONR. NO. N62470-84-B-4174

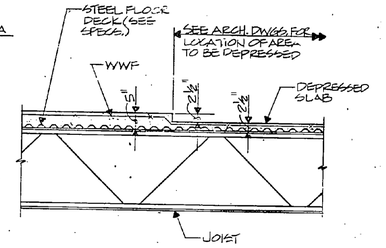
SCALE 1/8" = 1'-0" — SPEC. 05-84-4174 — SHEET 54 OF 129

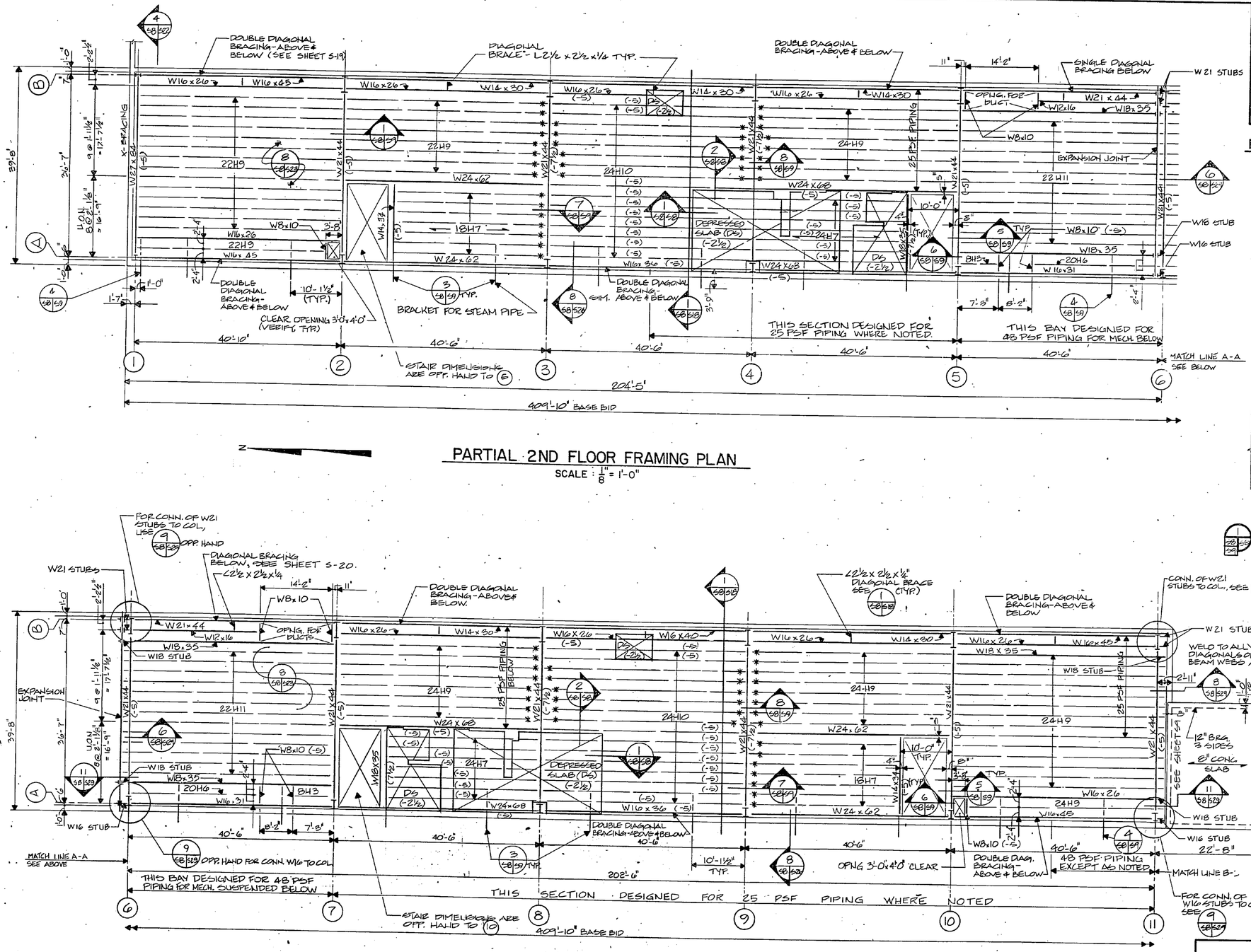
EFD DWG. NO. 238803

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:

1. FINISH FLOOR ELEVATION 43.67'.
2. (-NO.) INDICATES ELEV. TOP OF STEEL WITH RESPECT TO 43.67', (-2½") U.O.N..
3. VERIFY SIZE OF MECH. OPENINGS WITH MECH. CONTRACTOR.
4. SEE 7/S8/S9 FOR REINFORCEMENT OF JOISTS AT CONCENTRATED LOADS.
5. * - INDICATES SPECIAL 5' DEEP JOIST BEARING. SEE 7/S8/S9 8/S8/S9
6. SEE ARCHITECTURAL DWGS. FOR EXACT LOCATIONS OF DEPRESSED SLABS (DS).



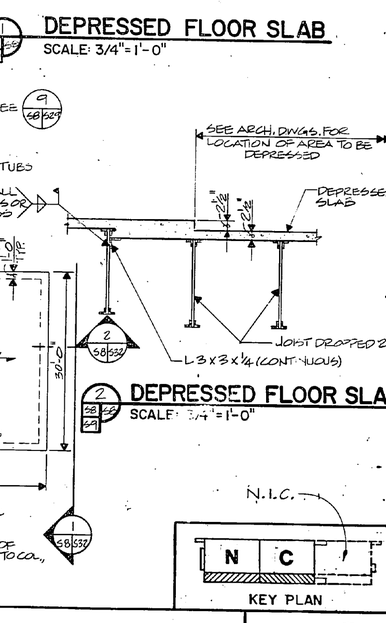


PARTIAL 2ND FLOOR FRAMING PLAN

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

PARTIAL 2ND FLOOR FRAMING PLAN - BASE BID

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



DEPRESSED FLOOR SLAB

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

DEPRESSED FLOOR SLAB

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

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

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

N.I.C.

KEY PLAN

S-8

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. GAE DR. CHK. DHK

PROJ. MGR. GAE CH. ENGR. DHK

SUBMITTED BY: DATE 4 MAR. '86

FIRM MEMBER PRINCIPAL

EFD-FP RVD

HD DIR KD

APPROVED DATE 3-4-86

OFFICER IN CHARGE

APPROVED DATE 1-12-87

FOR EFD, FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL 2ND FLOOR FRAMING PLANS

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138804

CONSTR. CONTR. NO. N62470-84-B-4174

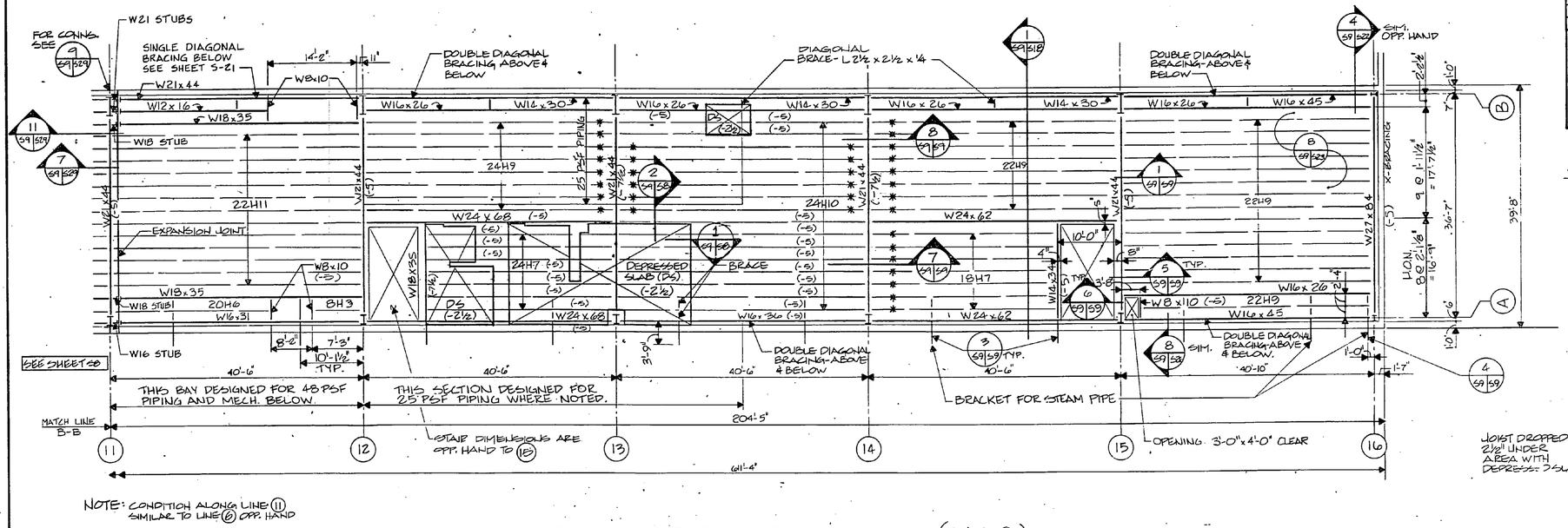
SCALE 1/8" = 1'-0" | SPEC. 05-84-4174 | SHEET 55 OF 129

EFD DWG. NO. 238804

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT SEAL 2669 JOHN A. EASON

DRAWING WILL BE FILMED ON MICROFILM

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

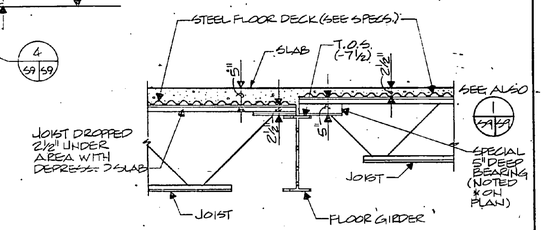


SEE SHEET S-8 FOR NOTES

NOTE: CONDITION ALONG LINE 11 SIMILAR TO LINE 6 OPP. HAND

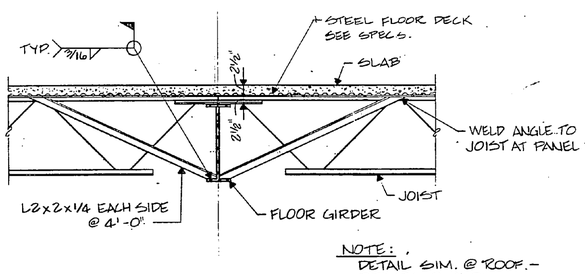
PARTIAL 2ND FLOOR FRAMING PLAN (N.I.C.)

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

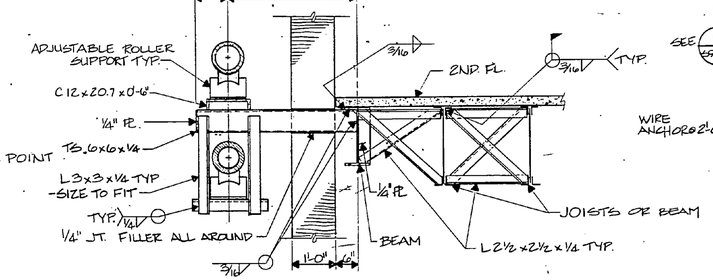


7 5" DEEP JOIST BEARING

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

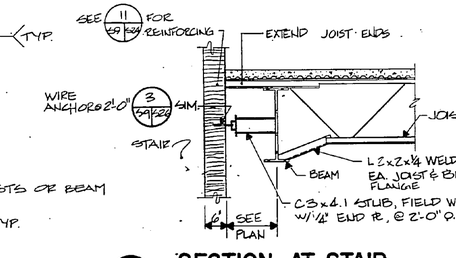


NOTE: DETAIL SIM. @ ROOF. BRACES @ 4'-0"



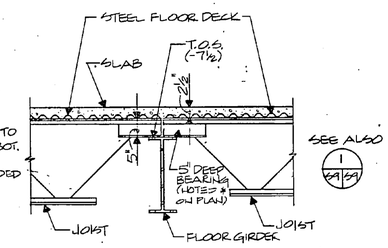
3 BRACKET FOR STEAM LINE - EXP.

SCALE: 3/4"=1'-0" (TYP. U.O.N.)



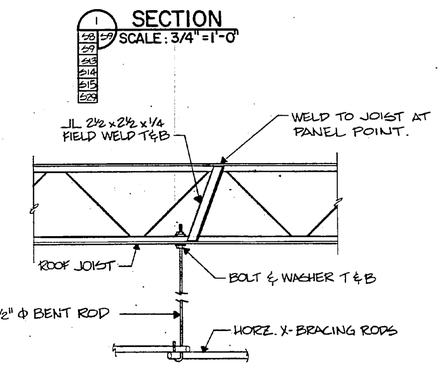
5 SECTION AT STAIR

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



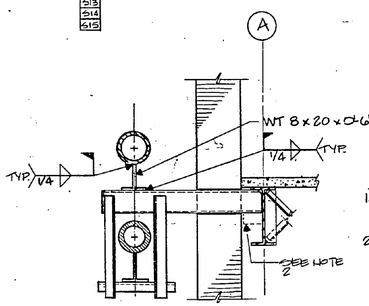
8 5" DEEP JOIST BEARING

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



2 SAG ROD FOR HORIZONTAL X-BRACING

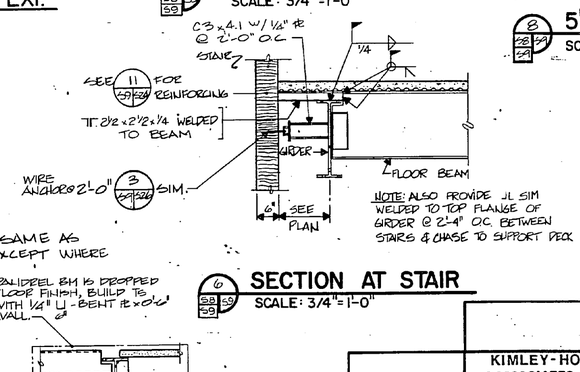
SCALE: 3/4"=1'-0"



NOTES:
1. DETAIL SAME AS 3/S9 EXCEPT WHERE NOTED.
2. WHERE SPANDREL BM IS DROPPED 2½" FOR FLOOR FINISH, BUILD TO DOWN ¾ WITH ¼" L - BENT PL x 0'-6" BET. BM. & WALL.

4 SUPPORT FOR STEAM LINE - FIXED

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

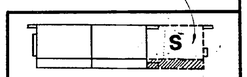


NOTE: ALSO PROVIDE JL SIM WELDED TO TOP FLANGE OF GIRDER @ 2'-4" O.C. BETWEEN STAIRS & CHASE TO SUPPORT DECK

6 SECTION AT STAIR

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

N.I.C.



KEY PLAN

GRAPHIC SCALE:

1/8"=1'-0" 5' 0' 5' 10' 15'

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

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 2669 GARVIN A. BASON 4/1/86

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. GAE DR. RAM CHK. DHK

PROJ. MGR. GAE CH. ENGR. DHK

SUBMITTED BY: DATE 4 MAR '86

FIRM MEMBER PRINCIPAL

EFD: FP RVD

HD RVD DIR

APPROVED DATE 3-4-86

OFFICER IN CHARGE

APPROVED DATE 1-1987

FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL 2ND FLOOR FRAMING PLAN

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138805

CONSTR. CONR. NO. N62470-84-B-4174

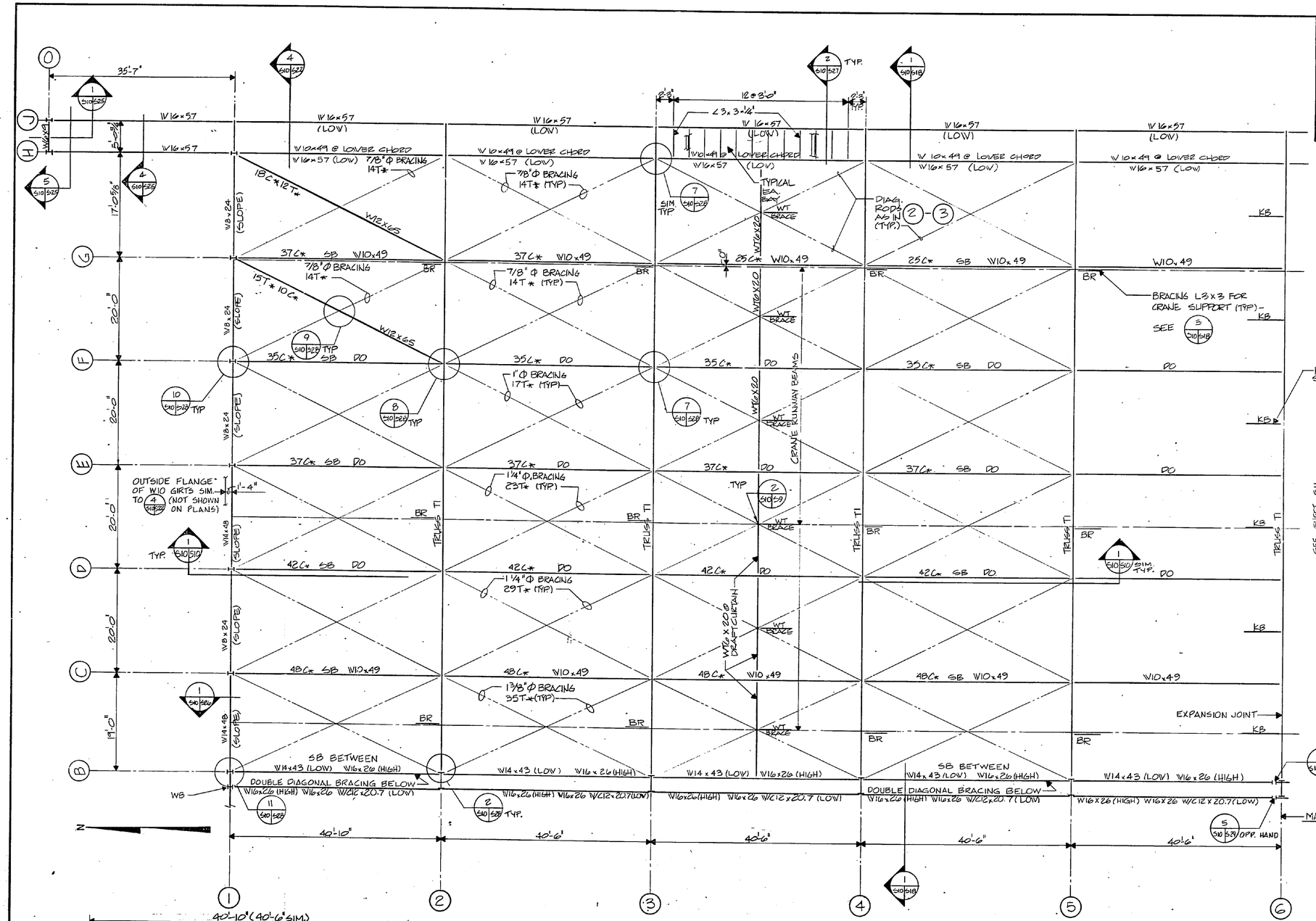
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 56 OF 129

EFD DWG. NO. 238805

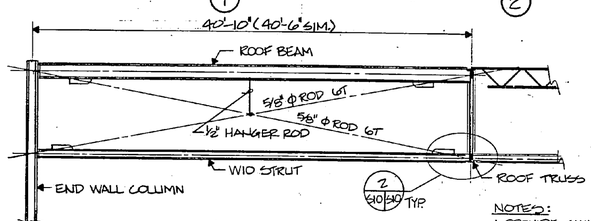
S-9

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:
1. SB INDICATES LOCATION OF SWAY BRACING SEE DETAILS.
2. SEE 5/S10/S23 FOR BRACING RODS.
3. SEE SHEET S-18 FOR NOTES CONCERNING FORCES GIVEN ON PLANS.
4. SEE 1/S10/S18 FOR ELEVATION OF STEEL.

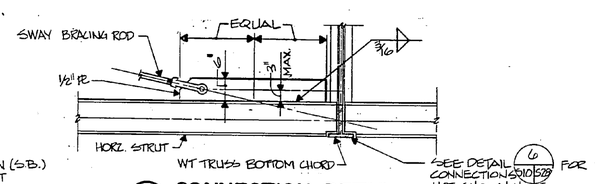


PARTIAL LOWER CHORD FRAMING PLAN
SCALE: 1/8" = 1'-0"



SWAY BRACING AT ROOF TRUSS
1/S10/S10 S11 S12 N.T.S.

NOTES:
1. PROVIDE SWAY BRACE WHERE DESIGNATED ON PLAN (S.B.)
2. HORIZONTAL X-BRACING NOT SHOWN HERE FOR CLARITY.



CONNECTION DETAIL
2/S10/S10 S21 S20 S19
SCALE: 3/4" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0" 5' 0' 5' 10' 15'
3/4" = 1'-0" 1' 0 1' 2' 3'

KEY PLAN

S-10

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION INC — NEW RIVER, NORTH CAROLINA

DES. GAE CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD FP RVD
NO DIR
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE 1-12-89
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26691 GLENN A. EASON

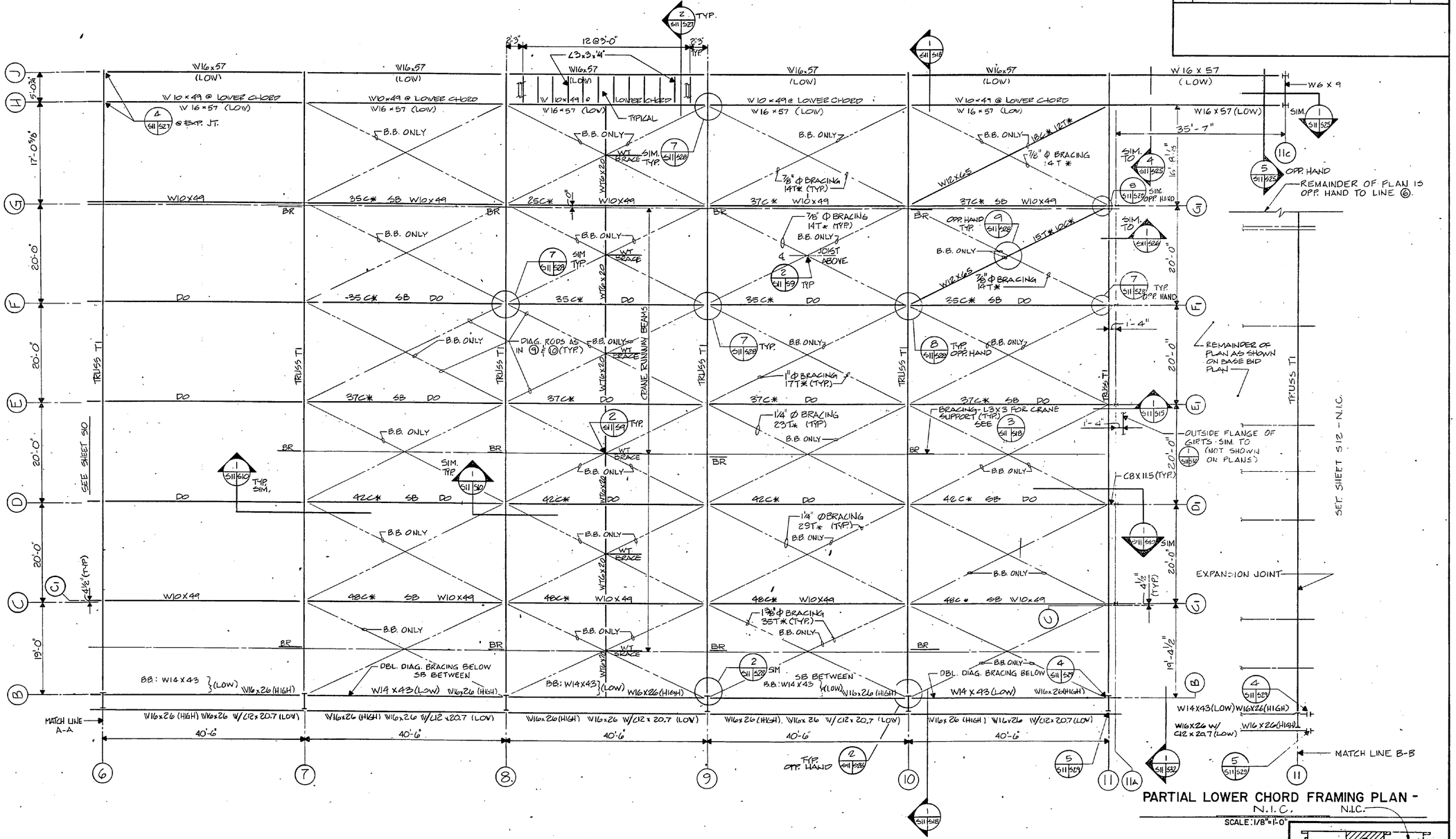
MAINTENANCE HANGAR

PARTIAL LOWER CHORD FRAMING PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138806
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 57 OF 129

EFD DWG. NO. 238806

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



PARTIAL LOWER CHORD FRAMING PLAN - BASE BID

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

PARTIAL LOWER CHORD FRAMING PLAN - N.I.C.

N.I.C.

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

KEY PLAN

SEE SHEET S10 FOR ADDITIONAL NOTES

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE | DR. ? 4-6-84 | CHK. DHK
PROJ. MGR. GAE | CH. ENGR. DHK
SUBMITTED BY: DATE 4 MAR '84
FIRM MEMBER | PRINCIPAL
EFD/FP BRANCH | HD | DIV | SEC | GIR
APPROVED: DATE 3-4-84
OFFICER IN CHARGE
APPROVED FOR EFD FOR COMMANDER NAVFAC: DATE 1-24-?

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 2650 GLENN A. RASON

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION — ATLANTIC DIVISION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL LOWER CHORD FRAMING PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138807

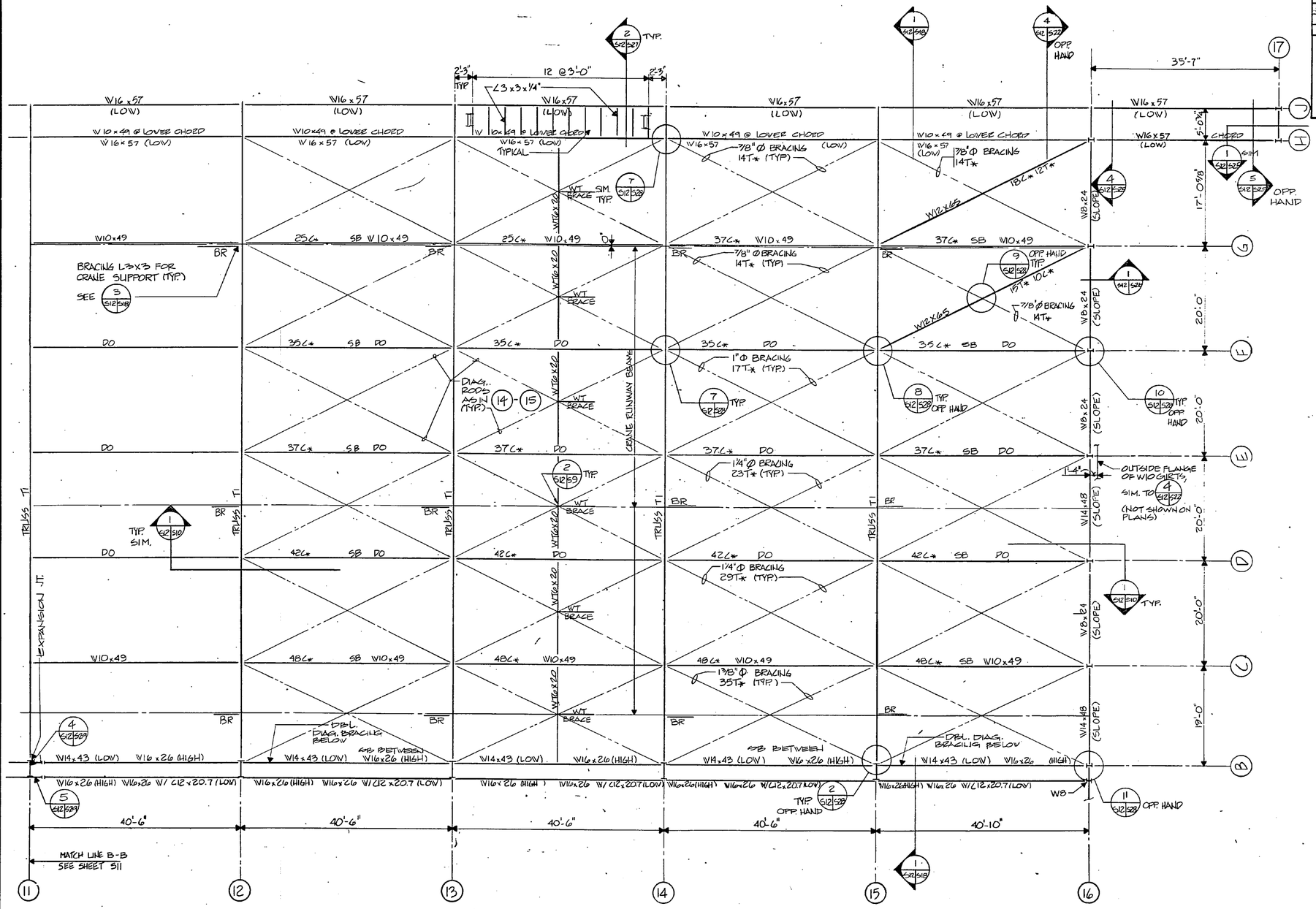
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0" | SPEC. 05-84-4174 | SHEET 58 OF 129
EFD DWG. NO. 238807

S-11

BRUNS CO. WHITE #1 800-847-8519

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE SHEET S10 FOR NOTES



N

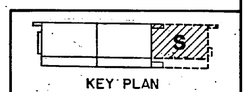
PARTIAL LOWER CHORD FRAMING PLAN - ADDITIVE N° 1

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

GRAPHIC SCALE

1/8" = 1'-0"

5' 0' 5' 10' 15'



KEY PLAN

S-12

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE DR. ? CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD: FP-21CC RMD
HD ROOF DIR KY
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED FOR EFD FOR COMMANDER NAVFAC DATE 1/23/87

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PARTIAL LOWER CHORD FRAMING PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138808

CONSTR. CONTR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0" SPEC. 05-84-4174 SHEET 59 OF 129
EFD DWG. NO. 238808

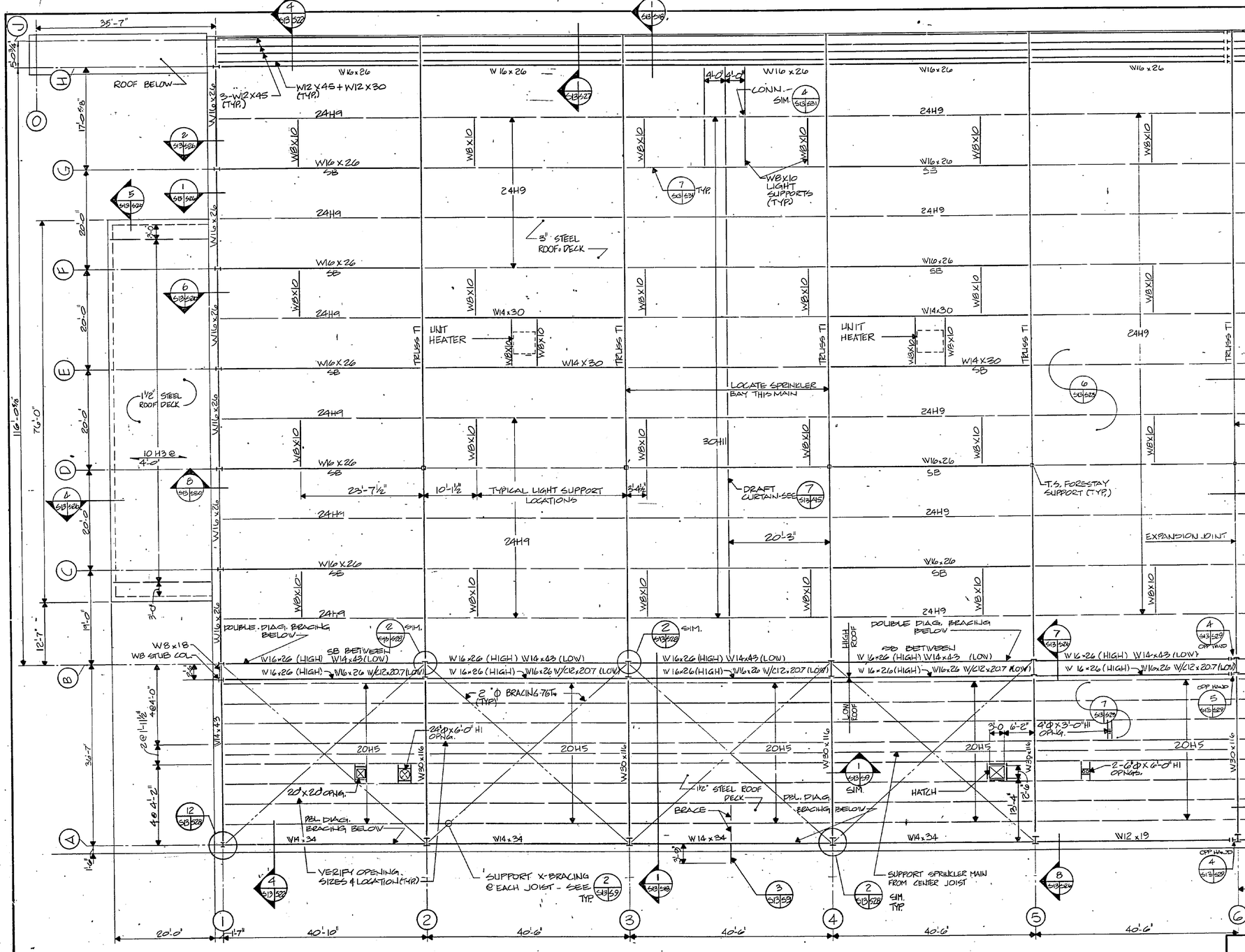
NORTH CAROLINA SEAL 12668 GLENN A. MASON

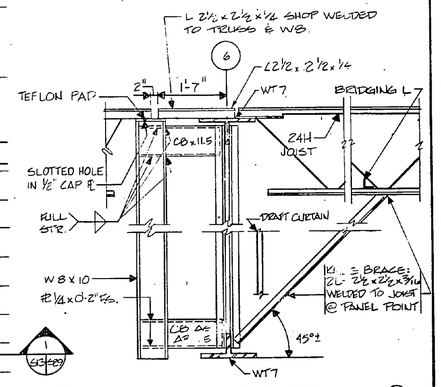
DRAWING IS 36X48 (1:1)

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:

1. PIPE SUSPENDED FROM STRUCTURE TO BE SUPPORTED AT 10'-0" MAXIMUM.
2. VERIFY SIZE OF ALL ROOF OPENINGS WITH MECH. CONTRACTOR
3. SB INDICATES LOCATION OF SWAY BRACING. SEE DETAILS 5/S13/S23
4. SEE 5/S13/S23 FOR BRACING RODS SCHEDULE.
5. SEE 5/S13/S21 FOR TYP FRAMING AT ROOF OPENINGS.
6. VERIFY LOCATIONS OF ALL SUPPORTS FOR MECH. AND ELEC. EQUIPMENT.
7. SEE 1/S13/S26 FOR ELEVATION OF STEEL.





ROOF EXPANSION JOINT AT ⑥

SCALE : 3/4" = 1'-0"
N.I.C.

PARTIAL ROOF FRAMING PLAN

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

GRAPHIC SCALE
1/8" = 1'-0"
5' 0' 5' 10' 15'

S-13

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

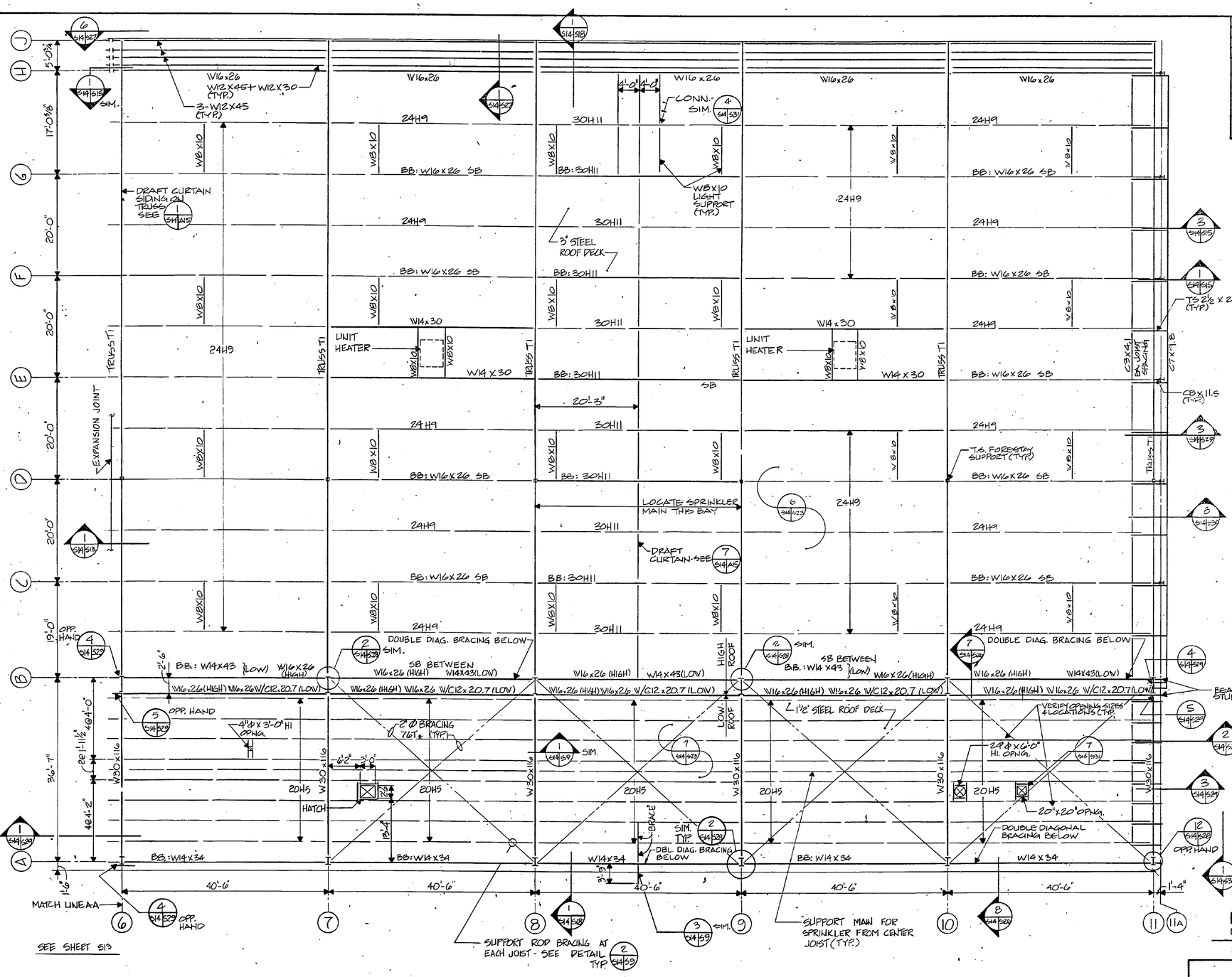
MAINTENANCE HANGAR

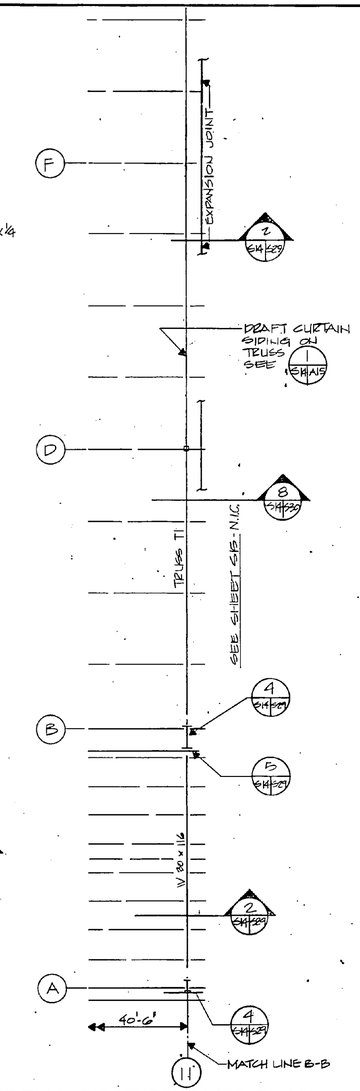
PARTIAL ROOF FRAMING PLAN

DES. GAE	CHK. DHK
PROJ. MGR. GAE	CH. ENGR. DHK
SUBMITTED BY	DATE MAR '86
FIRM MEMBER	PRINCIPAL
EFD-FP-12	RVD
HD	DIR
APPROVED	DATE 3-4-86
OFFICER IN CHARGE	
REVIEWED FOR EFD FOR COMMANDER NAVFAC	DATE

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138809
CONTR. CONR. NO. N62470-84-B-4174
SCALE 1/8=1'-0" | SPEC. 05-84-4174 | SHEET 60 OF 129
EFD DWG. NO. 238809

NORTH CAROLINA SEAL 2669 JOHN A. ERSKINE





PARTIAL ROOF FRAMING PLAN - N.I.C.

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

PARTIAL ROOF FRAMING PLAN - BASE BID*

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

* SEE NOTE ON S11

SEE S13 FOR NOTES

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

KEY PLAN

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

S-14

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

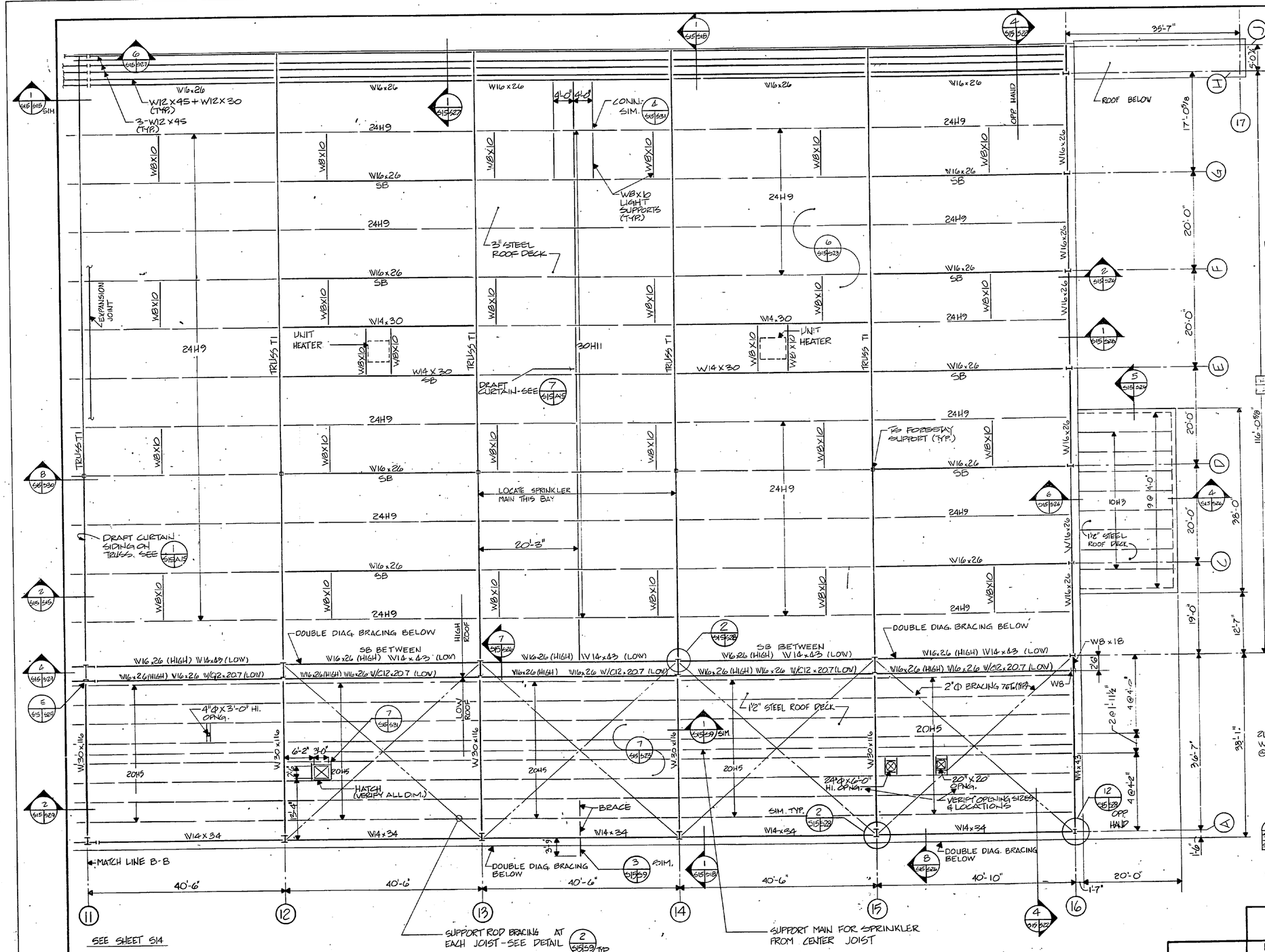
PARTIAL ROOF FRAMING PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138810

CONSTR. CONR. NO. N62470-84-B-4174

SCALE 1/8" = 1'-0" | SPEC. 05-84-4174 | SHEET 61 OF 129

EFD DWG. NO. 238810

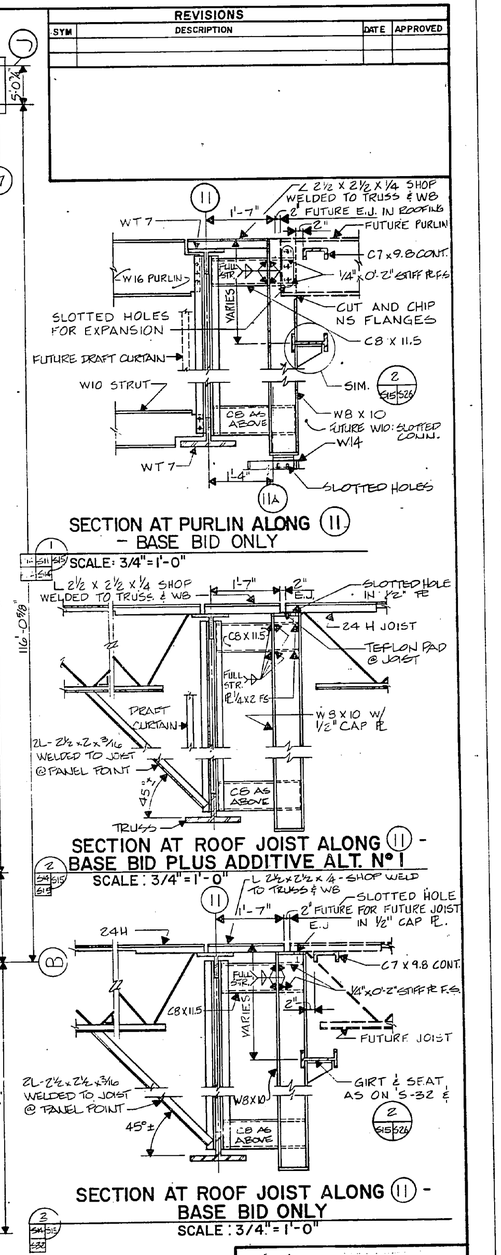


NOTE: CONDITIONS AT LINE 11 SIM. TO & OPP. HAND TO LINE 6.

PARTIAL ROOF FRAMING PLAN - ADDITIVE N° 1

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

NOTE: SEE S13 FOR NOTES.



SECTION AT PURLIN ALONG 11 - BASE BID ONLY

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

SECTION AT ROOF JOIST ALONG 11 - BASE BID PLUS ADDITIVE ALT. N° 1

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

SECTION AT ROOF JOIST ALONG 11 - BASE BID ONLY

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

NS = NEAR SIDE

KEY PLAN

GRAPHIC SCALE

1/8" = 1'-0" 5' 0' 5' 10' 15'

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

S-15

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

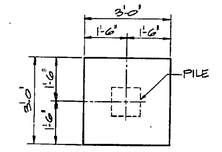
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION IN — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

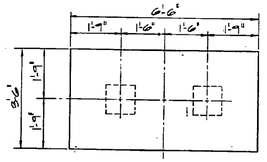
PARTIAL ROOF FRAMING PLAN

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138811
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0"	SPEC. 05-84-4174	SHEET 62 OF 129
		EFD DWG. NO. 238811

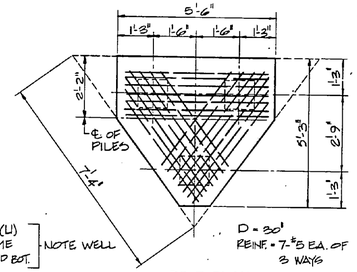
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26591 GLENN A. EASON



PC 1 PLAN

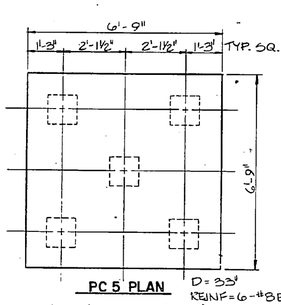


PC 2 PLAN D = 82'
REINF. = 7-#5 LW
5-#4 SW



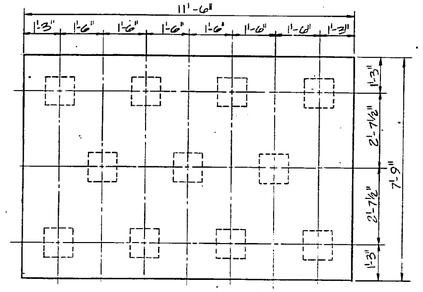
D = 30'
REINF. = 7-#5 EA. OF 3 WAYS

PC 3 PLAN



D = 33'
REINF = 6-#8 EW

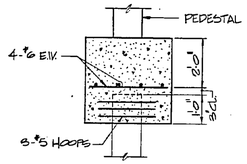
PC 5 PLAN



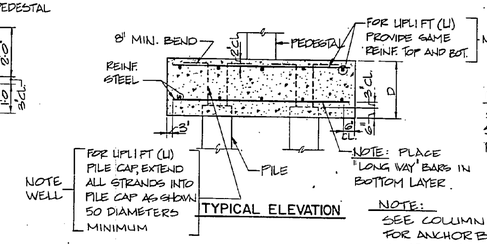
D = 45'
REINF. = 7-#11 LW
14-#8 SW
#4 @ 12 E.W. - TOP

BOTTOM

PC 11 PLAN



PC 1 ELEVATION

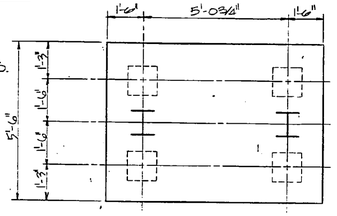


TYPICAL ELEVATION

NOTE: PLACE "LONG WAY" BARS IN BOTTOM LAYER.

NOTE:
SEE DIM. ON 52, 53, 54 TO LOCATE PC RELATIVE TO GRID LINES.

NOTE:
SEE COLUMN SCHEDULE (6-23) FOR ANCHOR BOLTS THAT EXTEND INTO PILE CAPS.

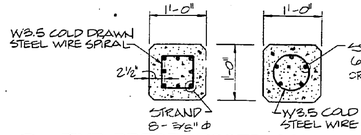


PC 4 (S) PLAN

℄ INDICATES SPECIAL PILE ARRANGEMENT

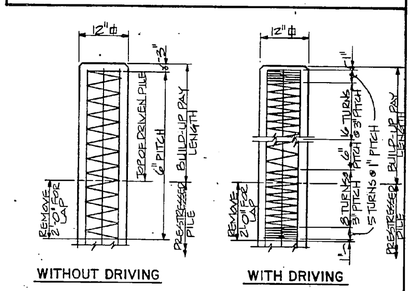
D = 36'
REINF. LW = 12-#5
REINF. SW = 14-#5
TOP & BOT.

1 PILE CAP DETAILS
SCALE: 1/2" = 1'-0"

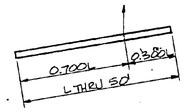


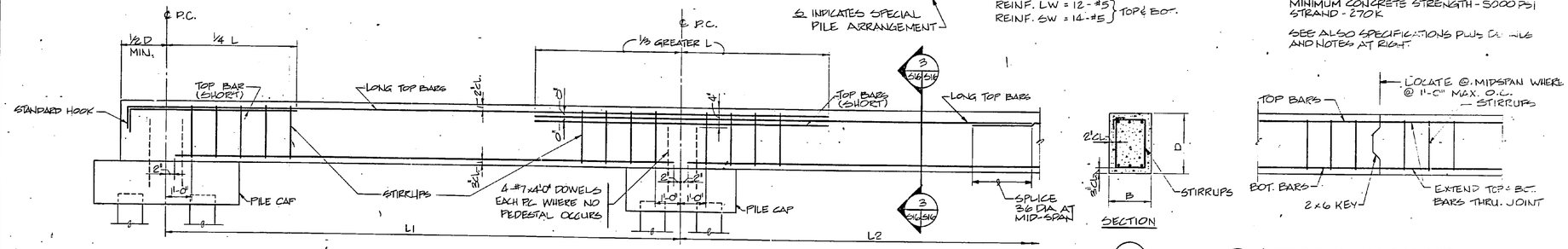
8 TYP. PRESTRESSED CONCRETE PILE
SCALE: 1" = 1'-0"

NOTES:
MINIMUM CONCRETE STRENGTH - 5000 PSI
STRAND - 270K
SEE ALSO SPECIFICATIONS PLUS DETAILS AND NOTES AT RIGHT.



9 BUILD-UP
NO SCALE





SECTION

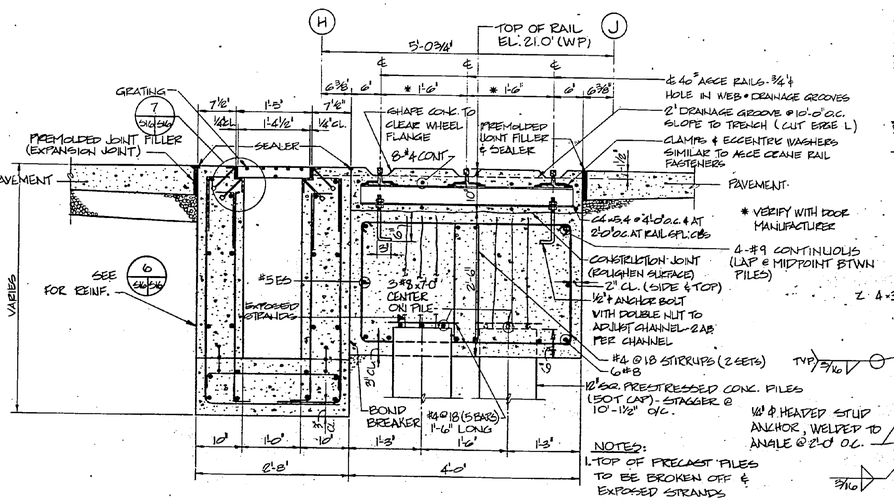
4 GRADE BEAM CONSTRUCTION JOINT
NO SCALE

NOTES:
1. MANUFACTURER TO INCREASE STRENGTH AS REQUIRED FOR HANDLING, USING A FACTOR FOR IMPACT OF 50%.
2. DEVICES FOR LIFTING THE PILES SHALL BE APPROVED. LOOPS OF STRAND CAST IN THE PILES WILL NOT BE PERMITTED. INSERTS, CAST IN THE PILES TO RECEIVE THREADED EYE BOLTS OR SIMILAR APPROVED DEVICES, MAY BE USED OR WHERE IT IS PRACTICAL, SATISFACTORY CLAMPS OR SLINGS MAY BE USED.

NON-CONTINUOUS SUPPORT

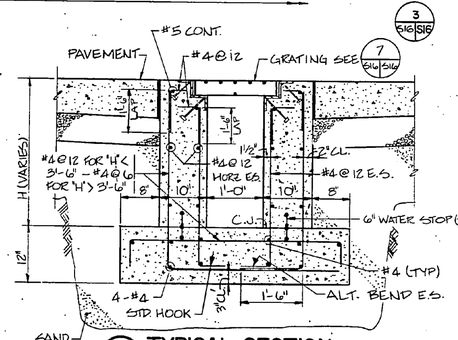
NOTE: SEE (7) AND PLANS FOR MONOLITHIC COLUMN PEDESTALS AND DOWELS IN PILE CAPS.

2 TYPICAL GRADE BEAM DETAIL
NO SCALE

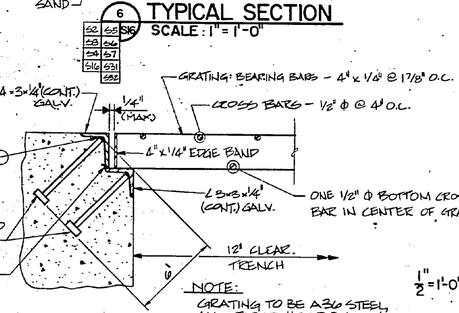


5 SECTION AT DOOR TRACK
SCALE: 1" = 1'-0"

NOTES:
1. TOP OF PRECAST PILES TO BE BROKEN OFF & EXPOSED STRANDS EXTENDED - 50 DIA. MIN. INTO CONCRETE SECTION.
2. SEE (4) FOR #4 ⊓ TIES BETWEEN 4'-0" x 2'-6" DOOR SUPPORT AND 4'-0" x 10" TRACK BED.



6 TYPICAL SECTION
SCALE: 1" = 1'-0"



NOTE:
GRATING TO BE A36 STEEL, ALL WELDED, HOT DIP GALV.
SECTION MODULUS PER FT. OF WIDTH = 4.27 IN.³
GRATING DESIGN LOAD - 16,000 LBS. PER TIRE ON 10" WIDTH.

7 DETAIL
NO SCALE

GRAPHIC SCALES

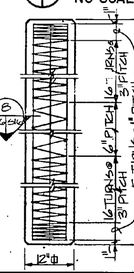
1" = 1'-0" 1' 6" 0' 1' 2' 3' 4' 5'

1" = 1'-0" 1' 6" 0' 1' 2'

GRADE BEAM SCHEDULE

MARK	SIZE B	SIZE D	BOTTOM BARS NO.	BOTTOM BARS SIZE	LONG TOP BARS NO.	LONG TOP BARS SIZE	SHORT TOP BARS NO.	SHORT TOP BARS SIZE	SHORT TOP BARS LOCATION	STIRRUPS EACH END SIZE	STIRRUPS EACH END SPACING	REMARKS
GB1	22	34	6	#7	2	#9	3	#9	EA. END	#3	4@11, 11@12, 2@27	
GB2	22	34	6	#7	2	#9	—	—	—	#3	4@11, 11@12, 2@27	
GB3	22	34	6	#7	2	#10	3	#10	EA. END	#3	4@11, 11@12, 2@27	
GB4	22	34	6	#9	2	#10	—	—	—	#3	12@7, 11@12, 1@17	
GB5	22	34	7	#9	2	#9	6	#9	INTERIOR SUPPORT	#4	7@8, 3@10, 10, 10@14	TOP BARS IN 2 LAYERS
GB6	22	34	7	#7	2	#9	—	—	—	#4	4@11, 10@14, 2@24	
GB7	22	34	7	#7	2	#9	4	#9	EA. END	#4	13@14, 2@24	
GB8	22	34	7	#7	2	#9	—	—	—	#4	13@14, 2@24	
GB9	22	34	5	#9	3	#8	1	#8	INTERIOR SUPPORT	#3	13@12, 4@15	
GB10	22	34	7	#8	3	#8	—	—	—	#3	8@12, 5@15, 2@22	
GB11	22	34	5	#9	3	#6	—	—	—	#3	6@15, 1@18	
GB12	22	34	7	#8	2	#8	4	#8	INTERIOR SUPPORT	#3	4@10, 11@12, 2@16	
GB13	22	34	5	#6	2	#7	—	—	—	#3	9@12	

10 PICK-UP POINTS
NO SCALE



11 ELEVATION OF PRECAST PILE
NO SCALE

3 SECTION
NO SCALE

REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

S-16

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE DRW. LAWRENCE CHK. WEAVER
PROJ. MGR. GAE CH. ENGR. DNE
SUBMITTED BY: DATE: 4 MAR. '86
EFD FP. SUPV. DIR.
HD. DIR.
APPROVED: DATE: OFFICER IN CHARGE
APPROVED: DATE: 1-1879 FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 2669 ENGINEER KENNETH A. BASON

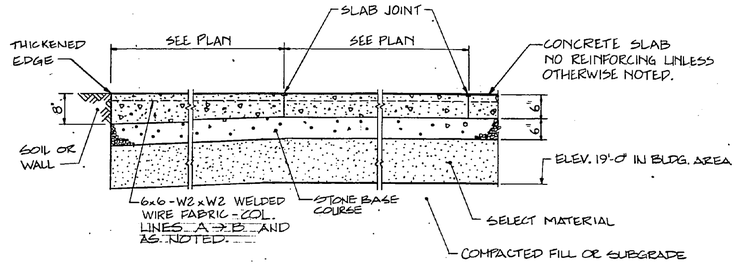
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

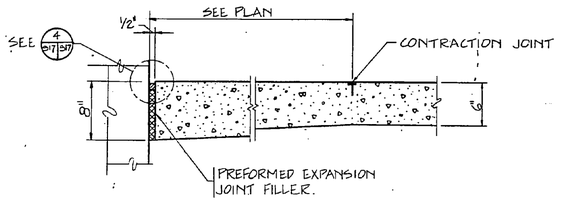
FOUNDATION DETAILS

SIZE F | CODE IDENT. NO. 80091 | MAVFAC DRAWING NO. 4138812
CONSTR. CONT. NO. N62470-84-B-4174
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 63 OF 129
EFD DWG. NO. 238812

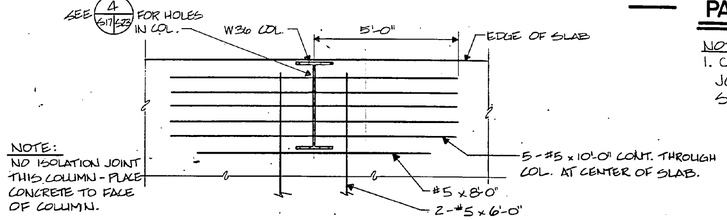
PAVEMENT SLAB DETAILS



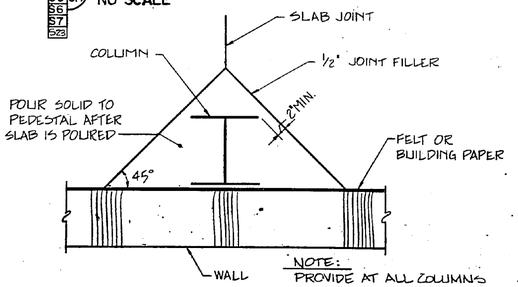
1 S5 S6 S7 S17 **TYPICAL CONSTRUCTION - 6" PAVING**
SCALE : 3/4" = 1'-0"



2 C3 S7 S5 S17 S6 **EXPANSION JOINT AT WALL, PIER, TRENCH, ETC. (TEJ)**
SCALE : 1 1/2" = 1'-0"

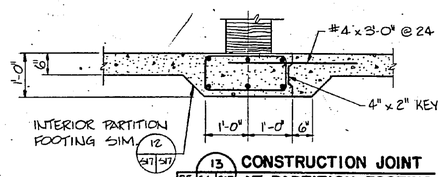


8 S5 S6 S7 S17 S23 **SLAB REINFORCING AT COLUMN**
NO SCALE

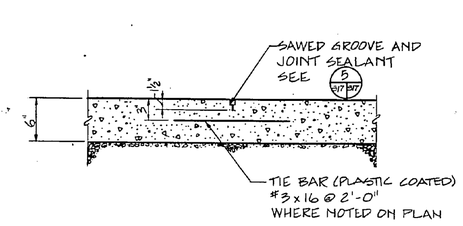


NOTE: PROVIDE AT ALL COLUMNS EXCEPT B-1, B-2, B-5, B-6 B-8, B-9.

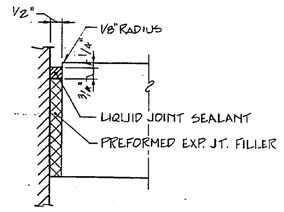
9 S5 S6 S7 S17 **ISOLATION JOINT AT COLUMN**
SCALE : 1" = 1'-0"



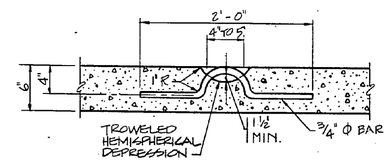
13 S5 S6 S17 S7 **CONSTRUCTION JOINT AT PARTITION FOOTING**
SCALE : 3/4" = 1'-0"



3 S17 S5 S17 C3 S6 S7 **CONTRACTION JOINT - LONGITUDINAL OR TRANSVERSE (LCJ, TCJ)**
SCALE : 1 1/2" = 1'-0"

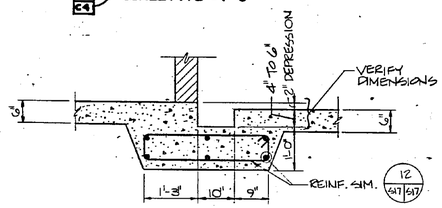


4 S17 S17 **DETAIL AT EXPANSION JOINT**
SCALE : 3" = 1'-0"



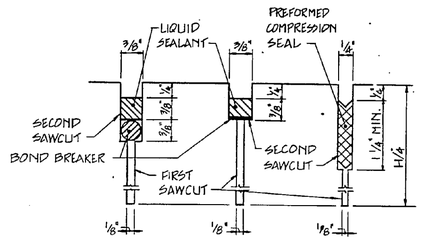
NOTES:
1. PLACE MOORING EYES IN CENTER OF EACH NOMINAL 12.5' BY 15.0' SLAB OVER ENTIRE SURFACE OF ACCESS APRON.

10 C3 S17 C4 **MOORING EYE DETAIL**
SCALE : 1 1/2" = 1'-0"



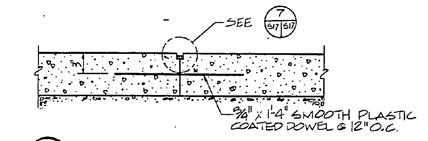
14 S5 S6 S17 S7 **DRAIN TRENCH**
3/4" = 1'-0"

NOTES:
1. CONTRACTION JOINT (CJ) AND CONSTRUCTION JOINT (CNJ) SIMILAR TO PAVEMENT DETAILS. SEE PLAN FOR LOCATION.

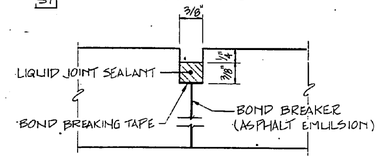


H = PAVEMENT THICKNESS

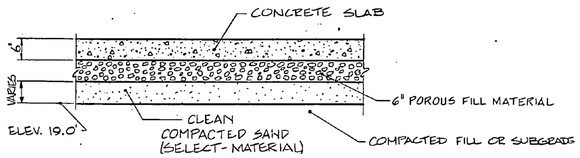
5 S17 S17 **DETAIL OF SAWED GROOVES FOR CONTRACTION JOINTS**
FULL SCALE.



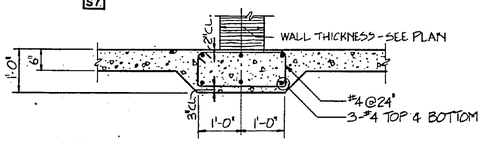
6 S17 S5 S17 CB S6 S7 **LONGITUDINAL BUTT CONSTRUCTION JOINT (LBJ)**
SCALE : 1 1/2" = 1'-0"



7 S7 S17 **DETAIL OF LONGITUDINAL BUTT JOINT**
FULL SCALE.



11 S31 S5 S17 S6 S7 **TYPICAL CONSTRUCTION - 6" SLAB**
SCALE : 3/4" = 1'-0"



12 S17 S31 S5 S17 S7 S6 **INTERIOR PARTITION FOOTING**
SCALE : 3/4" = 1'-0"

GRAPHIC SCALES

1" = 1'-0"
3/4" = 1'-0"
1 1/2" = 1'-0"
3" = 1'-0"
FULL

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

DES. GAE DR. Wright CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: 9 MAR '86
FIRM MEMBER — PRINCIPAL
EFD/FPO — RYD
NO. — DIR.
APPROVED: DATE
OFFICER IN CHARGE
APPROVED: DATE
FOR E.F.D. FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 2559 ENGINEER GLENN A. HASSON

MAINTENANCE HANGAR

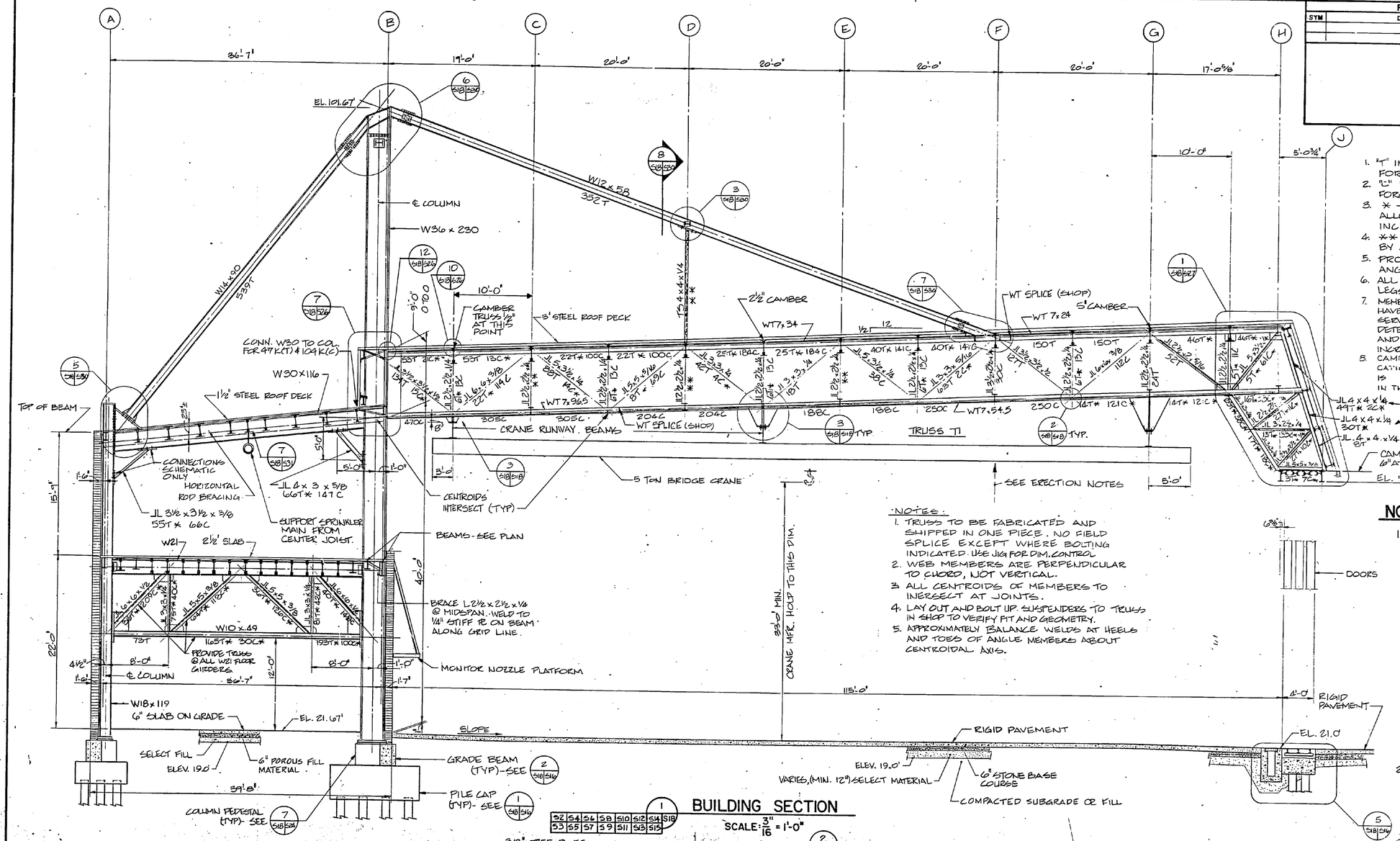
PAVEMENT AND SLAB DETAILS

SIZE F | CODE IDENT. NO. 80091 | MAVFAC DRAWING NO. 4138813
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 64 OF 129
EFD DWG. NO. 238813

S-17

BAUER CO. MILTE E 800 451 4818

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTES:

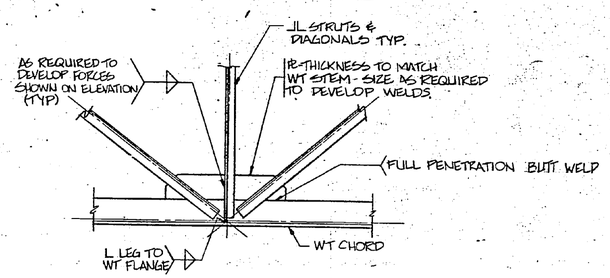
1. "T" INDICATES MAXIMUM TENSILE FORCE IN KIPS.
2. "C" INDICATES MAXIMUM COMPRESSIVE FORCE IN KIPS.
3. * - FORCE DUE TO WIND LOADING. ALLOWABLE STRESSES MAY BE INCREASED BY ONE-THIRD.
4. ** - MINIMUM FORCE AS REQUIRED BY AISC.
5. PROVIDE FILLERS FOR DOUBLE ANGLES AS REQUIRED PER AISC.
6. ALL DOUBLE ANGLES ARE LONG LEGS BACK TO BACK. U.O.N.
7. MEMBER SIZES, STRESSES, & CONNECTIONS HAVE BEEN DETERMINED FOR IN-PLACE SERVICE CONDITIONS. FABRICATION TO DETERMINE HANDLING, TRANSPORTATION, AND ERECTION STRESSES AND INCREASE STRENGTH AS NECESSARY.
8. CAMBER NOTED ON TRUSS IS FOR FABRICATION IN THE UNLOADED CONDITION AND IS INTENDED TO EQUAL D.L. DEFLECTION IN THE ERECTED POSITION.

NOTES (PERTAINING TO ERECT. SEQ.)

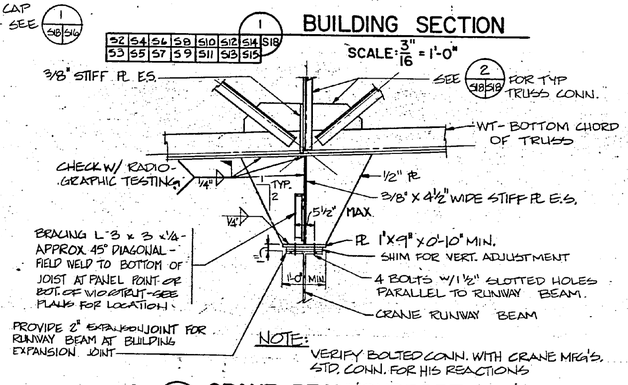
1. THE DESIGN PRESUMES THE FOLLOWING OF A SIMILAR ERECTION SEQUENCE:
   - A. ERECT COMPLETELY ALL FRAMING BET. LINES A & B, INCLUDING BACKSTAY.
   - B. ERECT TEMP. ADJUSTABLE SHORE @ (F) FOR 20K MIN LOAD.
   - C. ERECT TRUSS & MIN BRACING CONN. TOP CHORD TO W36 MAST & SUPPORT ON TEMP. SHORE.
   - D. DETERMINE SHIMS NEEDED AT BOTTOM CHORD OF TRUSS AT LINE B. RAISE TRUSS AT TEMP. SHORE TO INSERT SHIMS AND LOWER TO NOMINAL ELEVATION.
   - E. ERECT W12 FORESTAY, ADJUSTING TRUSS ELEVATION AT SHORE TO COMPLETE CONNECTIONS.
   - F. INSTALL BRACING FOR TRUSSES
   - G. REMOVE SHORE(S)
2. WHEN ALL TRUSSES ARE ERECTED, DETERMINE ELEVATION OF ALL CRANE BEAM SUPPORTS. FABRICATE AND INSTALL SHIMS AT EACH POINT TO PRODUCE A LEVEL PLANE FOR CRANE RUNWAY BEAMS.
3. ERECT JOISTS & REMAINDER OF ROOF FRAMING.

NOTES:

1. TRUSS TO BE FABRICATED AND SHIPPED IN ONE PIECE. NO FIELD SPLICE EXCEPT WHERE BOLTING INDICATED. USE JIG FOR DIM. CONTROL
2. WEB MEMBERS ARE PERPENDICULAR TO CHORD, NOT VERTICAL.
3. ALL CENTROIDS OF MEMBERS TO INERSECT AT JOINTS.
4. LAY OUT AND BOLT UP. SUSPENDERS TO TRUSS IN SHOP TO VERIFY FIT AND GEOMETRY.
5. APPROXIMATELY BALANCE WELDS AT HEELS AND TOES OF ANGLE MEMBERS ABOUT CENTROIDAL AXIS.



2 S18 S18 TYPICAL TRUSS PANEL POINT
SCALE: 3/4" = 1'-0"



NOTE:
VERIFY BOLTED CONN. WITH CRANE MFG'S. STD. CONN. FOR HIS REACTIONS

3 S10 S18 S18 S11 S22 S12 CRANE BEAM SUPPORT
SCALE: 3/4" = 1'-0"

1 S18 BUILDING SECTION
SCALE: 3/16" = 1'-0"

GRAPHIC SCALE
3/4" = 1'-0" 1' 0 1' 2' 3'
3/16" = 1'-0" 5' 0' 5' 10'

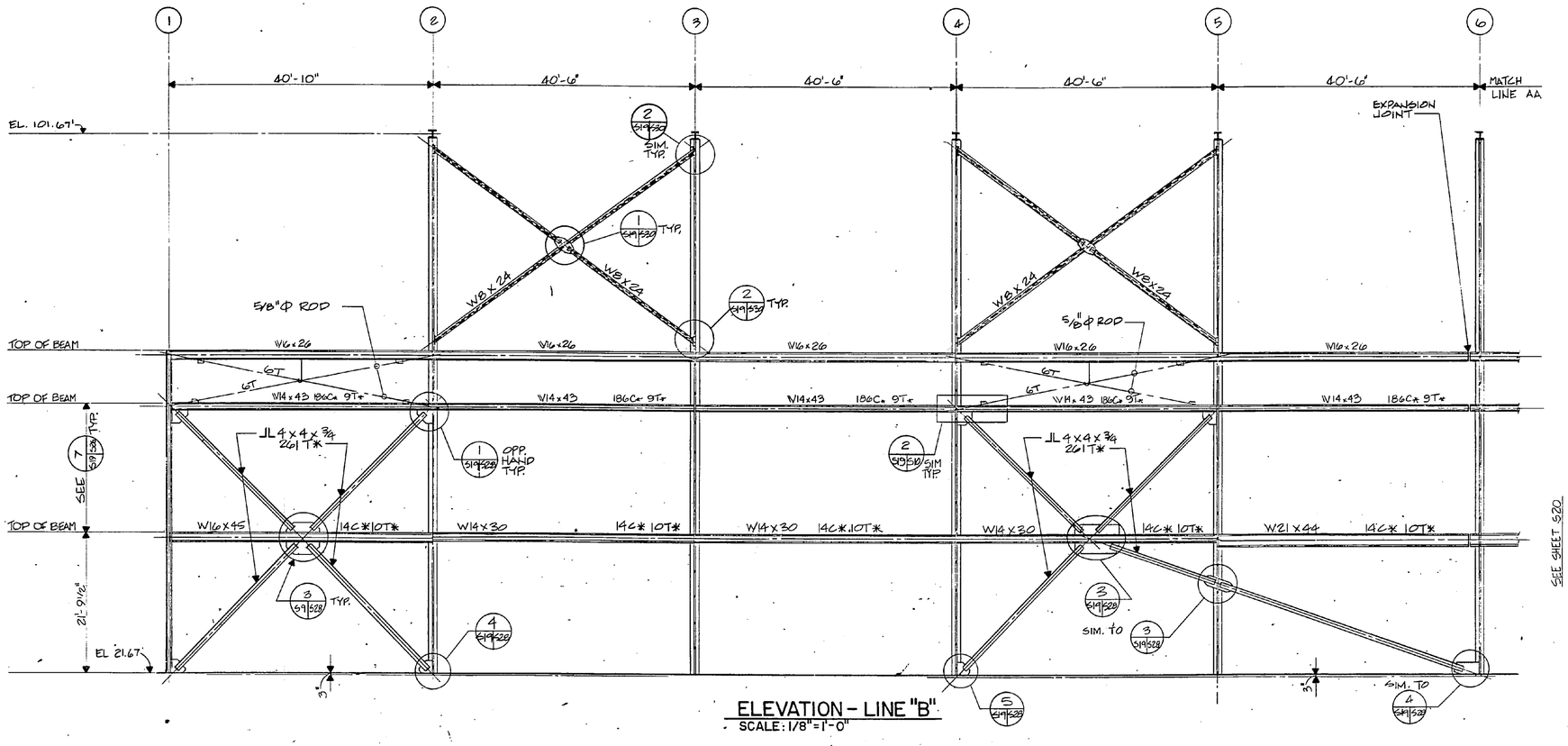
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — ATLANTIC DIVISION — NAVAL STATION NORFOLK, VIRGINIA	S-18
DES. GAE / DR. [illegible] / CHK. DHK / PROJ. MGR. GAE / CH. ENGR. DHK / SUBMITTED BY: [signature] DATE: 4 MAR '86 / FIRM MEMBER / PRINCIPAL / EFD: FP [illegible] / RVD / HD [illegible] / DIR KD / APPROVED [signature] DATE 5-4-86 / OFFICER IN CHARGE / APPROVED [signature] DATE 1-15-87 / FOR EFD FOR COMMANDER NAVFAC	MARINE CORPS AIR STATION NO. — NEW RIVER, NORTH CAROLINA — MAINTENANCE HANGAR — BUILDING SECTION	
	SIZE F / CODE IDENT. NO. 80091 / NAVFAC DRAWING NO. 4138814 / CONSTR. CONR. NO. N62470-84-B-4174	
	SCALE AS SHOWN / SPEC. 05-84-4174 / SHEET 65 OF 129	EFD DWG. NO. 238814

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26697 GLENN A. EASON

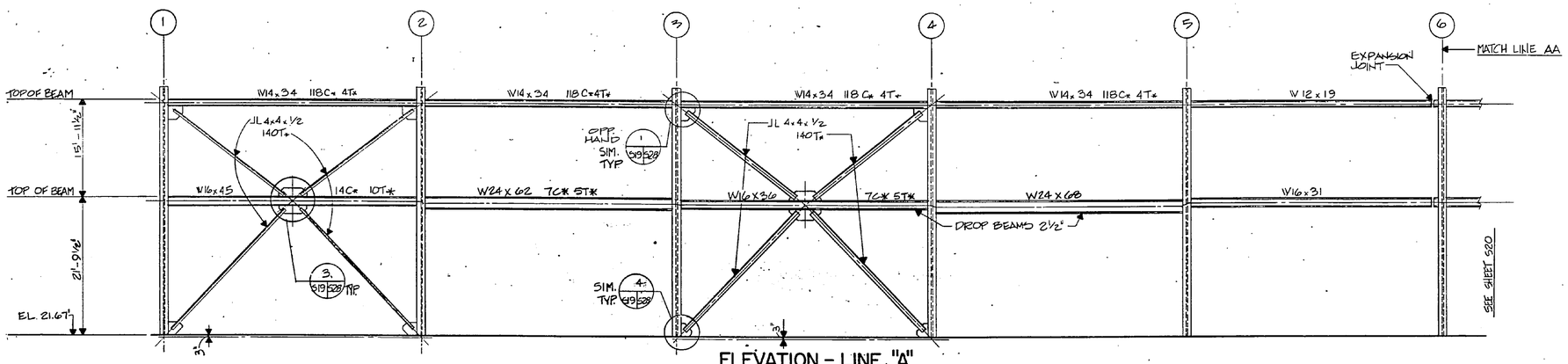
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTES:

1. SEE SHEET S-18 FOR NOTES.
2. SEE (5 / S19/S23) FOR BRACING RODS.



ELEVATION – LINE "B"
SCALE: 1/8"=1'-0"



ELEVATION – LINE "A"
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0" 5' 0' 5' 10' 15

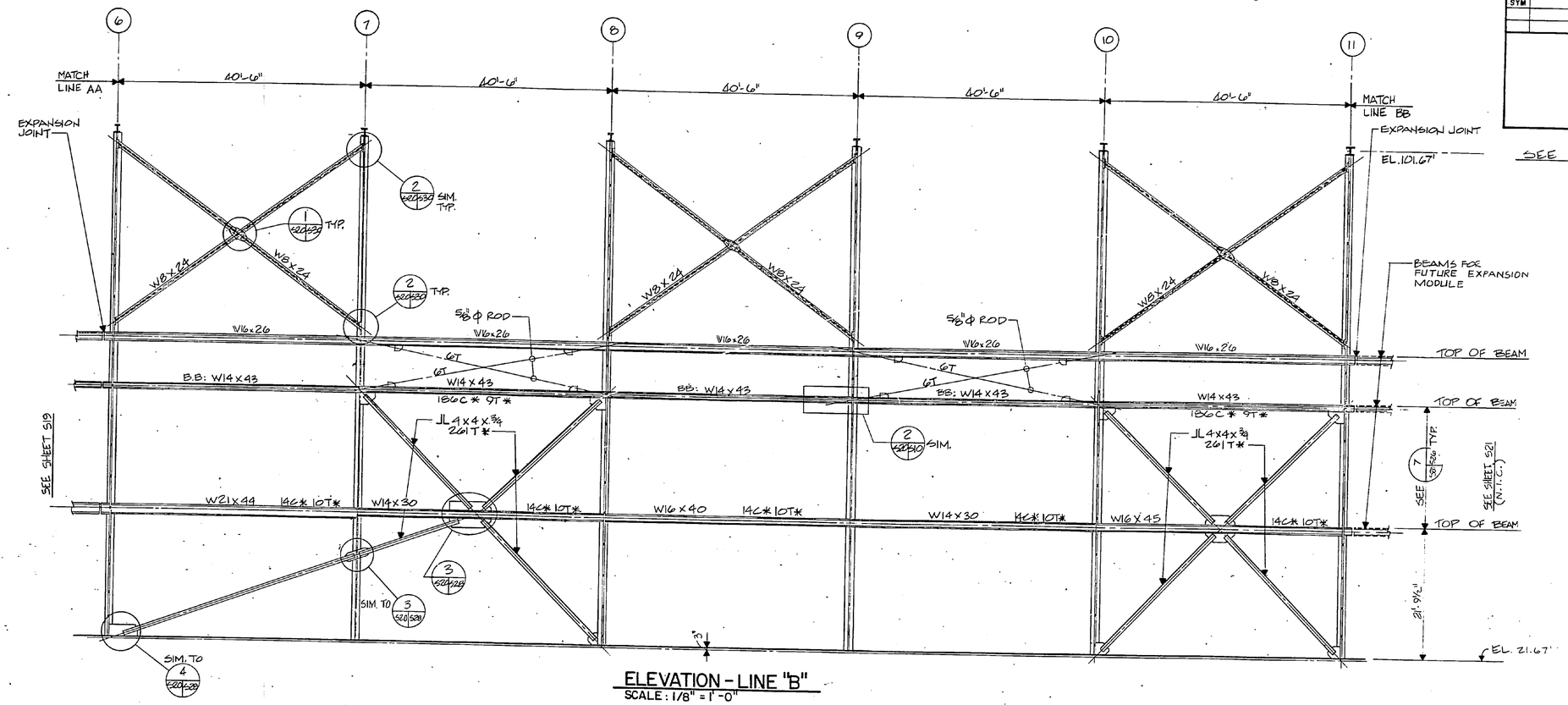
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	S-19
DES. GAE DR. CWB CHK. DHE	MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA	
PROJ. MGR. GAE CH. ENGR. DHE	MAINTENANCE HANGAR	
SUBMITTED BY: DATE: 4 MAR. '86	STRUCTURAL ELEVATIONS	
FIRM MEMBER PRINCIPAL	SIZE F / CODE IDENT. NO. 80091 / NAVFAC DRAWING NO. 4138815	
EFD: FP RVD DIR KJD	CONSTR. CONR. NO. N62470-84-B-4174	
APPROVED: OFFICER IN CHARGE DATE 5-4-86	SCALE AS SHOWN / SPEC. 05-84-4174 / SHEET 66 OF 129	
APPROVED: FOR EFD FOR COMMANDER NAVFAC DATE 1-1987	EFD DWG. NO. 238815	

NORTH CAROLINA PROFESSIONAL SEAL 2669 ENGINEER GRAHAM A. BASON

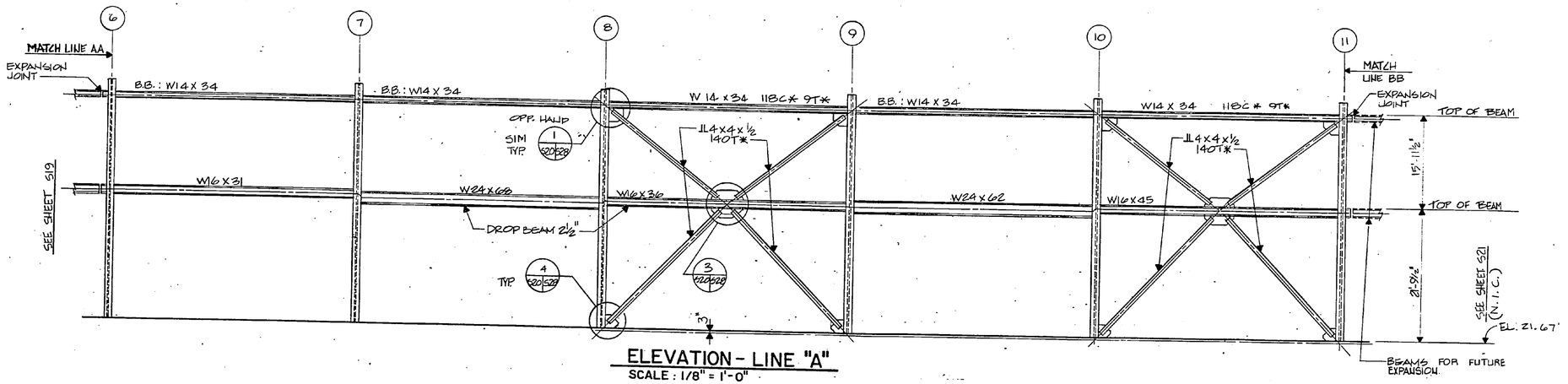
BUCKEYE CO. WHITE # 1 800-347-0019

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE SHEET S19 FOR NOTES.



ELEVATION - LINE "B"
SCALE: 1/8" = 1'-0"



ELEVATION - LINE "A"
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0" 5' 0' 5' 10' 15'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 2669 GLENN A. EASON

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

STRUCTURAL ELEVATIONS

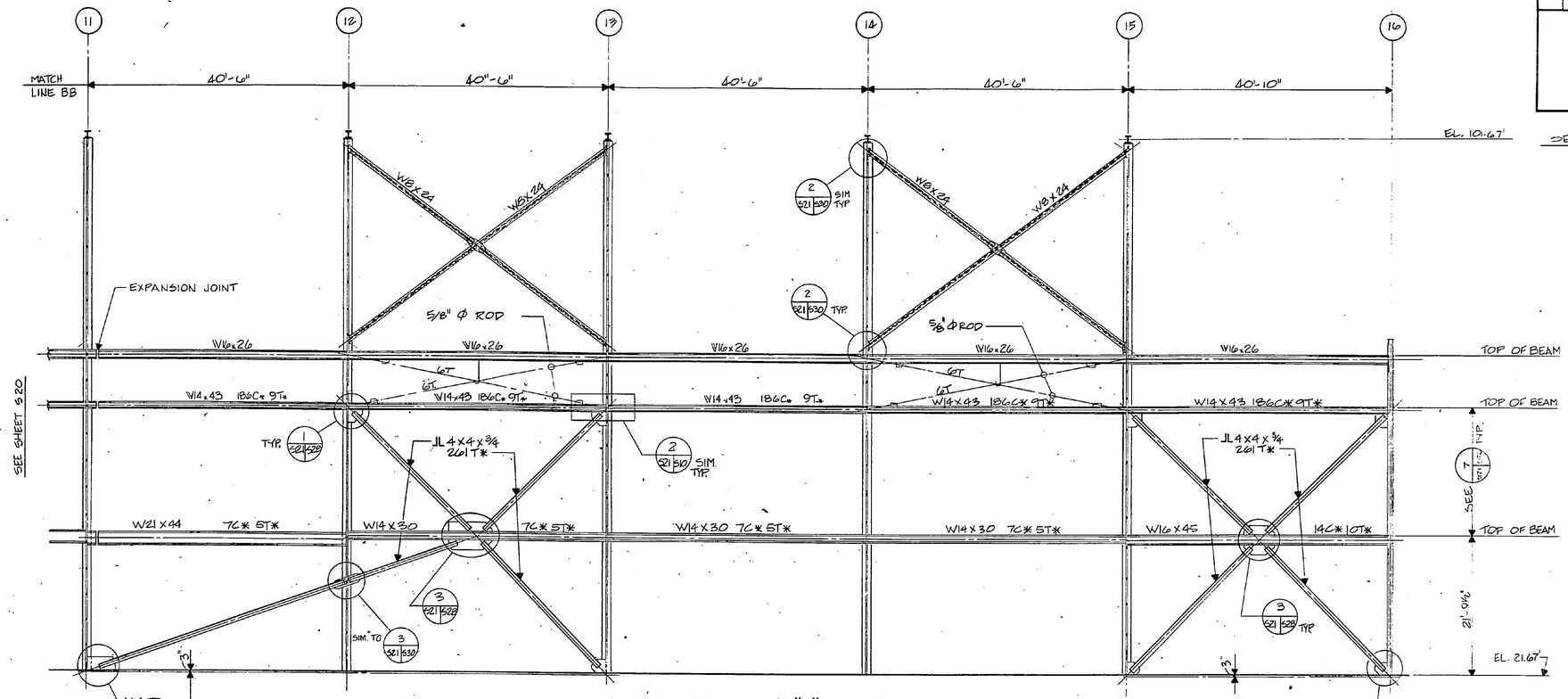
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138816
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 67 OF 129

EFD DWG. NO. 238816

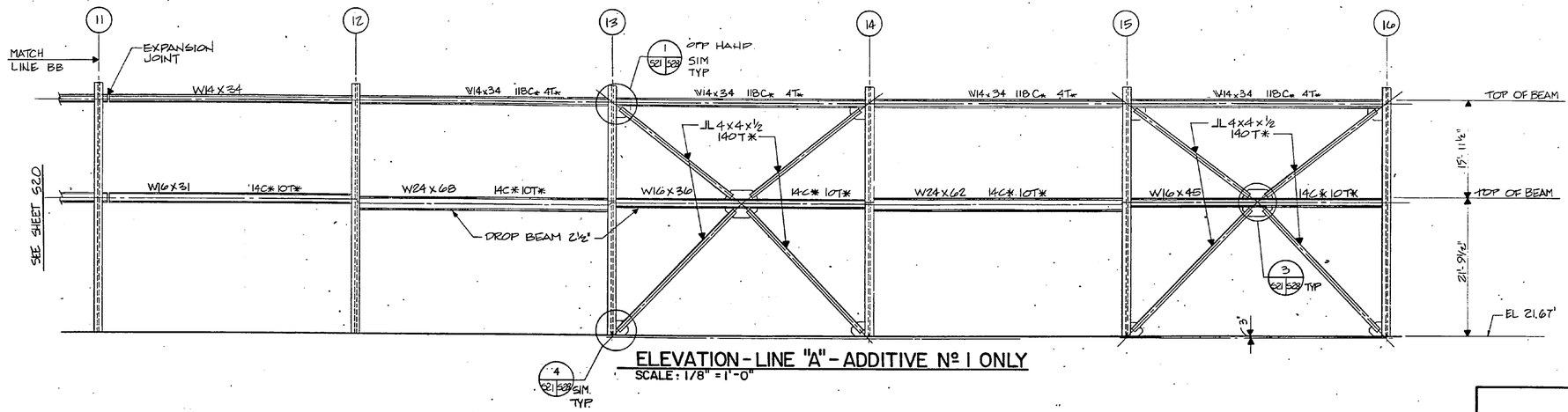
S-20

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE SHEET S19 FOR NOTES.



ELEVATION - LINE "B" - ADDITIVE Nº 1 ONLY
SCALE: 1/8" = 1'-0"



ELEVATION - LINE "A" - ADDITIVE Nº 1 ONLY
SCALE: 1/8" = 1'-0"

GRAPHIC SCALE
1/8" = 1'-0" 5' 0' 5' 10' 15'

NORTH CAROLINA PROFESSIONAL SEAL 2669 ENGINEER GLENN A. EASON
4/3/86

S-21

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

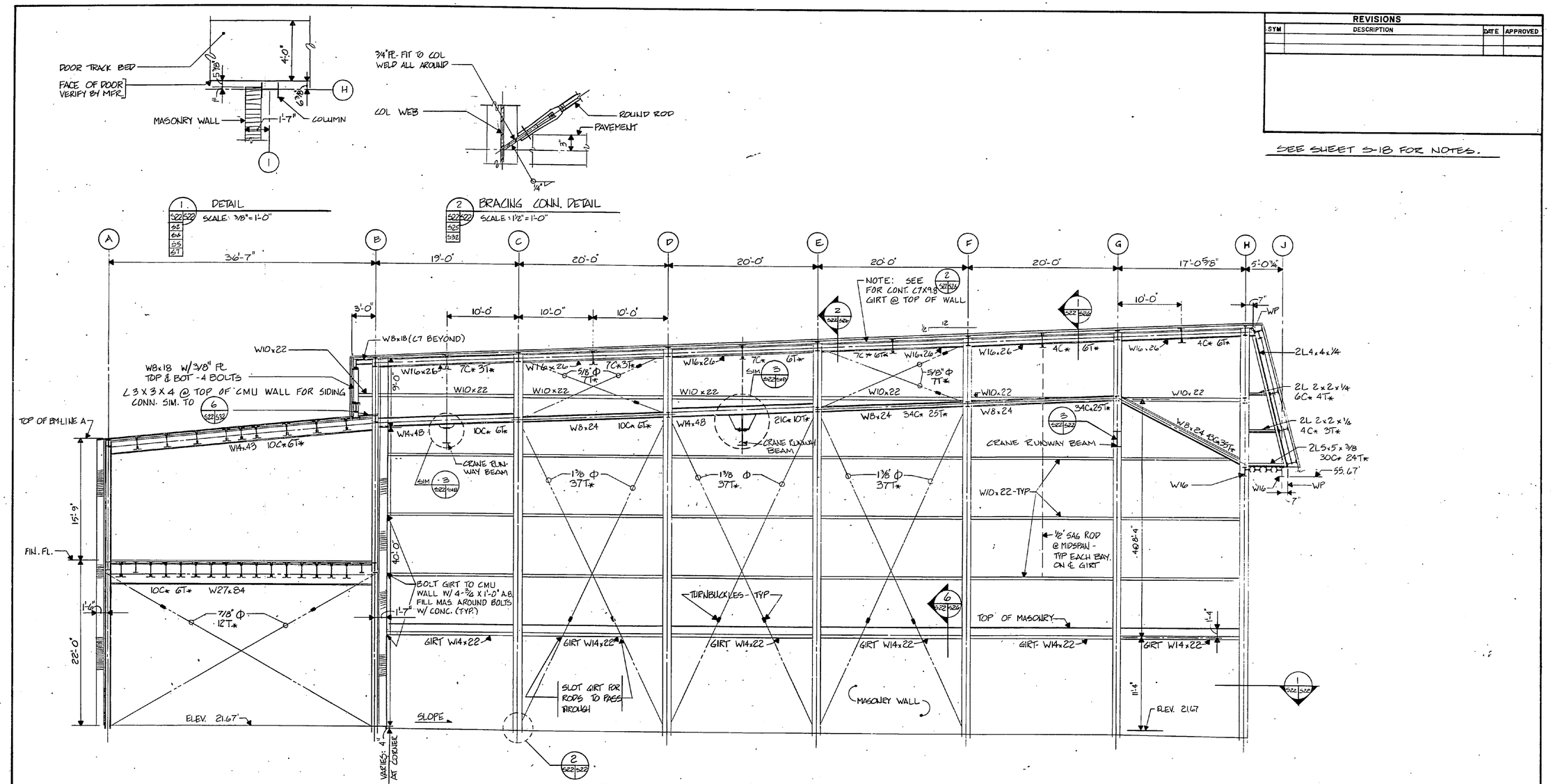
DES. GAE | DR. LW | CHK.
PROJ. MGR. GAE | CH. ENGR. DHK
SUBMITTED BY: | DATE: 4 MAR '86
FIRM MEMBER | PRINCIPAL
EFD: FP. | RVD
HD | DIR
APPROVED | DATE 3-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

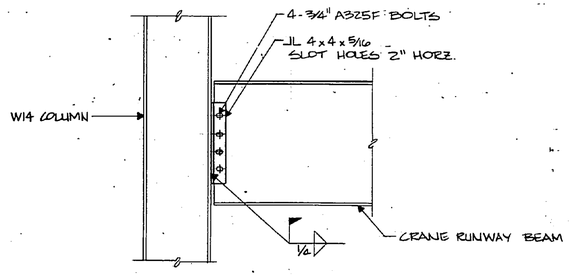
MAINTENANCE HANGAR

STRUCTURAL ELEVATIONS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138817
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 68 OF 129

EFD DWG. NO. 238817





CRANE BEAM SUPPORT
SCALE: 1" = 1'-0"

END WALL ELEVATION - LINE "1"
SCALE: 3/16" = 1'-0"

NOTE:
TOP OF FRAMING ELEVATIONS TO MATCH FRAMING & ELEVATIONS SHOWN ON S18.

GRAPHIC SCALE:
11/2" = 1'-0"
1" = 1'-0"
3/8" = 1'-0"
3/16" = 1'-0"

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SEE SHEET S-18 FOR NOTES.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
END WALL ELEVATION

DES. GAE DR. JWright CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD: FP RVD
HD DIR RD
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138818
CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 69 OF 129
EFD. DWG. NO. 238818

S-22

COLUMN SCHEDULE (12/S23)

MARK	BASE BID: B1	BASE BID: C1 THRU G1	BASE BID: C1-1A THRU G1-1A *	BASE BID: H1	BASE BID: H1A *	BASE BID: J0, J11c	BASE BID: H0, H11c	BASE BID: A1	BASE BID: A2 THRU A11	BASE BID: B2 THRU B11
EL. 101.67'										
TOP OF STEEL @ LINE (A)	SEE 4/S23 S22	VARIES - SEE 4/S23 S22	W8x10 VARIES - SEE 1/S23 S32	SEE 4/S23 S22	W8x31 SEE 1/S23 S32	SEE 5/S23 S25 TYP.	SEE 5/S23 S25 TYP.			W36x230
2ND FLOOR (15'-9") / EL. 21.67 (22'-0")	W12x65	W14x99	W14x99	W14x82	W14x82	TOP OF PL W10x45 SEE 1/S23 S25	TOP OF PL W10x22 SEE 1/S23 S25	W10x77	W18x119	
TOP OF PEDESTAL (2'-0" U.O.N.)										
BASE PLATE	2¾"x13"x1'-1"	1¼"x16"x1'-4"		1"x16"x1'-4"		1¾"x11"x0'-11"	1¾"x11"x0'-11"	2"x13"x1'-1"	2¾"x14"x1'-9"	2¾"x20"x3'-3"
ANCHOR BOLTS	2-2¾"Φ*	2-1⅛"Φ*		2-¾"Φ*		2-1½"Φ*	2-1½"Φ*	2-1⅜"Φ*	4-2½"Φ*	SEE 4/S23 S23 FOR COLS B-2,5,6,8,9,11,12,15. SEE 2/S23 S23 FOR COLS B-3,4,7,10,13,14
ANCHOR PLATE	1-1¾"x8"x1'-4" 8" ABOVE BOTTOM OF PILE CAP	2-1"x6"x0'-6" 8" ABOVE BOTTOM OF PILE CAP		—		2-1"x6"x0'-6" 8" ABOVE BOTTOM OF PILE CAP	2-1"x6"x0'-6" 8" ABOVE BOTTOM OF PILE CAP	2-1"x6"x0'-6"	1-1¾"x18"x1'-6" 8" ABOVE BOTTOM OF PILE CAP	
SEE DETAIL	3/S23 S23	3/S23 S23		1/S23 S23		3/S23 S23	3/S23 S23	3/S23 S23	3/S23 S23 SIM.	

NOTE: ENCASE ALL STEEL BELOW GRADE EXPOSED TO EARTH IN 3" MINIMUM OF CONCRETE COVER.

* EXTEND FROM 5" ABOVE BOTTOM OF PILE CAP.

(1) BASE PLATE
N.T.S.

(2) BASE PLATE
SCALE: 1" - 1'-0"

NOTE:
SEE COLUMN SCHEDULE FOR ANCHOR BOLTS THAT EXTEND INTO PILE CAPS.

(3) BASE PLATE
N.T.S.

* GRADE 50 TO 2"Φ
GRADE 42 ABOVE 2"Φ

(4) BASE PLATE
SCALE: 1" = 1'-0"

(6) ROOF CONST. - HIGH ROOF
NO SCALE

NOTES:
1. METAL DECK 22 GAGE, 3" DEEP DECK. (MINIMUM REQUIREMENT).
2. DECK SHALL BE CAPABLE OF RESISTING DEAD LOAD AND LIVE LOAD AND IN ADDITION MUST BE CAPABLE OF RESISTING AN UPLIFT FORCE DUE TO THE WIND. DECK SHALL BE ATTACHED TO ALL STEEL SUPPORTS BY WELDS OR SCREWS AT 8" ON CENTER MAXIMUM SPACING. ATTACHMENTS MUST RESIST A WIND SHEAR OF 140 LBS PER FOOT. USE WELDING WASHERS.
3. MINIMUM MOMENT OF INERTIA - 0.66? IN⁴/FT. MINIMUM SECTION MODULUS - 0.380 IN³/FT.
4. SEE DIAGRAM AND SCHEDULE BELOW FOR NET WIND UPLIFT PRESSURES.
5. BUTTON PUNCH SIDE LAPS AT 24" ON CENTER. DO NOT STAND ON LOWER DECK PANEL WHILE BUTTON PUNCHING LAPS

(7) ROOF CONST - LOW ROOF
NO SCALE

NOTES:
1. METAL DECK TO BE MINIMUM 22 GAGE INTERMEDIATE RIB 'DECK PER SDI SPECS.
2. IN ADDITION, DECK & ATTACHMENTS SHALL BE DESIGNED TO RESIST NET UPLIFT WIND PRESSURE AS INDICATED IN SCHEDULE BELOW.
3. MINIMUM MOMENT OF INERTIA - 0.129 IN⁴/FT. MINIMUM SECTION MODULUS - 0.126 IN³/FT.
4. DECK SHALL BE FASTENED TO ALL STEEL SUPPORTS WITH MINIMUM OF 5/8" PUDDLE WELDS AT 6" ON CENTERS. USE WELDING WASHERS.
5. SIDE LAPS SHALL BE CONNECTED BY MINIMUM OF #12 HEX HEAD SCREWS AT 12" ON CENTERS.

(8) TYP. FLOOR CONST.
NO SCALE

NOTES:

WELD DECK TO ALL STEEL SUPPORTS AS SPECIFIED.

MINIMUM CLEVIS SIZES

ROD Φ	MINIMUM CLEVIS NUMBER	MINIMUM CLEVIS PIN Φ
5/8"	2½	1½"
¾"	2½	1½"
7/8"	3	1½"
1"	3	1¾"
1¼"	3½	2"
1⅜"	5	2¼"
1½"	5	2½"
1¾"	6	2½"
2"	7	3"
2¼"	7	3¾"
2½"	8	3¾"

NOTES:
1. ALL BRACING ROD TO BE A36 STEEL.
2. PROVIDE CLEVISES & TURNBUCKLES FOR ALL RODS.
3. VERIFY STRENGTH OF CLEVIS & PIN WITH MFR. TO DEVELOP FULL STRENGTH OF RODS. CHECK BENDING OF PINS.

(5) TYPICAL BRACING RODS

(9) PLAN - ROOF WIND AREAS
N.T.S.

(10) SCHEDULE OF NET WIND UPLIFT PRESSURES

AREA	①	②	③	④	⑤	⑥
ROOF DECK *	40	67	98	39	59	77
JOISTS **	89	118	118	254	333	333

* LOADS ARE NET PRESSURE IN POUNDS PER SQUARE FOOT. ALLOWABLE STRESSES MAY BE INCREASED 33⅓%.
** LOADS ARE UNIFORM NET LOAD IN POUNDS PER FOOT. ALLOWABLE STRESSES MAY BE INCREASED 33⅓%.

NOTE:
ERECTION DWGS FOR ROOF DECK & SIDING TO SHOW ALL CONN REQ'D TO RESIST WIND LOAD.

(11) WIND LOAD DIAGRAM FOR METAL SIDING & DOORS

NOTE:
METAL SIDING MUST BE DESIGNED TO RESIST THE PRESSURES AT LOCATION AS SHOWN ABOVE. VALUES ARE POUNDS PER SQUARE FOOT. ALLOWANCE HAS ALREADY BEEN MADE FOR STRESS INCREASE DUE TO WIND. CONNECT FOR SUCTION.

GRAPHIC SCALE
1" = 1'-0" 1' 0 1' 2'

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

GENERAL NOTES

1. DESIGN LIVE LOADS:
   ROOF JOISTS . . . 20 PSF
   ROOF: TRUSSES, GIRDERS. 12 PSF
   2ND FLOOR . . . 80 PSF.
   WIND (9/S23) (10/S23) (11/S23) . . 115 MPH (PEAK GUST VELOCITY)
   MAXIMUM WHEEL LOAD . . 32 000 #/PAIR
   SEISMIC CONSTANTS (ZONE 1) . . .
   . . . Z = 3/16, I = 1.25, K = 0.67, CS = 0.14
2. LINTELS FOR MASONRY WALLS TO EXTEND MINIMUM 24" EACH SIDE OF OPENING.
3. DESIGN PILE CAPACITY: 50 TONS (25 TONS UPLIFT)
   PILE BID LENGTH: 9450 LF (BASE BID)
   2625 LF (ADD No. 1)
4. SEE SPECIFICATIONS FOR LENGTH OF PILES FOR BIDDING. PREAUGER AS SPECIFIED.
5. COMPACT ALL FILL AND BACKFILL UNDER BUILDING AS SPECIFIED. USE CLEAN SAND CLASSIFIED AS "SELECT - MATERIAL".
6. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS : 3000 PSI UNLESS OTHERWISE NOTED
7. SEE SPECIFICATIONS FOR CONCRETE, PAVEMENT (INCLUDING HANGAR FLOOR).
8. REINFORCING STEEL: ASTM A615, GRADE 60.
9. LAP ALL SPLICES IN REINFORCING STEEL 40 DIAMETERS MINIMUM.
10. STRUCTURAL STEEL : ASTM A36 (ANCHOR BOLTS A36 U.O.N. AS ASTM A572)
11. SHOP CONNECTIONS TO BE WELDED. FIELD CONNECTIONS TO BE BOLTED - ASTM A325 BOLTS, ¾" DIAMETER UNLESS OTHERWISE NOTED. BOLTS TO BE BEARING TYPE WITH THREADS INCLUDED UNLESS OTHERWISE NOTED
12. WELDING TO BE MADE ONLY BY OPERATORS CERTIFIED BY THE STANDARD QUALIFICATION PROCEDURE OF THE AMERICAN WELDING SOCIETY FOR TYPE OF WELD REQ'D.
13. STEEL JOISTS : H TYPE STEEL JOIST INSTITUTE SPECIFICATIONS. TOP & BOTTOM CHORDS TO BE DOUBLE ANGLES.
14. WELD JOISTS TO STEEL SUPPORTS WITH 2" OF 3/16" FILLET EACH SIDE OF JOIST, UNLESS OTHERWISE NOTED.
15. REINFORCED MASONRY: CONCRETE BLOCK - ASTM C90, MINIMUM SHELL THICKNESS - 1½"; LIGHT WEIGHT AGGREGATE UNITS TO BE TYPE I, MOISTURE CONTROLLED. TYPE S MORTAR.
16. GROUT FILL FOR CONCRETE MASONRY CELLS AND BOND BEAMS SHALL BE 3000 PSI CONCRETE WITH MAXIMUM 3/8" AGGREGATE.
17. REINFORCED MASONRY DESIGN BASED ON ALLOWABLE STRESSES FOR CONTINUOUSLY INSPECTED CONSTRUCTION.
18. REFERENCE DESIGN MANUALS : NAVFAC - DM-2.1, DM-2.2, DM-2.6, DM-2.9, P-355. AISC (8TH EDITION), ACI HANDBOOK.

S-23

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. GAE | DR. [signature] | CHK. DHK
PROJ. MGR. GAE | CH. ENGR. DHK
SUBMITTED BY: [signature] DATE: 4 MAR. '86
FIRM MEMBER PRINCIPAL
EFD: FP ___ RVD ___
HD ___ DIR ___
APPROVED [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED [signature] DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 2659 ENGINEER GLENN A. EASON

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

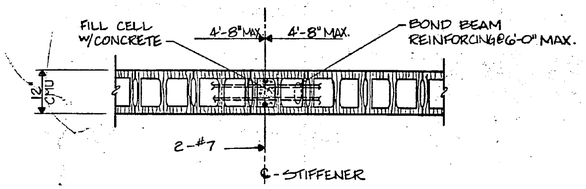
MAINTENANCE HANGAR

STRUCTURAL DETAILS, SCHEDULES, AND NOTES.

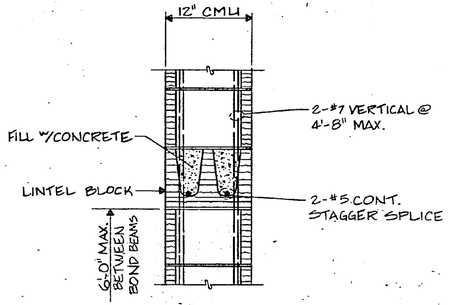
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138819
		CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 70 OF 129

EFD DWG. NO. 238819

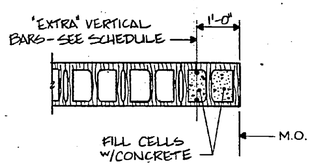
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



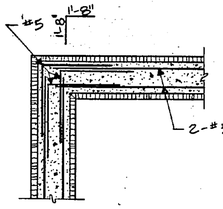
1 S2.2/S2.4 A5 A10 A13 **DETAIL OF WALL STIFFENER FOR REINFORCED C.M.U. (VERTICAL REINFORCING)**
SCALE: 3/4"=1'-0"



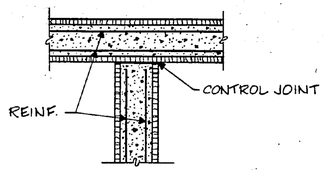
2 S2.2/S2.4 A5 A13 **BOND BEAM DETAIL (HORIZONTAL REINFORCING)**
SCALE: 1 1/2"=1'-0"



3 S2.4/S2.4 A5 A6 **DETAIL AT MASONRY OPENING**
SCALE: 3/4"=1'-0"

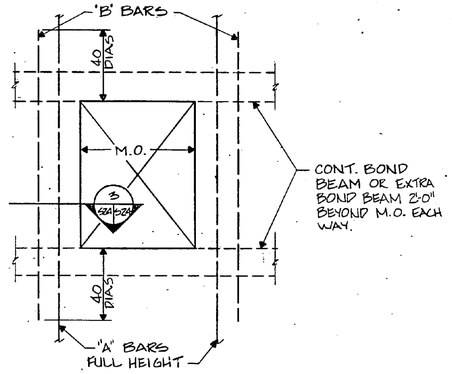


CORNER



INTERSECTING WALLS

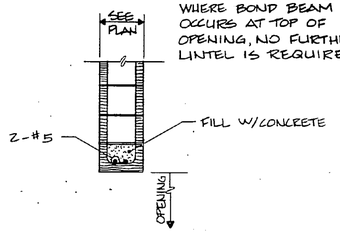
4 A5 S2.4 A6 **BOND BEAM DETAILS**
SCALE: 3/4"=1'-0"



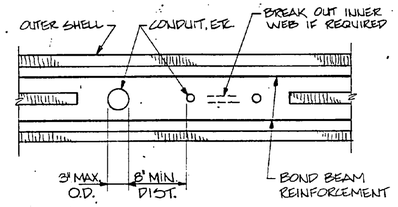
5 S2.4 A5 A6 A12 **"EXTRA" REINFORCING AT OPENINGS**
N.T.S.

SCHEDULE		
M.O.	'A' BARS	'B' BARS
0'-2'	2-#7 E.S.	——
2'-4'	2-#7 E.S.	1-#4 E.S.
M.O.>4'	4-#7 E.S.	——

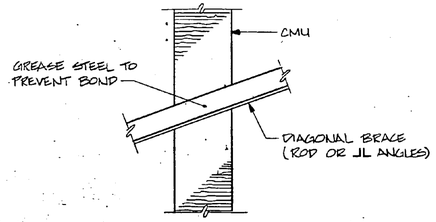
NOTE:
PROVIDE AT ALL OPENINGS IN CMU WALLS WHERE BOND BEAM DOES NOT FORM LINTEL. WHERE BOND BEAM OCCURS AT TOP OF OPENING, NO FURTHER LINTEL IS REQUIRED.



6 S2.2/S2.4 A5 A6 **LINTEL DETAIL**
SCALE: 3/4"=1'-0"



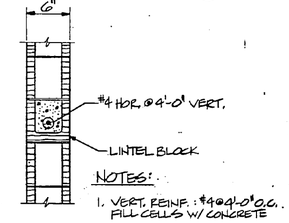
9 S2.4/S2.4 **CONDUITS THROUGH BOND BEAM**
SCALE: 1 1/2"=1'-0"



10 S2.2/S2.4 **DIAGONAL BRACING AT CMU**
N.T.S.

NOTES FOR REINFORCED CMU:

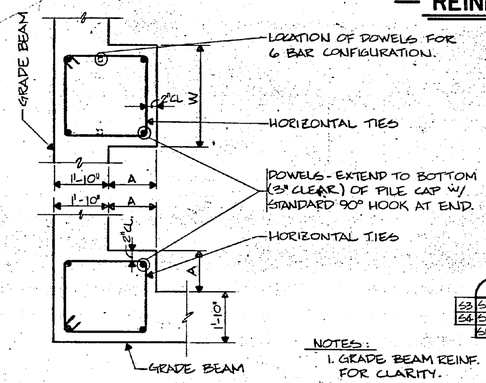
1. ALL 12" CMU WALLS TO BE REINFORCED AS DETAILED.
2. LAP ALL SPLICES 40 DIAMETERS.
3. CONCRETE FILL TO BE 3000 PSI CONCRETE USING 3/8" MAX. SIZE AGGREGATE (PEA GRAVEL).
4. VERTICAL BARS TO DOWEL TO GRADE BEAM.
5. BEND TOP BAR 1'-0" INTO TOP BOND BEAM.
6. BOND BEAM REINFORCING TO BE DISCONTINUOUS AT CONTROL JOINTS.
7. LOCATE VERTICAL CONTROL JOINTS AT 24'-0" O.C. MAX.
8. CONTROL JOINTS SHALL BE CONTINUOUS TOP TO BOTTOM.
9. SEE ARCHITECTS DRAWINGS FOR CONTROL JOINT LOCATION & DETAILS.
10. PROVIDE STIFFENER REINFORCING EACH SIDE OF ALL CONTROL JOINTS AND EXPANSION JOINTS.
11. ALL REINFORCED MASONRY CONSTRUCTION MUST BE INSPECTED.
12. COND., I.T. ETC TO BE RUN INSIDE 12" CMU WALL MUST BE PLACED BEFORE BOND BEAMS & STIFFENERS ARE FILLED WITH CONCRETE. SEE 9 S2.4/S2.4
13. SEE SHEET A-7 FOR ELEVATION TOP OF BOND BMS IN EXTERIOR CMU WALLS. BOND BMS IN INTERIOR WALLS & PARTITIONS TO BE SAME IN GENERAL. ADD EXTRA BOND BMS AROUND OPENINGS AS IN 5 S2.4/S2.4



NOTES:
1. VERT. REINF.: #4 @ 4'-0" O.C. FILL CELLS W/ CONCRETE
2. PROVIDE ADDITIONAL REINF. AT OPENINGS, JAMBS, ETC. SIM. TO 12" WALLS. REINF. FOR 8" CMU PARTITIONS SIM.

11 S2.4/S2.4 A7 **REINFORCING IN ALL 6" CMU PARTITIONS**
SCALE: 1 1/2"=1'-0"

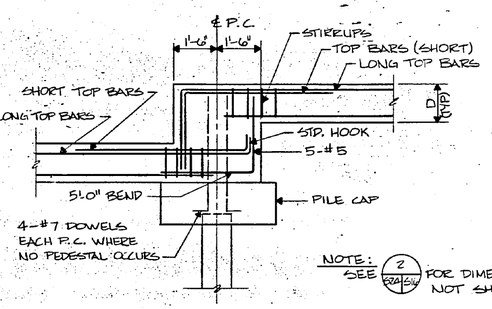
— REINFORCED C.M.U. DETAILS —



TYPE	DOWELS	HORIZONTAL TIES	——	"A" DIMENSION	"W" DIMENSION
P1	6-#8	#4@9	——	3'-0"	2'-0"
P2	4-#7	#4@9	——	1'-6"	1'-8"
P3	4-#7	#4@9	——	1'-0"	1'-8"
P4	4-#7	#4@9	——	0'-11"	—

7 S3.2/S2.4 S4 S4.2 S4.4 S18 **COLUMN PEDESTAL DETAILS AND SCHEDULE**
NO SCALE

NOTES:
1. GRADE BEAM REINF. NOT SHOWN FOR CLARITY.
2. SEE PLANS FOR RELATION TO GRID LINE & COLUMN ℄'S.



NOTE: SEE 2 S2.4/S2.4 FOR DIMENSIONS NOT SHOWN.

8 S2.2/S2.4 **TYPICAL GRADE BEAM STEP**
N.T.S.

GRAPHIC SCALES
3/4"=1'-0" 1' 0 1' 2' 3'
1 1/2"=1'-0" 1' 0 1'

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GAS DR. MW CHK.
PROJ. MGR. GAS CH. ENGR. DJK
SUBMITTED BY DATE 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD/FPO/LANT RVD
HD DIR
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 12669 ENGINEER JOHN A. EASON

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
MASONRY DETAILS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138820

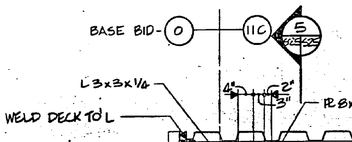
CONSTR. CONTR. NO. N62470-84-B-4174
SPEC. 05-84-4174
SCALE AS SHOWN
SHEET 71 OF 129
EFD DWG. NO. 238820

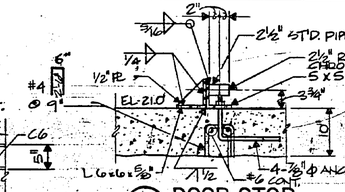
S-24

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

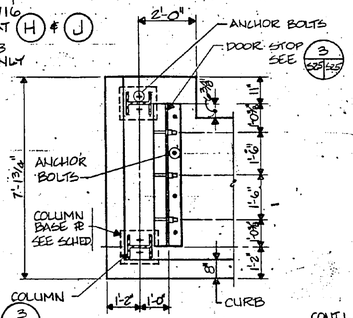
NOTES:

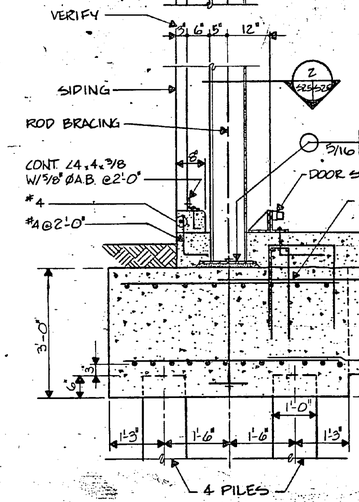
1. SEE (5/S25) FOR BRACING RODS.





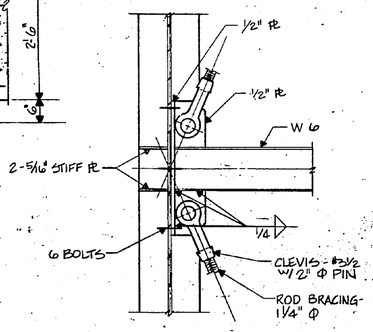
3 DOOR STOP (S25/S26) SCALE: 1"=1'-0"



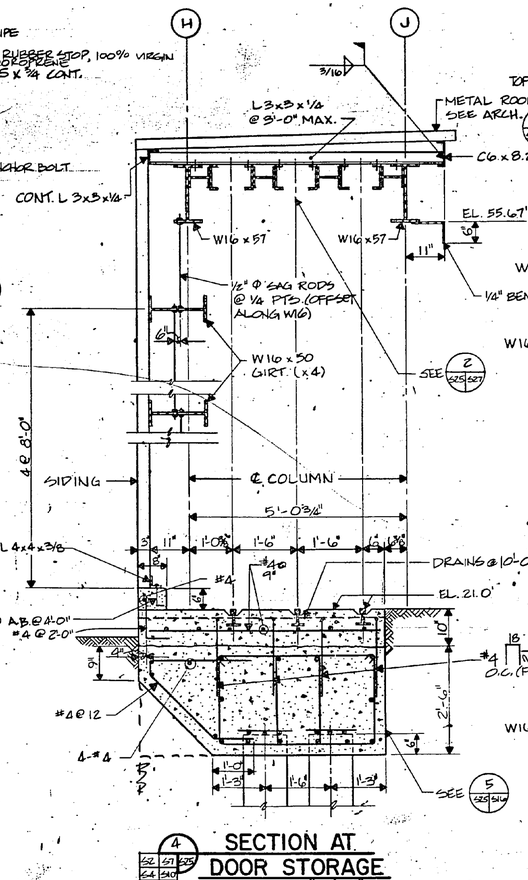


2 SECTION (S25/S26) SCALE: 1/2"=1'-0"

1 SECTION (S25/S26) SCALE: 3/4"=1'-0"

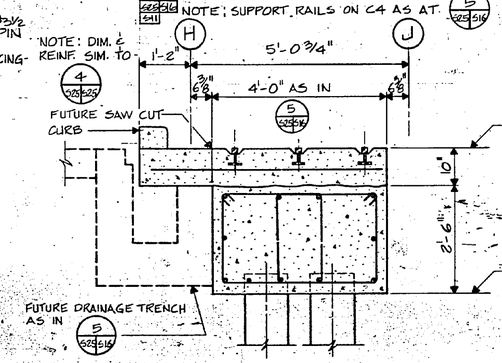


6 DETAIL (S24/S25) SCALE: 11/2"=1'-0"

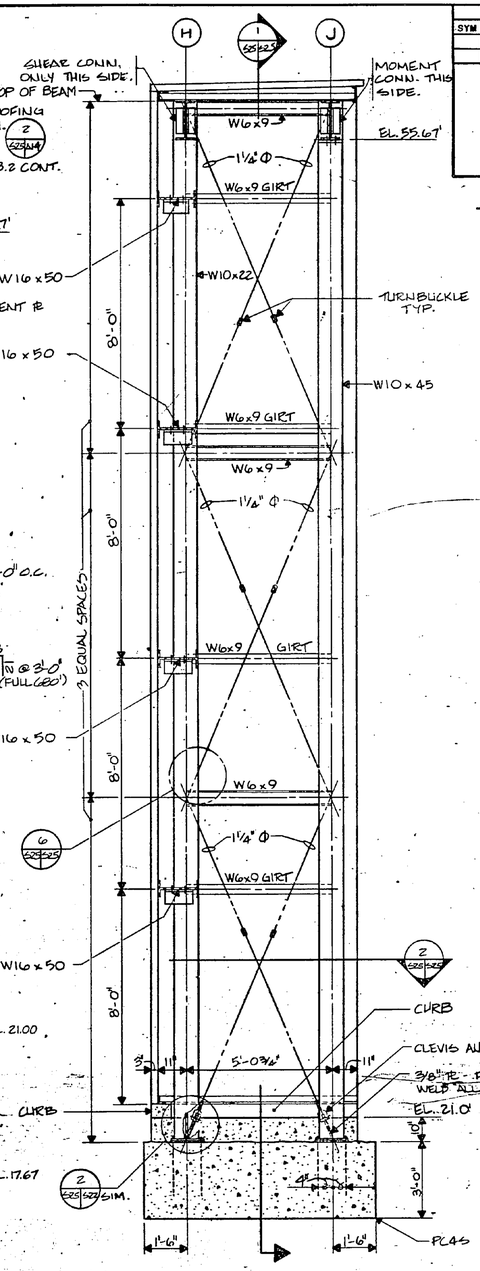


4 SECTION AT DOOR STORAGE (S25/S26) SCALE: 3/4"=1'-0"

NOTE: SUPPORT RAILS ON C4 AS AT 5 (S25/S16)



7 SECTION - BASE BID ONLY (S25/S26) SCALE: 3/4"=1'-0"



5 SECTION AT DOOR STORAGE (S25/S26) SCALE: 1/2"=1'-0"

GRAPHIC SCALE

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

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

1"=1'-0" 1' 0 1' 2'

11/2"=1'-0" 1' 0 1'

NOTES FOR FUTURE EXTENSION OF BUILDING TO SOUTH:

1. REMOVE STEEL DOOR POCKET FRAMING.
2. CUT OFF CANTILEVERED 10" FLOOR SLAB, (11A) TO (11C).
3. EXTEND TO SOUTH 4'-0" x 2'-6" PILE SUPPORTED DOOR SUPPORT BEAM.
4. EXTEND DRAINAGE TRENCH, REMOVING EXISTING CONSTR. ALONG (11A) AS REQ'D.
5. EXTEND RAILS AND RAIL SETTING SLAB.

S-25

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

STRUCTURAL DETAILS

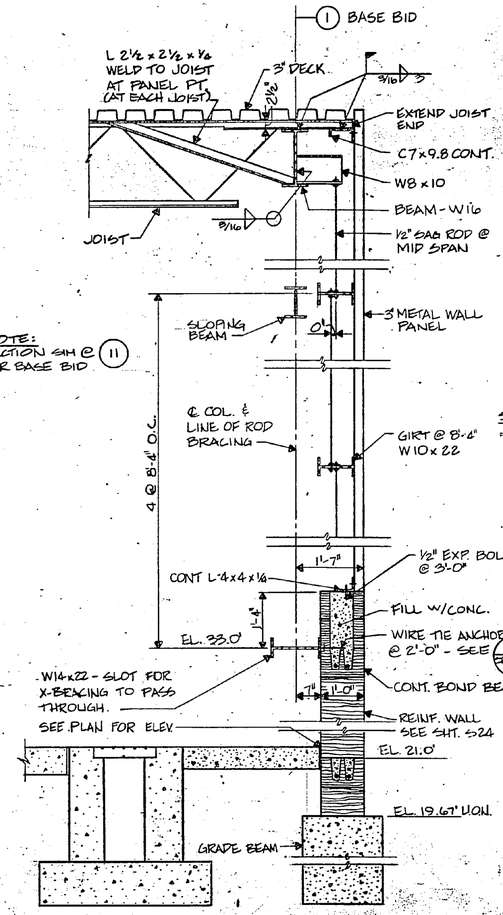
DES. GWE	DR. AWG CHK. DHK
PROJ. MGR. GWE CH. ENGR. DHK	
SUBMITTED BY	DATE 4 MAR '86
FIRM MEMBER PRINCIPAL	
EFD FY 2026 CWO	
HD ROP DIR KTS	
APPROVED OFFICER IN CHARGE	DATE 3-4-86
APPROVED FOR EFD FOR COMMANDER NAVFAC	DATE 1-29-87

NORTH CAROLINA PROFESSIONAL SEAL 12669 ENGINEER JOSEPH A. RADOSTA

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138821
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 72 OF 129

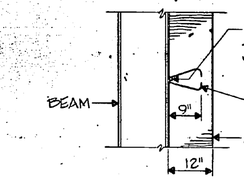
EFD DWG. NO. 238821

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

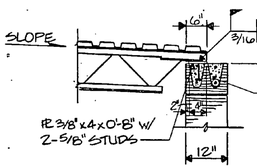


1 SECTION AT END WALL
SCALE: 3/4"=1'-0"

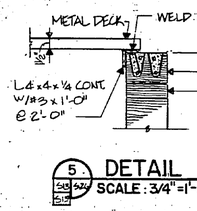
2 SECTION AT COLUMN
SCALE: 3/4"=1'-0"



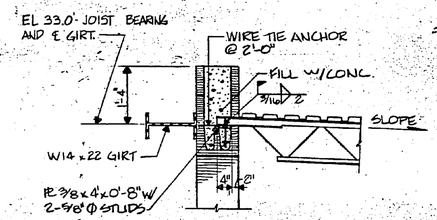
3 WIRE TIE ANCHOR DETAIL
SCALE: 3/4"=1'-0"



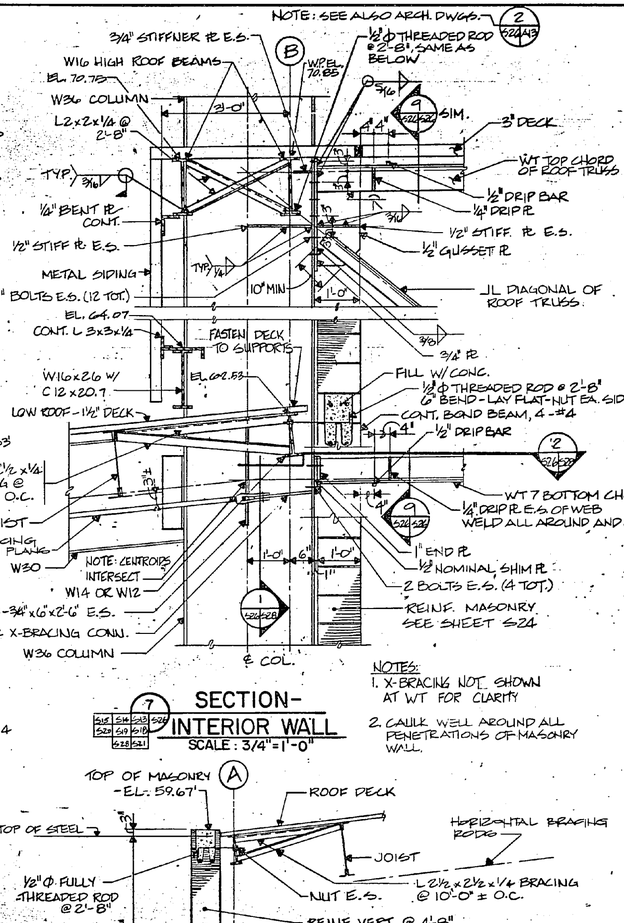
4 DETAIL
SCALE: 3/4"=1'-0"



5 DETAIL
SCALE: 3/4"=1'-0"



6 SECTION AT LINE SHACKS
SCALE: 3/4"=1'-0"

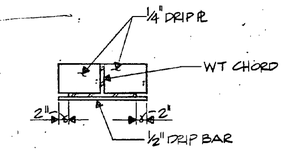


7 SECTION - INTERIOR WALL
SCALE: 3/4"=1'-0"

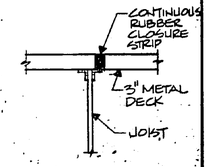
NOTES:
1. X-BRACING NOT SHOWN AT WT FOR CLARITY
2. CAULK WELL AROUND ALL PENETRATIONS OF MASONRY WALL.

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

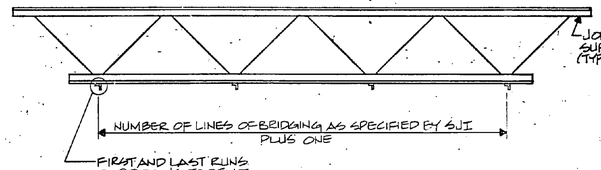
NOTE:
1. LAP ALL SPLICES IN REINF. - 40 DIA.
2. SEE ARCH. DWG. FOR LOCATION OF BOND BMS.
3. SEE S24 FOR TYP. MASONRY REINF.



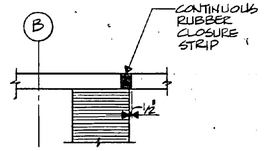
9 DETAIL
SCALE: 1"=1'-0"



10 CLOSURE DETAIL
SCALE: 1"=1'-0"



11 JOIST BRIDGING DIAGRAM



12 CLOSURE DETAIL
SCALE: 1"=1'-0"

GRAPHIC SCALE

1"=1'-0" 1' 0 1' 2'

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

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

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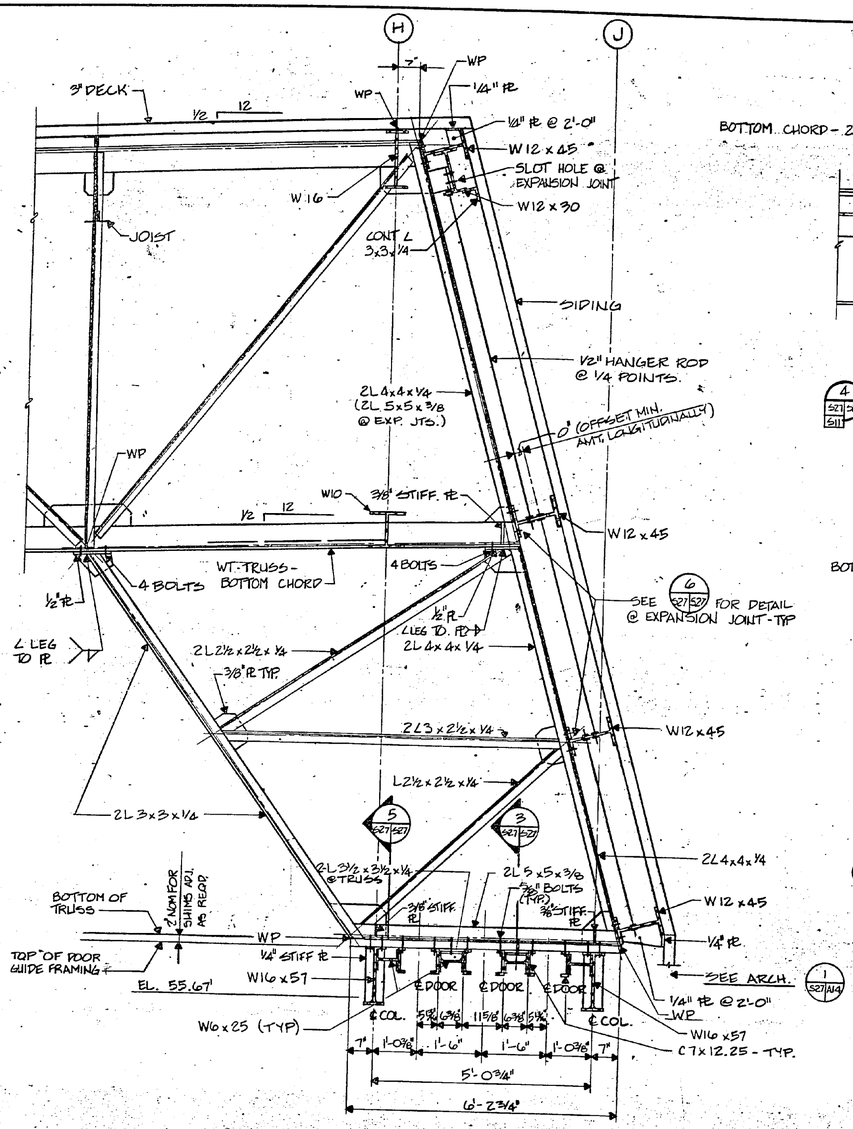
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVFAC FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

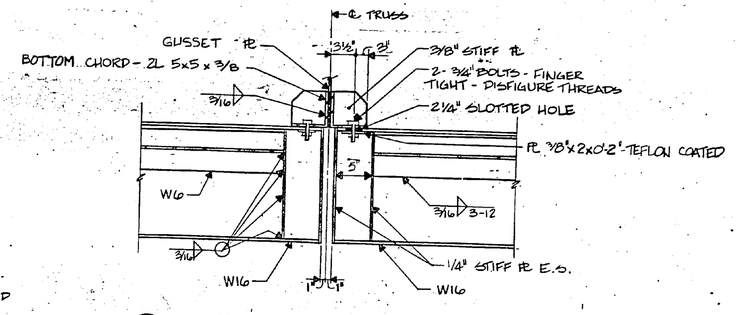
DES. GAE DR. [illegible] CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: [signature] DATE: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD PP TECH. RYD TRC
HD DIR KD
APPROVED OFFICER IN CHARGE [signature] DATE 5-4-86
APPROVED FOR EFD FOR COMMANDER NAVFAC [signature] DATE 11-27

MAINTENANCE HANGAR
STRUCTURAL DETAILS

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138822
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 73 OF 129
EFD DWG. NO. 238822

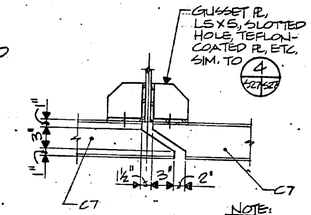


1 S27/S27 SECTION - TRUSS AT DOORS
SCALE: 3/4" = 1'-0"



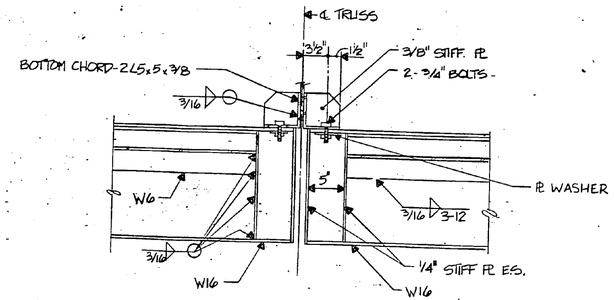
4 S27/S27 S11 EXPANSION JOINT AT DOOR TRACK
SCALE: 1 1/2" = 1'-0"

NOTE: SLIDING CONNECTION ON 7 SIDE AT 6 AND 10 SIDE AT 11.

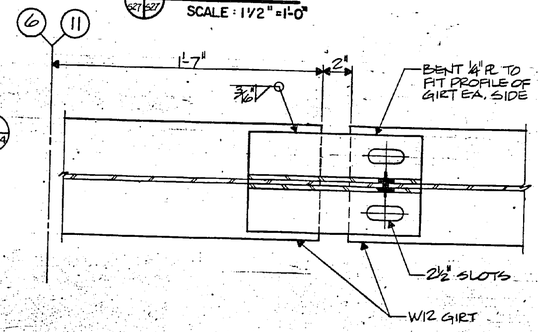


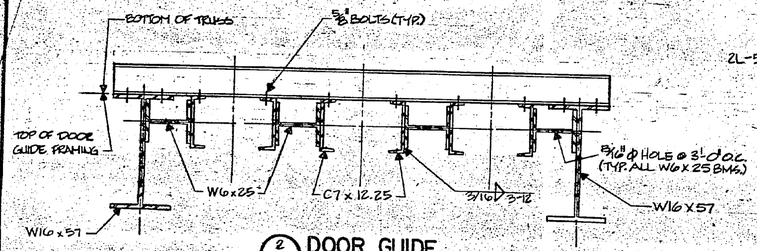
NOTE: CUT W6 APPROX. SAME AS C5 & STIFFEN W/L 3 1/2 x 3 1/2.

7 S27/S27 DOOR GUIDES AT EXP. JT.
SCALE: 1 1/2" = 1'-0"



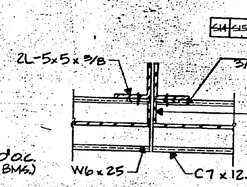
5 S27/S27 SECTION
SCALE: 1 1/2" = 1'-0"





2 S10/S27 S11 S12 S15 S16 DOOR GUIDE
SCALE: 1 1/2" = 1'-0"

6 S14/S15/S27/S27 DETAIL - EXPANSION JT. IN GIRTS
SCALE: 3" = 1'-0"



NOTES:
1. PROVIDE SLOTTED HOLES @ EXP. JT. - SIM. TO 4 S27/S27
2. CUT C7 & W6 x 25 AS IN 7 S27/S27 @ EXP. JOINT

3 S27/S27 SECTION
SCALE: 1 1/2" = 1'-0"

GRAPHIC SCALES

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

REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. CAE DR. CAE CHK. DHK
PROJ. MGR. CAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR '86
FIRM MEMBER PRINCIPAL
EFD/FP MGMT. DIV. MBR
HD BR/P DIR KD
APPROVED: DATE 3-4-86
OFFICER IN CHARGE
APPROVED: DATE 1-12-87
FOR EFD, FOR COMMANDER, NAVFAC

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 866 JOHN A. BASON

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NEW RIVER, NORTH CAROLINA

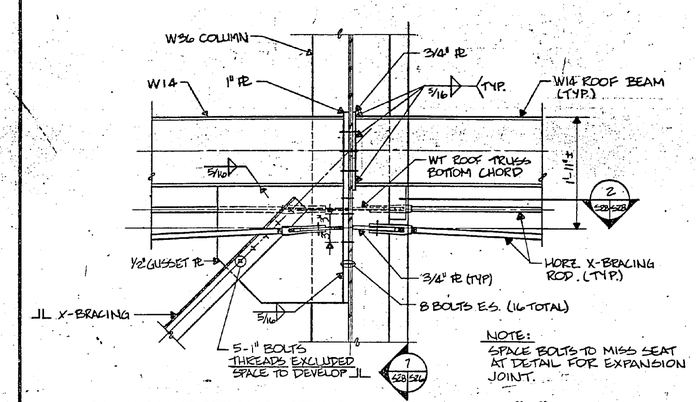
MAINTENANCE HANGAR

STRUCTURAL DETAILS

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138823
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS SHOWN | SPEC. 05-84-4174 | SHEET 74 OF 129
EFD DWG. NO. 238823

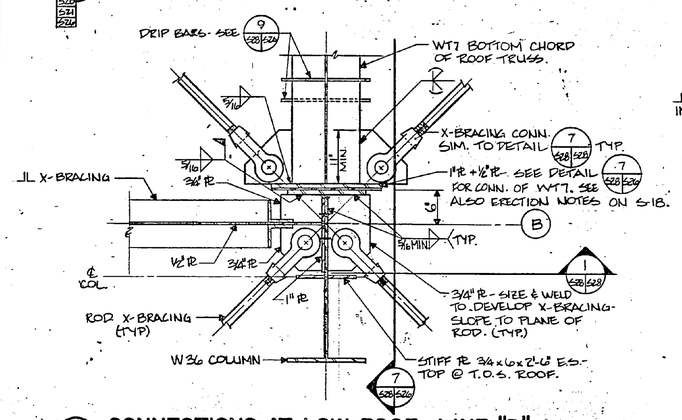
S-27

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

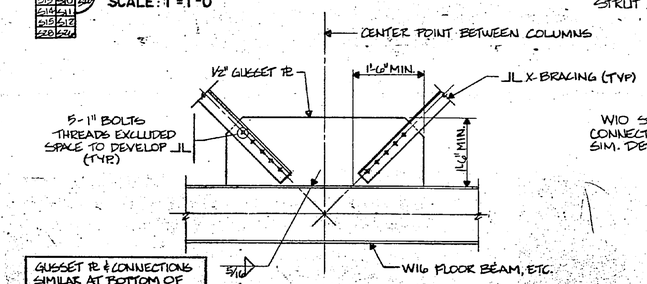


NOTE:
SPACE BOLTS TO MISS SEAT AT DETAIL FOR EXPANSION JOINT.

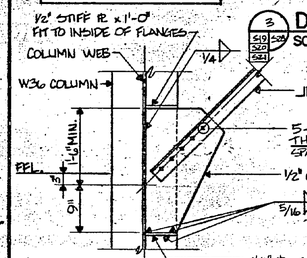
1 CONNECTIONS AT LOW ROOF - LINE "B"
SCALE: 1"=1'-0"



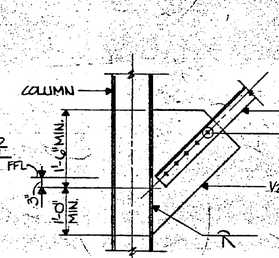
2 CONNECTIONS AT LOW ROOF - LINE "B"
SCALE: 1"=1'-0"



3 DETAIL
SCALE: 3/4"=1'-0"

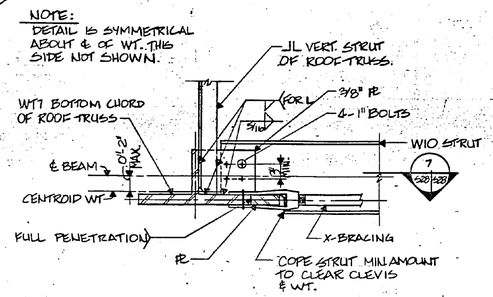


4 DETAIL
SCALE: 3/4"=1'-0"

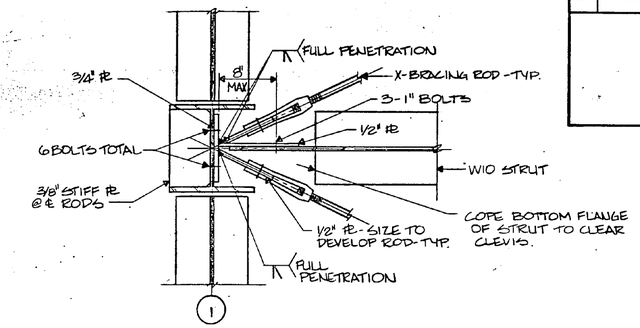


5 DETAIL
SCALE: 3/4"=1'-0"

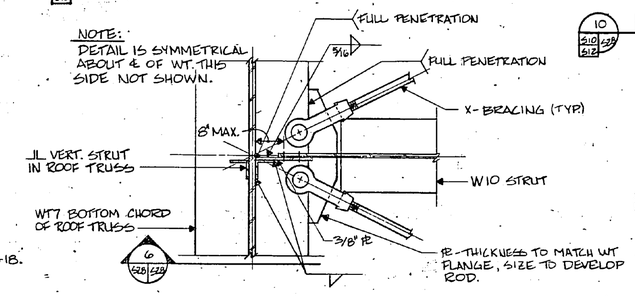
NOTE:
DETAIL IS SYMMETRICAL ABOUT ℄ OF WT. THIS SIDE NOT SHOWN.



6 HORIZONTAL X-BRACING CONNECTION
SCALE: 1 1/2" = 1'-0"

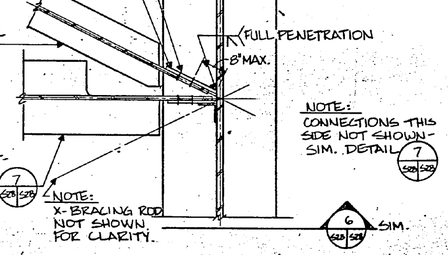


NOTE:
DETAIL IS SYMMETRICAL ABOUT ℄ OF WT. THIS SIDE NOT SHOWN.

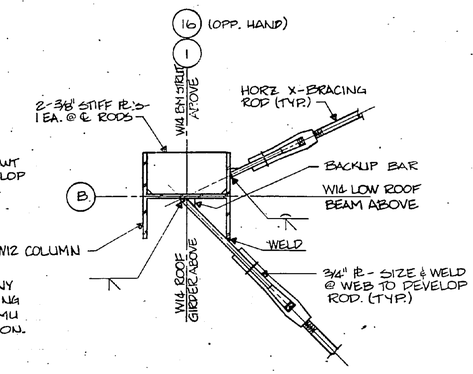


7 HORIZONTAL X-BRACING CONNECTION
SCALE: 1 1/2" = 1'-0"

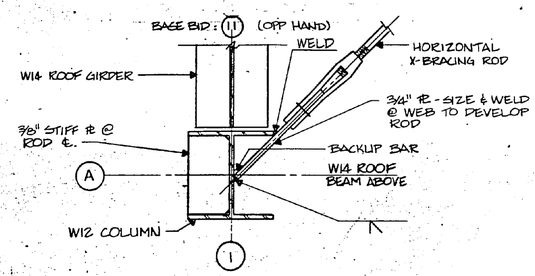
GENERAL NOTE:
SEE 10 528 529 FOR DETAIL OF ANY DIAGONAL PASSING THROUGH ANY CMU WALL OR PARTITION.



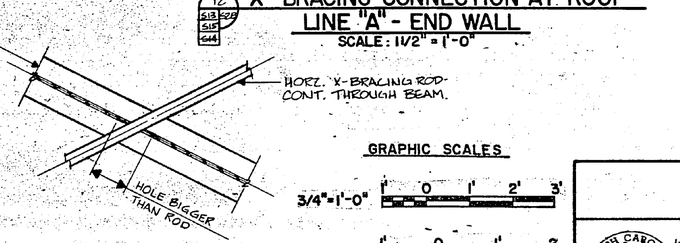
8 DIAGONAL STRUT CONNECTION
SCALE: 1 1/2" = 1'-0"



10 HORIZONTAL X-BRACING CONNECTION AT COLUMN
SCALE: 1 1/2" = 1'-0"



11 X-BRACING CONNECTION AT LOW ROOF - LINE "B" - END WALL
SCALE: 1 1/2" = 1'-0"



9 X-BRACING ROD AT DIAGONAL STRUT
SCALE: 1 1/2" = 1'-0"

12 X- BRACING CONNECTION AT ROOF - LINE "A" - END WALL
SCALE: 1 1/2" = 1'-0"

GRAPHIC SCALES

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

1"=1'-0" 1' 0 1' 2

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

S-28

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. GAE DR. KMW CHK. DHK
PROJ. MGR. GAE CH. ENGR. DHK
SUBMITTED BY: DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD/FP: JOHK RVD
HD: RAP DIR
APPROVED: OFFICER IN CHARGE DATE 3-4-86
APPROVED: FOR EFD, FOR COMMANDER NAVFAC DATE 1-12-87

NORTH CAROLINA REGISTERED 26691 ENGINEER JOHN A. BASON

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

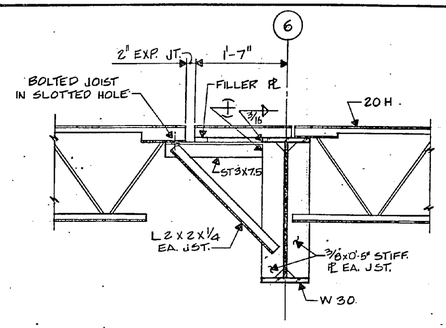
MAINTENANCE HANGAR

STRUCTURAL CONNECTION DETAILS

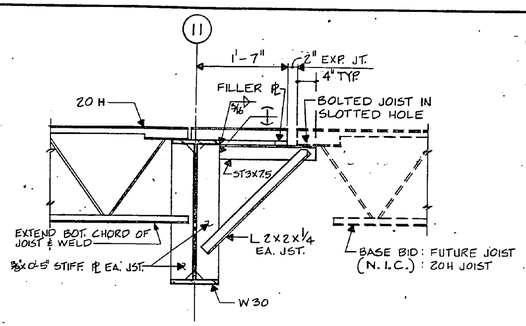
SIZE D | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138824
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE No Scale | SPEC. 05-84-4174 | SHEET 75 OF 129
EFD DWG. NO. 238824

BRUNING CO. WATER # 1-800-445-0363

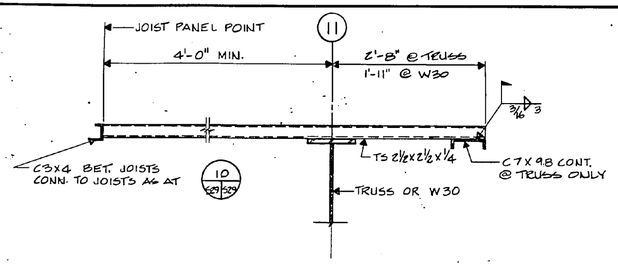
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



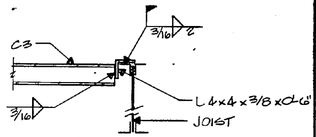
1 — ROOF EXP. JOINT AT LINE (6)
SCALE : 1" = 1'-0"



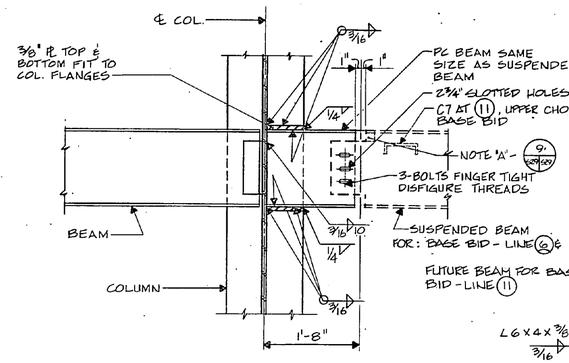
2 — ROOF EXP. JOINT AT LINE (11)
SCALE : 1" = 1'-0"



3 — ROOF SUPPORT OUTRIGGERS AT (11) - BASE BID
SCALE : 1" = 1'-0"

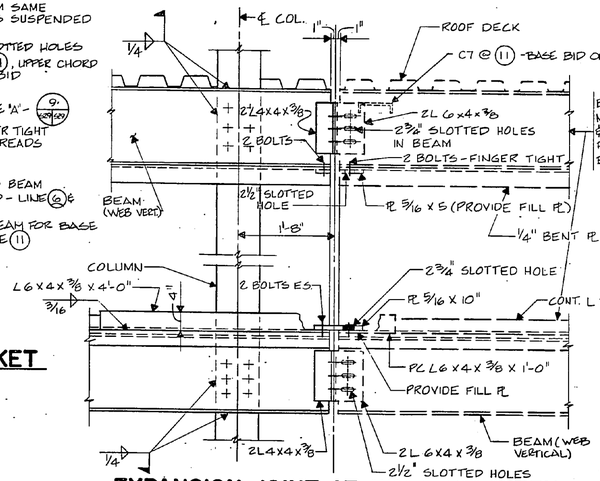


10 — DETAIL
SCALE : 1" = 1'-0"

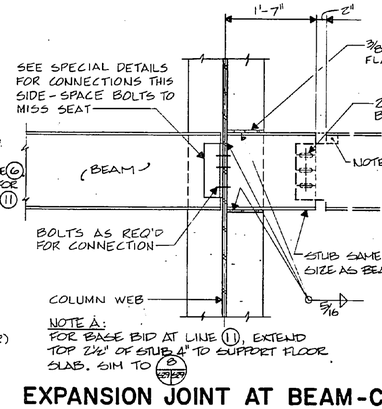


4 — EXPANSION JOINT AT PITCH POCKET
SCALE : 1" = 1'-0"

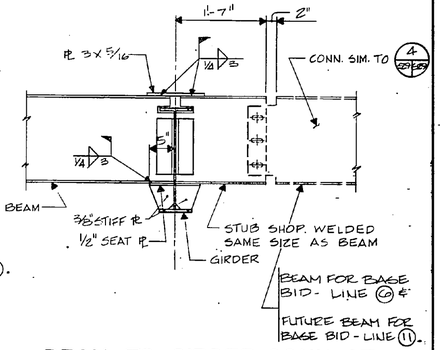
NOTE:
THIS SECTION APPLICABLE TO ROOF @ B6, B11 (BOTH UPPER & LOWER CHORD) AND TO ROOF AT A6, A11



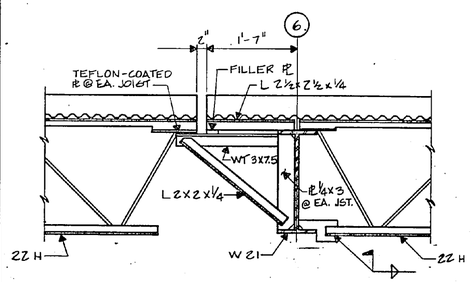
5 — EXPANSION JOINT AT WALL BETWEEN HIGH ROOF AND LOW ROOF
SCALE : 1" = 1'-0"



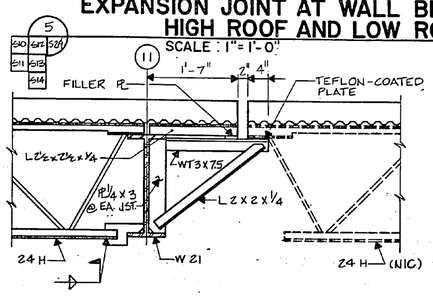
EXPANSION JOINT AT BEAM-COLUMN CONNECTION AT FLOOR
SCALE : 1" = 1'-0"



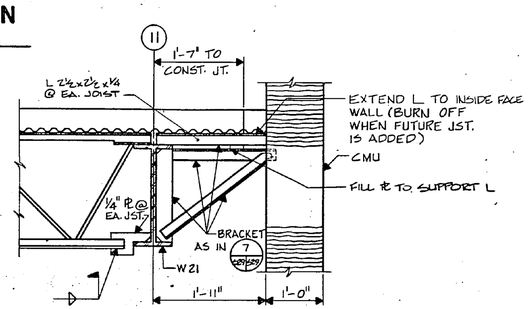
BEAM-TO-GIRDER CONN. AT FLOOR EXP. JOINT
SCALE : 1" = 1'-0"



6 — SECTION THRU (6) AT SECOND FLOOR
SCALE : 1" = 1'-0"



SECTION THRU (11) AT SECOND FLOOR - BASE BID PLUS FUTURE EXPANSION MODULE (N.I.C.)
SCALE : 1" = 1'-0"



8 — SECTION THRU (11) AT SECOND FLOOR - BASE BID
SCALE : 1" = 1'-0"

GRAPHIC SCALE
1" = 1'-0"
1' 0 1' 2'

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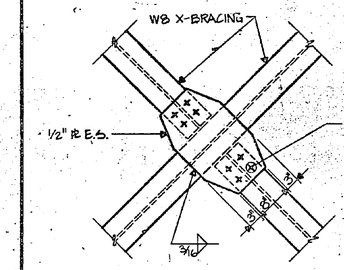
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA
DES. G.A.E. DFTG. J/M.D.M. CHK. D.H.K. PROJ. MGR. G.A.E. CH. ENGR. D.H.K. SUBMITTED BY: DATE: '86 FIRM MEMBER EFD/FP-1/1004 PRINCIPAL RYD HD DIR APPROVED DATE OFFICER IN CHARGE APPROVED FOR EFD FOR COMMANDER NAVFAC DATE 1-12-87	MARINE CORPS AIR STATION DG NEW RIVER, NORTH CAROLINA
	MAINTENANCE HANGAR
	EXPANSION JOINT DETAILS
	SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4138825; CONSTR. CONTR. NO. N62470-84-B-4174; SCALE AS SHOWN; SPEC. 05-84-4174; SHEET 76 OF 129; EFD DWG. NO. 238825

DRAWING MUST FIT 8.5 X 11 BOX

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

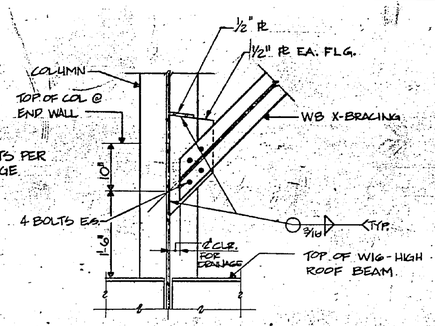
NOTES:

1. ALL PENETRATION WELDS TO BE FULL PENETRATION.
2. ALL WELDS NOT SHOWN TO BE MIN. 3/16" FILLET WELD.
3. ALL EXTERIOR WELDS EXPOSED TO WEATHER TO BE SEAL WELDS.

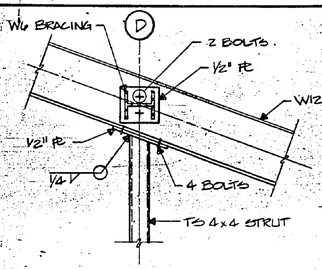


NOTE: SPLICES IN BRACING ALONG (D) SIMILAR

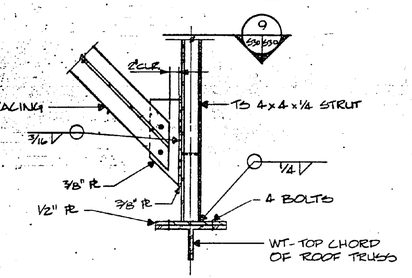
1 MAST BRACING SPLICE
S40 S21 S30 / S20 S30
SCALE: 1" = 1'-0"



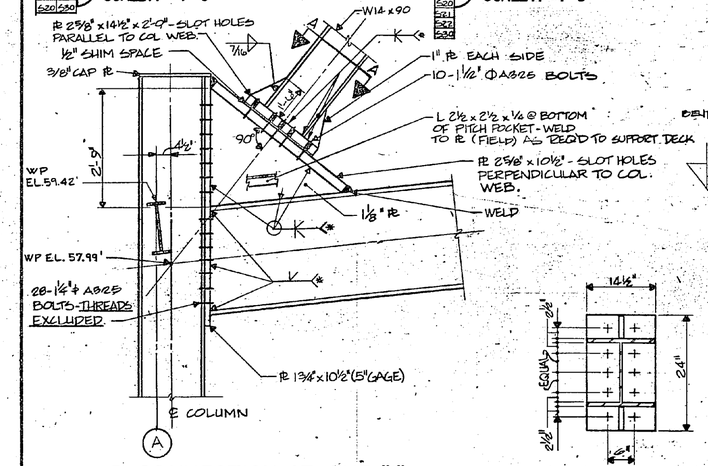
2 X-BRACING CONNECTION
S30 S30 / S21 S30 / S24 S30
SCALE: 1" = 1'-0"



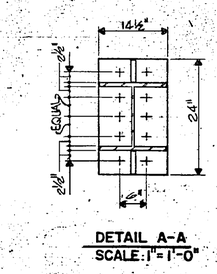
3 CONNECTION DETAIL
S18 S30 / S30
SCALE: 1" = 1'-0"



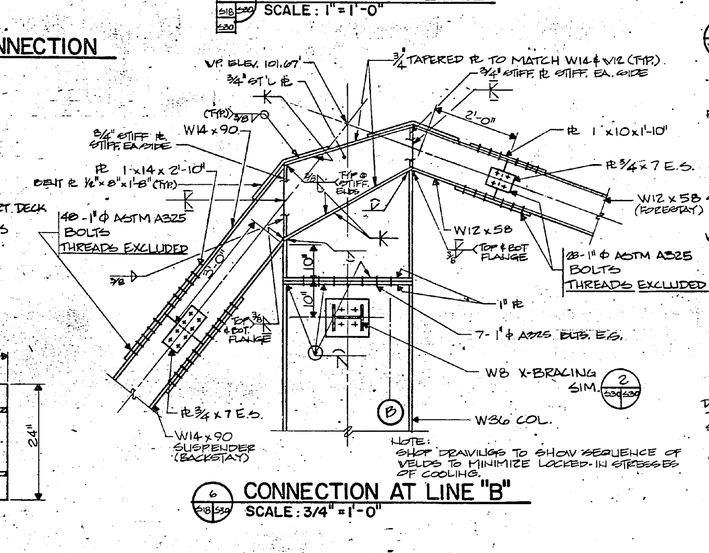
4 TS STRUT CONNECTION
S30 S30
SCALE: 1" = 1'-0"



5 CONNECTION AT LINE "A"
S30 S30
SCALE: 3/4" = 1'-0"

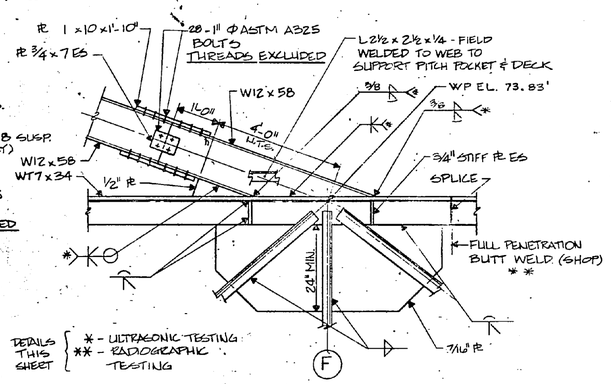


DETAIL A-A
SCALE: 1" = 1'-0"



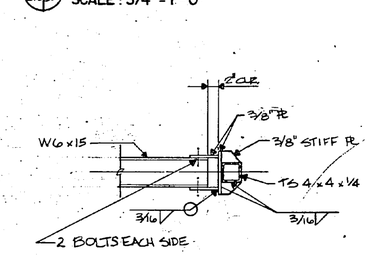
NOTE: SHOP DRAWINGS TO SHOW SEQUENCE OF WELDS TO MINIMIZE LOCKED-IN STRESSES OF COOLING.

6 CONNECTION AT LINE "B"
S18 S30
SCALE: 3/4" = 1'-0"

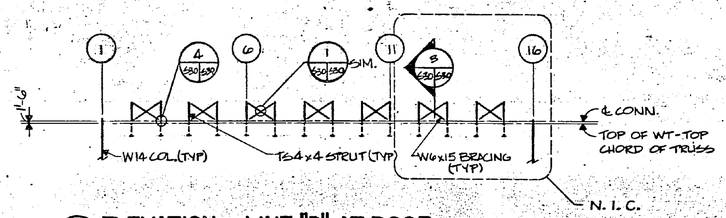


DETAILS THIS SHEET
* - ULTRASONIC TESTING
** - RADIOGRAPHIC TESTING

7 CONNECTION AT LINE "F"
S18 S30
SCALE: 3/4" = 1'-0"



9 DETAIL
S30 S30
SCALE: 1" = 1'-0"



8 ELEVATION - LINE "D" AT ROOF
S13 S30 / S14 / S15 / S18
NO SCALE

GRAPHIC SCALES

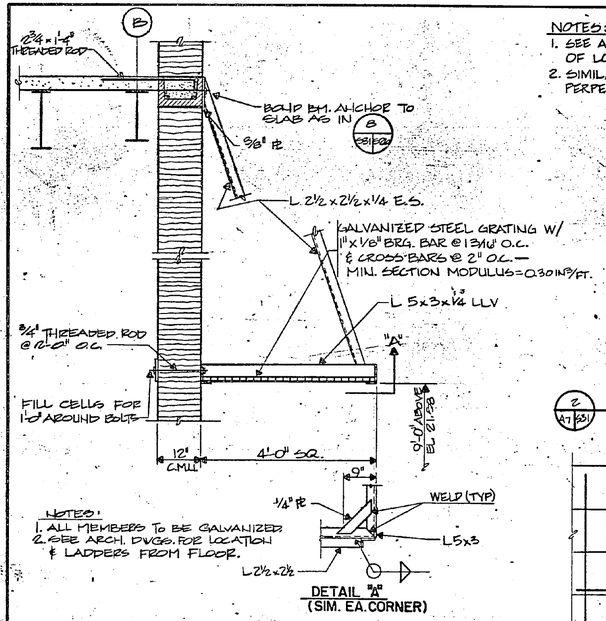
1" = 1'-0" 1' 0 1' 2'

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

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

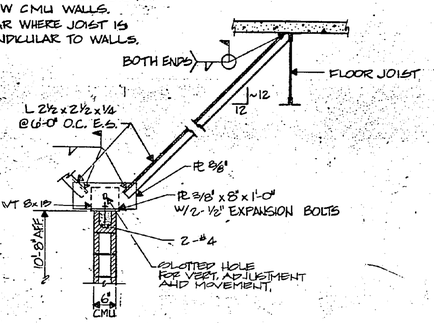
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	S-30
DES. SAE DR. TWH CHK. DHK PROJ. MGR. GAC CH. ENGR. DHK SUBMITTED BY DATE 4 MAR 86 FIRM MEMBER PRINCIPAL EFD/FPO/SEL RVD NO. 1809 DIR. KD APPROVED DATE 3-4-86 OFFICER IN CHARGE APPROVED DATE 1-12-87 FOR EFD, FOR COMMANDER NAVFAC	MARINE CORPS AIR STATION MR. NEW RIVER, NORTH CAROLINA MAINTENANCE HANGAR STRUCTURAL DETAILS SIZE F · CODE IDENT. NO. 80091 · NAVFAC DRAWING NO. 4138826 CONSTR. CONTR. NO. N62470-84-B-4174 SCALE AS NOTED · SPEC. 05-84-4174 · SHEET 77 OF 129 EFD DWG. NO. 238826	

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26611 DANIEL A. EASON

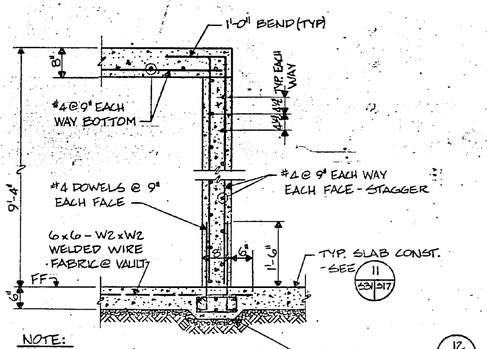


1 MONITOR NOZZLE PLATFORM
A2 S31 · A3 · A4
SCALE: 3/4" = 1'-0"

NOTES:
1. SEE ARCH. FOR LOCATION OF LOW CMU WALLS.
2. SIMILAR WHERE JOIST IS PERPENDICULAR TO WALLS.

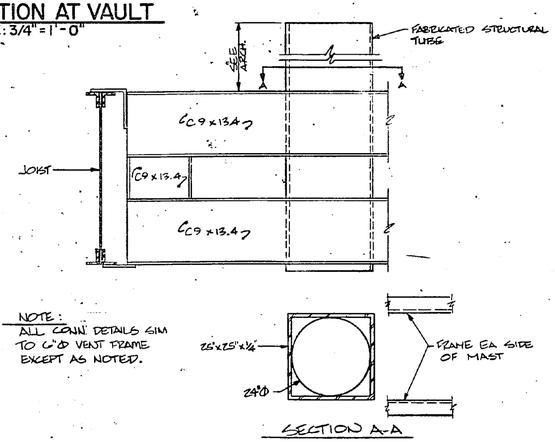


2 BRACE FOR LOW C.M.U. WALL
A7 S31
SCALE: 3/4" = 1'-0"



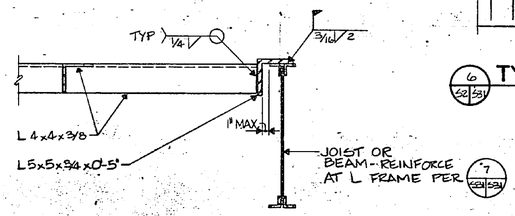
NOTE:
SEE ARCH. FOR LOCATION OF VAULTS AND CAST IN DOOR FRAME.

3 SECTION AT VAULT
S5 S31 · S6 · S7
SCALE: 3/4" = 1'-0"

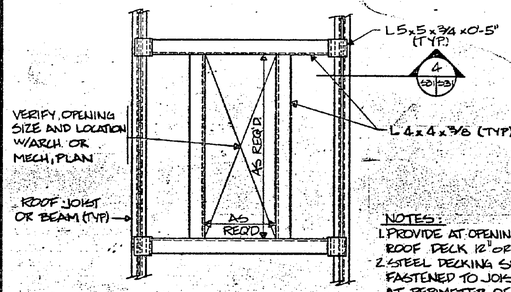


NOTE:
ALL CMU DETAILS SIM TO C'D VENT FRAME EXCEPT AS NOTED.

SECTION A-A



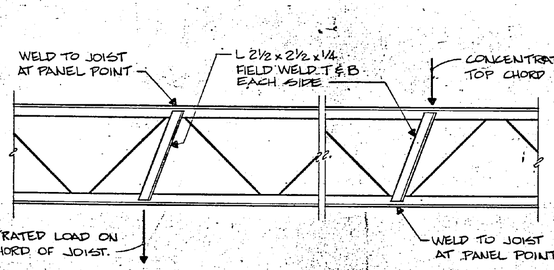
4 TYPICAL FRAMING FOR ROOF OPENING
S13 S31 · S14 · S15 · S31
NTS



NOTES:
1. PROVIDE AT OPENINGS THRU ROOF DECK 12" OR LARGER.
2. STEEL DECKING SHALL BE FASTENED TO JOIST & TO ANGLES AT PERIMETER OF ALL OPENINGS.

5 TYPICAL FRAMING FOR ROOF OPENING
S13 S31 · S14 · S15 · S45
NTS

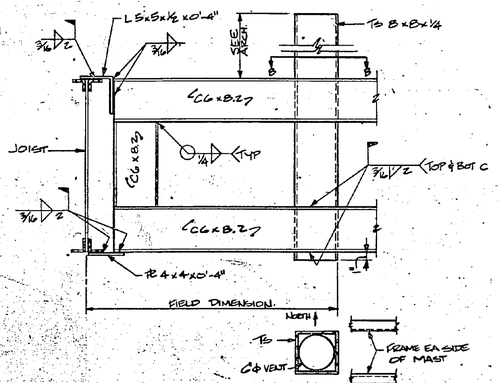
6 TYPICAL REINFORCING AT TRENCH PENETRATION
S2 S31
SCALE: 3/4" = 1'-0"



NOTE:
PROVIDE L'S AS SHOWN AT ALL CONCENTRATED LOADS ON ROOF & FLOOR JOISTS NOT AT PANEL POINTS (i.e. @ WB x 10's WHICH SUPPORT LIGHTS IN HANGAR AREA).

7 JOIST REINFORCEMENTS
S8 S16 S31 · S13 S48 · S14 S31
N.T.S.

8 FRAME & MASTS TO BRACE 24" VENT
S15 S31 S31 · S14
NTS



SECTION B-B

9 FRAME & MASTS TO BRACE 6" VENT
S13 S31 · S14 · S45
NTS

NOTE: SIM @ 4" VENT W/ TS 6x6x¼ MAST

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

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. AE DR. EDW CHK. DJK
PROJ. MGR. GAF CH. ENGR. DJK
SUBMITTED BY: DATE:
FIRM MEMBER PRINCIPAL
EFD/FP /2000 SPEC
NO REF DIR KD
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE 1-12-89
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA SEAL 26661 JOHN A. ERVIN

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

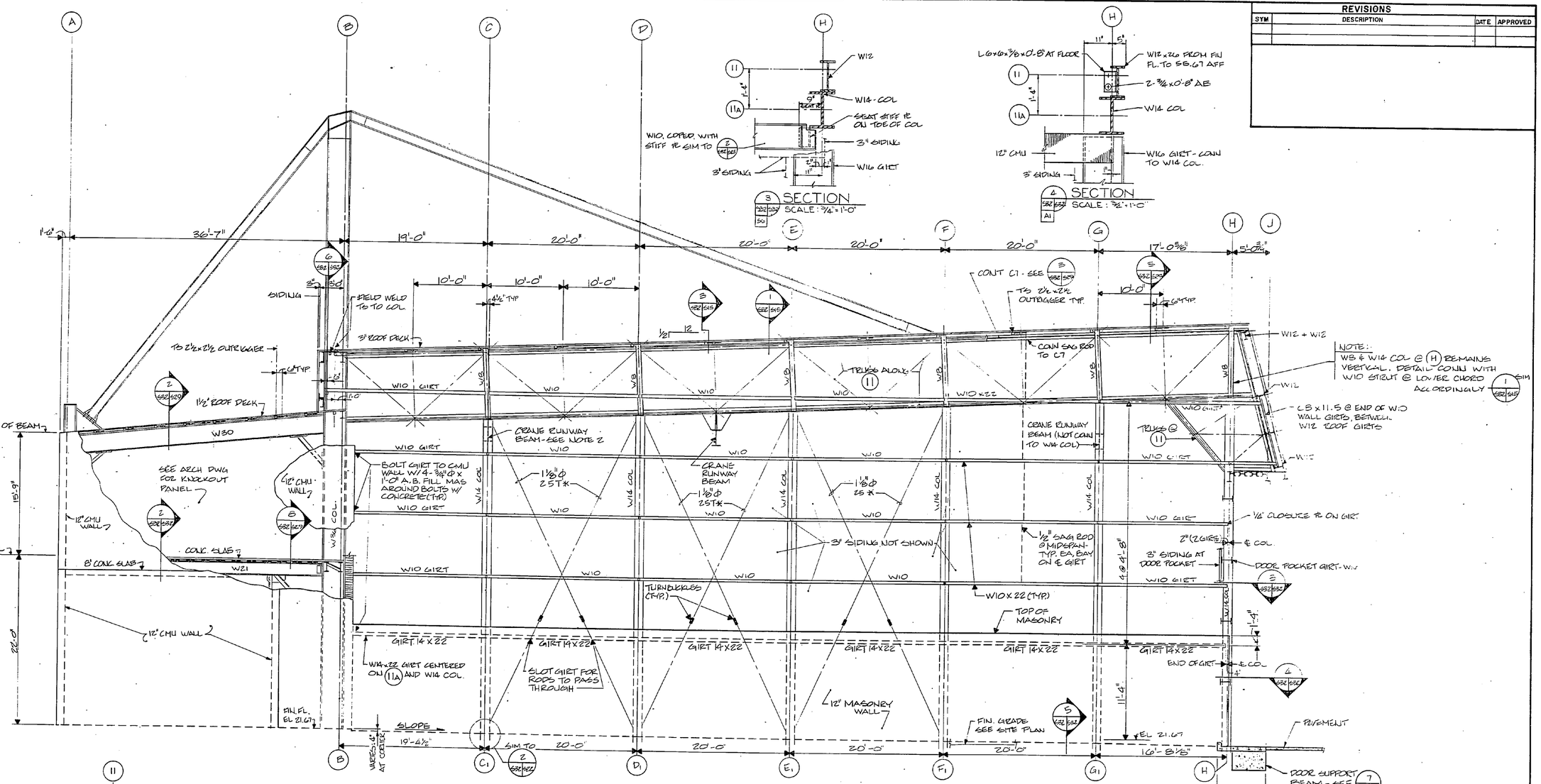
MAINTENANCE HANGAR

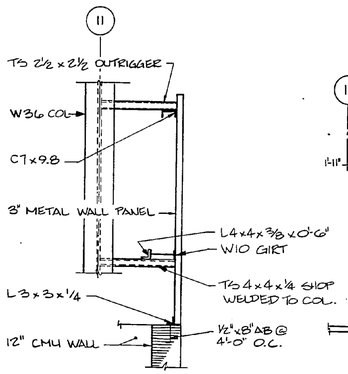
STRUCTURAL DETAILS

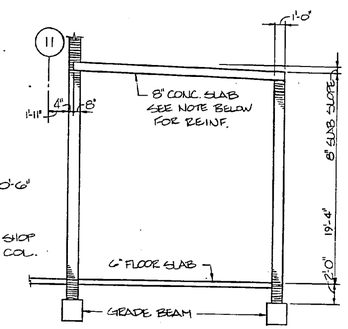
SIZE F · CODE IDENT. NO. 80091 · NAVFAC DRAWING NO. 4138827
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS SHOWN · SPEC. 05-84-4174 · SHEET 178 OF 129
EFD DWG. NO. 238827

S-31

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



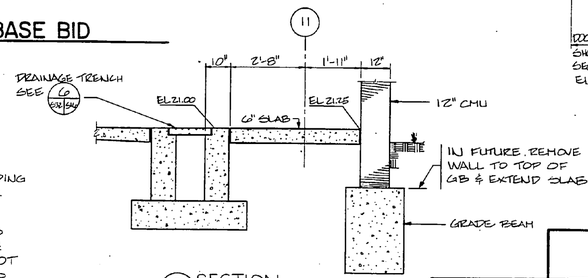




1 END WALL ELEVATION - LINE "11" - BASE BID
SCALE: 3/16"=1'-0"

NOTES:

1. THIS ELEVATION SHOWS CONDITION ALONG LINE "11" IF ONLY BASE BID IS BUILT. WALL & FRAMING TO BE REMOVED IN FUTURE WHEN BASE BID STRUCTURE IS EXTENDED TO SOUTH.
2. IN GENERAL, PREPARE MATERIAL AT LINE "11" FOR FUTURE EXTENSION, INCLUDING PROVIDING FOR EXPANSION JOINT DETAILS SHOWN OR IMPLIED.
3. FRAMING ALONG LINE "11A" TO BE REMOVED WHEN BUILDING IS EXTENDED. MATERIALS & LABOR REQUIRED FOR THE EXTENSION NOT SPECIFIED HERE OR TO BE FURNISHED AT THIS TIME. NOTES REFERRING TO FUTURE EXTENSION TO GUIDE FUTURE DESIGNERS & CONTRACTORS.



NOTE:
ALSO SEE ARCH. DWG A-22

GRAPHIC SCALE
3/16" = 1'-0" 5' 0' 5' 10'
1/2" = 1'-0" 1' 0 1' 2' 3' 4' 5'
3/4"=1'-0" 1' 0 1' 2' 3'

S-32

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

DES. CHK | DR. LJ/TLW | CHK. PBT
PROJ. MGR. CH. ENGR.
SUBMITTED BY: DATE: 25 JAN 86
FIRM MEMBER PRINCIPAL
EFD: FPO DIVD
HD APPROVED: DATE: 6-27-86
OFFICER IN CHARGE
APPROVED: DATE: 1-12-87
FOR EFD FOR COMMANDER NAVFAC

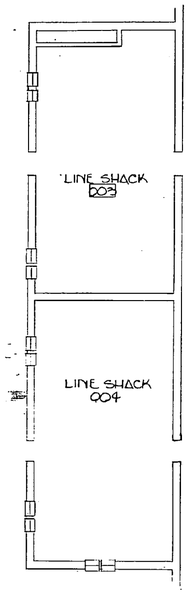
MAINTENANCE HANGAR
END WALL ELEVATION - "11" BASE BID

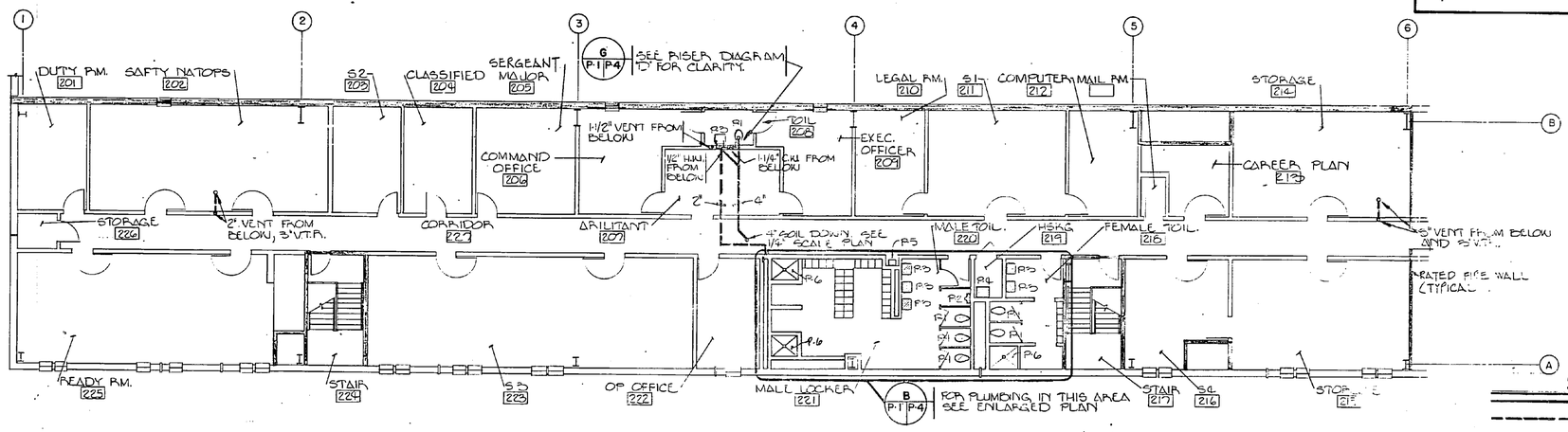
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138828
CONSTR. CONR. NO. N62470-84-B-4174
SCALE: AS SHOWN | SPEC. 05-84-4174 | SHEET 79 OF 129
EFD DWG. NO. 238828

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22736 DONALD H KLINE

REPRODUCED FROM BEST AVAILABLE COPY

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



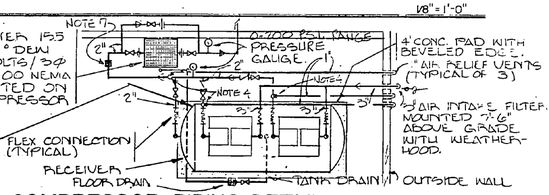


SECOND FLOOR PLAN - PLUMBING

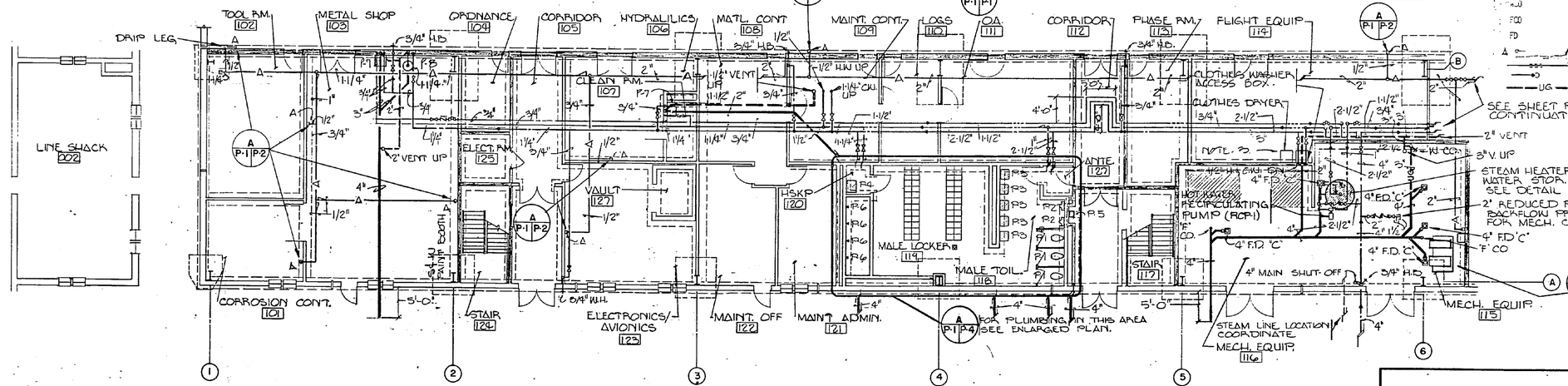
1/8"=1'-0"

REFRIGERATED AIR DRYER 135 SCFM @ 125 PSI. & 35° DEW POINT, 3/4 H.P/460 VOLTS/3Φ 60 HZ. MAX. ΔP 5PSI. CO NEMA STARTER SIZE - MOUNTED ON WALL ABOVE AIR COMPRESSOR.

AIR COMPRESSOR SHALL BE DUPLEX TANK MOUNTED 2 STAGE AIR COOLED AFTER COOLER, 7.75 C.F.M. (EA.) (15.4 SCFM TOTAL) AT 100 PSI., 120 GAL RECEIVER, SET FOR 120 PSI. START - 140 PSI. STOP. OPERATION SHALL INCLUDE INTERCOOLER AFTER COOLER, AUTO TANK DRAIN, RELIEF VALVE SET AT 155 PSIG, BELT GUARD AND DUAL CONTROL (TYPICAL OF 2) 2 H.P. 460 V/3Ø/60 HZ. NEMA STARTER SIZE, CONTROLS SHALL BE FOR AUTO ALTERNATING, AND FOR BOTH PUMPS RUNNING.



A P-1 P-1 **AIR COMPRESSOR PIPING DETAIL** NO SCALE



FIRST FLOOR PLAN - PLUMBING

1/8"=1'-0"

NOTES:
1. FINISHED FLOOR ELEVATION 21.67'
2. ALL SANITARY WASTE PIPING SHALL PASS BELOW THE BOTTOM OF GRADE BEAMS; OR THRU SLEEVES IN GRADE BEAMS REFER TO STRUCTURAL.
3. WASHER AND DRYER SHALL BE PROVIDED BY THE GOVERNMENT.
4. RELIEF VALVES SHALL BE SIZED BY THE MANUFACTURER, PIPING SHALL BE SAME SIZE AS RELIEF VALVE.
5. INSTALL PIPES WITH SLEEVES FOR PIPING IN BOND BEAMS OF WALLS AS REQUIRED PRIOR TO POURING OF CONCRETE IN BOND BEAMS.
6. PROVIDE PIPE SLEEVES THROUGH WALLS WHICH EXTEND UP THROUGH CEILING CAVITY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. PROVIDE AN OIL/MOISTURE SEPERATOR.

GRAPHIC SCALE 1/8"=1'-0" 5' 0' 5' 10' 15' 20'

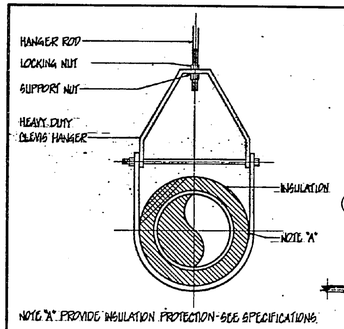
SYMBOLS

- SOIL OR WASTE PIPING (SHOWN UNDER FLOOR)
- VENT PIPING (SHOWN OVERHEAD)
- CW — COLD WATER PIPING (DOMESTIC) (SHOWN OVERHEAD)
- HW — HOT WATER PIPING (DOMESTIC) (SHOWN OVERHEAD)
- HWR — HOT WATER RETURN (DOMESTIC) (SHOWN OVERHEAD)
- A — COMPRESSED AIR PIPING (SHOWN OVERHEAD)
- GATE VALVE
- CHECK VALVE
- UNION
- BALANCING VALVE
- CW — COLD WATER
- HW — HOT WATER
- V — VENT
- HB — HOSE BIBB (12" A.F.F. UNLESS OTHERWISE NOTED).
- WH — WALL HYDRANT (12" A.F.F. UNLESS OTHERWISE NOTED).
- VTR — VENT THROUGH ROOF
- WCO — WALL CLEANOUT SAME SIZE AS PIPE UP TO 4" CO.
- FCO — FLOOR CLEANOUT SAME SIZE AS PIPE UP TO 4" CO.
- FD — FLOOR DRAIN (INVERT SAME SIZE AS FLOOR DRAIN)
- AIR G. JET
- PIPE SLEEVE
- RELIEF VALVE
- UG — VENT PIPING (SHOWN UNDER FL.)

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	P-1
	DES. J.C.S DR. CCE CHK. RAH PROJ. MGR. RAH CH. ENGR. FD SUBMITTED BY: DATE: 2 MAR 88 FIRM MEMBER PRINCIPAL EFD-FP-10CK CHRD RWC HD LHCH DIR KD APPROVED DATE 3-4-88 OFFICER IN CHARGE APPROVED DATE 1-12-87 FOR EFD FOR COMMANDER NAVFAC	MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA MAINTENANCE HANGAR FLOOR PLANS - SUPPORT AREA PLUMBING - NORTH SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4138829 CONSTR. CONTR. NO. N62470-84-B-4174 SCALE NOTED; SPEC. 05-84-4174; SHEET 80 OF 129 EFD DWG. NO. 238829	

8820

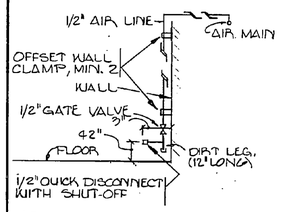
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTE "A" PROVIDE INSULATION PROTECTION-SEE SPECIFICATIONS.

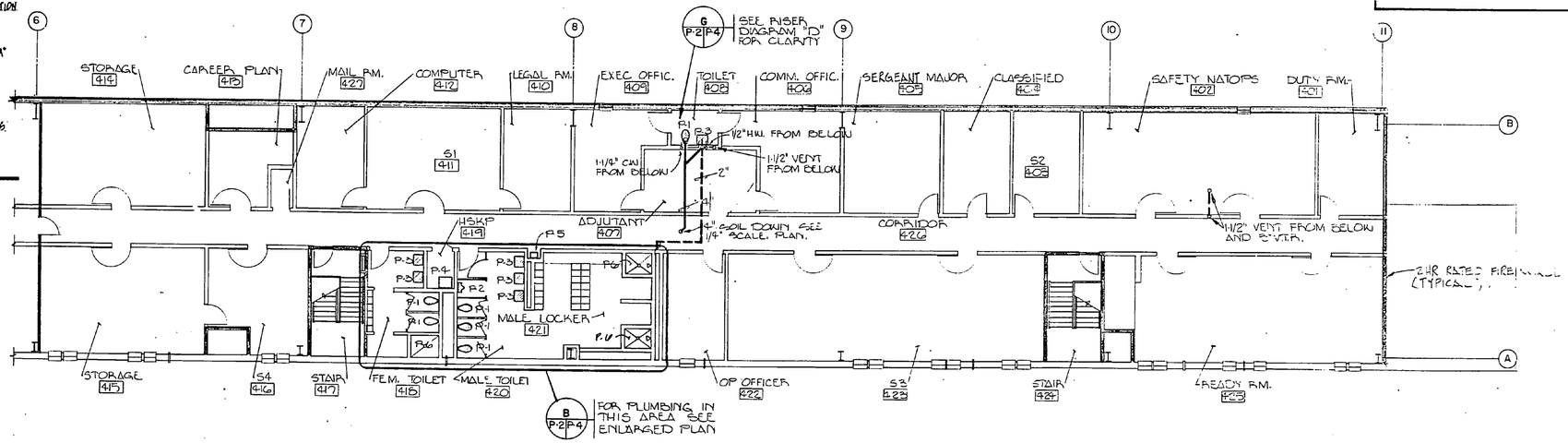
CLEVIS HANGER DETAIL

N.T.S.



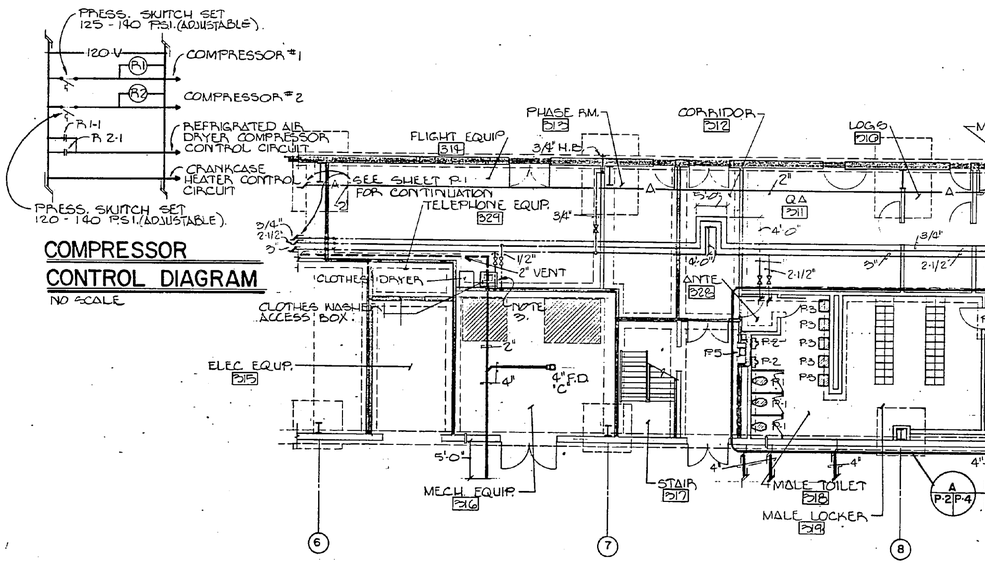
A P-3 P-2 — DETAIL - AIR OUTLET — NO SCALE

P-1, P-2



SECOND FLOOR PLAN - PLUMBING

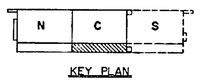
1/8" = 1'-0"



COMPRESSOR CONTROL DIAGRAM

NO SCALE

❻ CONNECT TO EXISTING UNDER ADDITIVE BID NO. 1. AND DELETE BYPASS PIPE, GATE, GLOBE AND CHECK VALVES IN CEILING CAVITY OF ROOM 302. (N.I.C.)



KEY PLAN

FIRST FLOOR PLAN - PLUMBING

1/8" = 1'-0"

NOTES:

1. FINISHED FLOOR ELEVATION = 21.67'
2. ALL SANITARY WASTE PIPING SHALL PASS BELOW THE BOTTOM OF GRADE BEAMS, OR THRU SLEEVES IN GRADE BEAMS. REFER TO STRUCTURAL.
3. WASHER AND DRYER SHALL BE PROVIDED BY THE GOVERNMENT.
4. INSTALL PIPES WITH SLEEVES FOR PIPING IN BOND BEAMS OF WALLS AS REQUIRED PRIOR TO POURING OF CONCRETE IN BOND BEAMS.
5. PROVIDE PIPE SLEEVES THROUGH WALLS WHICH EXTEND UP THROUGH CEILING CAVITY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'

1/8" = 1'-0"

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. ULD DR. CCE CHK. PJAM

PROJ. MGR. RAM CIL ENGR. P.E.

SUBMITTED BY: [signature] DATE 4 MAR 85 PRINCIPAL

FIRM MEMBER RVD AUE

HG AHW DIR KD

APPROVED [signature] DATE 3-4-85 OFFICER IN CHARGE

APPROVED [signature] DATE 5-7 FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA PLUMBING - CENTER

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138830

CONSTR. CONTR. NO. N62470-84-B-4174

SCALE 1/8"=1'-0" SPEC. 05-84-4174 SHEET 81 OF 129

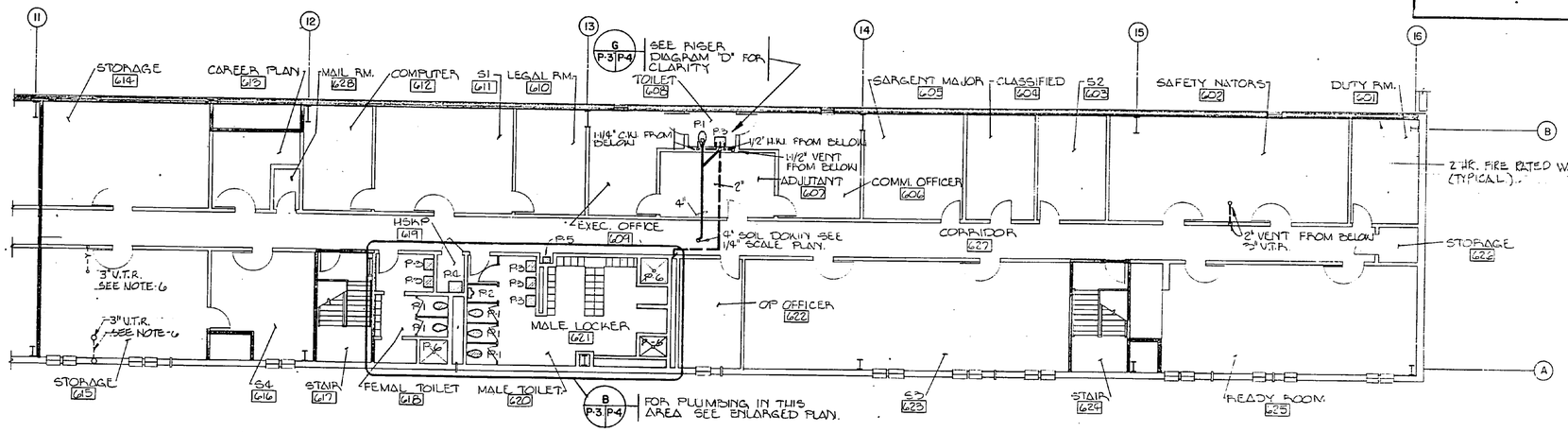
EFD DWG NO. 238830

P-2

8470

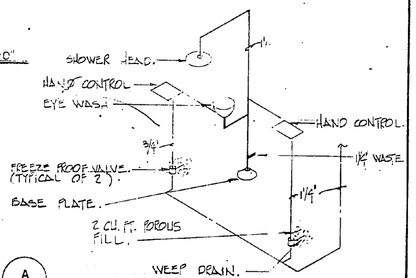
SHOPCO MASTER #1 800 522 0616

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



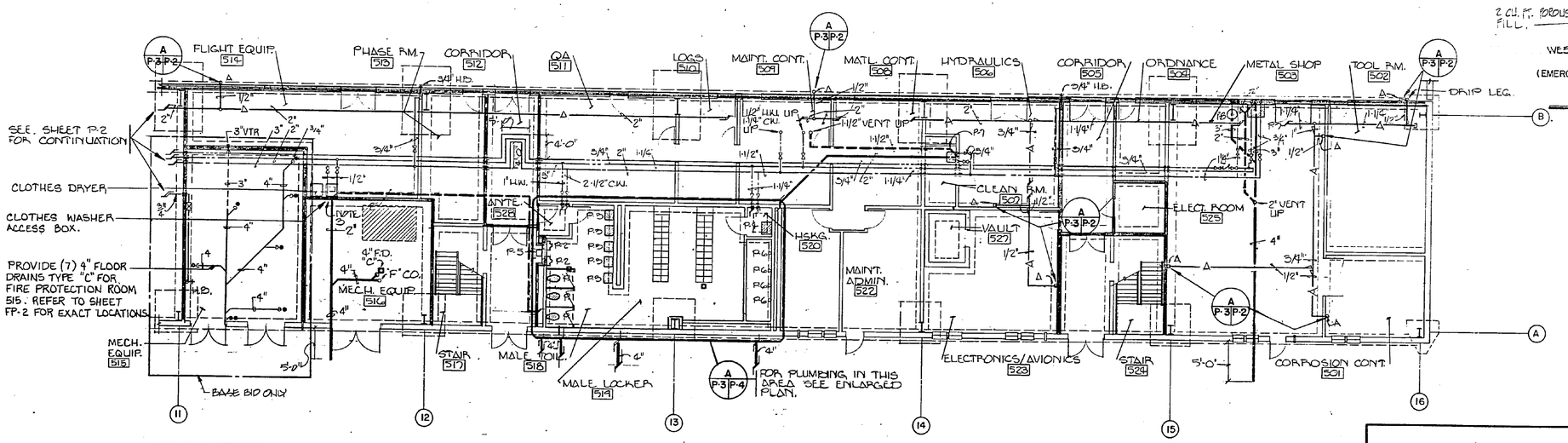
SECOND FLOOR PLAN - PLUMBING

1/8" = 1'-0"



(EMERGENCY SHOWER & EYE WASH)

DETAIL NO SCALE



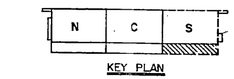
FIRST FLOOR PLAN - PLUMBING

1/8" = 1'-0"

NOTES:

1. FINISHED FLOOR ELEVATION = 21.67'
2. ALL SANITARY WASTE PIPING SHALL PASS BELOW THE BOTTOM OF GRADE BEAMS, OR THRU SLEEVES IN GRADE BEAMS. REFER TO STRUCTURAL.
3. WASHER AND DRYER SHALL BE PROVIDED BY THE GOVERNMENT.
4. INSTALL PIPES WITH SLEEVES FOR PIPING IN BOND BEAMS OR WALLS AS REQUIRED PRIOR TO POURING OF CONCRETE IN BOND BEAMS, SEE DWG. S-29.
5. PROVIDE PIPE SLEEVES IN WALLS WHICH EXTEND THROUGH CEILING CAVITY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
6. UNDER ADDITIVE BID NO 1, REROUTE VENT AS SHOWN IN SECOND FLOOR PLAN. (NIC)

GRAPHIC SCALE
5' 0' 5' 10' 15' 20'
1/8" = 1'-0"



KEY PLAN

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
DES. JLD DR. CCE CHK. PAM	
PROJ. MGR. BM CH. ENGR. PD	
SUBMITTED BY: [signature] DATE 4 MAR 87	
FIRM MEMBER PRINCIPAL	
EFD FP [signature] RVD [signature]	
HD [signature] DIR KD	
APPROVED [signature] DATE 3-6-87 OFFICER IN CHARGE	
APPROVED [signature] DATE 1-12-87 FOR EFD FOR COMMANDER, NAVFAC	

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION IHI NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

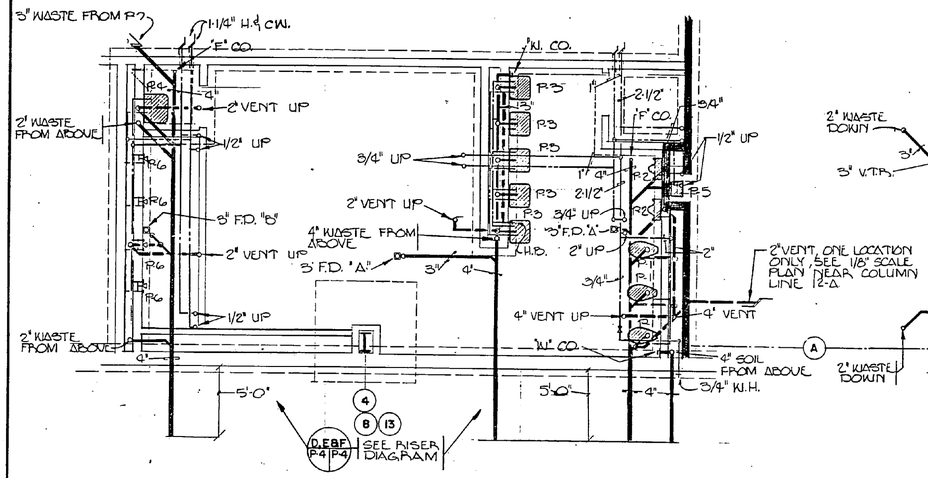
FLOOR PLANS - SUPPORT AREA
PLUMBING - SOUTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138831
SCALE AS NOTED	SPEC. 05-84-4174	CONSTR. CONR. NO. N62470-84-B-4174
		SHEET 82 OF 129
		EFD DWG. NO. 238831

P-3

DRAWING NO. 8670

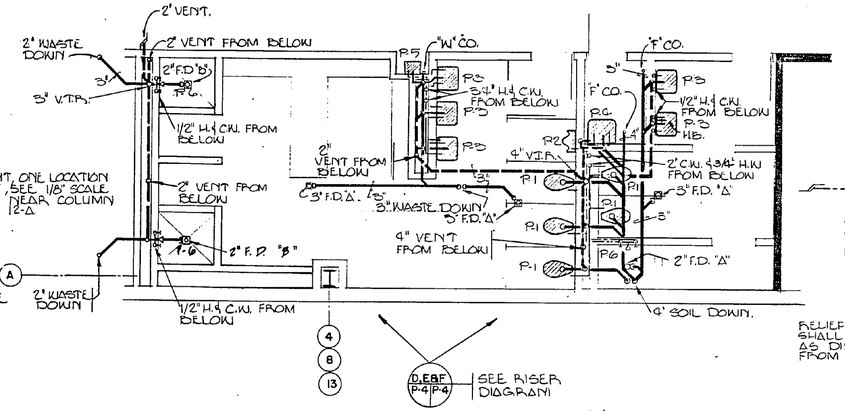
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



A P-3 P-4 R1, P-2 **TYPICAL ENLARGED TOILET/LOCKER PLAN, LOWER FLOOR**

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

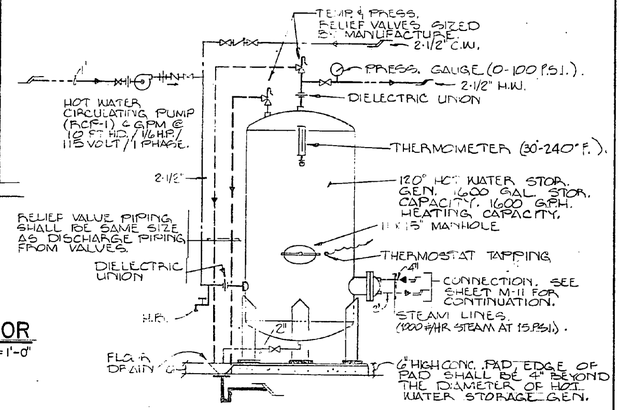
ROOM 119 (ROOMS 319 AND 519 SHALL BE OPPOSITE HAND)



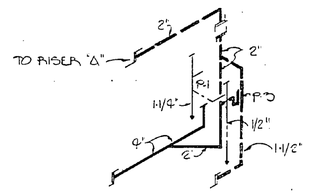
B P-3 P-4 P-1, P-2 **TYPICAL ENLARGED TOILET/LOCKER PLAN, UPPER FLOOR**

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

ROOM 221 (ROOMS 421 AND 621 SHALL BE OPPOSITE HAND)



C P-1 P-4 **DETAIL - HOT WATER STORAGE GEN. AND PIPING** NO SCALE



D P-4 P-4 **RISER DIAGRAM A** NO SCALE

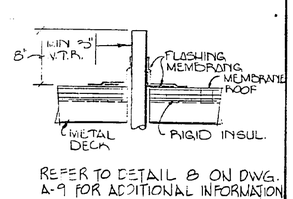
E P-4 P-4 **RISER DIAGRAM B** NO SCALE

F P-4 P-4 **RISER DIAGRAM C** NO SCALE

NOTES:
FOR RUNOUT SIZES TO AND FROM PLUMBING FIXTURES REFER TO "PLUMBING FIXTURE SCHEDULE" THIS SHEET.
RISER DIAGRAMS A, B, AND C FOR ROOMS 119/221. (ROOMS 319/421 AND 519/621 SHALL BE OPPOSITE HAND)

G P-3 P-4 P-1, P-2 **RISER DIAGRAM D** NO SCALE

NOTE:
THIS RISER IS A MIRROR IMAGE OF NORTH SIDE PROJECT



REFER TO DETAIL B ON DWG. A-9 FOR ADDITIONAL INFORMATION.

DETAIL - V.T.R. NO SCALE

PLUMBING FIXTURE SCHEDULE

FIXTURE	DESCRIPTION	RUNOUT-IN CONNECTIONS C.W.	H.W.	W.A.	V.	REMARKS
P-1	WATER CLOSET FLOOR MOUNTED	1 1/4"	-	4"	2"	W/ VENT
P-2	URINAL	3/4"	-	2"	2"	
P-3	LAVATORY	1/2"	1/2"	2"	1 1/2"	
P-4	SERVICE SINK	1/2"	1/2"	3"	2"	
P-5	ELECTRIC WATER COOLER	1/2"	-	2"	1 1/2"	
P-6	SHOWER	1/2"	1/2"	FD	WET	
P-7	UTILITY SINK	1/2"	1/2"	3"	2"	SINGLE COMPARTMENT
P-8	EMERGENCY EYE WASH	3/4"	-	2"	1 1/2"	WITH FACE RING
H.B.	HOSE BIBB	3/4"	-	-	-	-
	WASHER BOX	1/2"	1/2"	2"	1-1/2"	-
W.H.	WALL HYDRANT	3/4"	-	-	-	-

GRAPHIC SCALE 1/4"=1'-0" 3' 0' 5' 10'

P-4

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

DES. JLES DR. CCC CHK. PHR
PROJ. MGR. RJM CH. ENGR. PD
SUBMITTED BY: DATE: 4 DEC 84
FIRM MEMBER PRINCIPAL
EFD PROJECT MGR RYD
NO ACTIVITY DIR WTD
APPROVED DATE 3-4-85
OFFICER IN CHARGE
APPROVED DATE 1-12-87
FOR EFD, FOR COMMANDER NAVFAC

MAINTENANCE HANGAR

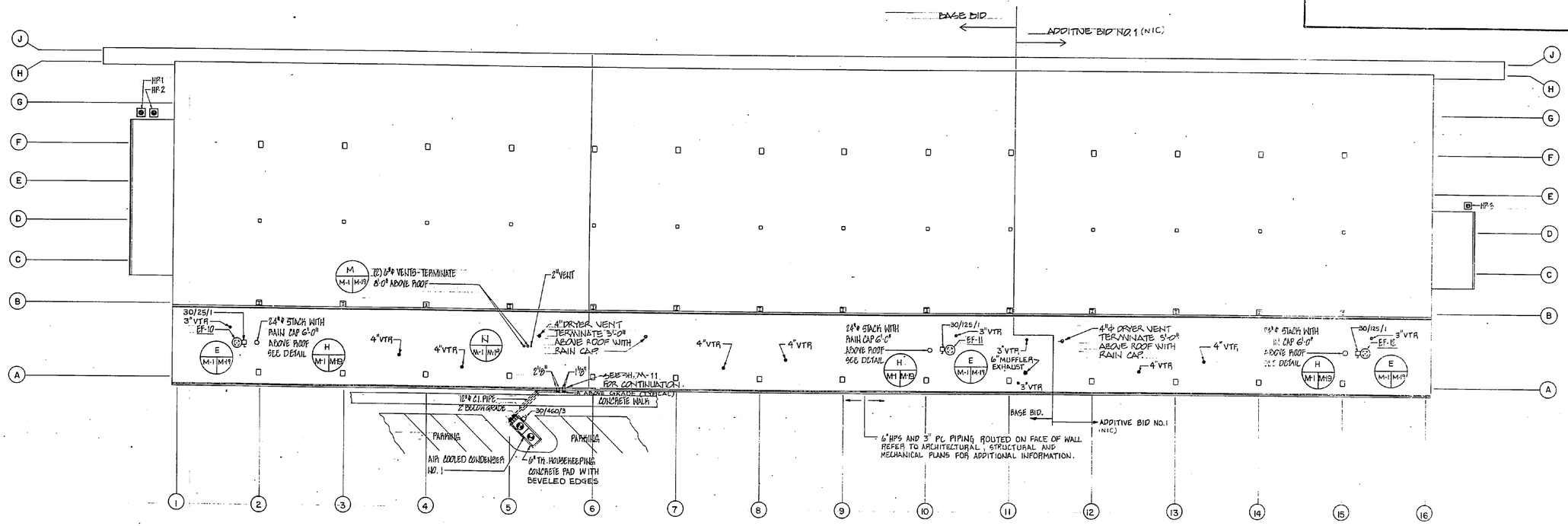
ENLARGED TOILET PLANS, DETAILS AND RISER DIAGRAMS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138832

CONSTR. CONTR. NO. N62470-84-B-4174
SCALE AS NOTED SPEC. 05-84-4174 SHEET 83 OF 129
EFD DWG. NO. 238832

BLUEPRINT PAPER 11" X 17" 8420

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



ROOF AND PARTIAL PARKING LOT PLAN

SCALE 3/64"=1'-0"

MECHANICAL LEGEND

HPS	HIGH PRESSURE STEAM
LPS	LOW PRESSURE STEAM
C	STEAM CONDENSATE
PC	PUMPED STEAM CONDENSATE
PCWS	PRIMARY CHILLED WATER SUPPLY
PCWR	PRIMARY CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
HHWS	HANGAR HOT WATER SUPPLY
HHWR	HANGAR HOT WATER RETURN
D	COIL CONDENSATE DRAIN
	FLEXIBLE PIPE CONNECTION
	DIRECTION OF FLOW
	PIPE GUIDE
	3-WAY CONTROL VALVE
	PIPE ANCHOR
	2-WAY CONTROL VALVE
	GATE VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	CHECK VALVE (DIRECTION OF FLOW NOTED)
BV	BALANCING VALVE W/FLOW METER TAPPINGS
	PRESSURE REDUCING VALVE (PRV)
	MANUAL AIR VENT
	STRAINER WITH BLOW OFF
	UNION
	ECCENTRIC REDUCER
	PIPE CAP
	THERMOMETER
	PRESSURE GAUGE WITH ISOLATION VAVE
	PIPE SLEEVE
	F & T TRAP
	PIPE DOWNTURN

	PIPE UPTURN
	SUPPLY DUCT SECTION
	RETURN/EXHAUST DUCT SECTION
	FLEXIBLE DUCT CONNECTION
BDD	BACKDRAFT DAMPER
	TURNING VANES
	AIR EXTRACTORS
	SPLITTER DAMPER
VD	VOLUME DAMPER
M	MOTORIZED DAMPER
AP FD	FIRE DAMPER/ACCESS DOOR
SD CFM	SUPPLY AIR DIFFUSER
SG CFM	SUPPLY GRILLE
RA CFM	RETURN GRILLE
EA CFM	EXHAUST GRILLE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
CW	CHILLED WATER
HW	HOT WATER
OA	OUTSIDE AIR
TC	THERMOSTAT (COOLING)
TH	THERMOSTAT (HEATING)
U.C.	DOOR UNDERCUT

T(S)	THERMOSTAT (SETBACK)
HP-1	HEAT PUMP
V-1	VENTILATING UNIT
HV-1	HEATING/VENTILATING UNIT
AH-1	3 DECK MULTIZONE UNIT
UH-1	UNIT HEATER
EF-1	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
WPD	WATER PRESSURE DROP
EWT	ENTERING WATER TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
EAT	ENTERING AIR TEMPERATURE
LAT	LEAVING AIR TEMPERATURE
BOW	BAKED ON WHITE
(WS)	WALL SWITCH OR SWITCH W/T'STAT
CP	CIRCULATING WATER PUMP
CRP	CONDENSATE RETURN PUMP
PRS	PRESSURE REDUCING STATION
OBD	OPPOSED BLADE DAMPER
	MAGNETIC MOTOR CONTROLLER AND SEPARATE NON FUSIBLE DISCONNECT SWITCH
*	PROVIDE DIFFUSERS AND GRILLES WITH OPPOSED BLADE DAMPERS UNLESS SPECIFICALLY NOTED OTHERWISE
M.A.	MAKE-UP AIR
S.A.	SUPPLY AIR
R.A.	RETURN AIR
E.A.	EXHAUST AIR
F.M.	FILTER MODULE
O.A.	OUTSIDE AIR
	ZONE DESIGNATION
	AIR HANDLING UNIT
	POTABLE WATER MAKE-UP
	2 HOUR FIRE WALL
	WALL EXTENDING UP TO STRUCTURE. ONE HOUR OR LESS.

DESIGN INDOOR CONDITIONS					
AIR CONDITION SPACES		HEATED ONLY SPACES (WINTER)			
SUMMER	WINTER	TOILETS, SHOWERS & LOCKERS	MAINTENANCE HANGER	SHOP AREAS	MECH. ROOMS
78°F DB/50%RH	68°F DB	68°F DB	60°F DB	60°F DB	50°F DB

DESIGN AMBIENT OUTDOOR CONDITIONS	
SUMMER	WINTER
90 F DB/79 F WB	23 F DB

A.F.F.	ABOVE FINISHED FLOOR
	STANDARD 4 WAY BLOW PATTERN
	BLOW PATTERN IF OTHER THAN STANDARD 4 WAY BLOW
	MOTOR DISCONNECT SWITCH-HORSE POWER RATED AND SUITABLE FOR ENVIRONMENT WHERE INSTALLED
30/250/2 F50	FUSIBLE DISCONNECT SWITCH-SUITABLE FOR ENVIRONMENT WHERE INSTALLED 30-AMPS, 250-VOLTS, 2-POLES, F50-80AMP FUSES
	MAGNETIC MOTOR CONTROLLER
V.T.R.	VENT THROUGH ROOF

GRAPHIC SCALE
3/64"=1'-0"
4' 3' 2' 1' 0' 5' 10' 20'

N | C | S

KEY PLAN

M-1

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. PD | DR. BK | CHK. EAM
PROJ. MGR. RAM | CH. ENGR. PD
SUBMITTED BY: [signature] DATE 6 MAR 84
FIRM MEMBER | PRINCIPAL
EFD PROJECT MGR. RVD
HD ARCH
APPROVED: [signature] DATE 5-4-84
OFFICER IN CHARGE
RECOMMENDED: [signature] DATE 1-5-84
FOR EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

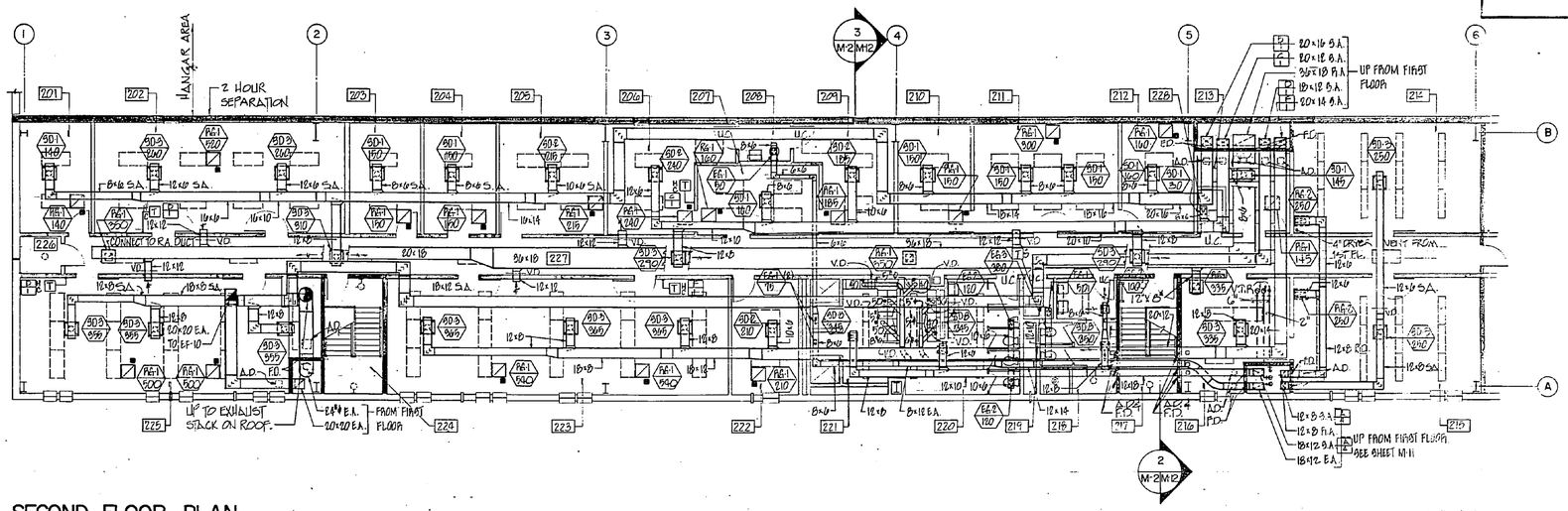
ROOF, PARTIAL PARKING LOT PLAN AND LEGEND

SIZE F | COMD IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138833
CONSTR. CONTR. NO: N62470-84-B-4174
SCALE AS SHOWN | SPEC: 05-84-4174 | SHEET 84 OF 129
EFD DWG. NO. 238833

2850 OSA
1375 OSA
4225
5100

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

201	DUTY ROOM
202	SAFETY NATOPS
203	S-2
204	CLASSIFIED
205	SERGEANT MAJOR
206	COMMAND OFFICER
207	ADJUTANT
208	TOILET
209	EXECUTIVE OFFICER
210	LEGAL ROOM
211	S-1
212	COMPUTER ROOM
213	CAREER PLANNING
214	STORAGE
215	STORAGE
216	S-4
217	STAIR
218	FEMALE TOILET
219	HOUSEKEEPING
220	MALE TOILET
221	MALE LOCKER
222	OP OFFICER
223	S-3
224	STAIR
225	READY ROOM
226	STORAGE
227	CORRIDOR
228	MAIL ROOM

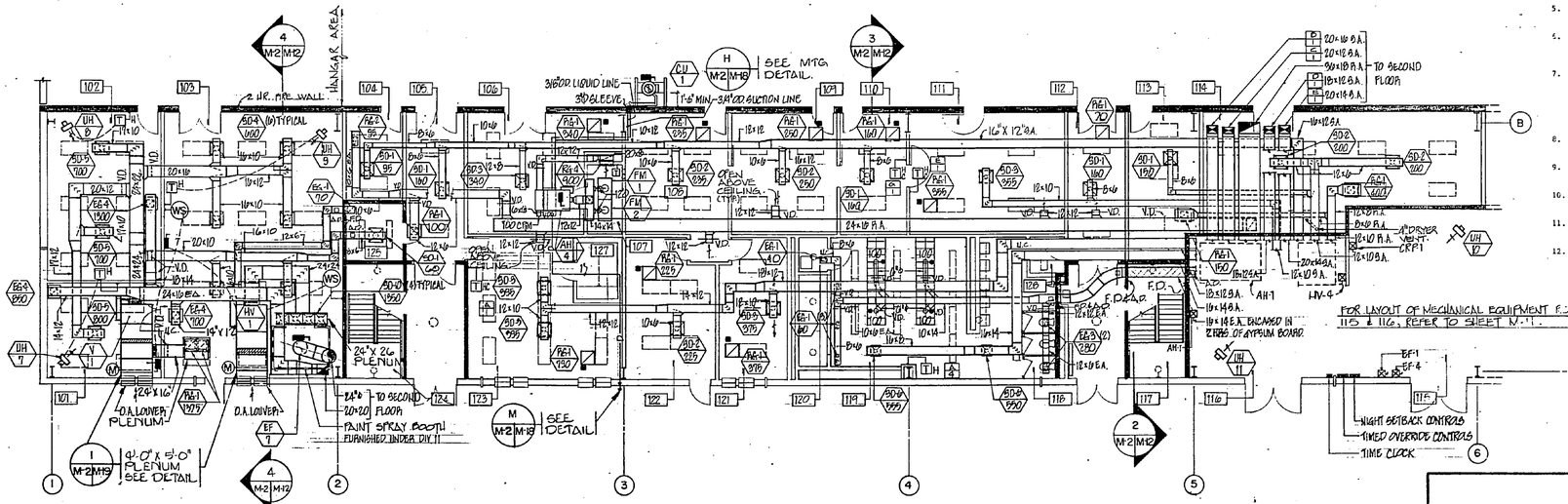


SECOND FLOOR PLAN

FINISHED FLOOR ELEVATION 43.67'

1/8" = 1'-0"

101	CORROSION CONTROL
102	TOOL ROOM
103	METAL SHOP
104	ORDINANCE
105	CORRIDOR
106	HYDRAULICS
107	CLEAN ROOM
108	MATERIAL CONTROL
109	MAINT. CONTROL
110	LOGS
111	QA
112	CORRIDOR
113	PHASE ROOM
114	FLIGHT EQUIPMENT
115	MECHANICAL EQUIPMENT
116	MECHANICAL EQUIPMENT
117	STAIR
118	MALE TOILET
119	MALE LOCKER
120	HOUSEKEEPING
121	MAINT. ADMINISTRATION
122	MAINT. OFFICE
123	ELECTRONICS
124	STAIR
125	ELECTRICAL ROOM
127	VAULT
128	ANTE ROOM



FIRST FLOOR PLAN

FINISHED FLOOR ELEVATION 21.67'

1/8" = 1'-0"

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'

1/8" = 1'-0"

NOTES:

1. PROVIDE ACCESS DOORS IN DUCT AT FIRE DAMPERS. FOR FIRE DAMPERS IN WALLS AND FLOORS - REFER TO DETAILS, ON SH M-19.
2. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. FOR DUCTWORK W/ 1" INTERNAL LINING, INCREASE DUCTWORK SIZES AS REQUIRED TO MAINTAIN CLEAR INSIDE DIMENSIONS.
3. REFER TO THE REFLECTED CEILING PLANS FOR EXACT LOCATION OF DIFFUSERS, GRILLES, ETC.
4. FOR DUCTED RETURN AND EXHAUST GRILLES IN CEILING, REFER TO DETAIL, ON SH M-19.
5. THE BOTTOM OF THE RETURN GRILLE IN THE CLEAN WORK STATION SHALL BE 8" ABOVE THE FINISHED FLOOR.
6. COORDINATE PLACEMENT OF CONTROL CONDUIT, ETC. THRU MASONRY WALLS SUCH THAT PLACEMENT OF CONDUIT IS PRIOR TO POURING OF BOND BEAMS.
7. ALL DUCTWORK 15 FEET DOWNSTREAM OF HEATING, VENTILATING UNITS, 15 FEET DOWNSTREAM OF VENTILATING UNITS AND 20 FEET DOWNSTREAM OF HEATING, VENTILATING AND AIR CONDITIONING UNITS SHALL BE INTERNALLY LINED. ALL RETURN DUCTWORK 15 FEET UPSTREAM OF MIXED AIR PLENUMS FOR SAME UNITS SHALL ALSO BE INTERNALLY LINED.
8. REFER TO ARCHITECTURAL DETAILS FOR EXHAUST AIR CONNECTION TO LOCKERS AND PAINT SPRAY BOOTH.
9. PITCH CONDENSATE DRAIN LINES DOWNWARD AT A SLOPE OF AT LEAST 1/8" PER FOOT OF LINEAR RUN.
10. AS NOTED WITH A SHADED BLOCK ■, RETURN GRILLES SHALL BE PROVIDED WITH AN INTERNALLY LINED ELBOW AS PER DETAIL M2/M-3
11. SLEEVES ARE REQUIRED FOR ALL DUCTWORK AND PIPING PASSING THROUGH WALLS. SEE SH. M-19 FOR DETAIL.
12. 6" DIAMETER EXHAUST DUCT CONNECTED TO LOCKERS IS SHOWN WITH A SHADED DOT ●. REFER TO SECTION 3/M-5 M-12 FOR ADDITIONAL INFORMATION.

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NK — NEW RIVER, NORTH CAROLINA

DES. P.D. | DR. D.N. | CHK. R.A.M.
PROJ. MGR. R.A.M. | CH. ENGR. P.D.
SUBMITTED BY: | DATE
FIRM MEMBER | PRINCIPAL
EFD PROJECT MGR. | DIV.
HD | DIV.
APPROVED: OFFICER IN CHARGE | DATE
APPROVED: FOR EFD FOR COMMANDER NAVFAC | DATE

MAINTENANCE HANGAR

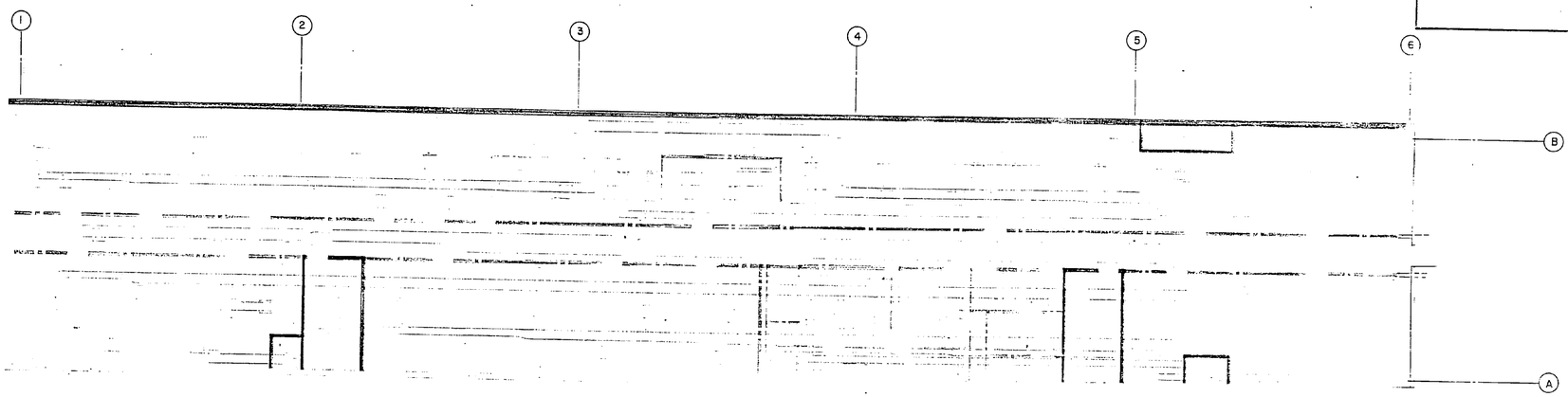
FLOOR PLANS - SUPPORT AREA
DUCT - NORTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138834

CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8" = 1'-0" | SPEC. 05-84-4174 | SHEET 85 OF 129
EFD DWG. NO. 238834

M - 2

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



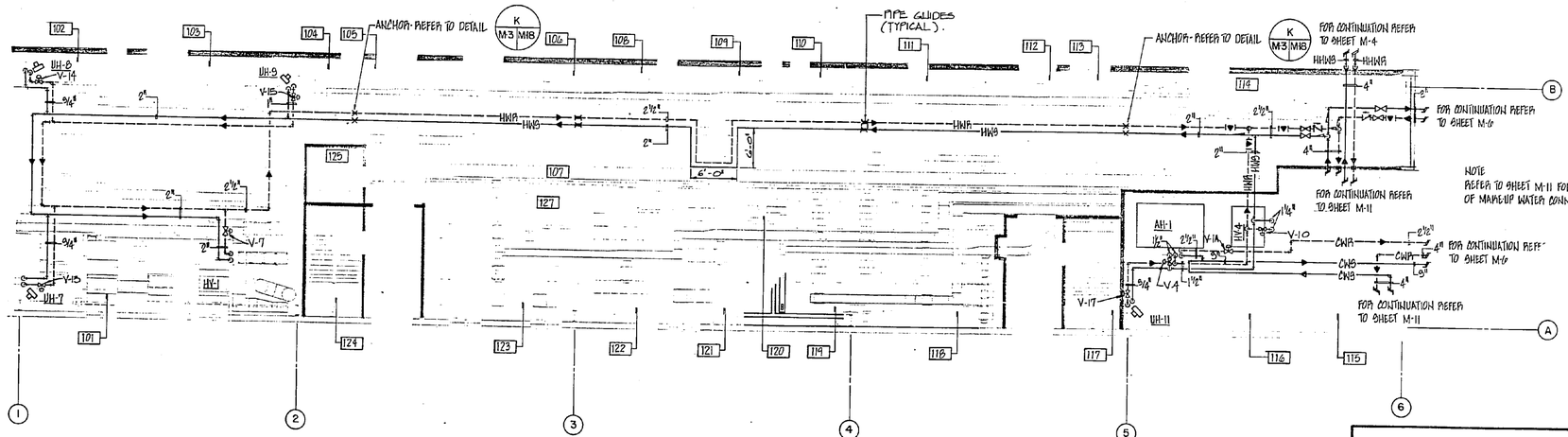
SECOND FLOOR PLAN (NOTE: THERE IS NO PIPE ROUTED ON THE SECOND FLOOR)

1/8" = 1'-0"

NOTES:

1. REFER TO DETAILS B/M-18 FOR PIPING ACCESSORIES FOR HOT WATER COILS, DETAIL C/M-18 FOR PIPING ACCESSORIES FOR CHILLED WATER COILS AND A/M-18 FOR PIPING ACCESSORIES FOR HOT WATER UNIT HEATERS.

101	CORROSION CONTROL
102	TOOL ROOM
103	METAL SHOP
104	ORDINANCE
105	CORRIDOR
106	HYDRAULICS
107	CLEAN ROOM
108	MATERIAL CONTROL
109	MAINT. CONTROL
110	LOGS
111	QA
112	CORRIDOR
113	PHASE ROOM
114	FLIGHT EQUIPMENT
115	MECHANICAL EQUIPMENT
116	MECHANICAL EQUIPMENT
117	STAIR
118	MALE TOILET
119	MALE LOCKER
120	HOUSEKEEPING
121	MAINT. ADMINISTRATION
122	MAINT. OFFICE
123	ELECTRONICS
124	STAIR
125	ELECTRICAL ROOM
126	
127	VAULT
128	ANTE ROOM



NOTE
PIPING SHALL BE ROUTED ABOVE DUCTWORK AT A NOMINAL DIMENSION OF 19 FT. AFF.

FIRST FLOOR PLAN

1/8" = 1'-0"

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'

KEY PLAN

N C S

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. FD | DR. BW | CHK. RAM

PROJ. MGR. RAM | IN CHRG. RD

SUBMITTED BY: Rod Littlefield DATE 7 MAR 86 FIRM MGMT. PRINCIPAL

EFD TECH. DIVISION RVD DATE 7 MAR 86

HD LANT DIV KD

APPROVED: T.E. Clark DATE 3-4-86 OFFICER IN CHARGE

APPROVED: DATE FOR EFD FOR COMMENT WAIVED

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1983 RONALD A. MCCRACKEN

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NE NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA
PIPING - NORTH

SIZE F | CODE IDENT NO. 80091 | A-E/C DRAWING NO. 4138835

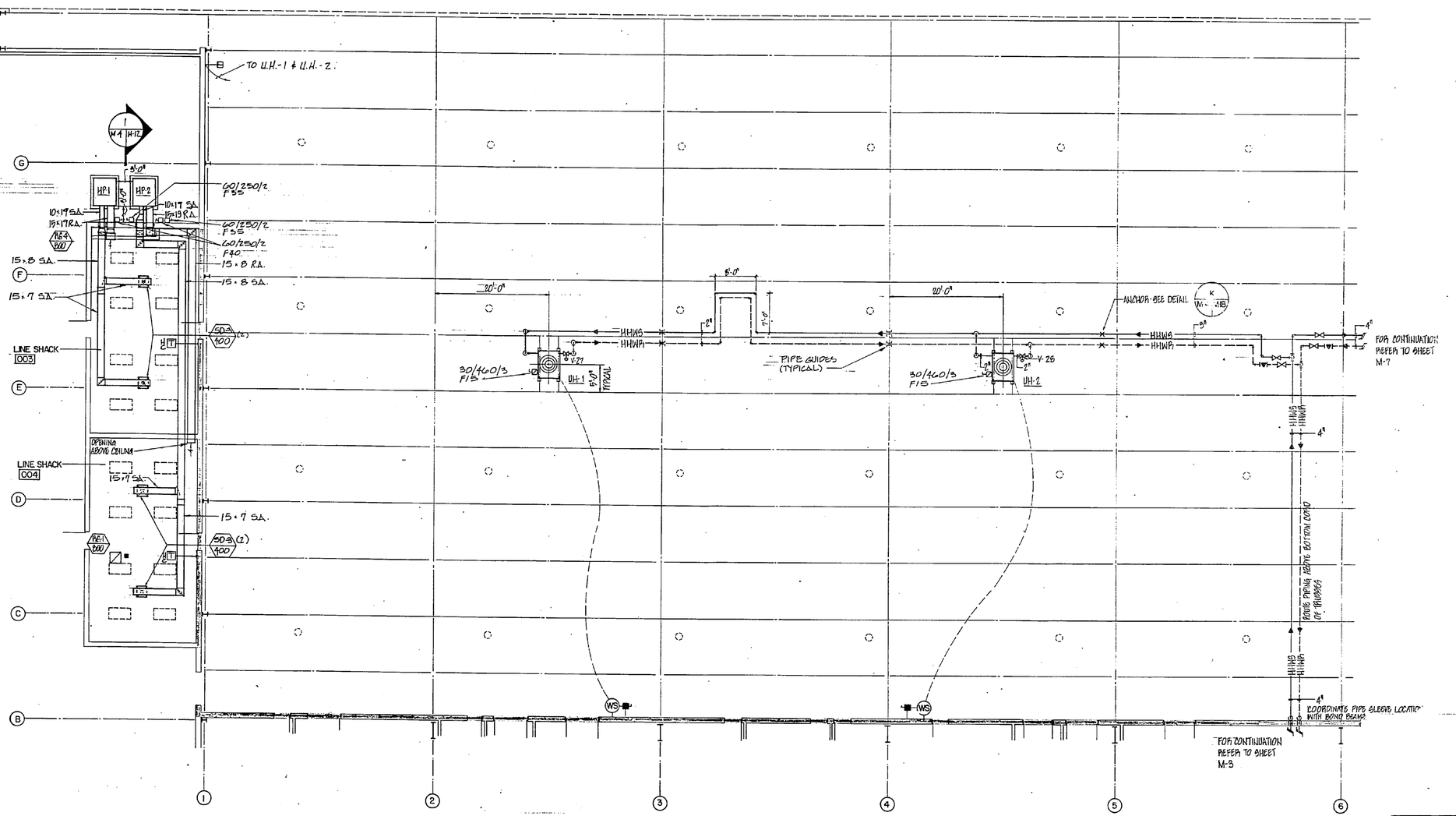
CONSTR. CONT. NO. N62470-84-B-4174

SCALE 1/8"=1'-0" | SPEC 05-84-4174 | SHEET 86 OF 129

EFD DWG NO 238835

M-3

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

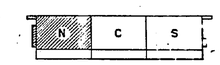


HANGAR PLAN-NORTH

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

NOTES:

1. FOR EXACT LOCATION OF DIFFUSERS AND GRILLES REFER TO REFLECTED CEILING PLANS.
2. MOUNT SIDEWALL GRILLE RA-4 AT BASE OF CHASE WITH BOTTOM OF GRILLE 8" A.F.F.
3. THERMOSTATS AND WALL SWITCHES SHALL BE MOUNTED 60" A.F.F.
4. FOR UNIT HEATERS UH-1 & UH-2 MOUNTING DETAIL SEE E



KEY PLAN

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

M — 4

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION NC — NEW RIVER, NORTH CAROLINA

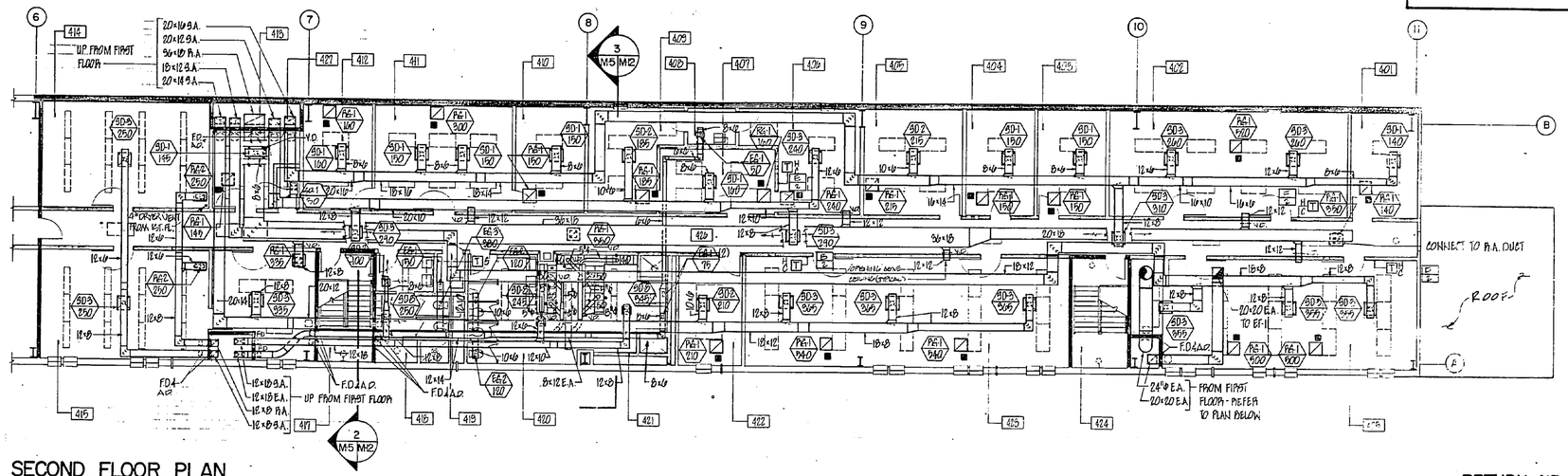
MAINTENANCE HANGAR
FLOOR PLAN — HANGAR
PIPING — NORTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138836
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0"	SPEC. 05-84-4174	SHEET 87 OF 129

EFD DWG. NO. 238836

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

401	DUTY ROOM
402	SAFETY NATOPS
403	S-2
404	CLASSIFIED
405	SERGEANT MAJOR
406	COMMAND OFFICER
407	ADJUTANT
408	TOILET
409	EXECUTIVE OFFICER
410	LEGAL ROOM
411	S-1
412	COMPUTER ROOM
413	CAREER PLANNING
414	STORAGE
415	STORAGE
416	S-4
417	STAIR
418	FEMALE TOILET
419	HOUSEKEEPING
420	MALE TOILET
421	MALE LOCKER
422	OP OFFICER
423	S-3
424	STAIR
425	READY ROOM
426	CORRIDOR
427	MAIL ROOM

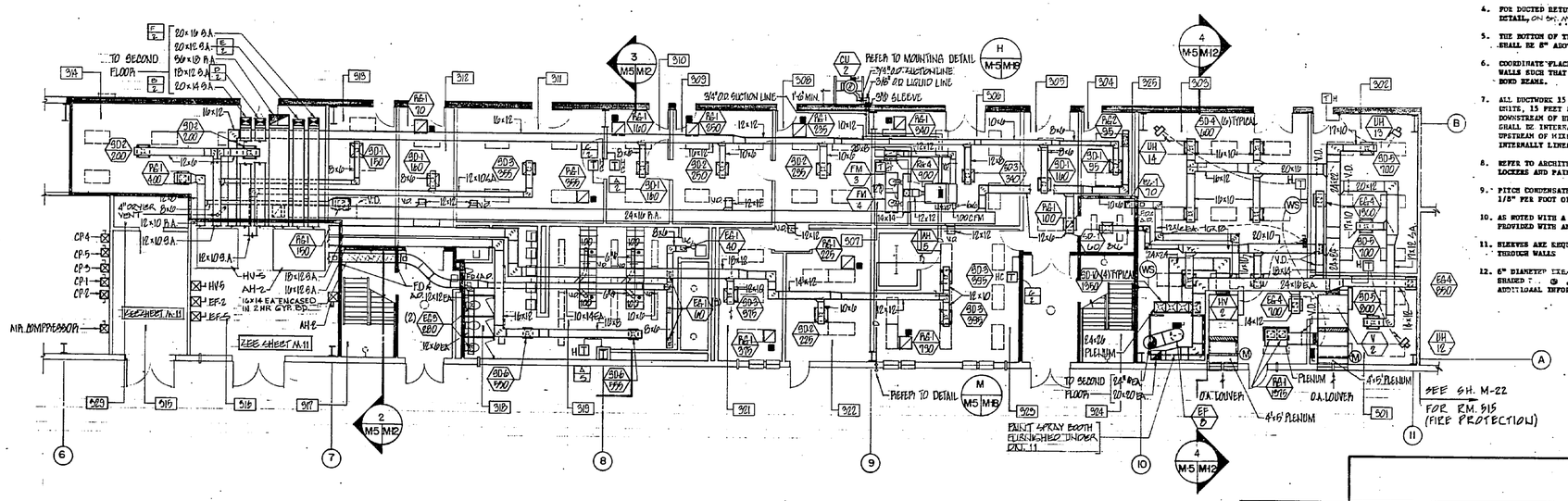


SECOND FLOOR PLAN

FINISHED FLOOR ELEVATION 49.17 FEET

1/8"=1'-0"

RETURN AIR GRILLE WITH ELBOW NTS



FIRST FLOOR PLAN

FINISHED FLOOR ELEVATION 21.67 FEET

1/8"=1'-0"

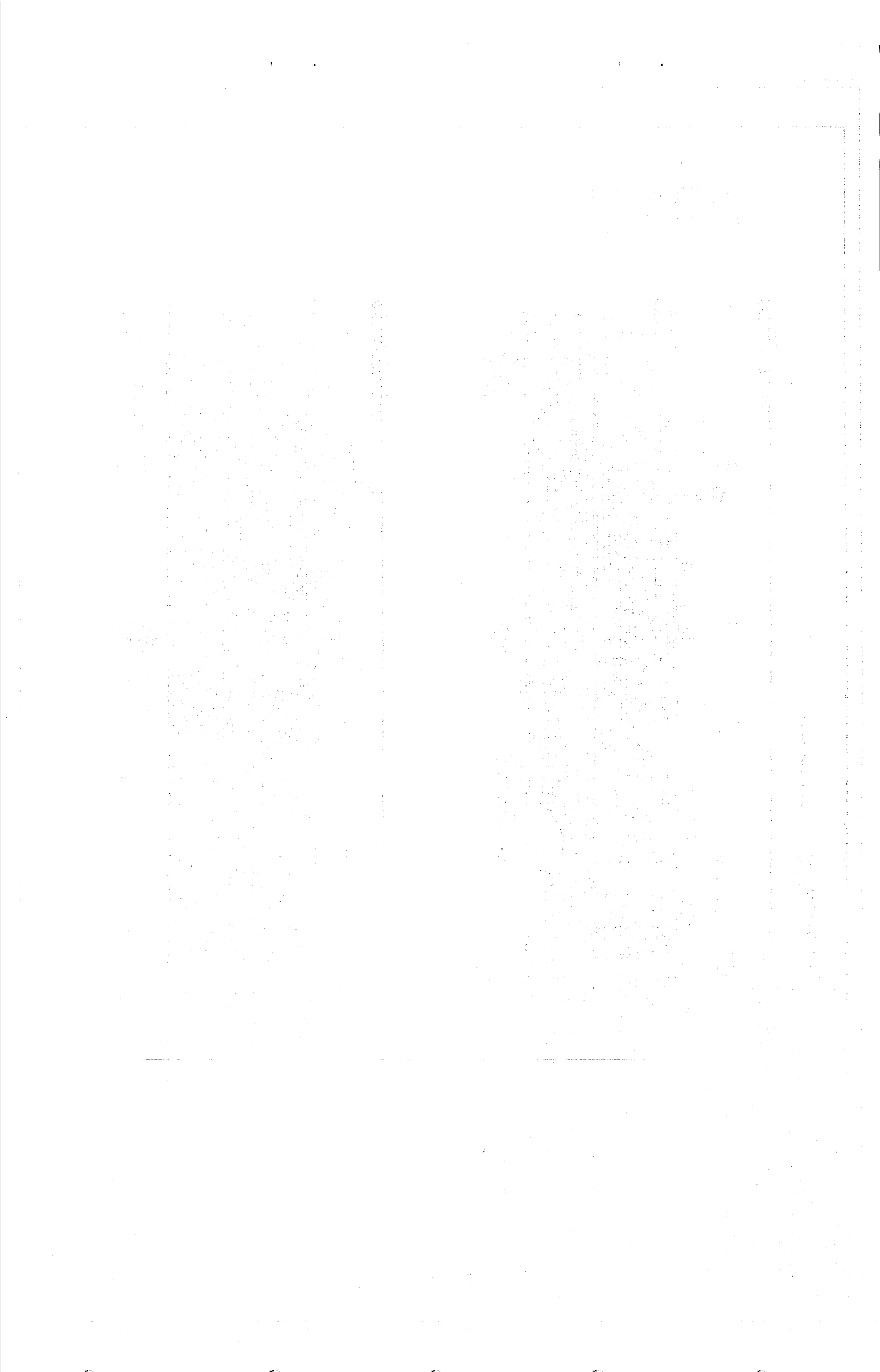
GRAPHIC SCALE 5' 0' 5' 10' 15' 20'

KEY PLAN

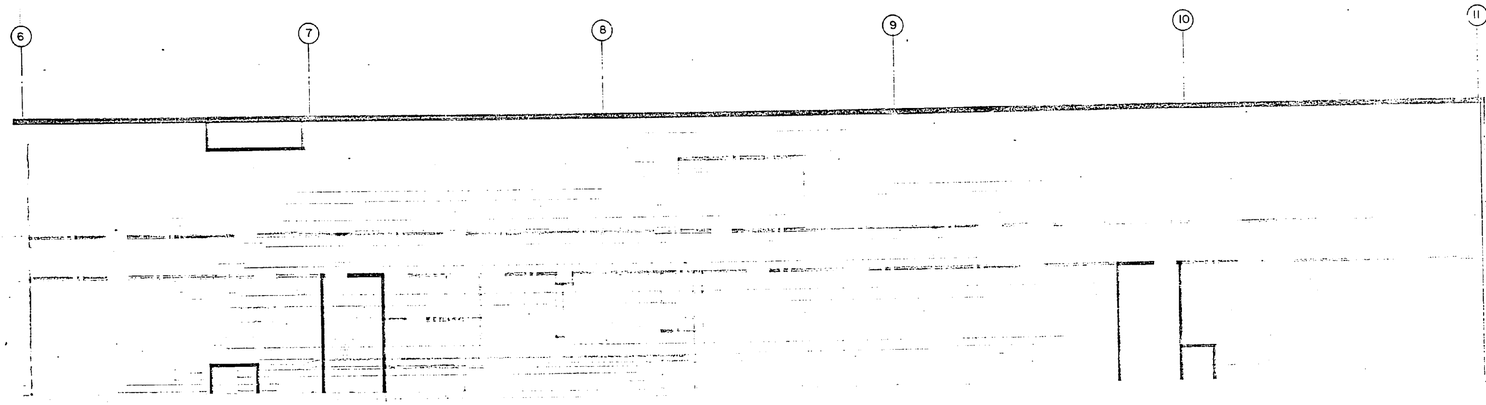
NOTES:

1. PROVIDE ACCESS DOORS IN DUCT AT FIRE DAMPERS. FOR FIRE DAMPERS IN WALLS AND FLOORS - REFER TO DETAILS, ON SH. M-11.
2. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS FOR DUCTWORK WITH INTERNAL LINING, INCREASE DUCTWORK SIZES AS REQUIRED TO MAINTAIN CLEAR INSIDE DIMENSIONS.
3. REFER TO THE REFLECTED CEILING PLANS FOR EXACT LOCATION OF DIFFUSERS, GRILLES, ETC.
4. FOR DUCTED RETURN AND EXHAUST GRILLES IN CEILING, REFER TO DETAIL, ON SH. M-12.
5. THE BOTTOM OF THE RETURN GRILLE IN THE CLEAN WORK STATION SHALL BE 8" ABOVE THE FINISHED FLOOR.
6. COORDINATE PLACEMENT OF CONTROL CONDUIT, ETC. THRU MASONRY WALLS SUCH THAT PLACEMENT OF CONDUIT IS PRIOR TO POURING OF BOND BEAMS.
7. ALL DUCTWORK 25 FEET DOWNSTREAM OF HEATING, VENTILATING UNITS, 15 FEET DOWNSTREAM OF VENTILATING UNITS AND 20 FEET DOWNSTREAM OF HEATING, VENTILATING AND AIR CONDITIONING UNITS SHALL BE INTERNALLY LINED. ALL RETURN DUCTWORK 15 FEET UPSTREAM OF MIXED AIR PLENUMS FOR SAME UNITS SHALL ALSO BE INTERNALLY LINED.
8. REFER TO ARCHITECTURAL DETAILS FOR EXHAUST AIR CONNECTION TO LOCKERS AND PAINT SPRAY BOOTH.
9. PITCH CONDENSATE DRAIN LINES DOWNWARD AT A SLOPE OF AT LEAST 1/8" PER FOOT OF LINEAR RUN.
10. AS NOTED WITH A SHADED BLOCK ▩, RETURN GRILLES SHALL BE PROVIDED WITH AN INTERNALLY-LINED ELBOW AS PER DETAIL 1/M-5 M2
11. SLEEVES ARE REQUIRED FOR ALL DUCTWORK AND PIPING PASSING THROUGH WALLS. SEE SH. M-21 FOR DETAIL.
12. 6" DIAMETER FLEXIBLE DUCT CONNECTED TO LOCKERS IS SHOWN WITH A SHADED ▩. REFER TO SECTION 5/M-5 M2 FOR ADDITIONAL INFORMATION.

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA		M — 5
	DES. P.D. DR. B.K. CHK. R.A.M. PROJ. MGR. R.A.M. CH. ENGR. P.D. SUBMITTED BY: DATE: 6 MAR 96 FIRM MEMBER PRINCIPAL EFD/FP - CODE RVD DIR APPROVED: DATE: OFFICER IN CHARGE APPROVED: DATE: 1-12-97 FOR EFD FOR COMMANDER NAVFAC	MARINE CORPS AIR STATION DE NEW RIVER, NORTH CAROLINA	MAINTENANCE HANGAR	
		FLOOR PLANS - SUPPORT AREA DUCT - CENTER		
		SIZE F	CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 4138837
		SCALE 1/8"=1'-0"	SPEC. 05-84-4174	CONSTR. CONR. NO. N62470-84-B-4174
				SHEET 88 OF 129
				EFD DWG. NO. 238837



REVISIONS		
SYM	DESCRIPTION	DATE APPROVED



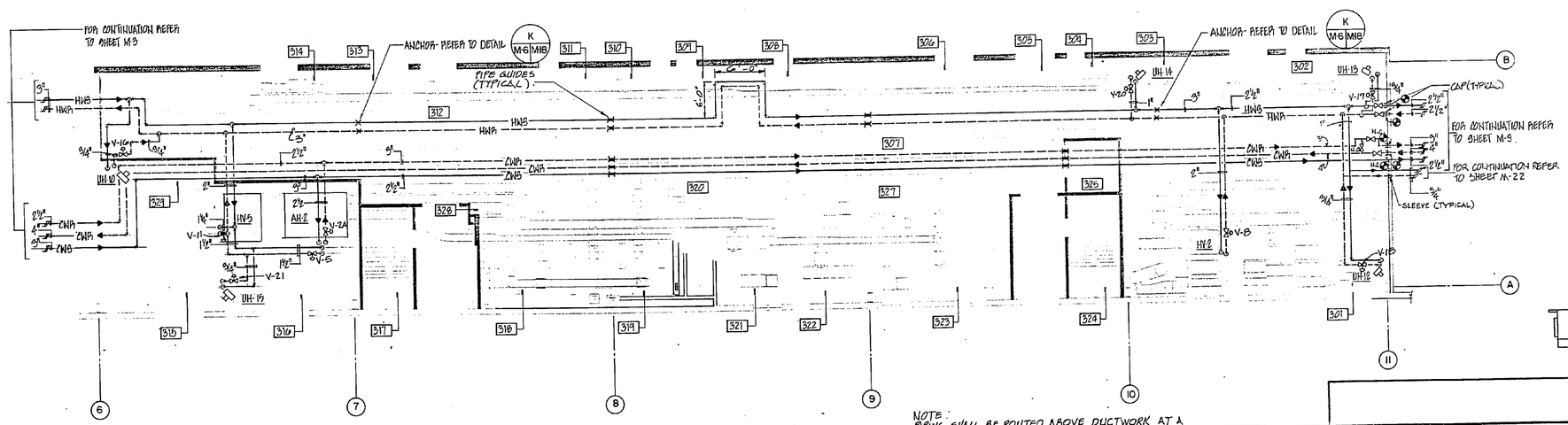
SECOND FLOOR PLAN (NOTE: THERE IS NO PIPE ROUTED ON THE SECOND FLOOR)

1/8"=1'-0"

NOTES:

1. REFER TO DETAILS B/M-18 FOR PIPING ACCESSORIES FOR HOT WATER COILS, DETAIL C/M-18 FOR PIPING ACCESSORIES FOR CHILLED WATER COILS AND A/M-18 FOR PIPING ACCESSORIES FOR HOT WATER UNIT HEATERS.
2. ⊕ CONNECT WHERE SHOWN TO EXISTING PIPING UNDER ADDITNS BID I.D.I. AND DELETE BYPASS PIPE AND FIVE GATE VALVES ALONG COLUMN LINE 11 (NIC)

301	CORROSION CONTROL
302	TOOL ROOM
303	METAL SHOP
304	ORDINANCE
305	CORRIDOR
306	HYDRAULICS
307	CLEAN ROOM
308	MATERIAL CONTROL
309	MAINT. CONTROL
310	LOGS
311	QA
312	CORRIDOR
313	PHASE ROOM
314	FLIGHT EQUIPMENT
315	ELECTRICAL EQUIPMENT
316	MECHANICAL EQUIPMENT
317	STAIR
318	MALE TOILET
319	MALE LOCKER
320	HOUSEKEEPING
321	MAINT. ADMIN.
322	MAINT. OFFICE
323	ELECTRONICS/AVIONICS
324	STAIR
325	ELECTRICAL ROOM
326	
327	VAULT
328	ANTE ROOM
329	TELEPHONE ROOM



FIRST FLOOR PLAN

1/8"=1'-0"

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'

N C S

KEY PLAN

M-6

MCCRACKEN & LOPEZ, PA. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

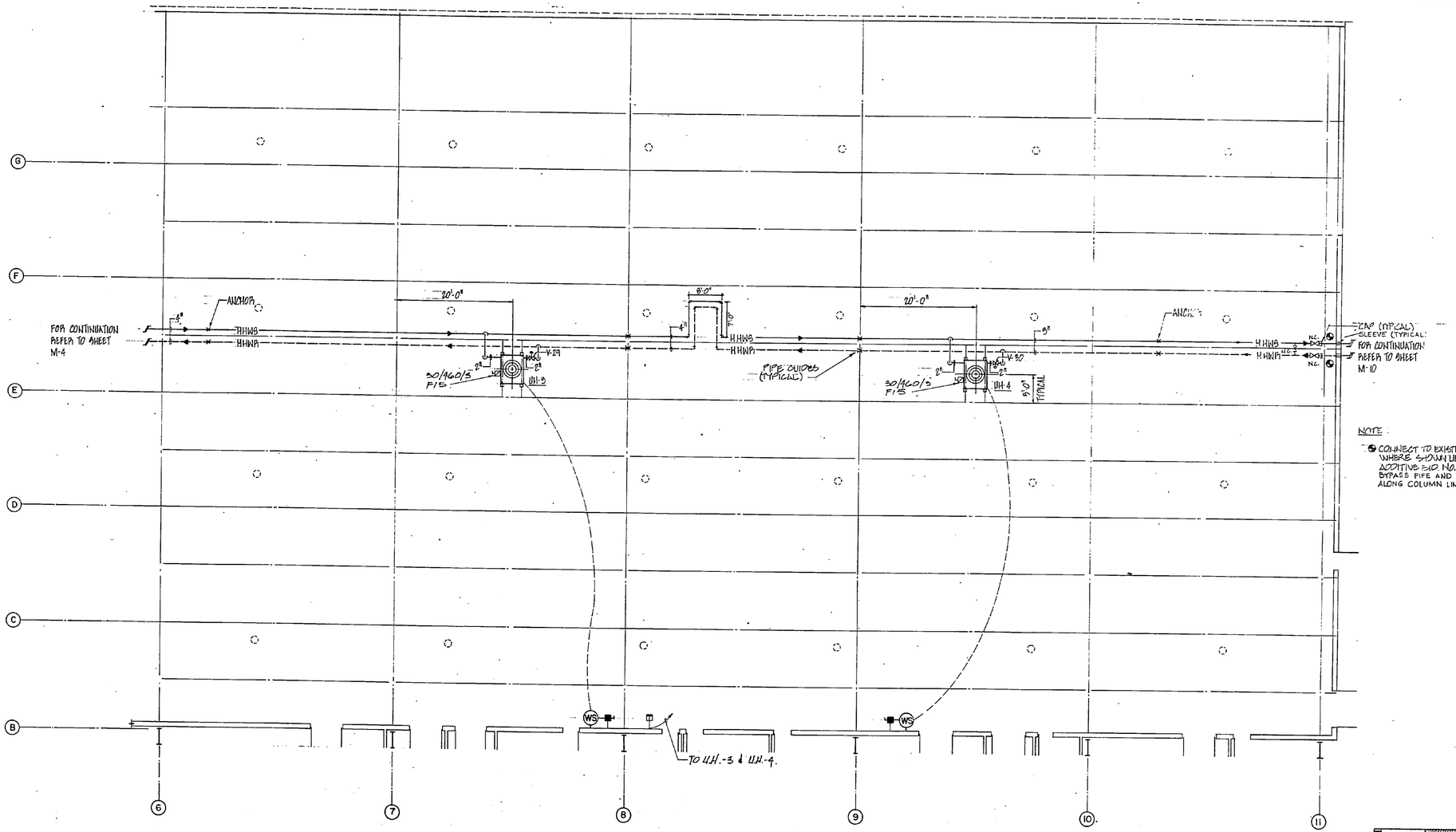
MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA PIPING - CENTER

SIZE F	CODE IDENT. NO. 80091	NAVFAC DRAWING NO. 4138838
SCALE 1/8"=1'-0"	FILE NO. 05-84-4174	CONTR'S DRWG. NO. N62470-84-B-4174
		SHEET NO. 89 OF 129

238838

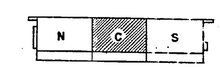
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



NOTE:

⊕ CONNECT TO EXISTING PIPE WHERE SHOWN UNDER ADDITIVE BID NO. 1. AND DELETE BYPASS PIPE AND THREE GATE VALVES ALONG COLUMN LINE 11. (NIC)

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



KEY PLAN

GRAPHIC SCALE 1/8"=1'-0" 5' 0' 5' 10' 15' 20'

M-7

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. PD DR. BH CHK. RAM

PROJ. MGR. RAM CH. ENGR. PD

SUBMITTED BY: DATE: 4 MAR 86

FIRM MEMBER PRINCIPAL

EFD: FP RVD

HD DIR KD

APPROVED: DATE 3-4-86

OFFICER IN CHARGE

APPROVED: DATE 1-12-87

FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION DE NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLAN – HANGAR PIPING – CENTER

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138839

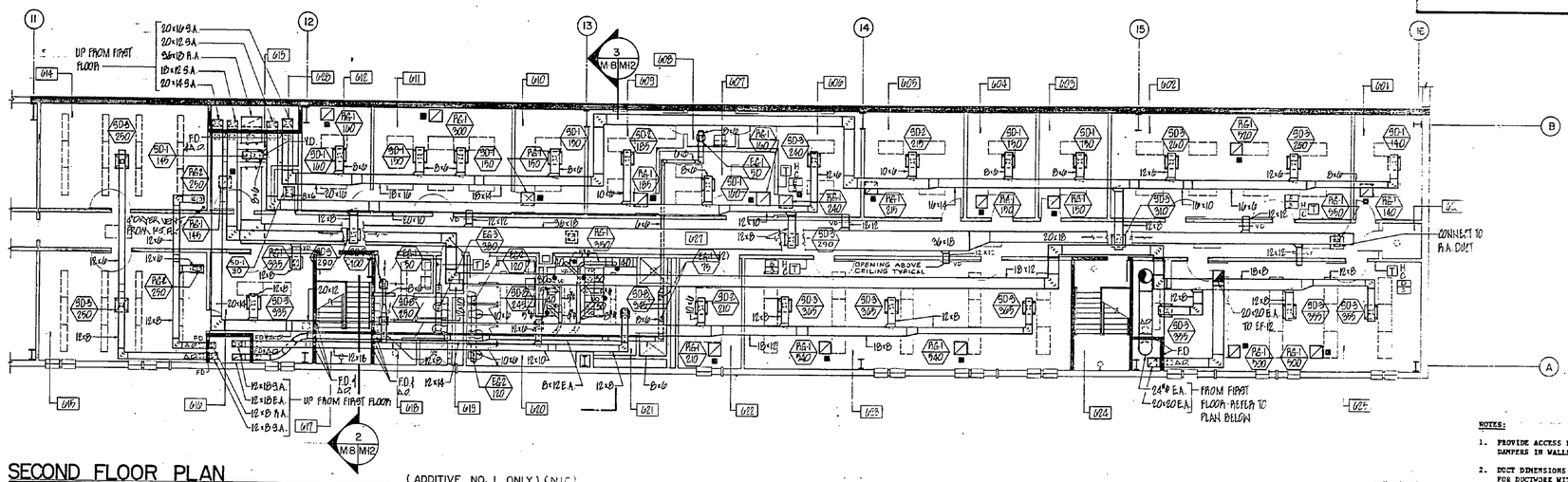
CONSTR. CONR. NO. N62470-84-B-4174

SCALE 1/8"=1'-0" | SPEC. 05-84-4174 | SHEET 90 OF 129

EFD DWG. NO. 238839

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

601 DUTY ROOM
602 SAFETY NATOPS
603 S-2
604 CLASSIFIED
605 SERGEANT MAJOR
606 COMMAND OFFICER
607 ADJUTANT
608 TOILET
609 EXECUTIVE OFFICER
610 LEGAL ROOM
611 S-1
612 COMPUTER ROOM
613 CAREER PLANNING
614 STORAGE
615 STORAGE
616 S-4
617 STAIR
618 FEMALE TOILET
619 HOUSEKEEPING
620 MALE TOILET
621 MALE LOCKER
622 OP OFFICER
623 S-3
624 STAIR
625 READY ROOM
626 STORAGE
627 CORRIDOR
628 MAIL ROOM



SECOND FLOOR PLAN (ADDITIVE NO. 1 ONLY) (NIC)

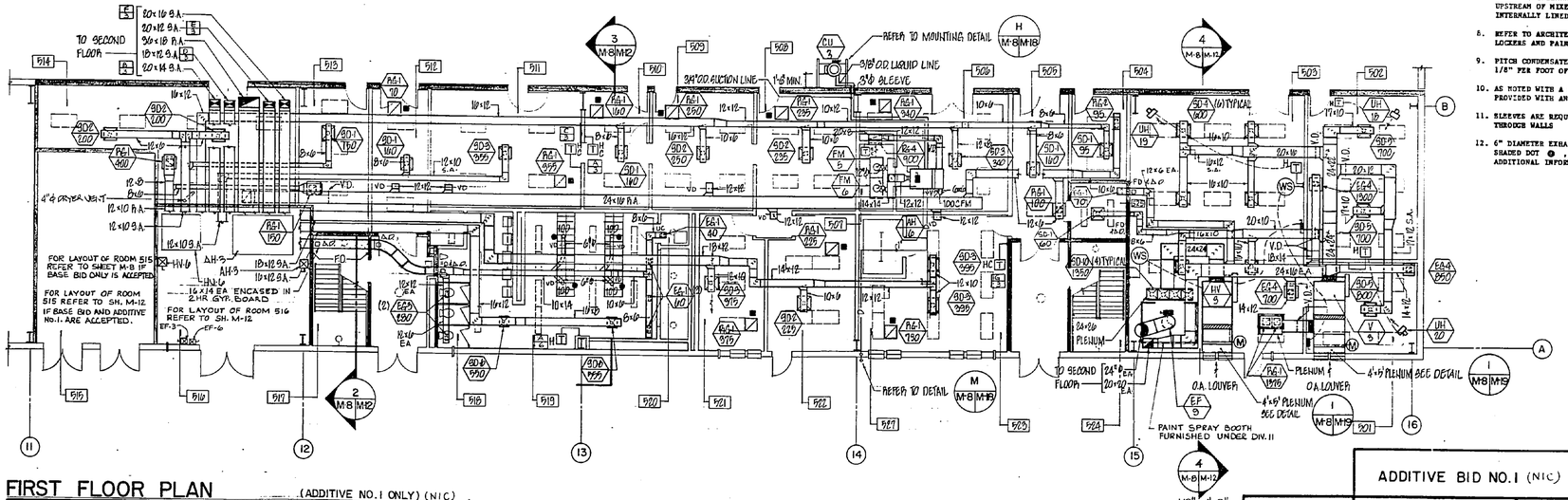
FINISHED FLOOR ELEVATION 43.67 FEET

1/8"= 1'-0"

NOTES:

1. PROVIDE ACCESS DOORS IN DUCT AT FIRE DAMPERS. FOR FIRE DAMPERS IN WALLS AND FLOORS - REFER TO DETAILS, ON SH. M-19.
2. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. FOR DUCTWORK WITH INTERNAL LINING, INCREASE DUCTWORK SIZES AS REQUIRED TO MAINTAIN CLEAR INSIDE DIMENSIONS.
3. REFER TO THE REFLECTED CEILING PLANS FOR EXACT LOCATION OF DIFFUSERS, GRILLES, ETC.
4. FOR DUCTED RETURN AND EXHAUST GRILLES IN CEILING, REFER TO DETAIL, ON SHEET M-19.
5. THE BOTTOM OF THE RETURN GRILLE IN THE CLEAN WORK STATION SHALL BE 8" ABOVE THE FINISHED FLOOR.
6. COORDINATE PLACEMENT OF CONTROL CONDUIT, ETC. THRU MASONRY WALLS SUCH THAT PLACEMENT OF CONDUIT IS PRIOR TO POURING OF BOND BEAMS.
7. ALL DUCTWORK 15 FEET DOWNSTREAM OF HEATING, VENTILATING UNITS, 15 FEET DOWNSTREAM OF VENTILATING UNITS AND 20 FEET DOWNSTREAM OF HEATING, VENTILATING AND AIR CONDITIONING UNITS SHALL BE INTERNALLY LINED. ALL RETURN DUCTWORK 15 FEET UPSTREAM OF MIXED AIR PLENUMS FOR SAME UNITS SHALL ALSO BE INTERNALLY LINED.
8. REFER TO ARCHITECTURAL DETAILS FOR EXHAUST AIR CONNECTION TO LOCKERS AND PAINT SPRAY BOOTH.
9. PITCH CONDENSATE DRAIN LINES DOWNWARD AT A SLOPE OF AT LEAST 1/8" PER FOOT OF LINEAR RUN.
10. AS NOTED WITH A SHADED BLOCK ■ , RETURN GRILLES SHALL BE PROVIDED WITH AN INTERNALLY LINED ELBOW AS PER DETAIL 1 M-8
11. SLEEVES ARE REQUIRED FOR ALL DUCTWORK AND PIPING PASSING THROUGH WALLS SEE DETAIL ON SH. M-19.
12. 6" DIAMETER EXHAUST DUCT CONNECTED TO LOCKERS IS SHOWN WITH A SHADED DOT ● , REFER TO SECTION 3 M-5 M-12 FOR ADDITIONAL INFORMATION.

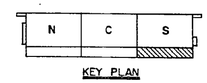
501 CORROSION CONTROL
502 TOOL ROOM
503 METAL SHOP
504 ORDINANCE
505 CORRIDOR
506 HYDRAULICS
507 CLEAN ROOM
508 MATERIAL CONTROL
509 MAINT. CONTROL
510 LOGS
511 QA
512 CORRIDOR
513 PHASE ROOM
514 FLIGHT EQUIPMENT
515 MECHANICAL EQUIPMENT
516 MECHANICAL EQUIPMENT
517 STAIR
518 MALE TOILET
519 MALE LOCKER
520 HOUSEKEEPING
521 MAINT. ADMIN.
522 MAINT. OFFICE
523 ELECTRONICS/AVIONICS
524 STAIR
525 ELECTRICAL ROOM
527 VAULT
528 ANTE ROOM



FIRST FLOOR PLAN (ADDITIVE NO. 1 ONLY) (NIC)

EINISHED FLOOR ELEVATION 21.67 FEET

1/8"=1'-0"



KEY PLAN

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'
1/8"=1'-0"

ADDITIVE BID NO.1 (NIC)

M — 8

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

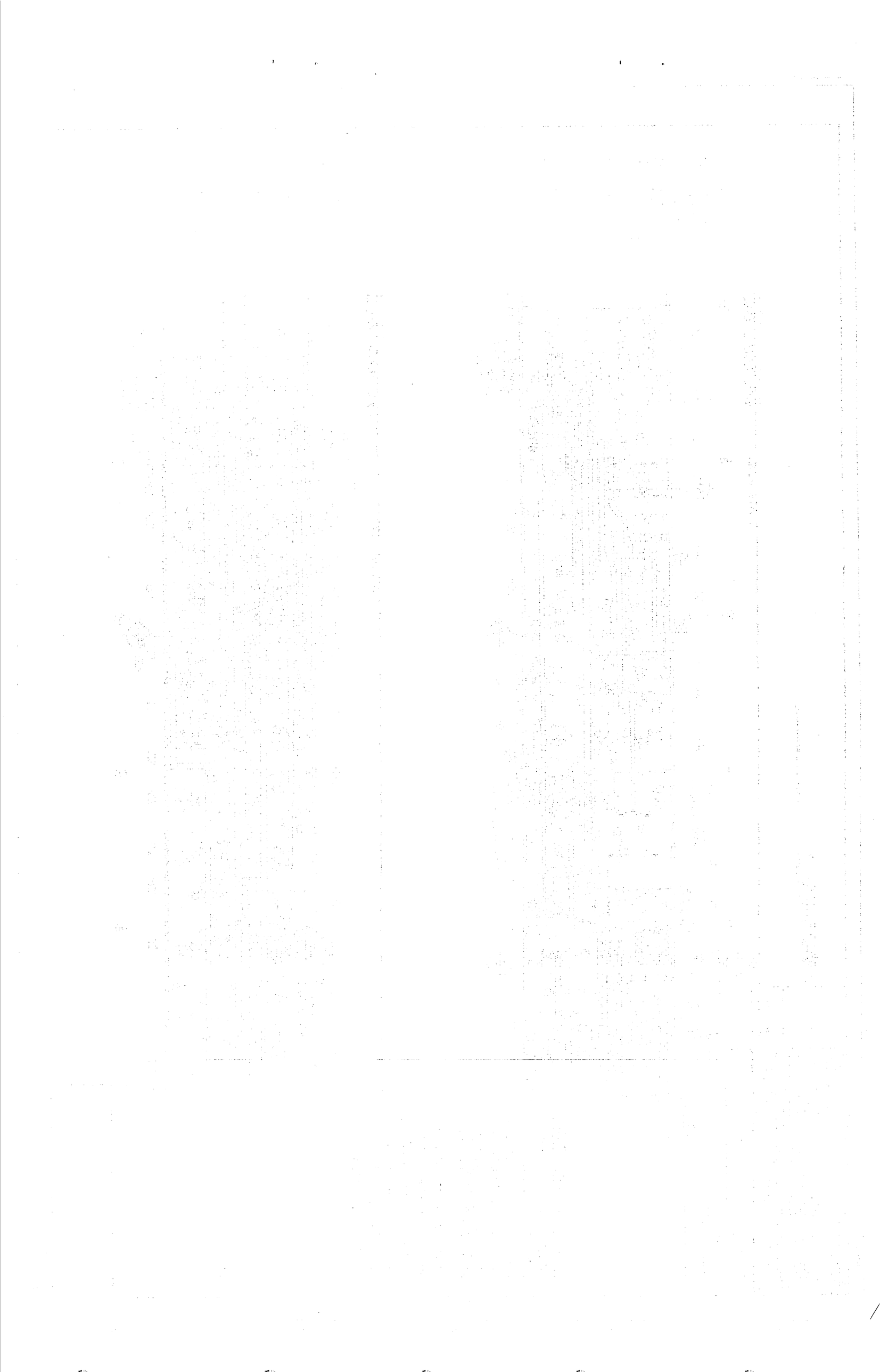
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. PD | DR. BK | CHK. R.A.M.
PROJ. MGR. R.A.M. CH. ENGR. P.D.
SUBMITTED BY: DATE 4-1984
FIRM MEMBER PRINCIPAL
EFD: FP RVD CDC
HD AHW DIR KLD
APPROVED DATE 8-4-84
OFFICER IN CHARGE
APPROVED DATE 1-1-27
FOR EFD FOR COMMANDER NAVFAC

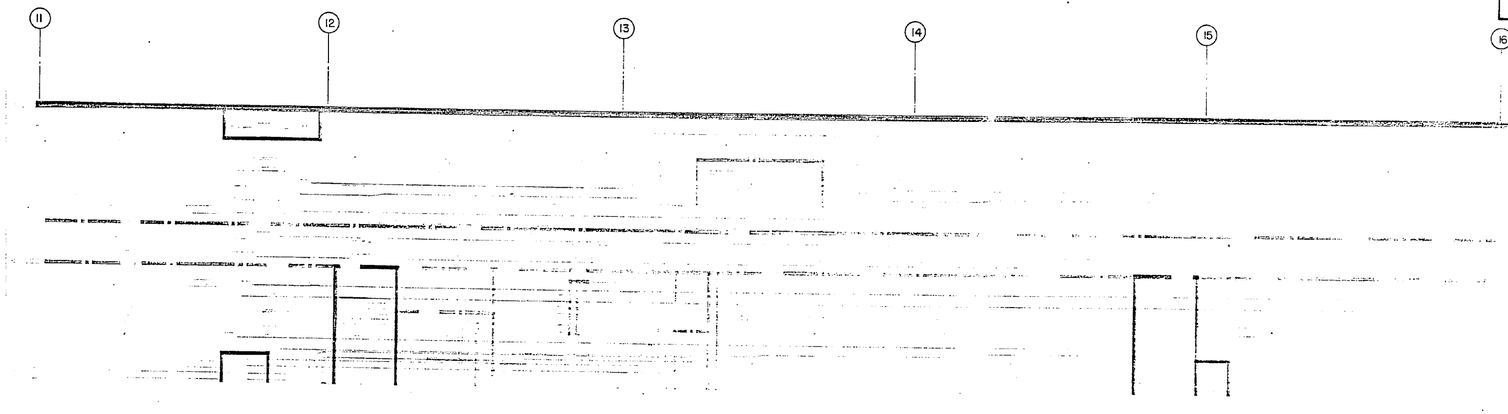
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DE NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
FLOOR PLANS - SUPPORT AREA
DUCT - SOUTH

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138840
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0" | SPEC. 05-84-4174 | SHEET 91 OF 129
EFD DWG NO. 238840



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



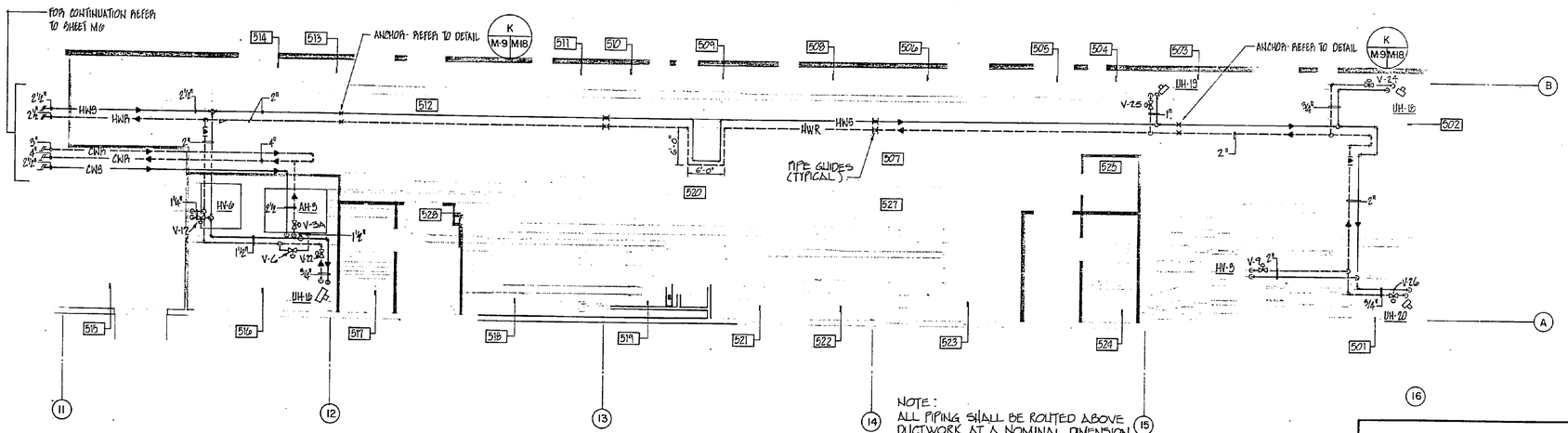
SECOND FLOOR PLAN (NOTE: THERE IS NO PIPE ROUTED ON THE SECOND FLOOR) (ADDITIVE NO. 1 ONLY) (NIC)

1/8"=1'-0"

NOTES:

1. REFER TO DETAILS B/M-18 FOR PIPING ACCESSORIES FOR HOT WATER COILS, DETAIL C/M-18 FOR PIPING ACCESSORIES FOR CHILLED WATER COILS AND A/M-18 FOR PIPING ACCESSORIES FOR HOT WATER UNIT HEATERS.

501	CORROSION CONTROL
502	TOOL ROOM
503	METAL SHOP
504	ORDINANCE
505	CORRIDOR
506	HYDRAULICS
507	CLEAN ROOM
508	MATERIAL CONTROL
509	MAINT. CONTROL
510	LOGS
511	QA
512	CORRIDOR
513	PHASE ROOM
514	FLIGHT EQUIPMENT
515	MECHANICAL EQUIPMENT
516	MECHANICAL EQUIPMENT
517	STAIR
518	MALE TOILET
519	MALE LOCKER
520	HOUSEKEEPING
521	MAINT. ADMIN.
522	MAINT. OFFICE
523	ELECTRONICS/AVIONICS
524	STAIR
525	ELECTRICAL ROOM
526	
527	VAULT
528	ANTE ROOM

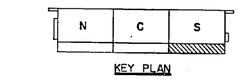


FIRST FLOOR PLAN (ADDITIVE NO. 1 ONLY) (NIC)

1/8"=1'-0"

N

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'
1/8"=1'-0"



KEY PLAN

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

ADDITIVE BID NO. 1 (NIC)

M-9

DEPARTMENT OF THE NAVY NAVFAC FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

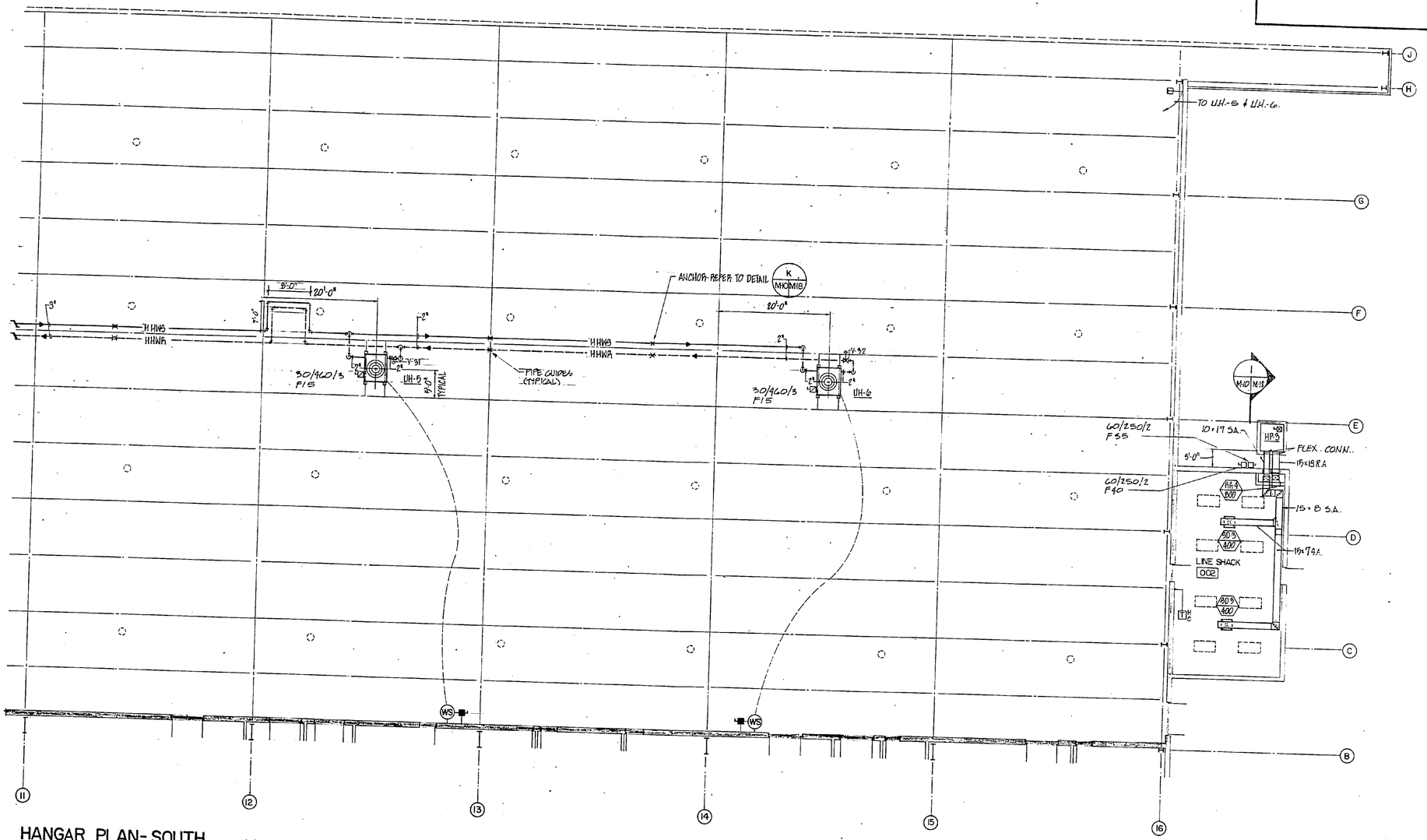
MAINTENANCE HANGAR

FLOOR PLANS – SUPPORT AREA
PIPING – SOUTH

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4138841
		CONTR. CONTR. NO. N62470-84-B-4174
SCALE 1/8"=1'-0"	SPEC 05-84-4174	SHEET 92 OF 129

SFD DWG NO 238841

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



HANGAR PLAN- SOUTH (ADDITIVE NO. 1 ONLY)(NIC) SCALE: 1/8"=1'-0"

NOTES:

1. FOR EXACT LOCATION OF DIFFUSERS AND GRILLES REFER TO REFLECTED CEILING PLAN.
2. MOUNT SIDEWALL GRILLE RAFS AT BASE OF CHAIR WITH BOTTOM OF GRILLE AT 6' A.F.F.
3. THERMOSTATS AND WALL SWITCHES SHALL BE MOUNTED 60" A.F.F.
4. FOR UNIT HEATERS UH-5 / UH-6 MOUNTING DETAIL SEE E M10M18

N C S

KEY PLAN

GRAPHIC SCALE 1/8"=1'-0" 5' 0' 5' 10' 15' 20'

ADDITIVE BID NO.1 (NIC) — M-10

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLAN — HANGAR PIPING — SOUTH

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138842

CONSTR. CONTR. NO. N62470-84-B-4174

SCALE 1/8"=1'-0" | SPEC. 05-84-4174 | SHEET 93 OF 129

EFD DWG NO 238842

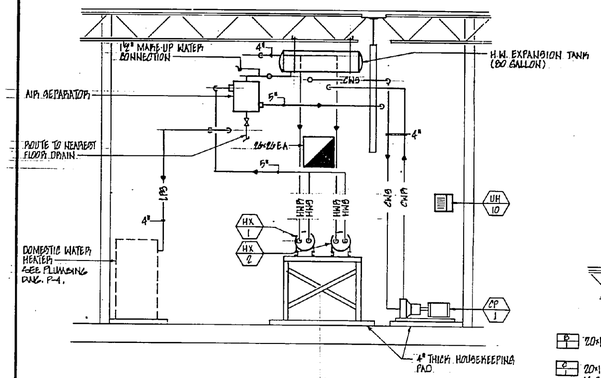
BLUMS CO. WATER & WASTE 1-800-441-0001

NOTES

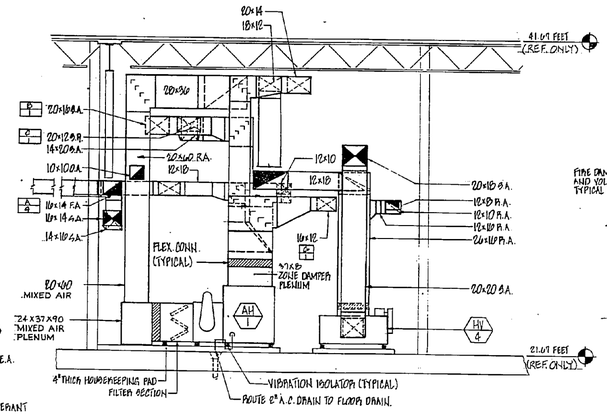
1. PROVIDE ACCESS DOORS IN DUCT AT FIRE DAMPERS.
2. PROVIDE 4" THICK HOUSEKEEPING PADS WITH BEVELED EDGES.
3. REFER TO PIPING PLANS AND DETAILS FOR ADDITIONAL INFORMATION RELATIVE TO PIPING ACCESSORIES, ETC. AT VALVES, COIL, ETC.
4. NO HORIZONTAL DUCTWORK SHALL BE LOCATED BELOW 8'-0" ABOVE THE FINISHED FLOOR.
5. CONTROL POWER FOR TEMPERATURE CONTROL PANELS SHALL BE TAKEN FROM NEAREST CONVENIENT ELECTRICAL PANEL.
6. WHERE 12"X22" EXHAUST AIR DUCTWORK IS ROUTED IN THE POCKET OF THE JOISTS, EXTEND THE CEILING (WHICH IS THE BOTTOM OF THE ASSEMBLY) AROUND THE SIDES AND THE TOP OF THE DUCTWORK.
7. BLANK-OFF UNUSED PORTIONS OF THE LOUVER WITH INSULATED DUAL WALL SHEETMETAL PANELS.
8. REFER TO DETAILS B/M-18 FOR PIPING ACCESSORIES FOR HOT WATER COILS, DETAIL C/M-18 FOR PIPING ACCESSORIES FOR CHILLED WATER COILS AND A/M-18 FOR PIPING ACCESSORIES FOR HOT WATER UNIT HEATERS.

1. REFER TO DETAILS 1/M-18, 2/M-18, 3/M-18 & 4/M-18 FOR EXPANSION TANK, HOT WATER BOILER, AIR SEPARATOR AND CENTRIFUGAL PUMP MOUNTING RESPECTIVELY.

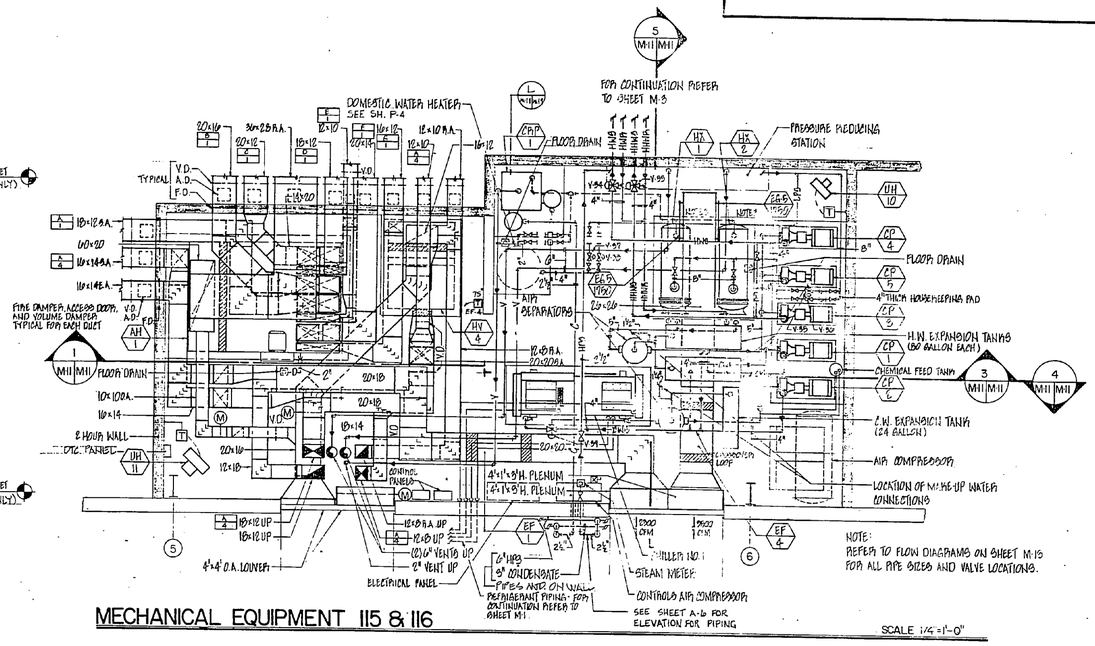
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



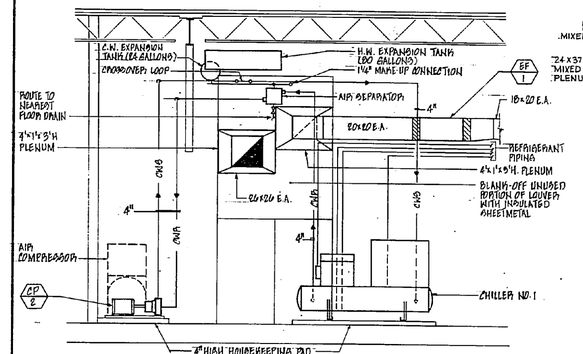
SECTION 3 MII|MII SCALE 1/4"=1'-0"



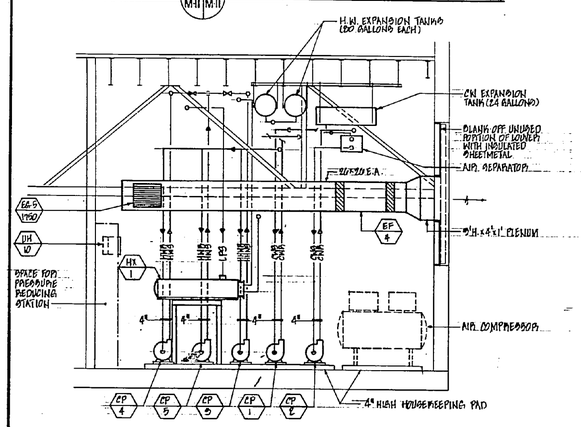
SECTION 1 MII|MII SCALE 1/4"=1'-0"



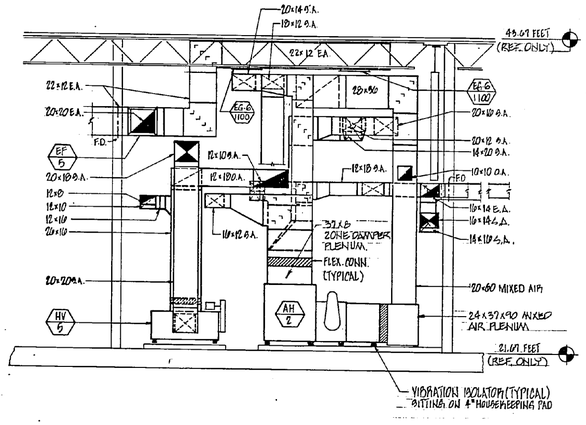
MECHANICAL EQUIPMENT 115 & 116 SCALE 1/4"=1'-0"



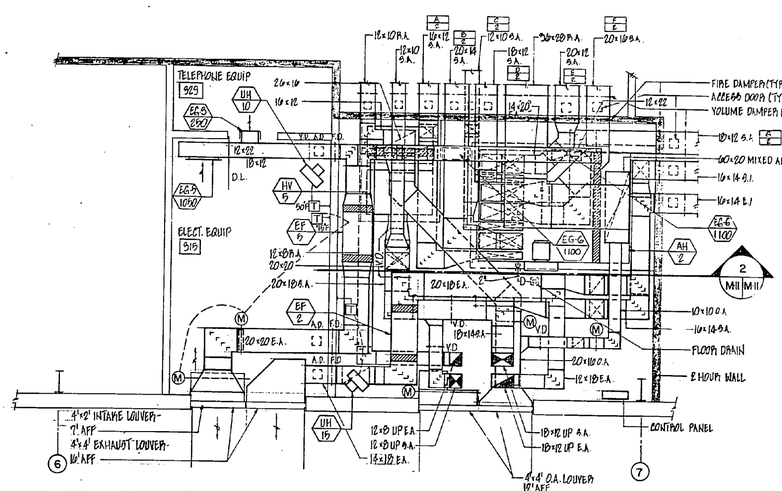
SECTION 4 MII|MII SCALE 1/4"=1'-0"



SECTION 5 MII|MII SCALE 1/4"=1'-0"



SECTION 2 MII|MII SCALE 1/4"=1'-0"



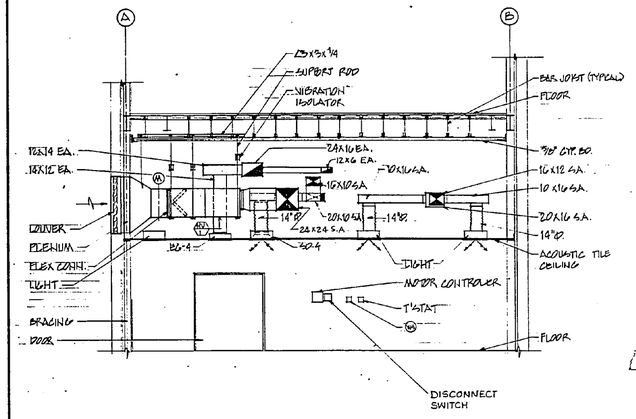
MECHANICAL EQUIPMENT 316 & ELECT. EQUIP. 315 SCALE 1/4"=1'-0"

GRAPHIC SCALE 1/4"=1'-0" 3' 0' 5' 10'

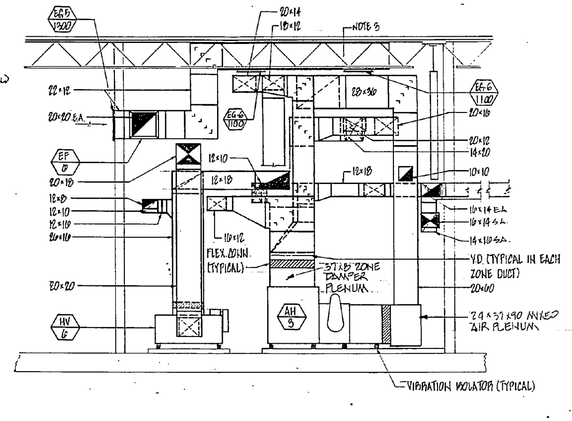
McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	M-11
	DES. PD DR. DJV CHK. PAM	MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA	
	PROJ. MGR. ZAM CH. ENGR. PD	MAINTENANCE HANGAR	
	SUBMITTED BY: DATE: 2 MAR 96	MECHANICAL ROOM PLAN AND SECTIONS	
	FIRM MEMBER PRINCIPAL	SIZE F	CODE IDENT. NO. 80091
	EFD FP DIR RVD AIC	MAVFAC DRAWING NO. 4138843	
	HD DIR	CONSTR. CONTR. NO. N62470-84-B-4174	
	APPROVED DATE 2-4-96 OFFICER IN CHARGE	SCALE 1/4"=1'-0" SPEC. 05-84-4174	SHEET 94 OF 129
	APPROVED DATE 1-12-97 FOR EFD FOR COMMANDER NAVFAC		EFD DWG. NO. 238843

BRANCH CIR. WRITE TO 1-800-842-2929

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

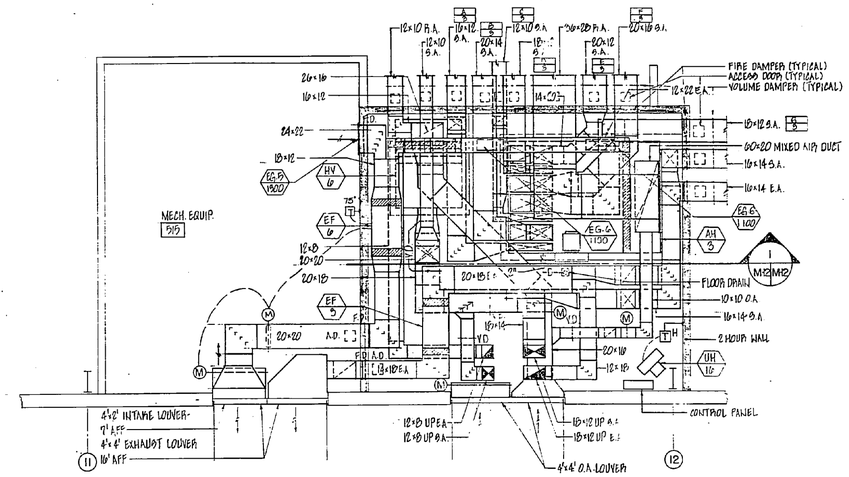


SECTION 4 (M-8, M-5 / M-2, M12) SCALE: 3/16"=1'-0"

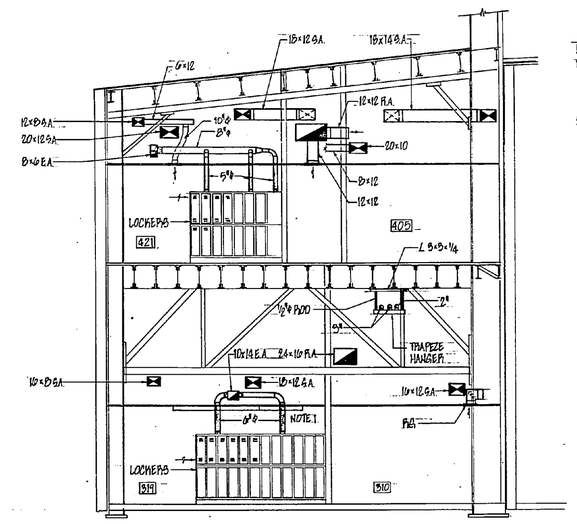


SECTION 1 (M12, M12) SCALE 1/4"=1'-0"

NOTE: THIS SECTION APPLY TO ADDITIVE BID NO. 1 ONLY (NIC)



MECHANICAL EQUIPMENT 515 & 516 (ADDITIVE BID NO. 1) (NIC) SCALE 1/4" =1'-0"



SECTION 2 (M-5, M12) SCALE 1/4"=1'-0"

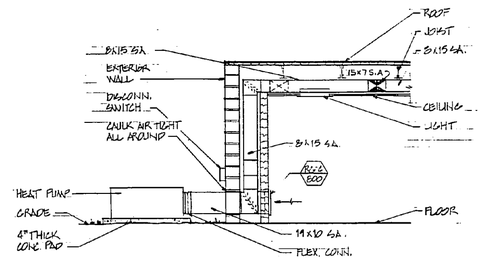
M-8, M-2

SECTION 3 (M5, M12) SCALE 3/16"=1'-0"

M-2, M-8

NOTES:

1. EXPOSED EXHAUST DUCTWORK IN LOCKER ROOMS SHALL BE 16 GAUGE STAINLESS STEEL WITH APPEAL SEAM JOINTS. PROVIDE STAINLESS STEEL 360° ESCUTCHEON AT PENETRATION OF CEILING.
2. ALL PIPE SUPPORT HANGERS, AND DUCT HANGERS SHALL BE SUPPORTED TO STRUCTURE WITH ALL THREAD ROD AND UNISTRUT ATTACHMENT. ALL PENETRATIONS OF U.L. ASSEMBLY SHALL BE PATCHED.



NOTE: RG-4 SHOWN ON SECTION SHEET M-10 AND IS NOT APPLICABLE TO ALL SECTIONS.

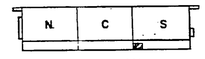
NOTES (GENERAL) FOR M-12, M-13 AND M-14

1. PROVIDE ACCESS DOORS IN DUCT AT FIRE DAMPERS.
2. PROVIDE 4" THICK HOUSEKEEPING PADS WITH BEVELED EDGES.
3. REFER TO PIPING PLANS AND DETAILS FOR ADDITIONAL INFORMATION RELATIVE TO PIPING ACCESSORIES, ETC. AT VALVES, COIL, ETC.
4. NO HORIZONTAL DUCTWORK SHALL BE LOCATED BELOW 8'-0" ABOVE THE FINISHED FLOOR.
5. CONTROL POWER FOR TEMPERATURE CONTROL PANELS SHALL BE TAKEN FROM NEAREST CONVENIENT ELECTRICAL PANEL.
6. WHERE 12"X22" EXHAUST AIR DUCTWORK IS ROUTED IN THE POCKET OF THE JOISTS, EXTEND THE CEILING (WHICH IS THE BOTTOM OF THE ASSEMBLY) AROUND THE SIDES AND THE TOP OF THE DUCTWORK.
7. BLANK-OFF INSIDE PORTIONS OF THE LOUVER WITH INSULATED DUAL WALL SHEETMETAL PANELS.

GRAPHIC SCALE
1/4"=1'-0" 3' 0' 5' 10'

GRAPHIC SCALE
3/16"=1'-0" 6 5 4 3 2 1 0 5' 10'

SECTION 1 (M10, M4, M12) SCALE 1/4"=1'-0"



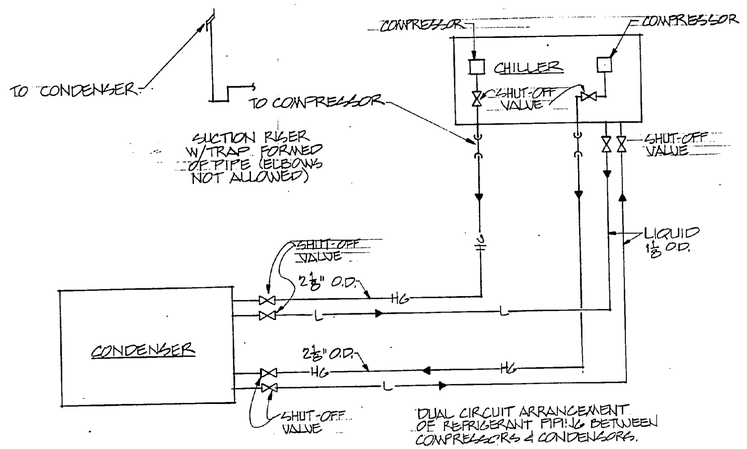
KEY PLAN

M-12

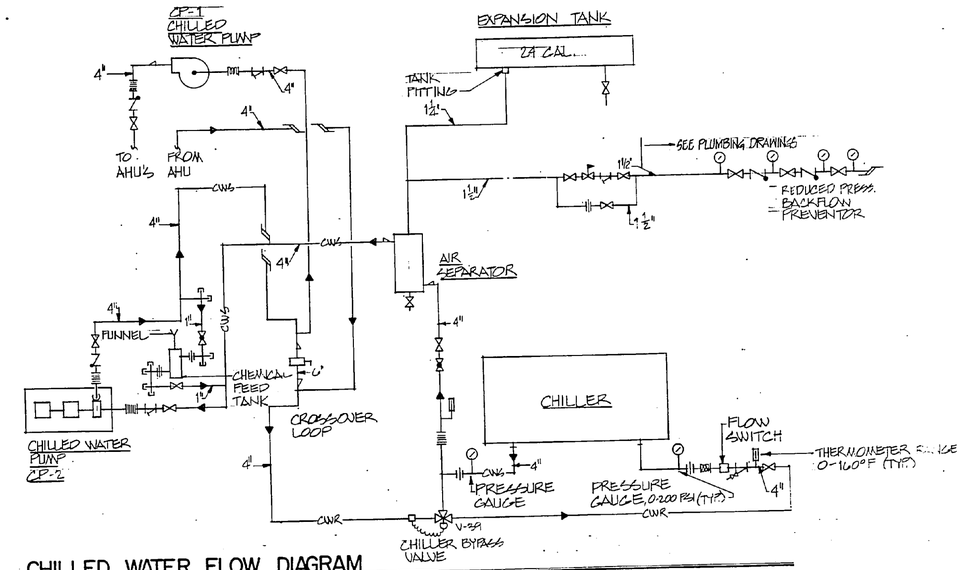
MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA
	DES. PD DR. BM CHK. RAM	MARINE CORPS AIR STATION DB NEW RIVER, NORTH CAROLINA
	PROJ. MGR. RAM CH. ENGR. PD	MAINTENANCE HANGAR
	SUBMITTED BY: DATE: 4 MAR 86 FIRM MEMBER PRINCIPAL	MECHANICAL ROOM AND SECTION PLANS
	EFD-FP MGR. RVD SPV HD DIV DIR KD	SIZE F CODE IDENT. NO. 80091 NAVFAC DRAWING NO. 4138844
	APPROVED: DATE 2-4-86 OFFICER IN CHARGE	CONSTR. CONTR. NO. N62470-84-B-4174
	APPROVED: DATE FOR EFD FOR COMMANDER NAVFAC	SCALE AS SHOWN SPEC. 05-84-4174 SHEET 95 OF 129
		EFD DWG. NO. 238844

BLUELINE WHITE 1-800-342-0123

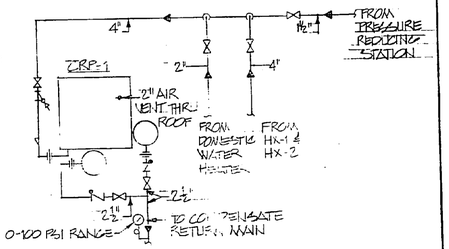
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



CONDENSER - CHILLER PIPING
N.T.S.

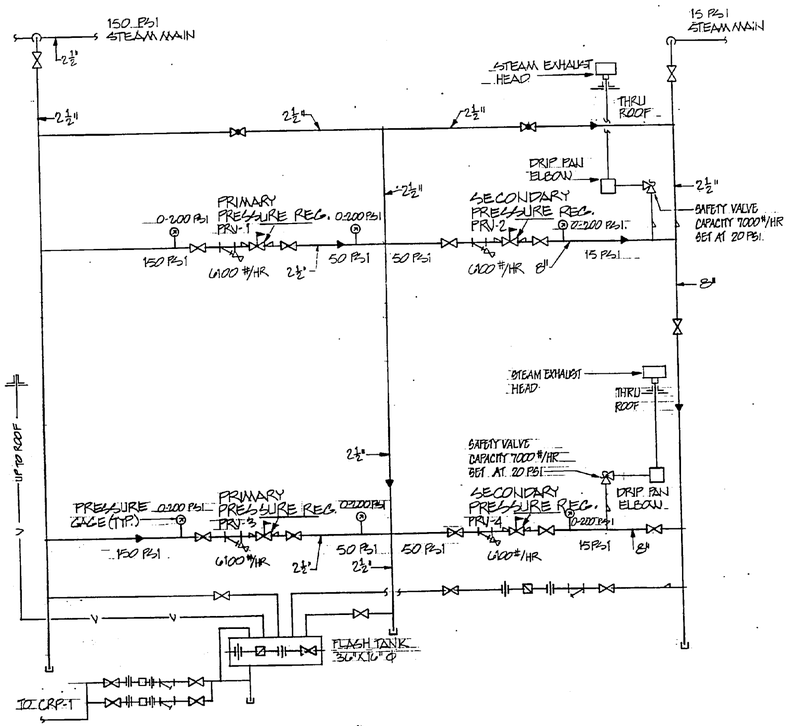


CHILLED WATER FLOW DIAGRAM
N.T.S.

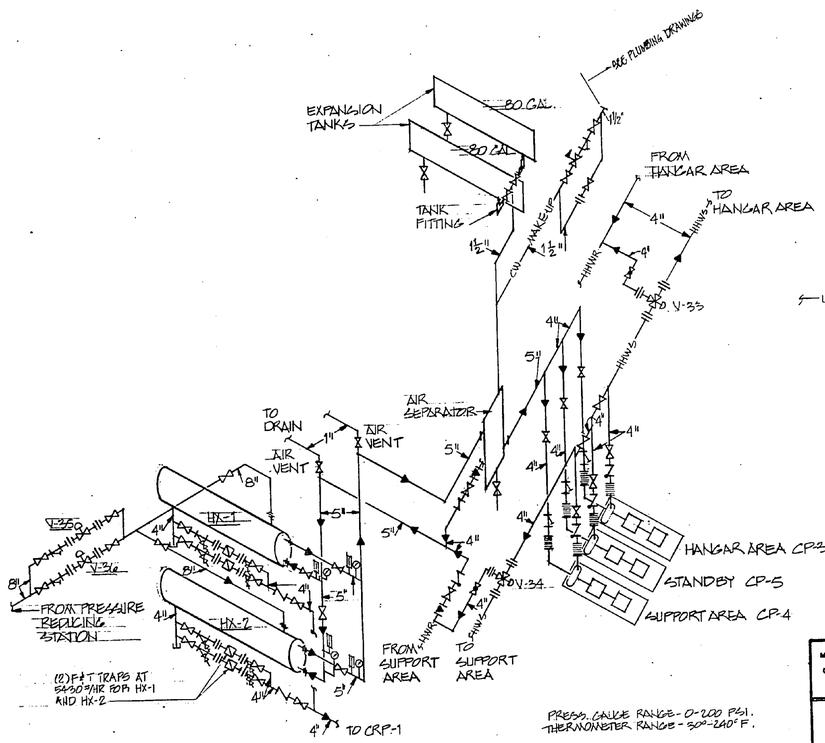


CONDENSATE PUMP PIPING
N.T.S.

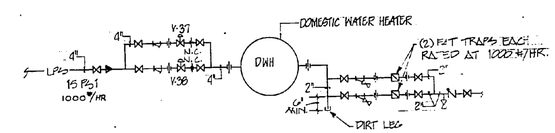
NOTE: PITCH CONDENSATE RETURN LINES IN THE DIRECTION OF FLOW.



PRESSURE REDUCING STATION
N.T.S.



HOT WATER SYSTEM FLOW DIAGRAM
N.T.S.



DOMESTIC HOT WATER HEATER PIPING FLOW DIAGRAM
N.T.S.

M-13

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

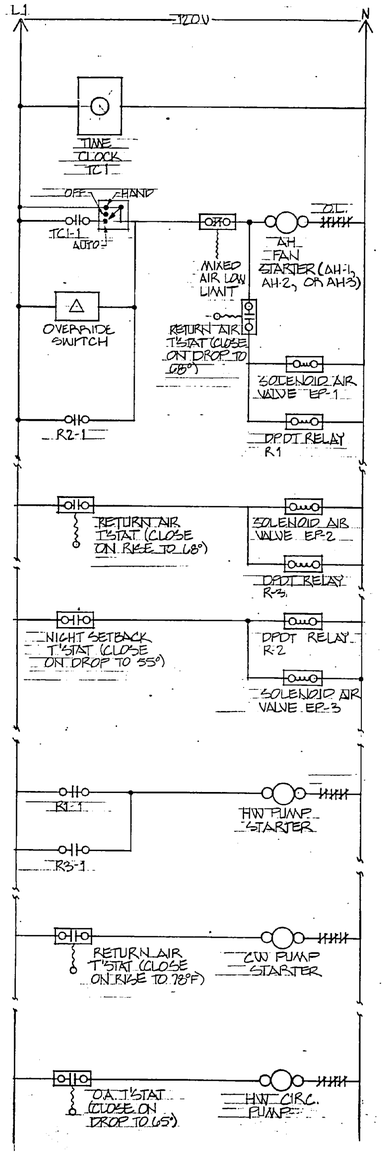
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DC — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
FLOW DIAGRAMS

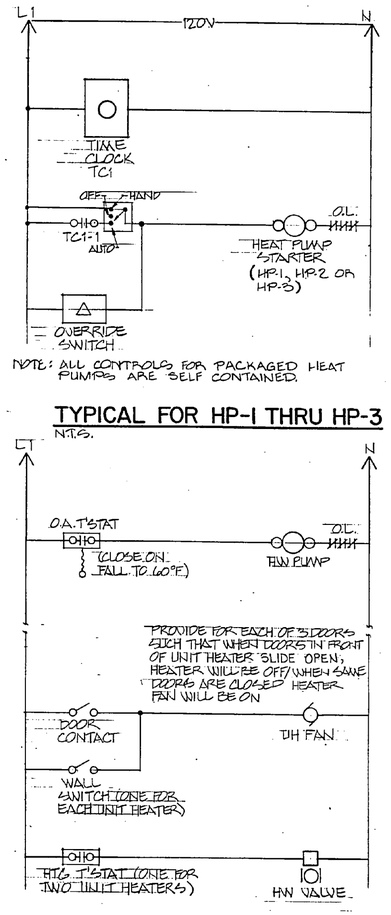
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138845
CONSTR. CONR. NO. N62470-84-B-4174
SCALE NONE | SPEC. 05-84-4174 | SHEET 96 OF 129
EFD DWG. NO. 238845

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



TYPICAL FOR AH-1, AH-2 AND AH-3

N.T.S.



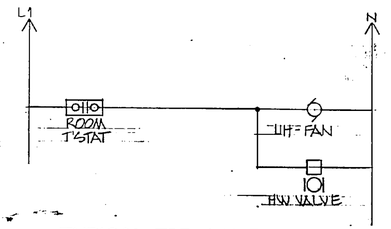
NOTE: ALL CONTROLS FOR PACKAGED HEAT PUMPS ARE SELF CONTAINED.

TYPICAL FOR HP-1 THRU HP-3

N.T.S.

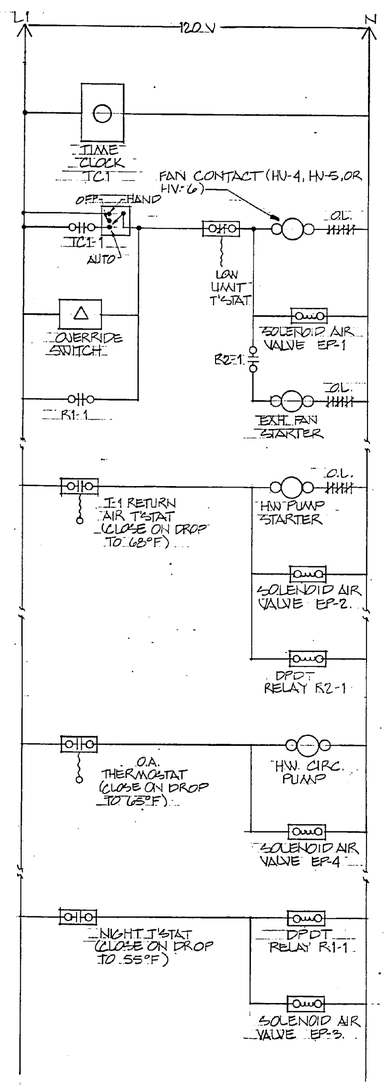
TYPICAL FOR UH-1 THRU UH-6

N.T.S.



TYPICAL FOR UH-7 THRU UH-20

N.T.S.

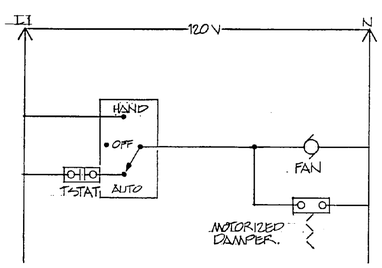


TYPICAL FOR HV-4 THRU HV-6

N.T.S.

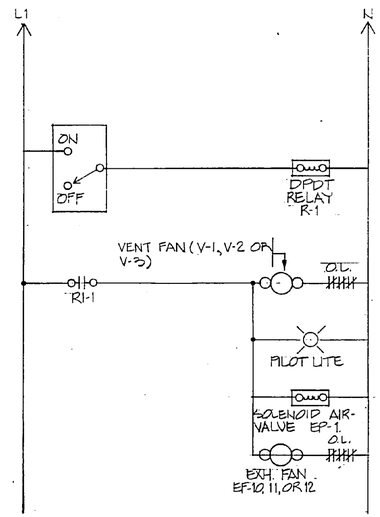
NOTES:

1. A SINGLE SOLENOID AIR VALVE IS ARRANGED TO SERVE MULTIPLE VALVES AND DAMPERS



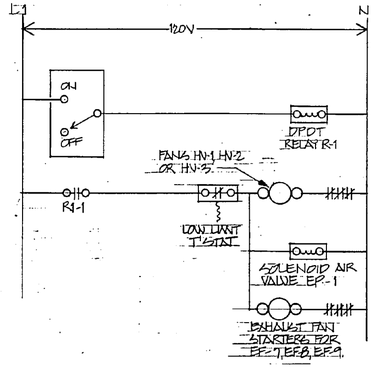
TYPICAL FOR EF-4 THRU EF-6

N.T.S.



TYPICAL FOR V-1, V-2 AND V-3

N.T.S.



TYPICAL FOR HV-1 THRU HV-3

N.T.S.

McCRACKEN & LOPEZ, PA. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA	M-14
	DES. PD DR. DM CHK. RAM PROJ. MGR. RAM CH. ENGR. PD SUBMITTED BY: DATE 4 MAR 86 FIRM MEMBER PRINCIPAL EFD: FP RVD MEF HD DIR KD APPROVED: DATE 3-4-86 OFFICER IN CHARGE APPROVED: DATE 1-29-87 FOR EFD FOR COMMANDER NAVFAC	MAINTENANCE HANGAR CONTROL WIRING DIAGRAM SIZE F CODE IDENT. NO. 80091 NAVFAC DRAWING NO. 4138846 CONSTR. CONR. NO. N62470-84-B-4174 SCALE NONE SPEC. 05-84-4174 SHEET 97 OF 129 EFD DWG. NO. 238846	

TYPICAL FOR HV-1, HV-2 AND HV-3 INTERLOCK

N.T.S.

TYPICAL FOR AH-1, AH-2 AND AH-3 INTERLOCK

N.T.S.

HOT WATER CIRCULATING PUMP INTERFACE

N.T.S.

TYPICAL HV-4, HV-5 AND HV-6 INTERLOCK

N.T.S.

TYPICAL AH-1, AH-2, AH-3 EMCS INTERFACE

N.T.S.

TYPICAL FOR V-1, V-2 AND V-3 INTERLOCK

N.T.S.

DATA TERMINAL CABINET (DTC)

N.T.S

ZONE INTERFACE

N.T.S.

CONVERTER CONTROL

N.T.S.

TYPICAL HEATING AND VENTILATING UNIT EMCS INTERFACE

NTS

CHILLER EMCS INTERFACE

N.T.S.

CONVERTER EMCS INTERFACE

N.T.S.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

M-15

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. PD | DR. DM | CHK. RAM

PROJ. MGR. RAM CH. ENGR. PD

SUBMITTED BY: DATE: 4 MAR 86 — FIRM MEMBER / PRINCIPAL

EFD: FP — RVD — HD — DIR

APPROVED — DATE 8-4-86 — OFFICER IN CHARGE

APPROVED — DATE 1-12-87 — FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

CONTROL DIAGRAMS

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138847
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE NONE	SPEC. 05-84-4174	SHEET 98 OF 129

EFD. DWG. NO. 238847

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

AIR DISTRIBUTION SYSTEM SCHEDULE

DESIGNATION	AREA SERVED	SYSTEM DESCRIPTION	ECONOMIZER CYCLE	FACTORY MIXING BOX	FACTORY FILTER BOX	AIR HANDLING UNIT DESIGNATION	COOLING COIL DESIGNATION	HEATING COIL DESIGNATION
ADS-1	SQUADRON NO. 1	CONSTANT VOLUME, LOW VELOCITY, THREE DECK MULTI-ZONE	NO	NO	YES	AH-1	CC-1	HC-1
ADS-2	SQUADRON NO. 2	CONSTANT VOLUME, LOW VELOCITY, THREE DECK MULTI-ZONE	NO	NO	YES	AH-2	CC-2	HC-2
ADS-3	SQUADRON NO. 3	CONSTANT VOLUME, LOW VELOCITY, THREE DECK MULTI-ZONE	NO	NO	YES	AH-3	CC-3	HC-3
ADS-4	SQUADRON NO. 1	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-1	-	PHC-1
ADS-5	SQUADRON NO. 2	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-2	-	PHC-2
ADS-6	SQUADRON NO. 3	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-3	-	PHC-3
ADS-7	SQUADRON NO. 1	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-4	-	PHC-4
ADS-8	SQUADRON NO. 2	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-5	-	PHC-5
ADS-9	SQUADRON NO. 3	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	NO	NO	YES	HV-6	-	PHC-6
ADS-10	SQUADRON NO. 1	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	V-1	-	-
ADS-11	SQUADRON NO. 2	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	V-2	-	-
ADS-12	SQUADRON NO. 3	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	V-3	-	-
ADS-13	SQUADRON NO. 1	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	AH-4	DX-1	-
ADS-14	SQUADRON NO. 2	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	AH-5	DX-2	-
ADS-15	SQUADRON NO. 3	CONSTANT VOLUME, LOW VELOCITY, SINGLE ZONE	-	NO	YES	AH-6	DX-3	-

UNIT HEATER SCHEDULE

DESIGNATION	LOCATION	CFM	MBH	WATER COND.				AIR COND.		ELECTRICAL CHARACT.		
				P.D.	ENT.	LVG.	GPM	EDB	LDB	HP	VOLTS	PHASE
UH-1	SQUADRON #1 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-2	SQUADRON #1 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-3	SQUADRON #2 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-4	SQUADRON #2 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-5	SQUADRON #3 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-6	SQUADRON #3 HANGER	16,500	520	1.5	180	152	39	60	89	3	460	3
UH-7	SQUADRON #1 (CORROSION CONT.)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1
UH-8	SQUADRON #1 (TOOL ROOM)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1
UH-9	SQUADRON #1 (METAL SHOP)	1,214	45.3	0.56	180	160	4.67	60	84.3	1/8	120	1
UH-10	SQUADRON #1 (MECH. EQUIP	280	7.0	0.03	180	170	1.45	60	83.1	1/25	120	1
UH-11	SQUADRON #1 (MECH. EQUIP	280	7.0	0.03	180	170	1.45	60	83.1	1/25	120	1
UH-12	SQUADRON #2 (CORROSION CONT.)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1
UH-13	SQUADRON #2 (TOOL ROOM)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1
UH-14	SQUADRON #2 (METAL SHOP)	1,214	45.3	0.56	180	160	4.67	60	84.3	1/8	120	1
UH-15	SQUADRON #2 (MECH. EQUIP	280	7.0	0.03	180	170	1.45	60	83.1	1/25	120	1
UH-16	SQUADRON #3 (MECH. EQUIP	280	7.0	0.03	180	170	1.45	60	83.1	1/25	120	1
UH-17	SQUADRON #3 (MECH. EQUIP	280	7.0	0.03	180	170	1.45	60	83.1	1/25	120	1
UH-18	SQUADRON #3 (TOOL ROOM)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1
UH-19	SQUADRON #3 (METAL SHOP)	1,214	45.3	0.56	180	160	4.67	60	84.3	1/8	120	1
UH-20	SQUADRON #3 (CORROSION CONT.)	543	14.3	.04	180	160	1.47	60	84.3	1/20	120	1

CONTROL VALVE SCHEDULE

DESIGNATION	UNIT SERVED	SERVICE	TYPE	ACTION	GPM	CV MINIMUM	REMARKS
V-1A	AH-1	CW	2-WAY	MODULATING	50	24	
V-2A	AH-2	CW	2-WAY	MODULATING	50	24	
V-3A	AH-3	CW	2-WAY	MODULATING	50	24	
V-4	AH-1	HW	2-WAY	MODULATING	15	7	
V-5	AH-2	HW	2-WAY	MODULATING	15	7	
V-6	AH-3	HW	2-WAY	MODULATING	15	7	
V-7	HV-1	HW	2-WAY	MODULATING	21	10	
V-8	HV-2	HW	2-WAY	MODULATING	21	10	
V-9	HV-3	HW	2-WAY	MODULATING	21	10	
V-10	HV-4	HW	2-WAY	MODULATING	10	5	
V-11	HV-5	HW	2-WAY	MODULATING	10	5	
V-12	HV-6	HW	2-WAY	MODULATING	10	5	
V-13	UH-7	HW	2-WAY	2-POSITION	1.47	0.7	
V-14	UH-8	HW	2-WAY	2-POSITION	1.47	0.7	
V-15	UH-9	HW	2-WAY	2-POSITION	4.67	2.5	
V-16	UH-10	HW	2-WAY	2-POSITION	1.45	0.7	
V-17	UH-11	HW	2-WAY	2-POSITION	1.45	0.7	
V-18	UH-12	HW	2-WAY	2-POSITION	1.47	0.7	
V-19	UH-13	HW	2-WAY	2-POSITION	1.47	0.7	
V-20	UH-14	HW	2-WAY	2-POSITION	4.67	2.5	
V-21	UH-15	HW	2-WAY	2-POSITION	1.45	0.7	
V-22	UH-16	HW	2-WAY	2-POSITION	1.45	0.7	
V-23	UH-17	HW	2-WAY	2-POSITION	1.45	0.7	
V-24	UH-18	HW	2-WAY	2-POSITION	1.47	0.7	
V-25	UH-19	HW	2-WAY	2-POSITION	4.67	2.5	
V-26	UH-20	HW	2-WAY	2-POSITION	1.47	0.7	
V-27	UH-1	HW	2-WAY	MODULATING	39	[illegible]	
V-28	UH-2	HW	2-WAY	MODULATING	39	20	
V-29	UH-3	HW	2-WAY	MODULATING	39	20	
V-30	UH-4	HW	2-WAY	MODULATING	39	20	
V-31	UH-5	HW	2-WAY	MODULATING	39	20	
V-32	UH-6	HW	2-WAY	MODULATING	39	20	
V-33	HX-1 HX-2	HW	3-WAY	MODULATING	234	120	
V-34	HX-1 HX-2	HW	3-WAY	MODULATING	160	80	
V-35	HX-1 HX-2	LPS	2-WAY	MODULATING	--	--	3630 #/HR MAX PRESSURE DROP 5 PSI
V-36	HX-1 HX-2	LPS	2-WAY	MODULATING	--	--	1800 #/HR MAX PRESSURE DROP 5 PSI
V-37	DWH	LPS	2 WAY	MODULATING	--	--	350 #/HR MAX PRESSURE DROP 5 PSI
V-38	DWH	LPS	2 WAY	MODULATING	--	--	650 #/HR MAX PRESSURE DROP 5 PSI
V-39	CHILLER	CW	3 WAY	MODULATING	151	74	—

INTEGRAL FACE & BYPASS COIL SCHEDULE

DESIGNATION	CFM	ENT. AIR	LVG. AIR	WATER COND.			TUBES				PRESS. DROP	
				ENT.	LVG.	GPM	ROWS	LGT.	WD.	FACE	AIR	WATER
PHC-1	5400	23	68	180	155	21	2	42	24	7.0	0.3	2.3
PHC-2	5400	23	68	180	155	21	2	42	24	7.0	0.3	2.3
PHC-3	5400	23	68	180	155	21	2	42	24	7.0	0.3	2.3
PHC-4	3100	42	80	180	155	10	1	42	18	5.25	0.22	0.47
PHC-5	3100	42	80	180	155	10	1	42	18	5.25	0.22	0.47
PHC-6	3100	42	80	180	155	10	1	42	18	5.25	0.22	0.47

HEAT PUMP SCHEDULE

DESIGNATION	AREA SERVED	CFM	ESP	COOLING		OUTDOOR COND.		HEATING		ELECT.	SUPPLEMENT HEAT		INDOOR COND.	
				SHC CAPACITY MBH	TOTAL COOLING CAP.	EWB	EDB	CAPACITY MBH	E.A.T. OUTDOOR	KW INPUT 208V-1Ø	KW OUTPUT 208V-1Ø	AMPS	EDB	EWB
HP-1	LINE SHACK 001	800	.5"	17.5	25.0	79	90	15.0	23	2.4	5.6	27	78	65
HP-2	LINE SHACK 002	800	.5"	17.5	25.0	79	90	15.0	23	2.4	5.6	27	78	65
HP-3	LINE SHACK 003	800	.5"	17.5	25.0	79	90	15.0	23	2.4	5.6	27	78	65

NOTE: SELF-CONTAINED CONTROLS, EXCEPT ROOM THERMOSTAT, FOR EACH HEAT PUMP. EACH UNIT SHALL BE SINGLE PACKAGED OUTDOOR INSTALLED TYPE.

HEATING COIL SCHEDULE

DESIGNATION	SERVES	CFM	ENTERING AIR DB	LEAVING AIR DB	WATER COND.			ROWS	TUBES		FACE	FINS	PRESS. DROP	
					ENT.	LVG.	GPM		LGT.	WD.			AIR	WATER
HC-1	AH-1	8000	64.1	85.4	180	155	15	1	81	30	16.87	80	0.06"	0.10FT
HC-2	AH-2	8000	64.1	85.4	180	155	15	1	81	30	16.87	80	0.06"	0.10FT
HC-3	AH-3	8000	64.1	85.4	180	155	15	1	81	30	16.87	80	0.06"	0.10FT

FIN COUNT IS REFERENCED IN FINS PER FOOT.
PRESSURE DROP ON AIR SIDE IS REFERENCED IN INCHES WATER COLUMN.
FACE AREA IS REFERENCED IN SQUARE FEET.

DX COOLING COIL SCHEDULE

DESIGNATION	SERVES	CFM	ENT. AIR COND.		LVG. AIR COND.		SUCT. TEMP.	ROWS	TUBES		FACE	FINS	COOL CAP MBH	PRESS. DROP
			DB	WB	DB	WB			LGT.	W.D.				
DX-1	AH-4	1000	78	65	59	57.2	45	2	24"	18"	3.0	146	24.3	0.18"
DX-2	AH-5	1000	78	65	59	57.2	45	2	24"	18"	3.0	146	24.3	0.18"
DX-3	AH-6	1000	78	65	59	57.2	45	2	24"	18"	3.0	146	24.3	0.18"

FIN COUNT IS REFERENCED IN FINS PER FOOT.
PRESSURE DROP ON AIR SIDE IS REFERENCED IN INCHES WATER COLUMN.
FACE AREA IS REFERENCED IN SQUARE FEET.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK NO.	CFM*	NECK SIZE	MODULE SIZE	TYPE	REMARKS	FINISH
SD-1	0-160	6"	24"X24"	PERFORATED FACE LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-2	160-250	8"	24"X24"	PERFORATED FACE LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-3	250-400	8"X8"	24"X24"	PERFORATED FACE LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-4	400-600	14"	24"X24"	PERFORATED FACE LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-5	600-800	16"	24"X24"	PERFORATED FACE LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-6	400-600	14"	20"X20"	PERFORATED FACE SURFACE-MTD.	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-7	0-150	7"	16"X16"	PERFORATED FACE SURFACE-MTD.	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-8	200-400	10"	16"X16"	PERFORATED FACE SURFACE-MTD.	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-9	250-400	8"X8"	24"X24"	PERFORATED FACE SURFACE-MTD.	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
SD-10	800-1450	15"	24"X24"	ADJUSTABLE BLADE, LAY-IN	WITH OPPOSED BLADE DAMPER AND EQUALIZER GRID	B.O.W
RG-1	0-1600	22" X 22"	24"X24"	PERFORATED FACE LAY-IN	-	B.O.W
RG-2	0-900	10" X 22"	12"X24"	PERFORATED FACE LAY-IN	-	B.O.W
RG-3	0-900	10" X 22"	12"X24"	PERFORATED FACE SURFACE MTD.	-	B.O.W
RG-4	400-900	20" X 18"	-	45° HORIZONTAL LOUVERS SPACED 3/4"	-	B.O.W
EG-1	0-120	12" X 6"	-	45° HORIZONTAL LOUVERS SPACED 3/4"	-	B.O.W
EG-2	120-250	12" X 8"	-	45° HORIZONTAL LOUVERS SPACED 3/4"	-	B.O.W
EG-3	250-400	12" X 10"	-	45° HORIZONTAL LOUVERS SPACED 3/4"	-	B.O.W
EG-4	0-1600	22" X 22"	24"X24"	PERFORATED LAY-IN	-	B.O.W
EG-5	1750	24" X 20"	-	45° HORIZONTAL LOUVERS SPACED 3/4"	-	B.O.W
SG-1	1600	24" X 20"	-	45° HORIZ. LVR. SPACED 3/4"	-	B.O.W.
EG-6	1100	24" X 10"	-	45° HORIZ. LVR. SPACED 3/4"	-	B.O.W.

* SEE DWGS. FOR ACTUAL CFM AND BLOW PATTERN

M-16

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. PD | DR. BD | CHK. RAM
PROJ. MGR. RAM | CH. ENGR. PD
SUBMITTED BY: | DATE: 5 MAR 86
FIRM MEMBER | PRINCIPAL
EFD: FP | RVD
HD | DIR KD
APPROVED | DATE 3-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-10-80
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

SCHEDULES

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138848
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE NONE | SPEC. 05-84-4174 | SHEET 99 OF 129
EFD DWG. NO. 238848

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

HEAT EXCHANGER SCHEDULE

DESIGNATION	STEAM PSIG #/HR.	WATER CONDITIONS EWT	LWT	GPM	WATER SIDE PRESSURE DROP	FOULING FACTOR	DIA.	LENGTH	VALVE DESIGNATION & CAPACITY	TRAP. NO.
HX-1	2 5430	154	180	395	5.0 FT.	.0005	18"	60"	V-33,V-34, V-35,V-36	T&T. (2) @5430#/HR.
HX-2	2 5430	154	180	395	5.0 FT.	.0005	18"	60"	V-33,V-34 V-35,V-36	T&T. (2) @5430#/HR.

REFRIGERATION SYSTEM SCHEDULE

DESIGNATION	EVAPORATOR CRITERIA	CONDENSER CRITERIA	COMPRESSOR CRITERIA	NOMINAL CONDITIONS	REMARKS
CHILLER NO.1 AIR COOLED COND. NO. 1	151 GPM 54oF EWT 44oF LWT 19 FT P.D.	•90oF DB AMBIENT •TWO REFRIGERANT CIRCUITS •TWO 7 1/2 HP/460V/3 PHASE FANS	•TWO COMPRESSORS EACH AT 31 KW/ 460 VOLT/3 PHASE	63 TONS	PROVIDE TWO TOTALLY SEPARATE REFRIGERANT CIRCUITS

PUMP SCHEDULE

DESIGNATION	SERVICE	TYPE	GPM	HEAD	RPM	EFFICIENCY	ELECTRICAL CHARACTERISTICS HP	VOLTS	PHASE
CP-1	CHILLED WATER SUPPORT AREA (SECONDARY)	BASE MTD. END SUCTION	150	45	1750	70%	3	460	3
CP-2	CHILLED WATER PRIMARY	BASE MTD. END SUCTION	150	35	1750	70%	2	460	3
CP-3	HOT WATER/ HANGER AREA	BASE MTD. END SUCTION	234	56	1750	75%	5	460	3
CP-4	HOT WATER/ SUPPORT AREA	BASE MTD. END SUCTION	160	55	1750	70%	5	460	3
CP-5	STANDBY FOR CP-3 & CP-4	BASE MTD. END SUCTION	234	56	1750	75%	5	460	3

CONDENSATE RECEIVER AND PUMP SET

DESIGNATION	AREA SERVED	RECEIVER CAPACITY	HEAD	GPM	PUMP ARRANG.	ELECTRICAL CHARACTERISTICS HP	VOLTS	PHASE
CRP-1	ENTIRE FACILITY	52 GALLONS	30 PSI	75	DUPLEX	3	460	3

COOLING COIL SCHEDULE

DESIGNATION	SERVES	CFM	ENT AIR COND. DB	WB	LVG. AIR COND. DB	WB	WATER COND. ENT.	LVG.	GPM	TUBES ROWS	FGT.	WD.	FACE	FINS	PRESS. DROP AIR	WATER
CC-1	AH-1	7700	80.6	66.5	57.0	56.1	44	54	50	4	81	30	16.9	105	0.5"	3.0 FT
CC-2	AH-2	7700	80.6	66.5	57.0	56.1	44	54	50	4	81	30	16.9	105	0.5"	3.0 FT
CC-3	AH-3	7700	80.6	66.5	57.0	56.1	44	54	50	4	81	30	16.9	105	0.5"	3.0 FT

FIN COUNT IS REFERENCED IN FINS PER FOOT.
PRESSURE DROP ON AIR SIDE IS REFERENCED IN INCHES WATER COLUMN.
FACE AREA IS REFERENCED IN SQUARE FEET.

FILTER SCHEDULE

DESIGNATION	SERVES	CFM	PRESSURE DROP INITIAL	FINAL	FILTER SIZE	NUMBER OF UNITS	EFF %	HOUSING
F-1	ADS-1	10680	0.09"	0.4"	20X25	8	40	SIDE ACCESS
F-2	ADS-2	10680	0.09"	0.4"	20X25	8	40	SIDE ACCESS
F-3	ADS-3	10680	0.09"	0.4"	20X25	8	40	SIDE ACCESS
F-4	ADS-4	5400	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-5	ADS-5	5400	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-6	ADS-6	5400	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-7	ADS-7	3100	0.17"	0.4"	20X25	2	40	SIDE ACCESS
F-8	ADS-8	3100	0.17"	0.4"	20X25	2	40	SIDE ACCESS
F-9	ADS-9	3100	0.17"	0.4"	20X25	2	40	SIDE ACCESS
F-10	ADS-10	5800	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-11	ADS-11	5800	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-12	ADS-12	5800	0.07"	0.4"	16X25	6	40	SIDE ACCESS
F-13	ADS-13	1000	0.07"	0.4"	20X25	1	40	SIDE ACCESS
F-14	ADS-14	1000	0.07"	0.4"	20X25	1	40	SIDE ACCESS
F-15	ADS-15	1000	0.07"	0.4"	20X25	1	40	SIDE ACCESS

NOTE:
HOUSINGS SHALL BE COMPATIBLE WITH AIR HANDLING UNITS. FILTER THICKNESS 2" ALL.

FILTER MODULE SCHEDULE

DESIGNATION	CFM	SIZE WD	LGT.	FACE VELOCITY FPM (MIN.)	EFFICIENCY %	PRESSURE DROP INITIAL	FINAL
FM-1	500	24"	36"	75	99.97	0.5"	0.8"
FM-2	500	24"	36"	75	99.97	0.5"	0.8"
FM-3	500	24"	36"	75	99.97	0.5"	0.8"
FM-4	500	24"	36"	75	99.97	0.5"	0.8"
FM-5	500	24"	36"	75	99.97	0.5"	0.8"
FM-6	500	24"	36"	75	99.97	0.5"	0.8"

AIR COOLED CONDENSING UNIT SCHEDULE

DESIGNATION	AMBIENT AIR TEMP. OF	COOLING CAPACITY MBH	ELECTRICAL CHARACTERISTICS VOLT	PHASE	Kw
CU-1	95	28.4	208	1	3.5
CU-2	95	28.4	208	1	3.5
CU-3	95	28.4	208	1	3.5

PRESSURE REDUCING STATION SCHEDULE

DESIGNATION	STEAM COND. ENT PSI	LVG. PSI	#/HR.	PILOT DESIGNATION	PARABOLIC PORT
PRV-1	150	50	6100	P-1	NO
PRV-2	50	15	6100	P-2	YES
PRV-3	150	50	6100	P-3	NO
PRV-4	50	15	6100	P-4	YES

AIR HANDLING UNIT SCHEDULE

DESIGNATION	CFM	STATIC PRESSURE EXTERNAL	TOTAL	OUTLET VELOCITY	RPM	WHEEL DIA.	ELECT. CHARACTERISTICS HP	VOLTS	PHASE	OA CFM
AH-1	10,680	1.9"	3.25"	-	1550	13.5" F.C. (2)	15	460	3	1800
AH-2	10,680	1.8"	3.25"	-	1550	13.5" F.C. (2)	15	460	3	1800
AH-3	10,680	1.8"	3.25"	-	1550	13.5" F.C. (2)	15	460	3	1800
HV-1	5,400	-	2.0"	1610	845	16.5" F.C.	3	460	3	5400
HV-2	5,400	-	2.0"	1610	845	16.5" F.C.	3	460	3	5400
HV-3	5,400	-	2.0"	1610	845	16.5" F.C.	3	460	3	5400
HV-4	3,100	-	2.25"	1630	1212	12.25" F.C.	2	460	3	2000
HV-5	3,100	-	2.25"	1630	1212	12.25" F.C.	2	460	3	2000
HV-6	3,100	-	2.25"	1630	1212	12.25" F.C.	2	460	3	2000
V-1	5,800	-	1.25"	1705	745	16.5" F.C.	3	460	3	2850
V-2	5,800	-	1.25"	1705	745	16.5" F.C.	3	460	3	2850
V-3	5,800	-	1.25"	1705	745	16.5" F.C.	3	460	3	2850
AH-4	1,000	-	1.50	970	1433	9" F.C.	0.5	120	1	0
AH-5	1,000	-	1.50"	970	1433	9" F.C.	0.5	120	1	0
AH-6	1,000	-	1.50"	970	1433	9" F.C.	0.5	120	1	0

NOTES:
1. AH-1, 2 AND 3 SHALL BE BLOW-THROUGH, THREE BOX MULTI-ZONE UNITS WITH HEAT COIL, COOLING COIL AND ZONE DAMPERS.
2. HV-1, 2 AND 3 SHALL BE DRAW-THROUGH SINGLE ZONE UNITS WITH HEAT COIL ONLY.
3. HV-4, 5 AND 6 SHALL BE DRAW-THROUGH SINGLE ZONE UNITS WITH HEAT COIL AND FACE AND BYPASS DAMPERS.
4. V-1, 2 AND 3 SHALL BE DRAW THROUGH SINGLE ZONE UNITS WITHOUT COILS.
5. AH-4, 5 AND 6 SHALL BE DRAW THROUGH SINGLE ZONE UNITS WITH DX COOLING COIL.

EXHAUST FAN SCHEDULE

DESIGNATION	CFM	E.S.P.	TYPE	DRIVE	RPM	TIP SPEED	ROOF OPENING	ELECTRICAL CHARACTERISTICS HP	VOLTS	PHASE
EF-1	2300	0.75"	IN-LINE CENTRIFUGAL	BELT	1430	5476	-	0.75	460	3
EF-2	2300	0.75"	IN-LINE CENTRIFUGAL	BELT	1430	5476	-	0.75	460	3
EF-3	2300	0.75"	IN-LINE CENTRIFUGAL	BELT	1430	5476	-	0.75	460	3
EF-4	3500	0.75"	IN-LINE CENTRIFUGAL	BELT	1400	6118	-	1.5	460	3
EF-5	3500	0.75"	IN-LINE CENTRIFUGAL	BELT	1400	6118	-	1.5	460	3
EF-6	3500	0.75"	IN-LINE CENTRIFUGAL	BELT	1400	6118	-	1.5	460	3
EF-7	5600	0.5"	IN-LINE CENTRIFUGAL	BELT	1400	-	-	1	460	3
EF-8	5600	0.5"	IN-LINE CENTRIFUGAL	BELT	1400	-	-	1	460	3
EF-9	5600	0.5"	IN-LINE CENTRIFUGAL	BELT	1400	-	-	1	460	3
EF-10	2850	0.5"	ROOF MTD. CENTRIFUGAL	BELT	900	4359	20.5" X 20.5"	0.5	120	1
EF-11	2850	0.5"	ROOF MTD. CENTRIFUGAL	BELT	900	4359	20.5" X 20.5"	0.5	120	1
EF-12	2850	0.5"	ROOF MTD. CENTRIFUGAL	BELT	900	4359	20.5" X 20.5"	0.5	120	1

NOTE : EF-7,8&9 SHALL BE FURNISHED WITH SPRAY PAINT BOOTH.

M-17

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. PP | DR. PP | CHK. KAM.
FROM MGR. KAM CK'D PER P.D
SUBMITTED BY: DATE: 6 Nov 80
FIRM MGR/DIR PRINCIPAL
EFD/FP-21NDC RVD
MD DIR
APPROVED: DATE: 5-4-82
OFFICER IN CHARGE
APPROVED: DATE: 1-16-81
FOR EFD FOR COMMANDER NAVFAC

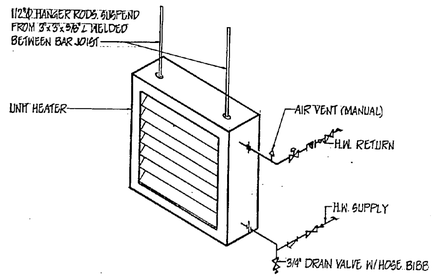
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

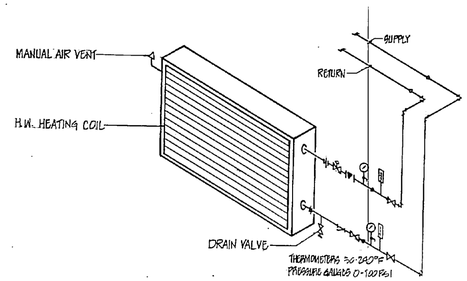
SCHEDULES

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138849
CONSTR. CONT. NO. N62470-84-B-4174
SCALE NONE | SPEC. 05-84-4174 | SHEET 100 OF 129
EFD DWG. NO. 238849

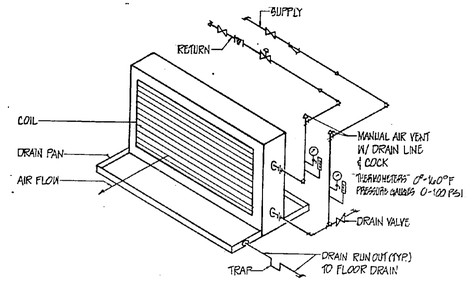
DRAFTED WITH M/ MICRO-SOFT



A M-2, M-6, M-9 M-11 M-18 N.T.S.
UNIT HEATER PIPING DETAIL (UH-7 THRU UH-20)

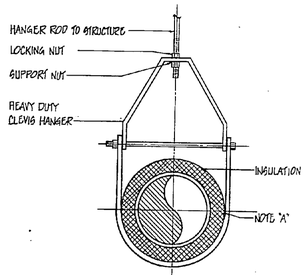


B M-2, M-6, M-9 M-11 M-18 N.T.S.
HOT WATER COIL PIPING DETAIL

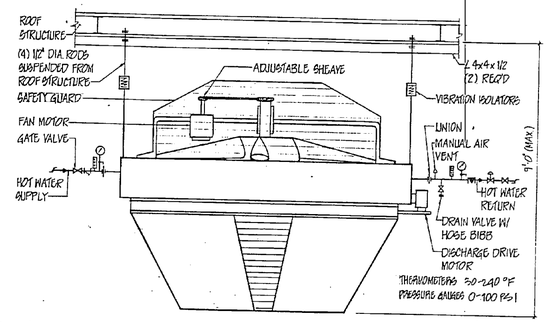


C M-2, M-6, M-9 M-11 M-18 N.T.S.
TYPICAL CHILLED WATER COIL CONNECTION

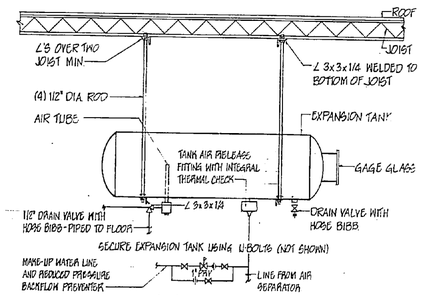
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



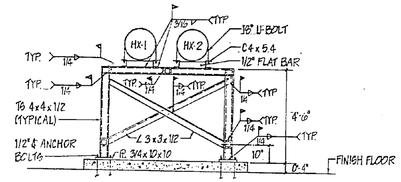
D M-18 N.T.S.
CLEVIS HANGER DETAIL



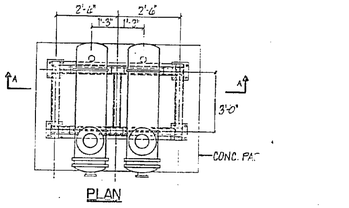
E M-2, M-7 M-18 M-18 N.T.S.
UNIT HEATER DETAIL - HANGER AREA (UH-1 THRU UH-6)



F M-1 M-18 N.T.S.
EXPANSION TANK DETAIL

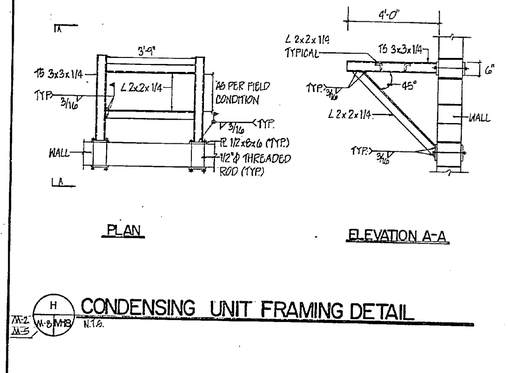


SECTION A-A



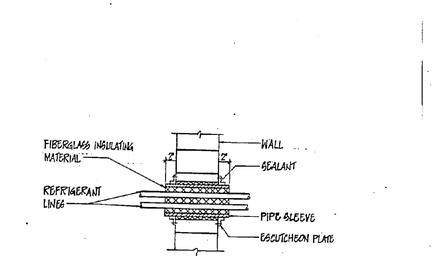
PLAN

G M-1 M-18 N.T.S.
HX-1 & HX-2 MOUNTING DETAIL

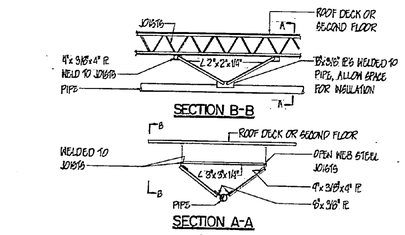


PLAN ELEVATION A-A

H M-2 M-5 M-6 W-6 M-18 N.T.S.
CONDENSING UNIT FRAMING DETAIL

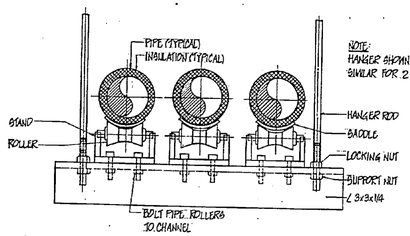


I M-18 N.T.S.
PIPE SLEEVE DETAIL

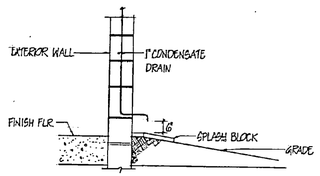


K M-2, M-5, M-6, M-7, M-9 M-10 M-18 N.T.S.
PIPE ANCHOR DETAIL

NOTE:
1. SUPPORT PIPE GUIDES IN A SIMILAR MANNER TO PIPE ANCHORS.



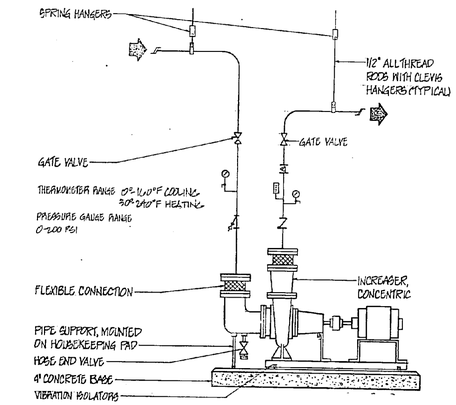
L M-18 N.T.S.
TRAPEZE HANGER DETAIL



M A-2 M-18 N.T.S.
CONDENSATE DRAIN DETAIL

NOTE: WHERE POSSIBLE DRAIN CONDENSATE TO FLOOR DRAIN.

NOTE:
1. A DASH IN LOWER LEFT HAND QUADRANT OF DETAIL SYMBOL SIGNIFIES THAT DETAIL APPLIES THROUGHOUT PROJECT.



N M-1 M-18 N.T.S.
BASE MOUNTED END SUCTION CENTRIFUGAL PUMP DETAIL

M-18

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

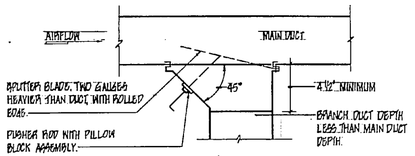
KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. PD | DR. JP | CHK. R.A.M.
PROJ. MGR. R.A.M. | CH. ENGR. P.D.
SUBMITTED BY: [signature] DATE: 2 MAR 84
FIRM MEMBER | PRINCIPAL
EFD-FP-ENGR'G | NVD | TIDE
HD | DIR
APPROVED [signature] DATE 3-4-85
OFFICER IN CHARGE
APPROVED [signature] DATE 1-13-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVFAC FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

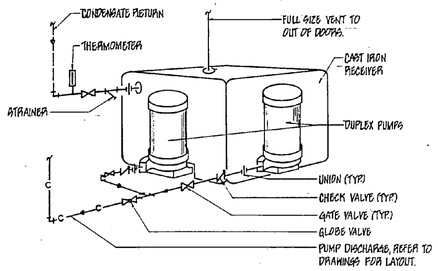
MAINTENANCE HANGAR
DETAILS

SIZE	COOK IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138850
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE NONE	SPEC. 05-84-4174	SHEET 101 OF 129

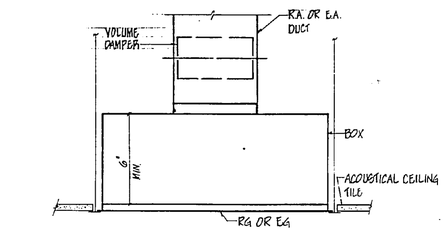
EFD DWG. NO. 238850



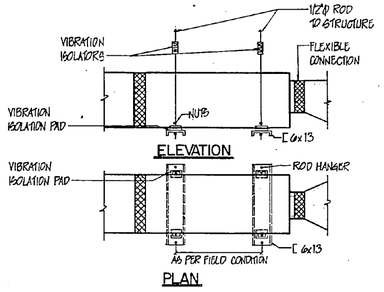
K / M19 SUPPLY AIR SPLITTER DAMPER DETAIL
N.T.S.



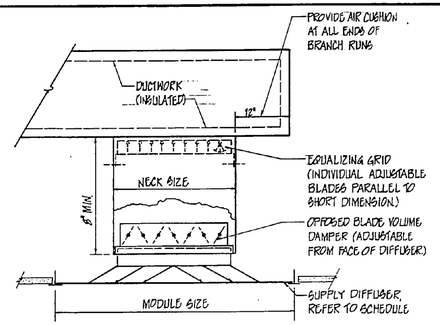
L / MH1 MH9 CONDENSATE PUMP DETAIL
N.T.S.



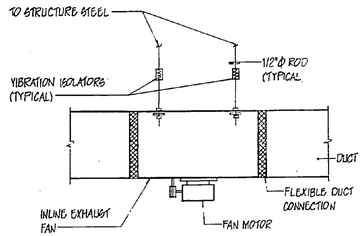
A / M19 DUCT MOUNTED RG & EG DETAIL (LAY-IN TILE CEILING)
N.T.S.



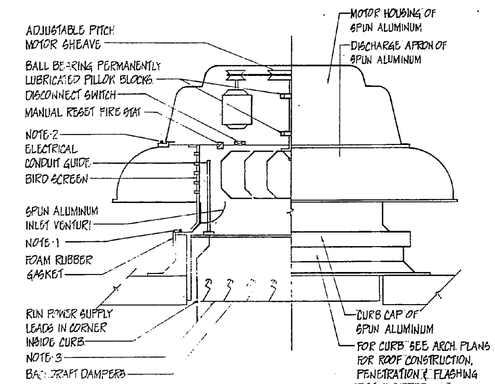
C / M19 SUSPENDED AIR HANDLING UNIT DETAIL
N.T.S.



B / M19 CEILING DIFFUSER DETAIL
N.T.S.

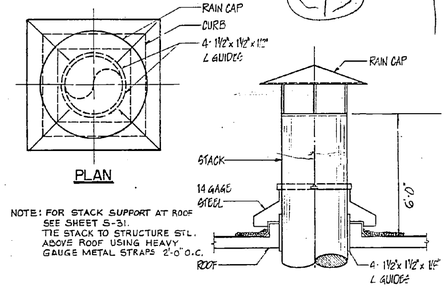


D / M19 INLINE FAN MOUNTING DETAIL
N.T.S.



NOTES:
1. SECURE FAN TO CURB WITH SHEET METAL SCREWS 1'-3" ON CENTER, ALL AROUND.
2. NON-FERROUS FASTENERS TO PERMIT DOVE REMOVAL FOR ACCESS TO MOTOR.
3. CONTRACTOR SHALL VERIFY AND COORDINATE ROOF OPENINGS WITH SUBMITTED ITEMS PRIOR TO INSTALLATION.

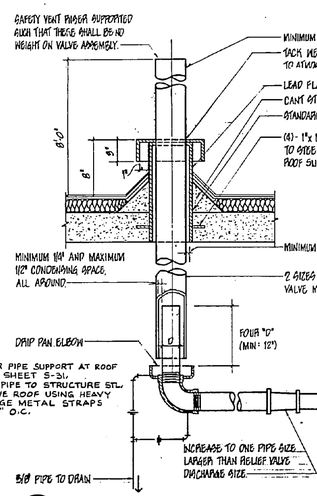
E / M-1 M19 ROOF MOUNTED EXHAUST FAN DETAIL
N.T.S.



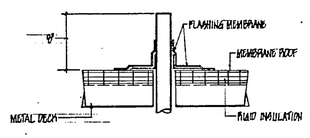
NOTE: FOR STACK SUPPORT AT ROOF SEE SHEET S-31. TIE STACK TO STRUCTURE STL. ABOVE ROOF USING HEAVY GAUGE METAL STRAPS 2'-0" O.C.

SEE DETAILS ON SH. A-9 FOR ROOF CONSTRUCTION, AND FLASHING DETAIL.

H / M-1 M19 SECTION METAL STACK THRU ROOF DETAIL
N.T.S.

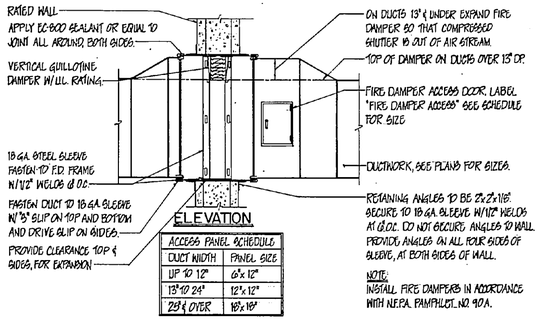


M / M-1 M19 DRIP PAN ELBOW ASSEMBLY
N.T.S.



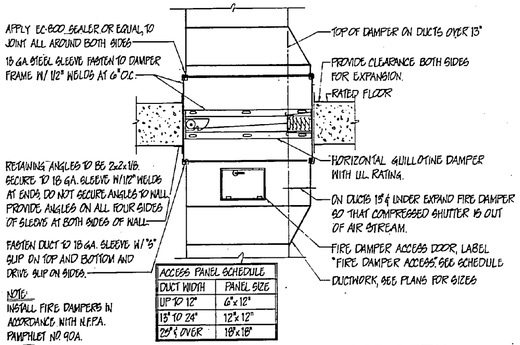
REFER TO DETAILS ON A-9 FOR ADDITIONAL INFORMATION

N / M-1 M19 DETAIL - V.T.R.
N.T.S.



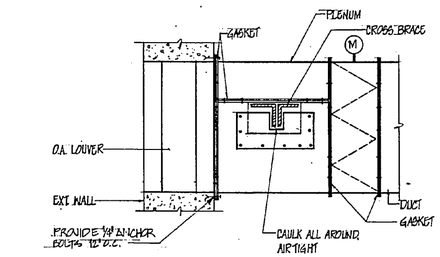
ACCESS PANEL SCHEDULE	
DUCT WIDTH	PANEL SIZE
UP TO 12"	6"x 12"
13" TO 24"	12"x 12"
24" & OVER	18"x 18"

F / M19 HORIZONTAL FIRE DAMPER AT WALL DETAIL
N.T.S.

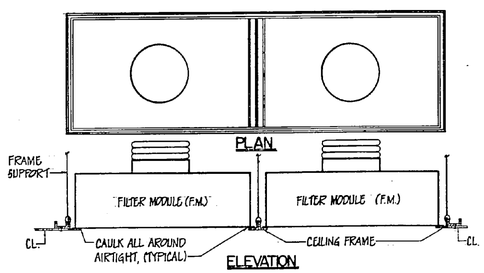


ACCESS PANEL SCHEDULE	
DUCT WIDTH	PANEL SIZE
UP TO 12"	6"x 12"
13" TO 24"	12"x 12"
24" & OVER	18"x 18"

G / M19 VERTICAL FIRE DAMPER AT FLOOR DETAIL
N.T.S.



I / M-3 M19 CROSS BRACE PENETRATION AT PLENUM DETAIL
N.T.S.



J / M19 FILTER MODULE MOUNTING DETAIL
N.T.S.

NOTE:
1. A DASH IN LOWER LEFT HAND QUADRANT OF DETAIL SYMBOL SIGNIFIES THAT DETAIL APPLIES THROUGH-OUT PROJECT.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

M-19

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. P.D. | DR. J.P. | CHK. E.A.M.
PROJ. MGR. E.A.M. | CH. ENGR. P.D.
SUBMITTED BY: [signature] DATE: 2 MAR 84
FIRM MEMBER | PRINCIPAL
EFD-FEC DIVISION | RVD | MPE
HD | DIR | KTS
APPROVED: [signature] DATE: 3-4-84
OFFICER IN CHARGE
APPROVED FOR EFD FOR COMMANDER NAVFAC: [signature] DATE: 1-19-87

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

DETAILS

SIZE	CODE IDENT NO.	NAVFAC DRAWING NO.
F	80091	4138851
	CONSTR. CONTR. NO.	N62470-84-B-4174
SCALE NONE	SPEC. 05-84-4174	SHEET 102 OF 129
		EFD DWG. NO. 238851

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

N

CONCRETE AIRCRAFT PARKING APRON

290'

BEGIN BITUMINOUS CONCRETE DRIVE REMOVAL

MATCHLINE

EXISTING ASPHALT DRIVE (TO REMAIN)

EDGE OF ASPHALT

EDGE OF CONCRETE

ASPHALT DRIVE REMOVED

CLEAR AREAS BORDERED BY HATCHING

REMOVE CONC. HEADWALLS

LIGHT POLE (TO REMAIN)

LIGHT POLE (REMOVE)

OVERHEAD POWER LINE (REMOVE)

30" CONCRETE STORM DRAIN PIPE (TO REMAIN)

DITCH

INVERT 15.00

INVERT 15.05

P.K. NAIL 18.35

P.K. NAIL 18.08

HEAVILY WOODED AREA SMALL PINES

50.00'

P.K. NAIL 18.66

P.K. NAIL 18.60

℄ DITCH

P.K. NAIL 18.56

P.K. NAIL 18.36

REMOVE OVERHEAD CONDENSATE & STEAM LINES

80'±

SUPPORT OVER-HEAD

5' VERIFY

6" DIAMETER OVERHEAD STEAM AND CONDENSATE LINES ON CONCRETE PIERS. ASSUME 8' HIGH

SEE ARCHITECT DWGS FOR WALL MOUNTED PIPING

TWO PIPES

UNDER BASE BID CAP BOTH PIPES HERE. PROVIDE OVERHEAD SUPPORT NEAR MANHOLE #2A

SEE SH. M-22

UNDER ADDITIVE BID NO.1 CONNECT SOUTHSIDE OVERHEAD PIPES HERE SEE SH. M-21 (NIC)

UNDERGROUND PIPES BASE BID ONLY.

BENCHMARK #1 ELEVATION 18.22

TEMPORARY DISCONNECT - CONNECT TO EXISTING PIPES

FIRE HYDRANT WITH 4 - 3.4" HIGH CONCRETE PROTECTORS (TYPICAL)

18" WATER LINE (TAKEN FROM BASE UTILITY MAP)

CONNECT TO EXISTING PIPES (MARKED IN FIELD)

TEMPORARY DISCONNECT - PROVIDE TEMPORARY PIER SUPPORT DURING CONSTRUCTION

PROPOSED EDGE OF PAVEMENT

8" WATER LINE (TAKEN FROM BASE MAP)

WHITE STREET

EDGE OF PAVEMENT

OVERHEAD POWER LINE

TELEPHONE BOX

POWER POLE WITH FIRE ALARM BOX

POWER POLE

STORM DRAIN MANHOLE 24" CONCRETE STORM DRAIN PIPE

CATCH BASIN

FIRE HYDRANT

ASPHALT DRIVE

18" CONCRETE STORM DRAIN PIPE

24" CONCRETE STORM DRAIN PIPE

2-12" CONCRETE STORM DRAIN PIPES

OVERHEAD STEAM LINE AND CONDENSATE LINES ON WOODEN PIERS

18" CONCRETE STORM DRAIN PIPE (REMOVE)

SEE SHEET M-22

SEE SHEET M-21

LEGEND

- NEW STEAM PIPE (UNDERGROUND)
- NEW STEAM PIPE (OVERHEAD)
- NEW CONDENSATE PIPE (UNDERGROUND)
- ANCHOR SUPPORT
- NEW CONDENSATE PIPE (OVERHEAD)
- EXISTING STEAM AND CONDENSATE PIPES TO REMAIN DURING & AFTER CONSTRUCTION.
- MH MANHOLE
- SUPPORTS
- TIE-IN POINT OF NEW STEAM MAIN TO EXISTING.
- OVERHEAD SUPPORT.

NOTES:

1. BENCHMARK #1 P.K. NAIL IN CENTER OF EXISTING DRIVE 45' EAST OF CENTER WHITE STREET. ELEVATION 18.22 (NORTH AMERICAN 1927 DATUM)
2. LOCATIONS AND SIZES OF NON-VISIBLE UTILITIES WHERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-1 FOR DEMOLITION PLAN.
4. FOR PIPE SUPPORT DETAILS (WALL MOUNTING) SEE STRUCTURAL DWGS.
5. NCAS BASE STEAM SERVICE DISTRIBUTION SHALL BE COORDINATED BY THE CONTRACTOR BUT SCHEDULED & PHASED BY THE BASE ENGINEERING DEPARTMENT.
6. STEAM & CONDENSATE PIPING BETWEEN MANHOLES NO.1 & NO. 2 SHALL BE SUPPORTED BUT NOT ANCHORED.
7. HEIGHT OF PIERS SHALL MATCH EXISTING PIPE ELEVATIONS. FIELD VERIFY.

NOTE: PROVIDE 1" CLEARANCE BETWEEN SUPPORTING GUIDES AND CONDUIT PIPE.

2" TYP FOR GUIDES.

INSULATION
STEAM PIPE
OUTER PIPE
SUPPORTING GUIDES
CONDUIT PIPE

M-22, M-21 — UNDERGROUND SUPPORT DETAIL

N.T.S.

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. P.D. DR. D.M. CHK. R.A.M.

PROJ. MGR. R.A.M. CH. ENGR. P.D.

SUBMITTED BY: DATE: 2 Mar 84

FIRM MEMBER PRINCIPAL

EFD FT RYD MAC

NO. OF SHT. DR. K.T.D.

APPROVED DATE 3-4-84

OFFICER IN CHARGE

APPROVED DATE 1-15-85

FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

EXTERIOR STEAM PIPING & DETAILS NORTH SECTION

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138852

CONSTR. CONTR. NO. N62470-84-B-4174

SCALE 1"=25' SPEC. 05-84-4174 SHEET 103 OF 129

EFD DWG. NO. 238852

M-20

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

N

MATCHLINE

CONCRETE AIRCRAFT PARKING APRON

WASH RACK FACILITY TO REMAIN IN FULL OPERATION THROUGHOUT THE DURATION OF THE PROJECT.

EDGE OF CONCRETE (REMOVE)

EDGE OF ASPHALT

LIGHT POLE

WASH RACK AREA (TO REMAIN)

12" CONCRETE STORM DRAIN PIPE

CONCRETE OIL & WATER SEPARATOR WITH GALVANIZED GRATE

SUMP PUMP

24" CONCRETE PIPE & GUTTER ELEVATION TO TOP OF CURB

FIRE HYDRANT GATE VALVE

CONCRETE BLK BUILDING

GAS LINE

TELEPHONE BOX

STEAM MANHOLE

CONNECT TO EXIST. 2" PIPE

4" CONCRETE STORM DRAIN PIPE (REMAIN)

3" UNDERGROUND AIR LINE (TAKEN FROM BASE UTILITY MAPS) (TO REMAIN)

NOTE: ADAPT DETAIL TO EACH FIELD CONDITION TO FIT EXISTING STEAM LINES.

3"x4'-2" ZONE EL. SIDE

(4)-3/4"ϕx24" A.B. 3'-0" c/c EA. WAY: 2 1/2" THRD. PROJ.

3/4" ϕ ROD

ADJUSTABLE ROLLER HANGER

1/2" ϕ ROD

VARIES ADJUST TO SUIT PROFILE

4" STEAM PIPE

3" CONDENSATE PIPE

4-#7 VERT BARS W/ #4 TIES @ 12".

16"x16" CONCRETE POLE, 12' IN GROUND

CONCRETE POLE PIPE SUPPORT

W8x31, 3'-9" LG.

SECTION THRU PIPE SUPPORT (OVERHEAD)

NTS

ADDITIVE BID NO.1 ONLY. FOR BASE BID WORK IN THIS AREA SEE SH. M-22

HEAVILY WOODED AREA SMALL PINES

SEE ARCHITECTURAL DWGS. FOR WALL MOUNTED PIPING.

SWALE ENDS

SMALL SWALE

OVERHEAD SUPPORT

MH #5

ANCHOR

GRAVEL

TEMPORARY FACILITIES

PROPOSED EDGE OF PAVEMENT

HEAVILY WOODED AREA SMALL PINES

OVERHEAD POWER LINE

OVERHEAD SUPPORT

FARH #4

CONNECT TO EXISTING PIPES (VERIFY SIZE)

VALVE PIT

5" DIAMETER

CONNECT TO EXISTING (VERIFY SIZE & DEPTH)

HEAVILY WOODED AREA SMALL PINES

LIGHT POLE

GUY WIRE

SUPPORT POLE

OVERHEAD SUPPORT CABLE

POWER POLE

TREES TO REMAIN

OVERHEAD LIGHT (TO REMAIN)

OVERHEAD POWER LINE (REMOVE)

7- TELEPHONE BOXES

UNDERGROUND STEAM LINE & CONDENSATE PIPING

WHITE STREET

EDGE OF PAVEMENT

18" WATER LINE (TAKEN FROM BASE UTILITY MAP)

FIRE HYDRANT WITH 4-2 1/2" & 1-4" HIGH CONCRETE PROTECTORS (TYPICAL) BENCHMARK #2 ELEVATION 26.09

(REMAIN) WHITE STREET

15" CONCRETE STORM DRAIN PIPE (REMAIN)

ADVER. POLE (REMAIN)

18" CONCRETE STORM DRAIN PIPE

INVERT 18.23

OVERHEAD POWER LINE

SEE SHEET M-20

MATCHLINE

3/4"ϕ @ 12" c/c TYP.

6"

2"

DRYWELL

1'-9"

4'-0" INSIDE

CONDENSATE PIPE

STEAM PIPE

PLAN VIEW

24" DIA. W/ WATER TIGHT C.I. MANHOLE COVER

3/4" VENT W/ INSECT SCREEN

#4@9" EACH WAY

PIPE SLEEVE

#4@9" EACH WAY

GLAND SEAL

2"x4" KEY

#4@9" T.B. EACH WAY

STEAM PIPE

VARIES

2"x3" KEY

3/4" DRAIN

ST. 9 W. 25 X 6'-6" LG.

6" WATER STOP (TYP.)

SECTION-A

MANHOLE NO.1, 3 & 5 DETAIL

NTS

NOTE:

1. MANHOLE NO.2, 2A & 4 SHALL BE SIMILAR BUT OPPOSITE HAND

3/4" PL.

CONDUIT

STEAM PIPE

WELD DETAILS FOR UNDERGROUND ANCHOR

2'-0" x 2'-0" CONCRETE

1/4" PLATE

CONDUIT PIPE

STEAM PIPE

UNDERGROUND ANCHOR

NTS

GRAPHIC SCALE

1" = 25'

25 10 0 25 50

NOTES:

1. BENCHMARK #1 PK NAIL IN CENTER OF EXISTING DRIVE 45' EAST OF CENTER WHITE STREET. ELEVATION 18.22 (NORTH AMERICAN 1927 DATUM)
2. LOCATIONS & SIZES OF NON-VISIBLE UTILITIES WHERE TAKEN FROM BASE UTILITY MAPS.
3. SEE SHEET C-2 FOR DEMOLITION PLAN
4. FOR PIPE SUPPORT DETAILS (WALL MOUNTING), SEE STRUCTURAL DWGS.
5. NCAS BASE STEAM SERVICE DISTRIBUTION SHALL BE COORDINATED BY THE CONTRACTOR BUT SCHEDULED & PLANNED BY THE BASE ENGINEERING DEPARTMENT.
6. STEAM & CONDENSATE PIPING BETWEEN MANHOLES NO.1 & NO.2 SHALL BE SUPPORTED BUT NOT ANCHORED.
7. HEIGHT OF PIERS SHALL MATCH EXISTING PIPE ELEVATIONS. FIELD VERIFY.
8. LOCATION OF UNDERGROUND STEAM LINES SHOULD BE VERIFIED EARLY DURING CONSTRUCTION TO AVOID DELAY IN VERTICAL COORDINATION OF ALL UNDERGROUND UTILITIES.

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.

LOOP 10' X 14' LOOP

7' 5' 12' 10' 2'

EXPANSION LOOP DETAIL

NTS

STEAM LINE

LINE SIZE AS STEAM MAIN

1'-0"

DETERMINE IN FIELD

BUCKET TRAP @ 100 #/HR.

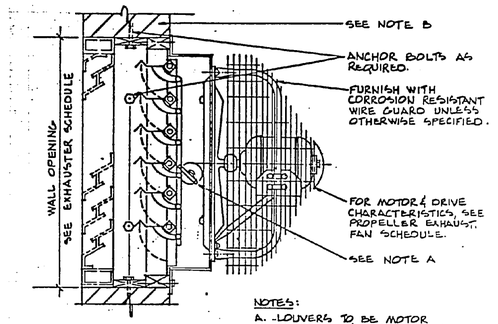
2'-2"x2' DRY WELL WITH NO.11 CRUSHED ROCK.

DRIP TRAP DETAIL

NTS

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA	M-21
	DES PD DR DM CHK. NAM	NAVAL STATION MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA	
	PROJ. MGR. SAM CH. ENGR PD	MAINTENANCE HANGAR	
	SUBMITTED BY: DATE: 4 MAR 86	EXTERIOR STEAM PIPING & DETAILS SOUTH SECTION	
	FIELD MONITOR PRINCIPAL	SIZE F CODE IDENT. NO. 80091 NAVFAC DRAWING NO. 4138853	
	EFD-PP RVD DPC	CONSTR. CONTR. NO. N62470-84-B-4174	
	HD DIR	SCALE 1"=25' SPEC. 05-84-4174 SHEET 104 OF 129	
	APPROVED DATE	EFD DWG. NO. 238853	
	OFFICER IN CHARGE		
	APPROVED DATE		
	FOR EFD FOR COMMANDER, NAVFAC		

F.B. NEW RIVER AIR STATION (H) NO. 2, PAGES 1-43.



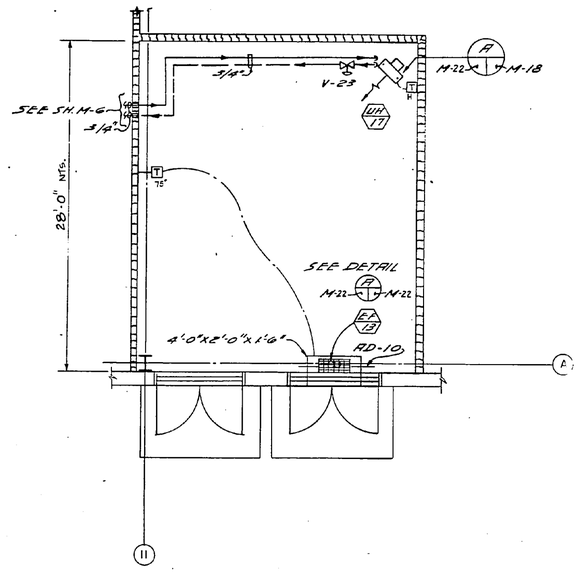
NOTES:

A. LOUVERS TO BE MOTOR OPERATED & INTERLOCKED TO OPEN WHEN FAN MOTOR IS ENERGIZED, U.O.N. E.P. & PNEUMATIC MOTOR MAY BE USED, WIRED IN COMPLETE BY M.B.C.

B. LINTEL AS REQUIRED, BY GENERAL CONTRACTOR.

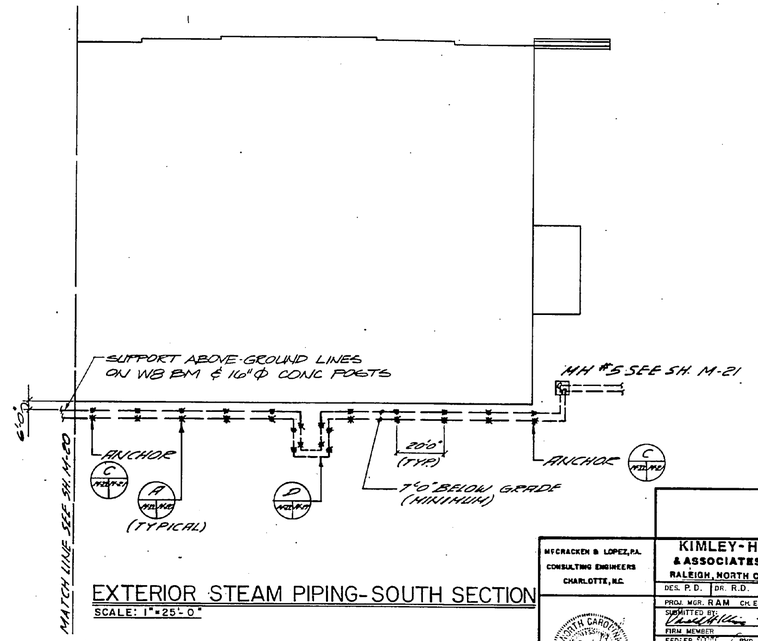
A M-22 M-22 **PROPELLER FAN DETAIL**

SCALE: NONE



FIRE PROTECTION - 515 SCALE: 1/4" = 1'-0"

VENTILATION SYSTEM AND HEATING SYSTEM FOR ROOM 515. IF BASE BID IS ACCEPTED AND ADDITIVE NO. 1 NOT ACCEPTED. IF ADDITIVE NO. 1 IS ACCEPTED PROVIDE HEATING AND VENTILATING SYSTEM AS INDICATED ON SHEET M-12.



EXTERIOR STEAM PIPING - SOUTH SECTION

SCALE: 1" = 25'-0"

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

EF 13 — SIDE WALL PROPELLER FAN, EPOXY COATED, FAN/MOTOR GUARD, AUTOMATIC DAMPER, 1500 CFM @ 3/8" E.S.P., 1/3 H.P. MOTOR, 115V-1Ø.

FAN SHALL OPERATE FROM WALL MOUNTED THERMOSTAT. WHEN FAN IS ON, AUTOMATIC DAMPER AD-10 AND EXHAUST FAN AUTO DAMPER SHALL OPEN. BOTH DAMPERS SHALL BE NORMALLY CLOSED.

NOTES:

1. BLANK OFF UN-USED PORTIONS OF LOUVER USING INSULATED METAL PANEL.
2. MOUNT EF-13 AT 16'-0" AFF BEHIND LOUVER.
3. LEAVE 4'-0"X2'-0" LOUVER OPEN FOR FRESH AIR INTAKE, 7'-0" AFF.

M-22

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION — NEW RIVER, NORTH CAROLINA

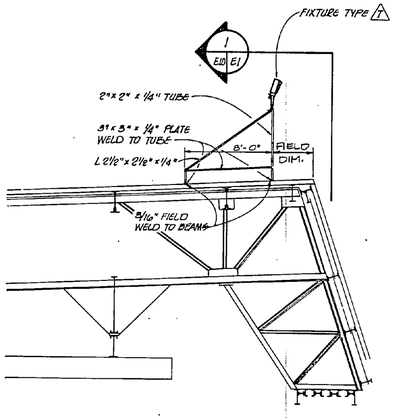
DES. P.D. | DR. R.D. | CHK. RAM
PROJ. MGR. RAM | CH. ENGR. P.D.
SUBMITTED BY: [signature] DATE: 26 Jun 86
FIRM MEMBER — PRINCIPAL
EFD/FP: [signature] RVD: [signature]
HD: AHU / DIR: KD
APPROVED: [signature] DATE: 6-27-86
OFFICER IN CHARGE
APPROVED: [signature] DATE: 1-12-87
FOR EFD FOR COMMANDER NAVFAC

MAINTENANCE HANGAR

PARTIAL PLANS & DETAILS

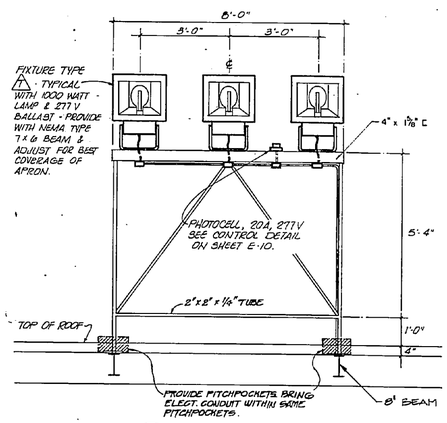
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138854
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE AS SHOWN	SPEC. 05-84-4174	SHEET 105 OF 129

EFD DWG. NO. 238854



FIXTURE TYPE T MOUNTING DETAIL

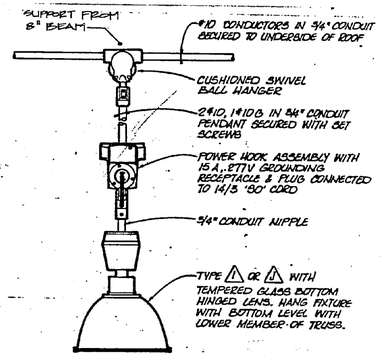
3/16" = 1'-0" NOTE: ALL BRACKET SUPPORT STEEL TO BE GALVANIZED



SECTION

1/2" = 1'-0"

E1, E11, E12



FIXTURE TYPE I & J DETAIL

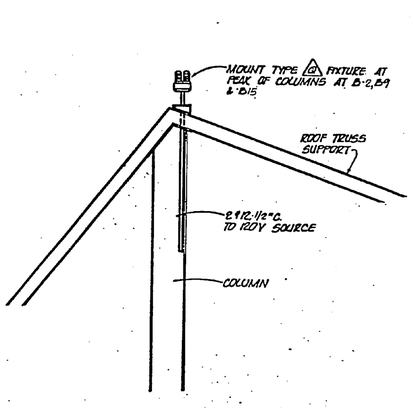
NO SCALE

LIGHTING FIXTURE SCHEDULE

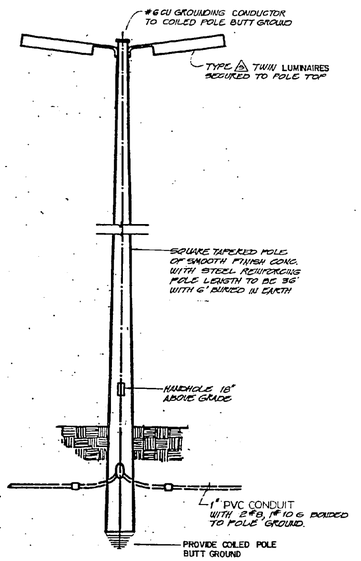
FIXTURE SYMBOL	STYLE & TYPE - SEE SH. E-20 & E-21 FOR NAVFAC SKETCH NO. OR DETAILS	NUMBER & TYPE OF LAMPS	CIRCUIT VOLTS	MOUNTING	REMARKS
A	NL-3, TYPE B	2 F34/RS/WW	277	PLASTER OR GRID AS SCHEDULED	ENERGY SAVING BALLAST
B	NL-3, TYPE C	2 F34/RS/WW	277	CLG. GRID RECESS	AS ABOVE
C	NL-3, TYPE D	3 F34/RS/WW	277	AS ABOVE	AS ABOVE
D	NL-3, TYPE E	4 F34/RS/WW	277	AS ABOVE	AS ABOVE
E	NL-4, TYPE A	2 F20/TS/WW	120	6" ABOVE ABOVE MIRROR	-
F	NL-4, TYPE C	2 F34/RS/WW	277	AS ABOVE	ENERGY SAVING BALLAST
G	NL-6, TYPE A	2 F34/RS/WW	277	STEM MOUNTED 9' ABOVE FLOOR	AS ABOVE
H	NL-7, TYPE B	2 F34/RS/WW	277	CLG.-SURFACE	AS ABOVE
I	NL-22, TYPE A	1 1000W HPS	277	STEM MOUNTED LEVEL WITH TRUSS BOTTOM	SEE DETAIL THIS SHEET
J	NL-22, TYPE A W/QUARTZ	1 250 W. QUARTZ 1 1000 W. HPS.	277	AS ABOVE	AS ABOVE
K	NL-23, TYPE A	1 150 W. HPS	277	CLG. SURFACE	-
L	NL-25, TYPE D	1 35 W. HPS.	277	WALL MOUNT 7'-6" ABOVE FLOOR	-
M	NL-25, TYPE C	1 55 W. LPS	277	WALL MOUNT 12' ABOVE FLOOR	
N	NL-44	1 75W. R-30/FL	120	CLG. RECESS	DIRECT BEAM TO PLATFORM
O	NL-45, TYPE A1	1 100W. A-19, I.F.	120	CLG. SURFACE	-
P	NL-48, TYPE A	2 LAMPS INCL. W/FIXTURES	277	AS INDICATED	PROVIDE 17½ HOUR BATTERY RESERVE
Q	NL-50	2 100 W. A-21, I.F. 3000 HR.	120	ROOF MOUNTED SEE DETAIL THIS SH.	-
R	NL-51	2 8W. LAMPS INCL. W/FIXTURE	277	WALL MOUNT 8' ABOVE FLOOR	-
S	XL-7	1 180W. LPS	277	POLE MOUNT SEE DETAIL THIS SH.	-
T	XL-5	1 1000W. - HPS	277	ROOF MOUNTED SEE DETAIL THIS SH.	-

LEGEND:

HPS - HIGH PRESSURE SODIUM
LPS - LOW PRESSURE SODIUM
F34 - FLUORESCENT LAMP, 34 WATTS
RS - RAPID START
WW - WARM WHITE



FIXTURE TYPE Q DETAIL NO SCALE



PARKING LUMINAIRE POLE DETAIL

NO SCALE

NOTE: SPLICES IN POLE SHALL BE WATERPROOF

SYMBOLS AND LEGEND

(HEIGHTS NOTED BELOW OR ON DRAWINGS ARE TO CENTER OF OUTLET)

- A — LIGHTING FIXTURE SYMBOL - REFER TO SCHEDULE ON THIS SHEET
- O — INCANDESCENT (OR H.I.D.) CEILING FIXTURE & OUTLET
- O— INCANDESCENT (OR H.I.D.) WALL MOUNTED FIXTURE & OUTLET
- FLUORESCENT STRIP FIXTURE & OUTLET
- FLUORESCENT FIXTURE & OUTLET
- FLUORESCENT CEILING GRID FIXTURE & OUTLET
- FLUORESCENT FIXTURE WITH CENTER LAMP ON NIGHT LIGHT CIRCUIT
- EXIT FIXTURE & OUTLET
- BATTERY PACK FIXTURE & OUTLET
- S — SINGLE POLE SWITCH - 46" ABOVE FLOOR - 15A/125V - 277V
- S_3 — THREE WAY SWITCH - 46" ABOVE FLOOR - 15A/125V - 277V
- S_4 — FOUR WAY SWITCH - 46" ABOVE FLOOR - 15A/125V - 277V
- DUPLEX RECEPTACLE - 20A/125V, NEMA 5-20R - 18" ABOVE FLOOR
- CLOCK RECEPTACLE - 15A/125V, NEMA 5-15R - 90" ABOVE FLOOR
- GF — DUPLEX GROUND FAULT RECEPTACLE -20A/125V, NEMA 5-20R-42" ABOVE FLOOR
- DUPLEX RECEPTACLE WITH PLUG - 20A./250V. NEMA 6-20R - 36" ABOVE FLOOR
- D — SINGLE RECEPTACLE WITH PLUG - 30A/250V, NEMA 14-30R - 18" ABOVE FLOOR
- SINGLE SPECIAL DUTY RECEPTACLE WITH PLUG - REFER TO NEMA DESIGNATION
- SINGLE RECEPTACLE - 30A/125V - NEMA 5-30R W/PLUG
- HORN - TYPE LOUDSPEAKER
- SINGLE RECEPTACLE - 100A/460V/3PH - SEE DETAIL THIS SHEET
- PHOTO ELECTRIC SWITCH - LOCATE AS INDICATED
- J — JUNCTION BOX - HEIGHT AND SIZE AS REQUIRED FOR PURPOSE SERVED
- TELEPHONE OUTLET W/JACK 18" ABOVE FLOOR
- INTERCOM OUTLET & STATION - 18" ABOVE FLOOR
- S — CEILING LOUDSPEAKER
- S — WALL MOUNTED LOUDSPEAKER
- GROUND ROD - SEE DETAIL SHEET E-13
- G — GROUND RECEPTACLE - SEE DETAIL SHEET E-13
- GROUNDING BOND - SEE DETAIL SHEET E-13
- —G— GROUND CONDUCTOR - SEE DETAIL SHEET E-13
- MOTOR - HP INDICATED
- SAFETY DISCONNECT SWITCH - NON FUSED, 460V, 3 POLE, HP RATED AS PER MOTOR BEING SERVED.
- 30/480/3 FSO — SAFETY DISCONNECT SWITCH - AMPS/VOLTS/POLES/FUSED AS INDICATED
- MAGNETIC MOTOR CONTROLLER
- 30/480/3 — SAFETY DISCONNECT SWITCH - NON FUSED, AMPS/VOLTS/POLES RATING AS INDICATED BY SUBSCRIPT.
- MD — MOTORIZED DAMPER (120V) INTERLOCK W/ DENOTED A.H. EQUIP.
- PANELBOARD
- DISTRIBUTION PANELBOARD
- T — TRANSFORMER - DRY TYPE

NOTE: BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT (MINIMUM 2#12, 1#12 G, ½"C UON) - HASH MARKS INDICATE NUMBER OF CONDUCTORS IF OTHER THAN 2+G - (#) INDICATES GROUNDING CONDUCTOR.

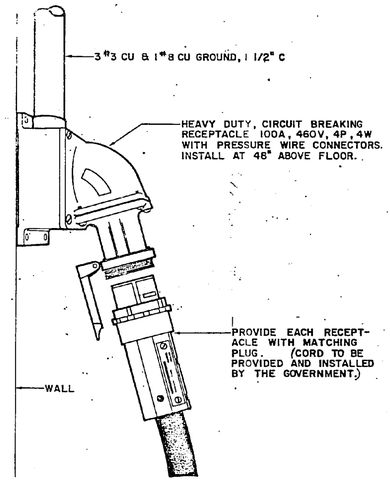
- CONDUIT CONCEALED IN WALL AND ABOVE CEILING
- CONDUIT CONCEALED IN WALL AND BELOW FLOOR (OR GRADE FINISH)
- CONDUIT EXPOSED ON WALL AND OVERHEAD
- HOMERUN CIRCUIT TO PANELBOARD OR AS NOTED
- CONDUIT WITH CONDUCTORS INDICATED - GROUND CONDUCTOR INDICATED (/)
- F — FIRE ALARM STATION - 54" ABOVE FLOOR
- FH — FIRE ALARM HORN - 80" ABOVE FLOOR
- SD — SMOKE DETECTOR - CEILING MOUNTED SEE NOTE TO BLDG FIRE ALARM TYPE
- DUCT SMOKE DETECTOR
- FAC — FIRE ALARM CABINET
- RT — FIRE ALARM RADIO TRANSMITTER
- TS — VALVE TAMPER SWITCH - SPRINKLER OR FOAM SYSTEM
- PS — SPRINKLER SYSTEM PRESSURE SWITCH
- EWC — ELECTRIC WATER COOLER
- EWH — ELECTRIC WATER HEATER
- WP — WEATHER-PROOF
- EF — EXHAUST FAN
- UH — UNIT HEATER
- AHU — AIR HANDLING UNIT
- ACU — AIR CONDENSING UNIT
- AFF — ABOVE FINISHED FLOOR
- XFMR — TRANSFORMER
- HP — HEAT PUMP
- CRP — CONDENSATE RECEIVER PUMP
- CP — CONDENSATE PUMP
- HVU — HEATING & VENTILATING UNIT
- VU — VENTILATING UNIT
- UON — UNLESS OTHERWISE NOTED
- CONC. — CONCRETE
- G. — GROUNDING CONDUCTOR
- C — CONDUIT
- PR — PAIR
- A — AMPERE
- F — FUSE

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

SYMBOLS AND LEGEND (CONT.)

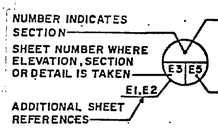
- GROUNDING ELECTRODE
- DUCT MOUNTED SMOKE DETECTOR
- THIS SYMBOL SHOWN BETWEEN TWO FIXTURES OR GROUP OF FIXTURES INDICATES EACH FIXTURE OR GROUP OF FIXTURES IS TO BE CONTROLLED FROM DIFFERENT SWITCH.
- CONDUIT WITH CONDUCTORS INDICATED WHERE THERE IS NOT ENOUGH ROOM TO SHOW CONDUCTORS DIRECTLY ON CONDUIT SYSTEM.

NOTE:
REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING MOUNTED LIGHTING FIXTURES, SPEAKERS AND SMOKE DETECTORS.



SINGLE RECEPTACLE DETAIL

DENOTED ⊖H NO SCALE



ELEVATION, SECTION OR DETAIL SYMBOL

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. DEM | DR. PMW | CHK. DL
PROJ. MGR. R.A.M. | CH. ENGR. D.L.
SUBMITTED BY: DATE: 6 MAR 86
FIRM MEMBER | PRINCIPAL
EFD/FE-1021 | RVD | RVD
HD | RVD | RVD
APPROVED: DATE: 3-4-86
OFFICER IN CHARGE
APPROVED FOR EFD FOR COMMANDER NAVFAC | DATE

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

SYMBOLS AND LEGEND, FIXTURE SCHEDULE AND DETAILS

SIZE: F | CODE IDENT. NO.: 80091 | NAVFAC DRAWING NO.: 4138855
CONSTR. CONR. NO. N62470-84-B-4174
SCALE | SPEC.: 05-84-4174 | SHEET 106 OF 129
EFD DWG. NO. 238855

E-1

BRUNS CO. MITE # 1-800-541-3838

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

BASE BID

ADD ALTERNATE BID (N.I.C.)

EXISTING LIGHT POLE TO REMAIN—ADD GUY

GUY SEE SKETCH TS-163021-35 ON SHEET E-21

REMOVE EXISTING O.H. LINE

REMOVE EXIST. POLE

REMOVE EXISTING O.H. LINE

REMOVE EXISTING POLE

REMOVE EXISTING O.H. LINE

REMOVE EXISTING POLE

REMOVE EXISTING O.H. LINE

MAINTENANCE HANGAR

FIRE PROTECTION ROOM (IN BASE BID)

O.H. LINE TO FLOOD LIGHT POLE #6 DUPLEX

POLE 40', CL.3 SEE SKETCH TS-16302L-39 ON SHEET E-21 & SKETCH TS-163021-43 ON THIS SHEET

SEE SHEET E-19 FOR EXTENSION

PROVIDE 900 PAIR TELEPHONE CABLE IN EXISTING DUCT BANK SYSTEM SEE SHEET E-19 (VERIFY LOCATION)

CONNECT TO SOUTH GATE STATION CONTROL

12PR-22,24,26 3#8, 1#10, 1#12

APPROX. LOCATION EXISTING M.H.9

PROVIDE 150 PAIR TELEPHONE CABLE IN DUCT BANK EXTENSION SEE SHEET E-19

ACU-1 SEE SHEET E-7

TO MDP

PAD MOUNTED TRANSFORMER SEE SHEET E-8

AUTO PARKING

AUTO PARKING

150 PR. TEL. CABLE IN DUCT

E-19

HANDHOLE FOR TELEPHONE SERVICE SEE SHEET E-19

WHITE STREET

EXISTING DUCT BANK (VERIFY LOCATION)

2-3#1, 15 KV PRI. CABLE IN 4"C. W/ADDNL. 4"C. SPARE

CONNECT TO EXISTING LIGHTING CIRCUIT

EXISTING O.H. LINE

EXISTING POWER POLE-ADD NEW GUY PER SKETCH TS-16302L-35 (SEE SH. E-3)

3#336.4 MCM ACSR, 1#4/6 ACSR 12470/7200Y, 3Ø, 4W

EXISTING O.H. LINE

EXISTING POWER POLE

EXISTING O.H. LINE

EXISTING POWER POLE

EXISTING O.H. LINE

REMOVE EXIST. POLE

3#336.4 MCM ACSR, 1#4/6 ACSR 12470/7200Y, 3Ø, 4W

EXISTING O.H. LINE

APPROX. LOCATION OF EXISTING M.H.#8

NEW POLE 45'-CL. 3 X-FB_15FR3N UG TERMINAL (0-15KV) 4" CONDUIT RISER TYPE C TELE. CABLE(2) GROUND CAP SPARE 4" CONDUIT 6" ABOVE GROUND

TWO TYPE A PER POLE - SEE DETAIL ON SHEET E-1

AUTO PARKING

SEE SHEET E-3 MATCH LINE

N

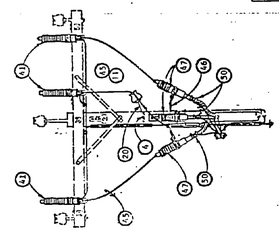
SITE PLAN - NORTH

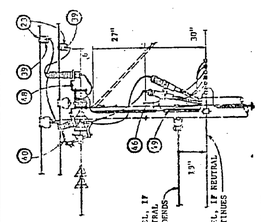
SCALE : 1" = 25'

GRAPHIC SCALE 25' 10' 0' 25' 50'

1" = 25'

TS-16302L (SEPTEMBER 1960)





NOTES:

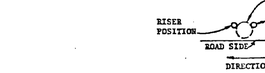
1. Position of terminal on dedende is for terminal to be under the conductors and the cleats on the backside of crossarm. Pole riser must be offset to clear neutral clevis bracket.
2. Surge arrester lead shall be connected on line side of fused cutouts. Bottom lead of arrester should be connected directly to pole ground.

D.C. TERMINAL (0-15KV)

SKETCH TS-16302L-33

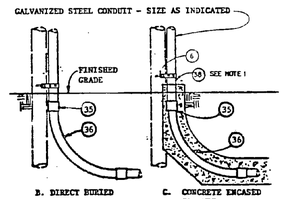
TS-16302L (SEPTEMBER 1960)

CONDUIT LOCATION



DIRECTION OF TRAFFIC

GALVANIZED STEEL CONDUIT - SIZE AS INDICATED



NOTES:

1. SPACE STRAPS AT MAXIMUM OF 4' INTERVALS.

SKETCH TS-16302L-37

CONDUIT RISER (SIZE AS INDICATED)

TS-16302L (SEPTEMBER 1960)

SYMBOL LEGEND (OVERHEAD DISTRIBUTION SYSTEM)

A	ANGLE
AB	ANGLE BRACE
D	DOUBLE
DE	DEADEND
F	FLAT (HORIZONTAL)
FB	FLAT BRACE
LP	LINE POST
N	NEUTRAL
R	RIDGE OR POLE TOP PIN
S	SECONDARY, OPEN WIRE
Sc	SECONDARY, TRIPLEX
SQ	SECONDARY, QUADRUPLEX
T	TRANSFORMER
TERM	TERMINAL
UG	UNDERGROUND
V	VERTICAL
X	CROSSARM, 8'
X10	CROSSARM, 10'

1. Each sketch contains material items which comprise a part of each individual symbol referenced by that sketch. These items are indicated by circled numerals which are identified by Sketches TS-16302L-1.3 and TS-16302L-1.5a.

2. Spacing requirements related to individual components of a symbol are indicated on the appropriate sketch. Vertical spacing requirements between circuits and/or systems are indicated on Sketch TS-16302L-1.4. All other separations between circuits, equipment, etc., shall conform to the National Electrical Safety Code- ANSI C2.

SKETCH TS-16302L- 1.1

Symbol Legend & General Notes

TS-16302L (SEPTEMBER 1960)

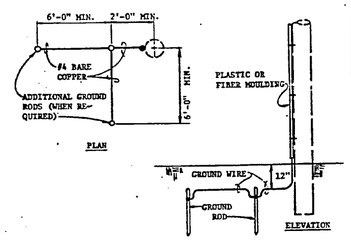
LIST OF SYMBOLS

SKETCH NUMBER	ON SHEET	CATEGORY
TS 16302L-2	E-3	CROSSARM SYMBOLS
TS 16302L-12	E-3	HORIZONTAL (TANGENT OR ANGLE) CONSTRUCTION SYMBOLS
TS 16302L-33	E-2	UNDERGROUND TERMINAL SYMBOLS
TS 16302L-35	E-21	GUY SYMBOLS
TS 16302L-37	E-2	CONDUIT RISER SYMBOL
TS 16302L-39	E-21	SECONDARY SYMBOLS
TS 16302L-43	E-2	GROUND SYMBOL

SKETCH TS-16302L-1.2

List of Symbols

TS-16302L (SEPTEMBER 1960)



NOTES:

1. Use additional ground rods, when required, to obtain resistance value, as specified.

2. Make grounding connections to all equipment on pole as specified.

SKETCH TS-16302L- 43

GROUND

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. D.E.M. DR. R.M.W. CHK. D.L.

PROJ. MGR. R.A.M. CH. ENGR. D.L.

SUBMITTED BY: DATE 4 NOV 86

FIRM MEMBER PRINCIPAL

EFD FP JUNK RVD

MD QIR

APPROVED DATE

OFFICER IN CHARGE

APPROVED DATE 1-10-87

FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

SITE PLAN - NORTH

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138856

CONSTR. CONTR. NO. N62470-84-B-4174

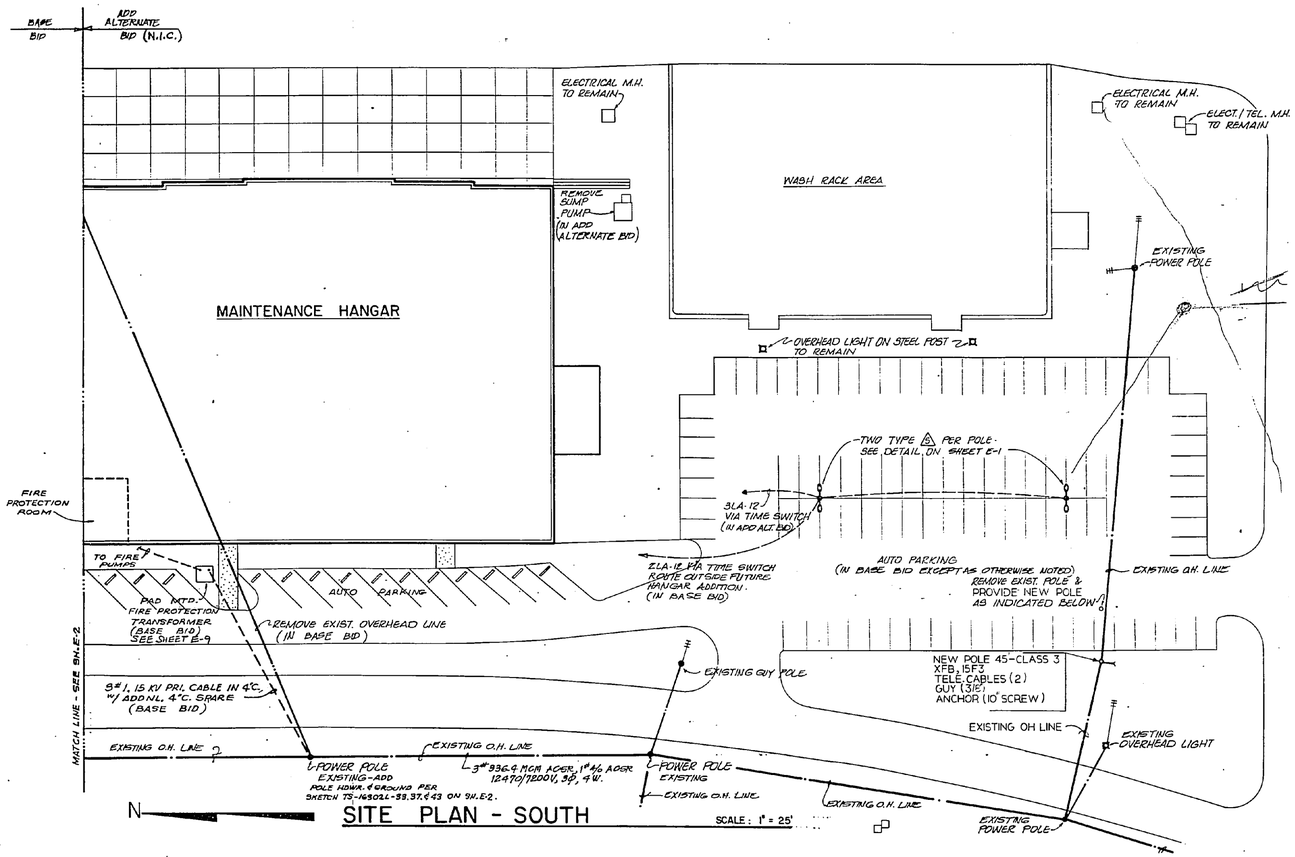
SCALE NOTED | SPEC. 05-84-4174 | SHEET 107 OF 129

EFD DWG. NO. 238856

E-2

LAMPS CO. WHITE #1 800 547-2659

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



TS-16302L (SEPTEMBER 1960)

POLE LINE MATERIAL LIST

1. Flat steel brace (two pieces)
2. Machine bolt, 3/8" x length needed with washer, nut and lockwasher
3. 8' wood crossarm
4. Machine bolt, 5/8" x length needed with washer, nut and lockwasher
5. Tisher connector
6. Lagscrew, 1/2" x 4"
7. Angle steel brace (two pieces)
8. Machine bolt, 1/2" x length needed, with washer, nut & lockwasher
9. Deadend box
10. Steel pin
11. Pin insulator
12. Grid gain, used only when there is no pole gain
13. Angle steel brace (one piece)
14. 10' wood crossarm
15. 5/8" eye nut
16. 5/8" eye bolt, length as needed, with washer, nut & lockwasher
17. Extension link
18. Bell type suspension insulator with connecting hardware
19. Strain clamp
20. Steel angle pin
21. Cluster mounting bracket, steel
22. Transformer grounding connection
23. Stirrup
24. Secondary lead support bracket
25. Adapter plate for cluster mounting
26. Clevis bracket for spool insulator
27. Spool insulator
28. U bolt clamp
29. Preformed guy grip
30. Guy hook
31. Guy strain insulator
32. Guy wire, size as specified
33. #4 WP Cu. soft drawn ground wire
34. Ground clamp
35. Conduit coupling
36. Conduit bend
37. Insulated bushing
38. Perforated strapping, 1 1/2" wide
39. Hot line clamp
40. Fused cutout, as specified
41. Surge arrester, as specified
42. Pole top pin
43. Crossarm angle pin
44. Angle pole top pin
45. Wire, #4 WP Cu., (unless otherwise specified) soft drawn
46. Tri-mount bracket
47. Terminator, porcelain housed
48. Mounting bracket
49. Cable grip hanger
50. Hoss clamp

SKETCH TS-16302L-1.5 — Pole Line Material List

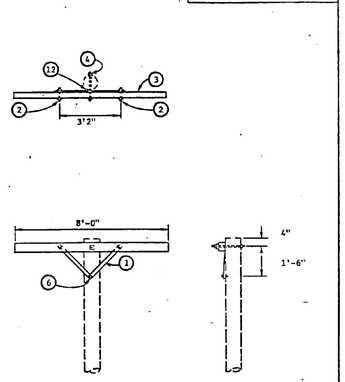
TS-16302L (SEPTEMBER 1960)

POLE LINE MATERIAL LIST

51. Stud, 3/4" x 1 3/4"
52. Line post insulator
53. Triple insulator bracket
54. Angle clamp
55. Insulator, line post clamp
56. 4' crossarm
57. Crossarm gain bracket
58. Pulley bracket
59. Wedge clamp
60. Midspan service clamp
61. Stud, 7"
62. Saddle, angle
63. Saddle, crossarm
64. Fitting, pole top
65. Connector
66. Suspension clamp
67. Tie, service cable
68. 54" Fiberglass strain insulator

SKETCH TS-16302L-1.5m — Pole Line Material List

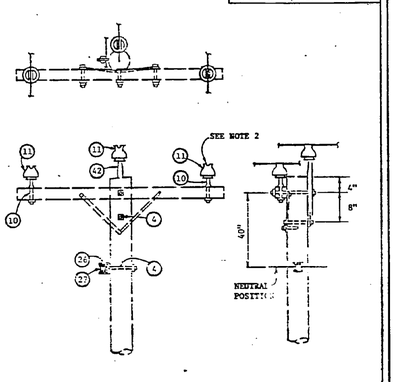
TS-16302L (SEPTEMBER 1960)



NOTE: DRAWING INDICATES X-FB. SUBSTITUTE 7 FOR 1 AND 8 FOR 6 ON X-AB.

SKETCH TS-16302L-2 — X-FB, X-AB

TS-16302L (SEPTEMBER 1960)



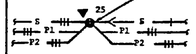
NOTES:

1. DRAWING REPRESENTS FR3-N. ELIMINATE 4, 28, AND 29 FOR NEUTRAL POSITION ON FR3.
2. ON CIRCUIT VOLTAGE OPERATING LEVELS GREATER THAN 15 KV, SUBSTITUTE 29 FOR 13, 64 FOR 43 AND 63 FOR 19.
3. REFER TO SPECIFICATIONS FOR REQUIRED CLASS OF INSULATORS.

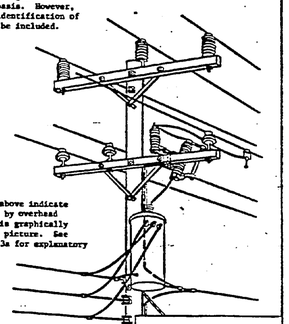
SKETCH TS-16302L-12 — FR3-N, FR3 (N-SHOW)

TS-16302L (SEPTEMBER 1960)

Pole # ____ (45'-3)
X-FB, 35FR3
X-FB, 15F3
TF (25KVA, 7.6KV - 120/240V)
S1, SDE2
GUY (5/16")
ANCHOR (10" Screw)
GROUND



DESIGN NOTE:
Method of showing information on plan view is optional and shall be coordinated with legend on individual design basis. However, characteristics & identification of all circuits shall be included.



NOTE:
The symbols listed above indicate material (described by overhead sketches) which is graphically illustrated by this picture. See Sketch TS-16302L-1.3a for explanatory notes.

SKETCH TS-16302L-1.3 — Method of Showing Symbols

TS-16302L (SEPTEMBER 1960)

EXPLANATORY NOTES - METHOD OF SHOWING SYMBOLS

1. Symbols are shown in the basic order as they appear on the pole, by starting at the top and working down.
2. Numerals preceding the symbol indicate the minimum required voltage rating of the assembly, if applicable.
3. Numeral following the symbol indicates the number of conductor associated with the assembly, if applicable.
4. Numeral in parenthesis following the symbol denotes the number of assemblies required, if more than one.
5. Data in parenthesis following the symbol provides information relative to the symbol.

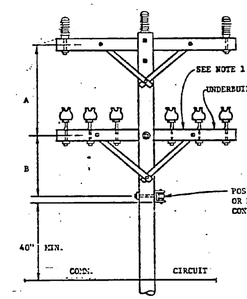
EXPLANATION OF SYMBOLS LISTED FOR POLE ON SKETCH TS-16302L-1.3

Provide 45 foot long, class 3 pole containing:

X-FB- 8' crossarm with flat brace
35FR3 - 35KV insulators, flat (mounted horizontal on crossarm), ridge pin (center phase on pole top pin), three conductors
X-FB- 8' crossarm with flat brace
15F3 - 15KV insulators, flat (mounted horizontal on crossarm), three conductors. Note: this symbol calls for three crossarm mounted pins in lieu of ridge pin on center phase.
TF - transformer on flat (horizontal) construction. Data in parenthesis describes the transformer characteristics.
S1 - secondary, one conductor, tangent construction
SDE2 - secondary deadend, two conductors, open wire
GUY (5/16") - down guy - wire size 5/16"
ANCHOR (10" SCREW) - 10" screw type anchor. Note: No plate is included for the anchor symbol
GROUND - no explanation necessary

SKETCH TS-16302L-1.3a — Explanation of Notes Symbols

TS-16302L (SEPTEMBER 1960)



NOTES:

1. For new construction or operating voltages greater than 5KV, limit the number of conductors on crossarm to a maximum of three.
2. Use 10' crossarms for all underbuild circuits with operating voltages greater than 15KV.
3. For horizontal spacing requirements for conductors on same support, refer to the National Electrical Safety Code, ANSI C 2.

Ø - Ø VOLTAGE	0 - 15KV	15 - 50KV
SPACING A	40"	48" *
SPACING B	40"	40"

* Provide 60" clearance when operating voltage of underbuild circuit is greater than 15KV

SKETCH TS-16302L-1.4 — Basic Vertical Spacing Requirements

GRAPHIC SCALE 1" = 25' (25' 10' 0' 25' 50')

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
DES. D.E.M. DR. P.M.W. CHK. D.L.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION, NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H), NEW RIVER, NORTH CAROLINA

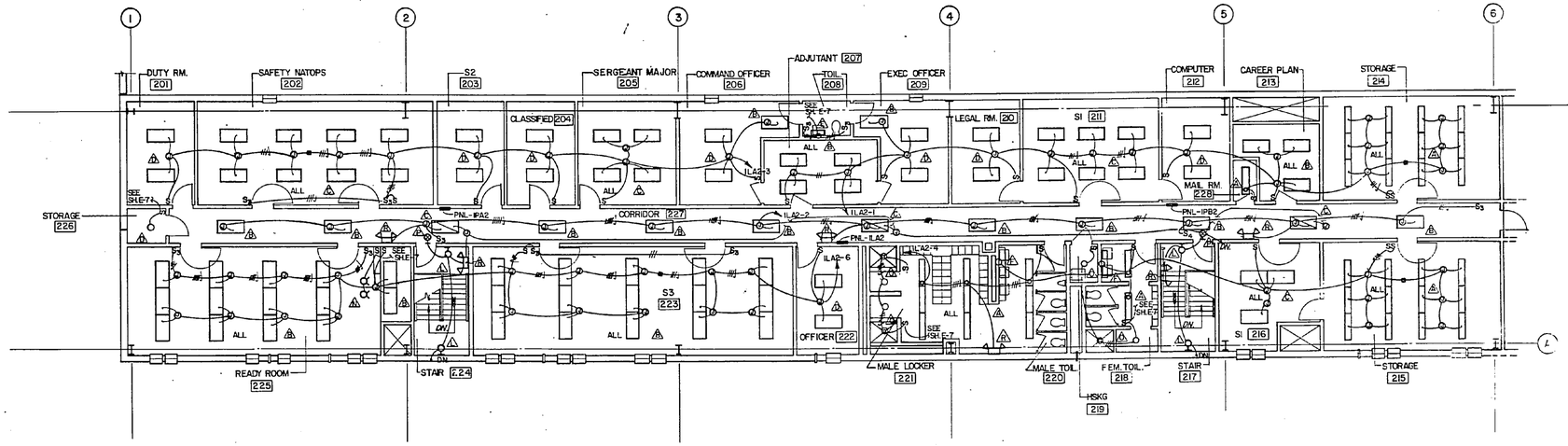
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: [signature] DATE 4 Nov 80
FIRM MEMBER — PRINCIPAL
EFD PROJECT — RVO
NO. P&E — DIR
APPROVED [signature] DATE 3-4-80
OFFICER IN CHARGE
APPROVED [signature] DATE 10-17-80
FOR EFD FOR COMMANDER NAVFAC

MAINTENANCE HANGAR
SITE PLAN - SOUTH

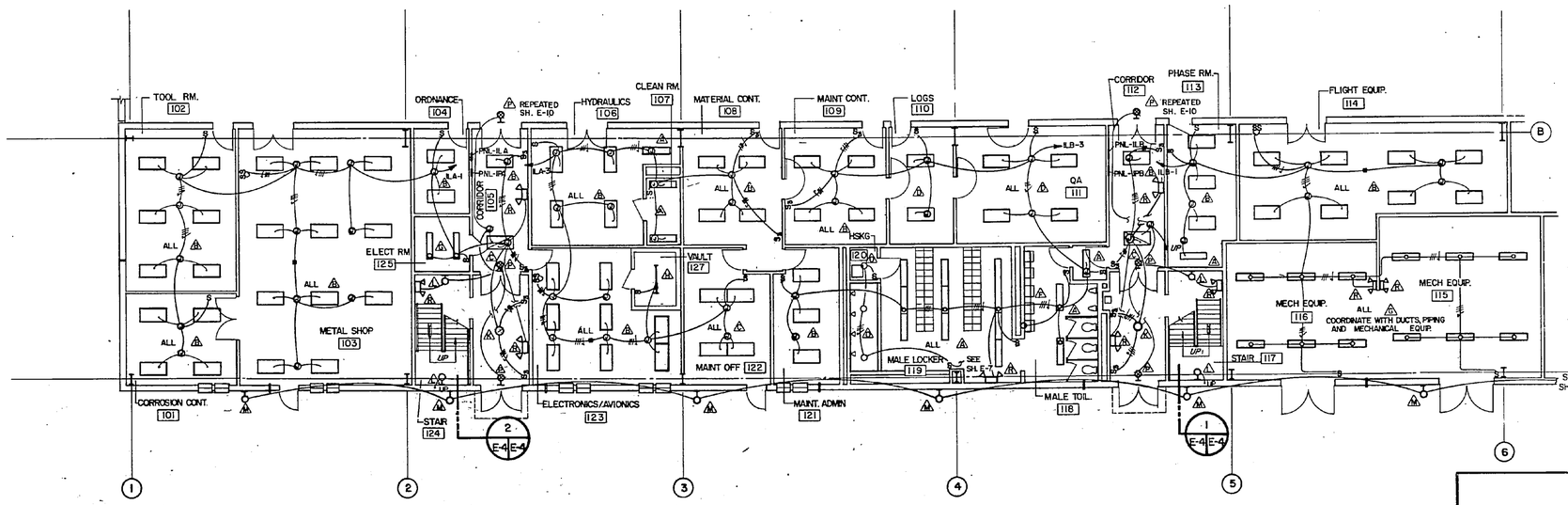
SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138857
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE NOTED | SPEC. 05-84-4174 | SHEET 108 OF 129
EFD DWG. NO. 238857

E-3

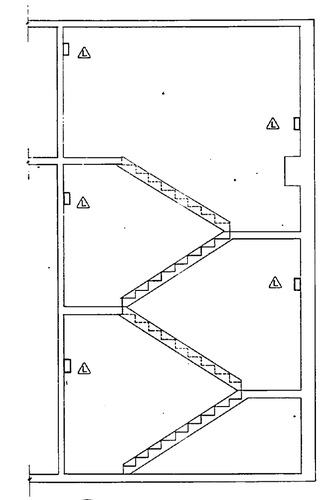
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



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

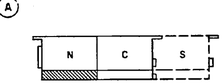


FIRST FLOOR PLAN - LIGHTING SCALE: 1/8" = 1'-0"



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

OPPOSITE HAND SCALE: 1/4" = 1'-0"



KEY PLAN

GRAPHIC SCALE 1/8" = 1'-0" 5' 0' 5' 10' 15' 20'

GRAPHIC SCALE 1/4" = 1'-0" 3' 0' 5' 10'

E-4

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA LIGHTING - NORTH

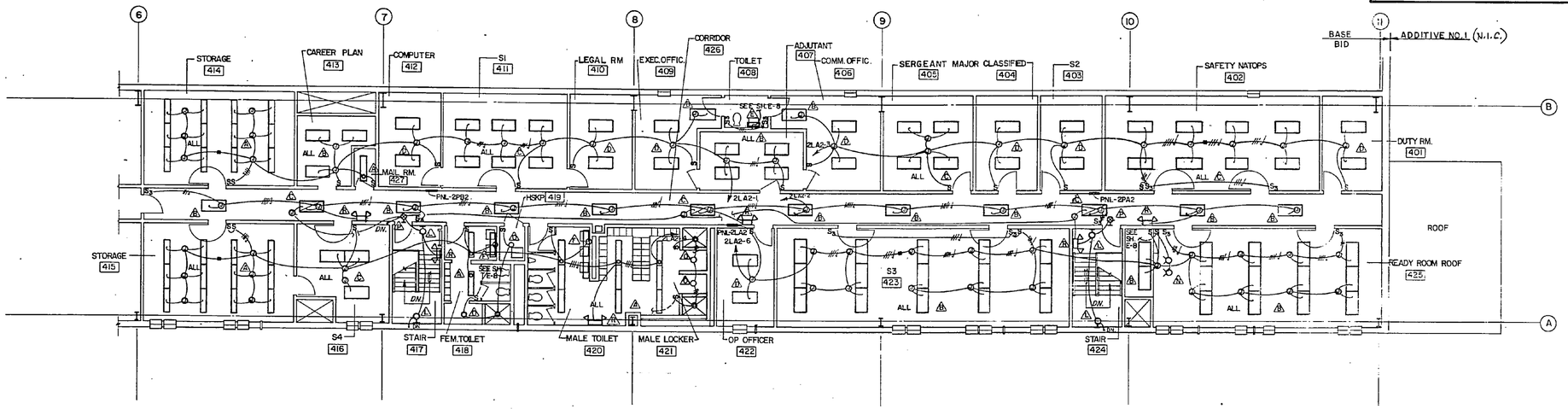
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138858

CONSTR. CONR. NO. N62470-84-B-4174

SCALE NOTED — SPEC. 05-84-4174 — SHEET 109 OF 129

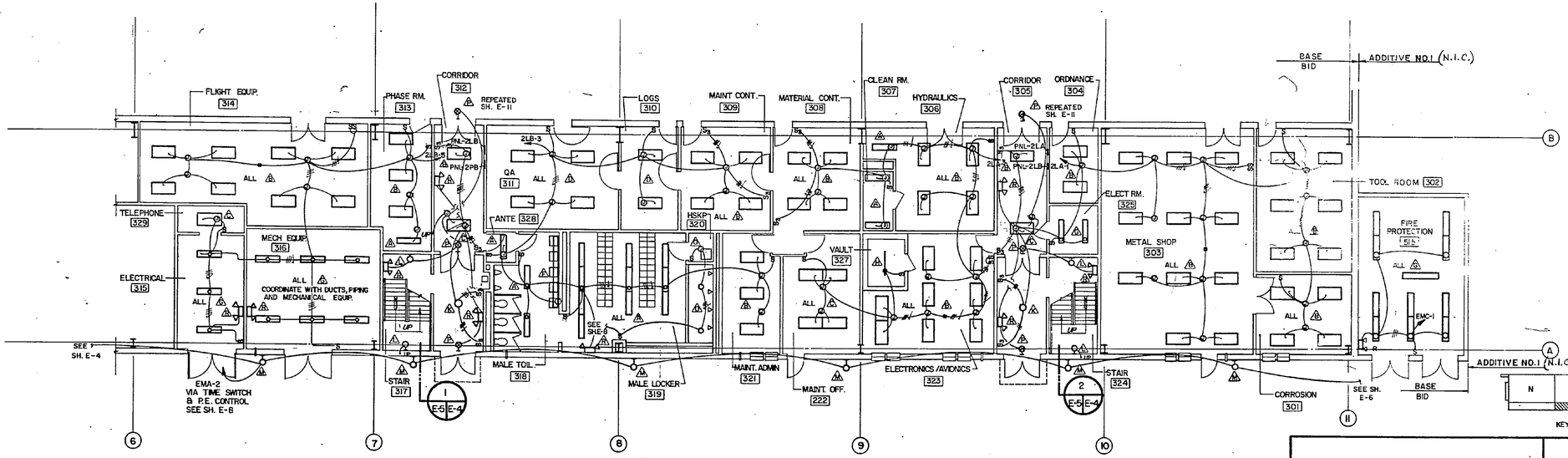
EFD DWG. NO. 238858

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SECOND FLOOR PLAN - LIGHTING

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



FIRST FLOOR PLAN - LIGHTING

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

GRAPHIC SCALE 1/8"=1'-0" 0' 5' 10' 15' 20'

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. D.E.M. | DR. Ra V. Tran | CHK. D.L.

PROJ. MGR. R.A.M. CH. ENGR. D.L.

SUBMITTED BY: DATE 7 NOV 80

FIRM MEMBER: PRINCIPAL

EFD: RVD

HD: DIR

APPROVED: DATE 3-4-81

OFFICER IN CHARGE

APPROVED: DATE 1-12-81

FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA LIGHTING - CENTER

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138859

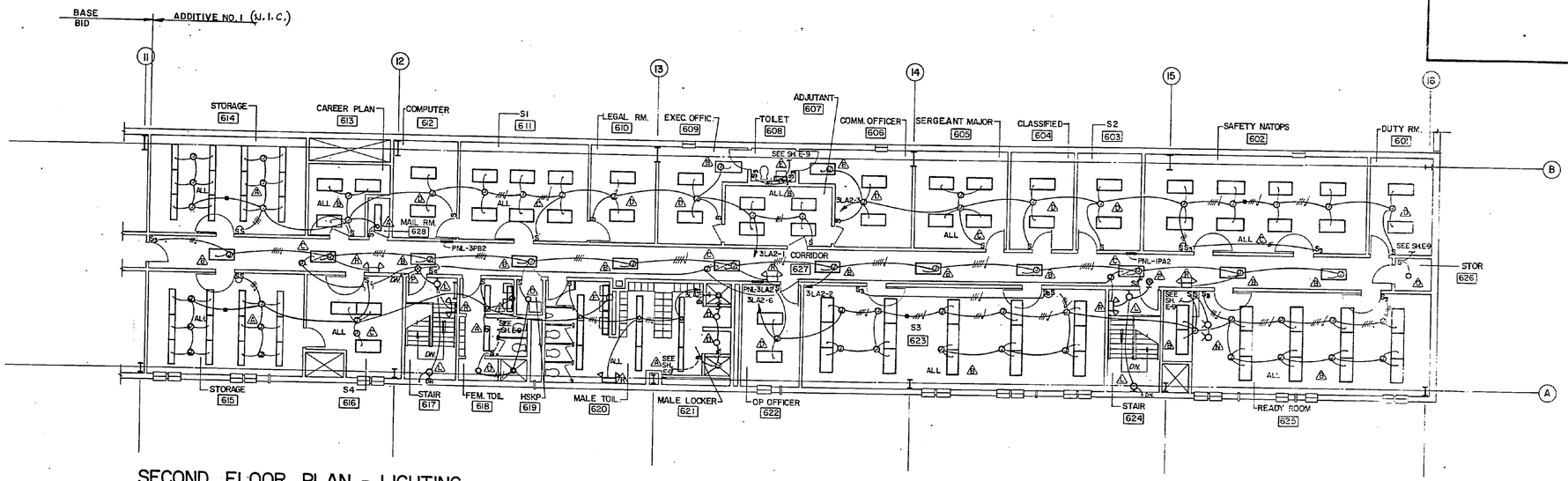
CONSTR. CONR. NO. N62470-84-B-4174

SCALE NOTED | SPEC. 05-84-4174 | SHEET 110 OF 129

EFD DWG. NO. 238859

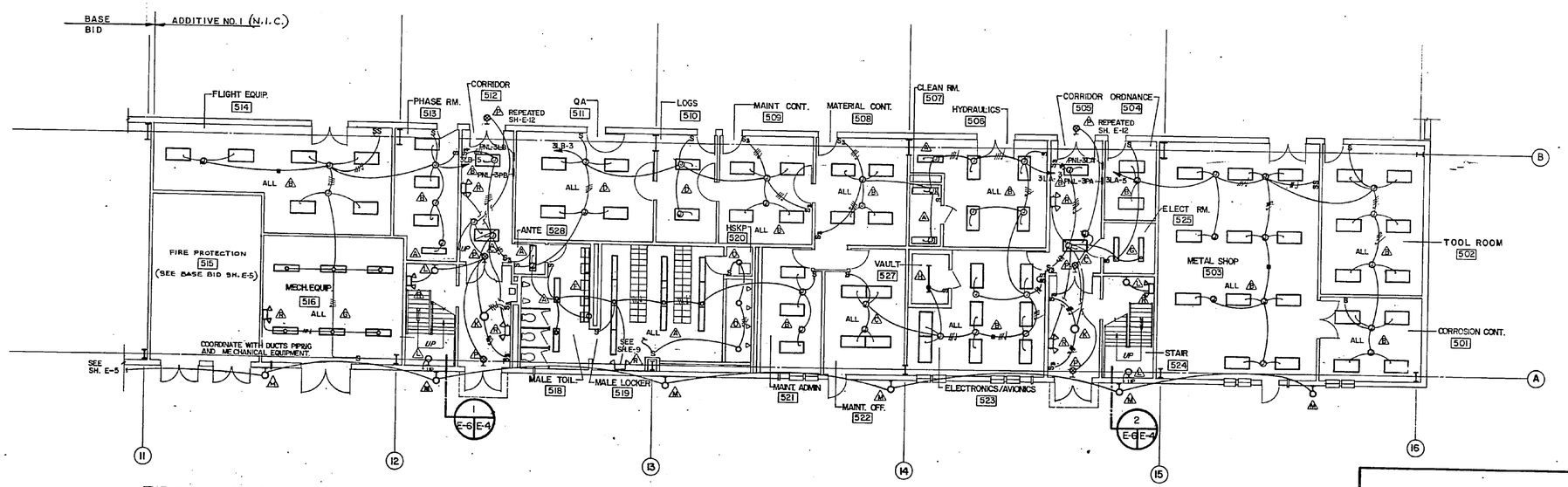
E-5

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



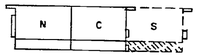
SECOND FLOOR PLAN - LIGHTING

SCALE: 1/8" = 1'-0" (ADDITIVE NO. 1 ONLY) (N.I.C.)



FIRST FLOOR PLAN - LIGHTING

SCALE 1/8" = 1'-0" (ADDITIVE NO. 1 ONLY) (N.I.C.)
EXCEPT AS OTHERWISE NOTED



KEY PLAN

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

E-6

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. D.E.M. | DR. Ro V. Tran | CHK. D.L.
PROJ. MGR. R.A.M. | CH. ENGR. D.L.
SUBMITTED BY: | DATE: 4 Mar 86
FIRM MEMBER | PRINCIPAL
EFD: EP | RVD
HD | DIR
APPROVED | DATE 3-4-86
OFFICER IN CHARGE
APPROVED | DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION INC — NEW RIVER, NORTH CAROLINA

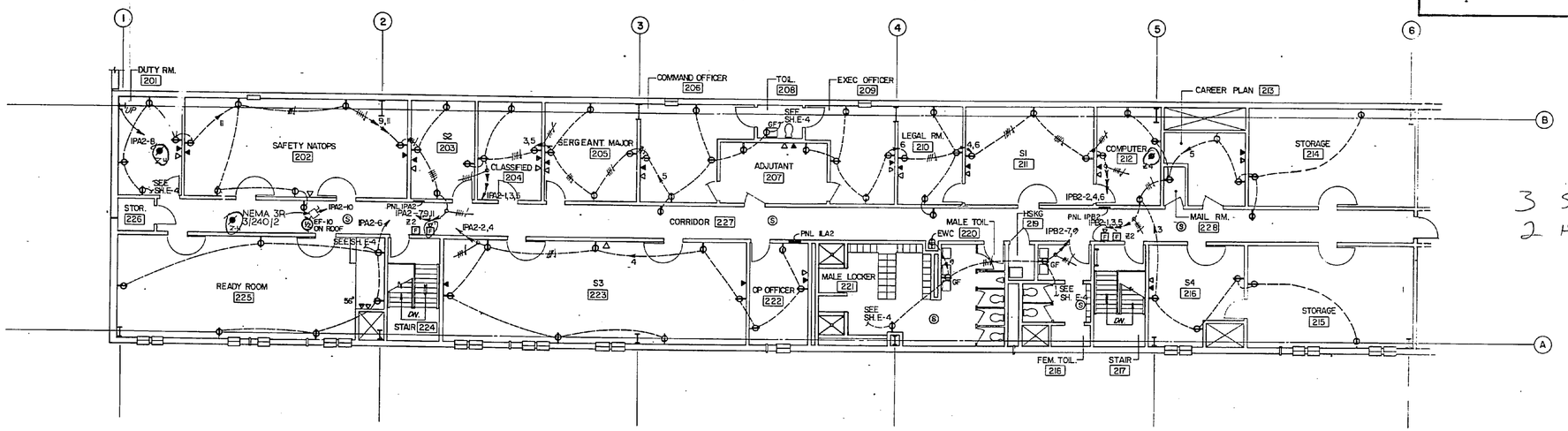
MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA
LIGHTING - SOUTH

SIZE	CODE IDENT. NO.	MAVFAC DRAWING NO.
F	80091	4138860
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE NOTED	SPEC. 05-84-4174	SHEET 111 OF 129

EFD DWG. NO. 238860

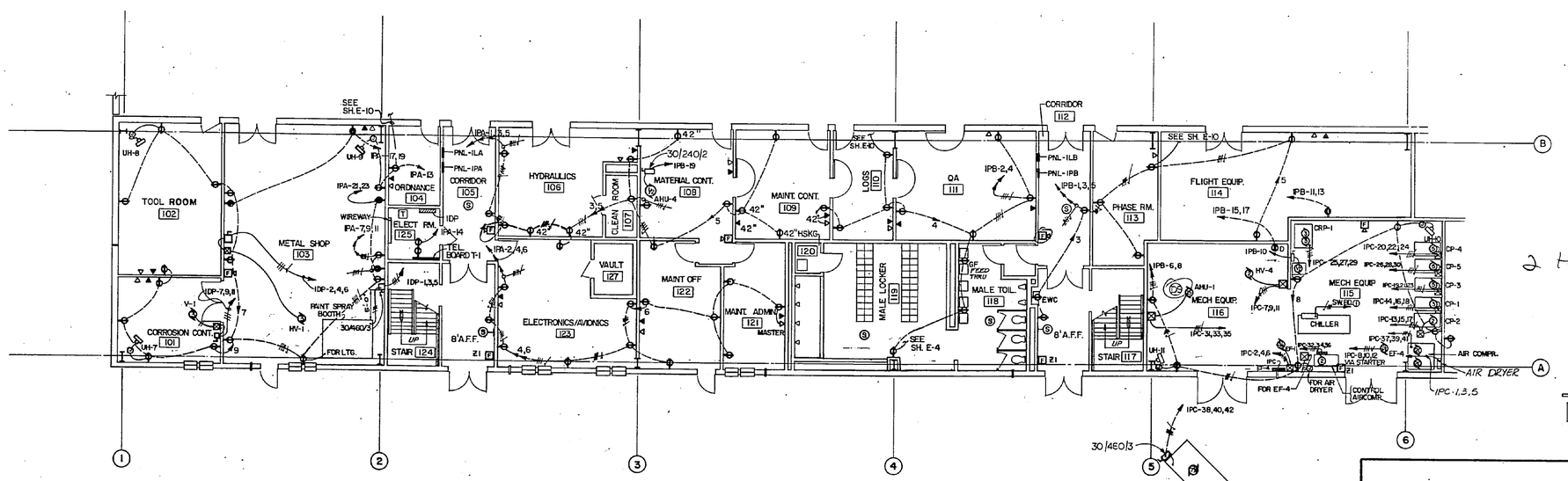
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SECOND FLOOR PLAN - POWER

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

3 5
2 H



FIRST FLOOR PLAN - POWER

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

2 H

NOTE: ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.

KEY PLAN

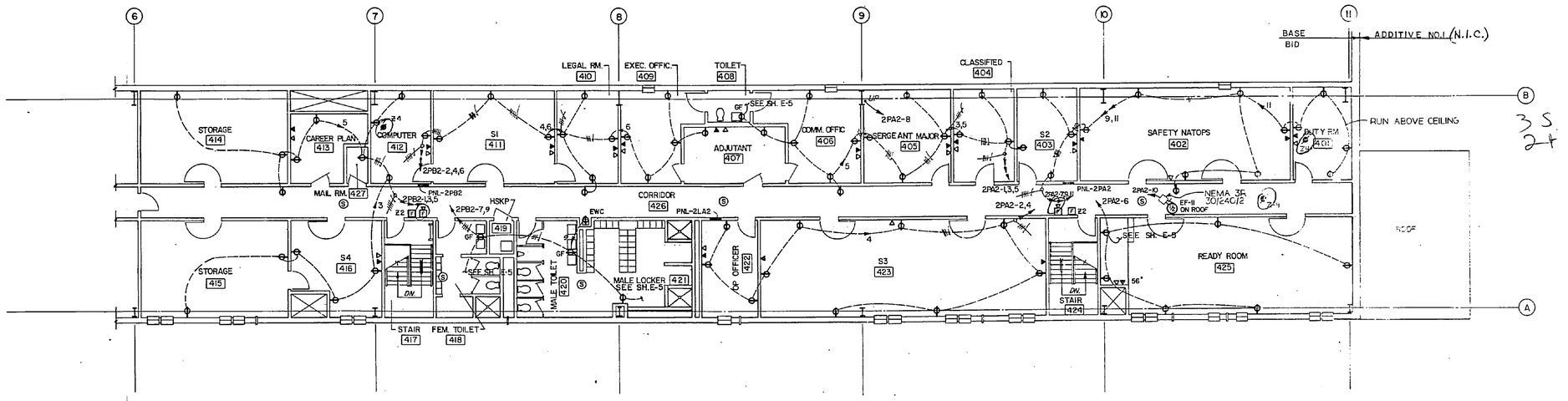
GRAPHIC SCALE
1/8"=1'-0"
5' 0' 5' 10' 15' 20'

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.	KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
DES. D.E.M. DR. R.G.V. Tran CHK. D.L.	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
PROJ. MGR. R.E.M. CH. ENGR. D.L.	NAVAL STATION ATLANTIC DIVISION
SUBMITTED BY: DATE 4 MAR 86	NORFOLK, VIRGINIA
FIRM MEMBER PRINCIPAL	MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA
EFD/FP TECH. RVR	MAINTENANCE HANGAR
HD DIR	FLOOR PLANS - SUPPORT AREA POWER - NORTH
APPROVED DATE 3-4-86 OFFICER IN CHARGE	SIZE F; CODE IDENT. NO. 80091; NAVFAC DRAWING NO. 4138861
APPROVED DATE 1-12-87 FOR EFD FOR COMMANDER NAVFAC	CONSTR. CONR. NO. N62470-84-B-4174
	SCALE NOTED; SPEC. 05-84-4174; SHEET 112 OF 129
	EFD DWG. NO. 238861

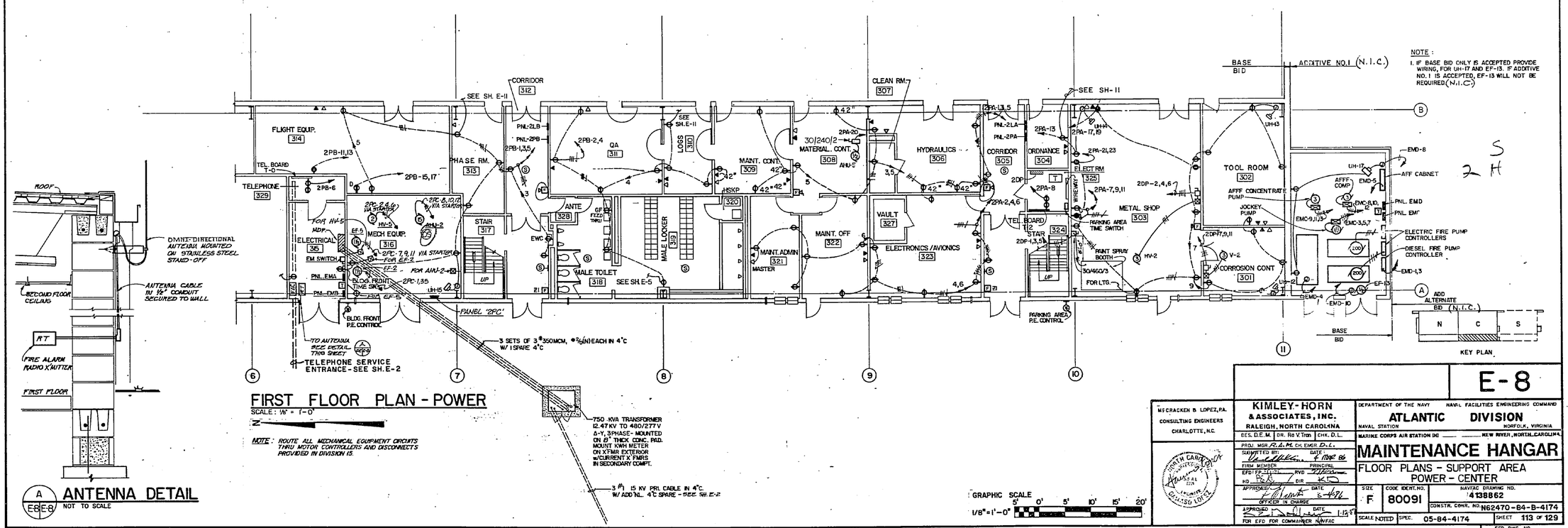
E-7

DUPLOFOL MUTTE # 1-800-441-3839 Made in USA

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SECOND FLOOR PLAN - POWER



FIRST FLOOR PLAN - POWER

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

NOTE: ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.

ANTENNA DETAIL

NOT TO SCALE

GRAPHIC SCALE
5' 0' 5' 10' 15' 20'
1/8"=1'-0"

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. D.E.M. DR. Ro V. Tran CHK. D.L.
PROJ. MGR R.A.M. CH. ENGR D.L.
SUBMITTED BY DATE 6 MAY 86
FIRM MEMBER PRINCIPAL
EFD FP-15 RVD
HD DIR
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 1-15-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

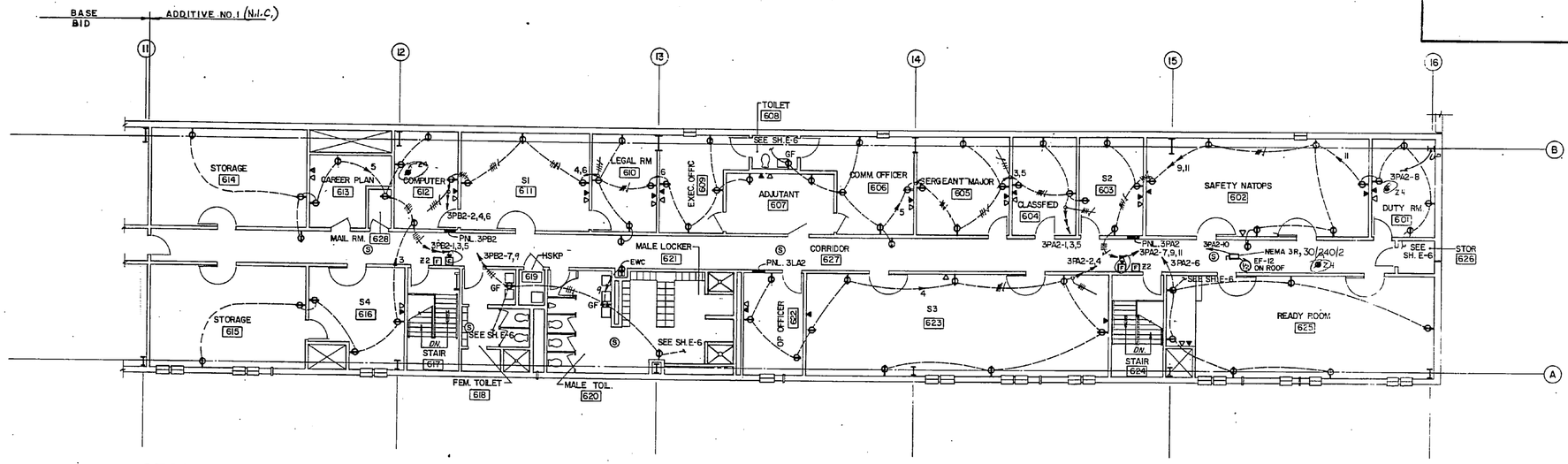
MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA
POWER - CENTER

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138862
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE NOTED | SPEC. 05-84-4174 | SHEET 113 OF 129
EFD DWG. NO. 238862

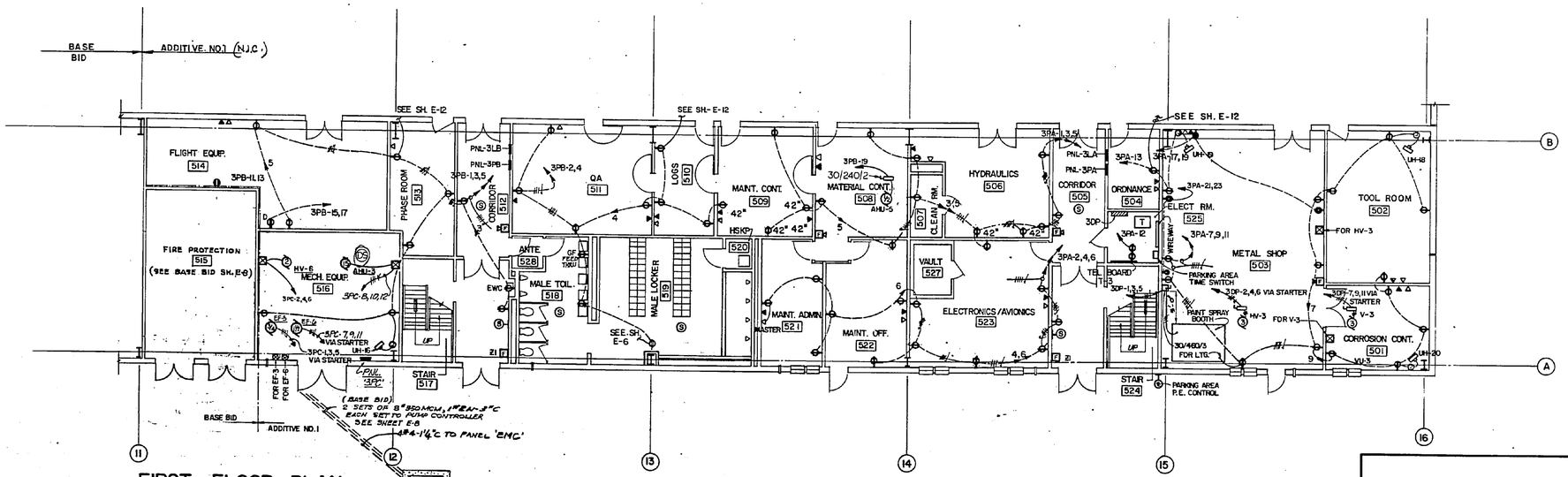
E-8

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



SECOND FLOOR PLAN - POWER

SCALE 1/8" = 1'-0" (ADDITIVE NO.1 ONLY)



FIRST FLOOR PLAN -

SCALE: 1/8" = 1'-0" (ADDITIVE NO.1 ONLY) (N.I.C.) EXCEPT AS OTHERWISE NOTED.

NOTE: ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.

GRAPHIC SCALE 1/8"=1'-0" 5' 0' 5' 10' 15' 20'

KEY PLAN

N C S

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS, CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. D.E.M. | DR. Rev. Tron | CHK. D.L.

PROJ. MGR. R.A.Mch ENGR. D.L.

SUBMITTED BY: DATE 4 MAR 86

FIRM MEMBER PRINCIPAL

EFD FT. LUCE AVO MGR

HD PK IN AIR K.D.

APPROVED DATE 3-4-86

OFFICER IN CHARGE

APPROVED DATE 1-27

FOR EFD, FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLANS - SUPPORT AREA POWER SOUTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138863

CONSTR. CONTR. NO. N62470-84-B-4174

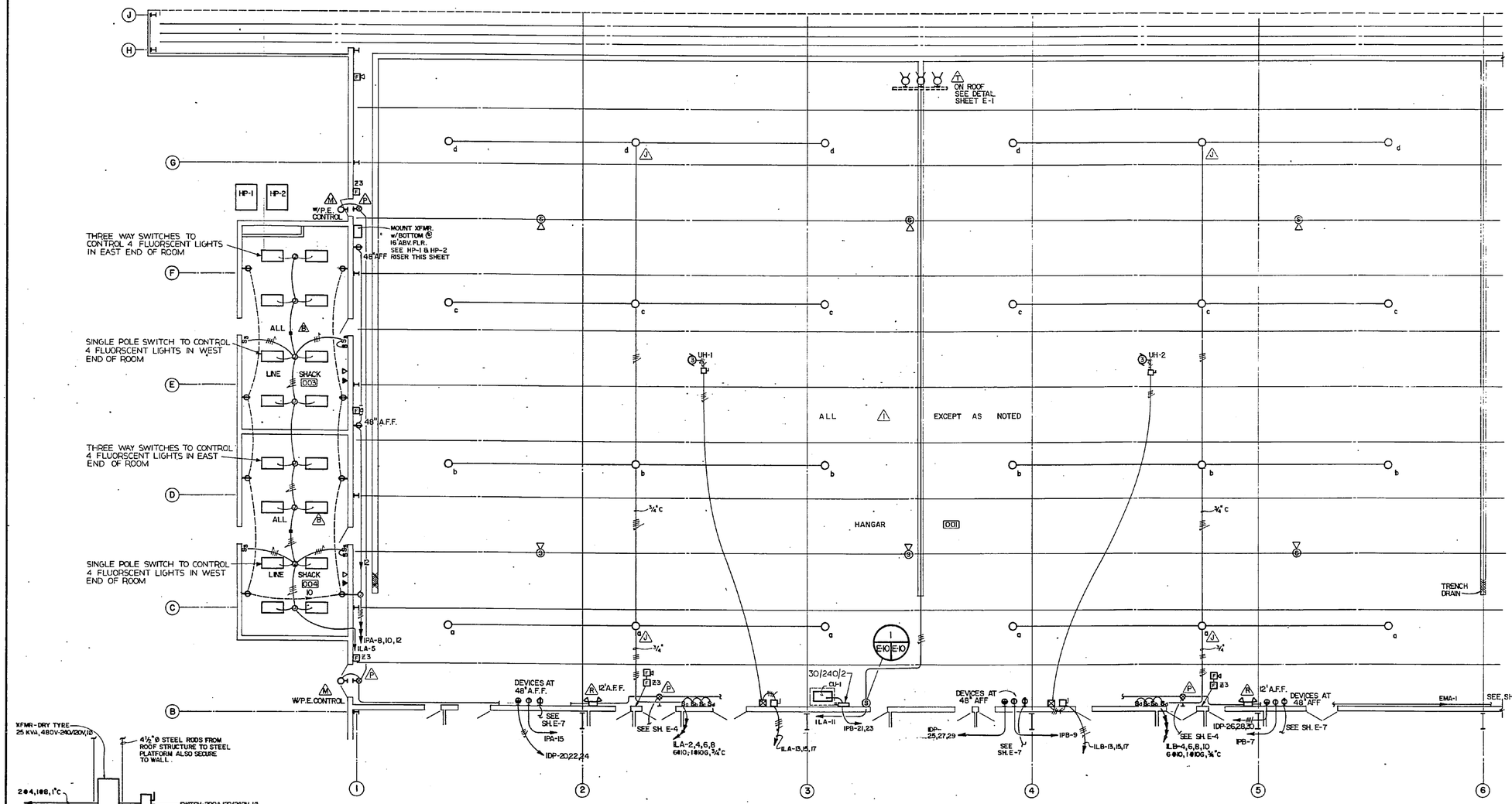
SCALE NOTED SPEC. 05-84-4174 SHEET 114 OF 129

EFD DWG. NO. 238863

E-9

BRADY CO. WATER # (800) 432-0629

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

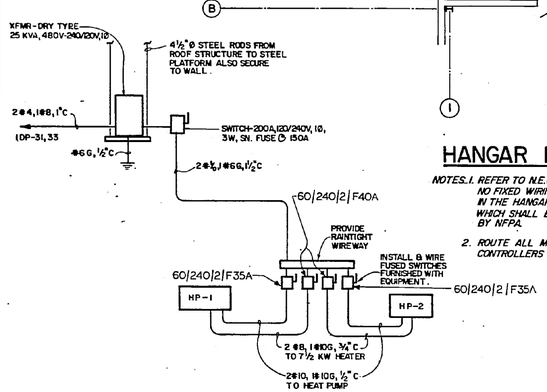


HANGAR PLAN - LIGHTING & POWER - NORTH

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

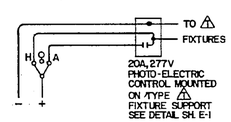
NOTES. 1. REFER TO N.E.C. ARTICLE 513 FOR MINIMUM REQUIREMENTS NO FIXED WIRING, CONDUIT, NOR DEVICES SHALL BE INSTALLED IN THE HANGAR AREA BETWEEN FLOOR AND 18" ABOVE FLOOR WHICH SHALL BE CONSIDERED CLASS I, DIVISION 2, AS DEFINED BY NFPA.

2. ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.



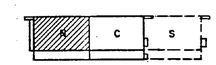
HP-1 & HP-2 RISER DIAGRAM

NO SCALE



APRON LIGHTING CONTROL DETAIL

E-11, E-12



KEY PLAN

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

E-10

MCCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

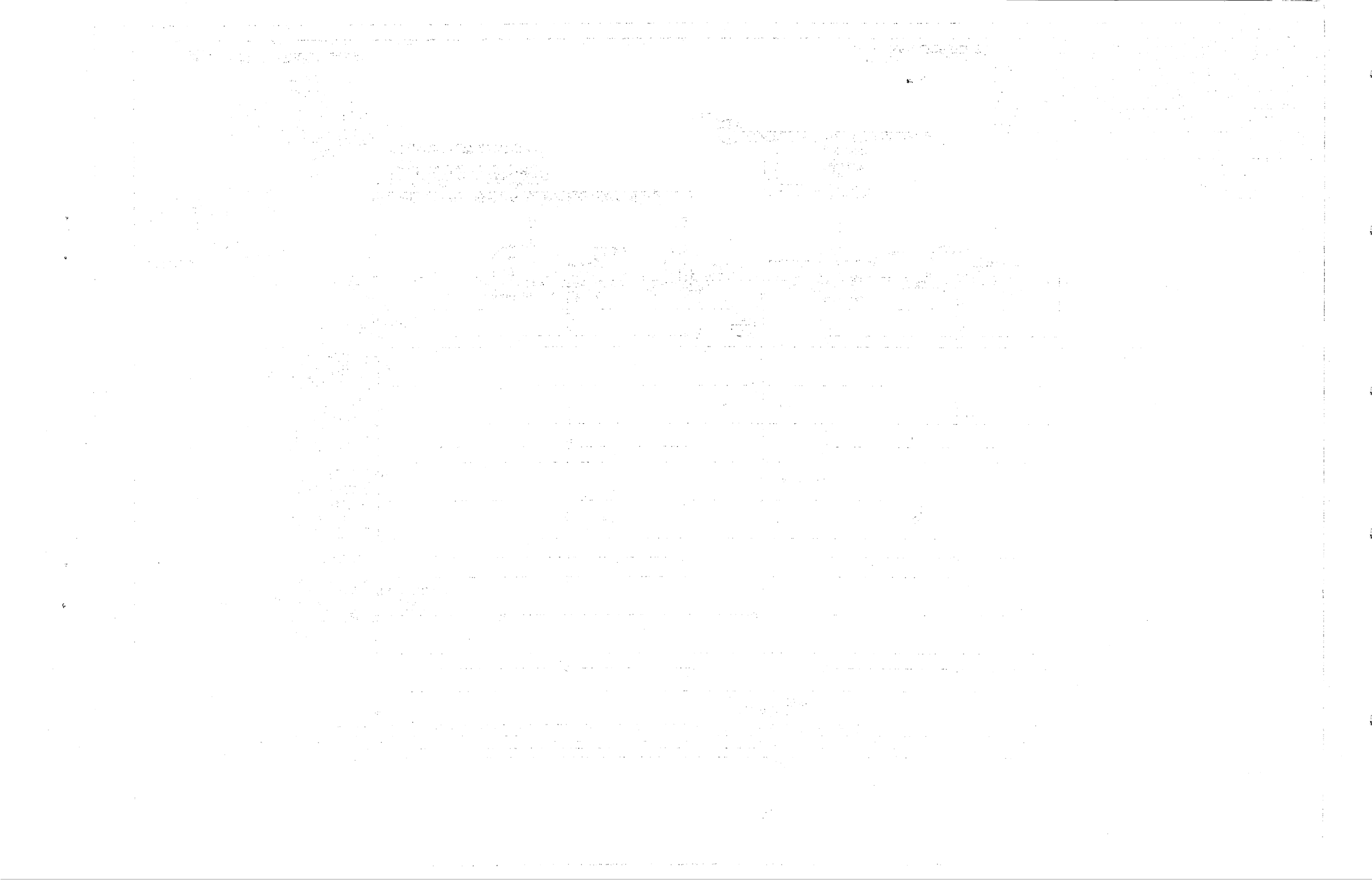
MARINE CORPS AIR STATION DC — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

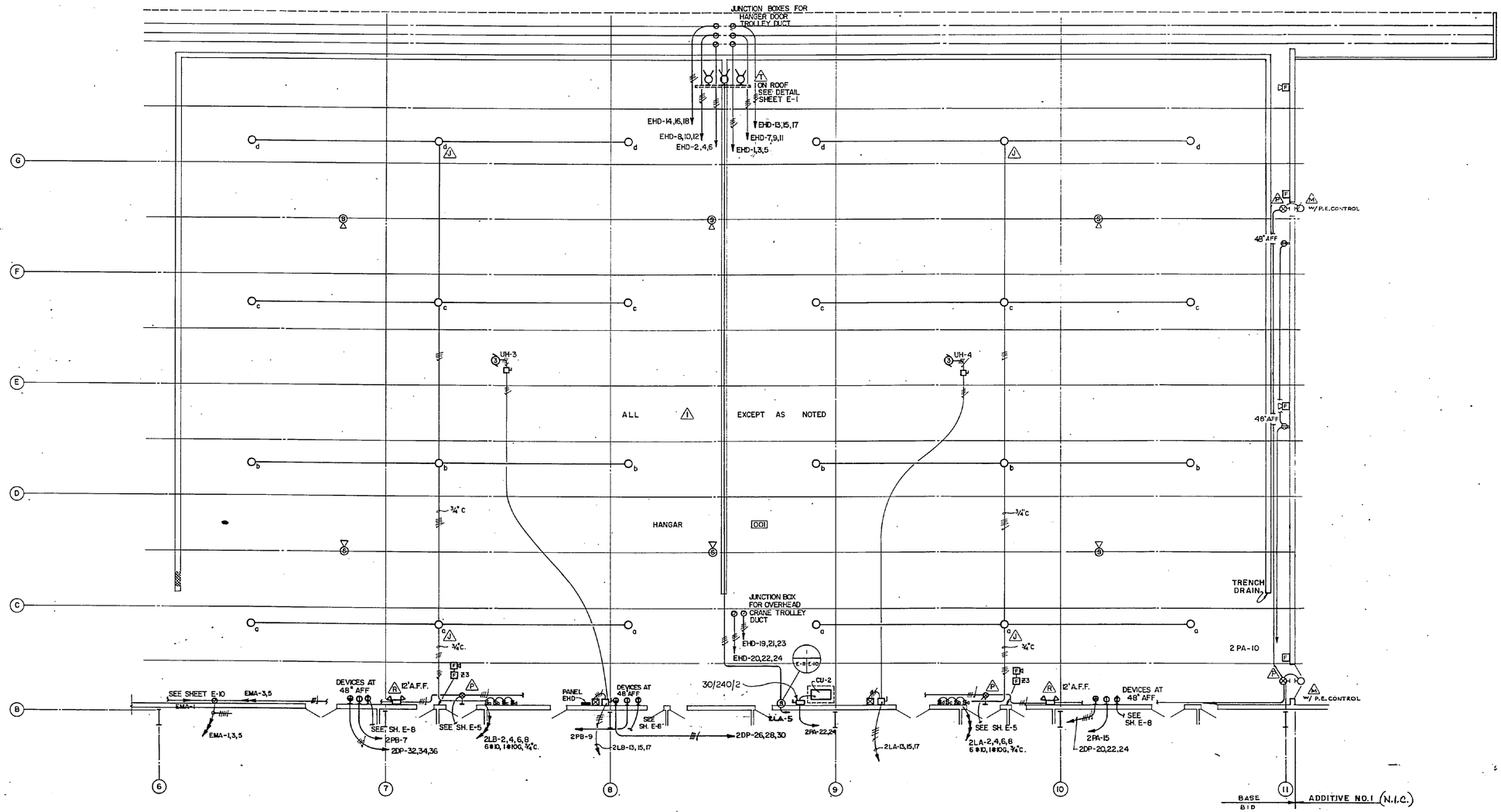
FLOOR PLAN - HANGER LIGHTING/POWER - NORTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138864
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE NOTED	SPEC. 05-84-4174	SHEET 115 OF 129

EFD DWG. NO. 238864



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



HANGAR PLAN - LIGHTING & POWER - CENTER

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

NOTES 1. REFER TO N.E.C. ARTICLE 513 MINIMUM REQUIREMENTS. NO FIXED WIRING, CONDUIT, NOR DEVICES SHALL BE INSTALLED IN THE HANGAR AREA BETWEEN FLOOR AND 18" ABOVE FLOOR WHICH SHALL BE CONSIDERED CLASS I, DIVISION 2, AS DEFINED BY NFPA.

2. ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.

GRAPHIC SCALE
1/8"=1'-0" 5' 0' 5' 10' 15' 20'

KEY PLAN

E-11

McCRACKEN & LOPEZ, PA. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DES. D.E.M. | DR. RD.V. Tron | CHK. D.L.
PROJ. MGR. R.E.M. CH. ENGR. D.L.
SUBMITTED BY: [signature] DATE: 1 May 86
FIRM MEMBER
EFD FE [signature] RVD [signature]
HD [signature] DIR [signature]
APPROVED [signature] DATE 2-4-86
OFFICER IN CHARGE
APPROVED [signature] DATE 2-12-86
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION BC NEW RIVER, NORTH CAROLINA

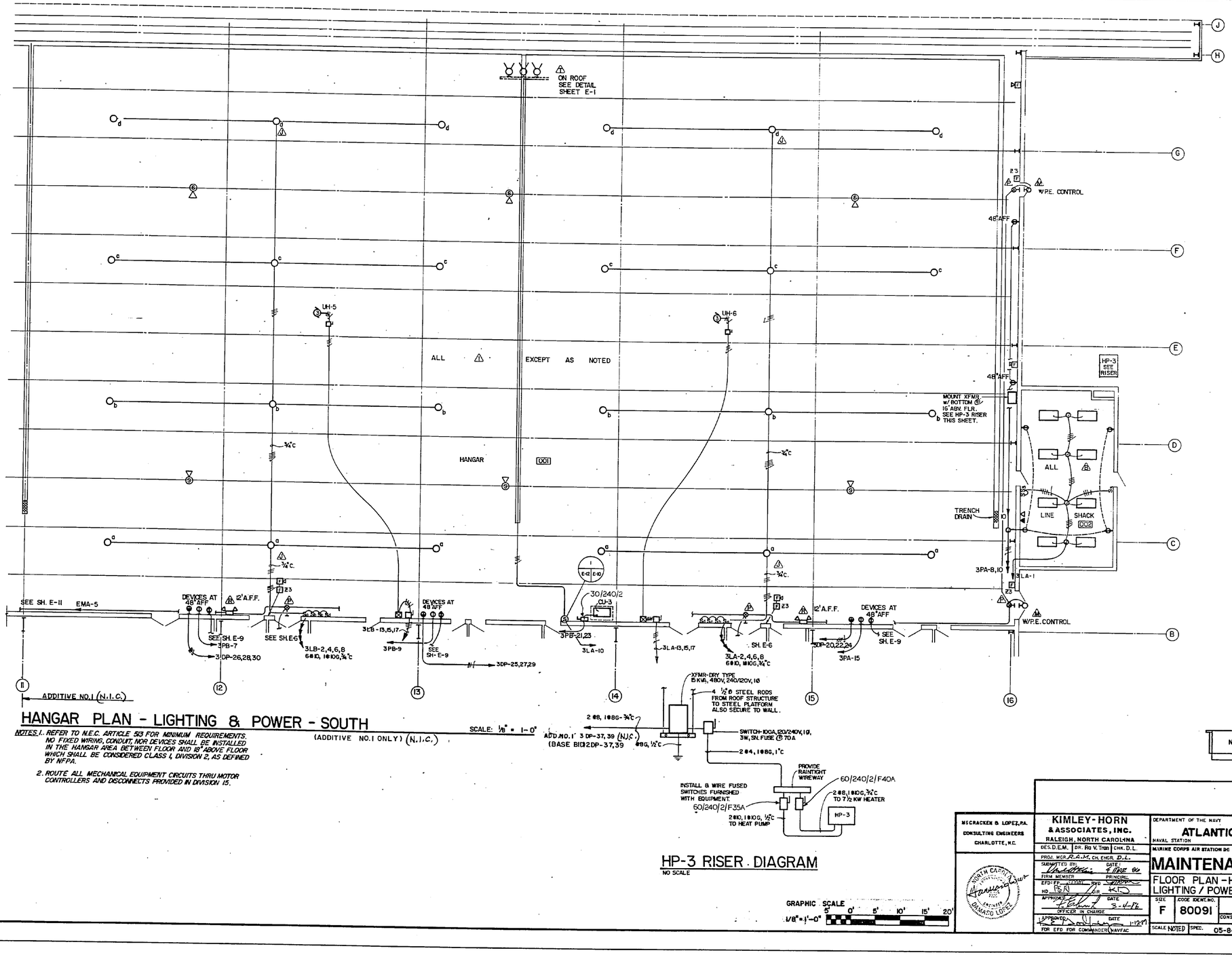
MAINTENANCE HANGAR

FLOOR PLAN - HANGER LIGHTING / POWER - CENTER

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138865

CONSTR. CONR. NO. N62470-84-B-4174
SCALE NOTED | SPEC. 05-84-4174 | SHEET 116 OF 129
EFD DWG. NO. 238865

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



HANGAR PLAN - LIGHTING & POWER - SOUTH

(ADDITIVE NO.1 ONLY) (N.I.C.)

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

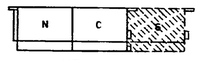
NOTES 1. REFER TO N.E.C. ARTICLE 513 FOR MINIMUM REQUIREMENTS. NO FIXED WIRING, CONDUIT, NOR DEVICES SHALL BE INSTALLED IN THE HANGAR AREA BETWEEN FLOOR AND 18" ABOVE FLOOR WHICH SHALL BE CONSIDERED CLASS I, DIVISION 2, AS DEFINED BY NFPA.

2. ROUTE ALL MECHANICAL EQUIPMENT CIRCUITS THRU MOTOR CONTROLLERS AND DISCONNECTS PROVIDED IN DIVISION 15.

HP-3 RISER DIAGRAM

NO SCALE

GRAPHIC SCALE 5' 0' 5' 10' 15' 20'
1/8" = 1'-0"



KEY PLAN

E-12

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. D.E.M. | DR. Ra V. Tran | CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: DATE: 4 NOV 04
FIRM MEMBER PRINCIPAL
EFD FIELD TEAM SYD AIR
HD
APPROVED DATE 3-4-05
OFFICER IN CHARGE
APPROVED DATE 1-12-05
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

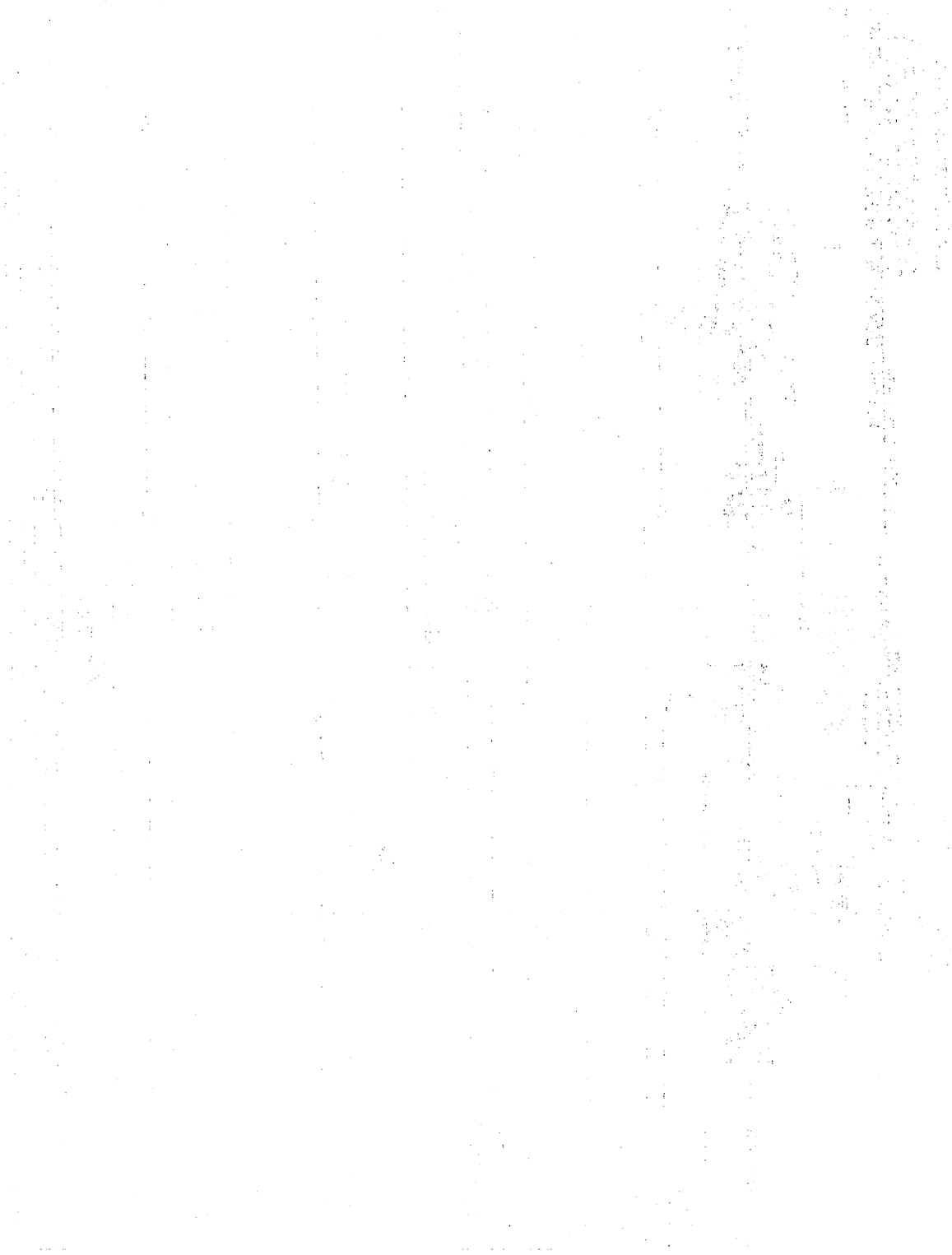
MAINTENANCE HANGAR

FLOOR PLAN - HANGER
LIGHTING / POWER - SOUTH

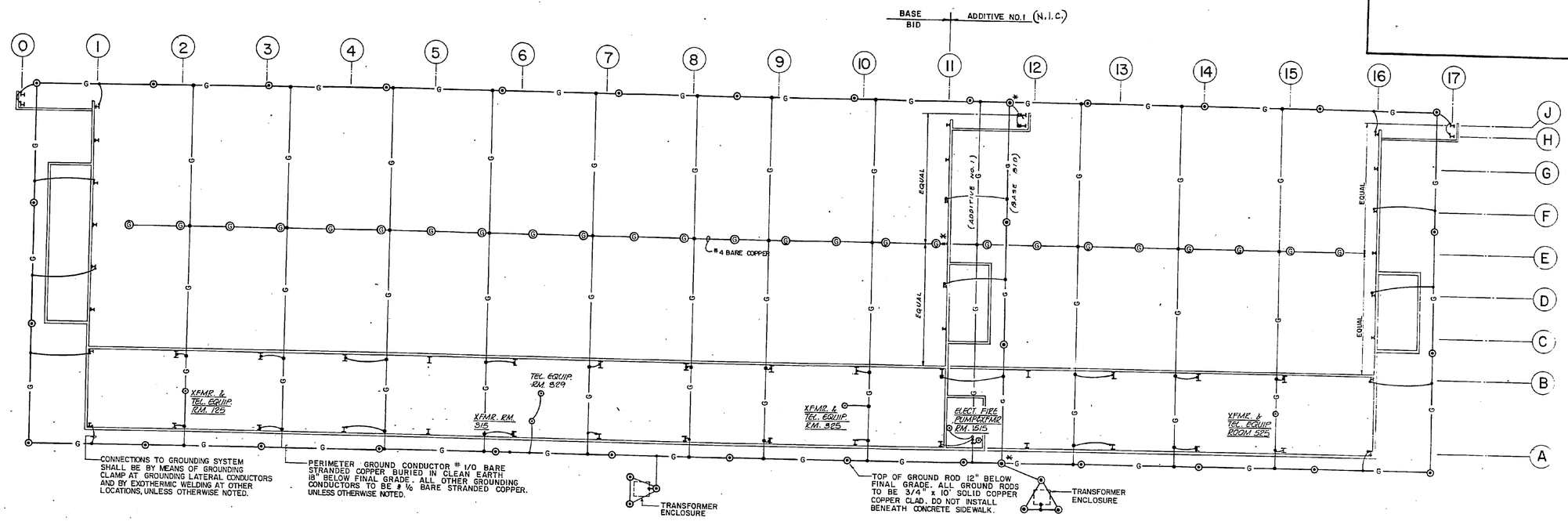
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138866

CONSTR. CONTR. NO. N62470-04-B-4174
SCALE NOTED SPEC. 05-84-4174 SHEET 117 OF 129
EFD DWG. NO. 238866

BLUEPRINTS: WATER (1-800-843-2629)



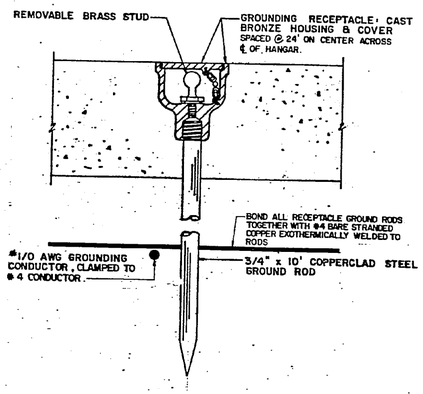
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FLOOR PLAN · GROUNDING

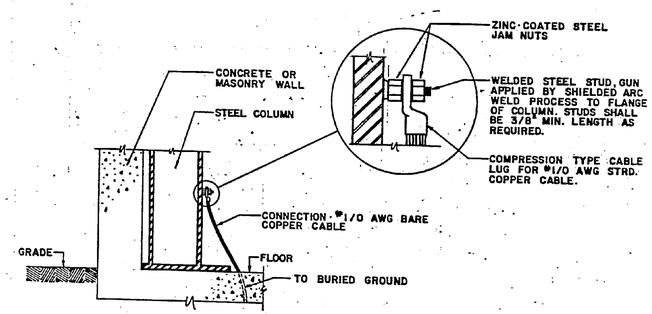
SCALE: 3/64" = 1'-0"

* NOTE:
PROVIDE EXCESS CONDUCTOR IN BASE BID BEYOND STRUCTURE FOR FUTURE EXTENSION.



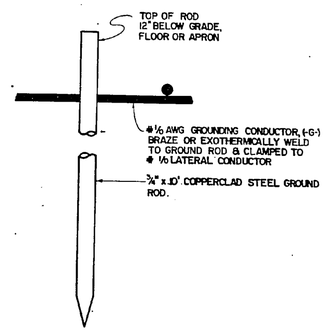
GROUND ROD DETAIL Ⓖ

NO SCALE



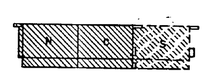
STEEL COLUMN GROUNDING DETAIL

NO SCALE



GROUND ROD DETAIL ⊙

NO SCALE



KEY PLAN

GRAPHIC SCALE
3/64" = 1'-0"
10' 0' 10' 20' 40'

E-13

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. D.E.M. | DR. J.R.W | CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: [signature] DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD: FP [signature] RVD [signature]
HD [signature] DIR [signature]
APPROVED [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED [signature] DATE 1-15-87
FOR EFD FOR COMMANDER NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 7226 DAMASO LOPEZ

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION BG — NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

FLOOR PLAN - SUPPORT HANGER GROUNDING - TOTAL

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138867
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE NOTED	SPEC. 05-84-4174	SHEET 118 OF 129

EFD DWG. NO. 238867

PANEL 1LA

100 AMPS, 277/480 VOLTS, 3 Φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
METAL SHOP LTG.	2.5			12	20	1	2	20	10	3.7			HANGAR LTG.
HYDRAULICS LTG.		1.9		↓	↓	3	4	↓	↓		3.7		↓
LINE SHACK LTG.			1.2	↓		5	6					3.7	
SPARE				–		7	8	↓	↓	3.7			↓
↓				–		9	10	–	–				SPACE ONLY
APRON LTG.			3.7	10	↓	11	12	–	–				
HANGAR UH#1 - 5HP	1.3			12	15	13	14	–	–				
↓		1.3		12		15	16	–	–				
↓			1.3	12	↓	17	18	–	–				↓
CONNECTED LOAD	3.8	3.2	6.2							7.4	3.7	3.7	

PANEL 1LB

100 AMPS, 277/480 VOLTS, 3 Φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
TOOL ROOM LTG.	2.4			12	20	1	2	20	–				SPARE
QA LTG.		1.5		↓		3	4		10		3.7		HANGAR LTG.
SPARE				–		5	6					3.7	↓
↓				–	↓	7	8			3.7			
SPACE ONLY				–	–	9	10	↓	↓		3.7		↓
↓				–	–	11	12	–	–				SPACE ONLY
HANGAR UH#2 - 5HP	1.3			12	15	13	14	–	–				
↓		1.3		12		15	16	–	–				
↓			1.3	12	↓	17	18						↓
CONNECTED LOAD	3.7	2.8	1.3							3.7	7.4	3.7	

PANEL 1LA2

100 AMPS, 277/480 VOLTS, 3 Φ, 4 W, M.L.O.
14,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
ADJUTANT	3.9			12	20	1	2	20	12	.9			CORRIDOR LTG.
C.O. OFFICE LTG.		2.8		↓		3	4		12		2.3		TOILET LTG.
SPARE				–		5	6	↓	↓			2.5	OP. OFFICE LTG.
↓				–	↓	7	8	–	–				SPACE ONLY
SPACE ONLY				–	–	9	10	–	–				↓
↓				–	–	11	12	–	–				↓
CONNECTED LOAD	3.9	2.8	—							.9	2.3	2.5	

PANEL 1PC

200 AMPS, 480 VOLTS, 3Φ, 3 W, M.L.O.
22,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
AIR DRYER	1.0			12	15	1	2	15	12	.4			EXH. FAN #1 3/4 hP
↓		1.0		↓	↓	3	4	↓	↓		.4		↓
↓			1.0	↓	↓	5	6	↓	↓			.4	↓
HV UNIT #4 2 HP	.9			12	15	7	8	15	12	.7			EXH. FAN #4 1 1/2HP
↓		.9		↓	↓	9	10	↓	↓		.7		↓
↓			.9	↓	↓	11	12	↓	↓			.7	↓
C. PUMP #2 2 HP	.9			12	15	13	14	15	12	1.3			C. PUMP #1 3 HP
↓		.9		↓	↓	15	16	↓	↓		1.3		↓
↓			.9	↓	↓	17	18	↓	↓			1.3	↓
C. PUMP #3 5 HP	2.0			12	15	19	20	15	12	2.0			C. PUMP #4 5 HP
↓		2.0		↓	↓	21	22	↓	↓		2.0		↓
↓			2.0	↓	↓	23	24	↓	↓			2.0	↓
C.R. PUMP # 1,2&3 HP	2.6			12	15	25	26	15	12	2.0			C. PUMP #5 5 HP
↓		2.6		↓	↓	27	28	↓	↓		2.0		↓
↓			2.6	↓	↓	29	30	↓	↓			2.0	↓
AHU #1 15 HP	5.6			10	40	31	32	15	12	.9			CONTROL COMP. 2 HP
↓		5.6		↓	↓	33	34	↓	↓		.9		↓
↓			5.6	↓	↓	35	36	↓	↓			.9	↓
AIR COMP. 2 @ 20 HP	14.4			6	90	37	38	40	10	5.9			ACU # 1 2 & 7 1/2HP
↓		14.4		↓	↓	39	40	↓	↓		5.9		↓
↓			14.4	↓	↓	41	42	↓	↓			5.9	↓
SPACE ONLY				–	–	43	44	–	–				SPACE ONLY
↓				–	–	45	46	–	–				↓
↓				–	–	47	48	–	–				↓
CONNECTED LOAD	27.4	27.4	27.4							13.2	13.2	13.2	

PANEL 1PA

100 AMPS, 120/208 VOLTS, 3 Φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
HYDRAULICS RECPT.	.9			12	20	1	2	20	12	.5			ELECT./AVION/
MAINT. RECPT.		.9				3	4				.7		↓
MATERIAL RECPT.			.9			5	6		↓			.9	OFFICE RECPT.
PHASE SHOP RECPT.	.9					7	8		10	.7			LINE SHACK RECPT.
CORROSION RECPT.		.9				9	10				.7		↓
METAL SHOP RECPT.			.7			11	12		↓			.4	HANGAR RECPT.
↓	.7			↓	↓	13	14		12	.4			TELEPHONE RECPT.
HANGAR RECPT.		2.0		10	30	15	16		–				SPARE
METAL SHOP RECPT.			1.0	12	20	17	18		–				
↓	1.0			↓	↓	19	20		–				
METAL SHOH RECPT.		1.0		12	20	21	22		–				
↓			1.0	↓	↓	23	24	↓	–				↓
CONNECTED LOAD	3.5	4.8	3.6							1.6	1.4	1.3	

PANEL 1PB

100 AMPS, 120/208 VOLTS, 3 Φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., ITOB FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
TOOL RM. RECPT.	.9			12	20	1	2	20	12	1.1			QA RECPT.
WATER COOLER		.9				3	4				1.1		ADMIN. RECPT.
WASHER RECPT.			1.2	↓	↓	5	6					.7	MECH. RM. RECPT.
HANGAR RECPT.	2.0			10	30	7	8			.7			↓
↓		2.0		↓	↓	9	10		↓		1.1		H.W. CIRC. PUMP 1/2 HP
FLIGHT EQUIP. RECPT			1.0	12	20	11	12		–				SPARE
↓	1.0			↓	↓	13	14		–				
DRYER RECPT.		2.3		10	30	15	16		–				
↓			2.3	↓	↓	17	18	↓	–				↓
A.H.U. #4 1/2 HP	1.1			12	20	19	20	–	–				SPACE ONLY
C.U. #1		1.7		10	30	21	22	–	–				SPACE ONLY
↓			1.7	↓	↓	23	24	–	–				SPACE ONLY
CONNECTED LOAD	5.0	6.9	6.2							1.8	2.2	.7	

PANEL 1PA2

100 AMPS, 120/208 VOLTS, 3 Φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
CLASSIFIED RECPT.	.7			12	20	1	2	20	12	.9			S3 RECPT.
SGT. MAJ. RECPT.		.9				3	4				.9		OP OFF. RECPT.
C.O. OFFICE RECPT.			1.1			5	6 *					1.1	READY ROOM RECPT.
S2 RECPT.	.7					7	8			.1			OBSTR LIGHT
SAFE. NATOP RECPT.		.9				9	10	↓	↓		1.1		EXH. FAN #10
DUTY RM. RECPT.			.9	↓		11	12	–	–				SPACE ONLY
SPARE				–		13	14	–	–				
↓				–		15	16	–	–				
↓				–	↓	17	18	–	–				↓
CONNECTED LOAD	1.4	1.8	2.0							1.0	2.0	1.1	

* PROVIDE HANDLE LOCK ON DEVICE FOR CB #8

PANEL 1PB2

100 AMPS, 120/208 VOLTS, 3 Φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
COMPUTER RECPT.	.7			12	20	1	2	20	12	.7			S1 RECPT.
S4 RECPT.		.9				3	4				.9		LEGAL RECPT.
CAREER RECPT.			.9			5	6	↓	↓			.9	EX. OFF. RECPT.
TOILET RECPT.	1.2			↓		7	8	–	–				SPACE ONLY
WATER COOLER		.7		–		9	10	–	–				
SPARE				–		11	12	–	–				
↓				–		13	14	–	–				
↓				–		15	16	–	–				
↓				–	↓	17	18	–	–				↓
CONNECTED LOAD	1.9	1.6	.9							.7	.9	.9	

PANEL 1DP

400 AMPS, 277/480 VOLTS, 3 Φ, 4 W, 1/2 N, M.L.O.
22,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
PAINT SPRAY BOOTH	.5			12	15	1	2	15	12	1.3			HV UNIT #1 3 HP
↓		.5		↓	↓	3	4	↓	↓		1.3		↓
↓			.5	↓	↓	5	6	↓	↓			1.3	↓
VENT UNIT # 1 3 HP	1.3			12	15	7	8	50	6	4.8			PANEL 1LA2
↓		1.3		↓	↓	9	10	↓	↓		5.1		↓
↓			1.3	↓	↓	11	12	↓	↓			2.5	↓
PANEL 1LA	11.2			4	70	13	14	70	4	7.4			PANEL 1LB
↓		6.9		↓	↓	15	16	↓	↓		10.2		↓
↓			9.9	↓	↓	17	18	↓	↓			5.0	↓
75 KVA XFMR	16.9			1	125	19	20	100	3	20.0			HANGAR RECEPTACLE
↓		21.6		↓	↓	21	22	↓	↓		20.0		↓
↓			16.7	↓	↓	23	24	↓	↓			20.0	↓
HANGAR RECEPTACLE	20.0			3	100	25	26	100	3	20.0			HANGAR RECEPTACLE
↓		20.0		↓	↓	27	28	↓	↓		20.0		↓
↓			20.0	↓	↓	29	30	↓	↓			20.0	↓
HEAT PUMP 1 & 2	12.0			4	70	31	32	50	6	7.4			SEWAGE LIFT STATION
↓		12.0		↓	↓	33	34				7.4		↓
SPACE ONLY				–	–	35	36	↓	↓			7.4	↓
↓				–	–	37	38	–	–				SPACE ONLY
↓				–	–	39	40	–	–				
↓				–	–	41	42	–	–				
CONNECTED LOAD	61.9	62.3	48.4							60.9	64.0	56.2	
TOTAL LOAD										122.8	126.3	104.6	

REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

PANEL 1 L A 2

- 1 - NORTH, 2 - CENTER, 3 - SOUTH.
- L - LIGHTING, P-POWER, D-DISTRIBUTION
- PANEL A, B, ETC.
- FLOOR (OMITTED IF 1st FLOOR)

PANELBOARD DESIGNATION

NOTE: ALL PANELS TO CONTAIN A GROUNDING BUS BAR.

E-14

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

NORTH CAROLINA PROFESSIONAL ENGINEER DAMASO LOPEZ

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RALEIGH, NORTH CAROLINA

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DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PANEL BOARD SCHEDULES - NORTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138868
		CONSTR. CONTR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 119 OF 129

EFD DWG. NO. 238868

PANEL 2LA

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
METAL SHOP LTG.	2.5			12	20	1	2	20	10	3.7			HANGAR LTG.
HYDRAULICS LTG.		1.9		↓		3	4				3.7		
APRON LTG.			3.7	10		5	6					3.7	
SPARE				–		7	8		↓	3.7			↓
↓				–	↓	9	10	↓	.8		1.8		PARKING AREA LTG.
LINE SHACK LTG.			.6	–	–	11	12	–	–			1.8	
HANGAR UH #4 - 3HP	1.3			12	15	13	14	–	–				
↓		1.3				15	16	–	–				
↓			1.3	↓	↓	17	18	–	–				↓
CONNECTED LOAD	3.8	3.2	5.6							7.4	5.5	3.7	

PANEL 2LB

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
SPARE				–	20	1	2	20	10	3.7			HANGAR LTG.
QA. LTG.		1.5		12		3	4				3.7		
TOOL RM. LTG.			2.4	↓	↓	5	6					3.7	
SPACE ONLY						7	8		↓	3.7			↓
						9	10		–				SPARE
↓						11	12	↓	–				↓
HANGAR UH #5 - 3HP	1.3			12	15	13	14						SPACE ONLY
		1.3				15	16						
↓			1.3	↓	↓	17	18						↓
CONNECTED LOAD	1.3	2.8	3.7							7.4	3.7	3.7	

PANEL 2LA2

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
ADJUTANT LTG.	3.9			12	20	1	2	20	12	.9			CORRIDOOR LTG.
C.O. OFFICE LTG.		2.8		↓		3	4		12		2.3		TOILET LTG.
SPARE				–		5	6	↓	↓			2.5	OP. OFFICE LTG.
↓				–	↓	7	8	–	–				SPACE ONLY
SPACE ONLY				–	–	9	10	–	–				
↓				–	–	11	12	–	–				↓
CONNECTED LOAD	3.9	2.8	—							.9	2.3	2.5	

PANEL EHD

100 AMPS, 480 VOLTS, 3 φ, 3 W, M.L.O., SEE NOTE BELOW
14,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
HANGAR DOORS	1.4			10	30	1	2	30	10	1.4			HANGAR DOORS
		1.4				3	4				1.4		
↓			1.4	↓	↓	5	6	↓	↓			1.4	↓
HANGAR DOORS	1.4			10	30	7	8	30	10	1.4			HANGAR DOORS
		1.4				9	10				1.4		
↓			1.4	↓	↓	11	12	↓	↓			1.4	↓
HANGAR DOORS	1.4			10	30	13	14	30	10	1.4			HANGAR DOORS
		1.4				15	16				1.4		
↓			1.4	↓	↓	17	18	↓	↓			1.4	↓
HANGAR CRANE	1.5			10	30	19	20	30	10	1.5			HANGAR CRANE
		1.5				21	22				1.5		
↓			1.5	↓	↓	23	24	↓	↓			1.5	↓
SPACE ONLY				—	—	25	26	—	—				SPACE ONLY
				—	—	27	28	—	—				
↓				—	—	29	30	—	—				↓
CONNECTED LOAD	5.7	5.7	5.7							5.7	5.7	5.7	

PANEL 2PC

100 AMPS, 480 VOLTS, 3 φ, 3 W, M.L.O.
14,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
EF-2 3/4 HP	.4			12	15	1	2	15	12	.9			HV UNIT #5 2 HP
		.4				3	4				.9		
↓			.4	↓	↓	5	6	↓	↓			.9	↓
EF-5 1 1/2 HP	.7			12	15	7	8	40	10	5.6			AHU #2 15 HP
		.7				9	10				5.6		
↓			.7	↓	↓	11	12	↓	↓			5.6	↓
SPACE ONLY				–	–	13	14	–	–				SPACE ONLY
				–	–	15	16		–				
↓				–	–	17	18	–	–				↓
CONNECTED LOAD	1.1	1.1	1.1							6.5	6.5	6.5	

PANEL EHD NOTE: PROVIDE BREAKER HANDLE PADLOCK DEVICE FOR EACH CIRCUIT BREAKER

PANEL 2PA

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
HYDRAULICS RECPT.	.9			12	20	1	2	20	12	.5			ELECT./AVION RECPT.
MAINT. RECPT.		.9				3	4				.7		↓
MATERIAL RECPT.			.9			5	6					.9	OFFICE RECPT.
PHASE SHOP RECPT.	.9					7	8		↓	.4			TELEPHONE RECPT.
CORROSION RECPT.		.9				9	10		10		.7		HANGAR RECPT.
METAL SHOP RECPT.			.7			11	12		–				SPARE
↓	.7			↓	↓	13	14		–				
HANGAR RECPT.		2.0		10	30	15	16		–				
METAL SHOP RECPT.			1.0	12	20	17	18		–				↓
↓	1.0			↓	↓	19	20	↓	12	1.1			A.H.U. #5 1/2 HP
METAL SHOP RECPT.		1.0		12	20	21	22	30	10		1.7		C.U. #2
↓			1.0			23	24	↓	↓			1.7	↓
CONNECTED LOAD	3.5	4.8	3.6							2.0	3.1	3.0	

PANEL 2PB

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
TOOL RM. RECPT	.9			12	20	1	2	20	12	1.1			QA RECPT.
WATER COOLER		.9				3	4		↓		1.1		ADMIN. RECPT.
WASHER RECPT.			1.2	↓	↓	5	6		–			.4	TELEPHONE RECPT.
HANGAR RECPT.	2.0			10	30	7	8		–				SPARE
↓		2.0		↓		9	10		–				
FLIGHT EQUIP. RECPT			1.0	12	20	11	12		–				
↓	1.0			↓	↓	13	14		–				
DRYER RECPT.		2.3		10	30	15	16		–				
↓			2.3	↓	↓	17	18	↓	–				↓
SPACE ONLY				–	–	19	20	–	–				SPACE ONLY
				–	–	21	22	–	–				
↓				–	–	23	24	–	–				↓
CONNECTED LOAD	3.9	5.2	4.5							1.1	1.1	.4	

PANEL 2HA2

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
CLASSIFIED RECPT.	.7			12	20	1	2	20	12	.9			S3 RECPT.
SGT. MAJ. RECPT.		.9				3	4				.9		OP. OFF. RECPT.
C.O. OFFICE RECPT.			1.1			5	6 *					1.1	READY RM. RECPT.
S2 RECPT.	.7					7	8			.1			OBSTR. LIGHT
SAFE. NATOP RECPT.		.9				9	10	↓	↓			1.1	EXH. FAN #11
DUTY ROOM RECPT.			.9	↓		11	12	–	–				SPACE ONLY
SPARE				–		13	14	–	–				
				–		15	16	–	–				
↓				–	↓	17	18	–	–				↓
CONNECTED LOAD	1.4	1.8	2.0							1.0	.9	2.2	

* PROVIDE HANDLE LOCK-IN DEVICE FOR C.B. #8

PANEL 2PB2

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
COMPUTER RECPT.	.7			12	20	1	2	20	12	.7			S1 RECPT.
S4 RECPT.		.9				3	4				.9		LEGAL RECPT.
CAREER RECPT.			.9			5	6	↓	↓			.9	EX. OFF. RECPT.
TOILET RECPT.	1.2			↓		7	8	–	–				SPACE ONLY
WATER COOLER		.7		–		9	10	–	–				
SPARE				–		11	12	–	–				
				–		13	14	–	–				
				–		15	16	–	–				
↓	1.9	1.6		–	↓	17	18	–	–				↓
CONNECTED LOAD			.9							.7	.9	.9	

PANEL 2DP

400 AMPS, 277/480 VOLTS, 3 φ, 4 W, 1/2 N, M.L.O.
22,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
PAINT SPRAY BOOTH	.5			12	15	1	2	15	12	1.3			HV UNIT #2 3 HP
		.5				3	4				1.3		
↓			.5	↓	↓	5	6	↓	↓			1.3	↓
VENT. UNIT # 2 3 HP	1.3			12	15	7	8	50	6	4.8			PANEL 2LA2
		1.3				9	10				5.1		
↓			1.3	↓	↓	11	12	↓	↓			2.5	↓
SPACE ONLY				—	—	13	14	70	4	8.7			PANEL 2LB
				—	—	15	16				6.5		
↓				—	—	17	18	↓	↓			7.4	↓
PANEL 2LA	11.2			4	70	19	20	100	3	20.0			HANGAR RECEPTACLE
		8.7				21	22				20.0		
↓			8.7	↓	↓	23	24	↓	↓			20.0	↓
75 KVA XFMR	15.5			1	125	25	26	100	3	20.0			HANGAR RECEPTACLE
		18.7				27	28				20.0		
↓			17.1	↓	↓	29	30	↓	↓			20.0	↓
PANEL '2PC'	7.6			4	70	31	32	100	3	20.0			HANGAR RECEPTACLE
		7.6				33	34				20.0		
↓			7.6	↓	↓	35	36	↓	↓			20.0	↓
HEAT PUMP #3	6.0			8	40	37	38	–	–				SPACE ONLY
↓		6.0		↓	↓	39	40	–	–				
SPACE ONLY				–	–	41	42	–	–				↓
CONNECTED LOAD	42.1	42.8								74.8	72.9	71.2	
TOTAL LOAD										110.9	109.7	106.4	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

E-15

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

NORTH CAROLINA PROFESSIONAL ENGINEER 7225 DAMASO LOPEZ

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. D.E.M. | DR. BKD | CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD: FP RVD
HD DIR
APPROVED DATE 3-4-86
OFFICER IN CHARGE
APPROVED DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PANEL BOARD SCHEDULES - CENTER

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138869
CONSTR. CONTR. NO. N62470-84-B-4174
SCALE | SPEC. 05-84-4174 | SHEET 120 OF 129
EFD DWG. NO. 238869

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

PANEL 3LA

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
LINE SHACK LTG.	.6			12	20	1		2	20	10	3.7			HANGAR LTG.
HYDRAULICS LTG.		1.9				3		4				3.7		
METAL SHOP LTG.			2.5			5		6					3.7	
SPARE				-		7		8			3.7			
				-		9		10				3.7		APRON LTG.
SPACE ONLY				-	-	11		12	B				1.8	PARKING AREA LTG.
HANGAR U.H. #6 - 3HP	1.3			12	15	13		14	-	-				SPACE ONLY
		1.3				15		16	-	-				
			1.3			17		18	-	-				
CONNECTED LOAD	1.9	3.2	3.8								7.4	7.4	5.5	

PANEL 3LB

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
SPARE				-	20	1		2	20	10	3.7			HANGAR LTG.
QA LTG.		1.5		12		3		4				3.7		
TOOL RM. LTG.			2.4	12		5		6					3.7	
SPACE ONLY						7		8			3.7			
						9		10	-					SPARE
						11		12	-					
UH #6 - 3HP	1.3			12	15	13		14						SPACE ONLY
		1.3				15		16						
			1.3			17		18						
CONNECTED LOAD	1.3	2.8	3.7								7.4	3.7	3.7	

PANEL 3LA2

100 AMPS, 277/480 VOLTS, 3 φ, 4 W, M.L.O.
14,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
ADJUTANT LTG.	3.9			12	20	1		2	20	12	.9			CORRIDOR LTG.
C.O. OFFICE LTG.		2.8				3		4		12		2.3		TOILET LTG.
SPARE				-		5		6					2.5	OP OFFICE LTG.
				-		7		8	-	-				SPACE ONLY
SPACE ONLY				-	-	9		10	-	-				
				-	-	11		12	-	-				
CONNECTED LOAD	3.9	2.8	-								.9	2.3	2.5	

PANEL 3 PC

100 AMPS, 480 VOLTS, 3 φ, 3 W, M.L.O.
14,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
EF-3 3/4 HP	.4			12	15	1		2	15	12	.9			HV UNIT #6 2 HP
		.4				3		4				.9		
			.4			5		6					.9	
EF-6 1 1/2 HP	.7			12	15	7		8	40	10	5.6			AHU #3 15 HP
		.7				9		10				5.6		
			.7			11		12					5.6	
SPACE ONLY				-	-	13		14	-	-				SPACE ONLY
				-	-	15		16	-	-				
				-	-	17		18	-	-				
CONNECTED LOAD	1.1	1.1	1.1								6.5	6.5	6.5	

PANEL 3PA

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
HYDRAULICS RECPT.	.9			12	20	1		2	20	12	.5			ELECT./AVION RECPT
MAINT. RECPT.		.9				3		4				.7		
MATERIAL RECPT.			.9			5		6					.9	OFFICE RECPT.
PHASE SHOP RECPT.	.9					7		8		10	.7			LINE SHACK RECPT.
CORROSION RECPT.		.9				9		10				.4		HANGAR RECPT.
METAL SHOP RECPT.			.7			11		12		12			.4	TELEPHONE RECPT.
	.7					13		14	-					SPARE
HANGAR RECPT.		2.0		10	30	15		16	-					
METAL SHOP RECPT.			1.0	12	20	17		18	-					
	1.0					19		20	-					
METAL SHOP RECPT.		1.0		12	20	21		22	-					
			1.0			23		24	-					
CONNECTED LOAD	3.5	4.8	3.6								1.2	1.1	1.3	

PANEL 3PR

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, DOUBLE LUGS, M.L.O.
10,000 A.I.C., TOP FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
TOOL RM. RECPT.	.9			12	20	1		2	20	12	1.1			QA RECPT.
WATER COOLER		.9				3		4				1.1		ADMIN. RECPT.
WASHER RECPT.			1.2			5		6		-				SPARE
HANGAR RECPT.	2.0			10	30	7		8		-				
		2.0				9		10		-				
FLIGHT EQUIP. RECPT			1.0	12	20	11		12		-				
	1.0					13		14		-				
DRYER RECPT.		2.3		10	30	15		16		-				
			2.3			17		18		-				
A.H.U. #5 1/2 HP	1.1			12	20	19		20	-	-				SPACE ONLY
C.U. #3		1.7		10	30	21		22	-	-				
			1.7			23		24	-	-				
CONNECTED LOAD	5.0	6.9	6.2								1.1	1.1	-	

PANEL 3PA2

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
CLASSIFIED RECPT.	.7			12	20	1		2	20	12	.9			S3 RECPT.
SGT. MAJ. RECPT.		.9				3		4				.9		OP. OFF. RECPT.
C.O. OFFICE RECPT.			1.1			5		6					1.1	READY RM. RECPT.
S2 RECPT.	.7					7		8		.1				OBSTR. LIGHT
SAFE, NATOPS RECPT.		.9				9		10				1.1		EXH. FAN # 12
DUTY RM. RECPT.			.9			11		12	-	-				SPACE ONLY
SPARE				-		13		14	-	-				
				-		15		16	-	-				
				-		17		18	-	-				
CONNECTED LOAD	1.4	1.8	2.0								1.0	2.0	1.1	

* PROVIDE HANDLE LOCK-ON DEVICE FOR C.B #8

PANEL 3PB2

100 AMPS, 120/208 VOLTS, 3 φ, 4 W, M.L.O.
10,000 A.I.C., BOTTOM FEED, FLUSH MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
COMPUTER RECPT.	.7			12	20	1		2	20	12	.7			S1 RECPT.
S4 RECPT.		.9				3		4				.9		LEGAL RECPT.
CAREER RECPT.			.9			5		6					.9	EX. OFF. RECPT.
TOILET RECPT.	1.1					7		8	-	-				SPACE ONLY
SPARE				-		9		10	-	-				
				-		11		12	-	-				
				-		13		14	-	-				
				-		15		16	-	-				
				-		17		18	-	-				
CONNECTED LOAD	1.8	.9	.9								.7	.9	.9	

PANEL 3DP

400 AMPS, 277/480 VOLTS, 3 φ, 4 W, 1/2 N, M.L.O.
22,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	B	C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	B	C	SERVING
PAINT SPRAY BOOTH	.5			12	15	1		2	15	12	1.3			HV UNIT #3 3 HP
		.5				3		4				1.3		
			.5			5		6					1.3	
VENT UNIT #3 3 HP	1.3			12	15	7		8	50	6	4.8			PANEL 3LA2
		1.3				9		10				5.1		
			1.3			11		12					2.5	
PANEL 3LA	9.3			4	70	13		14	70	4	8.7			PANEL 3LB
		10.6				15		16				6.5		
			9.3			17		18					7.4	
75 KVA XFMR	157			3	100	19		20	100	3	20.0			HANGAR RECEPTACLE
		89.5				21		22				20.0		
			160			23		24					20.0	
HANGAR RECEPTACLE	20.0			3	100	25		26	100	3	20.0			HANGAR RECEPTACLE
		20.0				27		28				20.0		
			20.0			29		30					20.0	
PANEL 3PC	7.6			4	70	31		32	-	-				SPACE ONLY
		7.6				33		34	-	-				
			7.6			35		36	-	-				
HEAT PUMP 3	6.0			8	40	37		38	-	-				
		6.0				39		40	-	-				
SPACE ONLY				-	-	41		42	-	-				
CONNECTED LOAD	60.4	65.5	54.7								54.8	52.9	51.2	
TOTAL LOAD											115.2	118.4	105.9	

NOTE:
THIS SHEET PERTAINS TO ADDITIVE NO.1 (N.I.C.)

E-16

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. D.E.M. DR. B.K.D. CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: DATE
FIRM MEMBER PRINCIPAL
EFD FP (INITIAL) RVD
HD DIR
APPROVED: DATE
OFFICER IN CHARGE
APPROVED: DATE
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION DO NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PANEL BOARD SCHEDULES - SOUTH

SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138870
		CONSTR. CONTR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 121 OF 129
		EFD DWG. NO. 238870

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

PANEL EMA

100 AMPS, 277/480 VOLTS, 3 Φ, 4 W, M.L.O.
22,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
NORTH AREA LIGHTING	1.4			10	20	1		2	20	12	.9			BLDG. FRONT LTG.
CENTER AREA LIGHTING		1.2		↓	↓	3		4	↓	–				SPARE
SOUTH AREA LIGHTING			1.4			5		6		–				↓
SPARE	3.0			–	50	7		8	30	10	.5			15 KVA XFMR
↓		3.0		–	↓	9		10	↓	↓		.5		↓
			3.0	–		11		12					.5	
PANEL EHD	11.4			6	50	13		14	–	–				SPACE ONLY
↓		11.4		↓	↓	15		16	–	–				↓
			11.4			17		18	–	–				
CONNECTED LOAD	15.6	15.6	15.8								1.4	.5	.5	

PANEL EMB

60 AMPS, 120/208 VOLTS, 3 Φ, 4 W, MAIN BREAKER
10,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
FIRE ALARM CABINET	.5			12	20	1		2	–	–	.1			SEE NOTE 1
RADIO TRANSMITTER		.5		↓	↓	3		4	–	–		.1		↓
BATTERY CHARGER			.5			5		6	–	–			.1	
SEE NOTE 1	.1			–		7		8	–	–				SPACE
↓		.1		–		9		10	–	–				↓
			.1	–		11		12	–	–				
CONNECTED LOAD	.6	.6	.6								.1	.1	.1	

NOTE 1: PRE-ACTION SPRINKLER SYSTEM
LOW AIR PRESSURE ALARMS

PANEL EMC

70 AMPS, 277/480 VOLTS, 3 Φ, 4 W, MAIN BREAKER – SUITABLE FOR SERVICE ENTRANCE
22,000 A.I.C., BOTTOM FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
LIGHTING	.9			12	20	1		2	30	10	3.0			15 KVA XFMR
JOCKEY PUMP		1.3			15	3		4				3.1		
			1.3			5		6					3.5	
	1.3					7		8	15	12	1.3			AFFF-COMPRESSOR
AFFF CONC. PUMP		1.3			15	9		10				1.3		
			1.3			11		12					1.3	
	1.3	–	–			13		14	–	–	–	–	–	SPACE ONLY
SPACE ONLY	–	–	–	–	–	15		16	–	–				
" "	–	–	–	–	–	17		18	–	–				

PANEL EMD

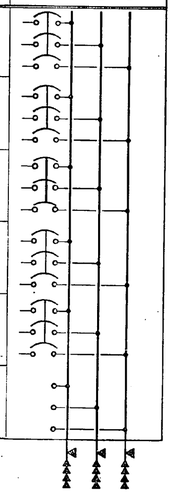
60 AMPS, 120/208 VOLTS, 3 Φ, 4 W, MAIN BREAKER
10,000 A.I.C., TOP FEED, SURFACE MOUNTED

SERVING	KVA LOAD A	KVA LOAD B	KVA LOAD C	AWG	BRKR	CKT	PHASE ABC	CKT	BRKR	AWG	KVA LOAD A	KVA LOAD B	KVA LOAD C	SERVING
DFP PANEL	1.5			12	20	1		2	20	12	1.0			SPARE
↓		1.5		↓	↓	3		4	↓	↓		1.5		DIESEL PUMP
AFFF CABINET			1.5			5		6					1.0	SPARE
SPACE ONLY				–	–	7		8			.5			RECEPTACLES
↓				–	–	9		10	↓			1.1		EXH. FAN #13
				–	–	11		12	–				1.0	SPARE
CONNECTED LOAD	1.5	1.5	1.5								1.5	2.6	2.0	

MDP

–1200A, 277/480V, 3Φ, 4W, 1/2N WITH GROUND BUS, CIRCUIT BREAKER PANELBOARD WALL SURFACE MOUNTED, SERVICE ENTRANCE U.L. LABELED BOARD. 50,000 A.I.C.

FEEDER	SERVING	FEEDER SIZE	CONNECTED KVA LOAD A	CONNECTED KVA LOAD B	CONNECTED KVA LOAD C	DEMAND	DEMAND KVA LOAD A	DEMAND KVA LOAD B	DEMAND KVA LOAD C	BREAKER
①	CHILLER	3#1, 1#6G, 1½"C.	29.3	29.3	29.3	100%	29.3	29.3	29.3	175/3
②	PANEL 1PC	3#3/0, 1#6G, 2"C.	40.6	40.6	40.6	70%	28.4	28.4	28.4	200/3
③	PANEL 1DP	3-#500MCM, 1#3/0N, 1#3G, 3½"C	122.8	126.3	104.6	70%	86.0	88.4	73.2	400/3
④	PANEL 2DP	3#500MCM, 1#3/0N, 1#3G, 3½"C.	110.9	109.7	106.4	55%	61.0	60.3	58.5	400/3
⑤*	PANEL 3DP	3#500 MCM, 1#3/0 N, 1#3G, 3½"C.	115.2	118.4	105.9	55%	63.4	65.1	58.2	400/3
⑥	SPACE ONLY									400/3
TOTAL LOADS			418.8	424.3	386.8	64%	268.1	271.5	247.6	
			1229.9				787.2			



* ADD FEEDER IN ADDITIVE BID - (N.I.C.)
BASE BID TO CONTAIN SPARE BREAKER & EMPTY 3½" CONDUIT.

E-17

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

NORTH CAROLINA REGISTRATION 22 ENGINEER DAMASO LOPEZ

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. DEM. DR. P.M.W. CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: DATE 6 Mar 86
FIRM MEMBER PRINCIPAL
EFD FR. RVD
HD BR DIR
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 1-10-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

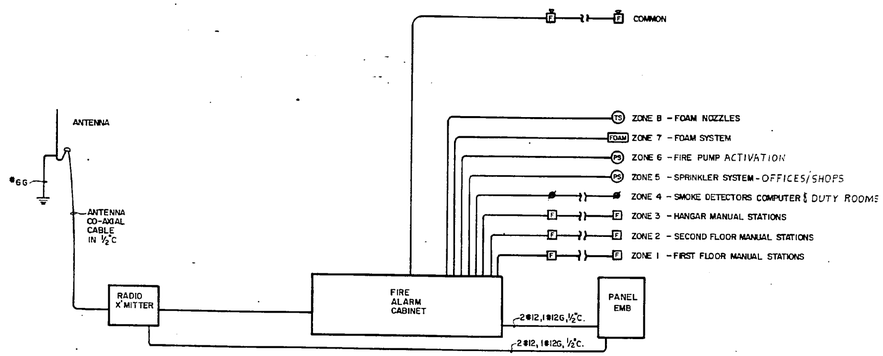
MAINTENANCE HANGAR

PANEL BOARD SCHEDULES –

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138871
SCALE | SPEC. 05-84-4174 | CONSTR. CONR. NO. N62470-84-B-4174 | SHEET 122 OF 129
EFD DWG. NO. 238871

SHORTED WHITE FILE #42-2-0811

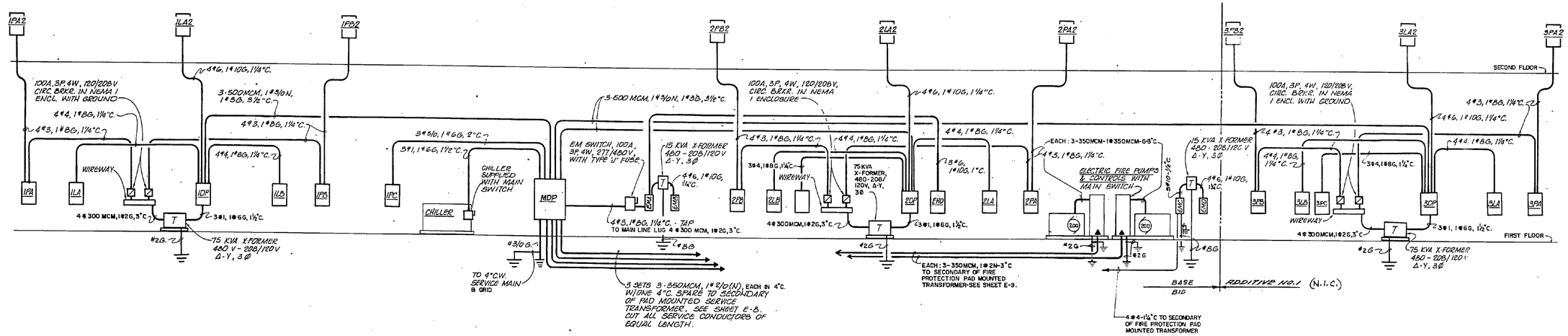
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED



FIRE ALARM RISER DIAGRAM

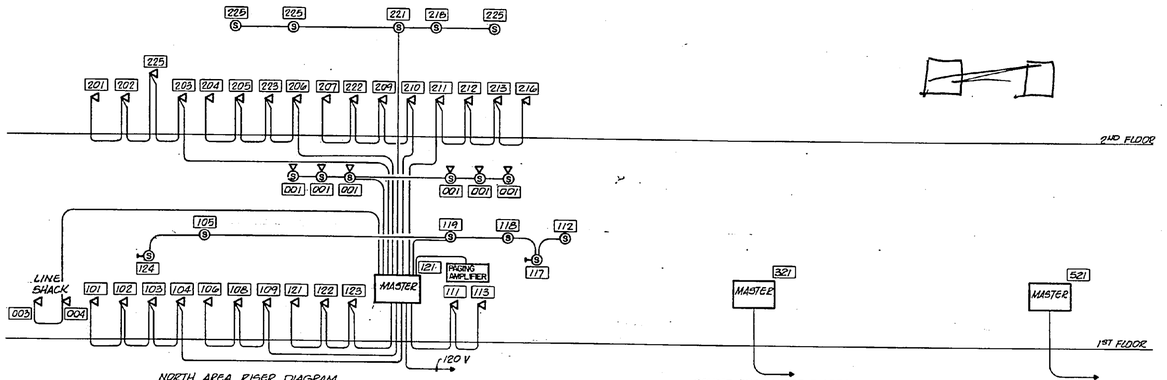
NO SCALE

NOTE: ZONES 9, 10, 11 & 12 ARE SPARE.



POWER RISER DIAGRAM

NO SCALE



NOTES: (INTERCOMMUNICATION & PAGING)

1. THE SYSTEM TO BE CAPABLE OF ALL PAGE TO CORRIDOR & HANGAR SPEAKERS WITH COMMUNICATION CAPABILITIES TO AND FROM EACH ROOM STATION.
2. SPEAKER WIRING TO BE 16/2 & INTERCOM WIRING TO BE 22/2 WITH PVC JACKET INSULATION.
3. OUTLET BOXES FOR INTERCOM STATIONS TO BE SIMILAR TO TELEPHONE REQUIREMENTS.
4. ALL WIRING TO BE INSTALLED IN MINIMUM ½" CONDUIT.

INTERCOMMUNICATION & PAGING RISER DIAGRAM

NO SCALE

E-18

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) — NEW RIVER, NORTH CAROLINA

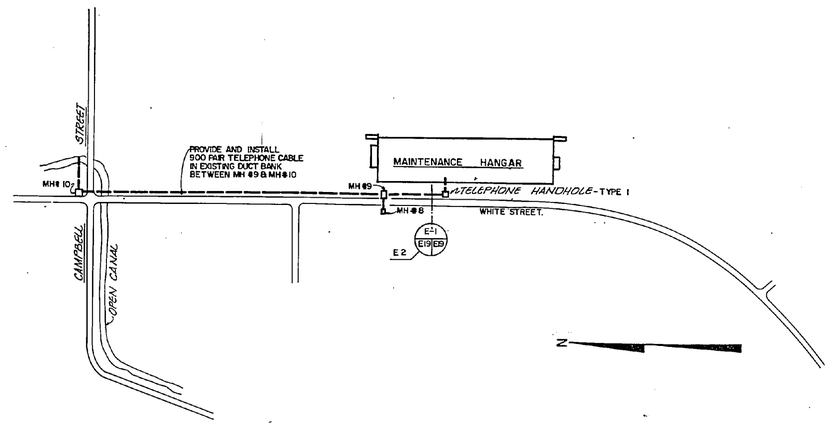
DES. DEM. DR. P.M.W. CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: DATE: 1 Nov 82
FIRM MEMBER — PRINCIPAL
EFD: FE RVD
HD DIR
APPROVED: DATE: 24-82
OFFICER IN CHARGE
APPROVED: DATE: 1-18-83
FOR EFD FOR COMMANDER NAVFAC

MAINTENANCE HANGAR

RISER DIAGRAMS

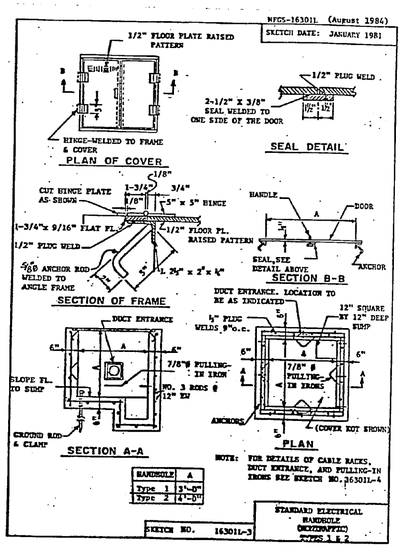
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138872
SCALE	SPEC. 05-84-4174	CONSTR. CONTR. NO. N62470-84-B-4174
		SHEET 123 OF 129

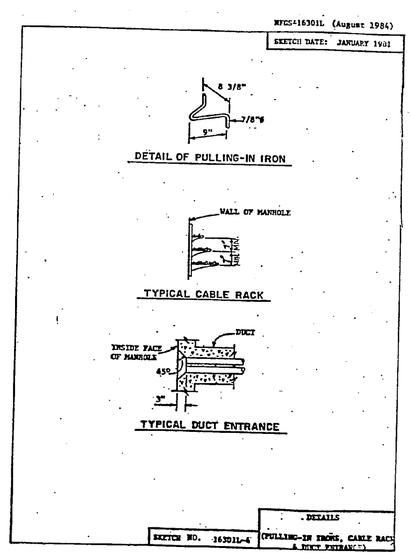
EFD DWG. NO. 238872



PARTIAL SITE PLAN

1" = 200'





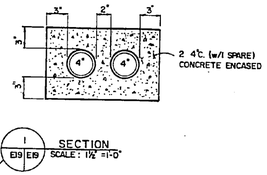
25 PAIR FEEDER CABLE COLOR CODE - THESE COLORS REPEAT AFTER 25 PAIR.

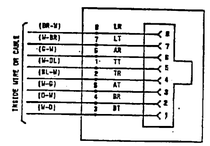
W/BL
BL/W
W/O
O/W
W/G
G/W
W/BRN
BRN/W
W/S
S/W
R/BL
BL/R
R/O
O/R
R/G
G/R
R/BRN
BRN/R
R/S
S/R
BK/BL
BL/BK
BK/O
O/BK
BK/G
G/BK
BK/BRN
BRN/BK
BK/S
S/BK
Y/BL
BL/Y
Y/O
O/Y
Y/G
G/Y
Y/BRN
BRN/Y
Y/S
S/Y
W/BL
BL/K
V/O
O/V
V/G
G/V
V/BRN
BRN/V
V/S
S/V

CONNECTING BLOCK - 66 SERIES

COLOR CODE LEGEND

		PREDOMINANT COLOR	TRACER COLOR
W	= WHITE		
BL	= BLUE		
O	= ORANGE		
G	= GREEN		
BRN	= BROWN		
S	= SLATE		
R	= RED		
BK	= BLACK		
Y	= YELLOW		
V	= VIOLET		





MINIATURE MODULAR JACK SHOWING PIN PLACEMENT

NOTES

A LABEL EACH JACK IN AN ASCENDING ORDER STARTING WITH 100. THE CABLE SHALL HAVE THE SAME LABEL AT EACH END AND THE SAME NUMBER AS THE JACK IT FEEDS.

B LABEL JACK COVER WITH EMBOSSED LETTERING OF PAIR NUMBER (RAISED OR CUT).

C ONE FOOT OF CABLE SHALL BE PROVIDED (MEASURED FROM WALL SURFACE AND AFTER TERMINATION).

D CABLE NUMBER TAGGED TO CABLE AT POINT JUST INSIDE BOX (AT CABLE FULLY EXTENDED). FOR SURFACE MOUNT, TAG CABLE WHERE OUTER JACKET BEGINS. INSURE TAG FULLY COVERED BY BOX. LABEL FEEDER CABLES SIMILARLY.

TELEPHONE SERVICE NOTES

1. PROVIDE A 900 PAIR TELEPHONE CABLE AND INSTALL IN EXISTING DUCT BANK BETWEEN MH #9 AND MH # 10. PROVIDE AND INSTALL A 150 PAIR CABLE AND DUAL 4" CONDUIT DUCT FROM MH #9 THROUGH HH AND ON TO BUILDING. TELEPHONE CABLE CONNECTIONS AND TERMINATIONS WILL BE MADE BY THE GOVERNMENT.

2. PROVIDE A TYPE 1 HANDHOLE AS DETAILED ON THIS SHEET. INSTALL 2 DUCT ENTRIES STUBBED OUT FOR FUTURE CONTINUATION ALONG WHITE STREET.

3. ALL TELEPHONE WIRE SHALL BE A MINIMUM SIZE OF 26 AWG AND SHALL BE COPPER.

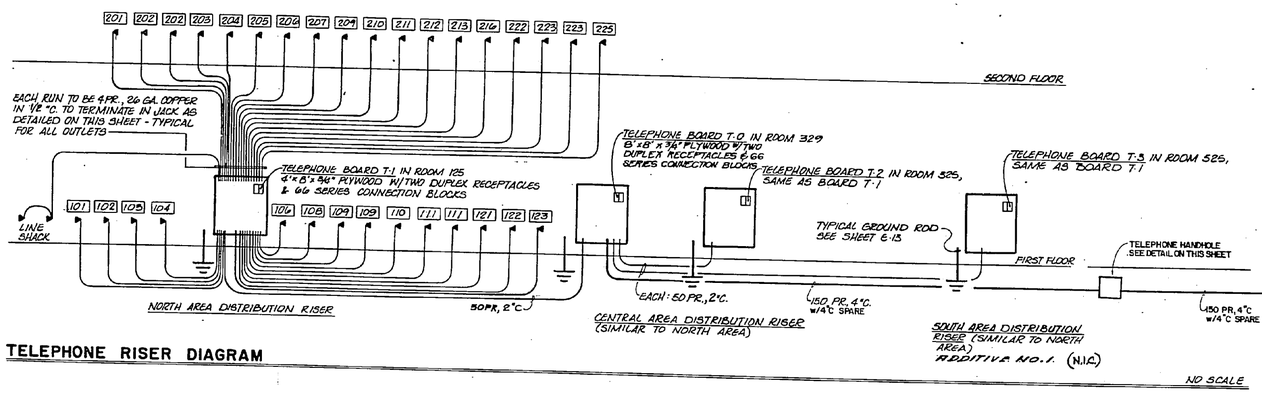
4. ALL TELEPHONE CABLE SHALL BE INSTALLED IN CONDUIT - MINIMUM SIZE TO BE 1/2".

5. ALL TELEPHONE JACKS SHALL BE INSTALLED IN A 4" SQUARE BOX WITH A SINGLE GANG PLASTER RING MOUNTED FLUSH IN WALL.

6. ALL FEEDER CABLES SHALL BE TERMINATED ON A 4 CLIP 66 SERIES CONNECTING BLOCK. AREA BLOCKS SHALL BE MARKED WITH THE JACK NUMBER. FEEDER BLOCKS SHALL BE MARKED WITH THE PAIR NUMBER. THE TELEPHONE EQUIPMENT CONTRACTOR SHALL BE RESPONSIBLE FOR THE CROSS CONNECTING.

7. PROVIDE ON 66 SERIES CONNECTING BLOCKS 30% SPARE 4 CLIP TERMINATION POINTS BASED ON TOTAL NUMBER OF 4 CLIP TERMIANTIONS INSTALLED ON BACKBOARDS.

8. PROVIDE # 6 COPPER GROUNDING CONDUCTOR TO GRID SYSTEM GROUNDING ROD.



TELEPHONE RISER DIAGRAM

GRAPHIC SCALE
1' 6" 0' 1'
1 1/2" = 1'-0"

GRAPHIC SCALE
200' 100' 0' 200' 400'
1" = 200'

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS .. CHARLOTTE, N.C.

NORTH CAROLINA REGISTERED ENGINEER SEAL 7201 DARIUSO LOPEZ

KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
DES. D.E.M. | DR. P.W. | CHK. D.L.
PROJ. MGR. R.A.M. CH. ENGR. D.L.
FIRM MEMBER PRINCIPAL
EFD FACILITIES CONTROL OFFICER — DATE 4 MAR 86
HD — DIR
APPROVED — DATE 5-4-86
OFFICER IN CHARGE
APPROVED — DATE
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

PHONE SERVICE DETAILS

E-19

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138873
CONSTR. CONR. NO. N62470-84-B-4174
SCALE NOTED | SPEC. 05-84-4174 | SHEET 124 OF 129
EFD DWG. NO. 238873

DARTE CO. PRINTS 919 850 0429

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE 0.026" MIN. THICKNESS, 5" MAX. HEIGHT AND SHALL NOT PERMANENTLY DEFORM WHEN LIFTED BY ONE CORNER WITH LENS DOOR IN PLACE NOR WITH LENS DOOR REMOVED. LENS DOOR SHALL NOT OPEN WHEN LUMINAIRE IS LIFTED BY ONE CORNER. LUMINAIRE SHALL HAVE LESS THAN THE FOLLOWING DEFLECTION WHEN LIFTED BY ONE CORNER WITH LENS DOOR REMOVED:

TYPE:	A	B	C, D & E
	3"	2 1/2"	4"

2. HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND HAVE BAKED WHITE ENAMEL FINISH 85% MIN. REFLECTANCE (INTERIOR). ENDS SHALL BE SECURED BY RIVETS OR SCREWS. PAINT ENTIRE HOUSING AND LENS DOOR WHITE, AFTER FABRICATION.
3. LATCHES SHALL BE 0.032" MINIMUM THICKNESS STEEL OR 0.015" MINIMUM THICKNESS SPRING STEEL. DIRECTION OF TRAVEL TO OPEN SHALL BE STAMPED ON LENS FRAME WHEN NOT OBVIOUS.
4. LENS DOOR SHALL BE 0.032" MINIMUM THICKNESS STEEL, SHALL BE ASSEMBLED WITH SCREWS (FOR LENS REPLACEMENT). PROVIDE LIGHT TIGHT FIT WITHOUT MOVABLE BAFFLES. GASKETING SHALL NOT BE A MEANS OF ACHIEVING LIGHT TIGHT DOOR.
5. LENS SHALL BE 0.156" (FOR TYPES A, C, D, E) AND 0.125" (FOR TYPE B) PLUS OR MINUS 10% OVERALL (0.09 MAX, PRISM PENETRATION) CLEAR PRISMATIC 100% ACRYLIC.
6. DOOR SHALL BE CAPABLE OF HINGING AND LATCHING FROM EITHER SIDE OF LUMINAIRE. PROVIDE SAFETY TYPE HINGES.
7. BALLAST SHALL BE HIGH POWER FACTOR ($\geq$ .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A". SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS ONE AT EACH END. PROVIDE GROUNDING SCREW ON INTERIOR OF HOUSING.
8. PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3100L LAMP WITH AVG:MAX RATIO NOT TO EXCEED 1:5

ROOM CAVITY RATIO	TYPE:	A	B	C	D	E	AVG. LUMINANCE (fl)
1	CU	0.67	0.60	0.73	0.66	0.67	45° - 2250
2		0.60	0.54	0.66	0.61	0.60	55° - 1605
3		0.54	0.48	0.59	0.55	0.54	65° - 1125
4		0.49	0.44	0.53	0.50	0.49	75° - 750
MIN. S/MH		1.2	1.1	1.3	1.3	1.3	85° - 495

PROVIDE MIN. VISUAL COMFORT PROBABILITY (VCP) OF 65 (ASSUME 30'X30'X10'H ROOM). WHEN "OFFICE TYPE" INDICATED, PROVIDE MIN. VCP OF 70.
9. PROVIDE MOUNTING HARDWARE COMPATIBLE WITH CEILING MATERIAL IN WHICH LUMINAIRE IS TO BE INSTALLED.

TYPE A - 2'X2' 2 LAMP
TYPE B - 1'X4' 2 LAMP
TYPE C - 2'X4' 2 LAMP
TYPE D - 2'X4' 3 LAMP
TYPE E - 2'X4' 4 LAMP

TROFFER

SKETCH No. 16510-3

NL- 3

NFGS-16510 (DECEMBER 1981)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL BACK PLATE AND REFLECTOR. CHEMICAL TREATMENT FOR RUST PREVENTION. BAKED WHITE ENAMEL FINISH. PROVIDE KNOCKOUTS THRU BACK PLATE. HOUSING SHALL HAVE INTERNAL PROVISIONS FOR GROUNDING.
2. 0.032" MINIMUM THICKNESS DIE FORMED STEEL OR EXTRUDED ALUMINUM HOUSING. BAKED BLACK ENAMEL OR BRUSHED ALUMINUM FINISH OR WOOD GRAIN VINYL ON ALUMINUM HOUSING, UNLESS INDICATED OTHERWISE. STEEL HOUSINGS SHALL HAVE ALL JOINTS WELDED AND GROUND SMOOTH.
3. MAXIMUM OVERALL LUMINAIRE HEIGHT SHALL BE 5-1/2 INCHES. MAXIMUM LUMINAIRE DEPTH SHALL BE 8 INCHES. MAXIMUM LUMINAIRE LENGTH SHALL BE
 26 INCHES - TYPE A
 38 INCHES - TYPE B
 50 INCHES - TYPE C
4. LOWER LENS SHALL BE CLEAR SINGLE PIECE 100% ACRYLIC HAVING AN OVERALL NOMINAL THICKNESS OF 0.110 INCHES PLUS OR MINUS 10%. UPLIGHT LENS SHALL BE 100% ACRYLIC WITH A MINIMUM OF 0.09 INCHES OVERALL THICKNESS.
5. LENS SHALL BE PRISMATIC (TO REDIRECT LIGHT, PREVENTING DIRECT GLARE AT HIGH VIEWING ANGLES) OR LUMINAIRE SHALL HAVE OPAQUE FRONT.
6. LENS SHALL HAVE SPRING STEEL LATCHES FOR RETAINING LENS, OR POSITIVE MEANS OF HOLDING LENS IN PLACE.
7. LUMINAIRE SHALL PROVIDE UP AND DOWN LIGHT. UP LIGHT SHALL BE SEPARATELY SWITCHED WHERE INDICATED. LAMPS SHALL BE ENCLOSED ON TOP AND BOTTOM.
8. BALLAST SHALL BE HIGH POWER FACTOR ($\geq$ .9) ETL CBM APPROVED CLASS P WITH SOUND RATING OF "A" - BALLASTS FOR 30 AND 40 WATT LAMPS SHALL BE RAPID START. BALLASTS FOR 20 WATT LAMPS SHALL BE TRIGGER START. BALLASTS FOR 40 WATT LAMPS SHALL BE ENERGY SAVING TYPE. SECURE BALLASTS TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS - ONE AT EACH END.
9. WHERE LUMINAIRE REQUIRES SEPARATELY SWITCHED UP LIGHT, LUMINAIRE SHALL HAVE 2 BALLASTS AND METAL BAFFLE BETWEEN LAMPS.

WALL MOUNTED FLUORESCENT

TYPE A 2 - 20 W LAMPS
TYPE B 2 - 30 W LAMPS
TYPE C 2 - 40 W LAMPS

SKETCH NFGS-16510-4

STYLE

NL- 4

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. HOUSING SHALL BE 0.032" MINIMUM THICKNESS DIE FORMED COLD ROLLED STEEL, CHEMICALLY TREATED FOR RUST PREVENTION AND FINISHED WITH WHITE BAKED ENAMEL OR POLYESTER FINISH. PROVIDE TOP AND END KNOCKOUTS.
2. HOUSING WELDED OR SECURED BY SCREWS OR RIVETS INTO A SINGLE ASSEMBLY. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.
3. REFLECTOR SHALL BE 0.026" MINIMUM THICKNESS STEEL (SOLID WHEN LUMINAIRE IS MOUNTED BELOW CATWALKS, ETC. 10-25% APERTURED WHEN PROTECTED FROM FALLING OBJECTS.) PROVIDE 30° SHIELDING CENTER TEE. CHEMICALLY TREAT FOR RUST PREVENTION AND FINISH WITH WHITE BAKED ENAMEL, PORCELAIN ENAMEL, OR POLYESTER FINISH. MINIMUM REFLECTANCE SHALL BE 85%.
4. THE LUMINAIRE SHALL NOT PERMANENTLY DISTORT WHEN LIFTED BY ONE CORNER.
5. SPACING TO MOUNTING HEIGHT RATIO = 1.3.
6. LUMINAIRE SHALL BE CAPABLE OF CONTINUOUS ROW AND SINGLE UNIT PLACEMENT WITH PENDANT OR SURFACE MOUNTING.
7. PROVIDE SPRING LOADED PLUNGER TYPE LAMP SOCKETS.
8. BALLAST SHALL BE HIGH POWER FACTOR ($\geq$ .9) ETL, CBM APPROVED CLASS P ENERGY SAVING BALLAST WITH A SOUND RATING OF B (RAPID START OR SLIMLINE).
9. MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH THE FOLLOWING CAVITY REFLECTANCE OF: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3100 LAMP WITH AVG:MAX. RATIO NOT TO EXCEED 1:5

ROOM CAVITY RATIO	CU	AVG. LUMINANCE (fl)
1	0.85	45° - 1350
2	0.73	55° - 1250
3	0.68	65° - 1250
4	0.60	75° - 850
		85° - 600

INDUSTRIAL FLUORESCENT

TYPE A - 48" 2 LAMP 430 MA.
TYPE B - 96" 2 LAMP 430 MA.

SKETCH No. 16510-6

NL- 6

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. 0.026" MINIMUM THICKNESS STEEL CHANNEL. WELD RIVET OR SCREW END PLATES IN PLACE.
2. CHEMICALLY TREAT STEEL FOR RUST PREVENTION AND FINISH WITH BAKED WHITE ENAMEL.
3. PROVIDE SPRING LOADED PLUNGER TYPE LAMP SOCKETS.
4. BALLAST SHALL BE HIGH POWER FACTOR ($\geq$ .9) ETL, CBM APPROVED, ENERGY SAVING CLASS P BALLAST WITH A SOUND RATING OF C.
5. HOUSING SHALL HAVE INTERNAL PROVISIONS FOR GROUNDING.
6. PROVIDE 0.02" MINIMUM THICKNESS STEEL REFLECTOR (SYMMETRIC OR ASYMMETRIC AS INDICATED) WHEN INDICATED.

STRIP FLUORESCENT

TYPE A - 1 LAMP 48" LONG 430 MA.
TYPE B - 2 LAMPS 48" LONG 430 MA.
TYPE C - 1 LAMP 96" LONG 430 MA.
TYPE D - 2 LAMPS 96" LONG 430 MA.
TYPE E - 2 LAMPS F40 (IN TANDEM) 96" LONG 430 MA.
TYPE F - 4 LAMPS F40 (IN TANDEM) 96" LONG 430 MA.

SKETCH No. 16510-7

NL- 7

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. STEEL OR ALUMINUM BALLAST HOUSING. SPUN ALUMINUM REFLECTOR PROVIDE VENTILATION OPENINGS AT TOP OF REFLECTOR. PROVIDE INTERNAL GROUNDING PROVISIONS.
2. PROVIDE CUSHIONED, SHOCK ABSORBING FIXTURE HANGER. PROVIDE CUSHIONED POWER HOOK WHEN INDICATED.
3. PROVIDE WIRE GUARD OR TEMPERED GLASS LENS WHEN INDICATED.
4. PROVIDE QUARTZ AUXILIARY LAMP AND ARC SENSING RELAY WHEN INDICATED.
5. PROVIDE HIGH POWER FACTOR ENCAPSULATED ($\geq$ .9) BALLAST AS INDICATED ON PLANS AND SPECIFICATION.
6. MINIMUM COEFFICIENTS OF UTILIZATION (CU) FOR CAVITY REFLECTANCES OF 80% CEILING, 50% WALLS, 20% FLOOR SHALL BE:

TYPE A - 400W-1000W HIGH PRESSURE SODIUM

TYPE B - 400W-1000W METAL HALIDE

ROOM CAVITY RATIO:	TYPE:	A	B
1		0.93	0.89
2	CU	0.85	0.80
3		0.80	0.70
MIN. EFFICIENCY		84%	80%
MIN. SPACING/MTG. HT. RATIO		.95	.95

7. PROVIDE LAMP AS INDICATED.

HIGH-BAY INDUSTRIAL HID

SKETCH No. 16510-22

NL-22

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. SHEET OR CAST ALUMINUM HOUSING. FINISH WITH ENAMEL OR EPOXY. PROVIDE INTERNAL GROUNDING PROVISIONS.
2. ACRYLIC REFRACTOR OR THERMAL AND SHOCK RESISTANT GLASS LENS.
3. PROVIDE CUSHIONED FIXTURE HANGAR. PROVIDE CUSHIONED POWER HOOK WHEN INDICATED.
4. PROVIDE QUARTZ AUXILIARY LAMP AND ARC SENSING RELAY WHEN INDICATED.
5. PROVIDE ENCAPSULATED HIGH POWER FACTOR ($\geq$ .9) BALLAST AS INDICATED ON PLANS AND IN SPECIFICATION.
6. MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH CAVITY REFLECTANCES OF 80% CEILING, 50% WALL, 20% FLOOR SHALL BE:

TYPE A - 100-150W
TYPE B - 250-400W HIGH PRESSURE SODIUM

TYPE C - 175W
TYPE D - 250-400W METAL HALIDE

RCR	TYPE:	A	B	C	D
1		0.79	0.85	0.79	0.80
2	CU.	0.68	0.73	0.69	0.70
3		0.59	0.60	0.60	0.60
MIN. EFFICIENCY		80%	85%	80%	85%
MIN. SPACING/MTG HT RATIO		1.8	1.8	1.8	1.8

7. PROVIDE LAMP AS INDICATED.

LOW BAY INDUSTRIAL HID

SKETCH No. 16510-23

NL-23

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

UTILITY
TYPE A, B, C

LUMINAIRE REQUIREMENTS

1. CAST ALUMINUM OR 1/8" MIN. THICKNESS EXTRUDED ALUMINUM HOUSING FOR HIGH PRESSURE SODIUM (HPS) AND METAL HALIDE (M.H.) LUMINAIRES.
2. CAST ALUMINUM, 1/8" MIN. THICKNESS EXTRUDED ALUMINUM, ABS PLASTIC OR POLYCARBONATE HOUSING FOR LOW PRESSURE SODIUM (LPS) AND 35/50/70W HPS LUMINAIRES.
3. HINGED, U.V. STABILIZED POLYCARBONATE LENS OR HINGED TEMPERED GLASS WITH POLYCARBONATE SHIELD.
4. LAMP SIZE AS INDICATED IN FIXTURE SCHEDULE.

ARCHITECTURAL
TYPE D, E

5. PROVIDE ALUMINUM REFLECTOR.
6. BALLAST SHALL BE HIGH POWER FACTOR TYPE ($\geq$ .85) WITH CHARACTERISTICS AS INDICATED.
7. PROVIDE PHOTO ELECTRIC CONTROL WHEN INDICATED.
8. PROVIDE INTERNAL GROUNDING PROVISIONS.

TYPE A, D 35-150W HPS
TYPE B, E 175W M.H.
TYPE C 35, 55W LPS

NOTE: TYPES D AND E MAY BE SUBSTITUTED FOR TYPES A AND B RESPECTIVELY BUT NOT VICE VERSA.

HID WALL-MOUNTED LUMINAIRE

SKETCH NO. 16510-25

NL-25

NFGS-16510 (November 1983)

SKETCH DATE: MARCH 1983

LUMINAIRE REQUIREMENTS

1. 0.032" MINIMUM THICKNESS STEEL HOUSING.
2. ALUMINUM BALL WITH DIE CAST ALUMINUM TRIM RING. PROVIDE MATTE WHITE FINISH.
3. BALL ADJUSTABLE FROM 0" - 45" FROM VERTICAL AND ROTATABLE FOR 359°.
4. PROVIDE MATTE BLACK LOUVER WHEN INDICATED.
5. PORCELAIN SOCKET SUITABLE FOR USE WITH UP TO 75-WATT ER-30 LAMP.
6. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

ADJUSTABLE SEMI-RECESSED
SPOT LIGHT

SKETCH No. 16510-44

NL- 44

E-20

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. DEM | DR. | CHK. DL
PROJ. MGR. R.A.M. CH. ENGR. D.L.
SUBMITTED BY: [signature] DATE: 4 MAR 86
FIRM MEMBER PRINCIPAL
EFD: FP ___ RVD ___
HD ___ DIR ___
APPROVED [signature] DATE 3-4-86
OFFICER IN CHARGE
APPROVED [signature] DATE 1-12-87
FOR EFD FOR COMMANDER NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

LIGHTING FIXTURES
NAVFAC STYLE & TYPE

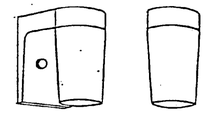
SIZE	CODE IDENT. NO.	NAVFAC DRAWING NO.
F	80091	4138874
		CONSTR. CONR. NO. N62470-84-B-4174
SCALE	SPEC. 05-84-4174	SHEET 125 OF 129

EFD DWG. NO. 238874

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NFGS-16530 (November 1983)

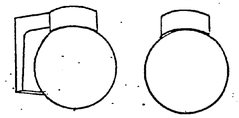
SKETCH DATE: MARCH 1983



TYPE A TYPE A1

NO EXPOSED METAL

TYPE B



TYPE C TYPE C1

EXTERIOR INCANDESCENT LUMINAIRE

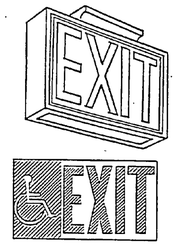
LUMINAIRE REQUIREMENTS

1. CAST ALUMINUM HOUSING SATIN FINISH AND A CLEAR LACQUER COATING. TYPE B MAY HAVE A POLYCARBONATE OR 0.055-INCH MINIMUM THICK STEEL BACKPLATE. PROVIDE PORCELAIN SOCKET WITH FULL METAL SCREW SHELL SUITABLE FOR A 100-WATT INCANDESCENT LAMP.
2. GLOBE SHALL BE WHITE POLYCARBONATE.
3. PROVIDE HEAT-RESISTANT VAPORTIGHT GASKET BETWEEN GLOBE AND HOUSING. PROVIDE NEOPRENE GASKET BETWEEN LUMINAIRE AND WALL OR CEILING.
4. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

SKETCH No. 16510-45 **NL-45**

NFGS-16530 (November 1983)

SKETCH DATE: MARCH 1983



LUMINAIRE REQUIREMENTS

1. LETTERS SHALL BE 6" TALL WITH 3/4" STROKES FORMED BY A STENCIL FACE.
2. PROVIDE RED FIBERGLASS PANEL BEHIND STENCIL FACE.
3. PROVIDE 2 LONG LIFE INCANDESCENT LAMPS.
4. PROVIDE DOWN LIGHT PANEL IN FIXTURE.
5. PROVIDE ILLUMINATED ARROWS AS INDICATED.
6. PROVIDE SINGLE OR DOUBLE FACE AS INDICATED.
7. PROVIDE CEILING, END WALL, BACK WALL OR PENDANT MOUNTING AS INDICATED.
8. UNITS MOUNTED EXPOSED TO THE ENVIRONMENT SHALL HAVE A DAMP OR WET U.L. LABEL AS APPROPRIATE AND SHALL NOT BE CONSTRUCTED OF STEEL.
9. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.
10. PROVIDE INTERNATIONAL SYMBOL OF ACCESS ON SIGN WHEN INDICATED.

TYPE A - ALUMINUM OR PAINTED STEEL HOUSING AND STENCIL FACE. (SEE NOTE 8.)

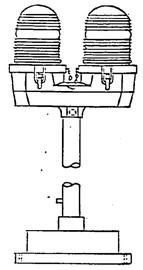
TYPE B- PLASTIC HOUSING ENCLOSED IN POLYCARBONATE WITH STENCIL ON INSIDE OF POLYCARBONATE HOUSING. (SEE NOTE 8.)

EXIT SIGN

SKETCH No. 16510-48 **NL-48**

NFGS-16530 (November 1983)

SKETCH DATE: MARCH 1983



LUMINAIRE REQUIREMENTS

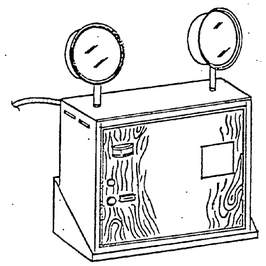
1. LUMINAIRE SHALL MEET FEDERAL AVIATION ADMINISTRATION SPECIFICATIONS FOR OBSTRUCTION LIGHTING (L-810).
2. CAST ALUMINUM HOUSING.
3. ONE PIECE 360° RED, HEAT RESISTANT GLASS FRESNEL GLOBE. PROVIDE TOGGLE TYPE LATCHES AND CLAMPING TO SECURE GLOBES. PROVIDE SAFETY CHAINS ON GLOBES.
4. MOUNT PHOTO ELECTRIC CONTROL TO CONTROL LAMPS.
5. MOUNT LUMINAIRE ON 1" RIGID STEEL CONDUIT. PROVIDE JUNCTION BOX AND MOUNTING PLATE AT BASE UNLESS INDICATED OTHERWISE.
6. LAMPS SHALL BE RATED 100 WATT 130 VOLT, MULTIPLE, MEDIUM BASE. TWO LAMPS ARE REQUIRED.
7. PROVIDE INTERNAL PROVISIONS FOR GROUNDING.

OBSTRUCTION LIGHT

SKETCH No. 16510-50 **NL-50**

NFGS-16530 (November 1983)

SKETCH DATE: MARCH 1983



LUMINAIRE REQUIREMENTS

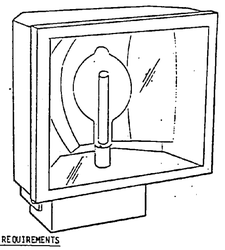
1. SEALED BATTERY, SPECIFICALLY DESIGNED FOR EMERGENCY LIGHTING, SOLID STATE FULLY AUTOMATIC - THREE RATE CHARGER FOR NICKEL CADMIUM BATTERY AND TWO RATE HIGH/LOW CHARGER FOR LEAD CALCIUM OR LEAD ACID SEALED BATTERIES.
2. MINIMUM 0.032" THICK STEEL HOUSING WITH BAKED ENAMEL PAINTED FINISH (BROWN OR BEIGE), OR NONMETALLIC PLASTIC HOUSING WITH DECORATIVE WOOD GRAIN FRONT PANEL ON EITHER HOUSING.
3. TEST SWITCH
4. "AC ON" PILOT LIGHT.
5. AUTOMATIC OVERLOAD PROTECTION - FUSE OR CIRCUIT BREAKER.
6. HEADS SHALL BE FULLY ADJUSTABLE VERTICALLY AND HORIZONTALLY.
7. SEALED BEAM HALOGEN LAMPS MINIMUM 8 WATT OR WATTAGE AS INDICATED IN SCHEDULE.
8. INPUT VOLTAGE AS INDICATED IN SCHEDULE.
9. VOLTMETER.
10. 3/C #16, SO CORD SET - (HARD WIRE TO CIRCUIT)
11. PROVIDE MINIMUM 0/032"-THICK STEEL WALL MOUNTING SHELF, OR MOUNTING BRACKETS OR HOLES IN HOUSING FOR MOUNTING UNIT OR WALL.
12. LOW VOLTAGE, DEEP DISCHARGE DISCONNECT.

EMERGENCY LIGHTING UNIT

SKETCH No. 16510-51 **NL-51**

NFGS-16530 (MARCH 1984)

SKETCH DATE: MARCH 1984



LUMINAIRE REQUIREMENTS

1. HOUSING - ANODIZED ALUMINUM.
2. REFLECTOR - POLISHED, SEGMENTED ALZAK ALUMINUM.
3. LENS - TEMPERED, THERMAL AND SHOCK RESISTANT GLASS.
4. DOOR FASTENERS - STAINLESS STEEL.
5. INTEGRAL BALLAST.
6. HINGED, GASKETED DOOR.
7. PORCELAIN SOCKET FOR 1,000 WATT METAL HALIDE OR HIGH PRESSURE SODIUM LAMP.
8. 3/C #14 "SO" CORD.
9. GALVANIZED YOKE.
10. UL "WET LABEL"

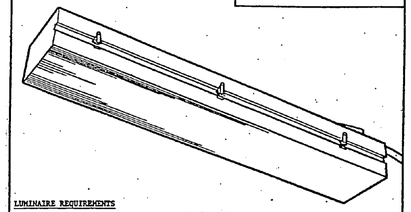
NOTE: LAMP, BALLAST, AND BEAM PATTERN SHALL BE AS SPECIFIED AND AS SHOWN IN LIGHTING FIXTURE SCHEDULE OR ON PLANS.

SPORTS AND AREA LIGHT

SKETCH 16530-5 **XL- 5**

NFGS-16530 (MARCH 1985)

SKETCH DATE: MARCH 1985



LUMINAIRE REQUIREMENTS

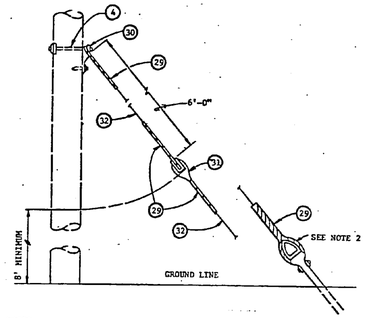
1. HOUSING, ALUMINUM - EXTRUDED OR FORMED WITH SEALED AND WELDED SEAMS.
2. REFRACTOR HINGED. ONE PIECE ULTRA VIOLET RESISTANT ACRYLIC - MINIMUM .125" THICK.
3. REFLECTOR - ANODIZED ALUMINUM.
4. LATCHES STAINLESS STEEL, QUICK RELEASE TYPE.
5. GASKETING - CONTINUOUS, HEAT RESISTANT.
6. BALLAST - HIGH POWER FACTOR.
7. FINISH - BAKED ACRYLIC ENAMEL, MUNSELL GREY, EXCEPT AS INDICATED.
8. HARDWARE - CORROSION RESISTANT.
9. LAMP - 35; 55; 90; 135; OR 180-WATT AS SPECIFIED.
10. SLIPFITTER - FOR 1-1/4" TO 2" ARM.
11. PHOTO CELL - WHEN INDICATED.
12. UL LISTED - SUITABLE FOR OUTDOOR WET LOCATIONS.
13. LAMP STABILIZER.

LOW PRESSURE SODIUM AREA LIGHTING LUMINAIRE

MAX. E.P.A. 2.4 SQ.FT.

SKETCH 16530-7 **XL- 7**

TS-16302L (SEPTEMBER 1980)

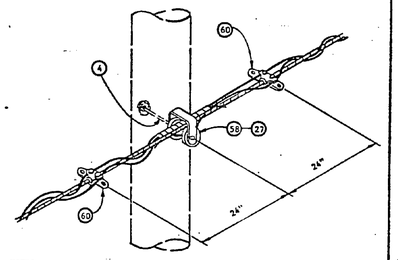


NOTES:

1. On circuit operating voltages greater than 15KV, substitute (65) for (31).
2. Coordinate installation with anchor as specified.

SKETCH TS-16302L-35 GUY

TS-16302L (SEPTEMBER 1980)



NOTES:

1. Tie only the neutral conductor to the spool insulator.
2. When used at top of pole, install machine bolt 4" down from pole top.

SKETCH TS-16302L-39 ST or SQ (0-600V)

E-21

MCCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA

DES. DEM | DR. | CHK. DL

PROJ. MGR. R.A.M. CH. ENGR. O.L.

SUBMITTED BY: [signature] DATE: 4 Nov 86

FIRM MEMBER PRINCIPAL

EFD FP ENGR. RVD

HD DIR

APPROVED [signature] DATE 5 Feb 86
OFFICER IN CHARGE

APPROVED [signature] DATE 1-10-87
FOR EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION **ATLANTIC DIVISION** NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR

LIGHTING FIXTURES
NAVFAC STYLE & TYPE

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138875

CONSTR. CONTR. NO. N62470-84-B-4174

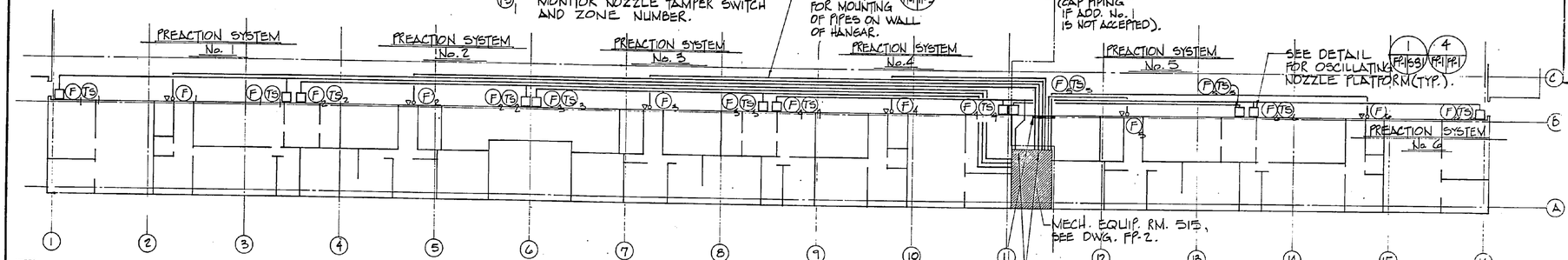
SCALE | SPEC. 05-84-4174 | SHEET 126 OF 129

EFD DWG. NO. 238875

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

(F)1 MANUAL STATION FOR FOAM SYSTEM ACTIVATION AND ZONE NUMBER.

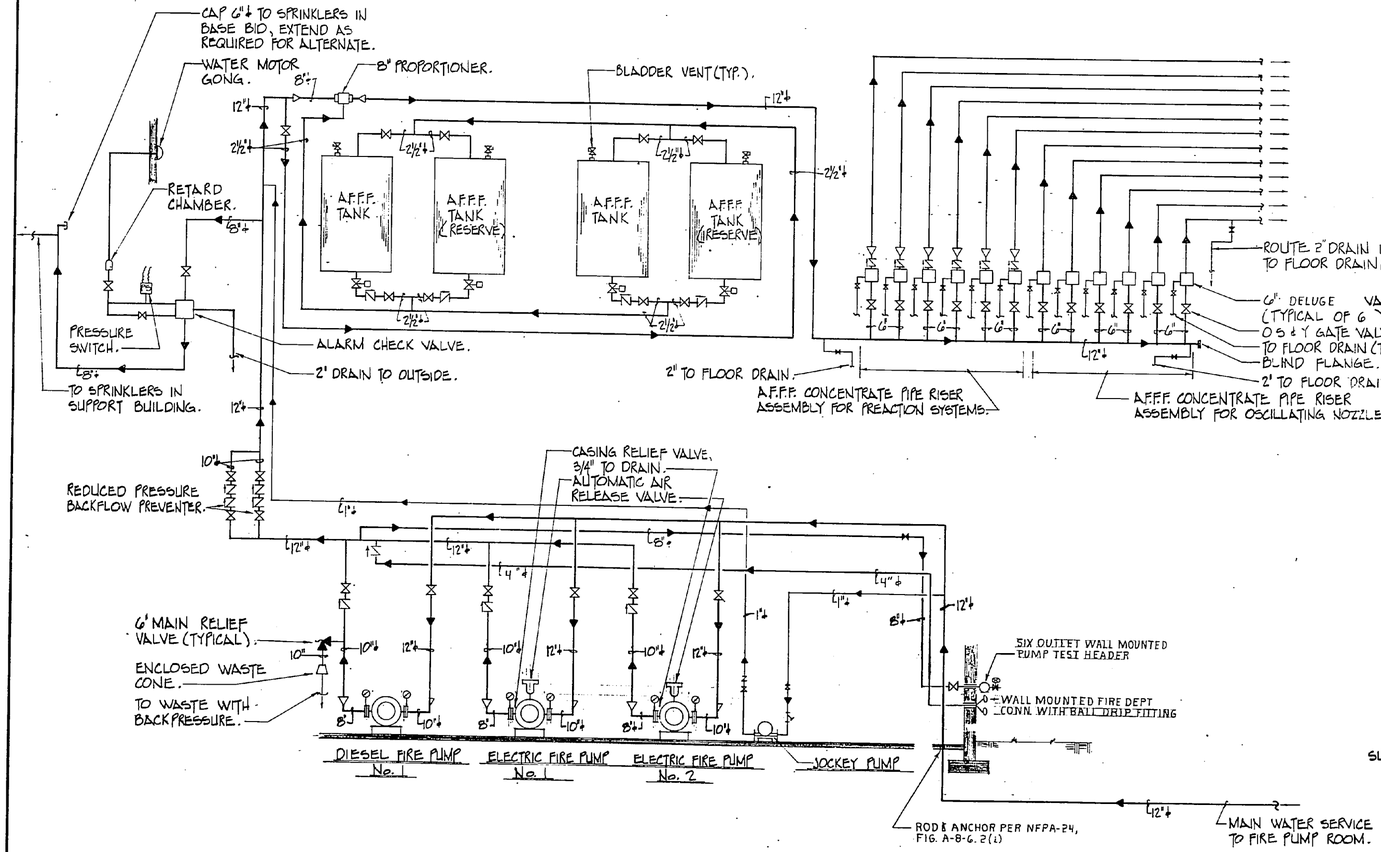
(TS)1 MONITOR NOZZLE TAMPER SWITCH AND ZONE NUMBER.



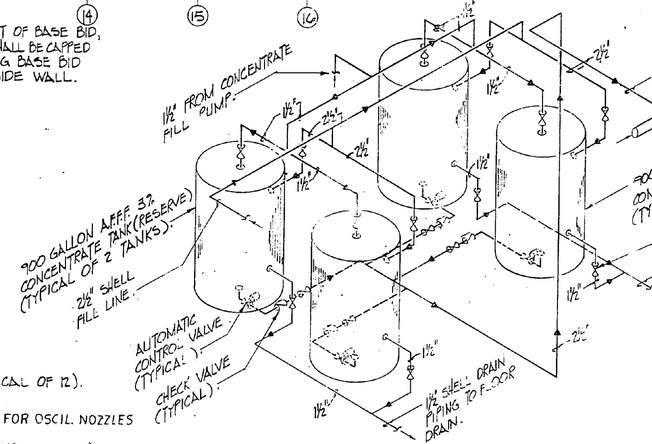
NOTES:

1. CONNECTION POINTS AND PIPE SIZES AT CONNECTIONS TO AFFF CONCENTRATE TANKS MAY BE MODIFIED AS NECESSARY TO MEET TANK MFG. REQUIREMENTS.

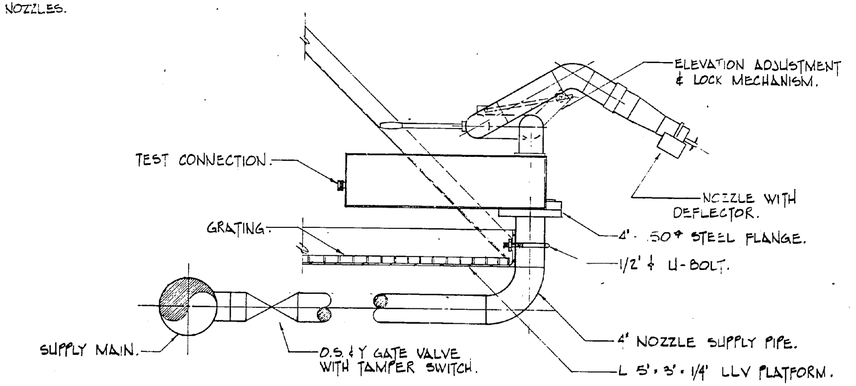
1 FIRST FLOOR PLAN
FP-1 SCALE : 3/64" = 1'-0"



2 FIRE PROTECTION FLOW DIAGRAM
FP-1 SCALE : NONE



3 A.F.F.F. TANK PIPING DIAGRAM
FP-1 SCALE : NONE



4 MONITOR NOZZLE MOUNTING DETAIL
FP-1 SCALE : 1 1/2" = 1'-0"

N

GRAPHIC SCALE
3/64" = 1'-0" 16' 8' 0' 16' 32'

GRAPHIC SCALE :
1 1/2" = 1'-0" 1' 0 1'

KEY PLAN

McCRACKEN & LOPEZ, PA
CONSULTING ENGINEERS
CHARLOTTE, NC

KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. RAM. DR. RWG CHK. RAM.
PROJ. MGR. RAM. CH. ENGR. PD
SUBMITTED BY: DATE: 26 JUNE 86
FIRM MEMBER PRINCIPAL
EFD/FPO RVC
HD DIR
APPROVED DATE 6-27-86
OFFICER IN CHARGE
APPROVED DATE
FOR EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

MAINTENANCE HANGAR
FLOOR PLAN - DETAILS
FIRE PROTECTION

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138876
CONSTR. CONTR. NO.
SCALE 3/64" | SPEC. 05-84-4174 | SHEET 127 OF 129
EFD DWG. NO. 238876

FP-1

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

NOTE:
PIPING FOR SYSTEMS 5 & 6 TO BE CAPPED AT WALL.

PREACTION SYSTEM 1.
PREACTION SYSTEM 2.
PREACTION SYSTEM 3.
PREACTION SYSTEM 4.
PREACTION SYSTEM 5.
PREACTION SYSTEM 6.
WALL SLEEVE (TYPICAL).
FLOOR DRAIN.
PREACTION CONTROL CABINET FOR A.F.F.F. SYSTEM.
900 GALLON A.F.F.F. TANK (PRIMARY).
8" PROPORTIONER.
FLOOR DRAIN.
AIR COMPRESSOR FOR PRE-ACTION VALVES, MAINTAIN 4'-0" CLEAR FOR ELECTRICAL PANELS.
900 GALLON A.F.F.F. TANK (PRIMARY).
8" ALARM CHECK VALVE ASSEMBLY. CAP 6" TO SPRINKLERS IN BASE BID, EXTEND AS REQUIRED FOR ADD. No. 1.
FLOOR DRAIN.
ELECTRIC FIRE PUMP No. 2.
ELECTRIC FIRE PUMP CONTROL CABINET.
DRIP PAN, SEE DETAIL 2 FP-2/FP-2
ELECTRIC FIRE PUMP CONTROL CABINET. 10"ϕ RELIEF VALVE DISCHARGE, TERMINATE 1' BEYOND OUTSIDE WALL.
DIESEL FIRE PUMP CONTROL CABINET.
6" THICK CONCRETE PAD.
ELECTRIC FIRE PUMP No. 1.
FLOOR DRAIN.
12"ϕ MAIN WATER SERVICE.
WATER MOTOR GONGS (4 REQD.).

900 GALLON A.F.F.F. TANK (RESERVE).
A.F.F.F. CONCENTRATE FILL PUMP 1/2 HP, 440V., 3ϕ
10" REDUCED PRESSURE TYPE BACKFLOW PREVENTER (TYPICAL OF 2). W/BY-PASS
900 GALLON A.F.F.F. TANK (RESERVE).
FLOOR DRAIN
JOCKEY PUMP- 65 PSI RATED HEAD AT NOT MORE THAN 2.5 GPM, WITH ADJUSTABLE RELIEF VALVE
DIESEL FIRE PUMP No. 1. 6" MAIN RELIEF VALVE & WASTE CONE
MUFFLER.
TO SPRINKLERS IN SUPPORT BLDG.
TO PUMP TEST HDR.
4" FIRE DEPT. CONN.
FLOOR DRAIN.
SIX OUTLET PUMP TEST HEADER-SEE DETAIL BELOW
FILL CAP, PADLOCK AND STRAINER.
3/4" FUEL SUPPLY & 1/2" FUEL RETURN. LOCK OPEN VALVE. SEE NOTE #3.
280 GALLON ABOVE GROUND FUEL OIL STORAGE TANK.
1 1/4" TO ROOF. TERMINATE WITH FLASH ARRESTOR.
FUEL LEVEL INDICATOR GAUGE.
PROVIDE THRUST BLOCKS ON ALL BEND UNDERGROUND.
COORDINATE LOCATION OF UNDERGROUND PIPING WITH MECHANICAL CONTRACTOR.

PARTIAL FLOOR PLAN - EQUIPMENT ROOM 515

1 FP-2 SCALE: 1/2" = 1'-0"

6" DIESEL ENGINE EXHAUST.
4"ϕ TO SIAMESE CONNECTIONS.
6"ϕ EXHAUST.
TO SPRINKLERS IN SUPPORT BUILDING.
MUFFLER.
4" FLEXIBLE CONNECTION.
BATTERY RACK.
10"ϕ TO REDUCED PRESSURE BACKFLOW PREVENTERS.
8"ϕ TO PUMP TEST HEADER
RELIEF VALVE.
WASTE CONE.
DIESEL FIRE PUMP
6" DELUGE VALVE (NOZZLE SYS.) (TYPICAL OF 6).
6" O.S.&Y. GATE VALVE (TYPICAL OF 6).
2"ϕ TO FLOOR DRAIN.
DRIP RIM BASE (TYPICAL OF EACH PUMP).
2"ϕ ENGINE COOLANT DISCHARGE.
2"ϕ ENGINE COOLANT SUPPLY. & FUEL PUMP, VERIFY LOCATION & ADJUST STORAGE TANK ELEVATION TO ALIGN FUEL PUMP & TANK INLET.
1ST FL. EL. 21.67'
FUEL OIL STGE. TANK W/ TEST HDR BEYOND
PROVIDE CONCRETE SUPPORTS AS REQUIRED

SECTION

A FP-2 SCALE: 1/2"=1'-0"

NOTES:

1. DIESEL FIRE PUMP AND ELECTRIC DRIVEN FIRE PUMPS SHALL EACH BE RATED AT 2,000 GPM AT 60 PSI.
2. ROUTE FUEL PIPING PER MANUFACTURER'S RECOMMENDATIONS. CONNECT TO ENGINE WITH FLEXIBLE HOSE. ELEVATION OF FUEL SUPPLY SHALL BE HORIZONTAL AT ℄ OF FUEL PUMP. INSTALL CHECK VALVE DOWNSTREAM OF FLEXIBLE HOSE CONNECTION OF FUEL RETURN LINE.
3. THE LOCATION OF THE SHELL FILL LINE FROM THE AFFF TANKS WILL DEPEND ON THE TANK MANUFACTURER. THE CONTRACTOR SHALL ADJUST HIS PIPE ROUTING ACCORDINGLY.
4. SEE DRAWING M-12 FOR LOCATION OF DUCTWORK AND UNIT HEATER. COORDINATE LOCATION OF THESE ITEMS WITH MECHANICAL CONTRACTOR.
5. MOUNT TEST HEADER WITH OUTLETS 42" ABOVE GRADE.

8" O.S.&Y. CONTROL VALVE
8" TO TEST HEADER SUPPLY SEE FLOOR PLAN FOR CONTINUATION
WALL SLEEVE
280 GALLON ABOVE GROUND FUEL STORAGE TANK

PUMP TEST HEADER DETAIL

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

6" HEADER PIPING
1/2" ϕ BOLT
1/4"
2 1/2" x 2 1/2" x 1/4" L's WELDED TO EACH OTHER & AT WALL PLATES. 2 ANGLES REQUIRED PER SUPPORT
BOLT 8" x 8" x 3/16" WALL PLATE TO WALL WITH 4- 1/2" THRU BOLTS. 4 WALL PLATES REQUIRED PER SUPPORT

PUMP TEST HEADER SUPPORT DETAIL

NO SCALE

18 GA. SHEET METAL STRAPS, SUPPORT AT ENDS & 6'-0" INTERVALS.
ATTACH TO BUILDING STRUCTURE AS REQUIRED.
1" TO FLOOR DRAIN.
18 GA. SHEET METAL PAN, ONE PIECE CONSTRUCTION, SLOPE 1/8" PER FT. TO AREA WITH FL. DRAIN.

DRIP PAN DETAIL

2 FP-2 SCALE: 1"=1'-0"

℄ 6" x 9" x 1/4" (TYP. OF 2).
L 3" x 3" x 1/4" (TYP. OF 3 SIDES).
MILL BLOCK WITH CONCRETE AT ANCHOR POINTS.
L 3" x 3" x 1/4" (TYP. OF 2)
ANCHOR BOLT (TYP.).
℄ 6" x 9" x 1/4" (TYP. OF 2).

SECTION

B FP-2 SCALE: 1"=1'-0"

GRAPHIC SCALE 1" = 1'-0" (1' 6" 0' 1' 2')
GRAPHIC SCALE 1/2" = 1'-0" (1' 6" 0' 1' 2' 3' 4' 5')

KEY PLAN

McCRACKEN & LOPEZ, P.A.
CONSULTING ENGINEERS
CHARLOTTE, N.C.

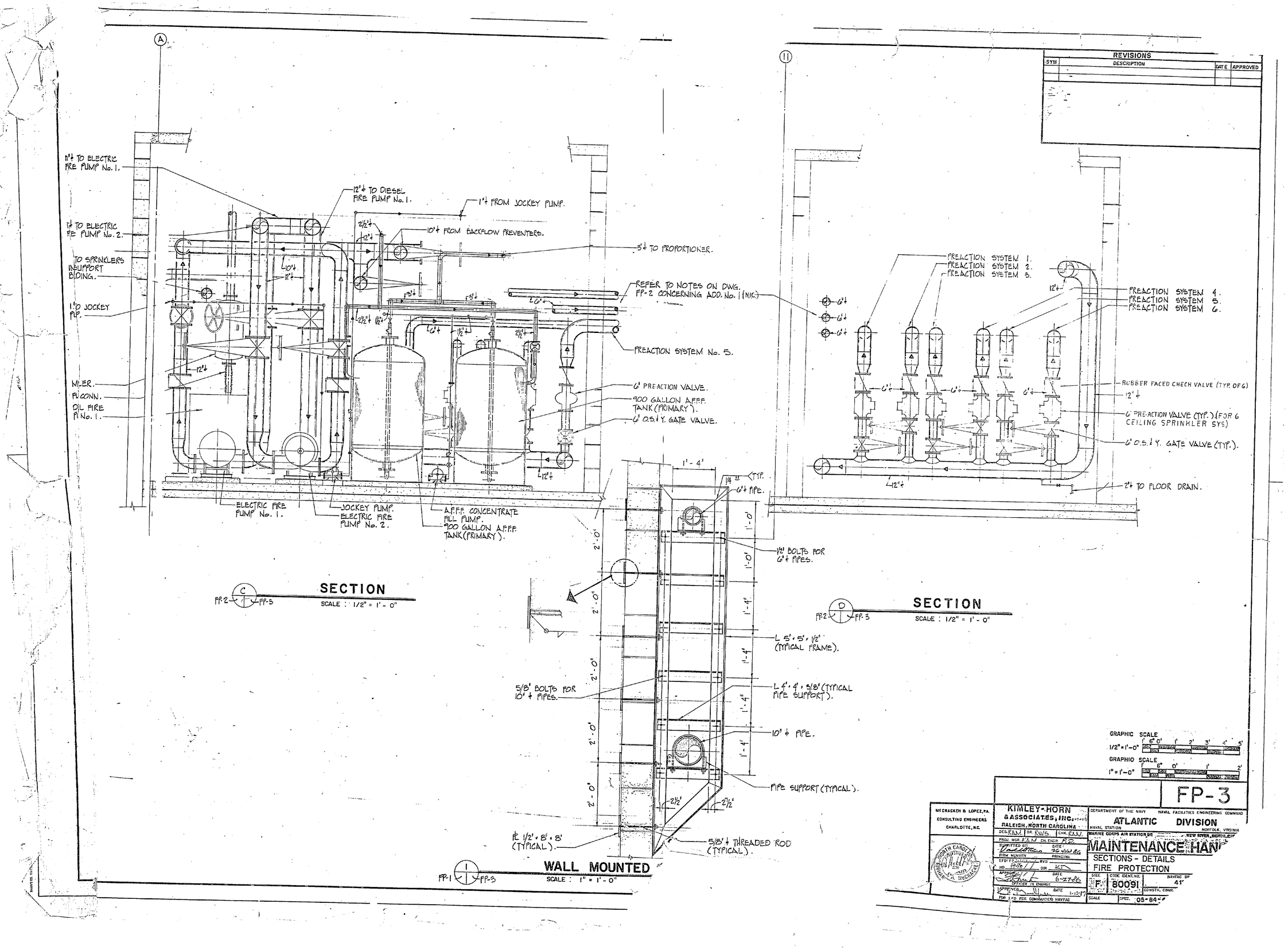
KIMLEY-HORN & ASSOCIATES, INC.
RALEIGH, NORTH CAROLINA
DES. RAM | DR. RWS | CHK. KAM
PROJ. MGR. RAM | CH. ENGR. RD
SUBMITTED BY: [signature] DATE: 1-6-88
FIRM MEMBER | PRINCIPAL
EFD FIELD REVIEW | RVD
HD | DIR | KD
APPROVED: [signature] DATE: 6-27-88
OFFICER IN CHARGE
APPROVED: [signature] DATE: 1-12-87
FOR EFD FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION (H) NEW RIVER, NORTH CAROLINA

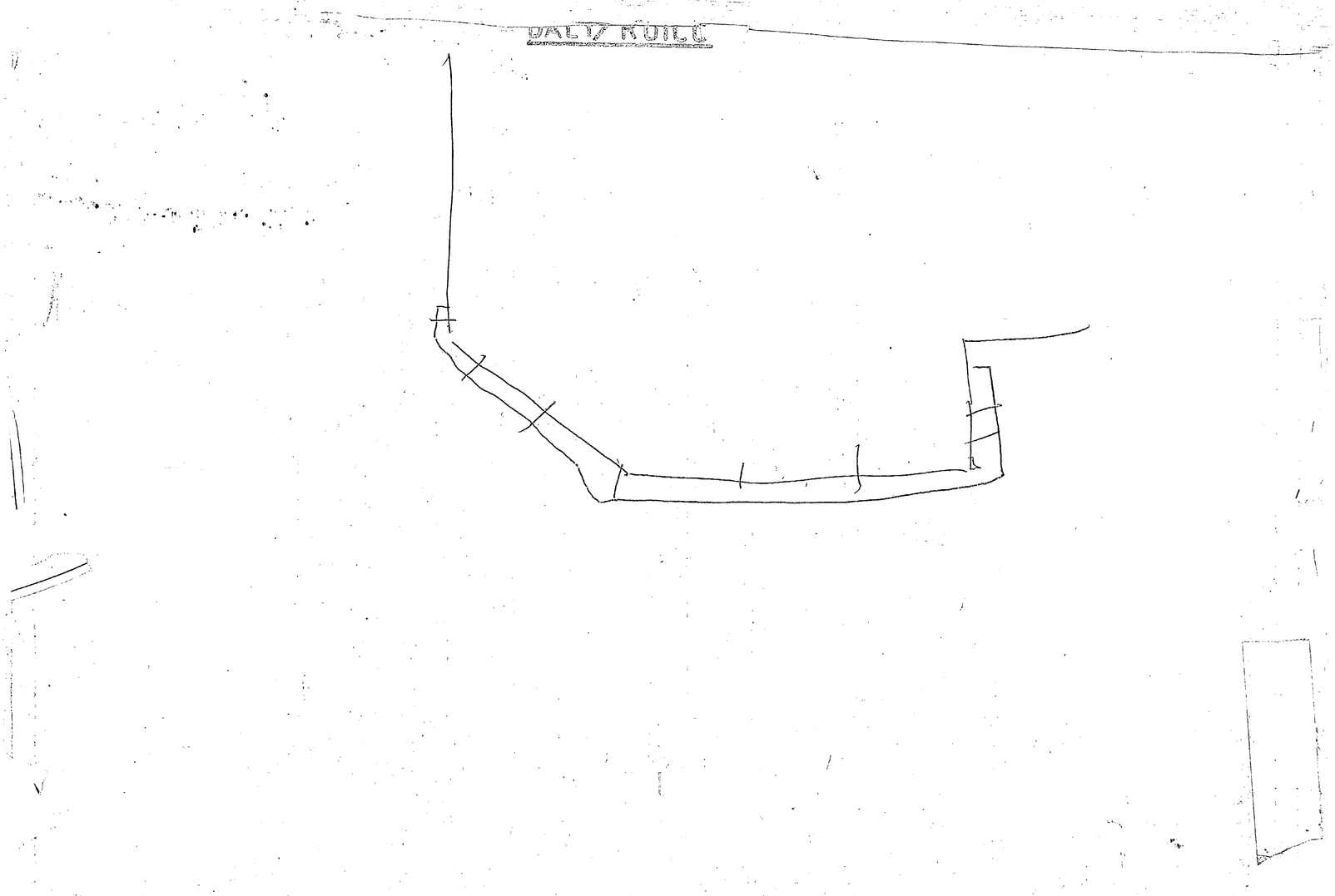
MAINTENANCE HANGAR
PARTIAL PLAN - SECTIONS - DETAILS
FIRE PROTECTION

FP-2

SIZE F | CODE IDENT. NO. 80091 | NAVFAC DRAWING NO. 4138877
SCALE NOTED | SPEC. 05-84-4174 | CONSTR. CONT. NO.
SHEET 128 OF 129
EFD DWG. NO. 238877



REVISIONS
SYM
DESCRIPTION
DATE
APPROVED
12"ϕ TO ELECTRIC FIRE PUMP No. 1.
12"ϕ TO DIESEL FIRE PUMP No. 1.
1"ϕ FROM JOCKEY PUMP.
10"ϕ FROM BACKFLOW PREVENTERS.
3"ϕ TO PROPORTIONER.
TO SPRINKLERS IN SUPPORT BLDING.
1" JOCKEY PUMP.
REFER TO NOTES ON DWG. FP-2 CONCERNING ADD. No. 1 (N.I.C.)
PREACTION SYSTEM No. 5.
6" PREACTION VALVE.
900 GALLON A.F.F.F. TANK (PRIMARY).
6" O.S.&Y. GATE VALVE.
ELECTRIC FIRE PUMP No. 1.
JOCKEY PUMP.
ELECTRIC FIRE PUMP No. 2.
A.F.F.F. CONCENTRATE FILL PUMP.
900 GALLON A.F.F.F. TANK (PRIMARY).
SECTION
SCALE : 1/2" = 1' - 0"
PREACTION SYSTEM 1.
PREACTION SYSTEM 2.
PREACTION SYSTEM 3.
PREACTION SYSTEM 4.
PREACTION SYSTEM 5.
PREACTION SYSTEM 6.
RUBBER FACED CHECK VALVE (TYP. OF 6)
6" PREACTION VALVE (TYP.) (FOR 6 CEILING SPRINKLER SYS)
6" O.S.&Y. GATE VALVE (TYP.).
2"ϕ TO FLOOR DRAIN.
SECTION
SCALE : 1/2" = 1' - 0"
1'-4"
6"ϕ PIPE.
1/2" BOLTS FOR 6"ϕ PIPES.
L 5"×5"×1/2" (TYPICAL FRAME).
5/8" BOLTS FOR 10"ϕ PIPES.
L 4"×4"×3/8" (TYPICAL PIPE SUPPORT).
10"ϕ PIPE.
PIPE SUPPORT (TYPICAL).
PL 1/2"×8"×8" (TYPICAL).
5/8"ϕ THREADED ROD (TYPICAL).
WALL MOUNTED
SCALE : 1" = 1' - 0"
GRAPHIC SCALE 1/2" = 1'-0"
GRAPHIC SCALE 1" = 1'-0"
FP-3
McCRACKEN & LOPEZ, P.A. CONSULTING ENGINEERS CHARLOTTE, N.C.
KIMLEY-HORN & ASSOCIATES, INC. RALEIGH, NORTH CAROLINA
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA
MAINTENANCE HAN
SECTIONS - DETAILS
FIRE PROTECTION
SIZE F
CODE IDENT. NO. 80091
NAVFAC DP 41
CONSTR. CONR.
SCALE
SPEC. 05-84



AS-3905
HANGAR