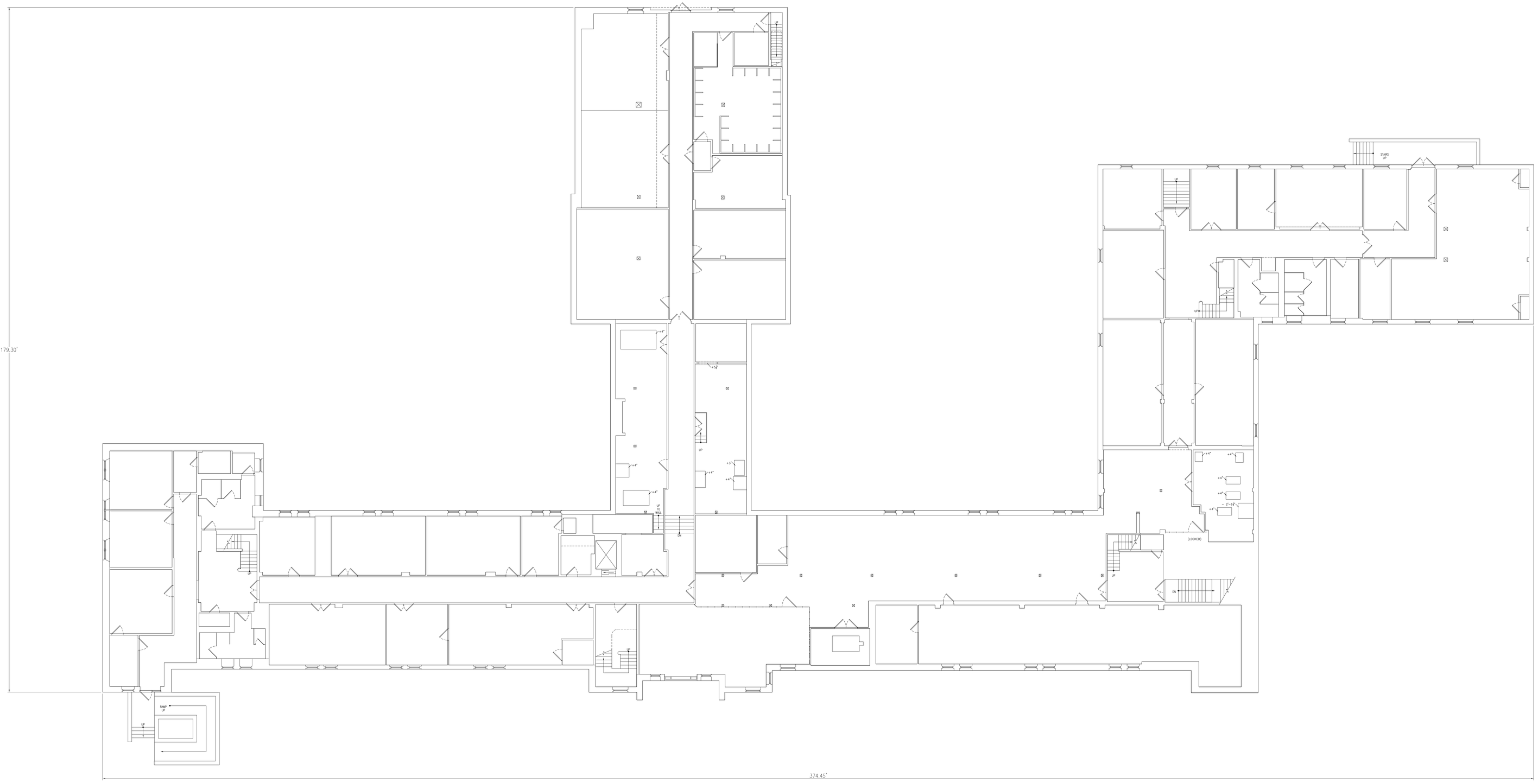
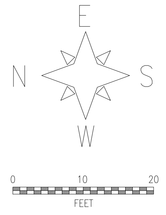


STILL NEED 3 ROOMS



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Naval Support Activity Bethesda
Bethesda

Building 11
Basement 1 Floor

NFA100000563419
ADMINISTRATIVE OFFICE

Naval District Washington

NAVFAC

Each Space Identified With:

Category Code
Space Description
Net Sq Feet
Room Number

SUBMISSIONS/REVISIONS

NO.	DATE	ACTION/REMARKS

Drawing Creation Date:
September 2012

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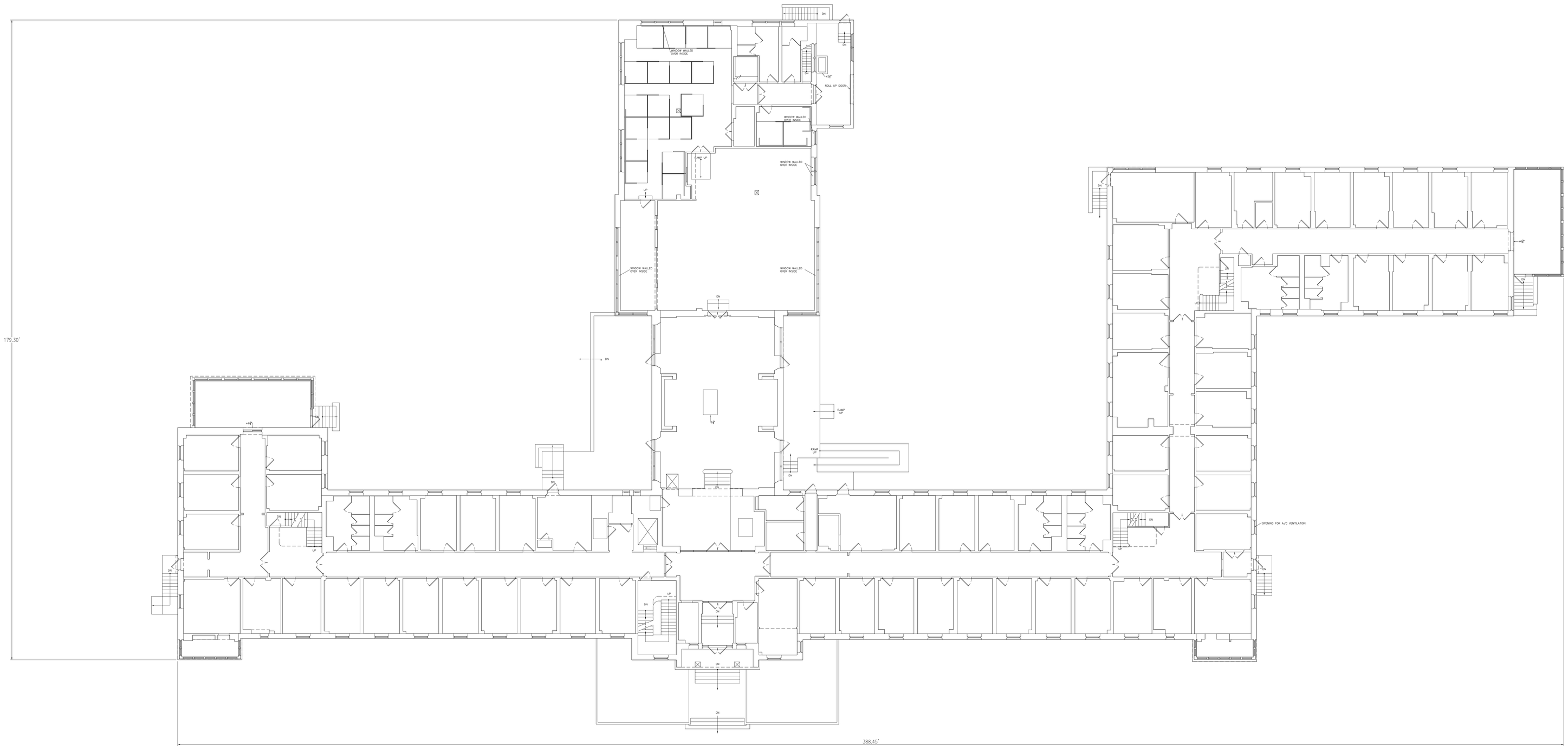

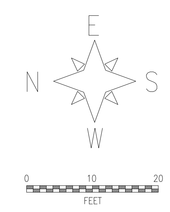

Naval Support Activity
Bethesda
Bethesda

Building 11
First Floor

NFA100000563419
ADMINISTRATIVE OFFICE

Naval District Washington

Each Space Identified With:

Room Number
Space Description
Net Sq Feet
Category Code

SUBMISSIONS/REVISIONS

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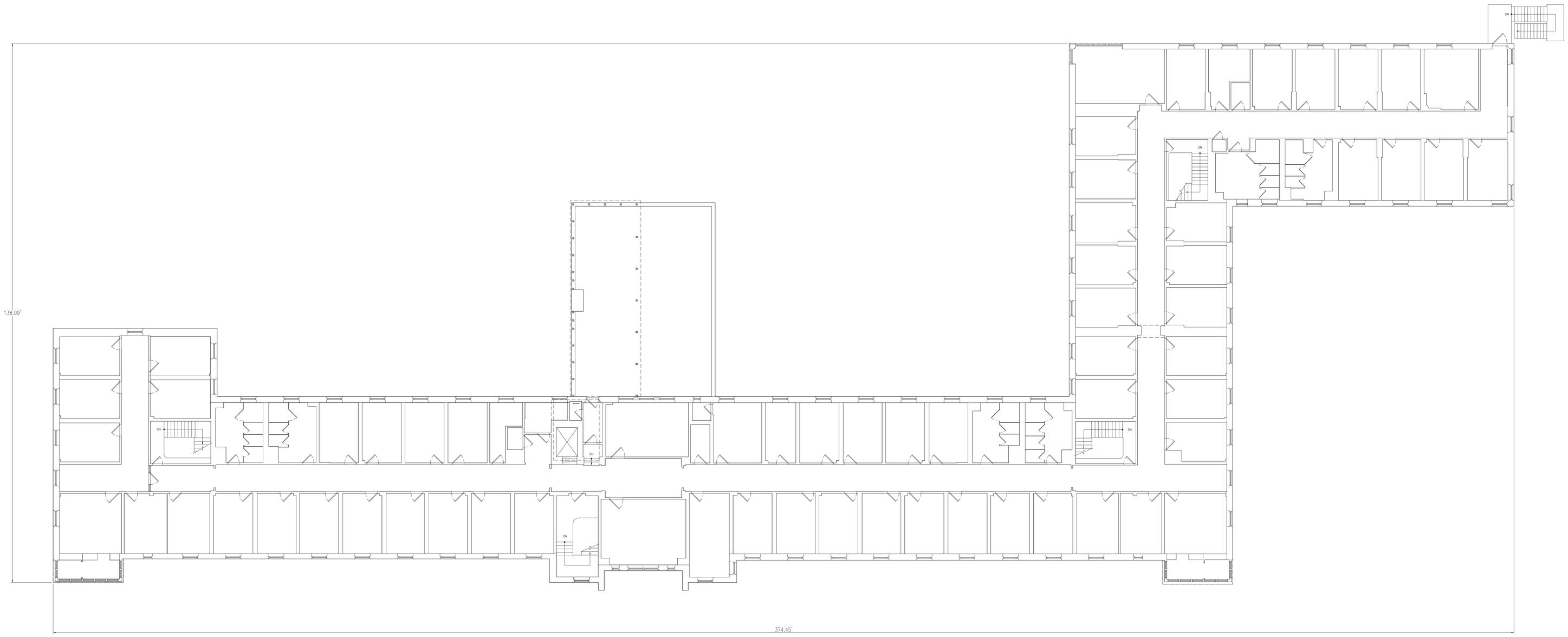

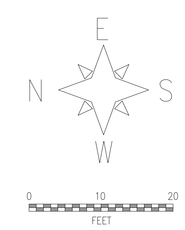

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Naval Support Activity Bethesda
Bethesda

Building 11
Second Floor

NFA100000563419
ADMINISTRATIVE OFFICE

Naval District Washington

NAVFAC

Each Space Identified With:

Room Number
Space Description
Net Sq Feet
Category Code

SUBMISSIONS/REVISIONS

NO.	DATE	ACTION/REMARKS

Drawing Creation Date:
September 2012

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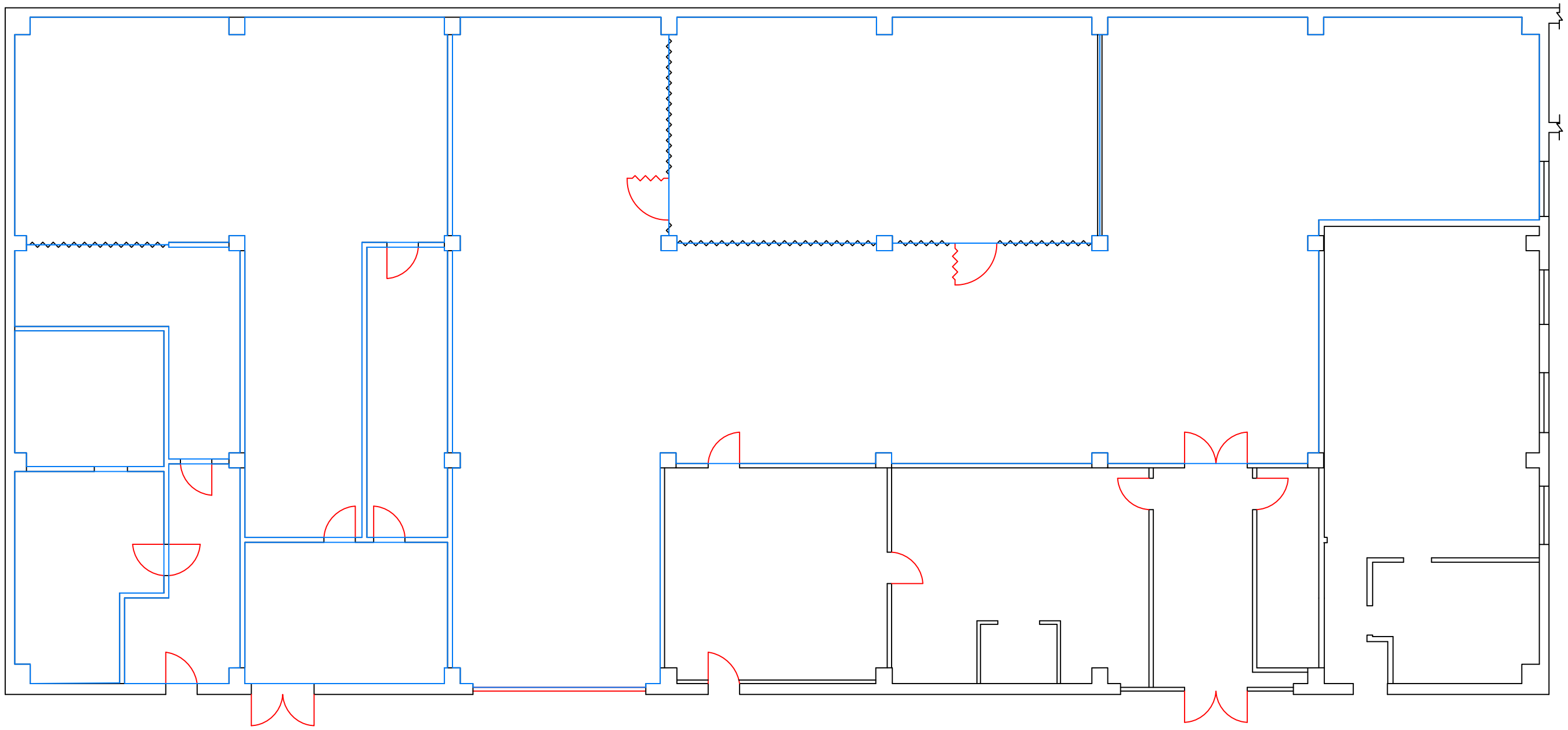
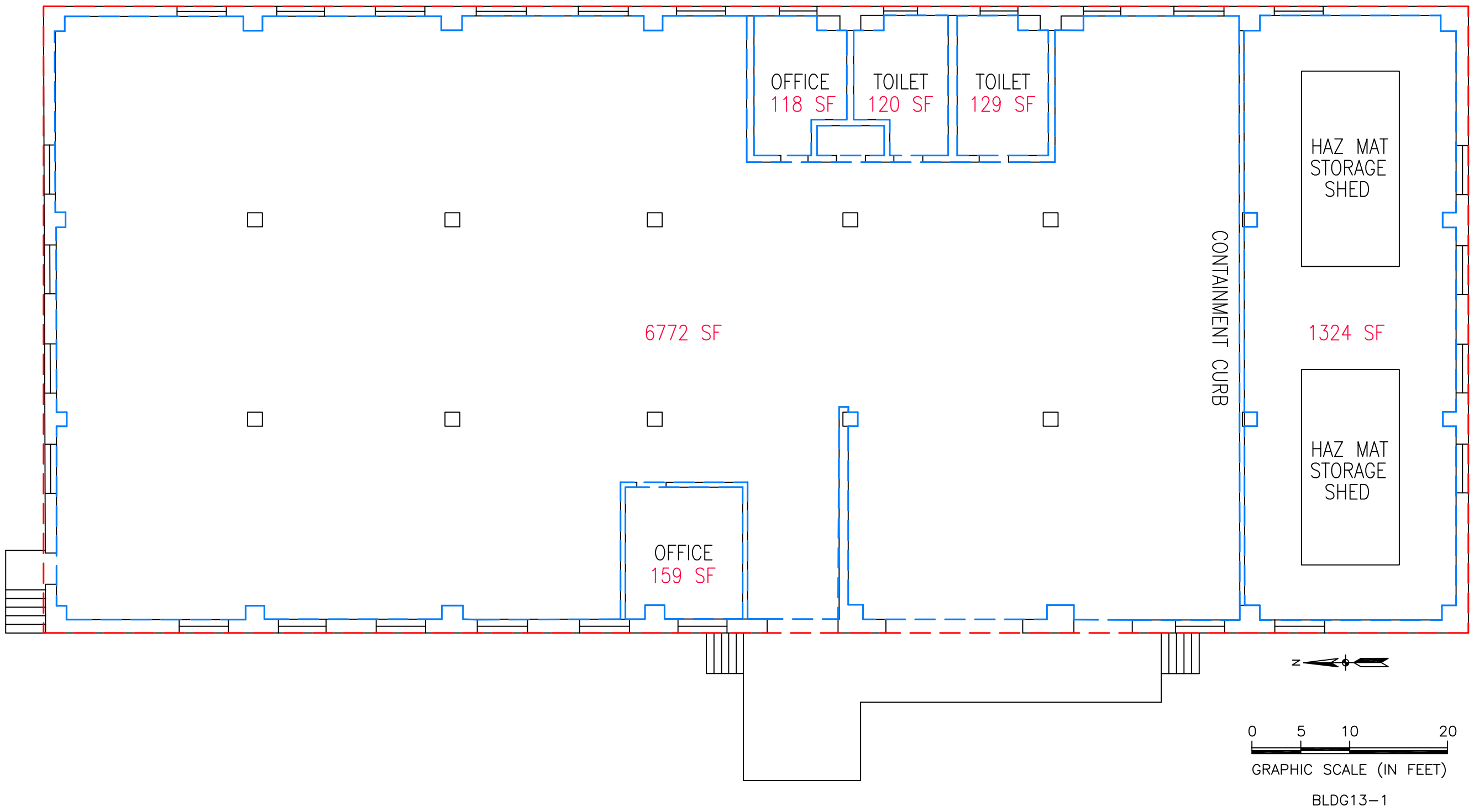


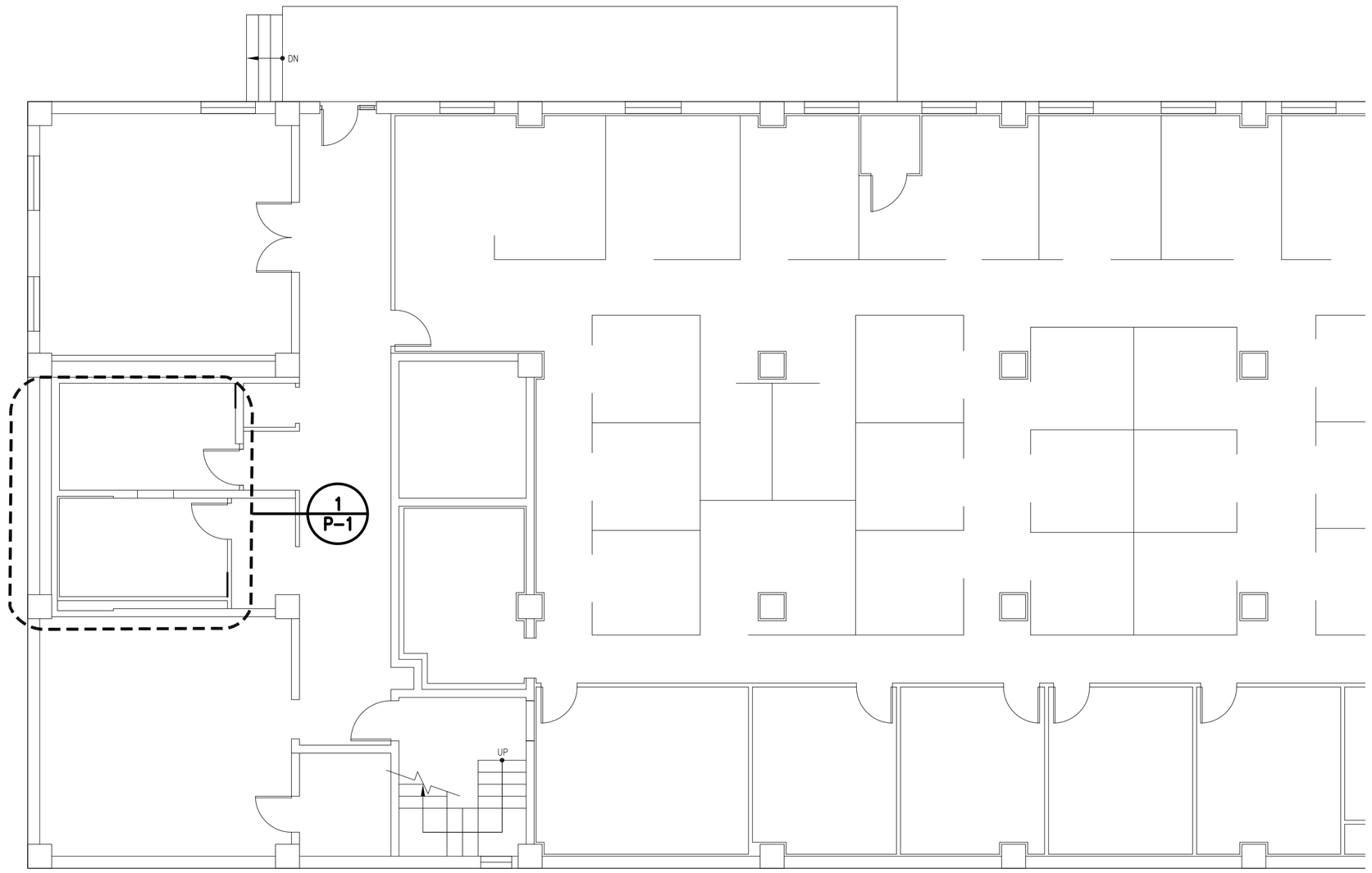
BUILDING 13 LOWER LEVEL FLOOR PLAN

0 5 10 20

GRAPHIC SCALE (IN FEET)



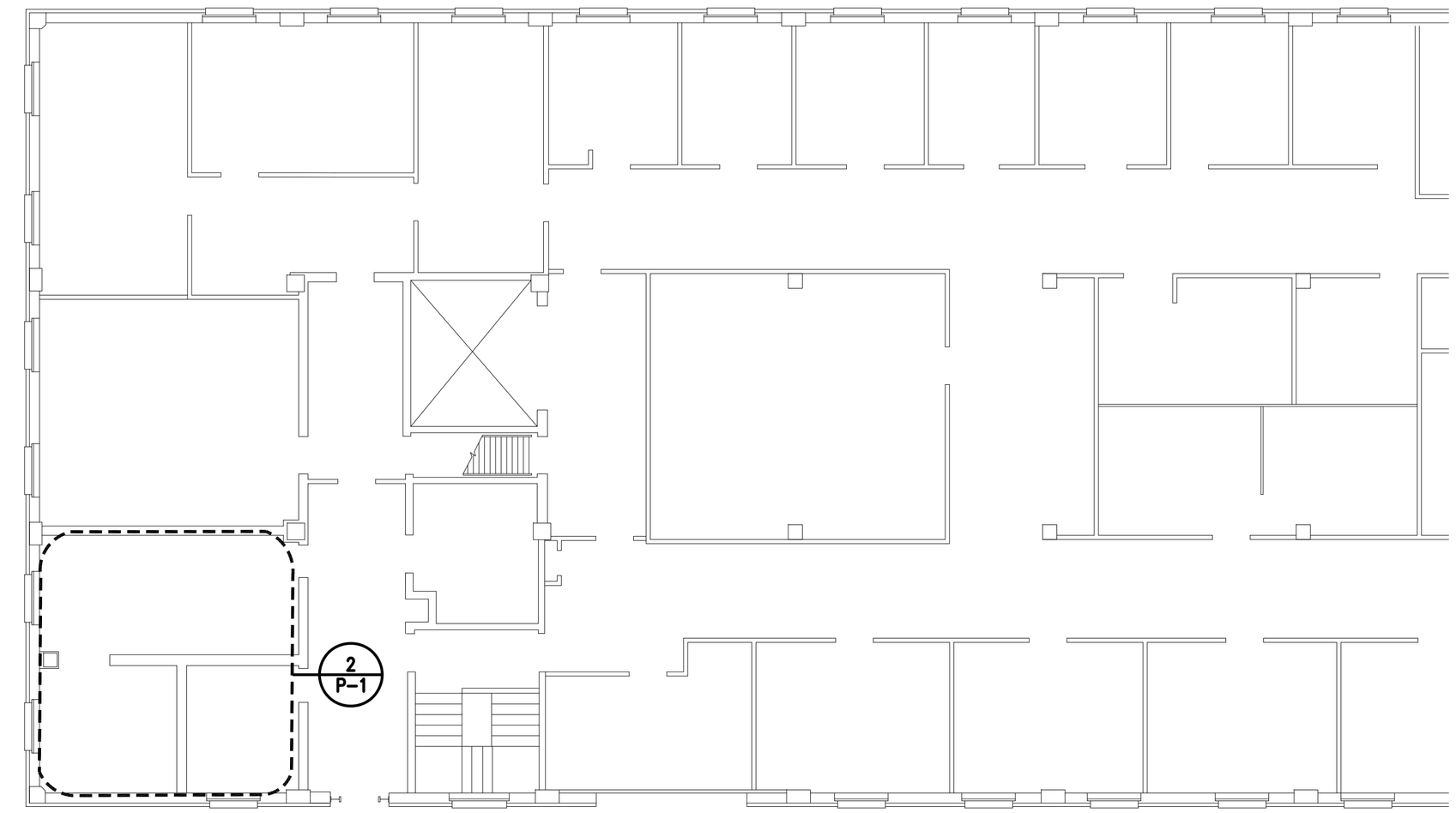
BUILDING 13 UPPER LEVEL FLOOR PLAN



BUILDING 14 LOWER LEVEL PLAN - NORTH

SCALE: 1/16" = 1'

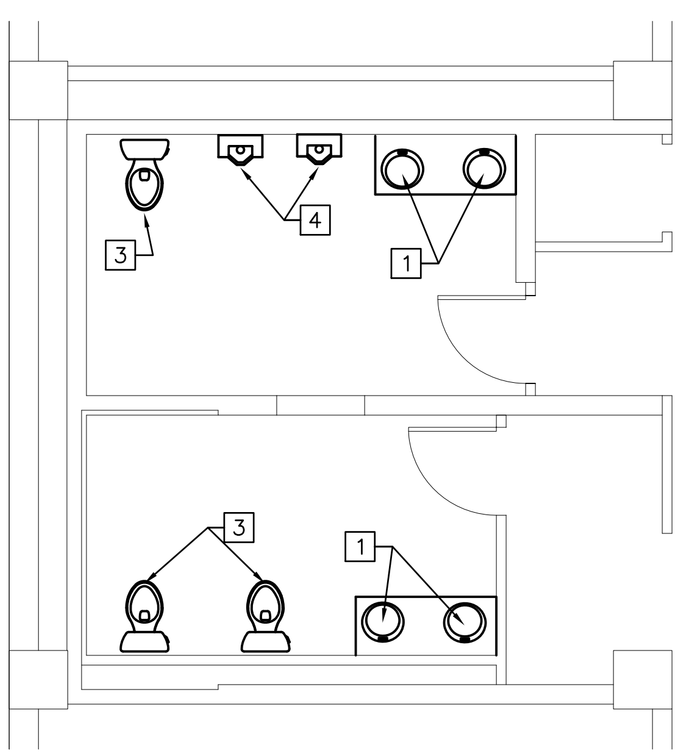
PLAN NORTH



BUILDING 14 UPPER LEVEL PLAN - NORTH

SCALE: 1/16" = 1'

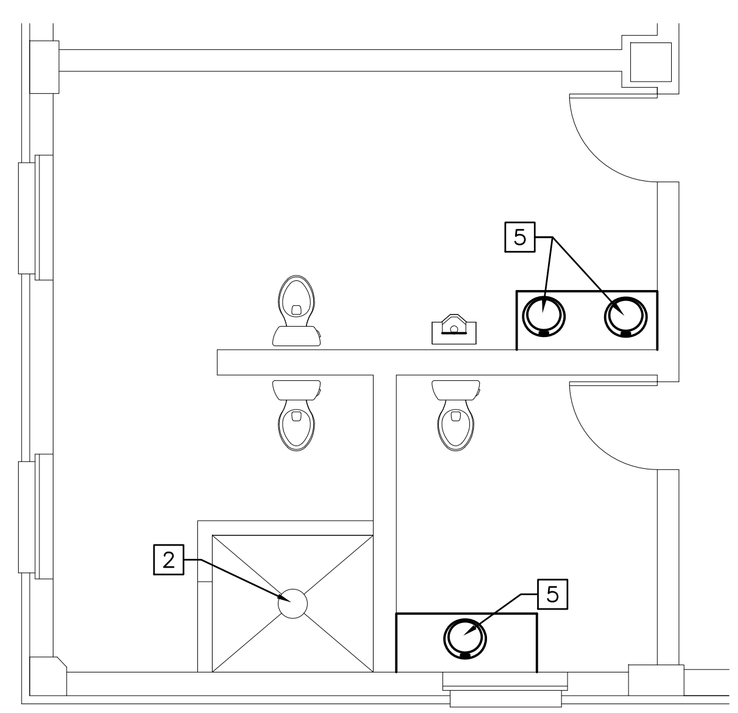
PLAN NORTH



LOWER LEVEL DETAIL

SCALE: 1/4" = 1'

P-2 1



UPPER LEVEL DETAIL

SCALE: 1/4" = 1'

P-1 2

GENERAL NOTES:

1. PERFORM ALL PLUMBING WORK BETWEEN THE HOURS OF 1800 AND 0600.

WORK NOTES

1. DEMOLISH WALL HUNG LAVATORIES AND PROVIDE NEW SOLID SURFACE COUNTERTOP LAVATORIES WITH 0.5 GPM AERATORS.

2. REMOVE SHOWER HEAD AND PROVIDE NEW 1.5 GPM SHOWER HEAD.

3. DEMOLISH WATER CLOSET AND PROVIDE NEW 1.28 GPF WALL MOUNT, FLUSH VALVE TYPE WATER CLOSET.

4. DEMOLISH URINAL AND PROVIDE NEW 0.125 GPF HIGH EFFICIENCY URINAL.

5. REMOVE AERATOR AND PROVIDE NEW 0.5 GPM AERATOR AT EXISTING LAVATORIES.

GRAPHICAL SCALES:

¼" = 1'-0" 5' 0 5' 10'

⅛" = 1'-0" 5' 0 5' 10' 15' 20' 25'

SYM	DESCRIPTION	DATE	APPR.

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

PWD BETHESDA

SATISFACTORY TO DATE DD/MM/YY

DES RJS DRW RJS CHK RJS

<<PM/DM>> XXXX

BRANCH MANAGER XX

CHIEF ENG/ARCH XXX

<<XXX>> XX

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PWD BETHESDA

NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON
BETHESDA, MD

NSA BETHESDA
BETHESDA, MD

Energy Repairs, Buildings 11, 13, 14

PLUMBING PLAN

SCALE: AS NOTED

EPROJECT NO.: 1345987

CONSTR. CONTR. NO.: ##### - H - I - ####

NAVFAC DRAWING NO.: ##########

SHEET 1 OF 1

P-1

DRAWFORM REVISION: 10 MARCH 2009

LEGEND

NOTE: LIGHT LINEWEIGHT SYMBOLS INDICATE EXISTING DEVICES, EQUIPMENT, CONDUIT, ETC. TO REMAIN. HEAVY LINEWEIGHT SYMBOLS INDICATES NEW DEVICES, EQUIPMENT, TO BE SUPPLIED AND OR INSTALLED. HEAVY & DASHED LINEWEIGHT SYMBOLS INDICATE DEVICES, EQUIPMENT, CONDUIT, ETC. TO BE REMOVED.

A	LIGHTING FIXTURE TYPE SYMBOL. SEE "LIGHTING FIXTURE SCHEDULE" ON SHEET E-101 .
1	CONSTRUCTION NOTE SYMBOL.
1	DEMOLITION NOTE SYMBOL.
1	LIGHTING FIXTURE AND/OR PANELBOARD, SWITCHBOARD SCHEDULE NOTE SYMBOL.
	FLUORESCENT LIGHTING FIXTURE.
	FLUORESCENT EMERGENCY LIGHTING FIXTURE.
	FLUORESCENT LIGHTING FIXTURE.
	EXIT LIGHTING FIXTURE. ARROW, WHEN USED INDICATES DIRECTION (SHADING INDICATES FACE OF SIGN ORIENTATION).
C	DUPLEX CONVENIENCE RECEPTACLE. INDUSTRIAL, EXTRA HEAVY DUTY SPECIFICATION GRADE. 20A, 125VAC, NEMA 5-20R, FLUSH MOUNT 18" AFF UON. SUBSCRIPT "C" INDICATES RECEPTACLE IS DEDICATED TO A COMPUTER LOAD. SUBSCRIPT "GFI" INDICATES INTERNAL GROUND FAULT PROTECTION.
C I	DUPLEX CONVENIENCE RECEPTACLE. INDUSTRIAL, EXTRA HEAVY DUTY SPECIFICATION GRADE. 20A, 125VAC, NEMA 5-20R, FLUSH MOUNT IN BASE OF SYSTEMS FURNITURE. SUBSCRIPT NUMBER INDICATES THE PANEL CIRCUIT NUMBER THAT SERVES THE OUTLET. SUBSCRIPT "C" INDICATES RECEPTACLE IS DEDICATED TO A COMPUTER LOAD.
	SINGLE CONVENIENCE RECEPTACLE, INDUSTRIAL, EXTRA HEAVY DUTY SPECIFICATION GRADE. 20A, 125VAC, NEMA 5-20R, FLUSH MOUNT 18" AFF UON.
	DOUBLE DUPLEX CONVENIENCE RECEPTACLE. INDUSTRIAL, EXTRA HEAVY DUTY SPECIFICATION GRADE. (2)20A, 125 VAC, NEMA 5-20R, FLUSH MOUNT 18" AFF UON.
	SPECIAL RECEPTACLE, TO REMAIN. RELOCATE AS INDICATED ON DRAWINGS.
	POWER/TELECOMMUNICATIONS POKE-THRU DEVICE, FLUSH MOUNT, SEE CONFERENCE ROOM FLOOR OUTLET, SHEET E-505.
S	SINGLE POLE SWITCH. 20A, 120/277V, FLUSH MOUNT 48" AFF UON.
SO	WALL SWITCH OCCUPANCY SENSOR, 20A, 120/277V, FLUSH MOUNT 48" AFF UON. SEE LIGHTING CONTROL PLATE "LC-2", SHEET E-502.
ST	WALL SWITCH WITH DIGITAL TIMER. 20A, 120/277A, FLUSH MOUNTED 48" AFF UON.
E	EQUIPMENT CONNECTION AS NOTED.
J	JUNCTION BOX (JB) SURFACE MOUNTED.
3P 60/40	DISCONNECT SWITCH. 240V IN NEMA 1 ENCLOSURE UON. 3P = NO. OF POLES, 60 = SWITCH RATING, 40 = FUSE RATING (NF INDICATES NON-FUSIBLE).
	ELECTRICAL PANELBOARD (208Y/120V).
	BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO TICK MARKS INDICATE 2 #12 CONDUCTORS AND 1 #12 GND IN 1/2"C UON. TICK MARKS, WHEN SHOWN, INDICATE NO. OF #12 CONDUCTORS IF OTHER THAN THREE; ( ) INDICATES GND, CONDUIT LARGER THAN 1/2" AND WIRE LARGER THAN #12 SHALL BE AS INDICATED.
LA-1,3	HOMERUNS TO PANEL. PANEL AND CIRCUIT DESIGNATIONS AS INDICATED.
	TELECOMMUNICATIONS OUTLET FOR WRNMMC NETWORK, FLUSH MOUNT 18" AFF UON. SEE OUTLET DETAIL ON SHEET E-504.
	TELECOMMUNICATIONS OUTLET FOR NMCI NETWORK, FLUSH MOUNT 18" AFF UON. SEE OUTLET DETAIL ON SHEET E-504.
1	TELECOMMUNICATIONS OUTLET FOR WRNMMC NETWORK, SUBSCRIPT INDICATES THE TELECOMMUNICATIONS FLEX CONNECTION THAT SERVES THE OUTLET, MOUNT ON BASE OF SYSTEMS FURNITURE. SEE OUTLET DETAIL ON SHEET E-504.
F	FLEX CONNECTION TO SYSTEMS FURNITURE.
1	TELECOMMUNICATIONS OUTLET FOR NMCI NETWORK, SUBSCRIPT INDICATES THE TELECOMMUNICATIONS FLEX CONNECTION THAT SERVES THE OUTLET, MOUNT ON BASE OF SYSTEMS FURNITURE. SEE OUTLET DETAIL ON SHEET E-504.
	WALL TELEPHONE OUTLET. FLUSH MOUNT 54" AFF UON. SEE OUTLET DETAIL ON SHEET E-504.
J 1	JUNCTION BOX (JB) FLUSH MOUNTED, FOR CONNECTION TO SYSTEMS FURNITURE. SUBSCRIPT INDICATES JB NUMBER, SEE "SYSTEM FURNITURE DETAILS", SHEET E-504.
SD	FLUORESCENT DIMMER SWITCH, 20A, 120/277V, FLUSH MOUNT 48" AFF.
SL3	3-WAY LIGHTING SWITCH, 20A, 120/277V, FLUSH, MOUNT 48" AFF UON. SWITCH SHALL BE PROVIDED AS A PART OF THE LIGHTING CONTROL SYSTEM. SEE "LIGHTING CONTROL PANEL NOTES", SHEET E-503.
SL4	4-WAY LIGHTING SWITCH, 20A, 12./277V, FLUSH, MOUNT 48" AFF UON. SWITCH SHALL BE PROVIDED AS A PART OF THE LIGHTING CONTROL SYSTEM. SEE "LIGHTING CONTROL PANEL NOTES", SHEET E-503.
TV	DUPLEX RECEPTACLE FOR TV MONITOR. 20A, 125VAC, NEMA 5-20R, FLUSH MOUNT 72" AFF UON.
	HDMI SPECIAL OUTLET. PROVIDE WITH HDMI TO HDMI FEMALE TO FEMALE CONNECTOR. SUBSCRIPT "C" INDICATES TO FLUSH MOUNT 18" AFF ADJACENT TO TELECOMMUNICATIONS OUTLET. SUBSCRIPT "TV" INDICATES TO FLUSH MOUNT ADJACENT TO TV RECEPTACLE.
B	PUSHBUTTON FOR DOORBELL SYSTEM. 24VAC, MOMENTARY CONTACT, FLUSH MOUNT 48" AFF UON.
SD	SOUNDING DEVICE FOR DOORBELL SYSTEM. 24VAC, SURFACE MOUNT 7'-0" AFF UON.
CR	DUAL 2"x4" JUNCTION BOXES, FLUSH MOUNT 48" UON. ONE JUNCTION BOX SHALL BE DEDICATED TO THE CARD READER AND THE SECOND JUNCTION BOX SHALL BE DEDICATED TO A KEYPAD.
BS	JUNCTION BOX, FLUSH MOUNTED FOR BALANCED MAGNETIC SWITCH.
LC	LIGHTING CONTROL PANEL FOR CONFERENCE ROOM, FLUSH MOUNT 48" AFF UON.
OS	CEILING OCCUPANCY SENSOR, DUAL TECHNOLOGY TYPE. 24VDC, CEILING MOUNT. SENSOR SHALL BE PROVIDED AS A PART OF THE LIGHTING CONTROL SYSTEM. SEE "LIGHTING CONTROL PANEL NOTES", AND LIGHTING CONTROL PLATE "LC-7", SHEET E-503.
OS	WIDE VIEW SENSOR, DUAL TECHNOLOGY TYPE. 24VDC, WALL MOUNT 7'-6" AFF UON. SENSOR SHALL BE PROVIDED AS A PART OF THE LIGHTING CONTROL SYSTEM. SEE "LIGHTING CONTROL PANEL NOTES", AND LIGHTING CONTROL PLATE "LC-4", SHEET E-503.
OS	CEILING OCCUPANCY SENSOR, DUAL TECHNOLOGY TYPE. 20A, 120/277V, CEILING MOUNT. SEE LIGHTING CONTROL PLATE "LC-5", SHEET E-502.
	EXISTING ISDN OUTLET, TO REMAIN.

ABBREVIATIONS

ø, PH	PHASE	NF	NONFUSIBLE
A, AMP	AMPERE	P	POLE
AFF	ABOVE FINISHED FLOOR	1 PH	SINGLE PHASE
EWC	ELECTRIC WATER COOLER	3 PH	THREE PHASE
EMT	ELECTRICAL METALLIC TUBING	PNL	PANELBOARD
GFI	GROUND FAULT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
GND	GROUND	V	VOLT, VOLTAGE
JB	JUNCTION BOX	WP	WEATHERPROOF

SITE WORK REQUIREMENTS

1. PULL 24-STRAND SM FIBER FROM L1U-1 IN ROOM 131 OF BUILDING 14, DOWN TO CEILING SPACE OF GROUND FLOOR AND RUN TO WEST END OF BUILDING. LOCATE EXISTING SERVICE ENTRANCE CONDUIT THAT RUNS TO COMMUNICATIONS MANHOLE 5707 AND PULL FIBER THROUGH DUCT INTO CMH 5707 AND CONTINUING THROUGH EXISTING DUCT TO AN UNMARKED CMH ON THE SOUTH SIDE OF NORTH PALMER ROAD, LOCATED ON THE NORTH SIDE OF BUILDING 20 IN FRONT OF THE FIREHOUSE TRAILER. FROM THIS CMH, RUN FIBER IN EXISTING DUCT INTO BUILDING 27 AND TERMINATE IN ROOM 1132 AS DIRECTED BY THE GOVERNMENT.

2. PULL 24-STRAND SM FIBER FROM L1U-1 IN ROOM 131 OF BUILDING 14, DOWN TO CEILING SPACE OF GROUND FLOOR AND RUN TO WEST END OF BUILDING. LOCATE EXISTING SERVICE ENTRANCE CONDUIT THAT RUNS TO CMH 5707 AND PULL FIBER THROUGH DUCT INTO CMH 5707 AND CONTINUING THROUGH EXISTING DUCT TO AN UNMARKED CMH ON THE SOUTH SIDE OF NORTH PALMER ROAD, LOCATED ON THE NORTH SIDE OF BUILDING 20 IN FRONT OF THE FIREHOUSE TRAILER. CONTINUE PULLING FIBER THROUGH EXISTING DUCT TO AN UNMARKED CMH IN FRONT OF BUILDING 54 TO THE SECURITY STORAGE ROOM IN THE BASEMENT OF BUILDING 2 AND UP THROUGH THE MAIN SHAFT TO BUILDING 2, ROOM 2152 AND THEN EXTENDING TO ROOM 3256.

GENERAL NOTES

1. ELECTRICAL DESIGN HAS BEN PERFORMED UTILIZING A DEDICATED (NON-SHARED) NEUTRAL CONDUCTOR FOR EACH 120V SINGLE PHASE CIRCUIT, AND HAVING NO MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A SINGLE RACEWAY. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120 CIRCUIT.
2. OUTLET BOXES SHALL NOT BE MOUNTED BACK TO BACK IN WALLS.
3. MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS.
4. PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS SHALL BE SEALED TO MAINTAIN THE FIRE RATING INTEGRITY OF THE FLOORS AND WALLS.
5. ELECTRICAL DISTRIBUTION FEEDERS, BRANCH CIRCUITS AND CABLE TRAY SHALL BE COORDINATED WITH THE LOCATION OF THE MAIN MECHANICAL DUCTS PRIOR TO INSTALLATION.
6. COORDINATE ALL CEILING MOUNTED ELECTRICAL ITEMS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
7. ALL ELECTRICAL DEVICES, WIRING, EQUIPMENT, ETC LOCATED ABOVE THE FIRST FLOOR CEILING SHALL BE RATED FOR INSTALLATION IN A PLENUM CEILING.
8. SEE SHEET E-605 FOR IDENTIFICATION REQUIREMENTS FOR BOXES, DEVICE AND CONDUITS.
9. REFER TO "ENLARGED ROOM 001 FLOOR PLAN - NEW WORK", SHEET E-401, FOR WORK IN THIS ROOM ON THE GROUND FLOOR.

PHASING NOTES

1. AT THE BEGINNING OF PHASE 1 CONSTRUCTION NEW ROOMS 131 AND 135 SHALL BE BUILT OUT AND MADE FULLY FUNCTIONAL. ALL ELECTRICAL DISTRIBUTION CIRCUITS SHALL BE INSTALLED AND TEMPORARY FEEDS SHALL BE IN PLACE TO EXISTING PANELS P2-1, P2-2 AND P2-3. ANY REQUIRED POWER OUTAGE SHALL BE PERFORMED AT NIGHT OR OVER WEEKENDS. EXISTING PANELS SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT ALL BRANCH CIRCUITS TO A PANEL HAVE BEEN DEMOLISHED, AND THEN THE PANEL SHALL BE REMOVED COMPLETE. SEE 'POWER RISER NOTES", SHEET E-601, FOR SPECIFIC REQUIREMENTS.

2. NO DEMOLITION SHALL OCCUR IN EXISTING SERVER ROOM 143 UNTIL SUCH TIME THAT ALL EXISTING DATA CIRCUITS HAVE BEEN DEMOLISHED, REROUTED TO NEW ROOM 131, OR TEMPORARILY RELOCATED TO ABOVE THE CEILING. THERE SHALL BE A DUAL WRNMMC NETWORK SYSTEM (ONE SYSTEM IN EXISTING ROOM 143 AND ONE IN NEW ROOM 131) OPERATING CONCURRENTLY. ONCE ALL DATA CIRCUITS HAVE BEEN REMOVED FROM EXISTING ROOM 143, AND THE SIEMENS AND JOHNSON CONTROLS SERVERS HAVE BEEN RELOCATED, EXISTING ROOM 143 CAN BE COMPLETELY DEMOLISHED. SEE DEMOLITION AND CONSTRUCTION NOTES ON E-401 FOR SPECIFIC REQUIREMENTS.

3. THE CONTRACTOR SHALL HAVE THE OPTION TO RELOCATE THE EXISTING NMCI WALL CABINET TO ABOVE THE CEILING PRIOR TO INSTALLATION OF A NEW CABINET OR RELOCATION OF THIS CABINET TO NEW ROOM 131. THIS WOULD ALLOW THE DEMOLITION OF ROOM 143 TO TAKE PLACE IN PHASE 2. COORDINATE ALL WORK WITH NMCI REPRESENTATIVE AND THE CONTRACTING OFFICER.

SYM | DESCRIPTION | DATE | APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS
6379 CENTER DR NORFOLK, VA 23502
2424 26th ROAD SOUTH ARLINGTON, VA 22206

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO | DATE

DES DGW | DRW DJL | CHK SGR

BRANCH MANAGER

CHIEF ENG/ARCH

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD

BETHESDA NAVY MEDICAL CENTER
FMD RENOVATION, BUILDING 14
FIRST FLOOR

LEGEND AND ABBREVIATIONS

SCALE: AS NOTED

EPROJECT NO.: -

CONSTR. CONTR. NO. N40080-12-R-4422

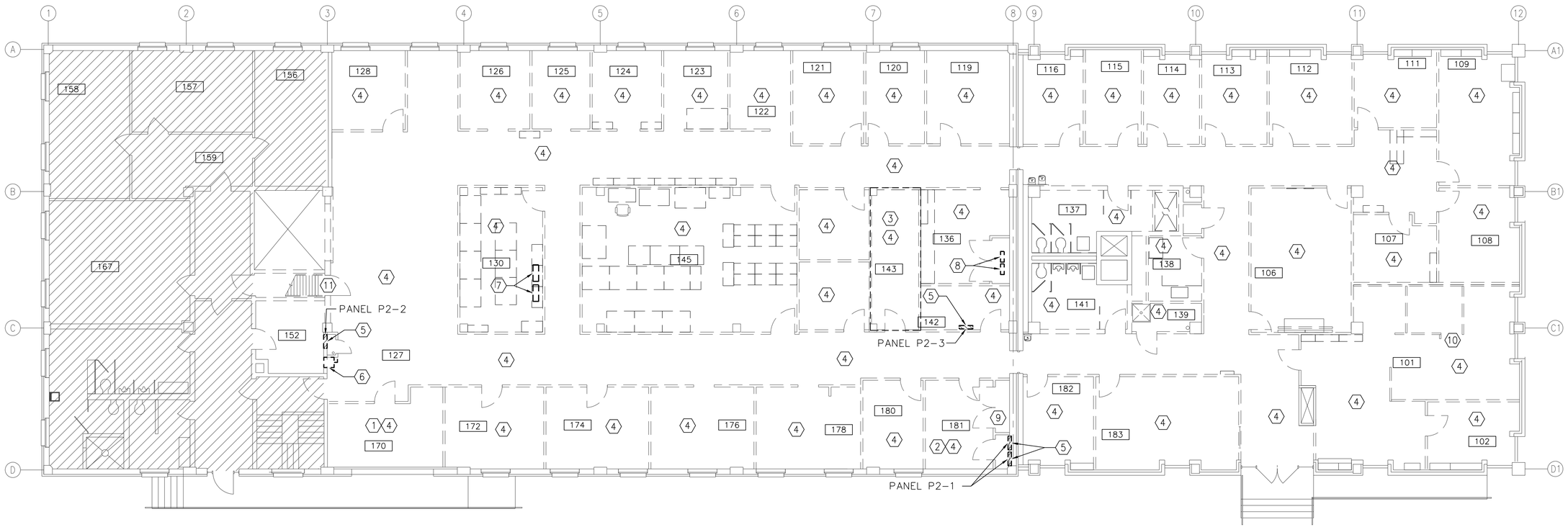
NAVFAC DRAWING NO. 13056438

SHEET 36 OF 53

E-001

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-001 LEGEND AND ABBREVIATIONS.dwg LAYOUT NAME: E-001 LEGEND AND ABBREVIATIONS PLOTTED: Friday, April 12, 2013 - 1:02pm USER: blunderwhite

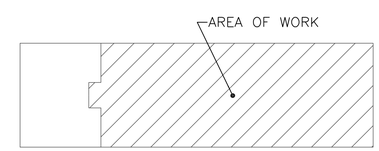


FIRST FLOOR PLAN - DEMOLITION

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

DEMOLITION NOTES (THIS SHEET ONLY)

1. BUILD OUT FOR NEW SERVER ROOM 131 SHALL BE THE FIRST WORK PERFORMED UNDER PHASE 1 DEMOLITION. SEE "ELECTRICAL PHASING NOTES", SHEET E-001.
2. BUILD OUT FOR THE NEW ELECTRICAL ROOM 144 SHALL OCCUR SIMULTANEOUSLY WITH THE BUILD OUT FOR THE NEW SERVER ROOM 131. SEE "ELECTRICAL PHASING NOTES", SHEET E-001.
3. DEMOLITION OF THE SERVER ROOM 143 SHALL TAKE PLACE IN THE LAST PHASE OF DEMOLITION. SEE "ENLARGED ROOM 143 FLOOR PLAN - DEMOLITION", SHEET E-401.
4. REMOVE LIGHTING FIXTURES, SWITCHES, RECEPTACLES, DATA OUTLETS AND ELECTRICAL DEVICES COMPLETE. REMOVE WIRING AND CONDUIT COMPLETE BACK TO SOURCE OF POWER.
5. REMOVE PANELBOARD COMPLETE. REFER TO "POWER RISER DIAGRAM", SHEET E-601, AND "ELECTRICAL PHASING NOTES", SHEET E-001.
6. REMOVE DISCONNECT SWITCH COMPLETE. REMOVE WIRING AND CONDUIT COMPLETE BACK TO PANEL P2-3.
7. DISCONNECT VFD, REMOVE AND RELOCATE TO PENTHOUSE. EXTEND EXISTING BRANCH CIRCUIT TO NEW LOCATION FOR VFD AND RECONNECT. JCI CONTROL PANELS WILL BE REMOVED AND RELOCATED BY MECHANICAL CONTRACTOR. FIRE ALARM CONTROL MODULES WILL BE REMOVED AND RELOCATED BY FIRE ALARM CONTRACTOR. SEE "ROOF POWER PLAN - NEW WORK", SHEET E-105.
8. DISCONNECT VFD, REMOVE AND RELOCATE TO ROOM 144. EXTEND EXISTING BRANCH CIRCUIT TO NEW LOCATION FOR VFD AND RECONNECT. JCI CONTROL PANELS WILL BE REMOVED AND RELOCATED BY MECHANICAL CONTRACTOR. FIRE ALARM CONTROL MODULES WILL BE REMOVED AND RELOCATED BY FIRE ALARM CONTRACTOR. SEE "ENLARGED ROOM 144 FLOOR PLAN - NEW WORK", SHEET E-401.
9. REMOVE ALL EXISTING AND ABANDONED TELECOMMUNICATIONS CIRCUITS IN CLOSET COMPLETE BACK TO ELECTRICAL ROOM 014 ON GROUND FLOOR. ROOM 014 IS LOCATED DIRECTLY BELOW ROOM 181.
10. DISCONNECT BAS WORKSTATION AND RELOCATE TO NEW WORKSTATION AREA 123. WORKSTATION SHALL BE RELOCATED ON A WEEKEND ONCE THE NEW POWER AND NETWORK SYSTEMS ARE RUNNING AND FULLY OPERATIONAL.
11. REMOVE SWITCHES, BOXES, CONDUIT AND ALL ELECTRICAL DEVICES THAT INTERFERE WITH NEW CONSTRUCTION FOR PENTHOUSE ACCESS.



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND SEAL — 4-12-13 — REGISTERED PROFESSIONAL ENGINEER

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

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ACTIVITY

SATISFACTORY TO DATE

DES DGW | DRW DJL | CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

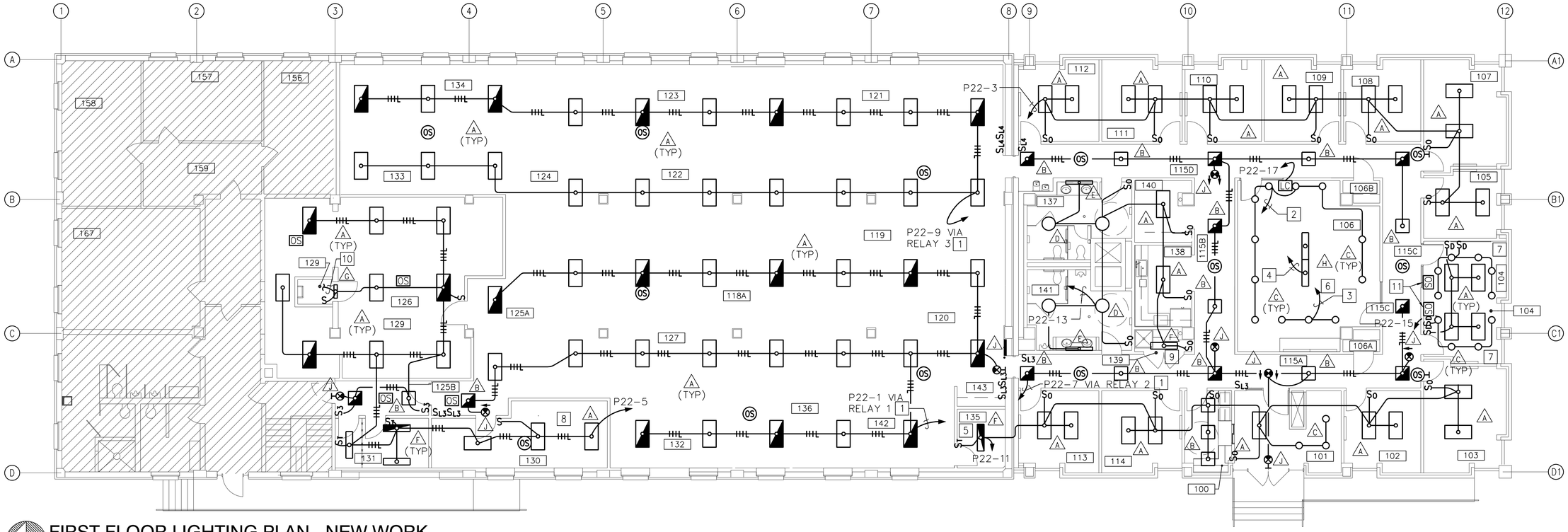
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND - WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
FIRST FLOOR PLAN - DEMOLITION

SCALE: AS NOTED
EPROJECT NO.: -
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056694
SHEET 37 OF 53

ED101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\ED101 FIRST FLOOR PLAN - DEMOLITION.dwg LAYOUT NAME: ED101 FIRST FLOOR PLAN - DEMOLITION PLOTTED: Thursday, April 11, 2013 - 1:52pm USER: iperotta



FIRST FLOOR LIGHTING PLAN - NEW WORK

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

CONSTRUCTION NOTES (THIS SHEET ONLY)

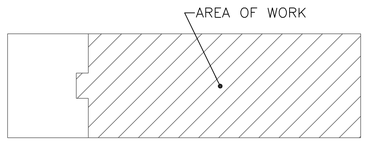
1. SEE "LIGHTING CONTROL DIAGRAM", SHEET E-503, FOR WIRING DIAGRAM OF THIS CIRCUIT.
2. LOAD 1 FOR CONFERENCE ROOM LIGHTING CONTROL.
3. LOAD 2 FOR CONFERENCE ROOM LIGHTING CONTROL.
4. LOAD 3 FOR CONFERENCE ROOM LIGHTING CONTROL.
5. SEE "ENLARGED ROOM 135 FLOOR PLAN – NEW WORK", SHEET E-401, FOR PANELBOARD LOCATIONS.
6. SEE "ROOM 106 LIGHTING DIAGRAM", SHEET E-502, FOR WIRING DIAGRAM OF THE LIGHTING CONTROLS IN THIS ROOM.
7. SEE "ROOM 104 LIGHTING DIAGRAM", SHEET E-502, FOR WIRING DIAGRAM OF THE LIGHTING CONTROLS IN THIS ROOM.
8. SEE LIGHTING CONTROL PLATE LC-7, SHEET E-503, FOR WIRING DIAGRAM FOR THE LIGHTING CIRCUIT IN THIS ROOM.
9. CEILING MOUNT TYPE F FIXTURE.
10. SEE "ROOF POWER PLAN – NEW WORK", SHEET E-105, FOR CONTINUATION.
11. EACH OCCUPANCY SENSOR SHALL OPERATE INDEPENDENTLY OF THE OTHER, SUCH THAT ONE SENSOR SHALL CONTROL THE LIGHTING FIXTURES EAST SIDE OF ROOM 104 AND THE OTHER SENSOR SHALL CONTROL THE LIGHTING FIXTURES ON THE WEST SIDE OF ROOM 104.

LIGHTING FIXTURE SCHEDULE

FIXTURE SYMBOL	SKETCH NO. & TYPE	NUMBER AND TYPE OF LAMPS	WATTAGE	VOLTAGE	MOUNTING	NOTES
A	MOD-8	(2) F32T8/SPX41	50	120	RECESS	1 2
B	MOD-9	(2) F17T8/SPX41	25	120	RECESS	2 3
C	NL-31, TYPE A	(1) F32TBX/841	35	120	RECESS	5
D	NL-26	(1) 22W CIRCLINE (1) 32W CIRCLINE	45	120	CEILING	
E	MOD-5	(2) F32T8/SPX41	50	120	RECESS	1
F	NL-13	(2) F32T8/SPX41	50	120	PENDENT	1 2 7
G	NL-24, TYPE A	(2) F17T8/SPX4	25	120	WALL	3 4
H	MOD-17 TYPE B	(3) F32T8/SPX41	75	120	PENDENT	1 6
J	NL-63	LED	5	120	SURFACE	

NOTES:

1. PROVIDE FIXTURE WITH 3100 HIGH LUMEN LAMPS, AND LOW BALLAST FACTOR (0.78) BALLAST. PROVIDE FIXTURE IN CONFERENCE ROOM 104 WITH DIMMING BALLAST.
2. PROVIDE FIXTURE WITH EMERGENCY BALLAST WHERE INDICATED ON DRAWINGS.
3. PROVIDE FIXTURE WITH 1400 HIGH LUMEN LAMPS, AND LOW BALLAST FACTOR (0.71) BALLAST.
4. WALL MOUNT FIXTURE CENTERED 6" ABOVE TOP OF DOOR FRAME.
5. PROVIDE FIXTURE WITH DIMMING BALLAST IN CONFERENCE ROOMS 104 AND 106.
6. PENDENT MOUNT TOP OF FIXTURE 18" BELOW FINISHED CEILING.
7. PENDENT MOUNT FIXTURE 9'-0" AFF UON.



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — JAMES G. ROSSI — No. 22492 — REGISTERED PROFESSIONAL ENGINEER — 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

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ACTIVITY

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DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
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BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
FIRST FLOOR LIGHTING PLAN – NEW WORK

SCALE: AS NOTED

EPROJECT NO.: -

CONSTR. CONTR. NO. N40080-12-R-4422

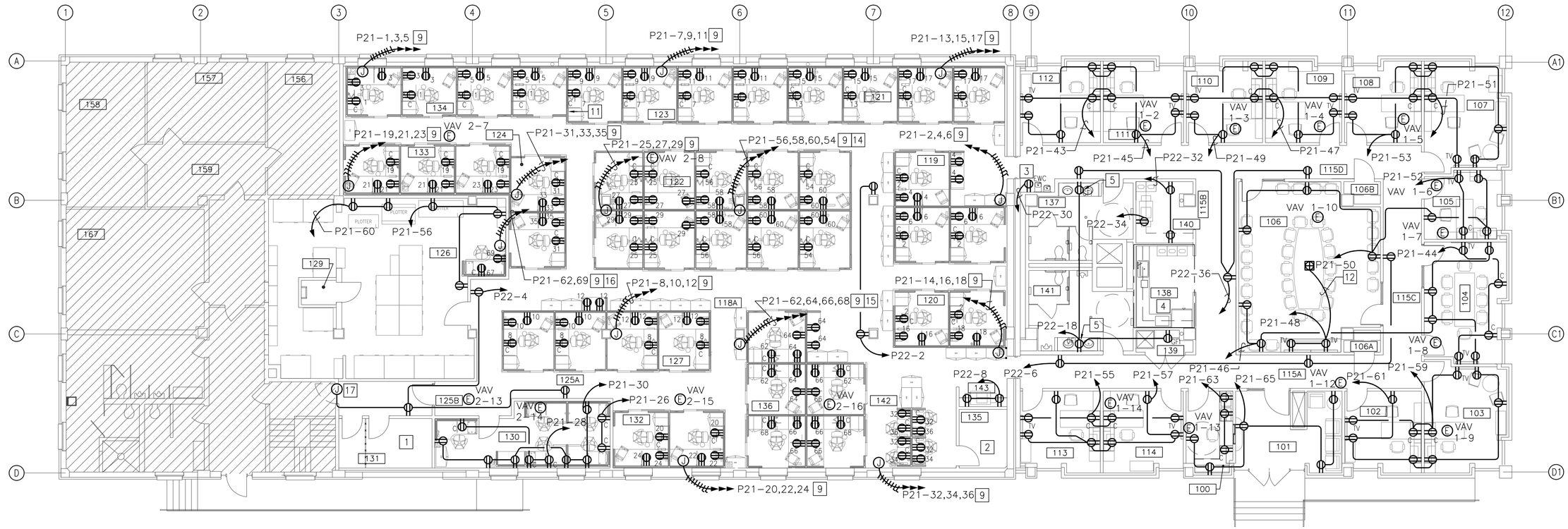
NAVFAC DRAWING NO. 13056695

SHEET 38 OF 53

E-101

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO. B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-101 FIRST FLOOR LIGHTING PLAN – NEW WORK.dwg LAYOUT NAME: E-101 FIRST FLOOR LIGHTING PLAN – NEW WORK PLOTTED: Thursday, April 11, 2013 – 1:52pm USER: jperalta

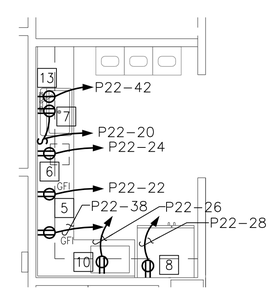


FIRST FLOOR POWER PLAN - NEW WORK

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

CONSTRUCTION NOTES (THIS SHEET ONLY)

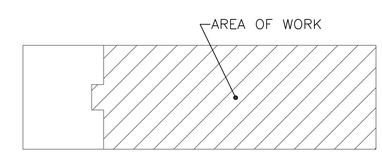
1. SEE "ENLARGED ROOM 131 FLOOR PLAN – NEW WORK", SHEET E-401, FOR WORK IN THIS AREA.
2. SEE "ENLARGED ROOM 144 FLOOR PLAN – NEW WORK", SHEET E-401, FOR WORK IN THIS AREA.
3. COORDINATE EXACT MOUNTING HEIGHT OF RECEPTACLE FOR EWC.
4. SEE "ENLARGED ROOM 138 FLOOR PLAN", THIS SHEET, FOR WORK IN THIS AREA.
5. MOUNT RECEPTACLE 6" ABOVE COUNTERTOP.
6. COORDINATE EXACT MOUNTING HEIGHT OF RECEPTACLE WITH EQUIPMENT SUPPLIER FOR THE WASTE COMPACTOR.
7. MOUNT RECEPTACLE 18" AFF UNDER SINK FOR CONNECTION OF GARBAGE DISPOSAL. RECEPTACLE SHALL BE CONTROLLED BY SWITCH LOCATED BY THE SINK. MOUNT SWITCH 6" ABOVE COUNTERTOP.
8. MOUNT RECEPTACLE 48" AFF FOR REFRIGERATOR.
9. FLUSH MOUNT JUNCTION BOX 18" AFF FOR CONNECTION TO FURNITURE SYSTEM. COORDINATE EXACT LOCATION WITH FURNITURE EQUIPMENT SUPPLIER.
10. MOUNT RECEPTACLE BEHIND SHELF MOUNTED MICROWAVE UNIT. SEE DETAIL "F", SHEET A-401 FOR EXACT LOCATION OF MICROWAVE.
11. NEW LOCATION FOR THE BAS MONITORING WORKSTATION. SEE DEMOLITION NOTE 10 ON SHEET ED101.
12. 1" CONDUIT SHALL BE RUN BELOW FIRST FLOOR SLAB IN GROUND FLOOR CEILING SPACE. SEE "FLUSH FLOOR POKE THROUGH DETAIL", SHEET E-503, FOR CONNECTION INTO POKE THROUGH BOX.
13. MOUNT SINGLE RECEPTACLE 18" AFF UNDER SINK FOR CONNECTION OF "INSTANT 180" WATER HEATER.
14. CIRCUIT P21-54 SHALL BE CONNECTED TO THE PINK, THE WHITE WITH PINK STRIPE, AND THE GROUND WITH YELLOW STRIPE CONDUCTORS IN THE SYSTEMS FURNITURE.
15. CIRCUIT P21-68 SHALL BE CONNECTED TO THE PINK, THE WHITE WITH PINK STRIPE, AND THE GROUND WITH YELLOW STRIPE CONDUCTORS IN THE SYSTEMS FURNITURE.
16. THE BLUE, WHITE WITH BLUE STRIPE, PINK, AND WHITE WITH PINK STRIPE CONDUCTORS WILL NOT BE USED IN THIS SECTION OF THE SYSTEMS FURNITURE.
17. JUNCTION BOX ABOVE CEILING FOR 120V POWER TO ELECTROMAGNETIC DOOR HOLDING DEVICE.



ENLARGED ROOM 138 FLOOR PLAN

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

SEE VARIABLE AIR TERMINAL UNIT CONNECTION SCHEDULE, SHEET E-105, FOR VAV SIZES AND CIRCUIT DESIGNATIONS



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

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

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — JOHN DAVID WEBSTER — REGISTERED PROFESSIONAL ENGINEER — 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

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ACTIVITY

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<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
FIRST FLOOR POWER PLAN – NEW WORK

SCALE: AS NOTED

EPROJECT NO.: -

CONSTR. CONTR. NO. N40080-12-R-4422

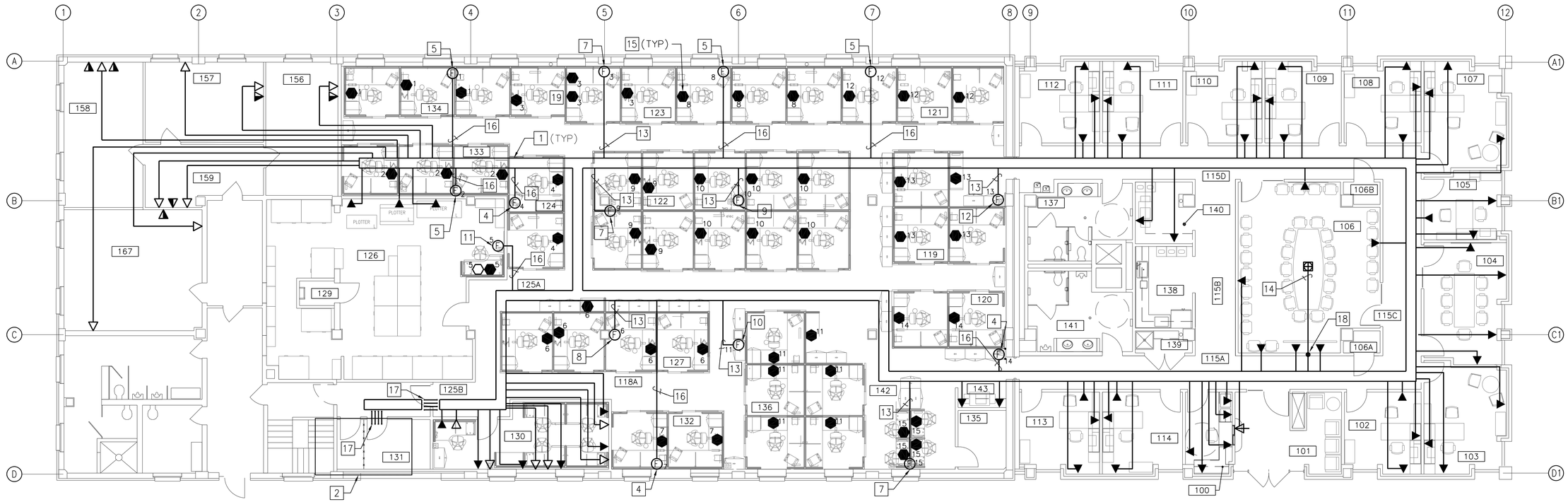
NAVFAC DRAWING NO. 13056696

SHEET 39 OF 53

E-102

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-102 FIRST FLOOR POWER PLAN – NEW WORK.dwg LAYOUT NAME: E-102 FIRST FLOOR POWER PLAN – NEW WORK PLOTTED: Friday, April 12, 2013 – 11:02am USER: blunderwhite

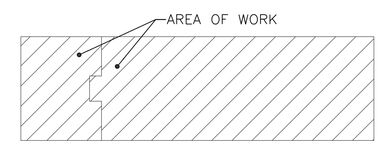


FIRST FLOOR TELECOMMUNICATIONS PLAN - NEW WORK 3

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

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. 18" X 3" DEEP BASKET TYPE CABLE TRAY MOUNTED ABOVE THE CEILING. INSTALLATION AND SUPPORT OF THE TRAY SYSTEM SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE EXACT ROUTING AND LOCATION WITH MECHANICAL DUCTS, LIGHTING FIXTURES, SPRINKLER PIPING AND OTHER DISCIPLINES WITH SYSTEMS ABOVE THE CEILING.
2. SEE "ENLARGED ROOM 131 FLOOR PLAN – NEW WORK", SHEET E-401, FOR ADDITIONAL WORK THIS AREA.
3. SEE "TELECOMMUNICATIONS RISER DIAGRAM", SHEET E-602, FOR WIRING DIAGRAMS AND CONFIGURATIONS.
4. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF EIGHT CATEGORY 6 CABLES (2-PURPLE, 2-BROWN, 2-YELLOW, 2-WHITE) TO FEED TWO WORK AREAS.
5. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF TWELVE CATEGORY 6 CABLES (3-PURPLE, 3-BROWN, 3-YELLOW, 3-WHITE) TO FEED THREE WORK AREAS.
6. FURNITURE SYSTEM DATA OUTLET FOR CONNECTION OF BAS MONITORING WORKSTATION. SEE DEMOLITION NOTE 10 ON SHEET ED101.
7. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF SIXTEEN CATEGORY 6 CABLES (4-PURPLE, 4-BROWN, 4-YELLOW, 4-WHITE) TO FEED FOUR WORK AREAS.
8. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF TWENTY CATEGORY 6 CABLES (5-PURPLE, 5-BROWN, 5-YELLOW, 5-WHITE) TO FEED FOUR WORK AREAS AND ONE PRINTER AREA.
9. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF TWENTY-FOUR CATEGORY 6 CABLES (6-PURPLE, 6-BROWN, 6-YELLOW, 6-WHITE) TO FEED SIX WORK AREAS.
10. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF TWENTY-FOUR CATEGORY 6 CABLES (6-PURPLE, 6-BROWN, 6-YELLOW, 6-WHITE) TO FEED FIVE WORK AREAS AND ONE PRINTER AREA.
11. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF SIX CATEGORY 6 CABLES (1-PURPLE, 1-BROWN, 1-YELLOW, 1-WHITE, 1-BLUE, 1-GREEN) TO FEED ONE WORK AREA.
12. TELECOMMUNICATIONS FLEX CONNECTION, COORDINATE WITH SYSTEMS FURNITURE SUPPLIER. PROVIDE A TOTAL OF SIXTEEN CATEGORY 6 CABLES (4-PURPLE, 4-BROWN, 4-YELLOW, 4-WHITE) TO FEED THREE WORK AREAS AND ONE PRINTER AREA.
13. RUN 2" EMT CONDUIT FROM THE CABLE TRAY TO TELECOMMUNICATIONS FLEX CONNECTION FOR DATA CABLES.
14. 1" CONDUIT SHALL BE RUN BELOW FIRST FLOOR SLAB IN GROUND FLOOR CEILING SPACE, SEE "FLUSH FLOOR POKE THROUGH DETAIL", SHEET E-505, FOR CONNECTION INTO POKE THROUGH BOX.
15. SEE "SYSTEMS FURNITURE DETAIL", SHEET E-504, FOR INSTALLATION OF DATA OUTLETS IN THE FURNITURE.
16. RUN 1-1/2" EMT CONDUIT FROM THE CABLE TRAY TO TELECOMMUNICATIONS FLEX CONNECTION FOR DATA CABLES.
17. FOUR 4" CONDUIT SLEEVES THROUGH WALL. SEAL WALL PENETRATIONS TO MAINTAIN FIRE RATING OF THE WALL.
18. 1" CONDUIT TURNS DOWN AND RUNS TO GROUND FLOOR CEILING SPACE.
19. FURNITURE SYSTEM DATA OUTLET FOR CONNECTION OF BAS SYSTEM MONITORING WORK STATION. SEE DEMOLITION NOTE 10 ON SHEET ED101. COORDINATE THE EXACT WORKSTATION AND LOCATION OF DATA OUTLET WITH CONTRACTING OFFICER PRIOR TO PULLING IN DATA CABLES.



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

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ACTIVITY

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DES DGW DRW DJL CHK SGR

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BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
FIRST FLOOR TELECOMMUNICATIONS PLAN – NEW WORK

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080-12-R-4422

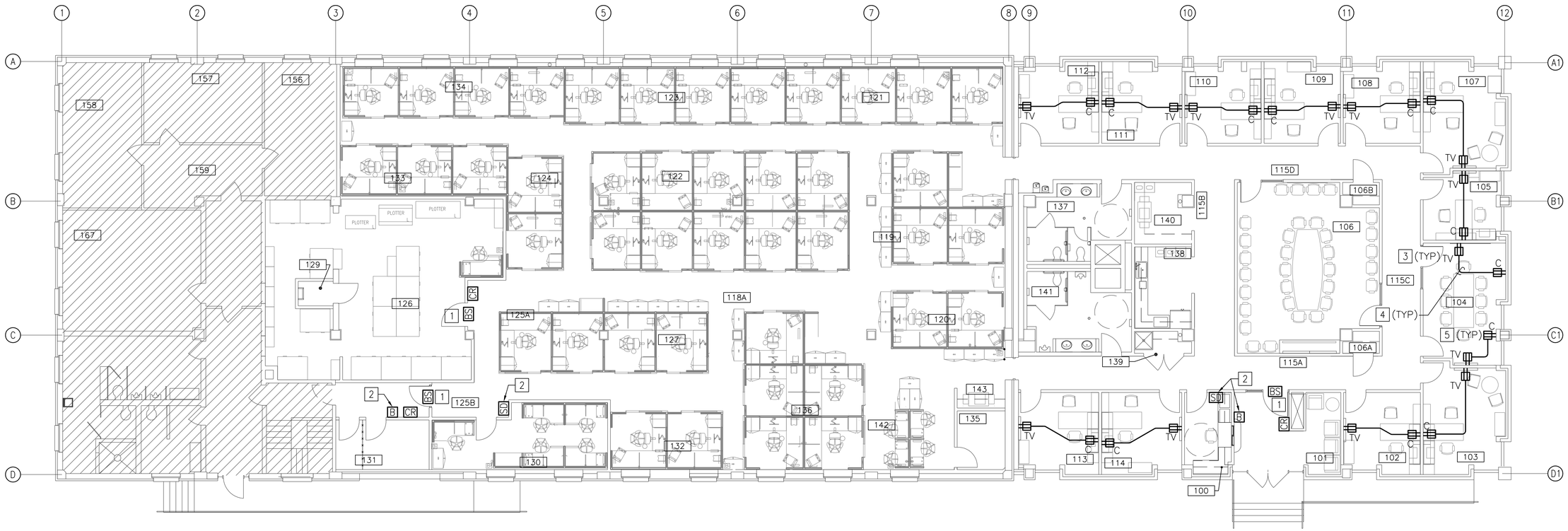
NAVFAC DRAWING NO. 13056696

SHEET 40 OF 53

E-103

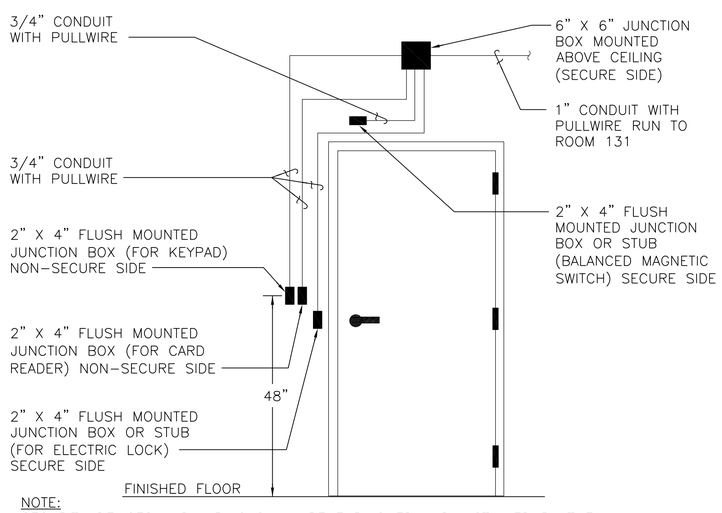
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-103 FIRST FLOOR TELECOMMUNICATIONS PLAN - NEW WORK.dwg LAYOUT NAME: E-103 FIRST FLOOR TELECOMMUNICATIONS PLAN - NEW WORK PLOTTED: Friday, April 12, 2013 - 11:02am USER: blunderwhite



FIRST FLOOR SPECIAL SYSTEMS PLAN - NEW WORK

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



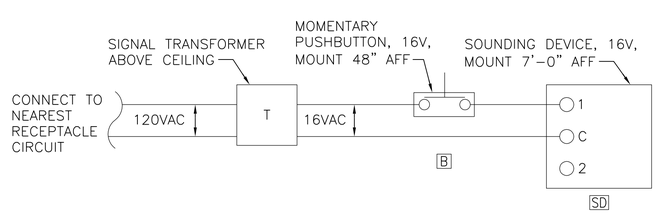
NOTE:
SECURITY DEVICES AND WIRING SHALL BE FURNISHED AND INSTALLED BY THE GOVERNMENT.

SECURE SINGLE DOOR DETAIL

NO SCALE

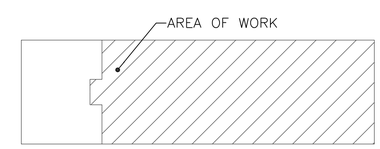
CONSTRUCTION NOTES (THIS SHEET ONLY)

1. SEE "SECURE SINGLE DOOR DETAIL", THIS SHEET FOR JUNCTION BOX AND CONDUIT REQUIREMENTS.
2. SEE "DOORBELL WIRING DIAGRAM", THIS SHEET FOR WIRING DIAGRAM FOR DOORBELL SYSTEM.
3. PROVIDE SINGLE GANG JUNCTION BOX MOUNTED ADJACENT TO RECEPTACLE AT MONITOR LOCATION WITH HDMI TO HDMI FEMALE TO FEMALE CONNECTOR AND WALL PLATE. COVER PLATE COLOR SHALL MATCH DATA OUTLET COVER PLATE.
4. HDMI TO HDMI CABLE RUN IN 3/4" CONDUIT, LENGTH AS REQUIRED TO RUN FROM TV OUTLET TO COMPUTER OUTLET.
5. PROVIDE SINGLE GANG JUNCTION BOX MOUNTED ADJACENT TO DATA OUTLET AT WORK AREA WITH HDMI TO HDMI FEMALE TO FEMALE CONNECTOR AND WALL PLATE. COVER PLATE COLOR SHALL MATCH DATA OUTLET COVER PLATE.



DOORBELL WIRING DIAGRAM

NO SCALE



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — ANDREW G. RAMSEY — REGISTERED PROFESSIONAL ENGINEER — 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

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<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

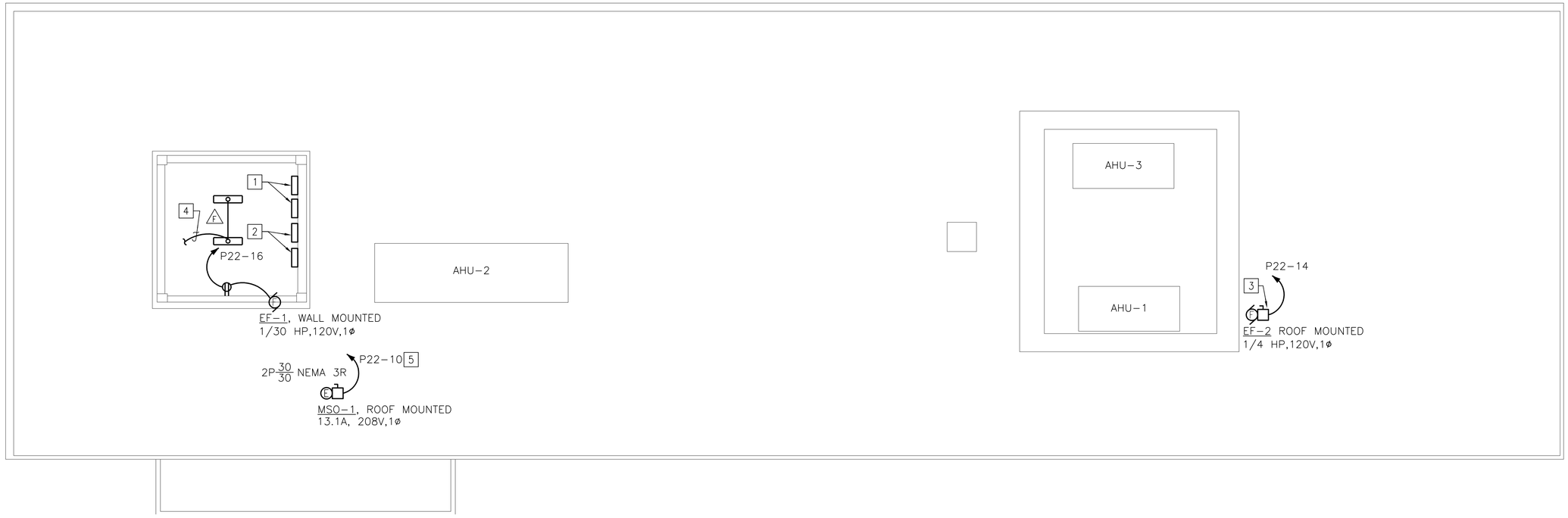
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
FIRST FLOOR SPECIAL SYSTEMS PLAN - NEW WORK

SCALE: AS NOTED
EPROJECT NO.: -
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056698
SHEET 41 OF 53

E-104

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO. B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-104 FIRST FLOOR SPECIAL SYSTEMS PLAN - NEW WORK.dwg LAYOUT NAME: E-104 FIRST FLOOR SPECIAL SYSTEMS PLAN - NEW WORK PLOTTED: Thursday, April 11, 2013 - 1:52pm USER: iperotta



ROOF POWER PLAN - NEW WORK

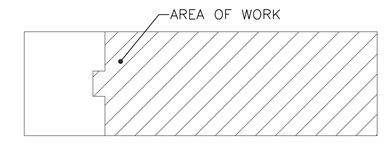
SCALE: 1/8" = 1'-0"

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. EXISTING VFD DRIVE SHALL BE INSTALLED IN THE PENTHOUSE. PULL BACK EXISTING BRANCH CIRCUIT TO THIS LOCATION AND RECONNECT. VERIFY CORRECT OPERATION OF ALL EQUIPMENT AFTER INSTALLATION.
2. HVAC CONTROLS CABINET WILL BE INSTALLED AT THIS LOCATION BY MECHANICAL CONTRACTOR. SEE DEMOTION NOTE 7, SHEET ED101.
3. DISCONNECT SWITCH FURNISHED WITH EXHAUST FAN.
4. SEE "FIRST FLOOR LIGHTING PLAN – NEW WORK", SHEET E-101, FOR CONTINUATION.
5. TWO #10 AND ONE #10 GROUND IN 3/4" CONDUIT.

VARIABLE AIR TERMINAL UNIT CONNECTION SCHEDULE

MARK	FAN SECTION ELECTRICAL			DISCONNECT SWITCH			CIRCUIT
	HP	VOLTS	PHASE	POLES	RATING	FUSE	
VAV 1-2	1/6	208	1	2	30	2	P22-27
VAV 1-3	1/10	208	1	2	30	2	P22-27
VAV 1-4	1/10	208	1	2	30	2	P22-27
VAV 1-5	1/6	208	1	2	30	2	P22-27
VAV 1-6	1/6	208	1	2	30	2	P22-27
VAV 1-7	1/10	208	1	2	30	2	P22-27
VAV 1-8	1/6	208	1	2	30	2	P22-31
VAV 1-9	1/10	208	1	2	30	2	P22-31
VAV 1-10	1/4	208	1	2	30	4	P22-31
VAV 1-12	1/6	208	1	2	30	2	P22-31
VAV 1-13	1/4	208	1	2	30	4	P22-31
VAV 1-14	1/6	208	1	2	30	2	P22-31
VAV 2-7	1/4	208	1	2	30	4	P22-23
VAV 2-8	1/4	208	1	2	30	4	P22-23
VAV 2-13	1/6	208	1	2	30	2	P22-23
VAV 2-14	1/6	208	1	2	30	2	P22-23
VAV 2-15	1/6	208	1	2	30	2	P22-23
VAV 2-16	1/6	208	1	2	30	2	P22-23



KEY PLAN

NO SCALE

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1/8"=1'-0" 0' 5' 10' 20' 30'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13 12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

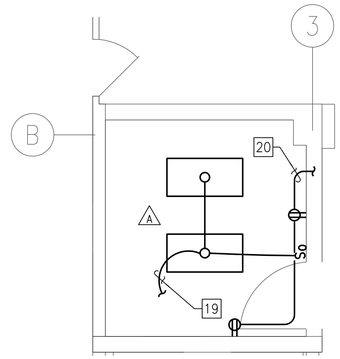
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES DGW DRW DJL CHK SGR
<<PM/DM>>
BRANCH MANAGER
CHIEF ENG/ARCH
<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
ROOF POWER PLAN – NEW WORK

SCALE: AS NOTED
EPROJECT NO.: –
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056699
SHEET 42 OF 53
E-105

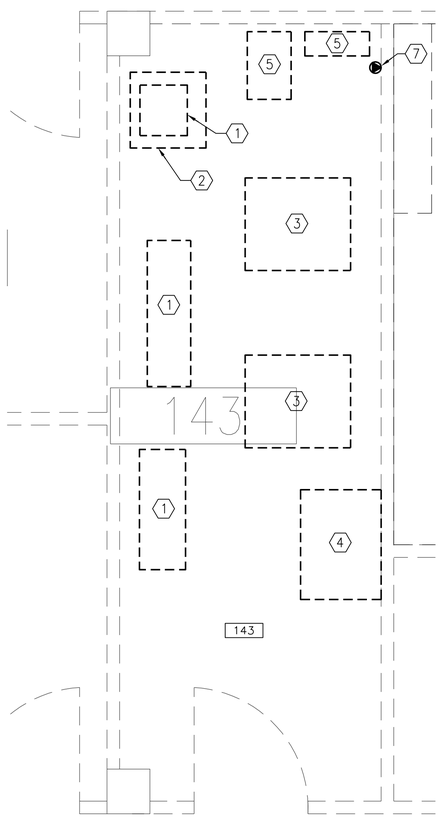
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-105 ROOF POWER PLAN - NEW WORK.dwg LAYOUT NAME: E-105 ROOF POWER PLAN - NEW WORK PLOTTED: Friday, April 12, 2013 - 11:04am USER: blunderwhite



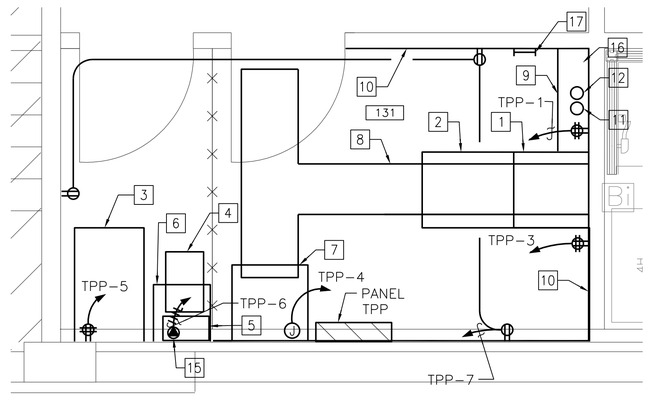
ENLARGED GROUND FLOOR ROOM 001 PLAN - NEW WORK

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



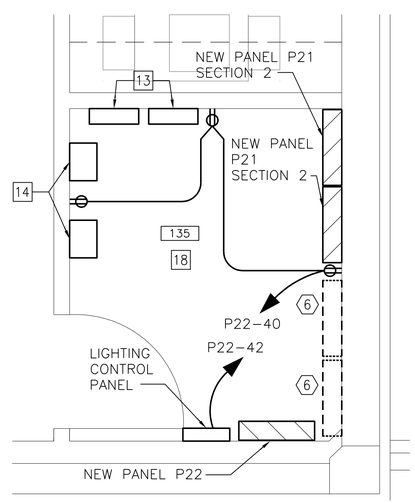
ENLARGED ROOM 143 FLOOR PLAN - DEMOLITION

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



ENLARGED ROOM 131 FLOOR PLAN - NEW WORK

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



ENLARGED ROOM 135 FLOOR PLAN - NEW WORK

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

CONSTRUCTION NOTES (CONTINUED)

19 CONNECT INTO NEAREST LIGHTING CIRCUIT.

20 CONNECT INTO NEAREST RECEPTACLE CIRUIT.

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:

1"=4' 0' 4' 8' 12' 16' 20'

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

DEMOLITION NOTES (THIS SHEET ONLY)

1. ABANDONED EQUIPMENT SHALL BE DISCONNECTED FROM ALL SOURCES AND REMOVED COMPLETE. REMOVE ASSOCIATED WIRE AND CONDUIT COMPLETE BACK TO SOURCE OF POWER.

2. NMCI WALL MOUNTED CABINET SHALL REMAIN ENERGIZED AND OPERATIONAL AS REQUIRED THROUGHOUT DEMOLITION AND CONSTRUCTION. NMCI DATA CIRCUITS SCHEDULED FOR DEMOLITION SHALL HAVE WIRING AND CONDUIT REMOVED COMPLETE BACK TO CABINET. NMCI DATA CIRCUITS SCHEDULED TO REMAIN IN OFFICES WITH NO DEMOLITION SHALL HAVE WIRING REMOVED BACK TO THE OUTLET. REMOVE THE CATEGORY 5E JACK AND REPLACE WITH SIMILAR CATEGORY 6 JACK. RUN NEW CATEGORY 6 CABLE FROM OUTLET TO NEW NMCI CABINET IN ROOM 131. WHEN ALL DATA CIRCUITS HAVE BEEN REMOVED, REMOVE WALL MOUNTED CABINET AND ASSOCIATED WIRING AND CONDUIT COMPLETE.

3. EQUIPMENT CABINET SHALL REMAIN ENERGIZED AND OPERATIONAL AS REQUIRED THROUGHOUT DEMOLITION AND CONSTRUCTION. DATA CIRCUITS SCHEDULED FOR DEMOLITION SHALL HAVE WIRING AND CONDUIT REMOVED COMPLETE BACK TO CABINET. WHEN ALL DATA CIRCUITS HAVE BEEN REMOVED, REROUTE THE 24-STRAND FIBER FROM BUILDING 11 TO LIU-2 IN EQUIPMENT DATA RACK, AND REROUTE THE 24-STRAND FIBER FROM BUILDING 8 AND THE 24-STRAND FROM BUILDING 13 TO LIU-3 IN EQUIPMENT DATA RACK IN ROOM 131. WHEN ALL DATA CIRCUITS HAVE BEEN REMOVED, REMOVE EQUIPMENT CABINET AND ASSOCIATED WIRING AND CONDUIT COMPLETE.

4. ONCE A FIBER BACKBONE HAS BEEN INSTALLED AND THE NETWORK HAS BECOME OPERATIONAL IN ROOM 131, COORDINATE THE RELOCATION OF THE SIEMENS SERVER WITH THE GOVERNMENT. DISCONNECT THE SERVER AND RELOCATE TO ROOM 131, AND CONNECT INTO NETWORK AS DIRECTED BY THE GOVERNMENT. POWER SERVER UP, FULLY TEST AND MAKE EQUIPMENT FULLY OPERATIONAL. WORK SHALL BE PERFORMED OVER A WEEKEND.

5. THE RELOCATION OF THE JOHNSON CONTROLS SERVER SHALL TAKE PLACE CONCURRENTLY WITH THE SIEMENS SERVER. DISCONNECT THE UPS UNIT AND DISCONNECT SERVER FROM NETWORK AND RELOCATE BOTH UNITS TO ROOM 131, AND CONNECT INTO NETWORK AS DIRECTED BY THE GOVERNMENT. POWER SERVER UP, FULLY TEST AND MAKE EQUIPMENT FULLY OPERATIONAL. WORK SHALL BE PERFORMED OVER A WEEKEND.

6. REMOVE PANEL P2-1, SECTIONS 1 AND 2 COMPLETE. SEE POWER RISER NOTE 18, SHEET E-601, FOR DESCRIPTION OF WORK.

7. DURING RELOCATION OF THE JOHNSON CONTROLS UPS UNIT, REMOVE THE APPLETON ADR6023 RECEPTACLE AND RELOCATE TO ROOM 131. REMOVE BRANCH CIRCUIT WIRING AND CABLE COMPLETE.

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. EQUIPMENT SWITCH RACK.
2. EQUIPMENT DATA RACK. SEE "EQUIPMENT RACK CONFIGURATION", SHEET E-505.
3. NEW LOCATION FOR SIEMENS SERVER.
4. NEW LOCATION FOR JOHNSON CONTROLS SERVER UPS UNIT.
5. NEW LOCATION FOR JOHNSON CONTROLS SERVER LOCATED ON FLOOR.
6. WALL MOUNTED SHELF FOR COMPUTER MONITOR AND KEYBOARD.
7. NMCI WALL MOUNTED CABINET.
8. 18" X 3" DEEP LADDER TYPE CABLE TRAY MOUNTED ABOVE EQUIPMENT RACKS AND CABINET. INSTALLATION AND SUPPORT OF THE TRAY SYSTEM SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
9. 8" X 3" DEEP LADDER TYPE CABLE TRAY MOUNTED LEVEL WITH 18" X 3" DEEP TRAY SYSTEM. INSTALLATION AND SUPPORT OF THE TRAY SYSTEM SHALL BE PER MANUFACTURER'S RECOMMENDED DIRECTIONS.
10. WALL SHALL BE COVERED WITH INTERIOR GRADE, FIRE RATED 3/4" PLYWOOD. MOUNT PLYWOOD VERTICALLY WITH BOTTOM 4" AFF. PLYWOOD SHALL NOT BE PAINTED, FIRE RATING STAMP SHALL BE VISIBLE.
11. 4" SLEEVE FOR INCOMING FIBER CABLES FROM BUILDING 2 AND BUILDING 27.
12. 4" SLEEVE FOR INCOMING 50-PAIR COPPER CABLE FROM GROUND FLOOR ELECTRICAL ROOM.
13. EXISTING HVAC CONTROLS CABINET WILL BE INSTALLED AT THIS LOCATION BY THE MECHANICAL CONTRACTOR.
14. EXISTING VFD DRIVE SHALL BE INSTALLED AT THIS LOCATION. EXTEND EXISTING BRANCH CIRCUIT TO THIS LOCATION AND RECONNECT. VERIFY CORRECT OPERATION OF ALL EQUIPMENT AFTER INSTALLATION. SEE DEMOLITION NOTE 8, SHEET ED101.
15. NEW LOCATION FOR APPLETON RECEPTACLE. SEE DEMOLITION NOTE 7, THIS SHEET.
16. AREA ON BACKBOARD FOR INSTALLATION OF 110 BLOCKS FOR TERMINATION AND CROSS CONNECT OF INCOMING COPPER CABLES.
17. TELECOMMUNICATIONS MAIN GROUNDING BUSBAR. SEE DETAIL ON SHEET E-505.
18. COORDINATE EXACT LOCATION AND POWER REQUIREMENTS OF AOM MODULES WITH FIRE ALARM CONTRACTOR.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — STEVEN G. RAGAN — No. 22492 — 4-12-13 — REGISTERED PROFESSIONAL ENGINEER

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
ENLARGED FLOOR PLANS

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080-12-R-4422

NAVFAC DRAWING NO. 13056700

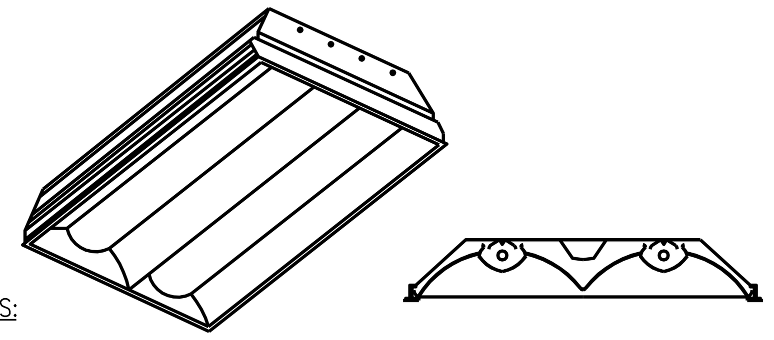
SHEET 43 OF 53

E-401

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-401 ENLARGED FLOOR PLANS.dwg LAYOUT NAME: E-401 ENLARGED FLOOR PLANS PLOTTED: Thursday, April 11, 2013 - 1:53pm USER: jperalta

A



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. REFLECTORS – TWO-PIECE CURVED STEEL WITH MATTE WHITE FINISH.
4. REFRACTORS – VIRGIN ACRYLIC
5. LAMPS – LINEAR FLUORESCENT HIGH LUMEN T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
7. CERTIFICATION – UL LISTED AND LABELED.
8. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F32/T8)
W/ PERFORATED LIGHT BASKET

RCR	CU
1	84
2	73
3	64
4	57

EFFICIENCY – 80%

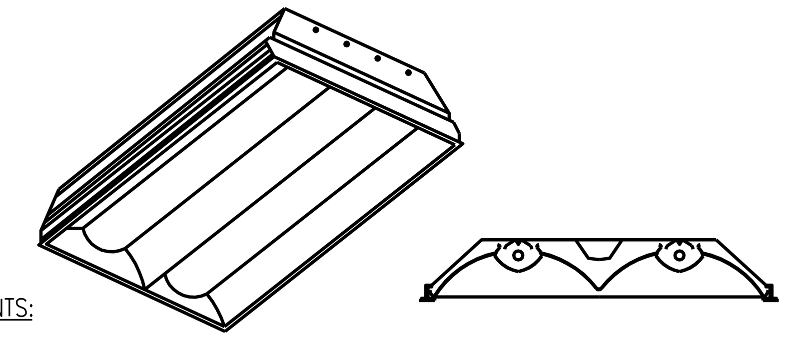
DIMENSION SPECIFICATIONS

LENGTH: 48
WIDTH: 24
DEPTH: 3 3/16

DIRECT/INDIRECT RECESSED 2' X 4' FLUORESCENT

REVISED: | LIGHTING PLATE: MOD-8

B



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. REFLECTORS – TWO-PIECE CURVED STEEL WITH MATTE WHITE FINISH.
4. REFRACTORS – VIRGIN ACRYLIC.
5. LAMPS – LINEAR FLUORESCENT HIGH LUMEN T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
7. CERTIFICATION – UL LISTED AND LABELED.
8. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F17/T8)
W/ PERFORATED LIGHT BASKET

RCR	CU
1	84
2	73
3	64
4	57

EFFICIENCY – 80%

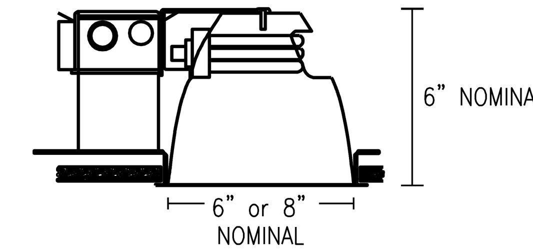
DIMENSION SPECIFICATIONS

LENGTH: 24
WIDTH: 24
DEPTH: 3 1/4

DIRECT/INDIRECT RECESSED 2' X 2' FLUORESCENT

REVISED: | LIGHTING PLATE: MOD-9

C



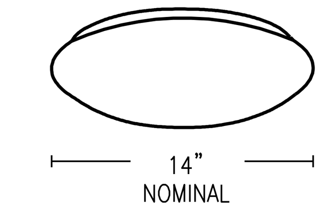
LUMINAIRE REQUIREMENTS:

1. HOUSING – ONE-PIECE, DIE-STAMPED, COLD ROLLED STEEL OR ACRYLIC-ENAMELED ALUMINUM. PROVIDE WITH PRE-WIRED JUNCTION BOX HAVING SNAP-ON ACCESS COVER. ACCESS TO JUNCTION BOX FROM BELOW CEILING SHALL BE PROVIDED THROUGH FIXTURE AFTER REMOVAL OF REFLECTOR.
2. REFLECTOR AND TRIM – ONE-PIECE, CLEAR, SPUN ALUMINUM, IRIDESCENCE-SUPRESSED, WITH PAINTED WHITE SELF TRIM. OTHER FINISHES AND TYPES AVAILABLE. SEE LIGHTING FIXTURE SCHEDULE.
3. BALLAST – CLASS P, MULTI-VOLT (120V-277V INPUT), HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION. BALLAST SHALL BE CAPABLE OF UNIVERSALLY OPERATING 26W, 32W, OR 42 WATT LAMPS.
4. LAMPS – MULTI-TUBE, COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. CERTIFICATION – UL LISTED AND LABELED.
6. FIXTURE TYPES –
   TYPE A – 6" NOMINAL APERTURE
   TYPE B – 8" NOMINAL APERTURE
7. OPTIONS –
   REFLECTOR TYPE – DIRECT DOWNLIGHT OR WALL WASH; SEMI-SPECULAR OR SPECULAR.
   REFLECTOR COLOR – CLEAR, CHAMPAGNE, PEWTER, WHEAT, GOLD OR BRONZE.
   TRIM – OPEN REFLECTOR, STEPPED WHITE OR BLACK BAFFLE.

RECESSED COMPACT FLUORESCENT DOWNLIGHT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-31

D



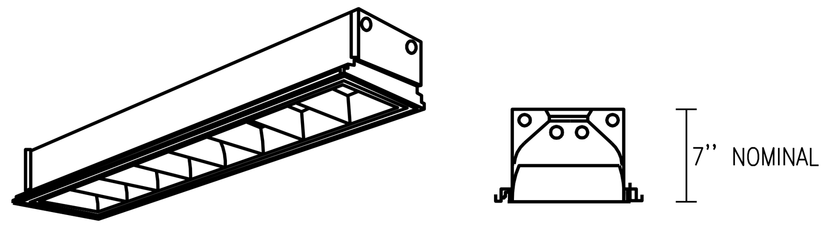
LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED ALUMINUM WITH KEYHOLE SLOTS FOR DIRECT MOUNTING TO 4" OCTAGONAL OUTLET BOX.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH BAKED WHITE ENAMEL FINISH.
3. LENS – FORMED WHITE TRANSLUCENT OPAL ACRYLIC DIFFUSER.
4. LAMPS – MULTI-TUBE COMPACT FLUORESCENT WITH 4-PIN BASE. PROVIDE WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), PROGRAMMED RAPID START ELECTRONIC TYPE WITH ≤10% TOTAL HARMONIC DISTORTION. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR OTHER BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.

OPAL ACRYLIC CEILING-MOUNTED COMPACT FLUORESCENT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-26

E



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER. INSIDE EDGE OF HOUSING SHALL HAVE FULL FLAT BLACK REVEAL FOR "FLOATING" EFFECT.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LOUVERS – LOW-IRIDESCENT, SEMI-SPECULAR, SILVER ANODIZED ALUMINUM. 3" MINIMUM DEPTH UNLESS MANUFACTURED SPECIFICALLY FOR USE WITH T8 FLUORESCENT LAMPS.
4. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F32/T8)

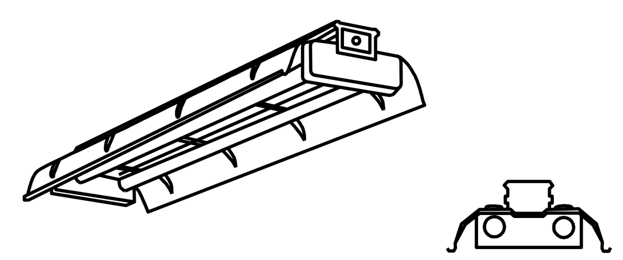
RCR	CU
1	71
2	64
3	58
4	52

EFFICIENCY – 72%

PARABOLIC RECESSED 6" X 4' FLUORESCENT TROFFER

REVISED: AUGUST 2004 | LIGHTING PLATE: MOD-5

F



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL, WITH REINFORCEMENT RIBS FOR RIGIDITY. ENDCAPS SECURED WITH TABS, SCREWS OR RIVETS. FIXTURE SHALL NOT PERMANENTLY DEFORM OUT OF "SQUARE" WHEN PICKED UP FROM ANY CORNER.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. LAMPHOLDERS- PRESSURE-LOCKED TYPE ENCLOSED IN TURRET HOUSING.
4. REFLECTOR – DIE-FORMED, COLD-ROLLED STEEL WITH TRANSVERSE RIBS FOR RIGIDITY. SOLID, 10% UPLIGHT APERATURE OR 20% UPLIGHT APERATURE AS INDICATED IN LIGHTING FIXTURE SCHEDULE.
5. LAMPS – LINEAR FLUORESCENT T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
6. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
7. CERTIFICATION – UL LISTED AND LABELED.
8. OPTIONS – CHAIN HANGER AND PLATED STEEL WIRE GUARD.
9. PHOTOMETRICS – MINIMUM VALUE OF COEFFICIENT OF UTILIZATION (CU) AND EFFICIENCY, GIVEN INTERIOR CAVITY REFLECTANCES OF 80-50-20:

2 LAMP (F32/T8)

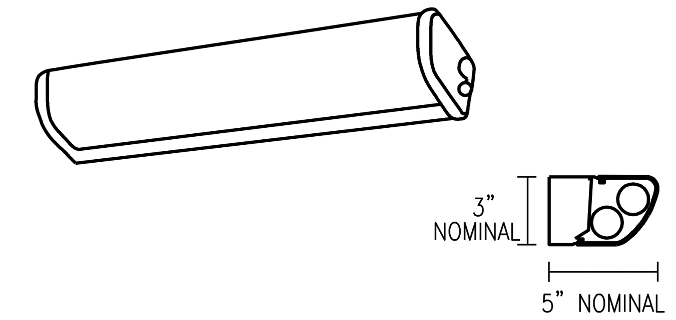
RCR	CU
1	90
2	79
3	69
4	61

EFFICIENCY – 90%

INDUSTRIAL FLUORESCENT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-13

G



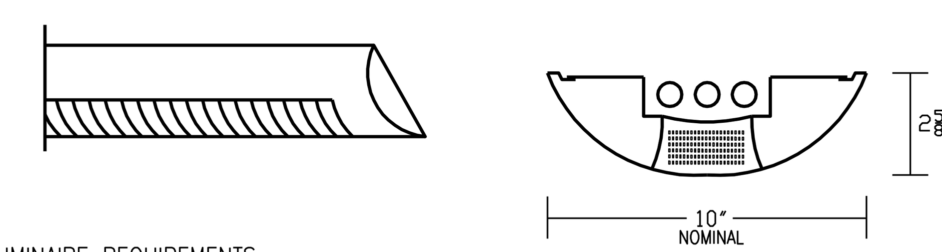
LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-FORMED, COLD-ROLLED STEEL. ENDCAPS WHEN USED SHALL BE MADE FROM SAME MATERIAL AS HOUSING EXCEPT WHEN OPTIONAL FINISH SUCH AS CHROME IS SPECIFIED.
2. FINISH – MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISHED WITH HIGH REFLECTANCE (MINIMUM 85%), BAKED WHITE ENAMEL FINISH.
3. DIFFUSER – 100% ACRYLIC, CLEAR PRISMATIC, OR WHITE OPAL ACRYLIC. DECORATIVE TREATMENTS ON DIFFUSER ENDS OPTIONAL.
4. LAMPS – LINEAR FLUORESCENT T8 TYPICALLY, WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
5. BALLAST – CLASS P, THERMALLY-PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. FIXTURE TYPES –
   TYPE A – 2' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS.
   TYPE B – 3' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS.
   TYPE C – 4' LENGTH WITH 1 OR 2 T8 FLUORESCENT LAMPS.

FLUORESCENT VANITY LIGHT

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-24

H



LUMINAIRE REQUIREMENTS:

1. HOUSING–
   TYPE A (PREMIUM): BODY FORMED FROM ONE-PIECE EXTRUDED ALUMINUM WITH DIE-CAST ALUMINUM END CAPS MECHANICALLY ATTACHED WITHOUT VISIBLE FASTENERS. ENDCAPS SHALL PROVIDE ZERO TOLERANCE ALIGNMENT BETWEEN FIXTURE ENDS, RESULTING IN A CONSISTENT STRAIGHT ROW WITHOUT ANY VISIBLE "SNAKING".
   TYPE B (STANDARD): BODY FORMED FROM ONE-PIECE, DIE-FORMED, COLD-ROLLED STEEL WITH DIE-CAST ALUMINUM OR FLAT STEEL END CAPS MECHANICALLY ATTACHED WITHOUT VISIBLE FASTENERS. ENDCAPS SHALL PROVIDE ZERO TOLERANCE ALIGNMENT BETWEEN FIXTURE ENDS, RESULTING IN A CONSISTENT STRAIGHT ROW WITHOUT ANY VISIBLE "SNAKING".
2. FINISH – SATIN ANODIZED ALUMINUM FOR TYPE A OR MULTI-STAGE PHOSPHATE BONDING TREATMENT FINISH WITH MATTE WHITE, BAKED POWDER COAT FINISH FOR TYPE B FIXTURES. CABLE FASTENERS FOR BOTH TYPES SHALL BE CHROME.
3. REFLECTORS – BAKED WHITE ENAMEL WITH MINIMUM 85% REFLECTANCE OR DIE-FORMED SPECULAR ALUMINUM.
4. BAFFLES – CONSTRUCTED FROM SEMI-SPECULAR ANODIZED ALUMINUM. PROVIDE UP/DOWN LIGHTING RATIO OF APPROXIMATELY 40/60.
5. MOUNTING– TOTALLY ADJUSTABLE AIRCRAFT CABLE SYSTEM.
6. LAMPS– LINEAR FLUORESCENT HIGH LUMEN T8, TYPICALLY WITH WATTAGES AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE.
7. BALLAST– CLASS P, THERMALLY PROTECTED, HIGH POWER FACTOR (≥.95), ELECTRONIC TYPE WITH SOUND RATING A. SEE SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR BALLAST OPTIONS AND SPECIFICS.
8. CERTIFICATION– UL LISTED AND LABELED.
9. FIXTURE TYPES–
   TYPE A– EXTRUDED ALUMINUM HOUSING
   TYPE B– COLD-ROLLED STEEL HOUSING

PENDENT-MOUNTED DIRECT/INDIRECT LINEAR FLUORESCENT

REVISED: | LIGHTING PLATE: MOD-17

SYM | DESCRIPTION | DATE | APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13
12-022A

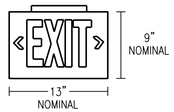
BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO DATE
DES DGW | DRW DJL | CHK SGR
<<PM/DM>>
BRANCH MANAGER
CHIEF ENG/ARCH
<<XX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
DETAILS

SCALE: AS NOTED
EPROJECT NO.: –
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056701
SHEET 44 OF 53
E-501
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-501 DETAILS.dwg LAYOUT NAME: E-501 DETAILS PLOTTED: Thursday, April 11, 2013 – 1:53pm USER: jperalta



LUMINAIRE REQUIREMENTS:

1. HOUSING – DIE-CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC. SINGLE OR DOUBLE-FACED AS INDICATED.
2. FINISH (ON CAST ALUMINUM HOUSING ONLY) – TEXTURED POWDER COAT FINISH OPTIONS INCLUDE WHITE, WHITE WITH BRUSHED ALUMINUM FACE, BLACK, OR BLACK WITH BRUSHED ALUMINUM FACE.
3. LETTERS/CHEVRONS – MINIMUM 6" HIGH WITH 3/4" STROKE. RED OR GREEN LETTERS AS INDICATED. PROVIDE CHEVRONS AS INDICATED EITHER LEFT, RIGHT OR BOTH DIRECTIONS AS INDICATED. CHEVRONS PUNCHED OUT THROUGH HOUSING AS REQUIRED.
4. EMERGENCY PACK – SOLID-STATE, CONSTANT-CURRENT TYPE BATTERY CHARGER WITH MAINTENANCE-FREE, NICKEL-CADMIUM BATTERY, AC-ON INDICATOR LAMP AND TEST SWITCH.
5. MOUNTING – UNIVERSAL MOUNTING KIT FOR CEILING, WALL OR END-OF-FIXTURE MOUNTING.
6. ILLUMINATION – PROVIDED BY RED, GREEN OR WHITE HIGH-OUTPUT LEDS INSIDE OF FIXTURE HOUSING. PROVIDE POLYSTYRENE DIFFUSER IN COLOR INDICATED WITH FREQUENCY-MATCHED SILKSCREEN COATING FOR MAXIMUM LED LIGHT OUTPUT.
7. CERTIFICATION – UL LISTED AND CERTIFIED FOR DAMP LOCATIONS.

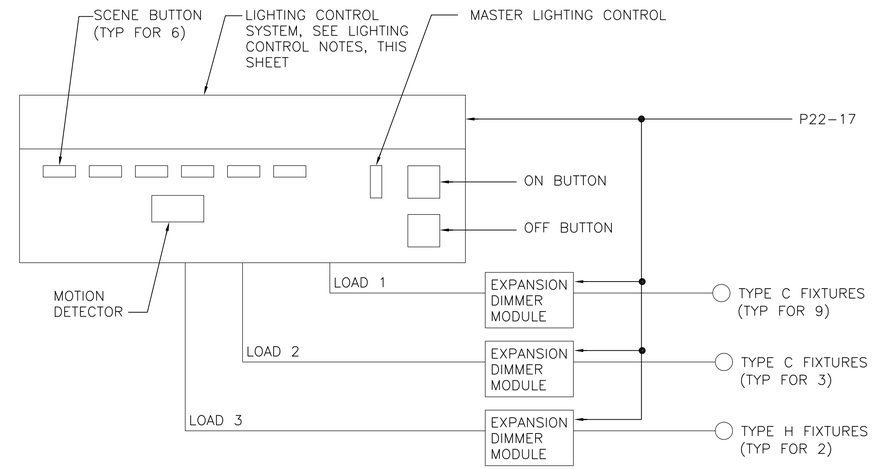
LED EXIT SIGN

REVISED: AUGUST 2004 | LIGHTING PLATE: NL-63

J

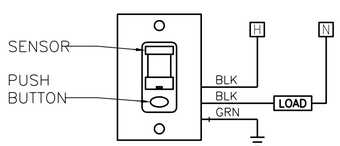
LIGHTING CONTROL NOTES

1. THE LIGHTING CONTROL SYSTEM SHALL BE A COMPLETE, INTEGRATED SYSTEM DESIGNED FOR WALL MOUNTING IN THE LOCATION SHOWN.
2. THE SYSTEM SHALL HAVE SIX CHANNELS OF DIMMING, WITH EACH CHANNEL CAPABLE OF HANDLING UP TO 800 WATTS INDIVIDUALLY, WITH A TOTAL RATING OF 1920 WATTS FOR THE COMPLETE UNIT.
3. THE SYSTEM SHALL BE ABLE TO CONTROL ON/OFF SWITCHING OF NON-DIMMABLE LOADS, MOTORIZED WINDOW TREATMENTS, SCREEN AND LIFTS IN UP TO SIX SHADE GROUPS.
4. THE SIX SCENE BUTTONS CAN BE USED TO RECALL SCENE PRESETS, WITH A "ROCKER" ACTION FOR ADJUSTING THE LIGHTING LEVELS.
5. LARGE ON AND OFF BUTTONS PROVIDE ACCESS TO THE "ON" AND "ALL OFF" SCENES.
6. ADDITIONAL CONTROLS AND NUMERIC DISPLAY ARE HIDDEN BENEATH THE HINGED FRONT COVER PLATE.
7. PROVIDE LIGHTING CONTROL SYSTEM WITH BUILT IN INFRARED MOTION DETECTOR.
8. THE EXPANSION DIMMER MODULE SHALL ALLOW DIMMING OF BOTH FORWARD AND REVERSE PHASE TYPE LOADS, INCLUDING ELECTRONIC LOW VOLTAGE (ELV). THE UNIT SHALL BE SURFACE MOUNTED TO A VERTICAL SURFACE ABOVE CEILING.
9. CABLING AND CONDUIT FOR POWER AND DATA COMMUNICATIONS SHALL BE AS DIRECTED BY THE MANUFACTURER.
10. MANUFACTURER REPRESENTATIVE SHALL PROGRAM UP TO SIX SCENES AS DIRECTED BY THE GOVERNMENT DURING TRAINING OF THE SYSTEM.
11. LIGHTING CONTROL SYSTEM DESIGN IS BASED ON CRESTRON ILUX SERIES.



ROOM 106 LIGHTING DIAGRAM

NO SCALE



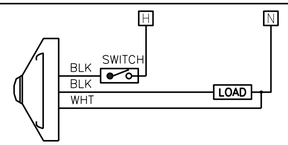
WALL SENSOR REQUIREMENTS:

1. SPECIFICATIONS – SENSOR MOUNTS IN SINGLE GANG SWITCH BOX, 30" TO 48" AFF. MAXIMUM SWITCH LOAD IS 800W @ 120 VAC (1200W @ 277 VAC) AT AN OPERATING TEMPERATURE OF 14°F TO 160°F IN 20% TO 90% NON-CONDENSING RELATIVE HUMIDITY.
2. FEATURES – SELF GROUNDING MOUNTING STRAP, NO MINIMUM LOAD, PROGRAMMABLE AND ADJUSTABLE TIME DELAY.
3. OPERATION – DUAL TECHNOLOGY SENSORS FIRST DETECT MOTION USING PASSIVE INFRARED AND THEN UTILIZE ULTRASONIC TO MONITOR CONTINUED OCCUPANCY. A SELF CONTAINED RELAY SWITCHES THE CONNECTED LIGHTING LOAD ON. A TIMER, PROGRAMMABLE FROM 30 SECONDS TO 20 MINUTES, KEEPS LIGHTS ON DURING BRIEF PERIODS OF INACTIVITY. TIMER RESETS EVERY TIME OCCUPANCY IS DETECTED. SENSORS REQUIRES NO FIELD CALIBRATION OR SENSITIVITY ADJUSTMENTS.
4. ON MODES – "AUTOMATIC ON" – LIGHTS COME ON WHEN OCCUPANCY DETECTED; "MANUAL ON" – PRESS PUSH BUTTON TO TURN LIGHTS ON; "REDUCED TURN ON" – SENSOR IS SET TO ONLY DETECT LARGE MOTIONS AND IGNORES MOVEMENT OUTSIDE OF THE ROOM THEREBY ELIMINATING FALSE ON.
5. SWITCH MODES – "PREDICTIVE MODE OFF" – ALLOWS LIGHTS TO BE TURNED OFF VIA THE PUSH BUTTON AND SENSOR GOES INTO AUTOMATIC ON OPERATION. IF OCCUPANCY IS STILL DETECTED AFTER 15 SECONDS, THE PUSH BUTTON MUST BE PRESSED TO TURN THE LIGHTS ON; "PERMANENT OFF" – PRESSING PUSH BUTTON TURNS THE LIGHTS AND SENSOR OFF, PUSH BUTTON MUST BE PRESSED AGAIN TO TURN ON LIGHTS; "SWITCH DISABLE" – PREVENTS USER FROM MANUALLY TURNING OFF THE LIGHTS VIA THE PUSH BUTTON.
6. OPTIONS – PROVIDE PHOTOCELL, LOW TEMP/HIGH HUMIDITY OPERATION, OR VANDAL RESISTANT LENS AS INDICATED ON THE DRAWINGS. VANDAL RESISTANT LENS SHALL NOT DECREASE DETECTION BY MORE THAN 50%.
7. CERTIFICATION – UL LISTED AND LABELED.

WALL SWITCH OCCUPANCY SENSOR – DUAL TECHNOLOGY (DT) TYPE

LIGHTING CONTROL PLATE: LC-2

K



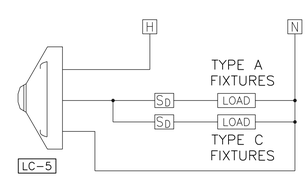
CEILING SENSOR REQUIREMENTS:

1. SPECIFICATIONS – SENSOR MOUNTS IN ROUND FIXTURE BOX OR MUD RING IN DOUBLE GANG BOX LOCATED ABOVE CEILING; MAXIMUM SWITCH LOAD IS 800W @ 120VAC (1200W @ 277V) AT AN OPERATING TEMPERATURE OF 14°F TO 160°F IN 20% TO 90% NON-CONDENSING RELATIVE HUMIDITY.
2. FEATURES – NO MINIMUM LOAD, PROGRAMMABLE AND ADJUSTABLE TIME DELAY.
3. OPERATION – SENSOR DETECTS CHANGES IN THE INFRARED ENERGY GIVEN OFF BY OCCUPANTS. A SELF CONTAINED RELAY SWITCHES THE CONNECTED LIGHTING LOAD ON. ONCE ON, THE SENSOR DETECTS NOISE LEVEL CHANGES IN THE SPACE TO KEEP THE LIGHTS ON. A TIMER, PROGRAMMABLE FROM 30 SECONDS TO 20 MINUTES, KEEPS LIGHTS ON DURING BRIEF PERIODS OF INACTIVITY. TIMER RESETS EVERY TIME OCCUPANCY IS DETECTED. ONCE THE TIMER EXPIRES, A 10 SECOND GRACE PERIOD ALLOWS THE OCCUPANT TO INITIATE VOICE OR MOTION TO REACTIVATE THE LIGHTS. IF THE GRACE PERIOD EXPIRES, THE SENSOR GOES INTO THE OFF STATE, AND THE SENSOR MUST DETECT CHANGES IN THE INFRARED ENERGY TO INITIATE THE SYSTEM TO THE ON STATE.
4. FIELD OF VIEW – THE SENSOR PROVIDES A MAXIMUM VIEWING ANGLE OF 56° IN A COMPLETE 360° CONICAL PATTERN. PLACE THE SENSOR ALONG THE ENTRANCE DOOR WALL TO PREVENT IT FROM VIEWING OUT OF THE SPACE. AVOID LOCATING THE SENSOR NEAR HVAC AIR DIFFUSERS BECAUSE THE "NOISE" FROM AIR FLOW WILL COMPLETE 360° CONICAL PATTERN. PLACE THE SENSOR ALONG THE ENTRANCE DOOR WALL TO PREVENT IT FROM VIEWING OUT OF THE SPACE. AVOID LOCATING THE SENSOR NEAR HVAC AIR DIFFUSERS BECAUSE THE "NOISE" FROM AIR FLOW WILL DECREASE THE SENSITIVITY OF THE SENSOR. HEAT PRODUCING SOURCES CONTROLLED BY THE SENSOR SHALL NOT BE IN THE VIEW PATTERN OF THE SENSOR.
5. OPTIONS – PROVIDE PHOTOCELL, LOW TEMP/HIGH HUMIDITY OPERATION AS INDICATED ON THE DRAWINGS.
6. CERTIFICATION – UL LISTED AND LABELED.

CEILING OCCUPANCY SENSOR – DUAL TECHNOLOGY (DT) TYPE

LIGHTING CONTROL PLATE: LC-5

L



ROOM 104 LIGHTING DIAGRAM

NO SCALE

NOTE: WIRING DIAGRAM IS TYPICAL FOR EAST AND WEST SIDES OF ROOM 104.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13 12-022A

BOWMAN, FOSTER & ASSOC. CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW | DRW DJL | CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
DETAILS

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080-12-R-4422

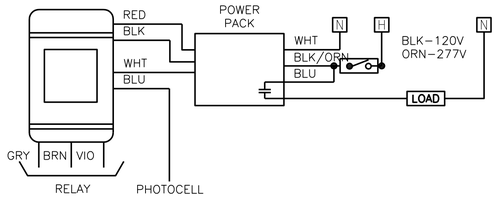
NAVFAC DRAWING NO. 13056702

SHEET 45 OF 53

E-502

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-502 DETAILS.dwg LAYOUT NAME: E-502 DETAILS PLOTTED: Thursday, April 11, 2013 - 1:53pm USER: ipenotta

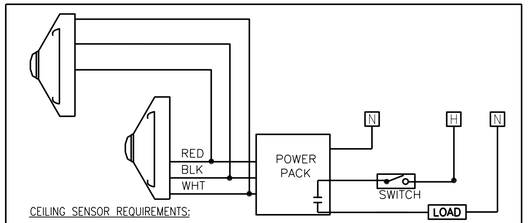


WIDE VIEW SENSOR REQUIREMENTS

1. SPECIFICATIONS – LOW VOLTAGE SENSOR MOUNTS DIRECTILY TO CORNER OR WALL FROM 7' TO 10' AFF, OPERATING VOLTAGE IS 12–24 VAC OR DC, WITH A CURRENT DRAW OF 4 MILLI-AMPS, AT AN OPERATING TEMPERATURE OF 14°F TO 160°F IN 20% TO 90% NON-CONDENSING RELATIVE HUMIDITY. SENSOR REQUIRES A POWER PACK.
2. FEATURES – 120° BY 40' COVERAGE FOR SMALL MOTION, ADJUSTABLE TIME DELAY.
3. OPERATION – DUAL TECHNOLOGY SENSORS FIRST DETECT MOTION USING PASSIVE INFRARED AND THEN UTILIZE ULTRASONIC TO MONITOR CONTINUED OCCUPANCY A TIMER, PROGRAMMABLE FROM 30 SECONDS TO 20 MINUTES, KEEPS LIGHTS ON DURING BRIEF PERIODS OF INACTIVITY. TIMER RESETS EVERY TIME OCCUPANCY IS DETECTED. SENSOR REQUIRES NO FIELD CALIBRATION OR SENSITIVITY ADJUSTMENTS.
4. INSTALLATION – SENSOR HAS REAR ENCLOSURE WHICH IS BEVELED SO AS TO BE CORNER MOUNTED. MOUNT IN CORNER ABOVE ENTRANCE DOOR OR IN CORNER ALONG THE SAME WALL AS THE ENTRANCE. FOR MOUNTING HEIGHTS ABOVE 10', USE A CEILING MOUNT BRACKET AND MOUNT SENSOR TO ANGLED SIDE TO PROVIDE A 30° LOOK DOWN.
5. OPTIONS – PROVIDE LOW VOLTAGE RELAY, PHOTOCELL, OR LOW TEMP/HIGH HUMIDITY OPERATION.
7. CERTIFICATION – UL LISTED AND LABELED.

WIDE VIEW SENSOR – DUAL TECHNOGY (DT) TYPE

LIGHTING CONTROL PLATE: LC–4

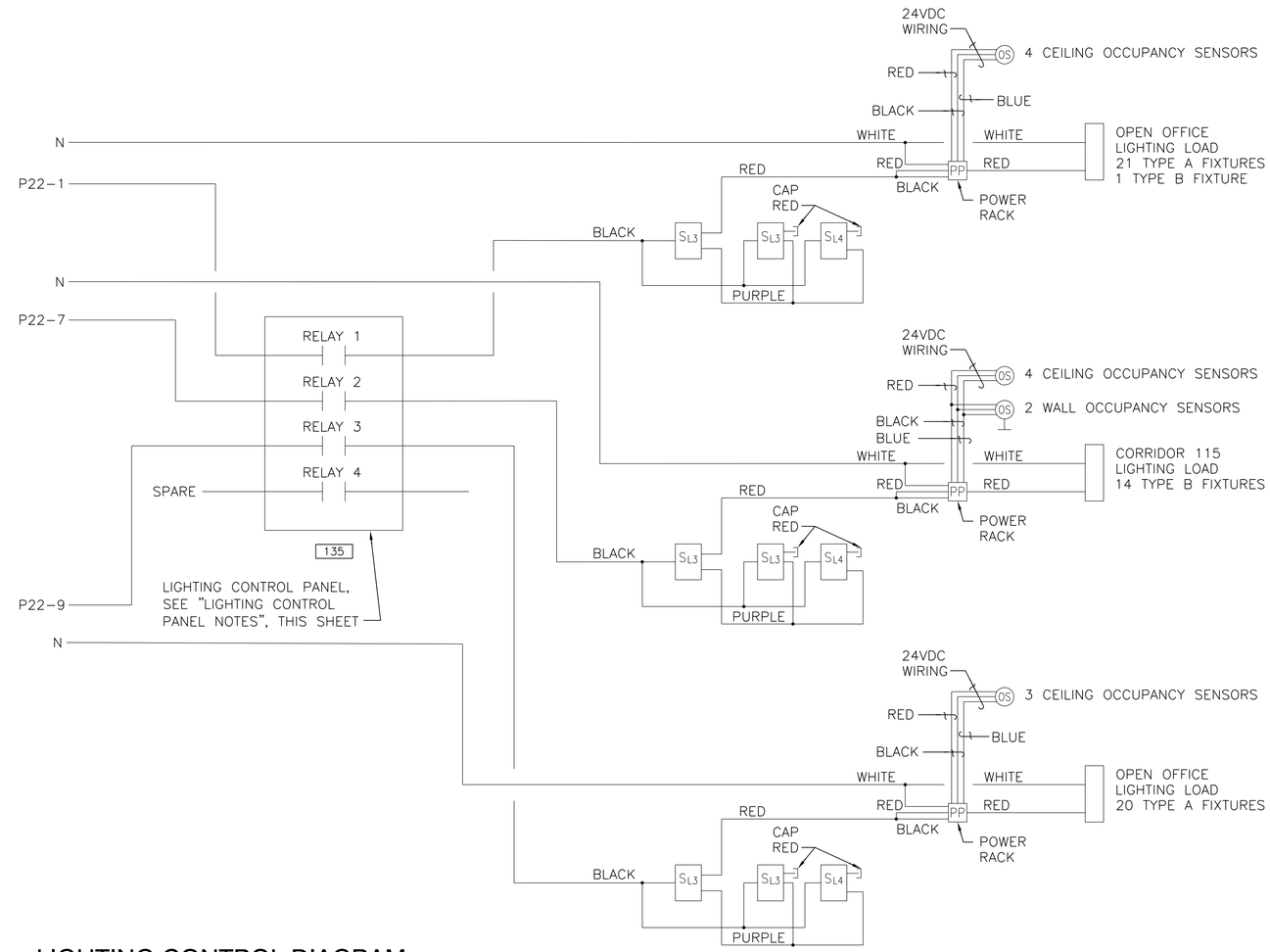


CEILING SENSOR REQUIREMENTS:

1. SPECIFICATIONS – SENSOR MOUNTS IN ROUND FIXTURE BOX OR MUD RING IN DOUBLE GANG BOX LOCATED ABOVE CEILING. OPERATES AT A TEMPERATURE OF 14°F TO 160°F IN IN 20% TO 90% NON-CONDENSING RELATIVE HUMIDITY. CONNECTED TO POWER PACK, WHICH CAN DRIVE UP TO 200mA LOW VOLTAGE LOAD.
2. FEATURES – PROGRAMMABLE AND ADJUSTABLE TIME DELAY FROM 30 SECONDS TO 20 MINUTES AT SELECTABLE 2.5 MINUTE INCREMENTS.
3. OPERATION – SENSOR OPERATES USING A POWER PACK, WHICH ACCEPTS LINE VOLTAGE AT 120V OR 277V, AND THEN OUTPUTS LOW VOLTAGE TO THE SENSORS. CHANGES IN THE INFRARED ENERGY GIVEN OFF BY OCCUPANTS IS DETECTED BY THE SENSORS, WHICH SWITCHES THE CONNECTED LIGHTING LOAD ON. ONCE ON, THE SENSOR DETECTS NOISE LEVEL CHANGES IN THE SPACE TO KEEP THE LIGHTS ON. A TIMER KEEPS LIGHTS ON DURING BRIEF PERIODS OF INACTIVITY. TIMER RESETS EVERY TIME OCCUPANCY IS DETECTED. ONCE THE TIMER EXPIRES, A 10 SECOND GRACE PERIOD ALLOWS THE OCCUPANT TO INITIATE VOICE OR MOTION TO REACTIVATE THE LIGHTS. IF THE GRACE PERIOD EXPIRES, THE SENSOR GOES INTO THE OFF STATE, AND THE SENSOR MUST DETECT CHANGES IN THE INFRARED ENERGY TO INITIATE THE SYSTEM TO THE ON STATE.
4. FIELD OF VIEW – THE SENSOR PROVIDES A MAXIMUM VIEWING ANGLE OF 56° IN A COMPLETE 360° CONICAL PATTERN. PLACE THE SENSOR ALONG THE ENTRANCE DOOR WALL TO PREVENT IT FROM VIEWING OUT OF THE SPACE. AVOID LOCATING THE SENSOR NEAR HVAC AIR DIFFUSERS BECAUSE THE "NOISE" FROM AIR FLOW WILL DECREASE SENSITIVITY OF THE SENSOR. HEAT PRODUCING SOURCES CONTROLLED BY THE SENSOR SHALL NOT BE IN THE VIEW PATTERN OF THE SENSOR.
5. OPTIONS – PROVIDE PHOTOCELL, LOW TEMP/HIGH HUMIDITY OPERATION AS INDICATED ON THE DRAWINGS.
6. CERTIFICATION – UL LISTED AND LABELED.
7. MULTIPLE SENSORS ARE WIRED IN PARALLEL, HOWEVER THE MAXIMUM LOAD RATINGS REMAIN THE SAME.

CEILING OCCUPANCY SENSOR – DUAL TECHNOLOGY (DT) TYPE

LIGHTING CONTROL PLATE: LC–7



LIGHTING CONTROL DIAGRAM

NO SCALE

LIGHTING CONTROL PANEL NOTES

1. PROVIDE A COMMERCIAL LIGHTING CONTROL PANEL THAT CAN OPERATE IN A NETWORKED CONFIGURATION OR STAND–ALONE MODE. PANEL SHALL BE NEMA 1 SURFACE ENCLOSURE WITH HINGED LOCKING DOOR.
2. PANEL ENCLOSURE SHALL CONTAIN A MAXIMUM OF FOUR (4) 120/277V, 20A SINGLE POLE RELAYS. RELAYS SURE BE NORMALLY OPEN AND ELECTRICALLY HELD.
3. SYSTEM ALLOWS FOR SIMPLE PROGRAMMING BASED ON USER–SELECTED INDOOR SCENARIOS. PROGRAMMING CAN CREATE GROUPS AND SCHEDULES USING A REAL TIME CLOCK OR ASTRONOMICAL CLOCK.
4. SYSTEM CAN ACCOMMODATE UP TO 64 SCHEDULES WITH DATE RANGE, NINETY–NINE (99) HOLIDAY DATES AND FOUR (4) HOLIDAY SCHEDULES.
5. PROGRAMMING SHALL BE CAPABLE OF SETTING OPEN/CLOSE TIME, AFTER HOUR SWEEPS AND BLINK WARNINGS. PANEL CAN BE OPERATED WITH THE DOOR CLOSED.
6. LIGHT SWITCHES USED FOR SPACE CONTROL SHALL BE LINE VOLTAGE TYPE AND CAPABLE OF 3–WAY AND 4–WAY SWITCHING. SWITCHES SHALL BE FROM THE SAME MANUFACTURER OF THE LIGHTING CONTROL SYSTEM TO MAINTAIN COMPATIBILITY THROUGHOUT THE SYSTEM.
7. DESIGN IS BASED ON HUBELL BUILDING AUTOMATION, CX SERIES.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND – JAMES E. CRAWFORD III – No. 22422 – REGISTERED PROFESSIONAL ENGINEER – 4-12-13

12–022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
DIAGRAM

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080–12–R–4422

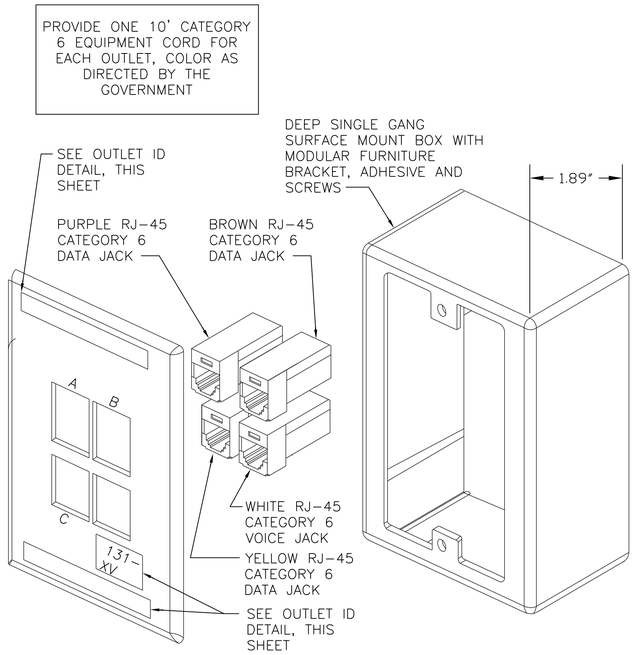
NAVFAC DRAWING NO. 13056703

SHEET 46 OF 53

E-503

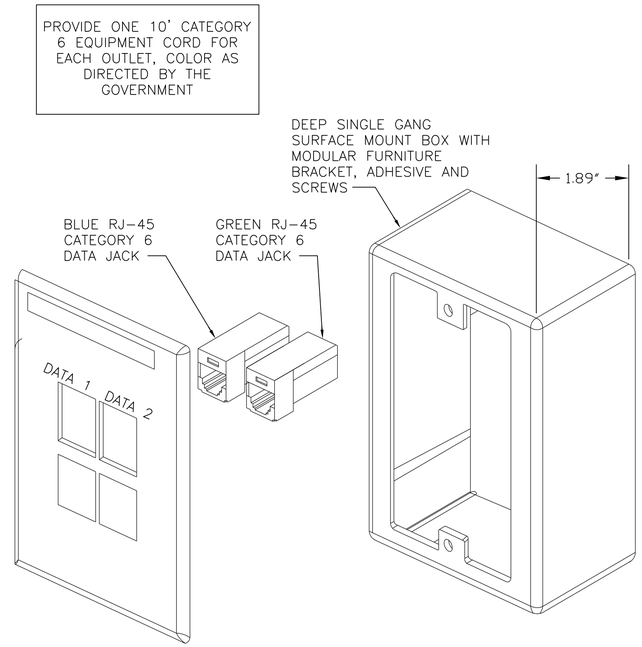
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-503 DIAGRAM.dwg LAYOUT NAME: E-503 DIAGRAM PLOTTED: Thursday, April 11, 2013 - 1:53pm USER: jperalta



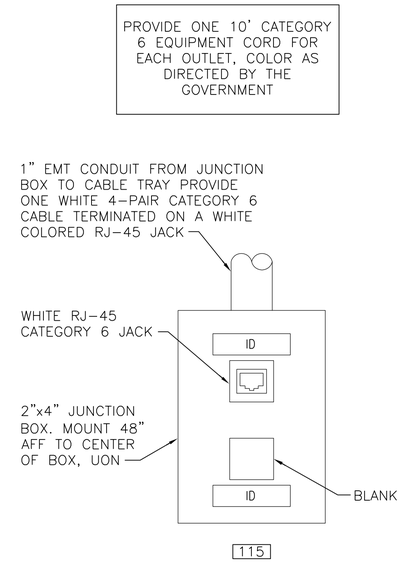
TYPICAL TELECOMMUNICATIONS FURNITURE OUTLET FOR WRNMMC NETWORK ( ) ⬢

NO SCALE



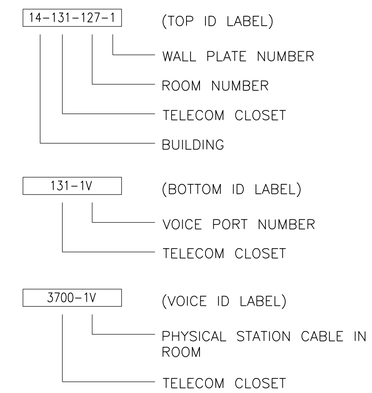
TYPICAL TELECOMMUNICATIONS FURNITURE OUTLET FOR NMCI NETWORK ( ) ⬡

NO SCALE



VOICE WALL OUTLET ( ) ⏚

NO SCALE



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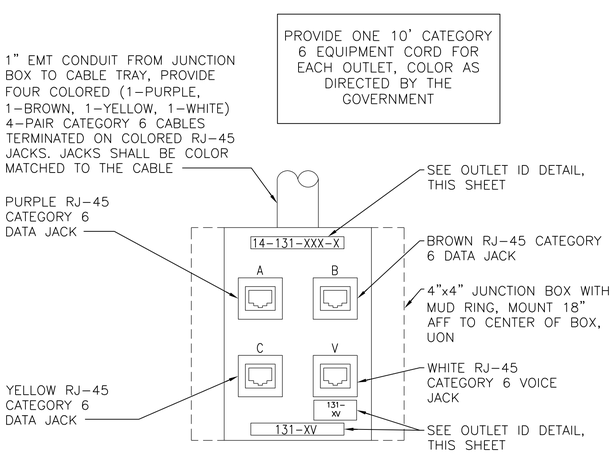
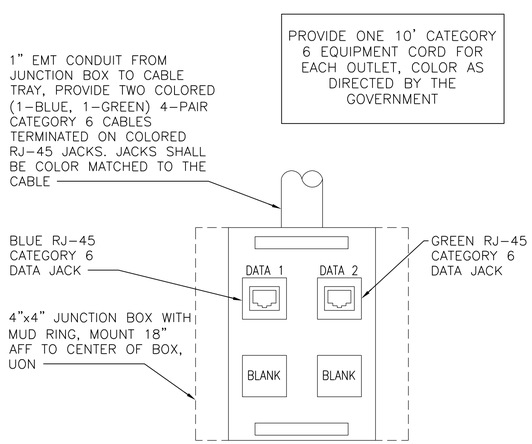


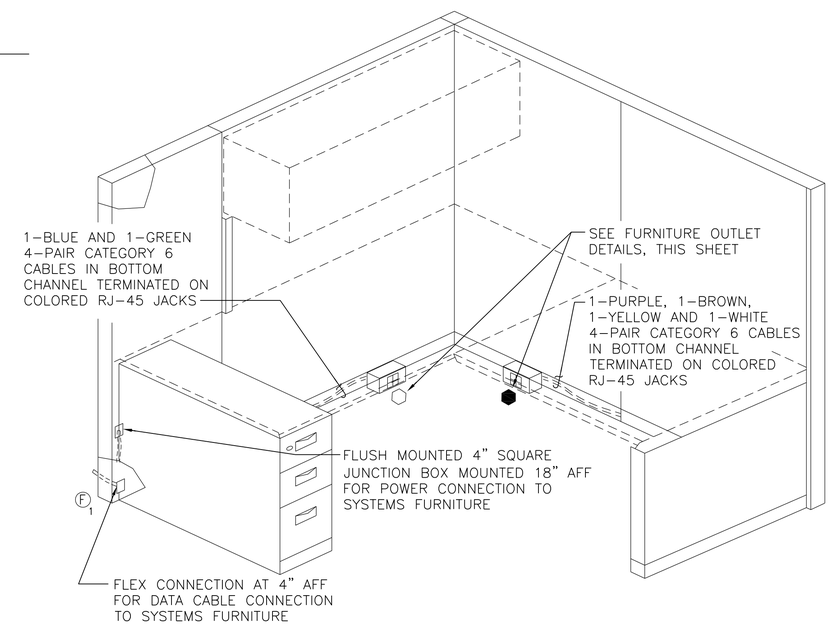
TYPICAL TELECOMMUNICATIONS OUTLET FOR WRNMMC NETWORK ( ) ▼

NO SCALE



TYPICAL TELECOMMUNICATIONS OUTLET FOR NMCI NETWORK ( ) ▽

NO SCALE



SYSTEMS FURNITURE DETAIL

NO SCALE

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
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DES DGW DRW DJL CHK SGR

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BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
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BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
DETAILS

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080-12-R-4422

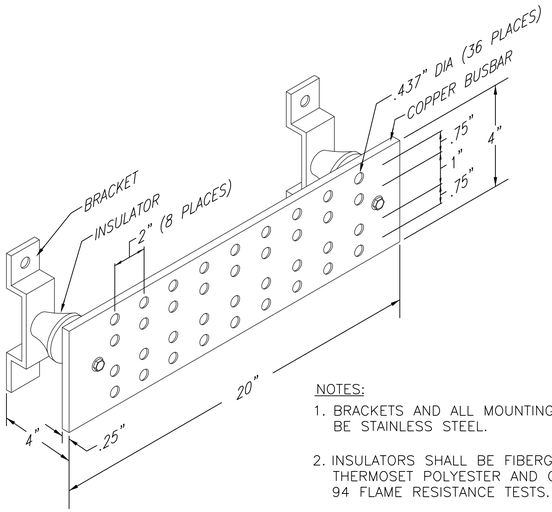
NAVFAC DRAWING NO. 13056704

SHEET 47 OF 53

E-504

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-504 DETAILS.dwg LAYOUT NAME: E-504 DETAILS PLOTTED: Friday, April 12, 2013 - 11:05am USER: blunderwhite

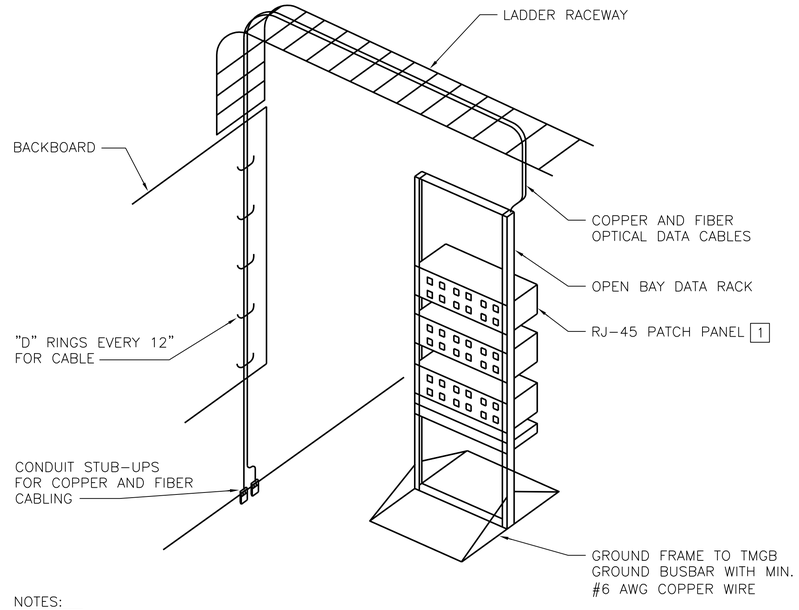


NOTES:

1. BRACKETS AND ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
2. INSULATORS SHALL BE FIBERGLASS-REINFORCED THERMOSET POLYESTER AND CONFORM TO UL 94 FLAME RESISTANCE TESTS.

TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) DETAIL

NO SCALE

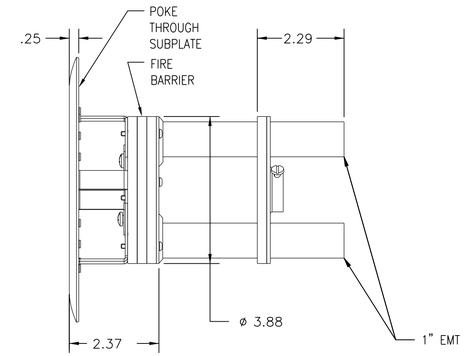


NOTES:

1 PROVIDE QUANTITY OF PATCH PANELS AS REQUIRED TO SUPPORT THE NUMBER OF WORKSTATION JACKS SHOWN ON TELECOMMUNICATIONS RISER DIAGRAM, SHEET E-602.

EQUIPMENT RACK CONFIGURATION

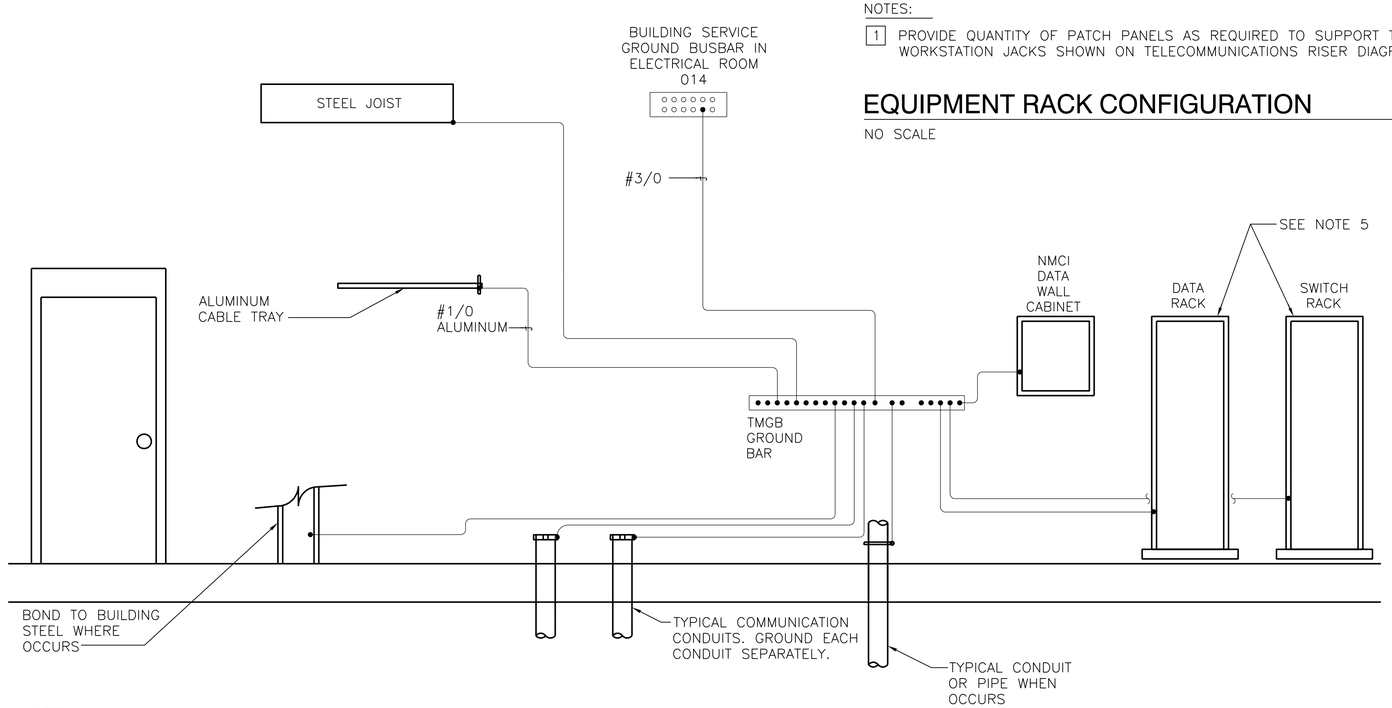
NO SCALE



*NOTE: DESIGN FOR POKE THROUGH FLOOR DEVICE BASED AROUND HUBBELL WIRING SYSTEM. COVER AND BOX ASSEMBLY SHALL MEET OR EXCEED UL514 SCRUB WATER EXCLUSION REQUIREMENTS.

FLUSH FLOOR POKE THROUGH DETAIL

NO SCALE

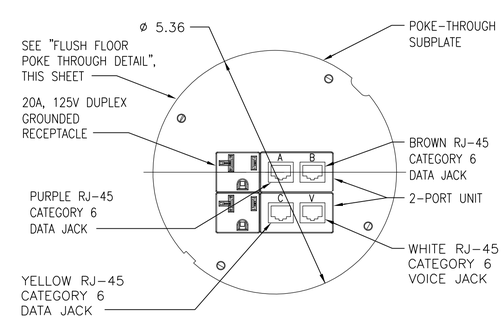


NOTES:

1. SEE "TELECOMMUNICATIONS MAIN GROUNDING BUSBAR DETAIL", THIS SHEET, FOR INSTALLATION AND CONNECTIONS TO THE GROUND BAR.
2. PROVIDE #6 BARE COPPER GROUND FOR ALL COMMUNICATION EQUIPMENT, UNLESS OTHERWISE NOTED.
3. PROVIDE EQUIPMENT GROUNDING CONDUCTORS FOR ALL POWER EQUIPMENT PER NEC.
4. PROVIDE MINIMUM #2 BARE COPPER GROUND FOR ALL OTHER EQUIPMENT, UON.
5. EACH RACK SHALL BE PHYSICALLY SECURED TO FLOOR AND THE TOP OF THE RACK SECURED TO STRUCTURAL CEILING AS DIRECTED BY RACK MANUFACTURER, IN ORDER TO PROHIBIT MOVEMENT AND SWAYING.

ROOM 131 GROUNDING SCHEMATIC

NO SCALE



106

CONFERENCE ROOM FLOOR OUTLET ( )

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — ANDREW T. GRAHAM — No. 22422 — 4-12-13 — REGISTERED PROFESSIONAL ENGINEER

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
DETAILS

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO. N40080-12-R-4422

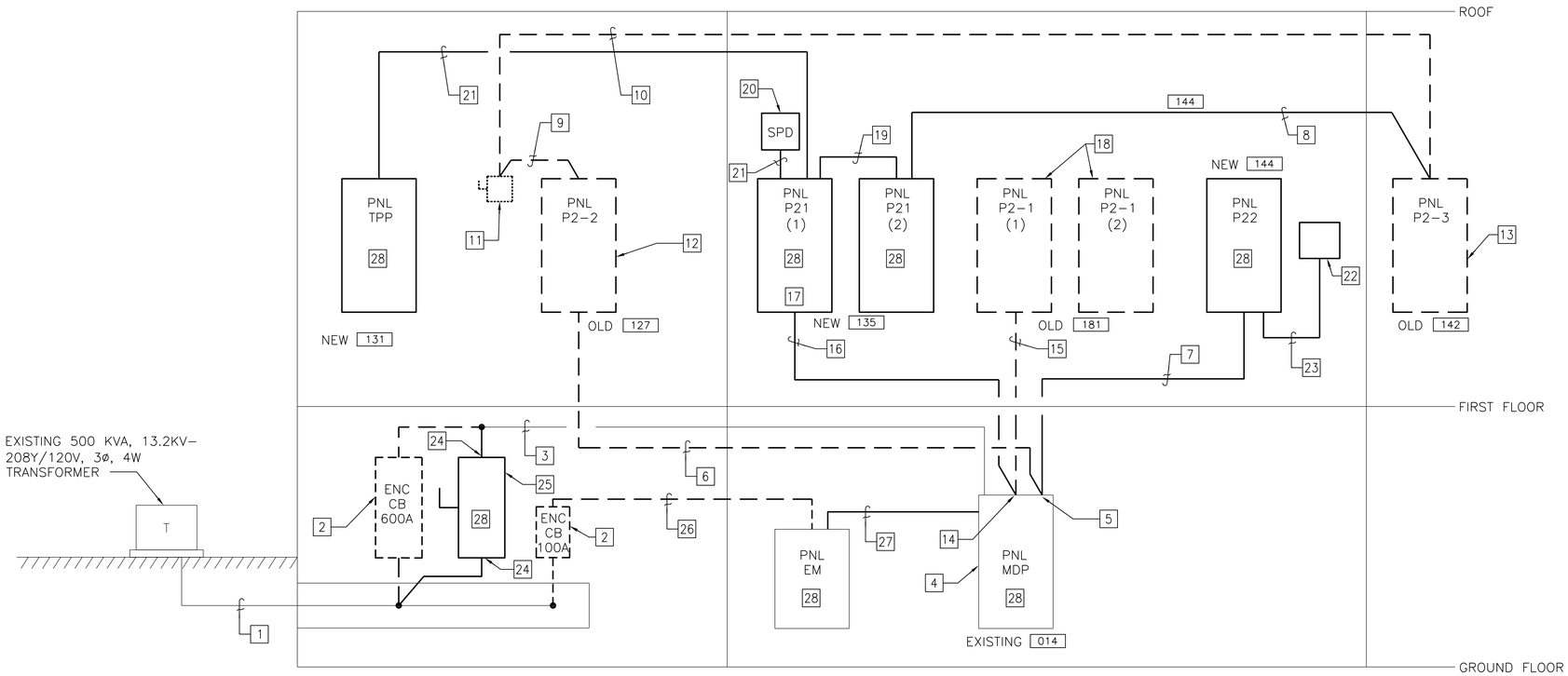
NAVFAC DRAWING NO. 13056705

SHEET 48 OF 53

E-505

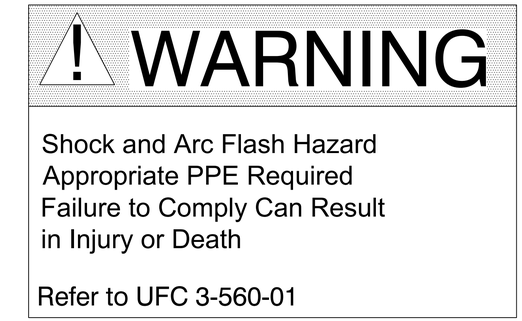
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVCATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-505 DETAILS.dwg LAYOUT NAME: E-505 DETAILS PLOTTED: Thursday, April 11, 2013 - 1:53pm USER: iperotto



POWER RISER DIAGRAM - DEMOLITION AND NEW WORK

NO SCALE



ARCH FLASH WARNING LABEL

NO SCALE

POWER RISER NOTES

1. EXISTING TWO 3–1/2" CONDUITS WITH FOUR 500 KCMIL IN EACH, TO REMAIN.
2. RECONNECT LINE SIDE AND LOAD SIDE FEEDERS TO NEW 600A FUSED DISCONNECT SWITCH LUGS.
3. EXISTING TWO 3" CONDUITS WITH FOUR 350 KCMIL & ONE #1/0 IN EACH, TO REMAIN.
4. EXISTING PANEL MDP, 600A MLO, 208Y/120V, 3ø, 4W, TO REMAIN.
5. PROVIDE TEMPORARY SPLICE OR DOUBLE TAP AT EXISTING 225A CIRCUIT BREAKER. BREAKER SHALL TEMPORARILY FEED EXISTING FEEDER TO EXISTING PANEL P2–2 AND NEW FEEDER TO NEW PANEL P22.
6. DISCONNECT FEEDER CONDUCTORS FROM EXISTING PANEL P2–2 AND REMOVE WIRING AND CONDUIT BACK TO PANEL MDP COMPLETE WHEN ALL BRANCH CIRCUITS HAVE BEEN REMOVED FROM PANEL P2–2.
7. RUN FOUR #4/0 AND ONE #4 GROUND IN 2–1/2" CONDUIT FROM PANEL P22 TO PANEL MDP AND CONNECT TO 225A CIRCUIT BREAKER THAT FORMALLY FED PANEL P2–2.
8. WHEN PANEL P21 HAS BECOME ENERGIZED, PROVIDE 50A/3P CIRCUIT BREAKER IN PANEL P21 SECTION 2 TO PROVIDE TEMPORARY FEED TO EXISTING PANEL P2–3. RUN FOUR #8 AND ONE #10 GROUND IN 1" CONDUIT FOR TEMPORARY FEED. REMOVE THIS FEEDER WHEN ALL BRANCH CIRCUITS HAVE BEEN REMOVED FROM PANEL P2–3.
9. DISCONNECT FEEDER FROM PANEL P2–2 AND REMOVE WIRING AND CONDUIT COMPLETE BACK TO DISCONNECT SWITCH.
10. DISCONNECT FEEDER FROM DISCONNECT SWITCH AND REMOVE WIRING AND CONDUIT COMPLETE BACK TO PANEL P2–3.
11. REMOVE DISCONNECT SWITCH COMPLETE.
12. PANEL SHALL REMAIN ENERGIZED AS REQUIRED THROUGHOUT DEMOLITION AND CONSTRUCTION. BRANCH CIRCUITS SCHEDULED FOR DEMOLITION SHALL HAVE WIRING AND CONDUIT REMOVED COMPLETE. BRANCH CIRCUITS THAT SHALL REMAIN SHALL BE DISCONNECTED AND EXTENDED TO PANEL P22 AND CONNECTED TO SPARE CIRCUIT BREAKERS. WHEN ALL CIRCUITS HAVE BEEN REMOVED COMPLETE, REMOVE FEEDER BACK TO PANEL MDP AND REMOVE PANEL COMPLETE.
13. PANEL SHALL REMAIN ENERGIZED AS REQUIRED THROUGHOUT DEMOLITION AND CONSTRUCTION. BRANCH CIRCUITS SCHEDULED FOR DEMOLITION SHALL HAVE WIRING AND CONDUIT REMOVED COMPLETE. BRANCH CIRCUITS THAT SHALL REMAIN SHALL BE DISCONNECTED AND EXTENDED TO PANEL P21 SECTION 2 AND CONNECTED TO SPARE CIRCUIT BREAKERS. WHEN ALL CIRCUITS HAVE BEEN REMOVED COMPLETE, REMOVE FEEDER BACK TO PANEL P21 SECTION 2 AND REMOVE PANEL COMPLETE.
14. PROVIDE TEMPORARY SPLICE OR DOUBLE TAP AT EXISTING 225A CIRCUIT BREAKER. BREAKER SHALL TEMPORARILY FEED EXISTING FEEDER TO EXISTING PANEL P2–1 SECTION 1 AND NEW FEEDER TO NEW PANEL P21 SECTION 1.
15. DISCONNECT FEEDER CONDUCTORS FROM EXISTING PANEL P2–1 AND REMOVE WIRING AND CONDUIT BACK TO PANEL MDP COMPLETE WHEN ALL BRANCH CIRCUITS HAVE BEEN REMOVED FROM BOTH SECTIONS OF PANEL P2–1.
16. RUN THREE #4/0 PHASE CONDUCTORS, TWO #4/0 NEUTRAL CONDUCTORS AND ONE #4 GROUND IN 2 1/2" CONDUIT FROM PANEL P21 TO PANEL MDP AND CONNECT TO 225A CIRCUIT BREAKER THAT FORMERLY FED PANEL P2–1.
17. PROVIDE PANEL P21 SECTION 1 WITH FEED THRU LUGS FOR CONNECTION OF TEMPORARY FEEDER.
18. PANEL SHALL REMAIN ENERGIZED AS REQUIRED THROUGHOUT DEMOLITION AND CONSTRUCTION. BRANCH CIRCUITS SCHEDULED FOR DEMOLITION SHALL HAVE WIRING AND CONDUIT REMOVED COMPLETE. BRANCH CIRCUITS THAT SHALL REMAIN SHALL BE DISCONNECTED AND EXTENDED TO PANEL P21 AND CONNECTED TO SPARE CIRCUIT BREAKERS. WHEN ALL CIRCUITS HAVE BEEN REMOVED COMPLETE, REMOVE FEEDER BACK TO PANEL MDP AND REMOVE PANEL COMPLETE.
19. THREE #4/0 PHASE CONDUCTORS, TWO #4/0 NEUTRAL CONDUCTORS AND ONE #4 GROUND IN 2–1/2" CONDUIT.
20. SURGE PROTECTIVE DEVICE.
21. FOUR #8 AND ONE #10 GROUND IN 1" CONDUIT.
22. LIGHTING CONTROL PANEL.
23. BRANCH CIRCUITS FROM PANEL P22 RUN IN 1–1/2" CONDUIT. SEE "LIGHTING CONTROL DIAGRAM", SHEET E–503, FOR REQUIRED CIRCUITS.
24. DISCONNECT LINE SIDE AND LOAD SIDE FEEDERS FROM ENCLOSED CIRCUIT BREAKER AND REMOVE COMPLETE.
25. PROVIDE 600A, 3–POLE, 240V, SERVICE RATED DISCONNECT SWITCH WITH THREE 600A CURRENT LIMITING, TIME DELAY CLASS J FUSES. CONNECT TO EXISTING LOAD SIDE AND LINE SIDE FEEDERS, AND RECONNECT TO SERVICE GROUND.
26. REMOVE THREE #2 AND 1–1/4" CONDUIT PANEL EM FEEDER COMPLETE BACK TO PANEL EM.
27. RUN THREE #6 AND ONE #8 GND FROM SPARE 60A/2P CIRCUIT BREAKER IN PANEL MDP AND CONNECT TO PANEL EM.
28. APPLY ARC FLASH WARNING LABEL TO INDICATED PIECE OF EQUIPMENT. SEE "ARC FLASH LABEL DETAIL", THIS SHEET.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND — STEVEN G. SCHRADER — No. 22492 — 4-12-13 — REGISTERED PROFESSIONAL ENGINEER

12–022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
POWER RISER DIAGRAM

SCALE: AS NOTED

EPROJECT NO.: –

CONSTR. CONTR. NO.
N40080–12–R–4422

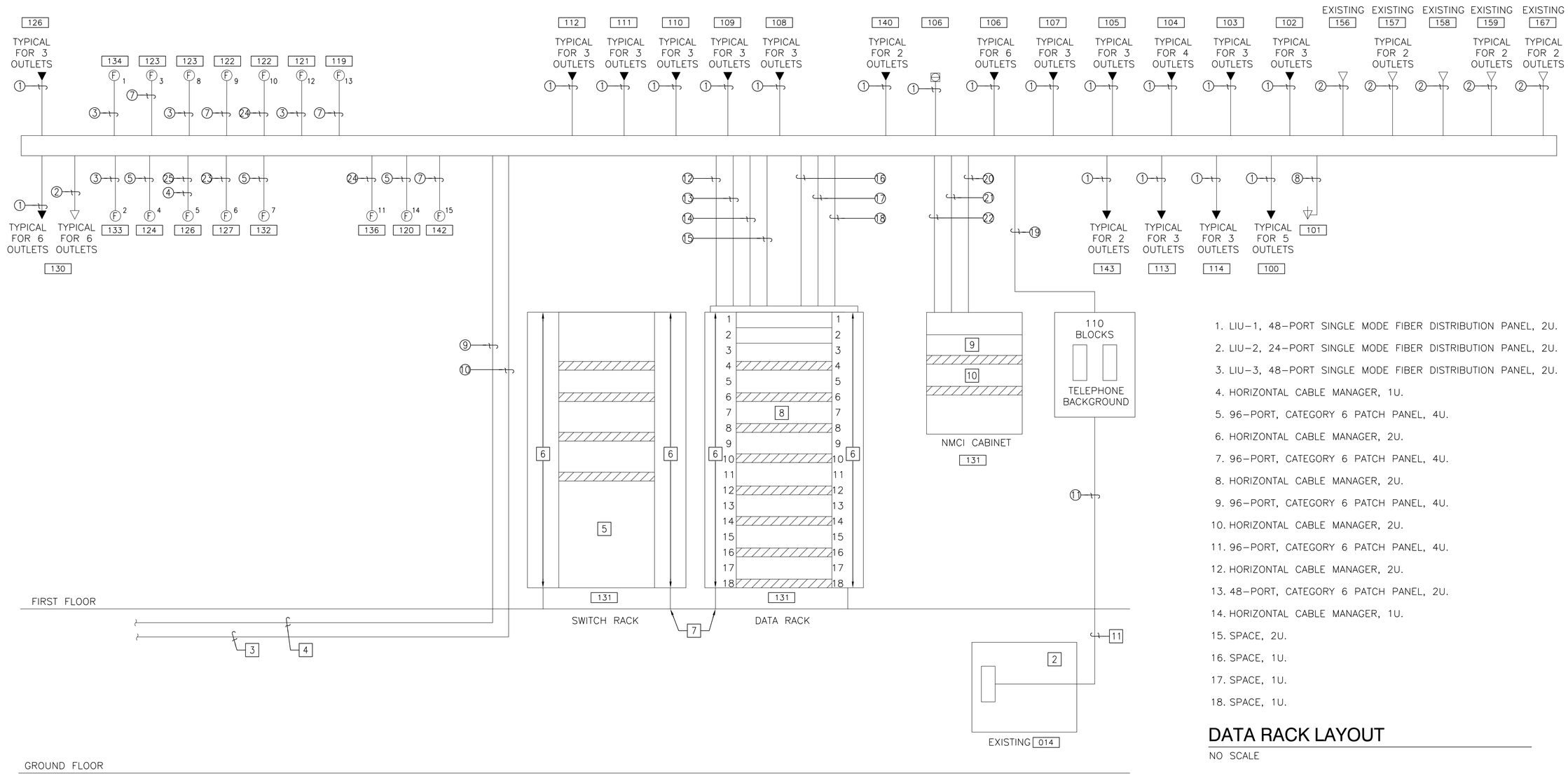
NAVFAC DRAWING NO.
13056706

SHEET 49 OF 53

E–601

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12–022A FMD RENO. B–14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E–601 POWER RISER DIAGRAM.dwg LAYOUT NAME: E–601 POWER RISER DIAGRAM PLOTTED: Thursday, April 11, 2013 – 1:53pm USER: jperalta



TELECOMMUNICATIONS RISER DIAGRAM 1

NO SCALE

1. LIU-1, 48-PORT SINGLE MODE FIBER DISTRIBUTION PANEL, 2U.
2. LIU-2, 24-PORT SINGLE MODE FIBER DISTRIBUTION PANEL, 2U.
3. LIU-3, 48-PORT SINGLE MODE FIBER DISTRIBUTION PANEL, 2U.
4. HORIZONTAL CABLE MANAGER, 1U.
5. 96-PORT, CATEGORY 6 PATCH PANEL, 4U.
6. HORIZONTAL CABLE MANAGER, 2U.
7. 96-PORT, CATEGORY 6 PATCH PANEL, 4U.
8. HORIZONTAL CABLE MANAGER, 2U.
9. 96-PORT, CATEGORY 6 PATCH PANEL, 4U.
10. HORIZONTAL CABLE MANAGER, 2U.
11. 96-PORT, CATEGORY 6 PATCH PANEL, 4U.
12. HORIZONTAL CABLE MANAGER, 2U.
13. 48-PORT, CATEGORY 6 PATCH PANEL, 2U.
14. HORIZONTAL CABLE MANAGER, 1U.
15. SPACE, 2U.
16. SPACE, 1U.
17. SPACE, 1U.
18. SPACE, 1U.

DATA RACK LAYOUT

NO SCALE

RISER NOTES

1. SEE CABLE SCHEDULE, SHEET E-603, FOR WIRING DESCRIPTIONS.
2. EXISTING TELEPHONE SYSTEM AND BACKBOARD IN ROOM 014. TELEPHONE SYSTEM HAS SPARE 50-PAIR CAPACITY AT THIS LOCATION TO EXTEND TO SERVER ROOM 131.
3. 24-STRAND SINGLE MODE FIBER FROM BUILDING 27, ROOM 1132. SEE "SITE WORK REQUIREMENTS", SHEET E-001, FOR DESCRIPTION OF WORK.
4. 24-STRAND SINGLE MODE FIBER FROM BUILDING 2, ROOM 3265. SEE "SITE WORK REQUIREMENTS", SHEET E-001, FOR DESCRIPTION OF WORK.
5. PROVIDE FOUR 1U CABLE MANAGEMENT RACK MOUNTED PANELS FOR SWITCH RACK. GOVERNMENT TO FURNISH AND INSTALL SWITCHES IN THIS RACK.
6. PROVIDE VERTICAL CABLE MANAGEMENT RUN FULL HEIGHT OF EQUIPMENT RACK.
7. THE 19" RACK SHALL BE PHYSICALLY SECURED TO THE FLOOR AND THE TOP OF THE RACK SECURED TO STRUCTURAL CEILING AS DIRECTED BY RACK MANUFACTURER, IN ORDER TO PROHIBIT MOVEMENT AND SWAYING.
8. SEE "DATA RACK LAYOUT", THIS SHEET FOR RACK EQUIPMENT DESCRIPTION. SEE "PATCH PANEL NAMING CONVENTION", SHEET E-603, FOR TYPICAL IDENTIFICATION OF PATCH PANEL PORTS.
9. PROVIDE 24-PORT, CATEGORY 6 PATCH PANEL, 1U, FOR TERMINATION OF BLUE NMCI DATA CABLES, WITH A HORIZONTAL CABLE MANAGER, 1U, LOCATED DIRECTLY BENEATH.
10. PROVIDE 24-PORT, CATEGORY 6 PATCH PANEL, 1U, FOR TERMINATION OF GREEN NMCI DATA CABLES, WITH A HORIZONTAL CABLE MANAGER, 1U, LOCATED DIRECTLY BENEATH.
11. COORDINATE WITH THE GOVERNMENT FOR LOCATION OF 50-PAIR SPARE CABLES. EXISTING TELEPHONE CABLES THAT ARE REMOVED BACK TO ROOM 014 DURING DEMOLITION SHALL ALSO BE AVAILABLE FOR REUSE.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER

BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD

FMD RENOVATION, BUILDING 14
FIRST FLOOR

TELECOMMUNICATIONS RISER DIAGRAMS

SCALE: AS NOTED
EPROJECT NO.: -
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056707
SHEET 50 OF 53

E-602

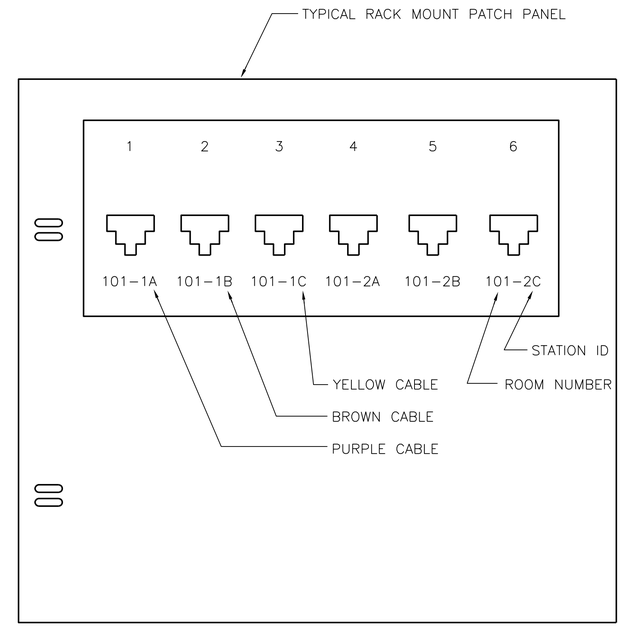
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-602 TELECOMMUNICATIONS RISER DIAGRAMS.dwg LAYOUT NAME: E-602 TELECOMMUNICATIONS RISER DIAGRAMS PLOTTED: Friday, April 12, 2013 - 11:03am USER: blunderwhite

CABLE SCHEDULE

MARK	FROM	TO	CABLE	RACEWAY	REMARKS
1	WRNMMC WALL OUTLET	DATA RACK PATCH PANEL	(1) PURPLE CATEGORY 6 CABLE	1" EMT CONDUIT TO CABLE TRAY	
			(1) BROWN CATEGORY 6 CABLE		
			(1) YELLOW CATEGORY 6 CABLE		
		TELEPHONE BACKBOARD 110 BLOCKS	(1) WHITE CATEGORY 6 CABLE		
2	NMCI WALL OUTLET	NMCI CABINET PATCH PANEL	(1) BLUE CATEGORY 6 CABLE	1" EMT CONDUIT TO CABLE TRAY	
			(1) GREEN CATEGORY 6 CABLE		
3	F 1,2,8 & 12 (3 WRNMMC FURNITURE OUTLETS)	DATA RACK PATCH PANEL	(3) PURPLE CATEGORY 6 CABLES	1-1/2" EMT TO CABLE TRAY	
			(3) BROWN CATEGORY 6 CABLES		
			(3) YELLOW CATEGORY 6 CABLES		
		TELEPHONE BACKBOARD 110 BLOCKS	(3) WHITE CATEGORY 6 CABLES		
4	F 5 (1 NMCI FURNITURE OUTLET)	NMCI CABINET PATCH PANEL	(1) BLUE CATEGORY 6 CABLE	1-1/2" EMT TO CABLE TRAY	
			(1) GREEN CATEGORY 6 CABLE		
5	F 4,7,14 (2 WRNMMC FURNITURE OUTLETS)	DATA RACK PATCH PANEL	(2) PURPLE CATEGORY 6 CABLES	1-1/2" EMT TO CABLE TRAY	
			(2) BROWN CATEGORY 6 CABLES		
			(2) YELLOW CATEGORY 6 CABLES		
		TELEPHONE BACKBOARD 110 BLOCKS	(2) WHITE CATEGORY 6 CABLES		
6	F NOT USED				
7	F 3,9,13 & 15 (4 WRNMMC FURNITURE OUTLETS)	DATA RACK PATCH PANEL	(4) PURPLE CATEGORY 6 CABLES	2" EMT TO CABLE TRAY	
			(4) BROWN CATEGORY 6 CABLES		
			(4) YELLOW CATEGORY 6 CABLES		
		TELEPHONE BACKBOARD 110 BLOCKS	(4) WHITE CATEGORY 6 CABLES		
8	TELEPHONE WALL OUTLET	TELEPHONE BACKBOARD 110 BLOCKS	(1) WHITE CATEGORY 6 CABLE	1" EMT CONDUIT TO CABLE TRAY	
9	BUILDING 2, ROOM 3265	DATA RACK LIU-1	(1) 24-STRAND SM FIBER	1" YELLOW CORRUGATED	RUN IN CEILING SPACE OF GROUND FLOOR AND TURN UP INTO ROOM 131 USING 4" SLEEVE TO CABLE TRAY
10	BUILDING 27, ROOM 1130	DATA RACK LIU-1	(1) 24-STRAND SM FIBER	1" YELLOW CORRUGATED	RUN IN CEILING SPACE OF GROUND FLOOR AND TURN UP INTO ROOM 131 USING 4" SLEEVE TO CABLE TRAY
11	TELEPHONE BACKBOARD ROOM 014	TELEPHONE BACKBOARD ROOM 131	(1) 50-PAIR 24AWG COPPER CABLE	2" EMT CONDUIT	RUN INTO ROOM USING 4" SLEEVE TO CABLE TRAY
12	CABLE TRAY	DATA RACK LIU-1	(1) 24-STRAND SM FIBER	CABLE TRAY	
13	CABLE TRAY	DATA RACK LIU-1	(1) 24-STRAND SM FIBER	CABLE TRAY	
14	CABLE TRAY	DATA RACK LIU-2	(1) 24-STRAND SM FIBER	CABLE TRAY	REROUTE EXIST. 24-STRAND FIBER FROM BLDG 11 TO ROOM 131
15	CABLE TRAY	DATA RACK LIU-3	(2) 24-STRAND SM FIBER	CABLE TRAY	REROUTE EXIST. 24-STRAND FIBER FROM BLDG 8 AND 24-STRAND FIBER FROM BLDG 13 TO ROOM 131
16	CABLE TRAY	DATA RACK PATCH PANEL	(114) PURPLE CATEGORY 6 CABLES	CABLE TRAY	
17	CABLE TRAY	DATA RACK PATCH PANEL	(114) BROWN CATEGORY 6 CABLES	CABLE TRAY	
18	CABLE TRAY	DATA RACK PATCH PANEL	(114) YELLOW CATEGORY 6 CABLES	CABLE TRAY	
19	CABLE TRAY	TELEPHONE BACKBOARD 110 BLOCKS	(115) WHITE CATEGORY 6 CABLES	CABLE TRAY	
20	CABLE TRAY	NMCI CABINET FIBER BLOCK	(1) 24-STRAND SM FIBER	CABLE TRAY	
21	CABLE TRAY	NMCI CABINET PATCH PANEL	(7) BLUE CATEGORY 6 CABLES	CABLE TRAY	
22	CABLE TRAY	NMCI CABINET PATCH PANEL	(7) GREEN CATEGORY 6 CABLES	CABLE TRAY	
23	F 6 (5 WRNMMC FURNITURE OUTLETS)	DATA RACK PATCH PANEL	(5) PURPLE CATEGORY 6 CABLE	2" EMT CONDUIT TO CABLE TRAY	
			(5) BROWN CATEGORY 6 CABLE		
			(5) YELLOW CATEGORY 6 CABLE		
		TELEPHONE BACKBOARD 110 BLOCKS	(5) WHITE CATEGORY 6 CABLE		

CONTINUED ON SHEET E-605



PATCH PANEL NAMING CONVENTION

NO SCALE

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER
BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
SCHEDULE

SCALE: AS NOTED
EPROJECT NO.: –
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056708
SHEET 51 OF 53

E-603

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-603 SCHEDULE.dwg LAYOUT NAME: E-603 SCHEDULE PLOTTED: Friday, April 12, 2013 - 11:04am USER: blunderwhite

PANELBOARD "MDP" SCHEDULE

600A, MAIN LUGS ONLY, 208Y/120V, 3 PHASE, 4 WIRE, 10 KAIC MIN, SURFACE MOUNT

LOAD SERVED	LOAD (AMP)			BRKR TRIP	WIRE SIZE	CKT NO	PHASE	CKT NO	WIRE SIZE	BRKR TRIP	LOAD (AMP)			LOAD SERVED
	A	B	C				A B C				A	B	C	
PANEL P22	65.4			225	4/0	1		2	–	175	–			SPARE
		61.7										–		
			67.9										–	
PANEL P1-1	*			225	*	7		8	4/0	225	141			PANEL P21
		*										135		
			*										136	
SPACE	–			–	–	13		14	*	90	*			PANEL PA-2
SPACE		–		–	–	15						*		
SPACE			–	–	–	17							*	
SPARE	–			100	–	19		20	*	50	*			ROOF AHU
		–										*		
			–										*	
ELECTRIC ROOM	*			100	*	25		26	6	60	*			PANEL EM
		*										*		
			*					30	*	40			*	ROOF TOP AC UNIT
SPARE	–			100	–	31					–			
		–										–		
			–					36	–	–			–	SPACE
PRINTING MACHINE	*			20	*	37		38	–	–	–			SPACE
		*						40	–	–		–		SPACE
			*					42	*	20			*	VENDING MACHINE
TOTAL	65.4	61.7	67.9								117	119	108	TOTAL

TOTAL CONNECTED AMPS A: 182.4 B: 180.7 C: 175.9

PANELBOARD "TPP" SCHEDULE

50A, MCB, 208Y/120V, 3 PHASE, 4 WIRE, 10 KAIC MIN, SURFACE MOUNT

LOAD SERVED	LOAD (AMP)			BRKR TRIP	WIRE SIZE	CKT NO	PHASE	CKT NO	WIRE SIZE	BRKR TRIP	LOAD (AMP)			LOAD SERVED
	A	B	C				A B C				A	B	C	
EQUIPMENT RACK	8.0			20	12	1		2	12	20	5.0			SIEMENS SERVER
EQUIPMENT RACK		8.0		20	12	3		4	10	30		5.0		UPS UNIT
NMCI CABINET			8.0	20	12	5							5.0	
RECEPTACLES	4.0			20	12	7		8		20	–			SPARE
SPARE		–		20		9		10		20		–		SPARE
SPARE			–	20		11		12		20			–	SPARE
SPACE	–			–	–	13		14	–	–	–			SPACE
SPACE		–		–	–	15		16	–	–		–		SPACE
SPACE			–	–	–	17		18	–	–			–	SPACE
TOTAL	12	8	8								5	5	5	TOTAL

TOTAL CONNECTED AMPS A: 17 B: 13 C: 13

PANELBOARD "P22" SCHEDULE

225A, MCB, 208Y/120V, 3 PHASE, 4 WIRE, 10 KAIC MIN, SURFACE MOUNT

LOAD SERVED	LOAD (AMP)			BRKR TRIP	WIRE SIZE	CKT NO	PHASE	CKT NO	WIRE SIZE	BRKR TRIP	LOAD (AMP)			LOAD SERVED
	A	B	C				A B C				A	B	C	
OPEN OFFICE LIGHTING	9.0			20	12	1		2	12	20	6.0			RM 118 RECEPTACLES
RM 105,107-112 LIGHTING		5.8		20	12	3		4	12	20		6.0		RM 125 RECEPTACLES
RM 126,130,131 LIGHTING			7.7	20	12	5		6	12	20			4.5	RM 115 RECEPTACLES
CORRIDOR 115 LIGHTING	2.9			20	12	7		8	12	20	8.0			COPIER
OPEN OFFICE LIGHTING		8.3		20	12	9		10	10	30		13.6		MSO-1
OFFICE 100-103, 113, 114 LIGHTING			5.3	20	12	11							13.6	
RM 137-141 LIGHTING	3.6			20	12	13		14	12	20	5.8			EF-2
CONFERENCE 104 LIGHTING		4.0		20	12	15		16	12	20		2.0		EF-1
CONFERENCE 106 LIGHTING			4.8	20	12	17		18	12	20			4.5	BATHROOM RECEPTACLES
SPARE	–			20	–	19		20	12	20	9.8			GARBAGE DISPOSAL
LIGHTING CONTROL PANEL		2.0		20	12	21		22	12	20		5.0		KITCHEN RECEPTACLE
VAV-2-7,2-8,2-13,2-14,2-15,			16.0	20	12	23		24	12	20			6.0	WASTE COMPACTOR
2-16	16.0							26	12	20	10.0			MICROWAVE
VAV-1-2,1-3,1-4,1-5,		11.0		20	12	27		28	12	20		5.0		REFRIGERATOR
1-6,1-7			11.0					30	12	20			6.5	EWC
VAV-1-8,1-9,1-10,1-12,	15.0			20	12	31		32	12	20	3.0			RM 140 RECEPTACLES
1-13,1-14		15.0						34	12	20		10.0		COPIER
SPACE			–	–	–	35		36	12	20			4.5	RM 115 RECEPTACLES
SPACE	–			–	–	37		38	12	20	3.0			KITCHEN RECEPTACLES
SPACE		–		–	–	39		40	12	20		4.5		RM 135 RECEPTACLES
SPACE			–	–	–	41		42	12	20			10.8	INSTANT WATER HEATER
TOTAL	46	46	45								46	46	50	TOTAL

TOTAL CONNECTED AMPS A: 92 B: 92 C: 95

PANELBOARD "P21" SCHEDULE (SECTION 1)

225A, MCB, 208Y/120V, 3 PHASE, 4 WIRE, 10 KAIC MIN, SURFACE MOUNT, 200% NEUTRAL BUS

LOAD SERVED	LOAD (AMP)			BRKR TRIP	WIRE SIZE	CKT NO	PHASE	CKT NO	WIRE SIZE	BRKR TRIP	LOAD (AMP)			LOAD SERVED
	A	B	C				A B C				A	B	C	
RM 134 COMPUTERS	6.0			20	12	1		2	12	20	4.5			RM 119 COMPUTERS
RM 134 RECEPTACLES		6.0		20	12	3		4	12	20		6.0		RM 119 RECEPTACLES
RM 134 RECEPTACLES			6.0	20	12	5		6	12	20			6.0	RM 119 RECEPTACLES
RM 123 COMPUTERS	6.0			20	12	7		8	12	20	6.0			RM 127 COMPUTERS
RM 123 RECEPTACLES		6.0		20	12	9		10	12	20		6.0		RM 127 RECEPTACLES
RM 123 RECEPTACLES			6.0	20	12	11		12	12	20			9.0	RM 127 RECEPTACLES
RM 121 COMPUTERS	6.0			20	12	13		14	12	20	3.0			RM 120 COMPUTERS
RM 121 RECEPTACLES		6.0		20	12	15		16	12	20		3.0		RM 120 RECEPTACLES
RM 121 RECEPTACLES			6.0	20	12	17		18	12	20			3.0	RM 120 RECEPTACLES
RM 133 COMPUTERS	4.5			20	12	19		20	12	20	3.0			RM 132 COMPUTERS
RM 133 RECEPTACLES		6.0		20	12	21		22	12	20		3.0		RM 132 RECEPTACLES
RM 133 RECEPTACLES			3.0	20	12	23		24	12	20			3.0	RM 132 RECEPTACLES
RM 122 COMPUTERS	6.0			20	12	25		26	12	20	3.0			RM 130 COMPUTERS
RM 122 RECEPTACLES		6.0		20	12	27		28	12	20		4.5		RM 130 RECEPTACLES
RM 122 RECEPTACLES			6.0	20	12	29		30	12	20			9.0	RM 130 RECEPTACLES
RM 124 COMPUTERS	3.0			20	12	31		32	12	20	6.0			RM 142 COMPUTERS
RM 124 RECEPTACLES		3.0		20	12	33		34	12	20		3.0		RM 142 RECEPTACLES
RM 124 RECEPTACLES			3.0	20	12	35		36	12	20			3.0	RM 142 RECEPTACLES
SPD	1.0			30	8	37		38	8	50	17			PANEL TPP
		1.0										13		
			1.0										13	
TOTAL	33	34	31								43	39	46	TOTAL

TOTAL CONNECTED AMPS A: 76 B: 73 C: 77

PANELBOARD "P21" SCHEDULE (SECTION 2)

225A, MLO, 208Y/120V, 3 PHASE, 4 WIRE, 10 KAIC MIN, SURFACE MOUNT, 200% NEUTRAL BUS

LOAD SERVED	LOAD (AMP)			BRKR TRIP	WIRE SIZE	CKT NO	PHASE	CKT NO	WIRE SIZE	BRKR TRIP	LOAD (AMP)			LOAD SERVED
	A	B	C				A B C				A	B	C	
RM 111-112 COMPUTERS	6.0			20	12	43		44	12	20	6.0			RM 104 COMPUTERS
RM 111-112 RECEPTACLES		9.0		20	12	45		46	12	20		9.0		RM 104, 106 RECEPTACLES
RM 109-110 COMPUTERS			6.0	20	12	47		48	12	20			5.0	RM 106 TELEVISIONS
RM 109-110 RECEPTACLES	9.0			20	12	49		50	12	20	9.0			RM 105,106 RECEPTACLES
RM 107-108 COMPUTERS		6.0		20	12	51		52	12	20		3.0		RM 105 COMPUTERS
RM 107-108 RECEPTACLES			9.0	20	12	53		54	12	20			3.0	RM 122 COMPUTERS
RM 113-114 COMPUTERS	6.0			20	12	55		56	12	20	6.0			RM 122 COMPUTERS
RM 113-114 RECEPTACLES		9.0		20	12	57		58	12	20		9.0		RM 122 RECEPTACLES
RM 102-103 COMPUTERS			6.0	20	12	59		60	12	20			9.0	RM 122 RECEPTACLES
RM 102-103 RECEPTACLES	9.0			20	12	61		62	12	20	4.5			RM 136 COMPUTERS
RM 100 COMPUTERS		5.0		20	12	63		64	12	20		9.0		RM 136 RECEPTACLES
RM 100 RECEPTACLES			6.0	20	12	65		66	12	20			9.0	RM 136 RECEPTACLES
RM 126 COMPUTERS	3.0			20	12	67		68	12	20	3.0			RM 136 COMPUTERS
RM 126 RECEPTACLES		3.0		20	12	69		70	–	–		–		SPACE
RM 126 PLOTTERS			6.0	20	12	71		72	–	–			–	SPACE
RM 126 RECEPTACLES	3.0			20	12	73		74	–	–	–			SPACE
SPARE		–		20	–	75		76	–	–		–		SPACE
SPARE			–	20	–	77		78	–	–			–	SPACE
SPARE	–			20	–	79		80	–	–	–			SPACE
SPARE		–		20	–	81		82	–	–		–		SPACE
SPARE			–	20	–	83		84	–	–			–	SPACE
TOTAL	36	32	33								29	30	26	TOTAL

TOTAL CONNECTED AMPS A: 65 B: 62 C: 59

TOTAL CONNECTED AMPS FOR P21 SECTIONS 1 AND 2 A: 141 B: 135 C: 136

PNL MDP

PNL P21 (1)

PNL TPP

PNL P21 (2)

PNL P22

PANEL ID

SYM	DESCRIPTION	DATE	APPR

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW DJL CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
BETHESDA NAVY MEDICAL CENTER BETHESDA, MD

FMD RENOVATION, BUILDING 14
FIRST FLOOR

PANELBOARDS

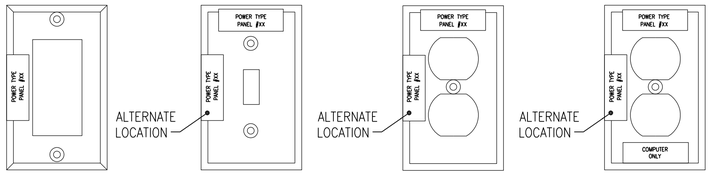
SCALE: AS NOTED
EPROJECT NO.: –
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056709
SHEET 52 OF 53

E-604

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO, B-14\NAVIGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-604 PANELBOARDS.dwg LAYOUT NAME: E-604 PANELBOARDS PLOTTED: Thursday, April 11, 2013 - 1:54pm USER: jperalta

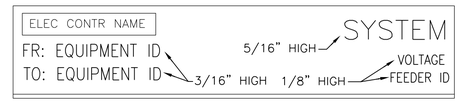
WIRING DEVICE COVER PLATE MARKING



PROVIDE 0.59" WIDE POLYESTER ADHESIVE TAPE LABELS, 1.77" LONG WITH BLACK 1/8" HIGH TIMES NEW ROMAN TEXT. REPLACE POWER TYPE WITH PANEL SOURCE, EXAMPLE: "NORMAL POWER", "PANEL" WITH THE PANEL NAME, AND "XX" WITH THE CIRCUIT NUMBER OR NUMBERS SEPERATED BY COMMASS. DO NOT COVER SCREWS.

COLOR CODING OF LABELS
NORMAL POWER: SILVER
EMERGENCY POWER: RED (IF AVAILABLE)

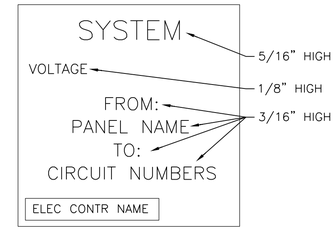
CONDUIT MARKING



PROVIDE 1.25" WIDE POLYESTER ADHESIVE TAPE LABELS, 6" LONG WITH BLACK ARIAL NARROW TEXT, HEIGHT AS NOTED. REPLACE "SYSTEM" WITH POWER TYPE, EXAMPLE: "NORMAL POWER", "EQUIPMENT ID" WITH THE SOURCE AND DESTINATION EQUIPMENT NAME, "VOLTAGE" WITH THE FEEDER VOLTAGE, AND "FEEDER ID" WITH THE FEEDER NUMBER.

COLOR CODING OF LABELS
NORMAL POWER: SILVER
EMERGENCY POWER: RED (IF AVAILABLE)

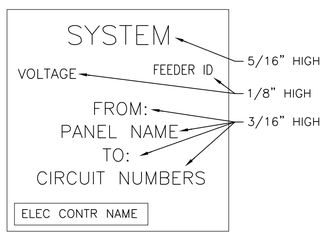
JUNCTION BOX MARKING



PROVIDE 3" POLYESTER ADHESIVE TAPE LABELS 3" LONG WITH ARIAL NARROW TEXT, HEIGHT AS NOTED. REPLACE "SYSTEM" WITH POWER TYPE, EXAMPLE: "NORMAL POWER", "PANEL NAME" WITH THE SOURCE, "CIRCUIT NUMBER" WITH CIRCUIT NUMBER(S) AND "VOLTAGE" WITH THE FEEDER VOLTAGE.

COLOR CODING OF LABELS
NORMAL POWER: SILVER
EMERGENCY POWER: RED (IF AVAILABLE)

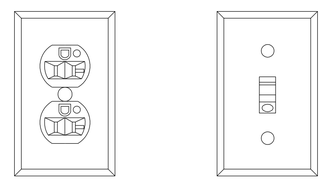
PULLBOX MARKING



PROVIDE 3" POLYESTER ADHESIVE TAPE LABELS 3" LONG WITH ARIAL NARROW TEXT, HEIGHT AS NOTED. REPLACE "SYSTEM" WITH POWER TYPE, EXAMPLE: "NORMAL POWER", "EQUIPMENT ID" WITH THE SOURCE, AND DESTINATION EQUIPMENT NAME "VOLTAGE" WITH THE FEEDER VOLTAGE, AND "FEEDER ID" WITH THE FEEDER NUMBER.

COLOR CODING OF LABELS
NORMAL POWER: SILVER
EMERGENCY POWER: RED (IF AVAILABLE)

WIRING DEVICE REQUIREMENTS AND COLOR CODING



ALL RECEPTACLES SHALL BE INDUSTRIAL, EXTRA HEAVY DUTY SPECIFICATION GRADE FOR 125V, 20A, NEMA 5-20R AND FOR SPECIAL PURPOSE RECEPTACLES AS WELL. INSTALL ALL RECEPTACLES WITH GROUND PIN IN UP POSITION. RECEPTACLES AND SWITCH DEVICE COVER PLATES SHALL BE BRUSHED STAINLESS STEEL. ELECTRICAL DEVICES INCLUDING TOGGLE SWITCHES, OCCUPANCY SENSORS 9WALL AND CEILING MOUNTED) AND RECEPTACLES, TO BE COLOR CODED AS FOLLOWS.

NORMAL POWER SYSTEMS (FOR COMPUTER RECEPTACLES ONLY); IVORY

NORMAL POWER SYSTEMS (FOR SWITCHES AND RECEPTACLES); BROWN

EMERGENCY POWER SYSTEMS: RED (IF AVAILABLE)

CABLE SCHEDULE

CONTINUED FROM SHEET E-603

MARK	FROM	TO	CABLE	RACEWAY	REMARKS
24	F 10,11 (6 WRNMMC FURNITURE OUTLETS)		(6) PURPLE CATEGORY 6 CABLE	2" EMT CONDUIT TO CABLE TRAY	
			(6) BROWN CATEGORY 6 CABLE		
			(6) YELLOW CATEGORY 6 CABLE		
		TELEPHONE BACKBOARD 110 BLOCKS	(6) WHITE CATEGORY 6 CABLE		
25	F 5 (1 WRNMMC FURNITURE OUTLETS)		(1) PURPLE CATEGORY 6 CABLE	1" EMT CONDUIT TO CABLE TRAY	
			(1) BROWN CATEGORY 6 CABLE		
			(1) YELLOW CATEGORY 6 CABLE		
		TELEPHONE BACKBOARD 110 BLOCKS	(1) WHITE CATEGORY 6 CABLE		

SYM	DESCRIPTION	DATE	APPR

NAVFAC

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER 4-12-13

12-022A

BOWMAN, FOSTER & ASSOC.
CONSULTING ENGINEERS
6379 CENTER DR
NORFOLK, VA 23502
2424 26th ROAD SOUTH
ARLINGTON, VA 22206

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES DGW DRW WLF CHK SGR

<<PM/DM>>

BRANCH MANAGER

CHIEF ENG/ARCH

<<XXX>>

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – WASHINGTON
BETHESDA NAVY MEDICAL CENTER
BETHESDA NAVY MEDICAL CENTER BETHESDA, MD
FMD RENOVATION, BUILDING 14
FIRST FLOOR
IDENTIFICATIONS DIAGRAMS

SCALE: AS NOTED
EPROJECT NO.: –
CONSTR. CONTR. NO. N40080-12-R-4422
NAVFAC DRAWING NO. 13056710
SHEET 53 OF 53

E-605

DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\2012\12-022A FMD RENO. B-14\NAVGATOR\FMD RENOVATION, BUILDING 14 SECOND FLOOR\Sheets\E-605 IDENTIFICATIONS DIAGRAMS.dwg LAYOUT NAME: E-605 IDENTIFICATIONS DIAGRAMS PLOTTED: Thursday, April 11, 2013 - 1:54pm USER: ipenalto

ELECTRICAL SYMBOLS

PLAN SYMBOLS

1	PLAN REFERENCE NOTE SYMBOL
	EXISTING TO REMAIN
	NEW WORK

EMERGENCY LIGHTING

B	FLUORESCENT STRIP LIGHT FIXTURE
	FLUORESCENT DIRECT/INDIRECT FIXTURE
	EXIT LIGHT – SINGLE FACE ARROWS INDICATE DIRECTION OF EXIT
	EXIT LIGHT – DOUBLE FACE ARROWS INDICATE DIRECTION OF EXIT
	BATTERY POWERED EMERGENCY LIGHTING UNIT

SWITCHING

S	SINGLE POLE SWITCH
S3	THREE–WAY SWITCH
Sos	WALL SWITCH OCCUPANCY SENSOR
OS	CEILING MOUNTED OCCUPANCY SENSOR
PP	OCCUPANCY SENSOR SYSTEM POWER PACK

POWER

	GENERAL USE DUPLEX RECEPTACLE – WALL MOUNTED, 120V, 20A +18" AFF (UON)
	GFI DUPLEX RECEPTACLE – WALL MOUNTED, 120V, 20A +18" AFF (UON)
J	JUNCTION BOX – SIZE AS REQUIRED
J	WALL MOUNTED JUNCTION BOX
30	NON–FUSED DISCONNECT SWITCH, SIZED AS NOTED
30/15	FUSED DISCONNECT SWITCH, SIZED (SWITCH/FUSE) AS NOTED
LP–10,12	HOMERUN TO PANELBOARD. NUMERALS AND LETTERS ADJACENT TO ARROW HEAD(S) INDICATE ASSIGNED PANEL AND CIRCUIT(S) NUMBERS(S). SEE PANEL SCHEDULE(S) FOR CIRCUIT WIRE AND CONDUIT SIZES/QUANTITIES.
	PANELBOARD

COMMUNICATIONS

	COMBINATION TELE/DATA OUTLET LOCATION, +18" AFF (UON) WITH ¾" EC STUBBED OUT OF WALL AT CEILING

FIRE ALARM SYMBOLS

FIRE ALARM

F	MANUAL PULL STATION, +54" AFF (UON)
V 15	CEILING MOUNTED VISUAL NOTIFICATION APPLIANCE WITH CANDELA RATING AS INDICATED
AV 15	WALL MOUNTED AUDIO/VISUAL NOTIFICATION APPLIANCE WITH CANDELA RATING AS INDICATED.
AV 15	CEILING MOUNTED AUDIO/VISUAL NOTIFICATION APPLIANCE WITH CANDELA RATING AS INDICATED.

ELECTRICAL DRAWING LIST

E–1	SYMBOLS AND ABBREVIATIONS
E–2	SPECIFICATIONS – ELECTRICAL
E–3	LIGHTING DEMOLITION AND NEW WORK
E–4	POWER DEMOLITION AND NEW WORK
E–5	FIRE ALARM DEMOLITION AND NEW WORK
E–6	RISER DIAGRAM AND SCHEDULES
E–7	PANEL SCHEDULES

ELECTRICAL ABBREVIATIONS

ABBREVIATIONS

A	AMPS	KVA	KILOVOLT AMPERE
AIC	AMPS INTERRUPTING CAPACITY	KV	KILOVOLTS
A/C	AIR CONDITIONING	KW	KILOWATTS
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AHJ	AUTHORITY HAVING JURISDICTION	MAX	MAXIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MCB	MAIN CIRCUIT BREAKER
AWG	AMERICAN WIRE GAGE	MCC	MOTOR CONTROL CENTER
C	CONDUIT	MDP	MAIN DISTRIBUTION PANEL
CB	CIRCUIT BREAKERS	MIN	MINIMUM
CCTV	CLOSED CIRCUIT TV CAMERA	MLO	MAIN LUGS ONLY
CKT	CIRCUIT	N	NEW
CLG	CEILING	NEC	NATIONAL ELECTRIC CODE
CT	CURRENT TRANSFORMER	NFSS	NON FUSED SAFETY SWITCH
E	EXISTING TO REMAIN	NTS	NOT TO SCALE
EC	EMPTY CONDUIT	PB	PULL BOX
ELEC	ELECTRIC	PH	PHASE
EMER	EMERGENCY	PNL	PANEL
ER	RELOCATED EQUIPMENT	R	EQUIPMENT TO BE RELOCATED
EWC	ELECTRIC WATER COOLER	T	TRANSFORMER
FA	FIRE ALARM	TYP	TYPICAL
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TELE	TELEPHONE
FACP	FIRE ALARM CONTROL PANEL	TTB	TELEPHONE TERMINAL BOARD
FLA	FULL LOAD AMPS	SW	SWITCH
FRE	FIBERGLASS REINFORCED EPOXY	UON	UNLESS OTHERWISE NOTED
FSS	FUSED SAFETY SWITCH	V	VOLTS
G	GROUND	W	WATTS
GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
HOA	HANDS OFF AUTOMATIC	(X)	EXISTING TO BE REMOVED
HP	HORSEPOWER	XFRMR	TRANSFORMER
HZ	HERTZ		
IG	ISOLATED GROUND		

SYM	DESCRIPTION	DATE	APPR.
	100% SUBMISSION	07/21/10	
	95% SUBMISSION	05/25/10	
A	95% SUBMISSION	10/30/09	

NAVFAC

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ARCHITECTS

ARCH LOGO

encon
ENCON GROUP INC.
10605 Concord St., Suite 307
Kensington, MD 20895
301.949.5900/ fax 240.363.3006
www.encongroup.com
Encon Project No. 09137

MEP LOGO

DES	DRW
REVIEWED BY	
PM/DM	
CHIEF ENG/ARCH	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NATIONAL NAVY MEDICAL CENTER BUILDING #14
STATION – BETHESDA, MD
IPT PWD
PROJECT STATION
PROJECT– BETHESDA, MD

OICC / FEAD OFFICE EXPANSION

SYMBOLS AND ABBREVIATIONS

CODE ID. NO. 80091	SIZE D
SCALE:	
MAXIMO NO.	######
STA. PROJ. NO.	P–###
WORK ORDER NO.	######
CONSTR. CONTR. NO.	N40080–08–D–0305
NAVFAC DRAWING NO.	
SHEET 1 OF X	

E-1

REVDATE:

ELECTRICAL SPECIFICATIONS

GENERAL:

A. SEE MECHANICAL COVER SHEET FOR GENERAL PROJECT REQUIREMENTS.

B. THE CONTRACTOR SHALL SUBMIT A MINIMUM OF SIX (6) COPIES OF SHOP DRAWINGS FOR THE FOLLOWING EQUIPMENT AND MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL.

1. PANELBOARD
2. CIRCUIT BREAKERS
3. LIGHT FIXTURES
4. OCCUPANCY SENSOR SYSTEM EQUIPMENT
5. FIRE ALARM DEVICES

C. ALL EQUIPMENT INSTALLED SHALL BE NEW AND SHALL CONFORM IN ALL RESPECTS TO THE LATEST APPROVED STANDARDS OF IEEE, ANSI, NEMA AND UNDERWRITERS LABORATORIES, INC., UNLESS INDICATED OTHERWISE. SUBSTITUTIONS SHALL ONLY BE ACCOMPLISHED AT THE DISCRETION OF THE ENGINEER.

D. UNLESS SPECIFICALLY NOTED ON THE PLANS, REMOVE ALL LIGHTING, SWITCHES, RECEPTACLES, CLOCK OUTLETS AND ASSOCIATED CIRCUITRY. CIRCUITRY TO BE REMOVED SHALL BE ALL CONDUCTORS AND ANY EXPOSED RACEWAYS INCLUDING WIREMOLD AND ALL RACEWAY THAT BECOMES EXPOSED UPON REMOVAL OF WALLS AND CEILINGS.

E. UNLESS SPECIFICALLY NOTED ON THE PLANS, ALL CIRCUITRY, EQUIPMENT, DEVICES, ETC., NOT NOTED AS EXISTING TO REMAIN OR TO BE RELOCATED, SHALL BE NEW. THE CONTRACTOR MAY REUSE ALL EXISTING CIRCUITRY AS FIELD CONDITIONS PERMIT. REMOVE ALL DEVICES AND CIRCUITRY NOT BEING REUSED. CIRCUITRY TO BE REMOVED SHALL BE REMOVED BACK TO THE SOURCE AND ALL HOLES SHALL BE REPAIRED TO CONFORM TO FINISHED SURFACE. ALL CIRCUITS THAT ARE TO REMAIN IN SERVICE UPON COMPLETION OF THIS PROJECT WHICH ARE PRESENTLY FED MUST BE CONTINUED IN SERVICE. OUTAGES ON EXISTING CIRCUITS TO REMAIN SHALL BE COORDINATED WITH THE OWNER.

F. LOCATE, IDENTIFY AND PROTECT ELECTRICAL SERVICES PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.

G. ADVANCE NOTICE SHALL BE GIVEN TO OWNER BEFORE COMMENCEMENT OF WORK ON ANY ELECTRICAL CIRCUITRY, WHETHER OR NOT AN OUTAGE IS REQUIRED.

H. A LICENSED QUALIFIED ELECTRICIAN SHALL BE ON THE JOB SITE AT ALL TIMES DURING THE EXECUTION OF ANY ELECTRICAL WORK.

I. EXCEPT AS OTHERWISE NOTED, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION.

PRODUCTS:

A. RACEWAYS, BOXES, CONDUITS:

1. EMT CONNECTORS AND COUPLINGS SHALL BE OF THE ALL-STEEL, COMPRESSION OR SET-SCREW TYPE.
2. OUTLET BOXES SHALL BE A MINIMUM OF 4" SQUARE WITH THE APPROPRIATE PLASTER RING OR TILE COVER.

B. WIRE AND CABLE:

1. ALL CONDUCTORS SHALL BE COPPER, MINIMUM #12, (EXCEPT CONTROL CONDUCTORS AND LIGHTING TAPS AS PERMITTED BY NEC, CONDUCTORS FOR SWITCHING LIGHTS SHALL NOT BE CONSIDERED, CONTROL CONDUCTORS), WITH 600 VOLT TYPE "THHN-THWN" INSULATION, UNLESS OTHERWISE NOTED. CONDUCTORS #10 AND LARGER SHALL BE STRANDED.
2. WHERE INDICATED ON THE DRAWINGS, "MC" CABLE SHALL BE UTILIZED FOR CONCEALED INTERIOR BRANCH CIRCUITS.

C. WIRING DEVICES AND TELEPHONE/DATA OUTLETS:

1. WALL MOUNTED WIRING DEVICES SHALL BE EQUAL TO THE FOLLOWING:

SINGLE POLE SWITCH	HUBBELL 1221
THREE WAY SWITCH	HUBBELL 1223
DUPLEX RECEPTACLE	HUBBELL 5352
DUPLEX RECEPTACLE WITH GFCI*	HUBBELL GF5352

*GFCI – GROUND FAULT CIRCUIT INTERRUPTER

2. DEVICE PLATES SHALL SATIN FINISH STAINLESS STEEL OR AS DIRECTED BY THE PROJECT MANAGER.

D. DISCONNECTS AND CIRCUIT BREAKERS:

1. ENCLOSED NON-FUSIBLE SWITCH SHALL BE NEMA HEAVY-DUTY TYPE WITH ENCLOSURE CONSISTENT WITH ENVIRONMENT WHERE LOCATED, HANDLE LOCKABLE WITH 2 PADLOCKS, AND INTERLOCKED WITH COVER IN "CLOSED" POSITION.
2. ENCLOSED FUSIBLE SWITCHES SHALL BE NEMA HEAVY-DUTY TYPE WITH CLIPS TO ACCOMMODATE SPECIFIED FUSES, ENCLOSURE CONSISTENT WITH ENVIRONMENT WHERE LOCATED, HANDLE LOCKABLE WITH 2 PADLOCKS AND INTERLOCKED WITH COVER IN "CLOSED" POSITION. SWITCHES SHALL HAVE MINIMUM FAULT CURRENT RATING OF 200,000 SYMMETRICAL RMS AMPERES.
3. ENCLOSED MOLDED-CASE CIRCUIT BREAKER: FRAME SIZE, TRIP RATING, NUMBER OF POLES, AND AUXILIARY DEVICES AS INDICATED; INTERRUPTING CAPACITY RATING TO MEET AVAILABLE FAULT CURRENT, 10,000 SYMMETRICAL RMS AMPERES MINIMUM; WITH APPROPRIATE APPLICATION LISTING WHEN USED FOR SWITCHING FLUORESCENT LIGHTING LOADS OR HEATING, AIR CONDITIONING, AND REFRIGERATION EQUIPMENT.
4. ENCLOSURE: NEMA TYPE 1, UNLESS SPECIFIED OR REQUIRED OTHERWISE TO MEET ENVIRONMENTAL CONDITIONS OF INSTALLED LOCATION.

E. PANELBOARDS:

1. IN PANELBOARDS, "EQUIPPED SPACE" OR "SPACE" IS DEFINED TO INCLUDE ALL NECESSARY BUS, DEVICE SUPPORTS AND CONNECTIONS FOR INSERTION OF A FUTURE DEVICE.
2. PANELBOARD BUS SHALL BE COPPER.
3. PANELBOARD SHALL BE EQUAL TO SQUARE D TYPE NEHB OR NQOD, UNLESS OTHERWISE NOTED.
4. CIRCUIT BREAKERS: MOLDED CASE CIRCUIT BREAKER: FRAME SIZE, TRIP RATING, NUMBER OR POLES, AND AUXILIARY DEVICES AS INDICATED; INTERRUPTING CAPACITY RATING TO MEET AVAILABLE FAULT CURRENT, 10,000 SYMMETRICAL RMS AMPERES MINIMUM: WITH APPROPRIATE LISTING WHEN USED FOR SWITCHING FLUORESCENT LIGHTING LOADS OR HEATING, AIR CONDITIONING, AND REFRIGERATION EQUIPMENT. BUSSING AND BREAKERS SHALL MAKE A FULLY RATED SYSTEM. SERIES RATED EQUIPMENT IS NOT ACCEPTABLE.

F. LIGHTING:

1. PROVIDE A COMPLETE AND OPERABLE LIGHTING SYSTEM, WHICH SHALL INCLUDE IN PART, FLUORESCENT LIGHTING FIXTURES, BALLASTS, LAMPS, LENSES, SUPPORTS, CANOPIES, FRAMES, HARDWARE AND ANY OTHER NECESSARY APPURTENANCES AS MAY BE REQUIRED.
2. PROVIDE ALL NECESSARY ACCESSORY FITTINGS, HANGERS, CLAMPS, BRACKETS, YOKES, PLASTER FLANGES AND MISCELLANEOUS DEVICES AS REQUIRED FOR A COMPLETE INSTALLATION.
3. PROVIDE LAMPS FOR EACH TYPE OF LIGHTING FIXTURE IN ACCORDANCE WITH THE FIXTURE MANUFACTURERS LAMP REQUIREMENTS AND RECOMMENDATIONS, UNLESS INDICATED OTHERWISE. ALL TRACK AND ACCENT LAMPS SHALL BE INSTALLED AT END OF JOB.
4. FLUORESCENT LIGHTING BALLASTS SHALL BE HIGH POWER FACTOR TYPE, CLASS P, ENERGY SAVING, CBM AND ETL CERTIFIED AND RATED FOR SYSTEM VOLTAGE AND FREQUENCY WITH THE QUIETEST SOUND LEVEL RATING AVAILABLE FOR THE TYPE REQUIRED.
5. COLOR OF LIGHTING FIXTURES SHALL BE AS SELECTED BY THE ARCHITECT.

G. FIRE ALARM SYSTEM:

1. CONTRACTOR SHALL FURNISH THE FIRE ALARM DEVICE BUT THEY WILL BE INSTALLED BY OTHERS. DEVICES SHALL BE INSTALLED IN THE LOCATION SHOWN ON THESE DRAWINGS. COORDINATE WITH OWNER PRIOR TO ORDERING.
2. ALL DEVICES SHALL BE COMPLETELY COMPATIBLE WITH THE EXISTING BUILDING FIRE ALARM SYSTEM. THE EXISTING BUILDING SYSTEM MANUFACTURER SHALL BE VERIFIED WITH BUILDING MANAGEMENT PRIOR TO PROCUREMENT. NO DEVIATION WILL BE ALLOWED WITHOUT SPECIFIC AUTHORIZATION FROM BUILDING MANAGEMENT. BFPE SHALL FURNISH THE FIRE ALARM DEVICES AND THE DEVICES SHALL BE INSTALLED BY THE CONTRACTOR. ALL CONNECTIONS TO THE EXISTING FIRE ALARM SYSTEM SHALL BE PERFORMED BY BFPE.

EXECUTION:

A. RACEWAYS, BOXES, CONDUITS:

1. OUTDOORS WIRING METHODS: USE THE FOLLOWING WIRING METHODS:
   a. EXPOSED: RIGID OR INTERMEDIATE METAL CONDUIT
   b. CONCEALED: RIGID OR INTERMEDIATE METAL CONDUIT
   c. CONNECTION TO MOTORS AND OTHER VIBRATING EQUIPMENT: LIQUIDTIGHT FLEXIBLE METAL CONDUIT
   d. BOXES AND ENCLOSURES: NEMA TYPE 3R, UNLESS OTHERWISE NOTED
2. INDOORS WIRING METHODS: USE THE FOLLOWING METHODS
   a. CONNECTION TO MOTORS AND OTHER VIBRATING EQUIPMENT: FLEXIBLE METAL CONDUIT
   b. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT
   c. EXPOSED: ELECTRICAL METALLIC TUBING
   d. CONCEALED: ELECTRICAL METALLIC TUBING OR MC CABLE
   e. ALL CIRCUITRY IN FINISHED AREAS SHALL BE RUN CONCEALED. MINIMUM SIZE CONDUIT SHALL BE 3/4".
3. EXPOSED AND CONCEALED CIRCUITRY SHALL BE RUN TIGHT TO CEILING SLAB (AS HIGH AS POSSIBLE TO MAXIMIZE HEADROOM) IN A NEAT, WORKMANLIKE MANNER. ALL RUNS SHALL BE PARALLEL OR PERPENDICULAR TO BUILDING WALLS.
4. ALL CIRCUITRY RUNS INDICATED ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN THE FIELD THE MOST SUITABLE ROUTES.
5. ALL EMPTY RACEWAYS SHALL CONTAIN A DRAG WIRE. EMPTY RACEWAYS 2" OR LARGER IN SIZE SHALL HAVE A MAXIMUM OF (3) 90° BENDS. PROVIDE 3/4" EMT FROM EACH TELEPHONE OR COMMUNICATIONS OUTLET DEVICE TO CEILING SPACE FROM ALL INSULATED WALLS.
6. PROVIDE PULL, JUNCTION, OUTLET AND FLOOR BOXES WHERE SHOWN AND REQUIRED. SIZE AS REQUIRED BY THE NEC AND OTHER APPLICABLE STATE AND LOCCAL CODES.
7. EXPOSED LOW VOLTAGE WIRING SHALL BE INSTALLED IN A RACEWAY, UNLESS OTHERWISE NOTED.
8. WHERE EXISTING WALLS ARE FURRED OUT AND DEVICES ARE NOT NOTED TO BE REMOVED, PROVIDE EXTENSION BOXES TO BRING FACE OF DEVICES FLUSH WITH NEW FINISH SURFACE AND CONTINUE IN SERVICE.

B. WIRE AND CABLE:

1. ALL 120 VOLT CIRCUIT HOMERUNS WHICH ARE OVER 100 LINEAR FEET SHALL BE #10 CONDUCTORS MINIMUM.
2. RUN MULTIPLE HOMERUNS TO ALTERNATELY NUMBERED PANELBOARD CIRCUITS (I.E. 1, 3, 5).
3. ALL CIRCUITRY RUNS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL DETERMINE IN THE FIELD THE MOST SUITABLE ROUTES. ALL RECEPTACLES, LIGHTING FIXTURES, MOTORS, ETC. SHALL BE GROUNDED PER N.E.C.
4. ALL WIRING AND EQUIPMENT FOR "PLACES OF ASSEMBLY" SHALL COMPLY WITH ARTICLE 518 OF THE N.E.C.

C. WIRING DEVICES AND TELEPHONE/DATA OUTLETS:

1. THE LOCATION OF ALL WIRING DEVICES AND TELEPHONE/DATA OUTLETS SHALL BE VERIFIED BEFORE INSTALLATION WITH THE ARCHITECT. THE ARCHITECT MAY, AT HIS OPTION, RELOCATE ANY DEVICE 5 FEET AT NO CHARGE TO THE OWNER.
2. WHERE TWO OR MORE DEVICES ARE SHOWN TOGETHER ON THE PLANS, A MULTI-GANG BOX AND PLATE SHALL BE USED. DEVICES OF DIFFERENT VOLTAGES SHALL BE SEPARATED BY PERMANENTLY INSTALLED BOX PARTITIONS.
3. ALL OUTLETS SHOWN ON A WALL BACK TO BACK SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY.
4. COORDINATE LIGHT SWITCHES SHOWN ON DRAWINGS WITH DOOR SWINGS. LOCATE LIGHT SWITCH ON LOCK SIDE OF DOOR.
5. COORDINATE WALL MOUNTED TELEPHONE/DATA OUTLET LOCATIONS WITH THE ARCHITECT. PROVIDE FOR COMPLETE INSTALLATION OF FLOOR DEVICES INCLUDING ALL ACCESSORIES.
6. MOUNTING HEIGHT FOR RECEPTACLES AND TELEPHONE OUTLETS SHALL BE 18" A.F.F., UNLESS OTHERWISE NOTED ON PLANS OR OTHERWISE REQUIRED BY LOCAL JURISDICTION.
7. MOUNTING HEIGHT FOR TOGGLE SWITCHES SHALL BE 48" A.F.F., UNLESS OTHERWISE REQUIRED BY THE LOCAL JURISDICTION.
8. THE TELEPHONE/DATA SYSTEM OUTLET LOCATIONS SHALL BE AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY THE TELEPHONE/DATA COMPANY.

D. DISCONNECTS AND CIRCUIT BREAKERS:

1. LOCATE DISCONNECT SWITCH FOR MECHANICAL EQUIPMENT TO PERMIT SERVICING OF EQUIPMENT. CHECK MOTORS FOR PROPER ROTATION. CONNECT CONDUCTORS AS REQUIRED BY MANUFACTURER.
2. PROPERLY SUPPORT DISCONNECT OR ENCLOSED CIRCUIT BREAKER ON WALL WITH METAL FRAMING AS REQUIRED.
3. PROVIDE FUSES IF REQUIRED BY MANUFACTURER OF EQUIPMENT FOR UL APPROVAL OR HACR CURCUIT BREAKERS.
4. PROVIDE SAFETY SWITCHES WHERE INDICATED AND AS REQUIRED BY CODE WITH RATINGS AS REQUIRED BY THE SYSTEM VOLTAGE, PHASE AND LOAD SERVED.

E. PANELBOARDS:

1. PROVIDE A TYPED CIRCUIT DIRECTORY FOR EACH PANELBOARD INSTALLED UNDER THIS CONTRACT, IN PLASTIC SLEEVE ATTACHED TO DOOR, WITH COPY OF DIRECTORY TO TENANT.
2. PANELBOARD CIRCUITING SHALL MATCH THE DRAWINGS. CIRCUITING CHANGES MUST APPROVED BY THE ENGINEER.
3. BEFORE ORDERING PANELBOARDS, COORDINATE ALL CIRCUIT BREAKER TRIPS WITH MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS. COORDINATE CONDUCTOR SIZE WITH ACTUAL MOTORS AND OTHER MECHANICAL AND ARCHITECTURAL EQUIPMENT FURNISHED BEFORE INSTALLING CIRCUITRY.
4. SURFACE MOUNTED PANELBOARD CABINETS SHALL BE INSTALLED ON AN APPROVED STEEL FRAMEWORK TO DISTRIBUTE THE WEIGHT EVENLY TO THE WALL AND FLOOR AND TO PROVIDE A 1-INCH AIR SPACE BETWEEN WALL AND CABINET. PAINT FRAMEWORK WITH TWO COATS OF GRAY ENAMEL AFTER FABRICATION.
5. FOR RECESSED PANELBOARDS, RUN ONE 3/4" CONDUIT FROM TOP OF PANEL 6" INTO CEILING SPACE FOR EVERY SET OF 3 SPARE CIRCUIT BREAKERS OR SPACES.

F. LIGHTING:

1. COORDINATE LIGHTING FIXTURES WITH MECHANICAL EQUIPMENT AND ARCHITECTURAL CEILING PLAN. GRID LAYOUT ON PLANS IS APPROXIMATE. ADJUST LIGHTING FIXTURES IN FIELD PER PROJECT MANAGER.
2. ALL NEW LIGHTING FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS. SEE PLANS FOR SPECIFIC REQUIREMENTS.
3. REFER TO ENGINEERING DRAWINGS FOR FIXTURE TYPES, QUANTITIES AND LOCATIONS. SEE ENGINEERING PLANS FOR CIRCUITING.

G. ELECTRICAL IDENTIFICATION:

1. CONDUCTOR COLOR CODING: PROVIDE COLOR CODING FOR FEEDERS AND BRANCH CIRCUIT CONDUCTORS AS FOLLOWS:

208/120 VOLTS	PHASE
BLACK	A
RED	B
BLUE	C
WHITE	NEUTRAL
GREEN	GROUND

2. APPLY EQUIPMENT IDENTIFICATION LABELS (MINIMUM 1" HIGH LETTERS) OF ENGRAVED PLASTIC-LAMINATE ON EACH MAJOR UNIT OF ELECTRICAL EQUIPMENT. APPLY LABELS FOR EACH UNIT OF THE FOLLOWING CATEGORIES OF ELECTRICAL EQUIPMENT.
   a. PANELBOARDS, ELECTRICAL CABINETS AND ENCLOSURES.
   b. DIMMERS.
3. APPLY CIRCUIT/CONTROL/ITEM DESIGNATION LABELS OF ENGRAVED PLASTIC LAMINATE FOR DISCONNECT SWITCHES, BREAKERS, PUSHBUTTONS, PILOT LIGHTS, MOTOR CONTROL CENTERS, AND SIMILAR ITEMS FOR POWER DISTRIBUTION AND CONTROL COMPONENTS ABOVE.
3. FOR PANELBOARDS INSTALLED OR MODIFIED UNDER THIS PROJECT: PROVIDE FRAMED, TYPED CIRCUIT SCHEDULES WITH EXPLICIT DESCRIPTION AND IDENTIFICATION OF ITEMS CONTROLLED BY EACH INDIVIDUAL BREAKER. FURNISH ADDITIONAL COPY OF EACH SCHEDULE TO OWNER.
4. EACH RECEPTACLE AND OUTLET SHALL BE LABELED TO INDICATE PANEL AND CIRCUIT BREAKER(S) SUPPLYING THE RECEPTACLE OR OUTLET. PROVIDE PRESSURE SENSITIVE, LAMINATED LABEL WITH BLACK LETTERING ON WHITE BACKGROUND. LETTERING HEIGHT IS 1/8".
5. OUTLET BOXES SERVING LIGHTING FIXTURES SHALL BE LABELED ON THE COVER PLATE TO SHOW THE PANEL AND CIRCUIT BREAKER(S) SUPPLYING THE FIXTURE(S).

H. GROUNDING:

1. GROUND ELECTRICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH NEC EXCEPT WHERE GROUNDING IN EXCESS OF NEC REQUIREMENTS IS INDICATED.
2. ALL CIRCUITS SHALL CONTAIN AN INSULATED GROUNDING CONDUCTOR.

I. SUPPORTING DEVICES:

1. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC REQUIREMENTS AND ANY ADDITIONAL LOCAL CODES.

J. EQUIPMENT CONNECTION:

1. EXTEND WIRING TO ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AND MAKE FINAL AND COMPLETE CONNECTIONS TO ALL EQUIPMENT. BEFORE ROUGHING IN, THE LOCATION AND TYPE OF DEVICE SHALL BE VERIFIED FROM SHOP DRAWINGS OF THE EQUIPMENT. STARTERS AND DISCONNECTS AND OTHER ELECTRICAL CIRCUITRY AND DEVICES SHALL BE LOCATED TO ALLOW ACCESS TO DEVICES AND NOT INTERFERE WITH THE OPERATION OF THE MECHANICAL OR ARCHITECTURAL DEVICES OR THEIR POSSIBLE MAINTENANCE OR REMOVAL.

SYM	DESCRIPTION	DATE	APPR
A	95% SUBMISSION	10/30/09	
	95% SUBMISSION	06/25/10	
	100% SUBMISSION	07/21/10	

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MEP LOGO

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NATIONAL NAVY MEDICAL CENTER BUILDING #14
STATION – BETHESDA, MD
IPT PWD
PROJECT STATION
PROJECT– BETHESDA, MD
OICC / FEAD OFFICE EXPANSION
SPECIFICATIONS - ELECTRICAL

CODE ID. NO. 80091 | SIZE D
SCALE:
MAXIMO NO. ######
STA. PROJ. NO. P-###
WORK ORDER NO. ######
CONSTR. CONTR. NO. N40080-08-D-0305
NAVFAC DRAWING NO.
SHEET 2 OF X

E-2

REVDATE:

DEMOLITION PLAN NOTES

1. REMOVE ALL LIGHTING FIXTURES, SWITCHES, AND EXISTING LIGHTING CIRCUITRY FROM THE SCOPE OF WORK AREA. REMOVE CIRCUITRY BACK TO THE SOURCE CIRCUIT BREAKER IN THE CORRESPONDING PANEL IN THE ELECTRIC ROOM. CONTRACTOR SHALL NOT ABANDON ELECTRICAL EQUIPMENT IN THE EXPOSED CEILING. THE EXPOSED CEILING SURFACE OR CAVITY SHALL BE CLEAN OF ALL EQUIPMENT WIRING AND DEBRIS.

2. REMOVE ALL LIGHTING FIXTURES, SWITCHES, AND EXISTING LIGHTING CONTROL CIRCUITRY IN THIS SCOPE OF WORK AREA. RETAIN EXISTING LIGHTING CIRCUIT(S) TO FEED THE REPLACEMENT LIGHT FIXTURES. REMOVE ALL ABANDONED ELECTRICAL EQUIPMENT AND CIRCUITRY.

DEMOLITION NOTES

1. LIGHTING CIRCUITRY SHALL BE REMOVED FROM THE SCOPE OF WORK AREA. UNUSED CIRCUITS SHALL BE MADE SPARE.

2009 INTERNATIONAL ENERGY CONSERVATION CODE COMPLIANCE

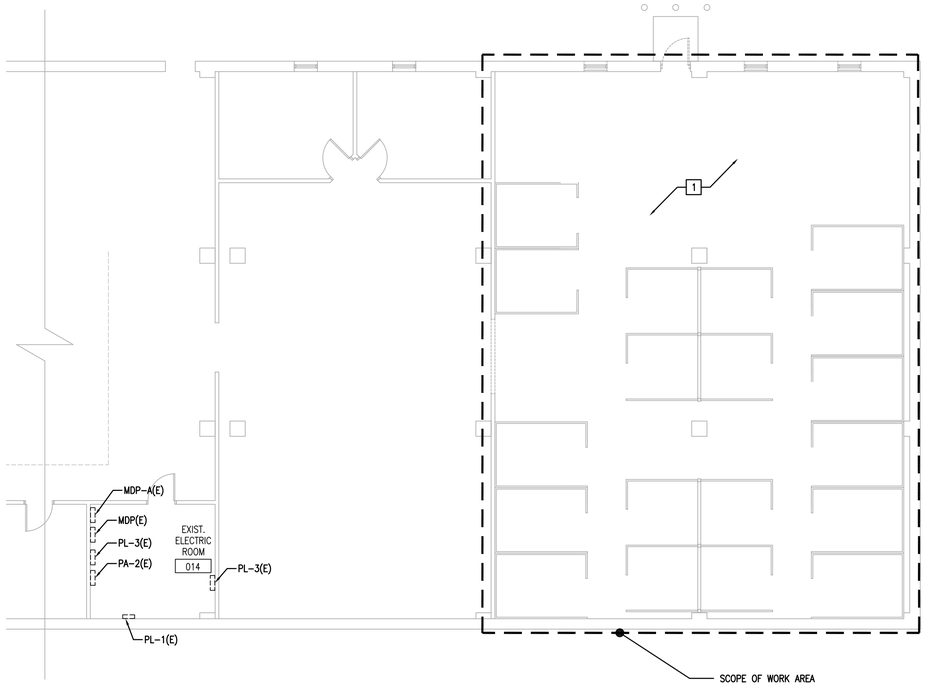
SQUARE FOOTAGE:	=	3,755 SF
INTERIOR LIGHTING POWER:	=	1.0 W/SF
ALLOWABLE WATTAGE:	=	3,755 WATTS
WATTAGE USED:	=	3,644 WATTS

PLAN NOTES

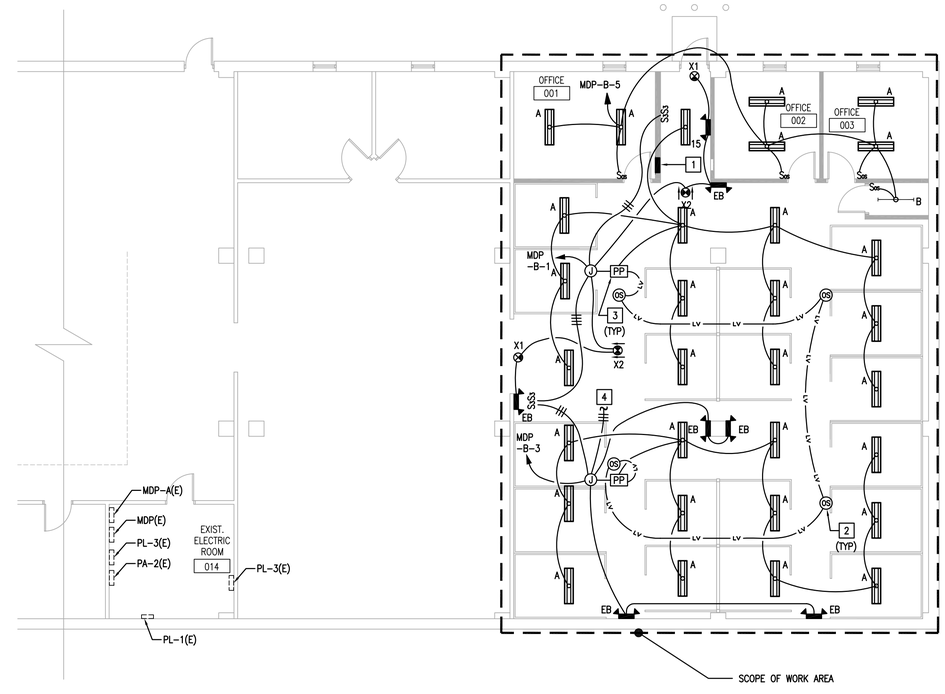
1. NEW PANELBOARD "MDP-B". NEW WALL SHALL BE AT LEAST 6" DEEP TO ACCOMMODATE THE NEW RECESSED PANELBOARD.
2. PROVIDE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR EQUIVALENT TO WATT STOPPER CATALOG No. DT-305.
3. PROVIDE CEILING MOUNTED POWER PACK EQUIVALENT TO WATT STOPPER CATALOG No. BZ-150.
4. TO THREE-WAY SWITCH AT EXTERIOR DOOR.
5. UTILIZE EXISTING LIGHTING CIRCUIT(S) IN THIS AREA TO FEED THE REPLACEMENT LIGHTING. LIMIT LOAD ON ANY CIRCUIT TO LESS THAN 16 AMPERES.

GENERAL NOTES

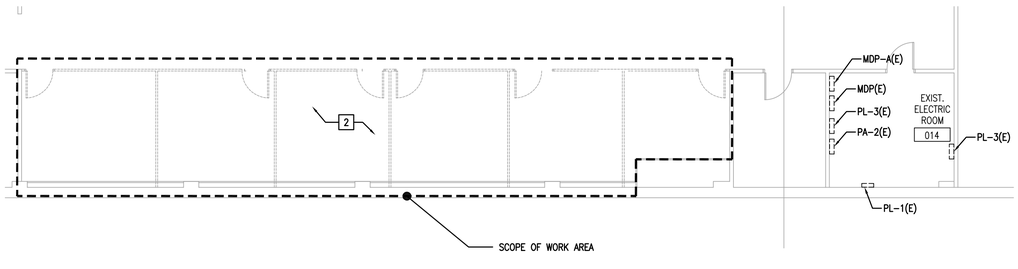
1. REFER TO DRAWING E-7 FOR PANEL SCHEDULES.
2. ALL FLUORESCENT LIGHT FIXTURES SHALL BE PENDANT MOUNTED AT 18-1/2 INCHES BELOW THE CEILING SLAB. CONTRACTOR SHALL MOUNT FLUORESCENT LIGHTING FIXTURES TO AVOID ALL FIRE SPRINKLER PIPING.
3. ALL EXIT SIGNS SHALL BE PENDANT MOUNTED AT 18-1/2 INCHES BELOW THE CEILING SLAB. CONTRACTOR SHALL MOUNT EXIT SIGNS TO AVOID ALL FIRE SPRINKLER PIPING.
4. REFER TO DRAWING E-6 FOR LIGHTING FIXTURE SCHEDULE.
5. ALL EMERGENCY BATTERY PACKS AND EXIT SIGN FIXTURES SHALL BE CONNECTED AHEAD OF ANY SWITCHING WITH 2#12+#12G IN 3/4" CONDUIT.
6. THE EXPOSED CEILING CAVITY WILL BE OPEN TO THE SLAB. ALL LIFE-SAFETY AND FIRE ALARM EQUIPMENT SHALL HAVE A WHITE FINISH.



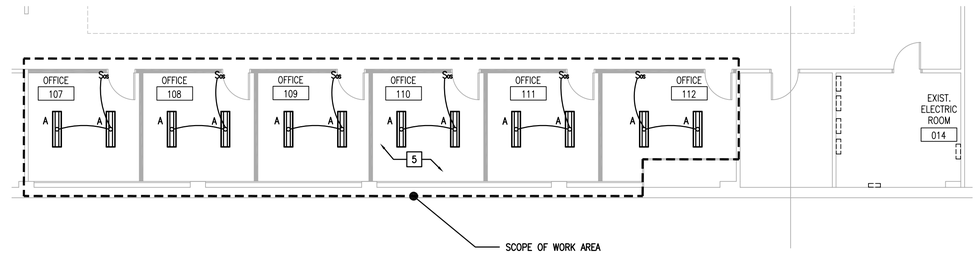
PARTIAL FIRST FLOOR PLAN EXPANSION AREA - LIGHTING - DEMOLITION - ELECTRICAL
SCALE: 1/8" = 1'- 0"



PARTIAL FIRST FLOOR PLAN EXPANSION AREA - LIGHTING - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"



PARTIAL FIRST FLOOR PLAN OFFICE AREA - LIGHTING - DEMOLITION - ELECTRICAL
SCALE: 1/8" = 1'- 0"



PARTIAL FIRST FLOOR PLAN OFFICE AREA - LIGHTING - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"

SYM	DESCRIPTION	DATE	APPR
	100% SUBMISSION	07/21/10	
	95% SUBMISSION	05/25/10	
A	95% SUBMISSION	10/30/09	

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DEPARTMENT OF THE NAVY
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STATION – BETHESDA, MD
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OICC / FEAD OFFICE EXPANSION
LIGHTING DEMOLITION AND NEW WORK

CODE ID. NO. 80091	SIZE D
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CONSTR. CONTR. NO.	N40080-08-D-0305
NAVFAC DRAWING NO.	
SHEET	3 OF X

E-3

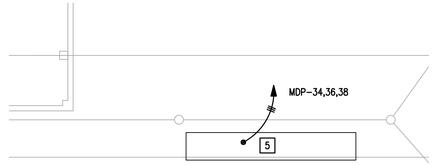
REVDATE:

DEMOLITION PLAN NOTES

1. REMOVE ALL POWER DEVICES, TELE-DATA DEVICES AND WIRING/CONDUIT FROM THE SCOPE OF WORK AREA. REMOVE CIRCUITRY BACK TO THE SOURCE CIRCUIT BREAKER IN THE CORRESPONDING PANEL IN THE ELECTRIC ROOM. CONTRACTOR SHALL NOT ABANDON ANYTHING IN THE CEILING. THE CEILING SURFACE SHALL BE CLEAN OF ALL EQUIPMENT WIRING AND DEBRIS. CEILING SHALL BE OPEN TO THE SLAB ABOVE.
2. DISCONNECT EXISTING FAN COIL UNIT (TO BE RELOCATED). EXISTING CIRCUITRY TO BE EXTENDED TO RELOCATED UNIT.

DEMOLITION NOTES

1. POWER WIRING/CONDUIT SHALL BE REMOVED FROM THE SCOPE OF WORK AREA. UNUSED CIRCUITS SHALL BE MADE SPARE.



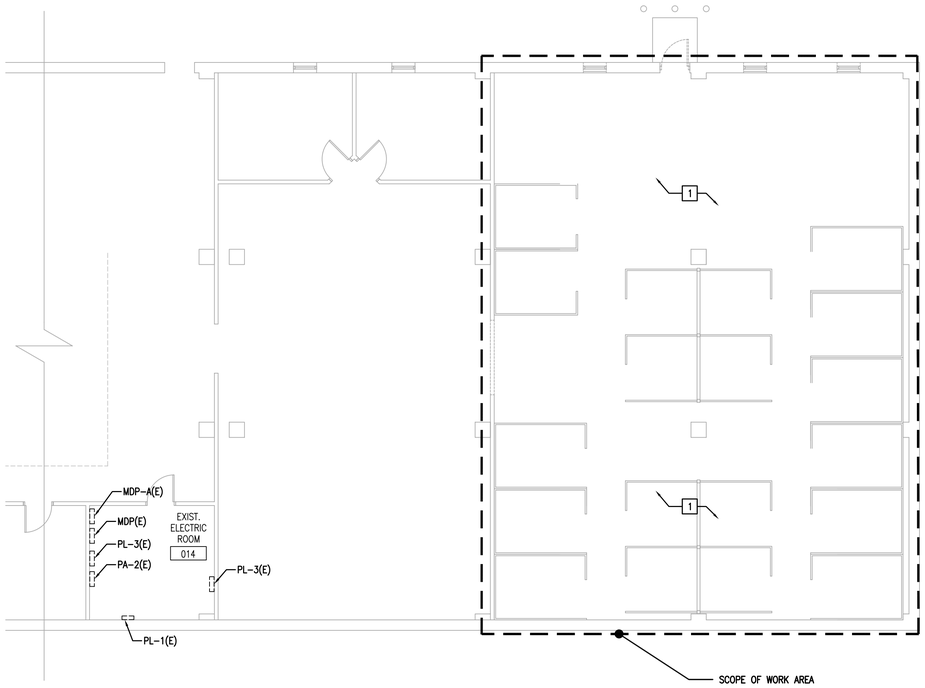
N
PARTIAL ROOF PLAN POWER - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"

PLAN NOTES

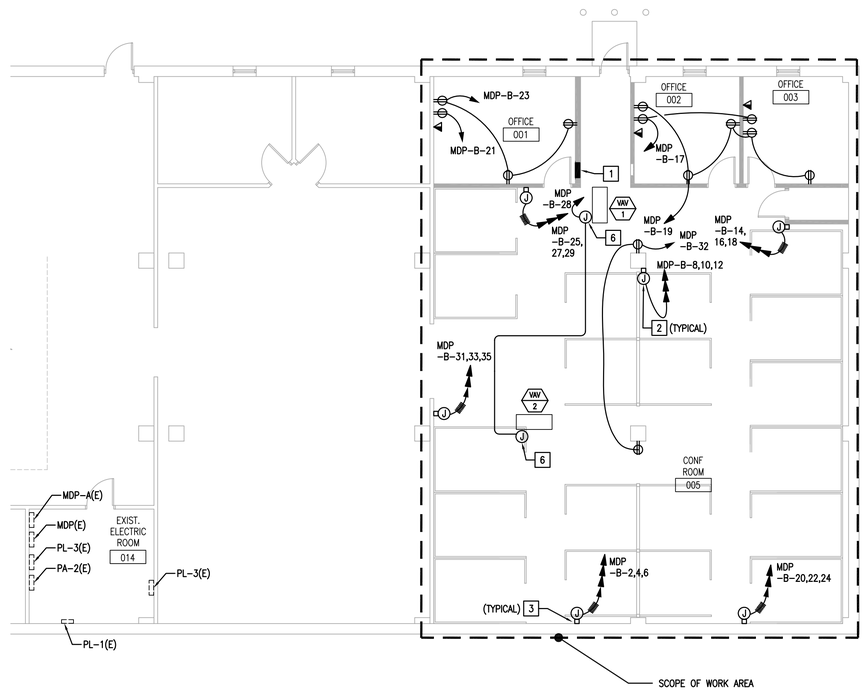
1. NEW PANELBOARD "MDP-B"..
2. PROVIDE POLE TOP JUNCTION BOX FOR CONNECTION TO POWER POLE.
3. PROVIDE BLANK ALUMINUM POWER POLE (WIREMOLD CATALOG No. NP600C-10-2B OR EQUAL). COORDINATE POWER POLE LOCATION WITH SYSTEM FURNITURE INSTALLER.
4. EXTEND EXISTING CIRCUIT AND RECONNECT RELOCATED FAN COIL UNIT.
5. ROOFTOP AIR HANDLER WITH FACTORY INSTALLED DISCONNECT AND SERVICE RECEPTACLE. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION.
6. PROVIDE CEILING MOUNTED JUNCTION BOX FOR FAN POWERED VAV CONTROL CIRCUIT CONNECTION.
7. MOUNT JUNCTION BOX NEAR CEILING AND FISH MC CABLE THROUGH EXISTING WALL CAVITY TO NEW RECEPTACLE MOUNTED FLUSH IN WALL.

GENERAL NOTES

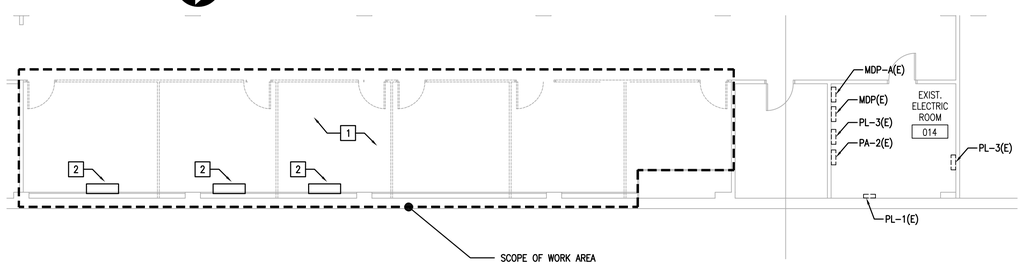
1. REFER TO DRAWINGS E-6 FOR RISER DIAGRAM AND E-7 FOR PANEL SCHEDULES.
2. SYSTEMS FURNITURE AT POWER POLES BASIS OF DESIGN SHALL BE 3-CIRCUIT, 8-WIRE.
3. CONTRACTOR SHALL ENSURE THAT ALL DATA CONDUITS ARE RUN UP TO THE CEILING AND TURNED OUT INTO THE ROOM.
4. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ROOF TOP UNIT.
5. THE CEILING IS EXPOSED IN THE SCOPE OF WORK AREA AND SHALL BE PAINTED WHITE. ALL JUNCTION BOXES AND CONDUIT SHALL HAVE A WHITE FINISH.
6. ALL EXPOSED CIRCUITRY SHALL BE INSTALLED IN CONDUIT.



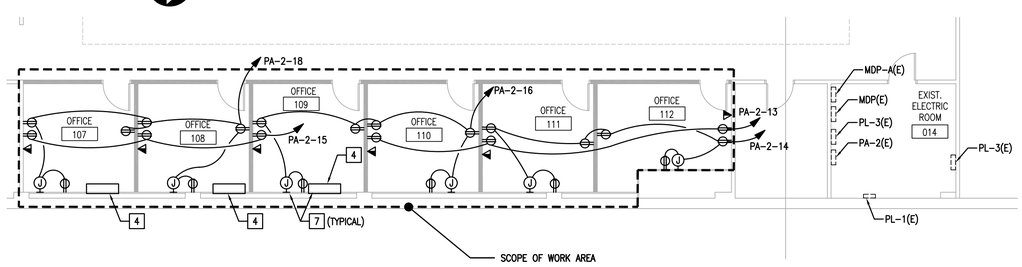
N
FIRST FLOOR PLAN OFFICE AREA - POWER - DEMOLITION - ELECTRICAL
SCALE: 1/8" = 1'- 0"



N
FIRST FLOOR PLAN EXPANSION AREA - POWER - DEMOLITION - ELECTRICAL
SCALE: 1/8" = 1'- 0"



N
FIRST FLOOR PLAN OFFICE AREA - POWER - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"



N
FIRST FLOOR PLAN EXPANSION AREA - POWER - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"

REVDATE:

SYM	DESCRIPTION	DATE	APPR
	100% SUBMISSION	07/21/10	
	95% SUBMISSION	09/29/10	
A	85% SUBMISSION	10/05/09	

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ARCH LOGO

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Encon Project No. 09137

MEP LOGO

DES	DRW
REVIEWED BY	REW
PM/DM	JY
CHIEF ENG/ARCH	

NAVAL FACILITIES ENGINEERING COMMAND
STATION - BETHESDA, MD
DEPARTMENT OF THE NAVY
NATIONAL NAVY MEDICAL CENTER BUILDING #14
IPT PWD
PROJECT STATION
PROJECT- BETHESDA, MD
OICC / FEAD OFFICE EXPANSION
POWER DEMOLITION AND NEW WORK

CODE ID. NO. 80091	SIZE D
SCALE:	
MAXIMO NO.	######
STA. PROJ. NO.	P-###
WORK ORDER NO.	######
CONSTR. CONTR. NO.	N40080-08-D-0305
NAVFAC DRAWING NO.	
SHEET 4 OF X	

E-4

DEMOLITION PLAN NOTES

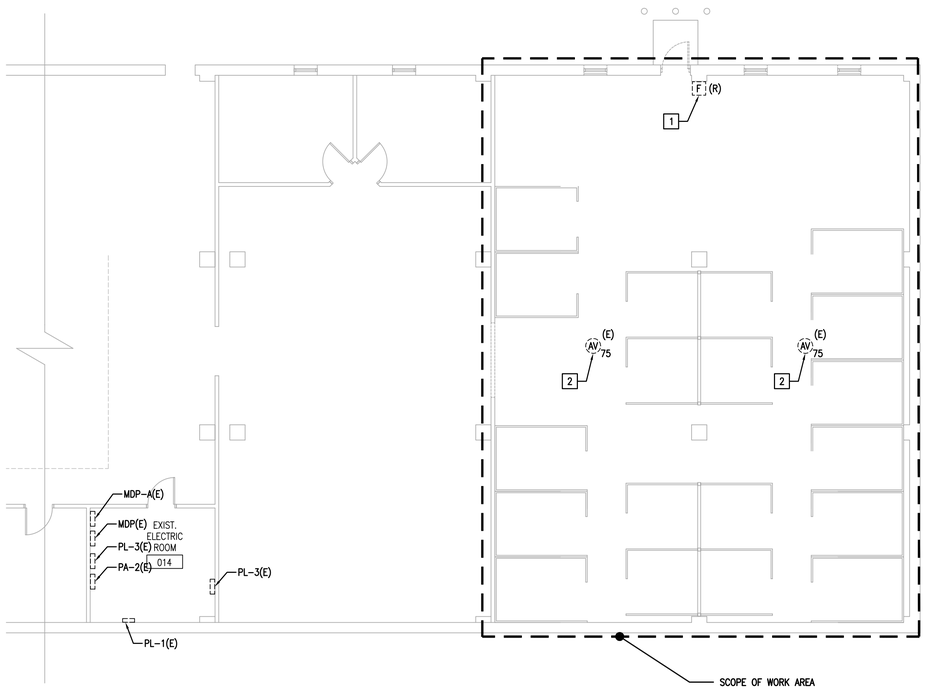
1. RELOCATE EXISTING WALL MOUNTED FIRE ALARM MANUAL PULL STATION FROM THE EXISTING LOCATION. REFER TO NEW WORK PLAN FOR NEW LOCATION.
2. EXISTING AUDIO/VISUAL ALARM APPLIANCES TO REMAIN. TEMPORARILY REMOVE AND REINSTALL TO ALLOW FOR CEILING WORK IF NECESSARY.

DEMOLITION NOTES

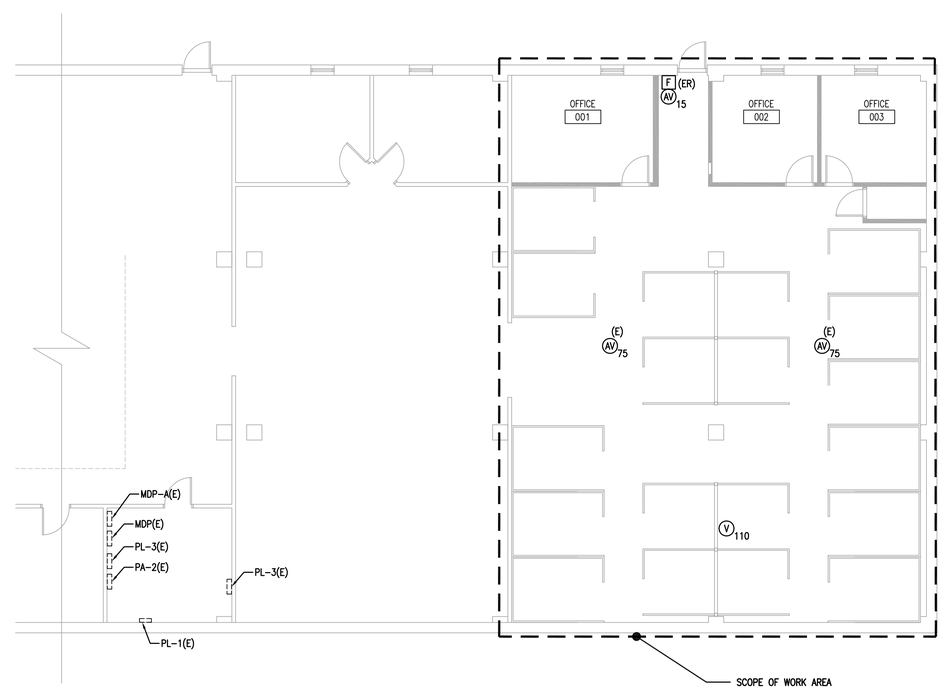
1. FIRE ALARM DEVICES IN THE SCOPE OF WORK AREA SHALL BE RELOCATED. REFER TO NEW WORK PLAN THIS DRAWING FOR FURTHER INFORMATION.

GENERAL NOTES

1. REFER TO DRAWING E-1 FOR SYMBOLS AND ABBREVIATIONS.
2. FIRE ALARM DEVICE INSTALLATION SHALL BE PERFORMED BY BFPE. ALL FIRE ALARM TIE-IN'S TO THE EXISTING FIRE ALARM SYSTEM SHALL BE PERFORMED BY BFPE. CONTACT BFPE PRIOR TO ORDERING ANY FIRE ALARM DEVICE. BFPE 7512 CONNELLY DRIVE, HANOVER, MD 21076, PHONE: 800-966-2212.
3. NEW FIRE ALARM DEVICES SHALL BE MANUFACTURED BY WHEELOCK OR EQUAL AS APPROVED BY BFPE.



N
FIRST FLOOR PLAN FIRE ALARM - DEMOLITION - ELECTRICAL
SCALE: 1/8" = 1'- 0"



N
FIRST FLOOR PLAN FIRE ALARM - NEW WORK - ELECTRICAL
SCALE: 1/8" = 1'- 0"

SYM	DESCRIPTION	DATE	APPR
	100% SUBMISSION	07/21/10	
	95% SUBMISSION	06/25/10	
A	95% SUBMISSION	10/30/09	

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Encon Project No. 09137

MEP LOGO

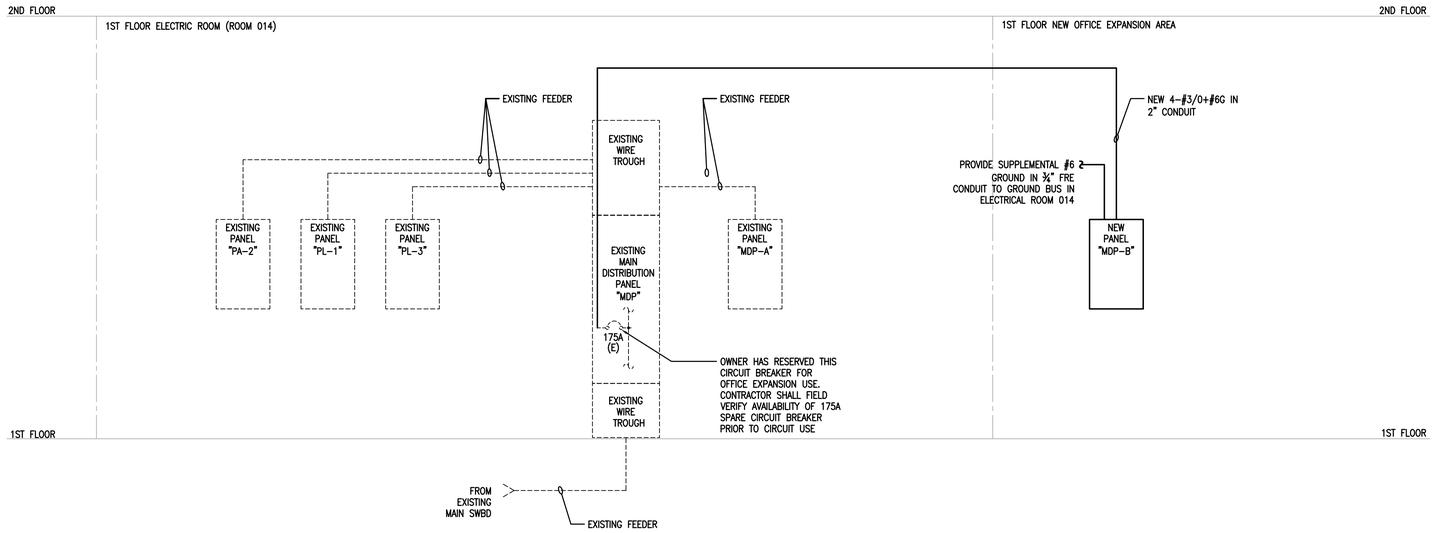
DES	DRW
REVIEWED BY	REW
PM/DM	JY
CHIEF ENG/ARCH	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NATIONAL NAVY MEDICAL CENTER BUILDING #14
STATION - BETHESDA, MD
IPT PWD
PROJECT STATION
PROJECT- BETHESDA, MD
OICC / FEAD OFFICE EXPANSION
FIRE ALARM DEMOLITION AND NEW WORK

CODE ID. NO. 80091	SIZE D
SCALE:	
MAXIMO NO.	#####
STA. PROJ. NO.	P-###
WORK ORDER NO.	#####
CONSTR. CONTR. NO.	N40080-08-D-0305
NAVFAC DRAWING NO.	
SHEET 5 OF X	

E-5

REVDATE:



RISER DIAGRAM - ELECTRICAL

SCALE: NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

DESIGNATION OR SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMP	VOLT	MOUNTING	NOTES
A	FLUORESCENT DIRECT/INDIRECT	NEO-RAY	302DIP-3T5-DC04-1EB-RP	(2) FP28/835/ECO	120	PENDANT	
B	FLUORESCENT STRIP WITH WIRE GUARD	LITHONIA	C132-120-GEB10IS-WGCUN	(1) F032/835/ECO	120	SURFACE	
EB	EMERGENCY BATTERY PACK	LITHONIA	ELM1254-H2012-N-SD	(2) 20W HALOGEN	120	SURFACE	COORDINATE COLOR WITH PROJECT MANAGER PRIOR TO ORDERING
X1	SINGLE FACE EXIT SIGN	LITHONIA	LOC-W-1-R-ELN-ELA-W-US12	LED	120	PENDANT	
X2	DOUBLE FACE EXIT SIGN	LITHONIA	LOC-W-2-R-ELN-ELA-W-US12	LED	120	PENDANT	DIRECTIONAL ARROWS SHALL BE AS SHOWN ON THE LIGHTING NEW WORK DRAWING

NOTES:

VERIFY MANUFACTURER, MODELS, FINISHES, COLORS AND OPTIONS FOR ALL FIXTURES WITH PROJECT MANAGER PRIOR TO ORDERING.

SYM	DESCRIPTION	DATE	APPR.
	100% SUBMISSION	07/21/10	
	95% SUBMISSION	06/25/10	
A	95% SUBMISSION	10/30/09	

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MEP LOGO

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DEPARTMENT OF THE NAVY
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NATIONAL NAVY MEDICAL CENTER BUILDING #14
STATION - BETHESDA, MD
IPT PWD
PROJECT STATION
PROJECT- BETHESDA, MD
OICC / FEAD OFFICE EXPANSION
RISER DIAGRAM AND SCHEDULES

CODE ID. NO. 80091 | SIZE D
SCALE:
MAXIMO NO. ######
STA. PROJ. NO. P-###
WORK ORDER NO. ######
CONSTR. CONTR. NO. N40080-08-D-0305
NAVFAC DRAWING NO.
SHEET 6 OF X

E-6

REVDATE:

EXISTING PANEL PMI 2849 'MDP' SCHEDULE

BUS: 600A	VOLTAGE: 208Y/120	NO. POLES: 42	LOCATION: ELECTRIC ROOM
NEUTRAL: 600A	PHASE/WIRE: 3PH/4W	SECTION: 1 OF 1	MOUNTING: SURFACE
MLO: 600A	AIC RATING: 65K		FED FROM: BASEMENT SWBD

ITEM SERVED	LOAD	CONDUIT AND CONDUCTOR	CB TRIP	CKT NO.	PHASE KVA A	PHASE KVA B	PHASE KVA C	CKT NO.	CB TRIP	CONDUIT AND CONDUCTOR	LOAD	ITEM SERVED
EXST PANEL MDP-A (PANEL P-2-2)	0.00	EXISTING	225	1	9.15			2	175	**4#3/0+#6GIN 2"C**	**9.15**	**NEW PANEL MDP-B**
	0.00			3		8.51		4			**8.51**	
	0.00			5			8.72	6			**8.72**	
EXISTING PANEL P1-1	0.00	EXISTING	225	7	0.00			8	225	EXISTING	0.00	EXISTING PANEL P2-1
	0.00			9		0.00		10			0.00	
	0.00			11				12			0.00	
SPACE	0.00			13	0.00			14	90	EXISTING	0.00	EXST PANEL PA-2
SPACE	0.00			15		0.00		16			0.00	
SPACE	0.00			17			0.00	18			0.00	
SPARE	0.00		100	19	0.00			20	50	EXISTING	0.00	EXST ROOF AHU
	0.00			21		0.00		22			0.00	
	0.00			23			0.00	24			0.00	
EXST PANEL PL-3 (PANEL 1-3)	0.00	EXISTING	100	25	0.00			26	60		0.00	SPARE
	0.00			27		0.00		28			0.00	
	0.00			29			0.00	30	40		0.00	SPARE
SPARE	0.00	EXISTING	100	31	0.00			32			0.00	
	0.00			33		0.00		34			0.00	
	0.00			35			1.25	36	**25***	**3#10 + #10G IN 3/4"C**	**1.25**	**NEW ROOFTOP UNIT (RTU-1)**
EXST PRINTING MACH	0.00	EXISTING	20	37	1.25			38			**1.25**	
	0.00			39		1.25		40			**1.25**	
	0.00			41			0.00	42	20	EXISTING	0.00	EXST RCPT COKE MACH
ADDED KVA	30.13				10.40	9.76	9.97					
ADDED AMPS	83.69											

*PROVIDE INDICATED CIRCUIT BREAKER IN EXISTING SPACE.

CATEGORY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
LIGHTING	0.00	1.25	0.00	0.00
RECEPTACLES	0.00	1.00	0.00	0.00
RECEPTACLES OVER 10KVA	0.00	0.50	0.00	0.00
LARGEST MOTOR	0.00	1.25	0.00	0.00
HEATING	0.00	1.00	0.00	0.00
COOLING	2.50	1.00	2.50	6.944
OTHER	26.38	1.00	26.38	73.278
TOTAL	28.88	1.00	28.88	80.222

PANEL MDP NEW LOAD SUMMARY

PHASE A	130A @ 120V –	15.6KVA
PHASE B	160A @ 120V –	19.2KVA
PHASE C	147A @ 120V –	17.6KVA
TOTAL		52.4KVA
+25% PER NEC		13.1KVA
NEC TOTAL		65.5KVA
ADDED LOAD		
PANEL MDP–B		26.3KVA
RTU		3.8KVA
PANEL PA–2		5.6KVA
TOTAL		101.2KVA (281A)

NEW PANEL 'MDP-B' SCHEDULE

BUS: 225A	VOLTAGE: 208Y/120	NO. POLES: 42	LOCATION: SEE FLOOR PLAN
NEUTRAL: 225A	PHASE/WIRE: 3PH/4W	SECTION: 1 OF 1	MOUNTING: RECESSED
MCB: 175A	AIC RATING: 10K		FED FROM: MDP

ITEM SERVED	LOAD	CONDUIT AND CONDUCTOR	CB TRIP	CKT NO.	PHASE KVA A	PHASE KVA B	PHASE KVA C	CKT NO.	CB TRIP	CONDUIT AND CONDUCTOR	LOAD	ITEM SERVED
OPEN OFF LTG	**1.09**	**2#12 + #12 IN 3/4"C**	**20**	1	2.29			2	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
OPEN OFF LTG	**1.01**	**2#12 + #12 IN 3/4"C**	**20**	3		2.21		4	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
OFF. 001,002,003 LTG	**0.54**	**2#12 + #12 IN 3/4"C**	**20**	5			1.98	6	**20**	**2#12 + #12 IN 3/4"C**	**1.44**	**POWER POLE**
SPARE	**0.00**		**20**	7	1.20			8	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
SPARE	**0.00**		**20**	9		1.20		10	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
SPARE	**0.00**		**20**	11			1.44	12	**20**	**2#12 + #12 IN 3/4"C**	**1.44**	**POWER POLE**
SPARE	**0.00**		**20**	13	1.20			14	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
SPARE	**0.00**		**20**	15		1.20		16	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
CMPTR RCPTS 002-003	**0.80**	**2#12 + #12 IN 3/4"C**	**20**	17			1.88	18	**20**	**2#12 + #12 IN 3/4"C**	**1.08**	**POWER POLE**
GEN RCPTS 002-003	**0.90**	**2#12 + #12 IN 3/4"C**	**20**	19	2.10			20	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
CMPTR RCPTS 001	**0.40**	**2#12 + #12 IN 3/4"C**	**20**	21		1.60		22	**20**	**2#12 + #12 IN 3/4"C**	**1.20**	**POWER POLE**
GEN RCPTS 001	**0.54**	**2#12 + #12 IN 3/4"C**	**20**	23			1.62	24	**20**	**2#12 + #12 IN 3/4"C**	**1.08**	**POWER POLE**
POWER POLE	**0.80**	**2#12 + #12 IN 3/4"C**	**20**	25	1.16			26	**20**	**2#12 + #12 IN 3/4"C**	**0.36**	**GEN RECPTS 00.1**
POWER POLE	**0.80**	**2#12 + #12 IN 3/4"C**	**20**	27		1.10		28	**20**	**2#12 + #12 IN 3/4"C**	**0.30**	**VAV CNTRL CKT**
POWER POLE	**0.72**	**2#12 + #12 IN 3/4"C**	**20**	29			0.72	30				**SPACE**
POWER POLE	**1.20**	**2#12 + #12 IN 3/4"C**	**20**	31	1.20			32				**SPACE**
POWER POLE	**1.20**	**2#12 + #12 IN 3/4"C**	**20**	33		1.20		34				**SPACE**
POWER POLE	**1.08**	**2#12 + #12 IN 3/4"C**	**20**	35			1.08	36				**SPACE**
SPACE				37	0.00			38				**SPACE**
SPACE				39		0.00		40				**SPACE**
SPACE				41			0.00	42				**SPACE**
TOTAL KVA	26.38				9.15	8.51	8.72					
TOTAL AMPS	73.28											

CATEGORY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
LIGHTING	2.64	1.25	3.30	9.167
RECEPTACLES	8.64	1.00	8.64	24.00
RECEPTACLES OVER 10KVA	0.00	0.50	0.00	0.00
LARGEST MOTOR	0.00	1.25	0.00	0.00
HEATING	0.00	1.00	0.00	0.00
COOLING	0.00	1.00	0.00	0.00
MISCELLANEOUS	15.10	1.00	15.10	41.944
TOTAL	26.38	1.025	27.04	75.111

LOAD SUMMARY

THE LOADS IN THIS TABLE WERE MEASURED BY NMCC BETHESDA ON 9/29/09 AND PROVIDED TO ENCON:

Panel "PMI 2849"
Located in Bldg 14, Ground Floor
FPE, 600 amp, 120/208, 3 phase, 4 wire
Type NDP, No ground bar or buss
Feed from 600Amp main in Mechanical room

Panel P-2-2	1			2	**Spare**
Panel P-2-2	3	3p-225A	3P-175A	4	**Spare**
Panel P-2-2	5			6	**Spare**
Panel P1-1	7			8	Panel P2-1
Panel P1-1	9	3p-225A	3P225A	10	Panel P2-1
Panel P1-1	11			12	Panel P2-1
Space	13			14	Panel PA-2
Space	15		3P-90A	16	Panel PA-2
Space	17			18	Panel PA-2
Spare	19			20	AHU, Roof
Spare	21	3P-100	3P-50A	22	AHU, Roof
Spare	23			24	AHU, Roof
Panel P1-3	25		2P-60A	26	**Spare**
Panel P1-3	27			28	**Spare**
Panel P1-3	29			30	**Spare**
Spare	31		3P-40	32	**Spare**
Spare	33	3P-100		34	**Spare**
Spare	35			36	Space
Printer	37			38	Space
Printer	39	3P-20		40	Space
Printer	41		1P-20	42	Coke Mechine

This panel is fed by parallel sets of 500MCM aluminum to a trough in the electrical room, they are landed on a buss bar with a 4/0
Panel MDP-A is feed from the buss bars.

Load readings of Panel PMI 2849, 600 Amp, MLO

	Reading 1	Reading 2	Reading 3
Phase "A"	75	88	117
Phase "B"	64	106	112
Phase "C"	147	75	129

Load readings of Panel MDP-A, 225 Amp, MCB

	Reading 1	Reading 2	Reading 3
Phase "A"	26		
Phase "B"	24		
Phase "C"	25		

Load readings of Main Switch in Mechanical room, 600 Amp non-fused main Switch

	Reading 1	Reading 2	Reading 3
Phase "A"	118	130	
Phase "B"	160	128	
Phase "C"	130	143	

EXISTING PANEL 'PA-2' SCHEDULE

BUS: 100A	VOLTAGE: 208Y/120	NO. POLES: 30	LOCATION: ELECTRIC ROOM
NEUTRAL: 100A	PHASE/WIRE: 3PH/4W	SECTION: 1 OF 1	MOUNTING: SURFACE
MLO: 100A	AIC RATING: 10K		FED FROM: MDP

ITEM SERVED	LOAD	CONDUIT AND CONDUCTOR	CB TRIP	CKT NO.	PHASE KVA A	PHASE KVA B	PHASE KVA C	CKT NO.	CB TRIP	CONDUIT AND CONDUCTOR	LOAD	ITEM SERVED
LTG	1.92	EXISTING	20	1	3.84			2	20	EXISTING	1.92	LTG
OFF RCPTS	1.08	EXISTING	20	3		2.28		4	20	EXISTING	1.20	WORK STATION
OFF RCPTS	1.08	EXISTING	20	5			2.28	6	20	EXISTING	1.20	WORK STATION
WORK STATION	1.20	EXISTING	20	7	2.28			8	20	EXISTING	1.08	WORK STATION
WORK STATION	1.20	EXISTING	20	9		2.28		10	20	EXISTING	1.08	WORK STATION
WORK STATION	1.08	EXISTING	20	11			2.16	12	20	EXISTING	1.08	WORK STATION
CMPTR RCPTS 110-112	**1.20**	**2#12 + #12 IN 3/4"C**	***20**	13	2.28			14	**20***	**2#12 + #12 IN 3/4"C**	**1.08**	**GEN RCPTS 111-112**
CMPTR RCPTS 107-109	**1.20**	**2#12 + #12 IN 3/4"C**	***20**	15		2.28		16	**20***	**2#12 + #12 IN 3/4"C**	**1.08**	**GEN RCPTS 109-110**
SPACE				17			1.08	18	**20***	**2#12 + #12 IN 3/4"C**	**1.08**	**GEN RCPTS 107-108**
SPACE				19	0.00			20				SPACE
SPACE				21		0.00		22				SPACE
SPACE				23			0.00	24				SPACE
SPACE				25	0.00			26				SPACE
SPACE				27		0.00		28				SPACE
SPACE				29			0.00	30				SPACE
TOTAL KVA	20.76				8.40	6.84	5.52					
TOTAL AMPS	57.67											

*PROVIDE INDICATED CIRCUIT BREAKER IN EXISTING SPACE.

CATEGORY	CONNECTED KVA	DEMAND FACTOR	DEMAND KVA	DEMAND AMPS
LIGHTING	3.84	1.25	4.80	13.333
RECEPTACLES	9.72	1.00	9.72	27.00
RECEPTACLES OVER 10KVA	0.00	0.50	0.00	0.00
LARGEST MOTOR	0.00	1.25	0.00	0.00
HEATING	0.00	1.00	0.00	0.00
COOLING	0.00	1.00	0.00	0.00
MISCELLANEOUS	7.20	1.00	7.20	20.00
TOTAL	20.76	1.046	21.72	60.333

SYM	DESCRIPTION	DATE	APPR
A	100% SUBMISSION	07/21/10	
	95% SUBMISSION	06/25/10	
	95% SUBMISSION	10/09/09	

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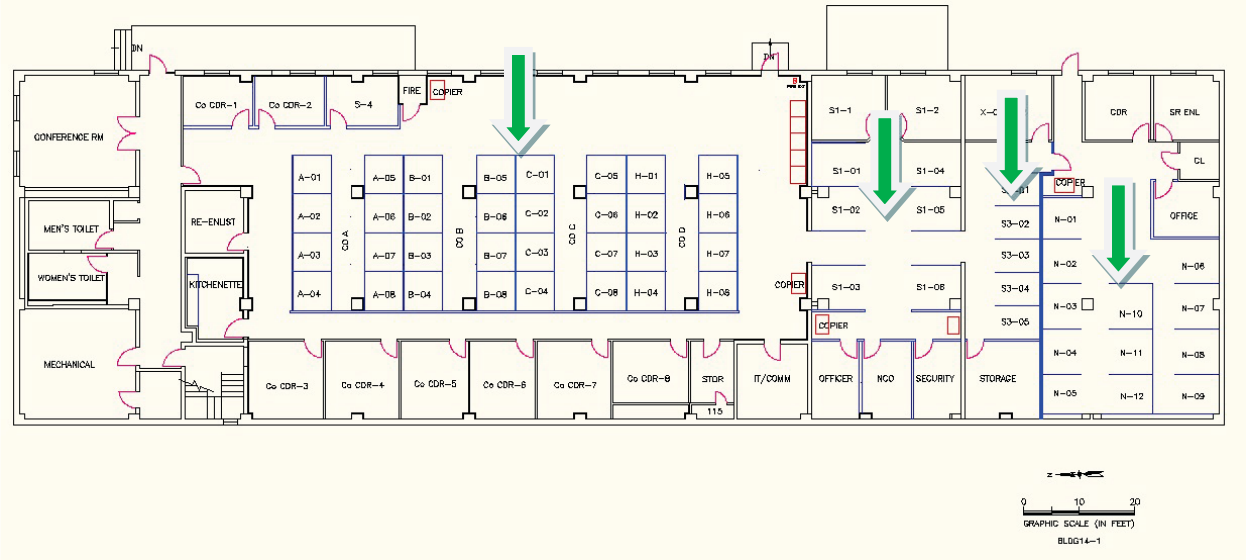
DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NATIONAL NAVY MEDICAL CENTER BUILDING #14
IPT PWD STATION – BETHESDA, MD
PROJECT STATION PROJECT– BETHESDA, MD

OICC / FEAD OFFICE EXPANSION

PANEL SCHEDULES

CODE ID. NO. 80091 | SIZE D
SCALE:
MAXIMO NO. ######
STA. PROJ. NO. P–###
WORK ORDER NO. ######
CONSTR. CONTR. NO. N40080–08–D–0305
NAVFAC DRAWING NO.
SHEET 6 OF X
E-7

REV/DATE:

Building 14 Lower Level Planned Floor Plan