LEGEND

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

- MANUAL BALANCING DAMPER WITH LOCKING QUADRANT
- FD — FIRE DAMPER WITH ACCESS DOOR
- FLEXIBLE DUCT CONNECTION
- LINED DUCTWORK
- M — MOTORIZED CONTROL DAMPER
- DUCT TURNS UP IN DIRECTION OF ARROW
- ELBOW WITH TURNING VANES
- 1 — KEYNOTE MARK
- 1 — DEMOLITION KEYNOTE MARK
- A 100 — GRILLE OR DIFFUSER MARK – SUBSCRIPT INDICATES CFM
- POINT OF CONNECTION–NEW TO EXISTING AND POINT OF DEMOLITION TERMINATION
- SUPPLY DUCT SECTION
- RETURN OR EXHAUST DUCT SECTION
- (AD) ACCESS DOOR
- DOOR LOUVER – SEE SCHEDULE / SEE ARCHITECTURAL PLANS FOR SIZES
- UC — UNDER CUT DOOR MIN. 1"
- T AHU-1 — THERMOSTAT/SENSOR MOUNT 60" ABOVE FLOOR SUBSCRIPT INDICATES EQUIPMENT BEING CONTROLLED
- E RTU-1 — EMERGENCY AIR DISTRIBUTION SHT–OFF SWITCH SUBSCRIPT INDICATES EQUIPMENT BEING CONTROLLED
- DUCT TURNING DOWN
- BALANCING DAMPER
- F — FAN SWITCH–FLUSH MOUNT 54" ABOVE FLOOR
- S — SMOKE DETECTOR
- AHU–1 — AIR HANDLING UNIT MARK
- EF–1 — EXHAUST FAN MARK
- L–1 — LOUVER
- DAH–1 — MINI SPLIT INDOOR UNIT MARK
- DHP–1 — MINI SPLIT OUTDOOR UNIT MARK
- RTU–1 — ROOFTOP UNIT MARK
- UH–1 — UNIT HEATER MARK
- DCH–1 — DUCT MOUNTED HEATING COIL MARK

ABBREVIATIONS

AD	ACCESS DOOR
APD	AIR PRESSURE DROP
APPROX	APPROXIMATELY
BD	BALANCING DAMPER
BTUH	BRITISH THERMAL UNIT PER HOUR
CFM	CUBIC FEET PER MINUTE
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EMD	END OF MAIN DRIP
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EXIST	EXISTING
FD	FIRE DAMPER WITH ACCESS DOOR
FDB	DEGREE FAHRENHEIT DRY BULB
FF	FINISHED FLOOR
FWB	DEGREE FAHRENHEIT WET BULB
GPM	GALLONS PER MINUTE
HP	HORSE POWER
HWR	(HEATING) HOT WATER RETURN
HWS	(HEATING) HOT WATER SUPPLY
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUND PER HOUR
LDB	LEAVING DRY BULB
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU/HR
MCA	MINIMUM CIRCUIT AMPS
MFS	MAXIMUM FUSE SIZE
OA	OUTSIDE AIR
PD	PRESSURE DROP
PSIG	POUNDS PER SQUARE INCH GAGE
%RH	PERCENT RELATIVE HUMIDITY
PRV	PRESSURE RELIEF VALVE
RA	RETURN AIR
SA	SUPPLY AIR
SP	STATIC PRESSURE
T'STAT	THERMOSTAT
TYP	TYPICAL
"WC	INCHES WATER COLUMN
WPD	WATER PRESSURE DROP
PH	PHASE

DUCT MOUNTED HEATING COIL SCHEDULE

MARK	CAPACITY (MBH)	AIRFLOW (CFM)	EAT (°FDB)	AIRSIDE PRESSURE DROP (IN WG)	FLUID FLOW (GPM)	EWT (°FDB)	FLUIDSIDE PRESSURE DROP (FT WG)	COIL DIMENSIONS				BASIS OF DESIGN	NOTES
								ROWS	TUBE DIA	FPI	WxH		
DHC–1	50.3	1330	55.6	0.59	2.3	180	2.2	2	5/8"	8	20x12"	COIL COMPANY 5B082120X20AAF	1 2 3 4 5 6 7 8 9
DHC–2	66.6	1830	56.8	0.40	2.3	180	2.5	2	5/8"	10	24x12"	COIL COMPANY 5B1022120X24AAF	1 2 3 4 5 6 7 8 9

NOTES:

1. THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE. EQUIVALENT PRODUCTS FROM ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE, PROVIDED THEY MEET THE SPECIFICATIONS AND PERFORMANCE REQUIREMENTS.
2. FLUID IS WATER
3. PROVIDE COPPER TUBES, 0.020" WALL THICKNESS
4. PROVIDE ALUMINUM PLATE FINS, 0.06" THICK
5. PROVIDE 18 GA. GALVANIZED STEEL CASING
6. PROVIDE COILS WITH VENT AND DRAIN CONNECTIONS
7. PROVIDE FLANGED CONSTRUCTION
8. CONTRACTOR SHALL PROVIDE TRANSITIONS TO COIL FLANGES
9. COIL PERFORMANCE SHALL BE AHRI 410–CERTIFIED

SYM	DESCRIPTION	DATE	APPR

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

APPROVED
David W. Greenfield
FOR COMMANDER NAVFAC

ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

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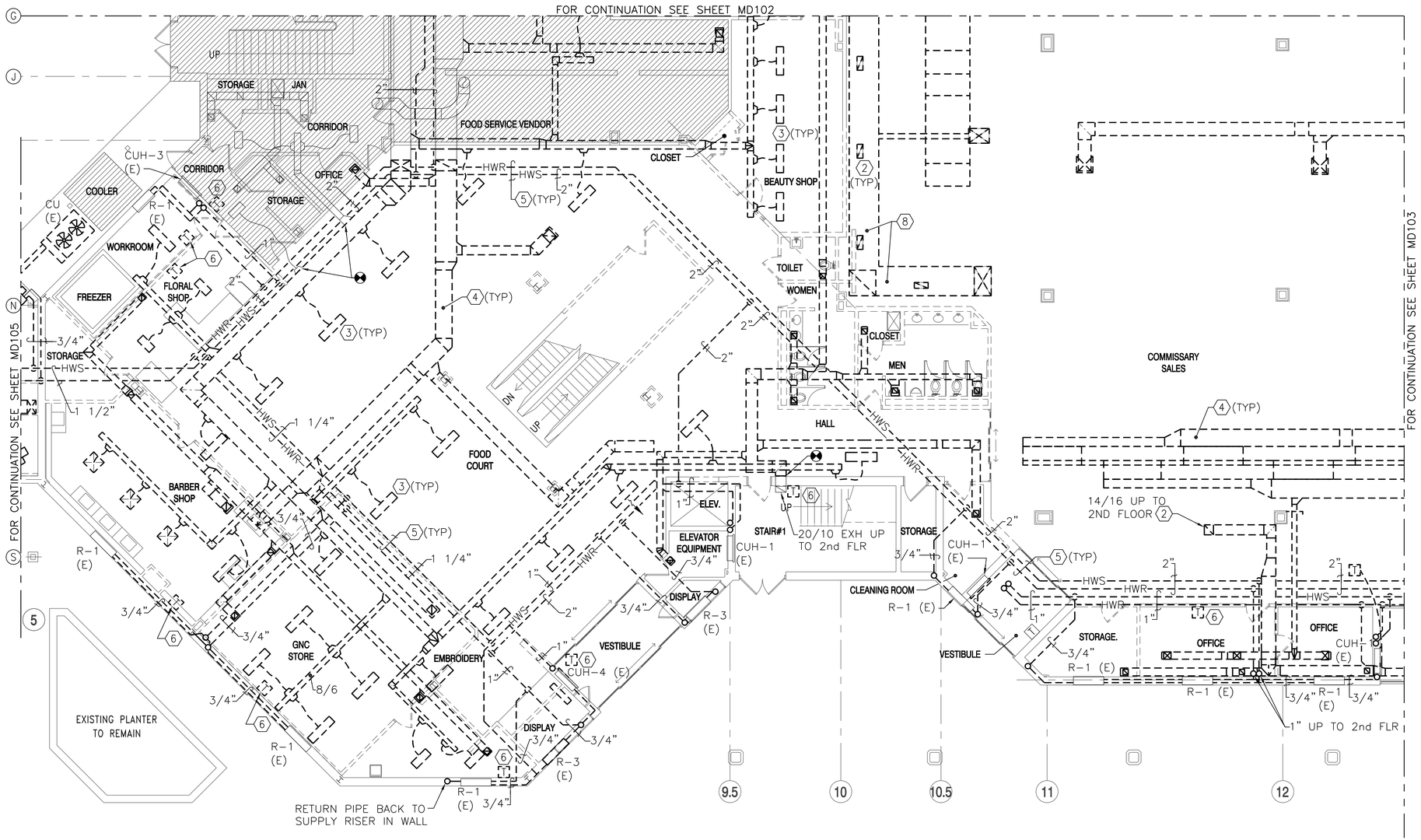
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
LEGEND ABBREVIATIONS & SCHEDULES

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667784
SHEET 140 OF 248
M-001

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



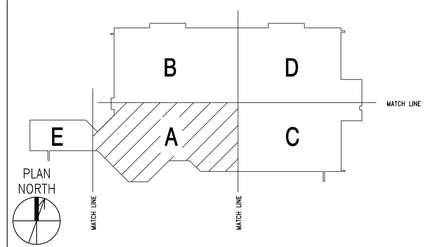
FIRST FLOOR PLAN - DEMOLITION - AREA 'A'

1/8" = 1'-0"

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION. SEE SHEET MD102 FOR AHU LOCATION.
2. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS. INFILL VOIDS IN FLOOR LEFT VACANT BY THE DEMOLITION.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
6. REMOVE THERMOSTAT AND STORE FOR REINSTALLATION.
7. REMOVE CONDENSING UNIT, REFRIGERANT PIPING, REFRIGERANT AND ALL ACCESSORIES.
8. REMOVE DUCTWORK IN MECHANICAL TUNNELS.

KEY PLAN



SYM	DESCRIPTION	DATE	APPR

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GROTON, CT

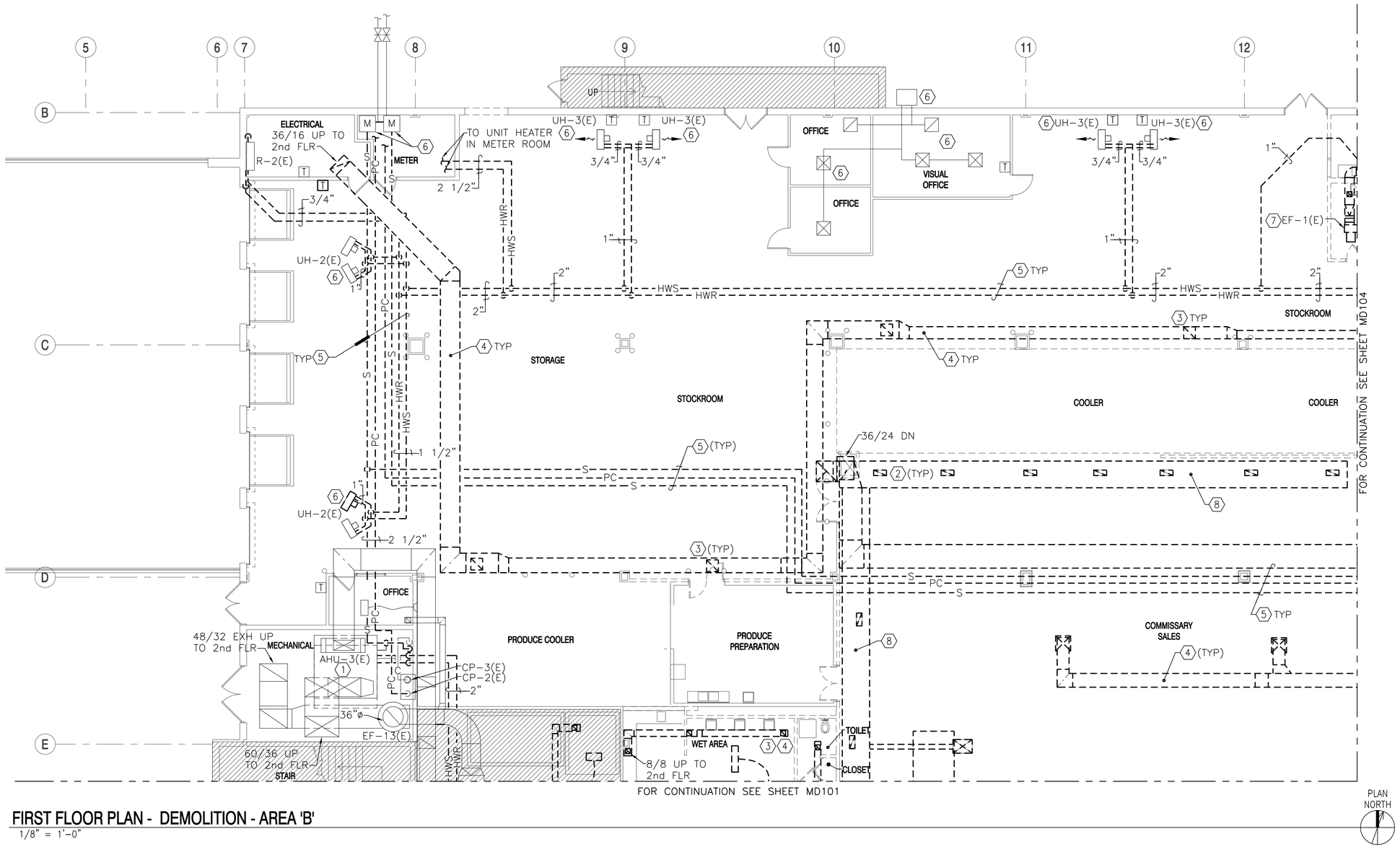
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION

FIRST FLOOR PLAN – DEMOLITION – AREA 'A'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667785
SHEET 141 OF 248

MD101

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



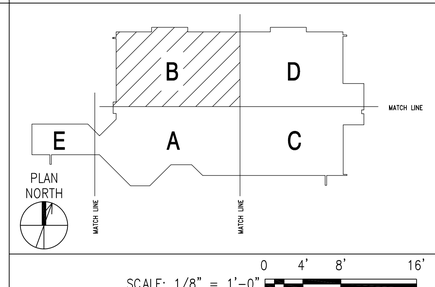
FIRST FLOOR PLAN - DEMOLITION - AREA 'B'

1/8" = 1'-0"

DEMOLITION KEY NOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS. INFILL VOIDS IN FLOOR LEFT VACANT BY THE DEMOLITION.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
6. EXISTING EQUIPMENT TO REMAIN.
7. DEMOLISH EQUIPMENT IN ITS ENTIRETY.
8. REMOVE DUCTWORK IN MECHANICAL TUNNELS.

KEY PLAN



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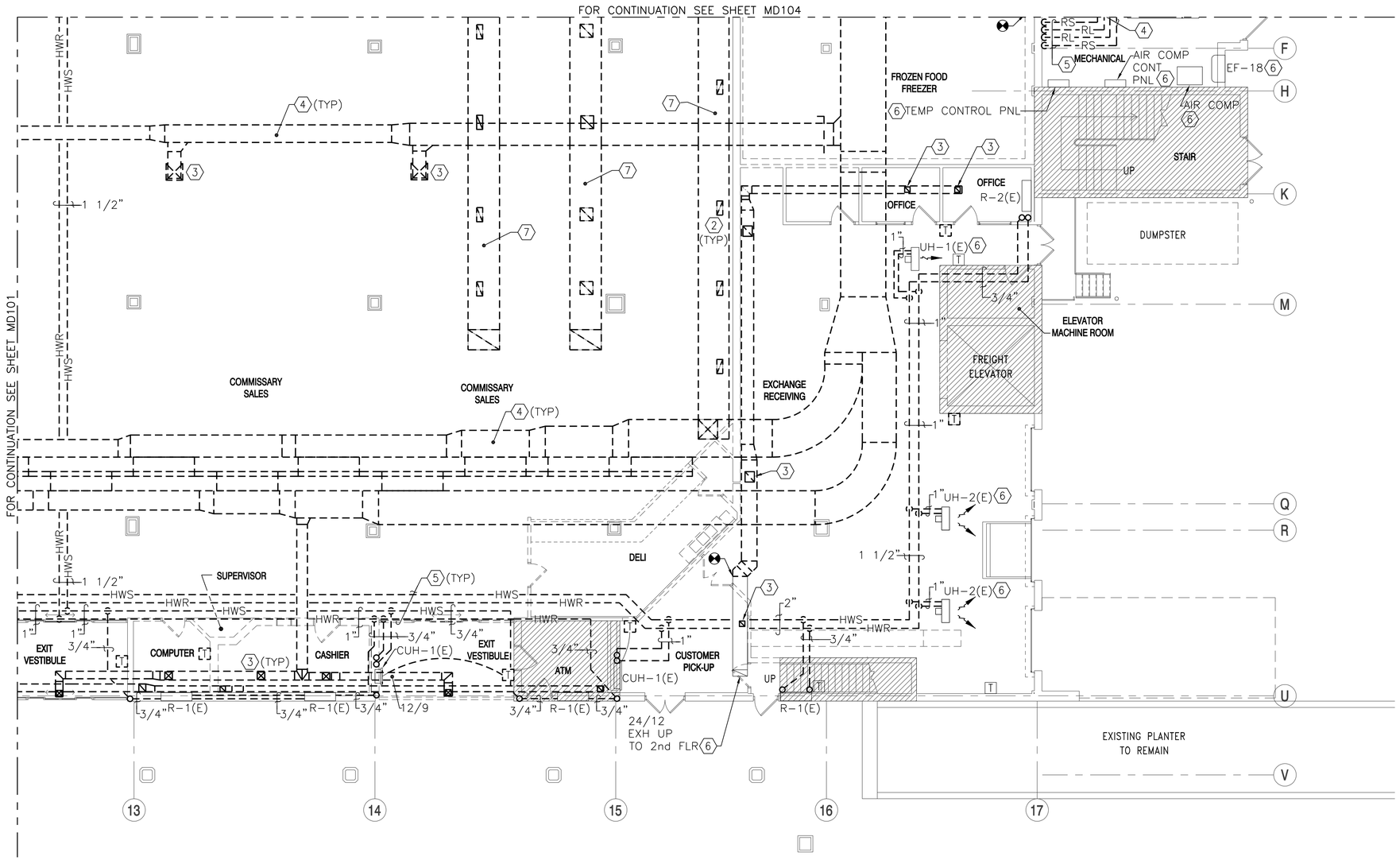
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR PLAN – DEMOLITION – AREA 'B'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667786
SHEET 142 OF 248
MD102

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



FIRST FLOOR PLAN - DEMOLITION - AREA 'C'

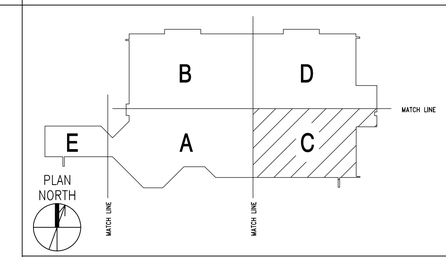
1/8" = 1'-0"

PLAN NORTH

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. INFILL VOIDS IN FLOOR LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
6. EXISTING TO REMAIN FOR REUSE.
7. REMOVE DUCTWORK IN MECHANICAL TUNNELS.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

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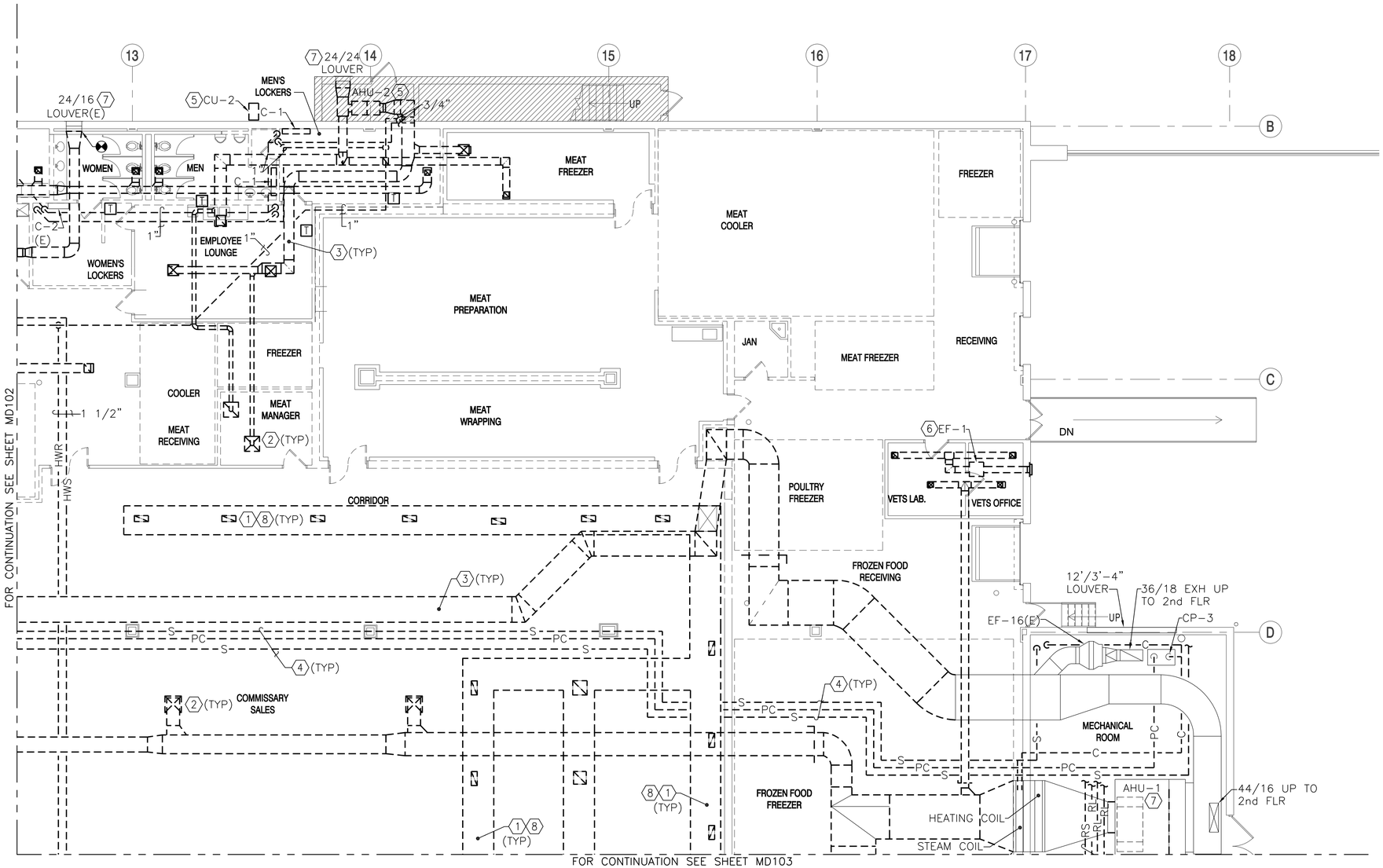
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR PLAN – DEMOLITION – AREA 'C'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667787
SHEET 143 OF 248
MD103

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



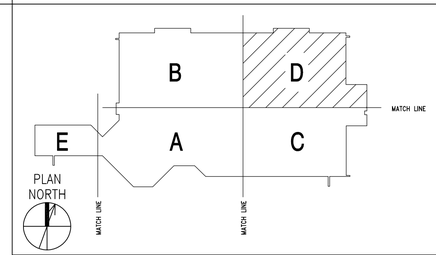
FIRST FLOOR PLAN - DEMOLITION - AREA 'D'

1/8" = 1'-0"

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS. INFILL VOIDS IN FLOOR LEFT VACANT BY THE DEMOLITION.
2. REMOVE DIFFUSER, REGISTER, GRILLE.
3. REMOVE DUCTWORK.
4. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
5. REMOVE AIR HANDLING UNIT, CONDENSING UNIT, REFRIGERANT PIPING, EQUIPMENT PADS, MOUNTING HARDWARE, AND CONTROLS.
6. DEMOLISH EQUIPMENT IN ITS ENTIRETY.
7. EXISTING TO REMAIN FOR REUSE.
8. REMOVE DUCTWORK IN MECHANICAL TUNNELS.

KEY PLAN



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

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CHIEF ENG/ARCH DWG
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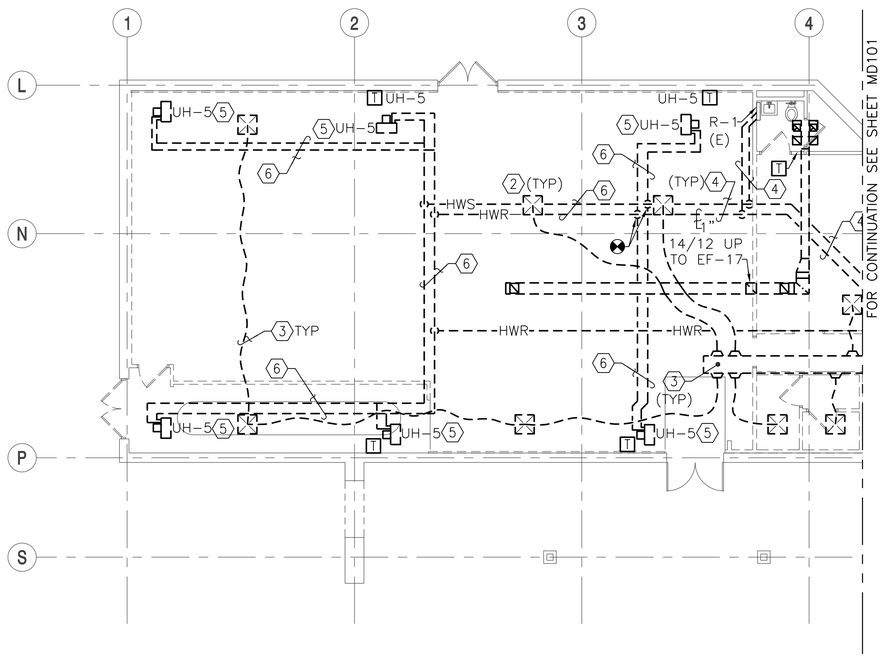
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR PLAN – DEMOLITION – AREA 'D'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667788
SHEET 144 OF 248
MD104

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



FIRST FLOOR PLAN - DEMOLITION - AREA 'E'

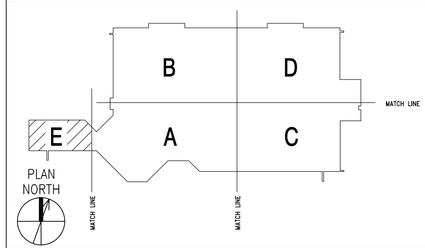
1/8" = 1'-0"

PLAN NORTH

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. INFILL VOIDS LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
2. REMOVE DIFFUSER, REGISTER, GRILLE.
3. REMOVE DUCTWORK.
4. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
5. DEMOLISH EQUIPMENT IN ITS ENTIRETY.
6. DEMOLISH HOT WATER PIPING TO THE LIMIT OF DEMOLITION INDICATED.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

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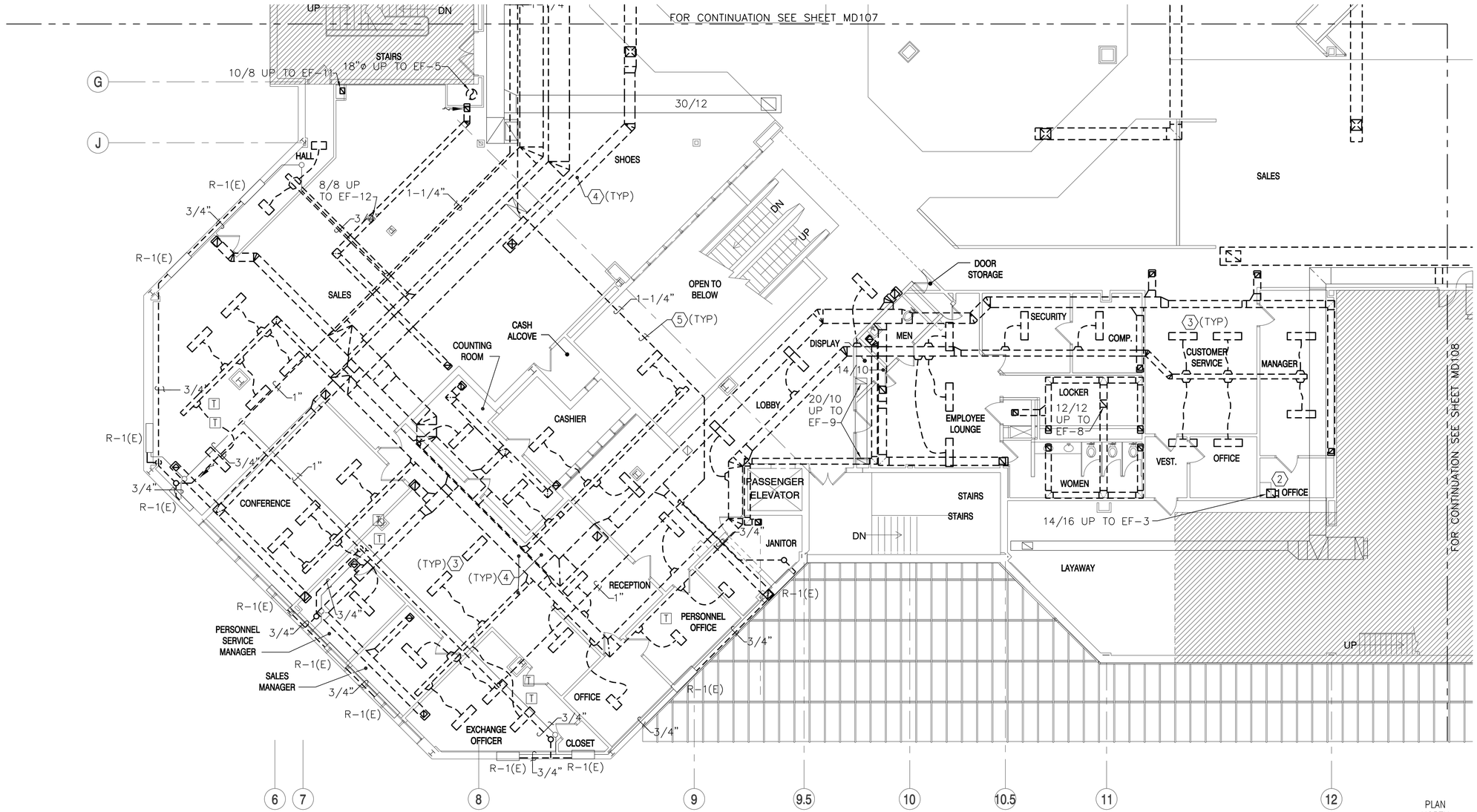
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR PLAN – DEMOLITION – AREA 'E'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667789
SHEET 145 OF 248
MD105

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:18pm USER: dlawson



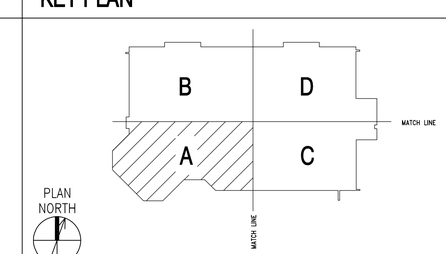
SECOND FLOOR PLAN - DEMOLITION - AREA 'A' (1)(2)

1/8" = 1'-0"

(#) DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. INFILL VOIDS LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

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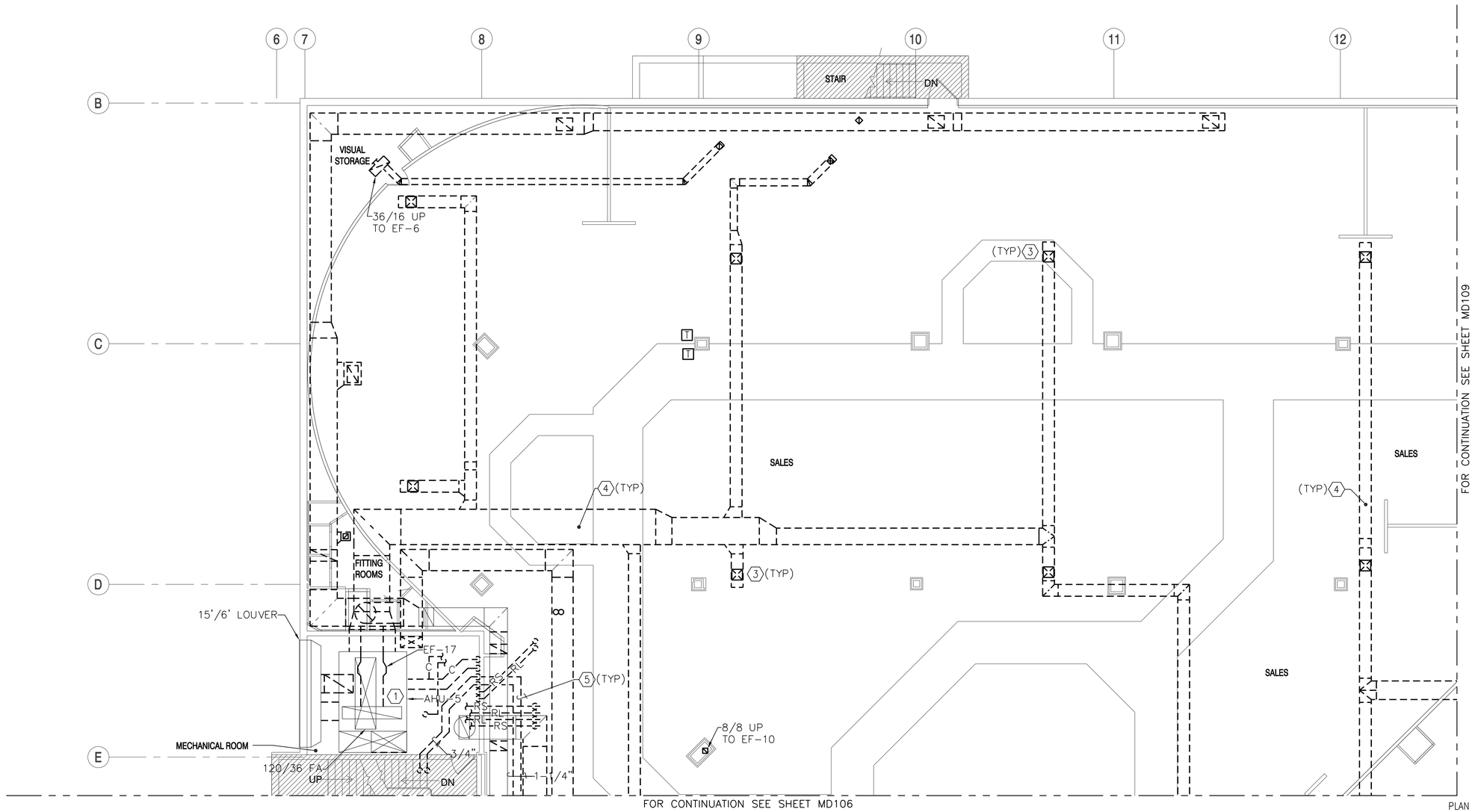
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR PLAN – DEMOLITION – AREA 'A'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667790
SHEET 146 OF 248
MD106

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson



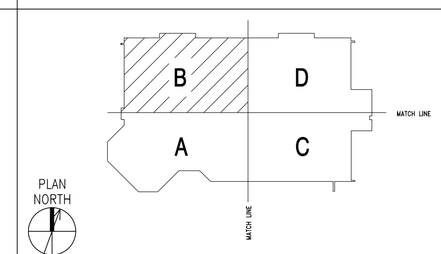
SECOND FLOOR PLAN - AREA 'B' - DEMOLITION

1/8" = 1'-0"

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. INFILL VOIDS LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

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S. G. Roberts
Lic. No.10424
5-15-15
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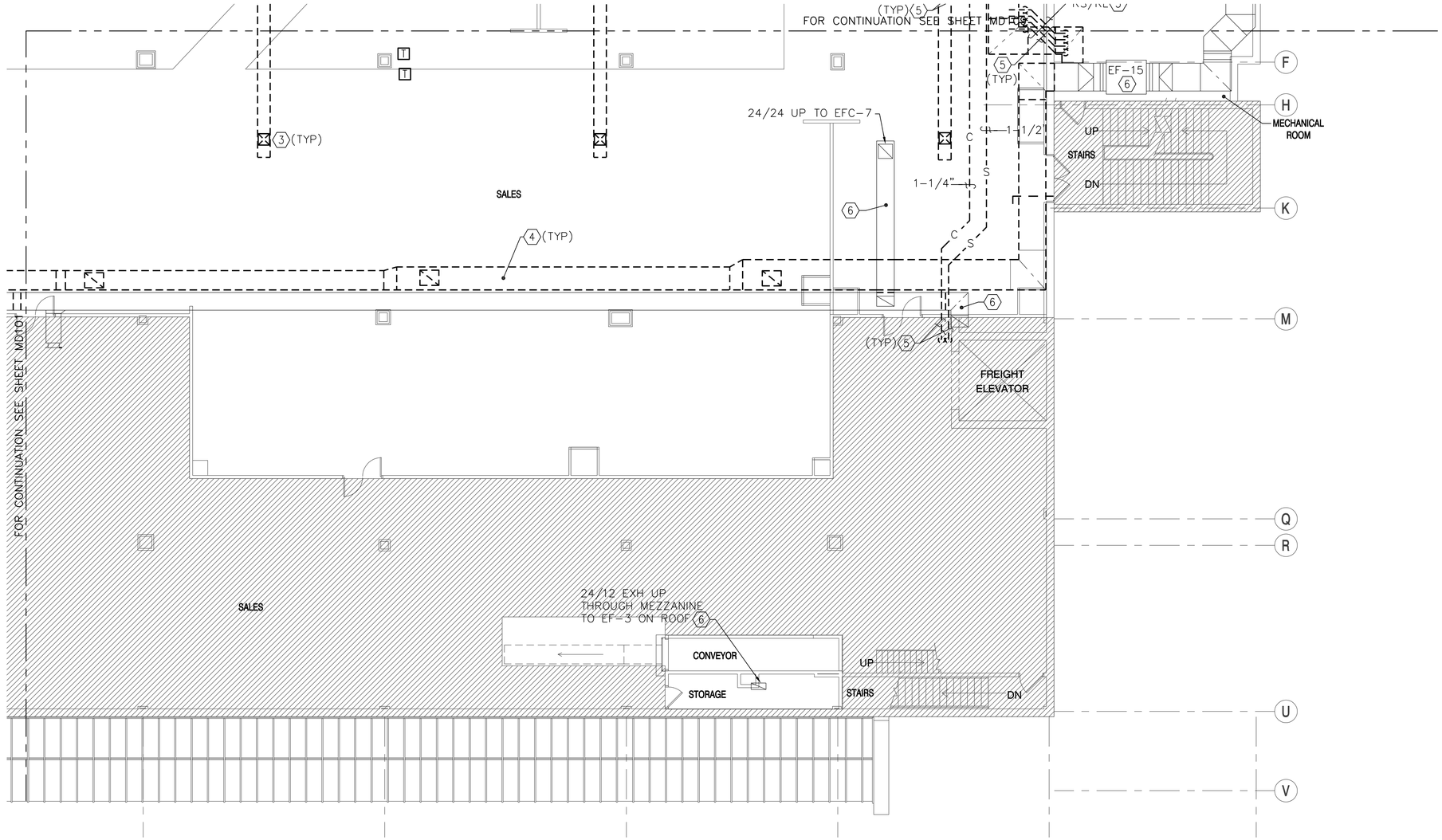
SUBASE NEW LONDON GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR PLAN – DEMOLITION – AREA 'B'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667791
SHEET 147 OF 248
MD107

FILE NAME: G:\2012\12-032A NEX MAIN STORE - CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 - 3:19pm USER: dlawson



SECOND FLOOR PLAN - DEMOLITION - AREA 'C'

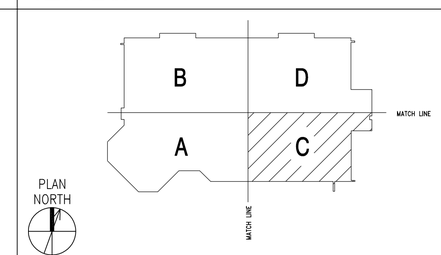
1/8" = 1'-0"

PLAN NORTH

(#) DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. INFILL VOIDS IN FLOOR LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
6. EXISTING TO REMAIN FOR REUSE. SEE SHEET M-108.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

HBA

APPROVED
David W Grunfeld
FOR COMMANDER NAVFAC

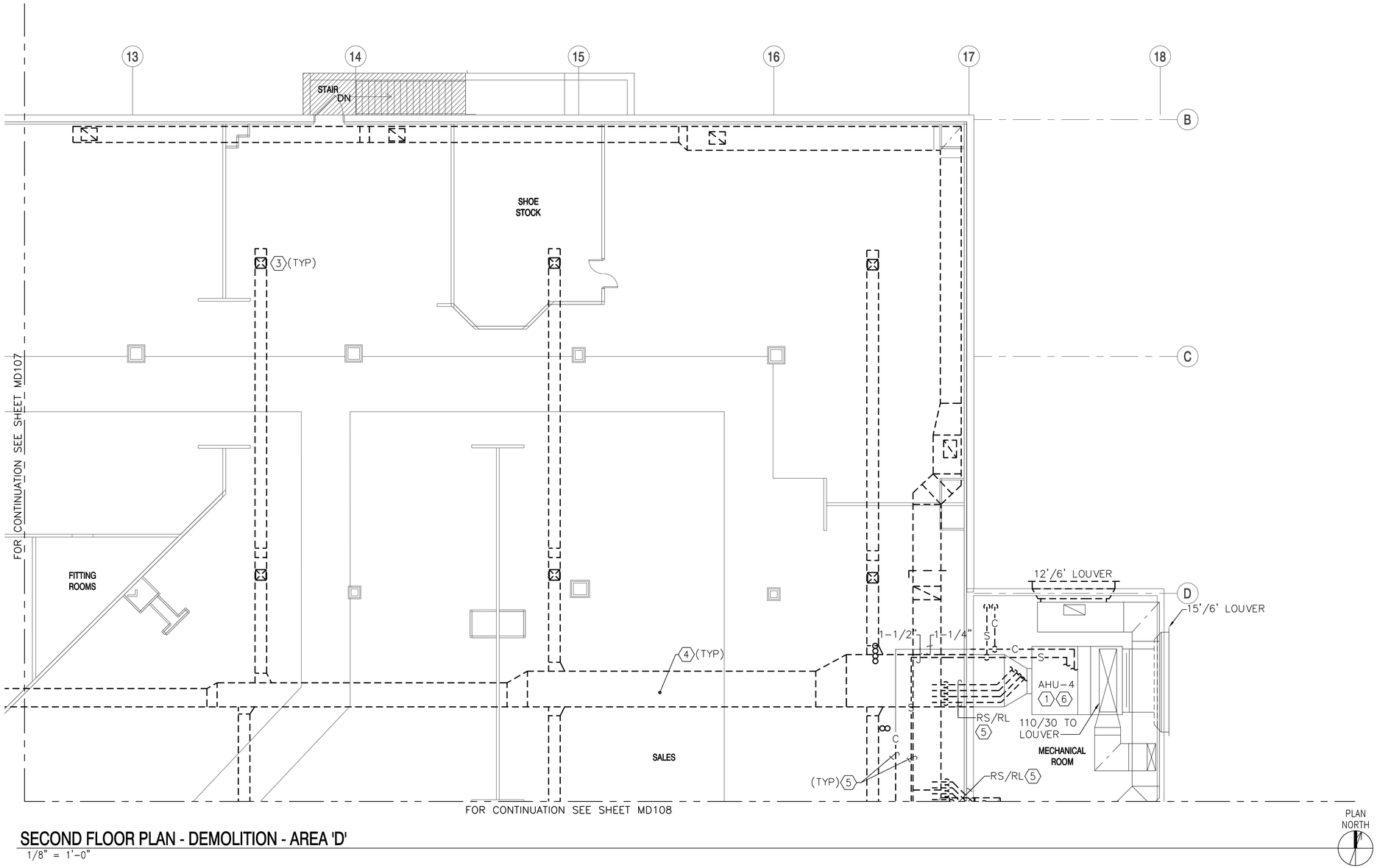
ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR PLAN – DEMOLITION – AREA 'C'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667792
SHEET 148 OF 248
MD108

FILE NAME: G:\2012\12-032A NEX MAIN STORE - CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 - 3:19pm USER: dlawson



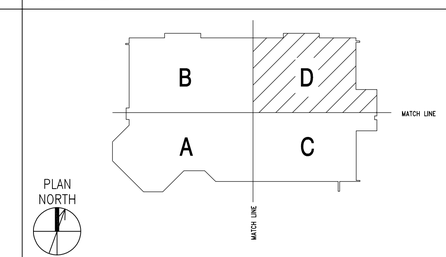
SECOND FLOOR PLAN - DEMOLITION - AREA 'D'

1/8" = 1'-0"

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. CONTRACTOR SHALL BENCHMARK EXISTING AIR HANDLING UNITS FOR CFM AND ESP PRIOR TO BEGINNING DEMOLITION.
2. INFILL VOIDS LEFT VACANT BY THE DEMOLITION. COORDINATE WORK WITH ARCHITECTURAL DRAWINGS.
3. REMOVE DIFFUSER, REGISTER, GRILLE.
4. REMOVE DUCTWORK.
5. DEMOLISH PIPING INSULATION. PIPING TO REMAIN.
6. EXISTING EQUIPMENT TO REMAIN.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
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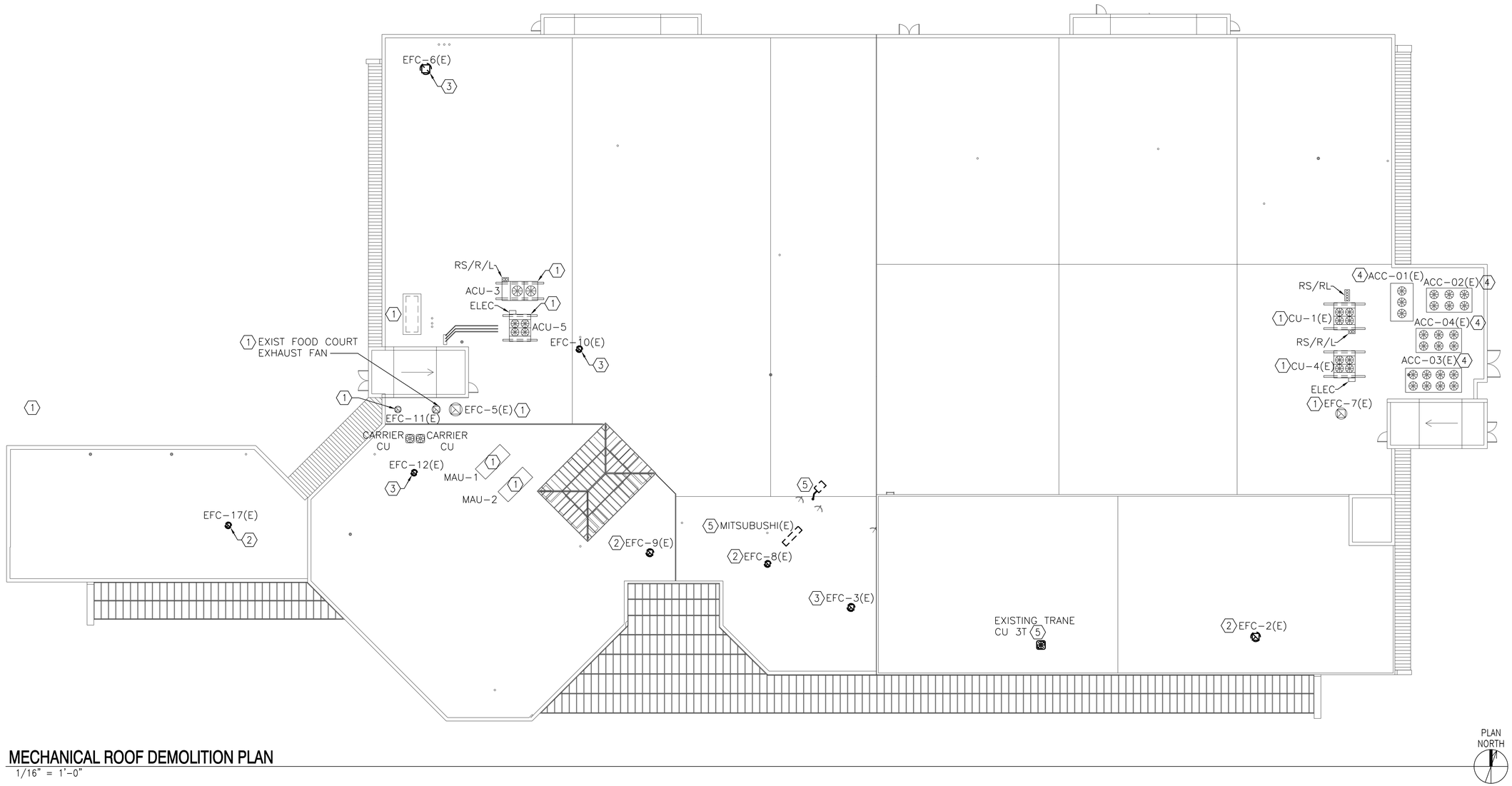
ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR PLAN – DEMOLITION – AREA 'D'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667793
SHEET 149 OF 248
MD109

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson



MECHANICAL ROOF DEMOLITION PLAN

1/16" = 1'-0"

DEMOLITION KEYNOTES (THIS SHEET ONLY)

1. EXISTING TO REMAIN.
2. REMOVE FAN FROM CURB. DISCONNECT AND SECURE CONTROL WIRING FOR RE-INSTALLATION. PREPARE ROOF CURB FOR NEW WORK.
3. REMOVE FAN FROM ROOF CURB. DISCONNECT CONTROL WIRING BACK TO SOURCE. CAP AND SEAL REMAINING CURB SO AS TO MAKE WEATHERPROOF.
4. REFRIGERATION EQUIPMENT, INCLUDING REFRIGERANT, PIPING, INSULATION, CONTROLS, CONTROL WIRING, MOUNTING HARDWARE, APPURTENANCES AND ACCESSORIES SHALL BE REMOVED BY OTHERS AND IS NOT PART OF THIS CONTRACT. SHOWN FOR INFORMATION ONLY.
5. REMOVE SPLIT SYSTEM AIR CONDITIONER, REFRIGERANT, PIPING, INSULATION, CONTROLS, MOUNTING HARDWARE, ACCESSORIES AND APPURTENANCES. REMOVE CONTROL WIRING BACK TO SOURCE. CAP AND SEAL ALL REMAINING PENETRATIONS SO AS TO MAKE THEM WEATHERPROOF.

KEY PLAN

1/16"=1'-0" 0' 5' 10' 20' 30' 40' 50' 60'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

HBA

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FOR COMMANDER NAVFAC

ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

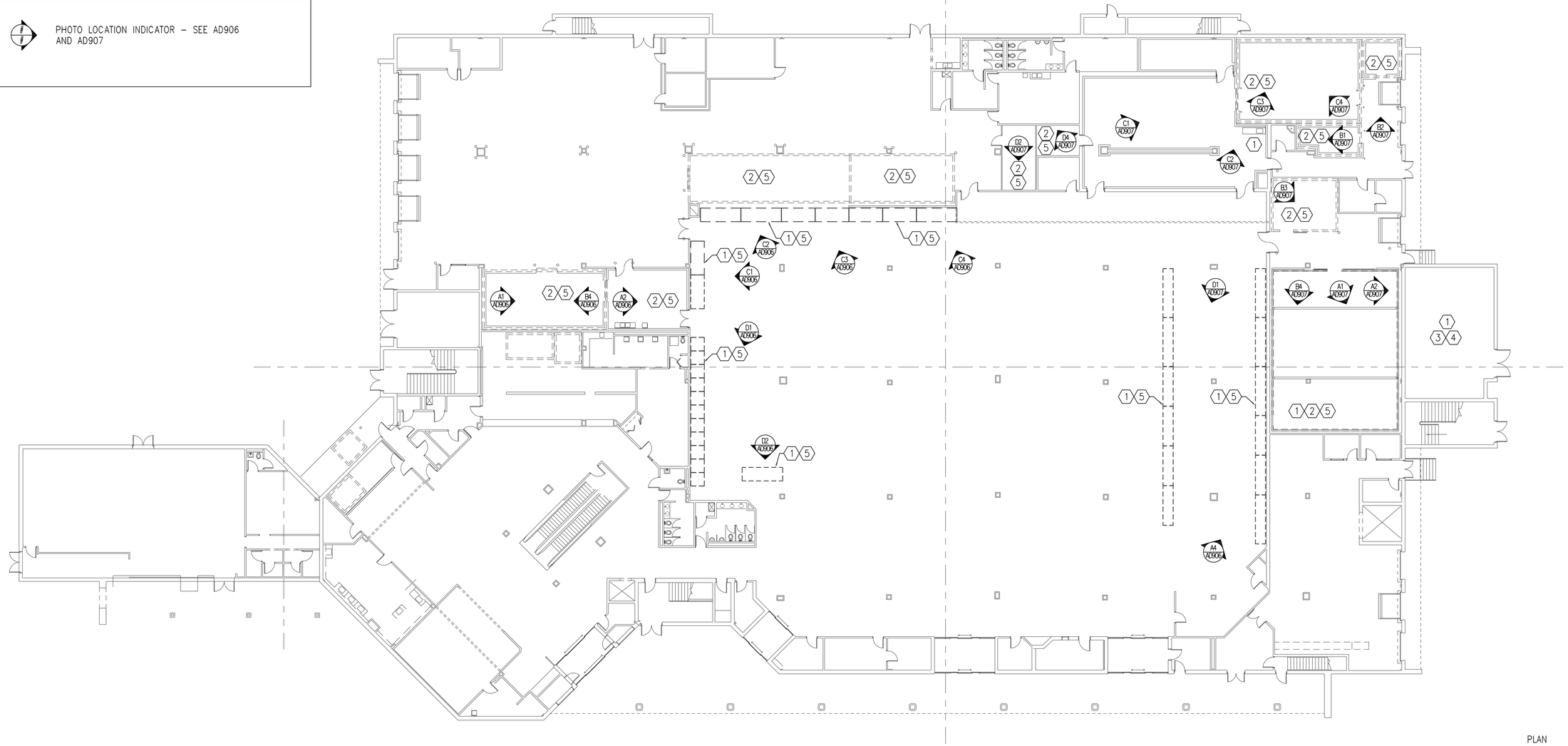
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NORFOLK, VIRGINIA
NE IPT
SUBASE NEW LONDON GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
MECHANICAL ROOF DEMOLITION PLAN

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667794
SHEET 150 OF 248
MD110

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson

KEY

PHOTO LOCATION INDICATOR – SEE AD906 AND AD907



FIRST FLOOR EQUIPMENT DEMOLITION PLAN

1/16" = 1'-0"

PLAN NORTH

GENERAL DEMOLITION NOTES

THIS SHEET ONLY

1. TAKE PRECAUTIONS TO PREVENT CONTAMINATION OF THE SPACE WITH ASBESTOS CONTAINING MATERIALS. COORDINATE DEMOLITION ACTIVITIES WITH HAZARDOUS MATERIALS REMOVAL. REFER TO REPORT OF HAZARDOUS MATERIALS CONSULTING SERVICES AND HAZMAT DRAWINGS FOR ADDITIONAL DIRECTION.
2. PRIOR TO BEGINNING DEMOLITION WORK EVACUATE REFRIGERANT IN ACCORDANCE WITH EPA REQUIREMENTS.
3. REPAIR ALL PENETRATIONS LEFT VACANT BY THE DEMOLITION SO AS TO MAKE THE REPAIR INCONSPICUOUS.
4. REFER TO SHEETS MD101 THRU MD110 FOR ITEMS TO BE DEMOLISHED UNDER THE BASE BID.

DEMOLITION KEYNOTES

(#) THIS SHEET ONLY

1. DISCONNECT AND REMOVE ALL EXISTING REFRIGERANT PIPING, INSULATION, FITTINGS, VALVES, MOUNTING HARDWARE, PIPING SUPPORTS, CONTROLS, CONTROL WIRING, AND ACCESSORIES BETWEEN THE REFRIGERATED CASE AND ITS RESPECTIVE CONDENSING UNIT.
2. REMOVE EXISTING REFRIGERATION COMPRESSOR ASSEMBLY INCLUDING COMPRESSOR, CONDENSER, REFRIGERANT PIPING, INSULATION, FITTINGS, VALVES, MOUNTING HARDWARE, PIPING SUPPORTS, CONTROLS, CONTROL WIRING, AND ACCESSORIES.
3. REMOVE EXISTING REFRIGERATION COMPRESSOR RACK ASSEMBLY, INCLUDING ALL COMPRESSORS, REFRIGERANT PIPING, INSULATION, FITTINGS, VALVES, MOUNTING RACKS, MOUNTING HARDWARE, PIPING SUPPORTS, CONTROLS, CONTROL WIRING, AND ACCESSORIES BETWEEN THE COMPRESSOR RACK AND ITS ASSOCIATED REFRIGERATED CASE.
4. REMOVE EXISTING SUPPLY DUCT INSULATION BACK TO AIR HANDLING UNIT AND REPLACE.
5. REMOVE EXISTING CONDENSATE DRAIN LINES.

GRAPHIC SCALE

SCALE: 1/16" = 1'-0" 0 8' 16' 32'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

HBA

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FOR COMMANDER NAVFAC

ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPs

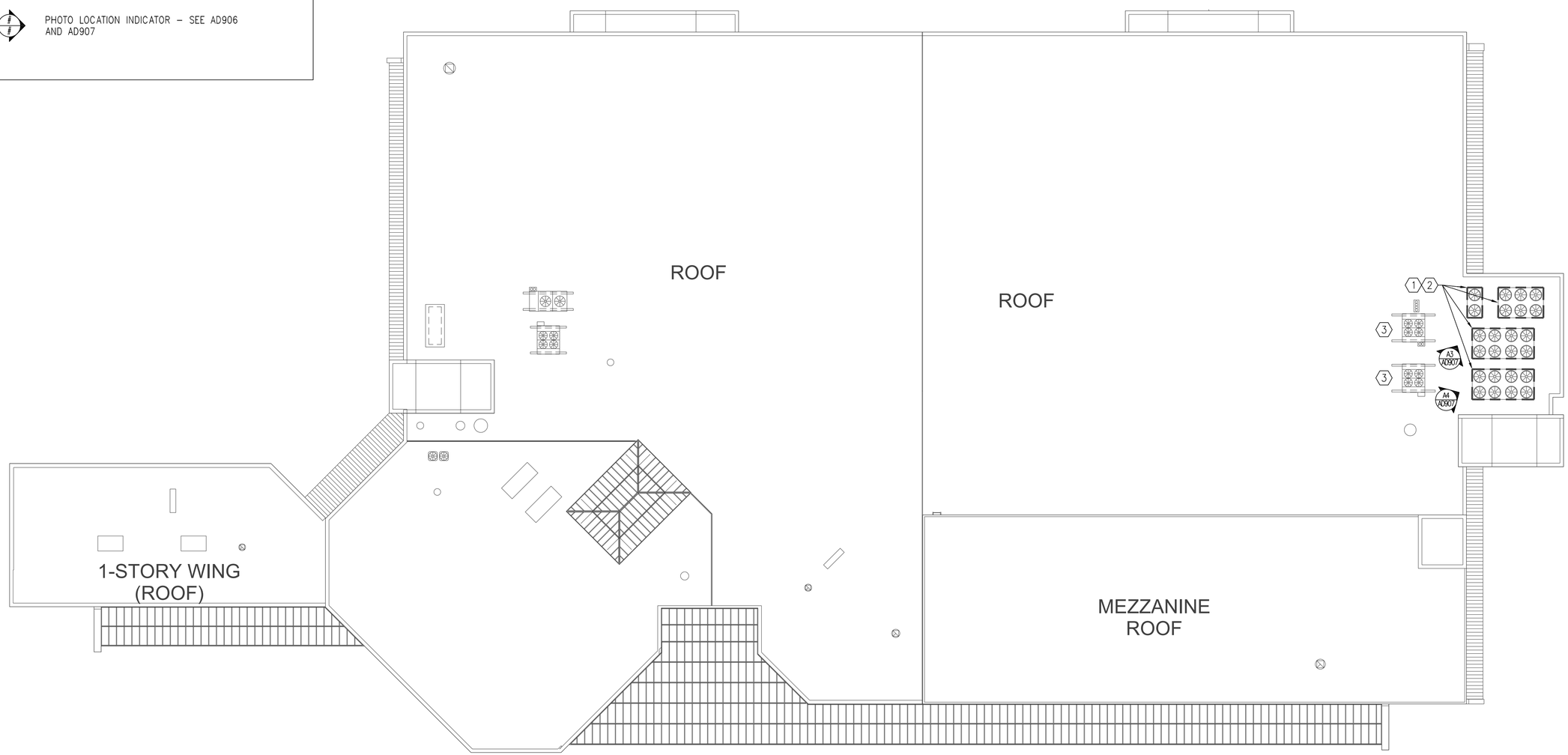
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NORFOLK, VIRGINIA
NE IPT
SUBASE NEW LONDON GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
ITEM 0008 OPTION 7 - FIRST FLOOR EQUIPMENT DEMOLITION PLAN

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667795
SHEET 151 OF 248
MD901

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson

KEY

PHOTO LOCATION INDICATOR – SEE AD906 AND AD907



PLAN NORTH

ROOF EQUIPMENT DEMOLITION PLAN

1/16" = 1'-0"

GENERAL DEMOLITION NOTES

THIS SHEET ONLY

1. TAKE PRECAUTIONS TO PREVENT CONTAMINATION OF THE SPACE WITH ASBESTOS CONTAINING MATERIALS. COORDINATE DEMOLITION ACTIVITIES WITH HAZARDOUS MATERIALS REMOVAL. REFER TO REPORT OF HAZARDOUS MATERIALS CONSULTING SERVICES AND HAZMAT DRAWINGS FOR ADDITIONAL DIRECTION.
2. PRIOR TO BEGINNING DEMOLITION WORK EVACUATE REFRIGERANT IN ACCORDANCE WITH EPA REQUIREMENTS.
3. REPAIR ALL PENETRATIONS LEFT VACANT BY THE DEMOLITION SO AS TO MAKE THE REPAIR WATERTIGHT AND INCONSPICUOUS.
4. REFER TO SHEETS MD101 THRU MD110 FOR ITEMS TO BE DEMOLISHED UNDER THE BASE BID.

DEMOLITION KEYNOTES (#) THIS SHEET ONLY

1. DISCONNECT AND REMOVE ALL EXISTING REFRIGERANT PIPING, INSULATION, FITTINGS, VALVES, MOUNTING HARDWARE, PIPING SUPPORTS, CONTROLS, CONTROL WIRING, AND ACCESSORIES BETWEEN THE CONDENSING UNIT AND THE REFRIGERATION COMPRESSORS IT SERVES.
2. REMOVE EXISTING ROOFTOP MOUNTED REFRIGERATION CONDENSING UNITS, COMPLETE.
3. EXISTING HVAC CONDENSING UNITS SHALL REMAIN.

GRAPHIC SCALE

SCALE: 1/16" = 1'-0" 0 8' 16' 32'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

HBA

APPROVED
David W Grunfeld
FOR COMMANDER NAVFAC

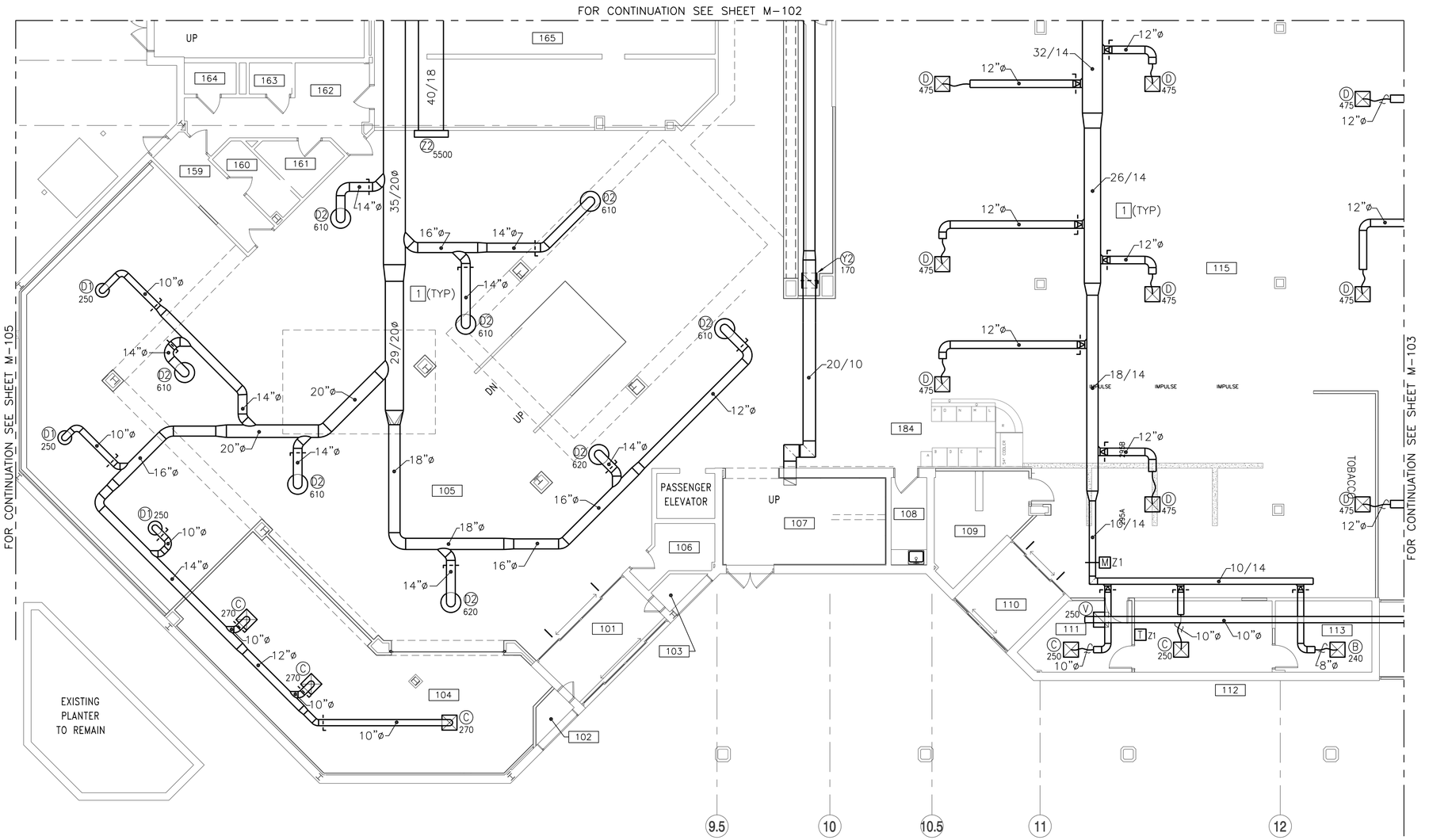
ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPs

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
ITEM 0008 OPTION 7 - ROOF EQUIPMENT DEMOLITION PLAN

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667796
SHEET 152 OF 248
MD902

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson



FIRST FLOOR - DUCTWORK PLAN - AREA 'A'

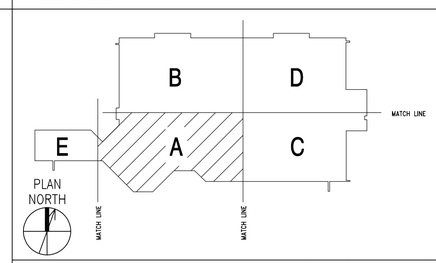
1/8" = 1'-0"

PLAN NORTH

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
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5-15-15
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NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
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BRANCH MANAGER
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FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
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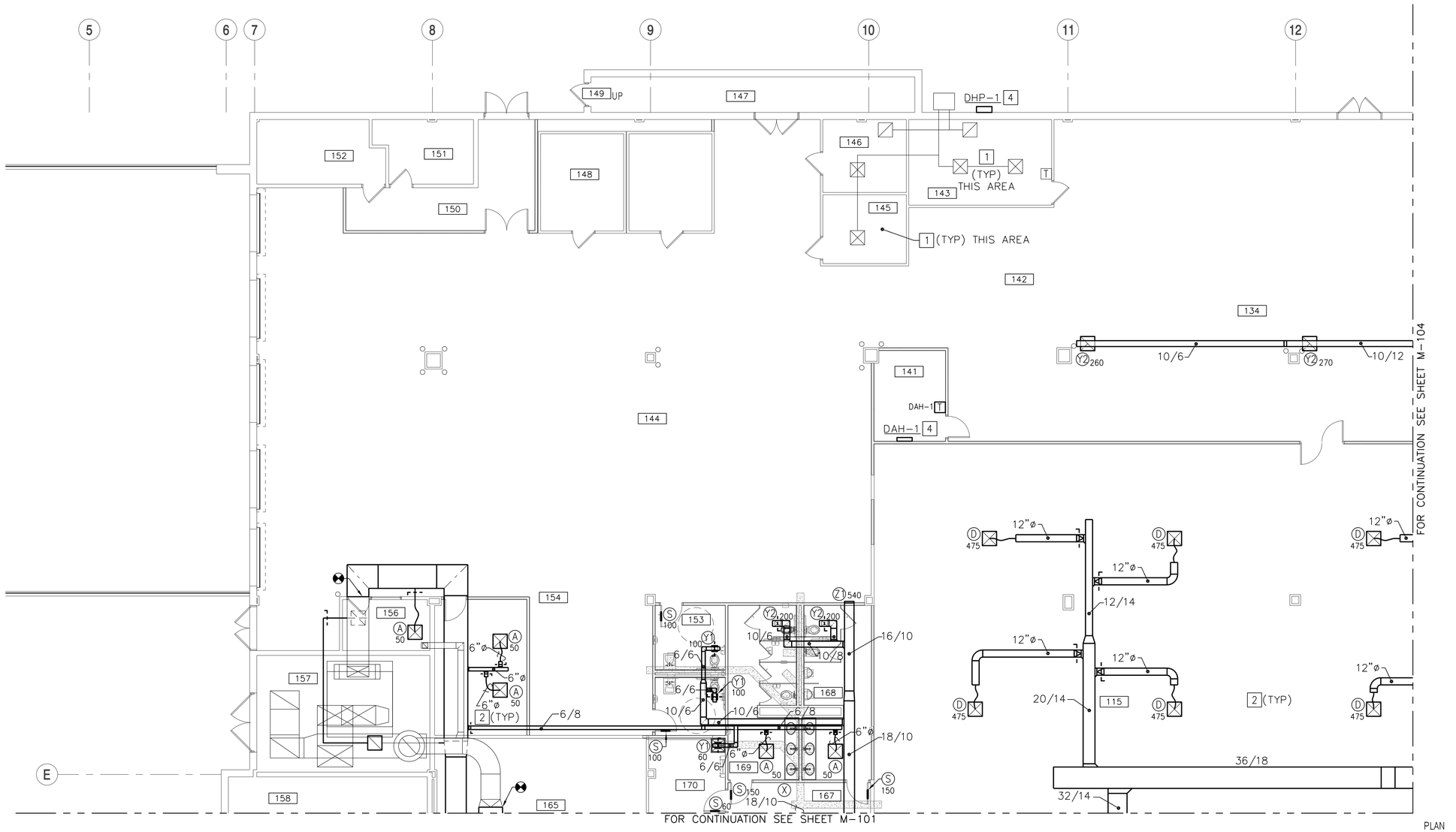
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR – DUCTWORK PLAN – AREA 'A'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667797
SHEET 153 OF 248
M-101

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:19pm USER: dlawson



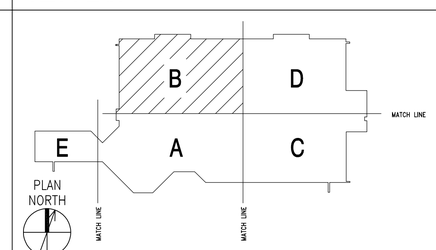
FIRST FLOOR - DUCTWORK PLAN - AREA 'B'

1/8" = 1'-0"

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. EXISTING TO REMAIN.
2. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, REGISTERS AND GRILLES AS INDICATED.
3. SEE DETAIL C1/M-502.
4. SEE DETAIL A4/M-501 AND DETAIL C4/M-501.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
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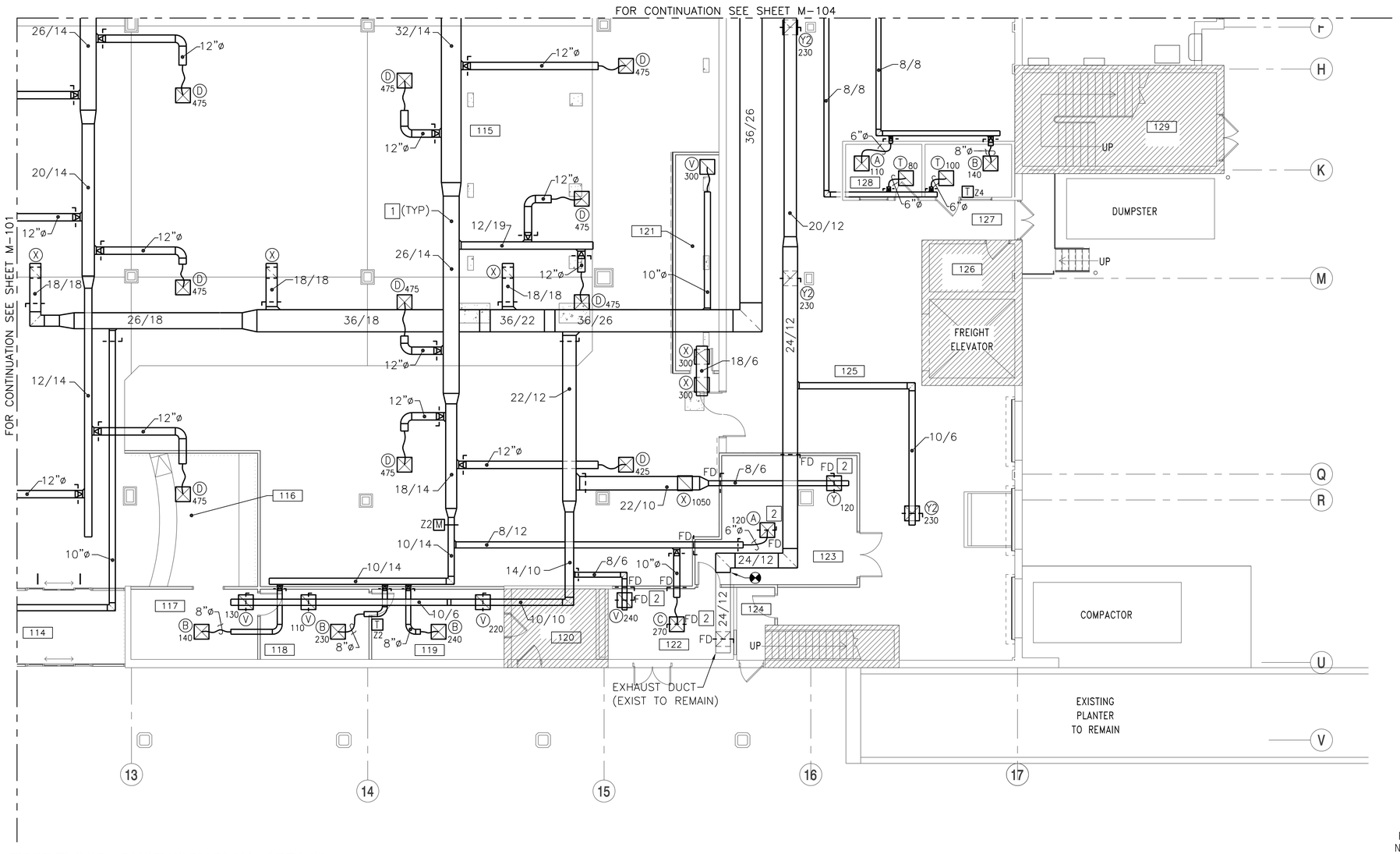
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR – DUCTWORK PLAN – AREA 'B'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667798
SHEET 154 OF 248
M-102

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



FIRST FLOOR - DUCTWORK PLAN - AREA 'C'

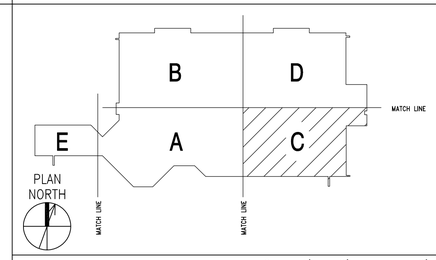
1/8" = 1'-0"

PLAN NORTH

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.
2. PROVIDE 2 HOUR FIRE DAMPERS AT DIFFUSERS.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA — S. G. Roberts — Lic. No.10424 — 5-15-15 — PROFESSIONAL ENGINEER

HBA

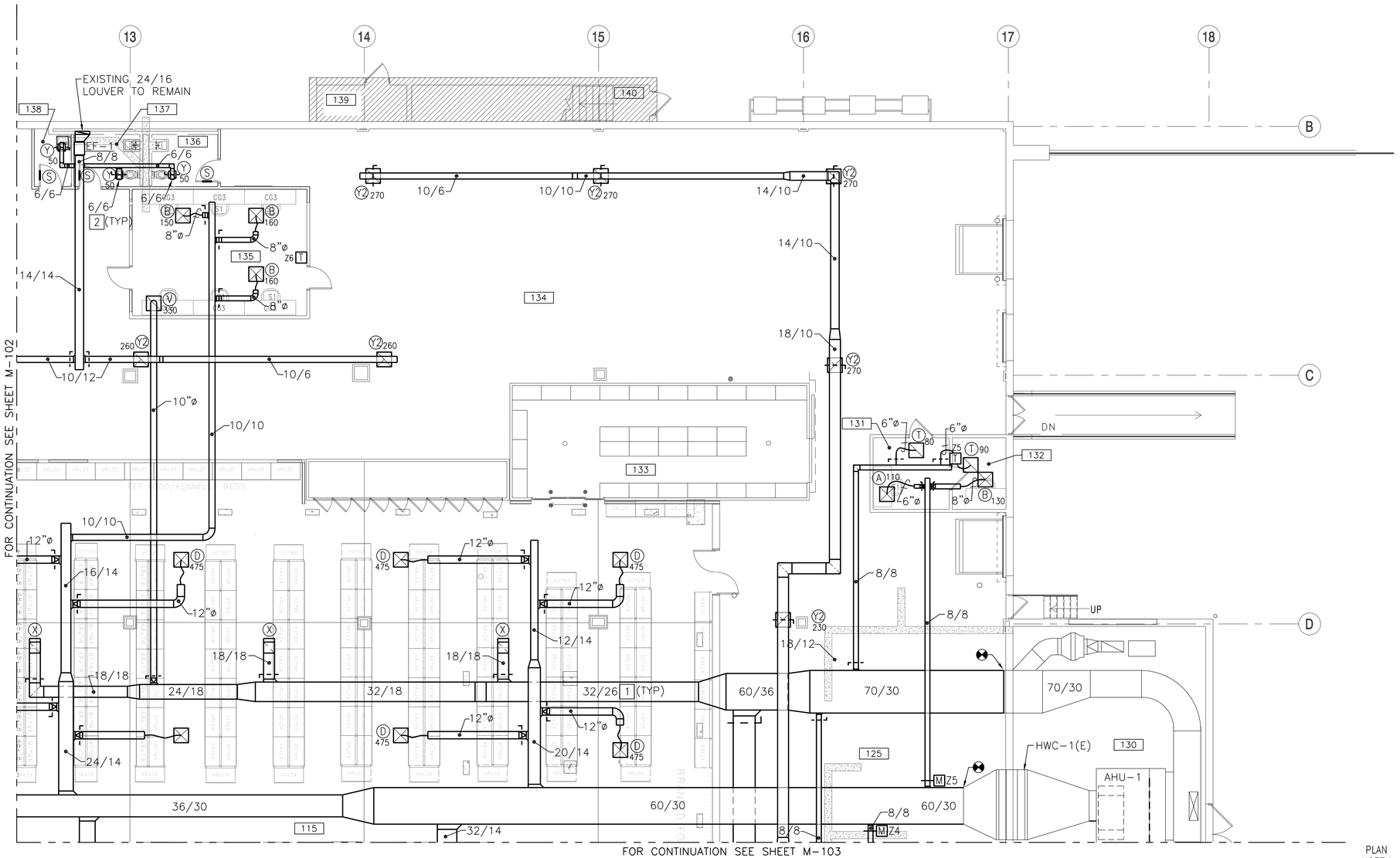
APPROVED: David W. Grunfeld
FOR COMMANDER NAVFAC

ACTIVITY: CDR MARC BERNATH, NEXCOM – FACILITIES DIVISION
SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR – DUCTWORK PLAN – AREA 'C'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667799
SHEET 155 OF 248
M-103

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



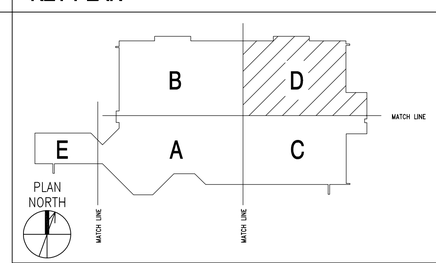
FIRST FLOOR - DUCTWORK PLAN - AREA 'D'

1/8" = 1'-0"

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.
2. PROVIDE ALL EXHAUST FAN, DUCTWORK AND GRILLES AS INDICATED.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA — S. G. Roberts — Lic. No.10424 — 5-15-15 — PROFESSIONAL ENGINEER

HBA

APPROVED: David W. Grunfeld
FOR COMMANDER NAVFAC

ACTIVITY: CDR MARC BERNATH, NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014

DES MJH | DRW WLF | CHK SGR

PM/DM RDS/PJB

BRANCH MANAGER

CHIEF ENG/ARCH DWG

FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
NE IPT
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR – DUCTWORK PLAN – AREA 'D'

SCALE: GRAPHIC

EPROJECT NO. 1305708

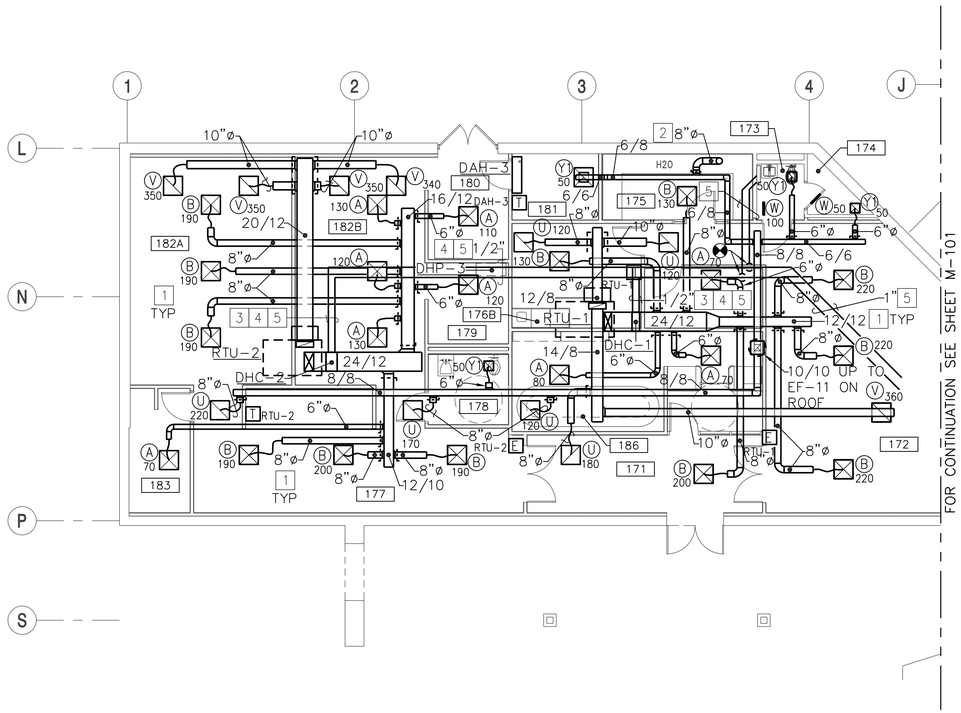
CONSTR. CONTR. NO. N40085-14-C-5203

NAVFAC DRAWING NO. 12667800

SHEET 156 OF 248

M-104

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



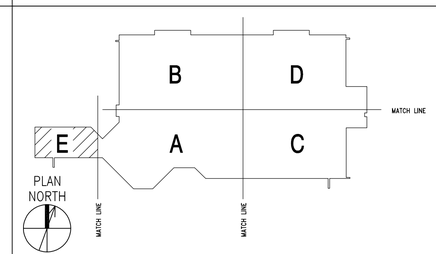
FIRST FLOOR DUCTWORK PLAN - AREA 'E'

1/8" = 1'-0"

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.
2. CONNECT 8"ø DUCT TO 30/17 EXHAUST HOOD.
3. SEE "COIL-HOT WATER DIAGRAM", A2/M-502.
4. EXTEND HWS AND HWR TO DHC-1 AND DHC-2.
5. INSULATE PIPING.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
Lic. No.10424
5-15-15
PROFESSIONAL ENGINEER

HBA

APPROVED
David W Grunfeld
FOR COMMANDER NAVFAC

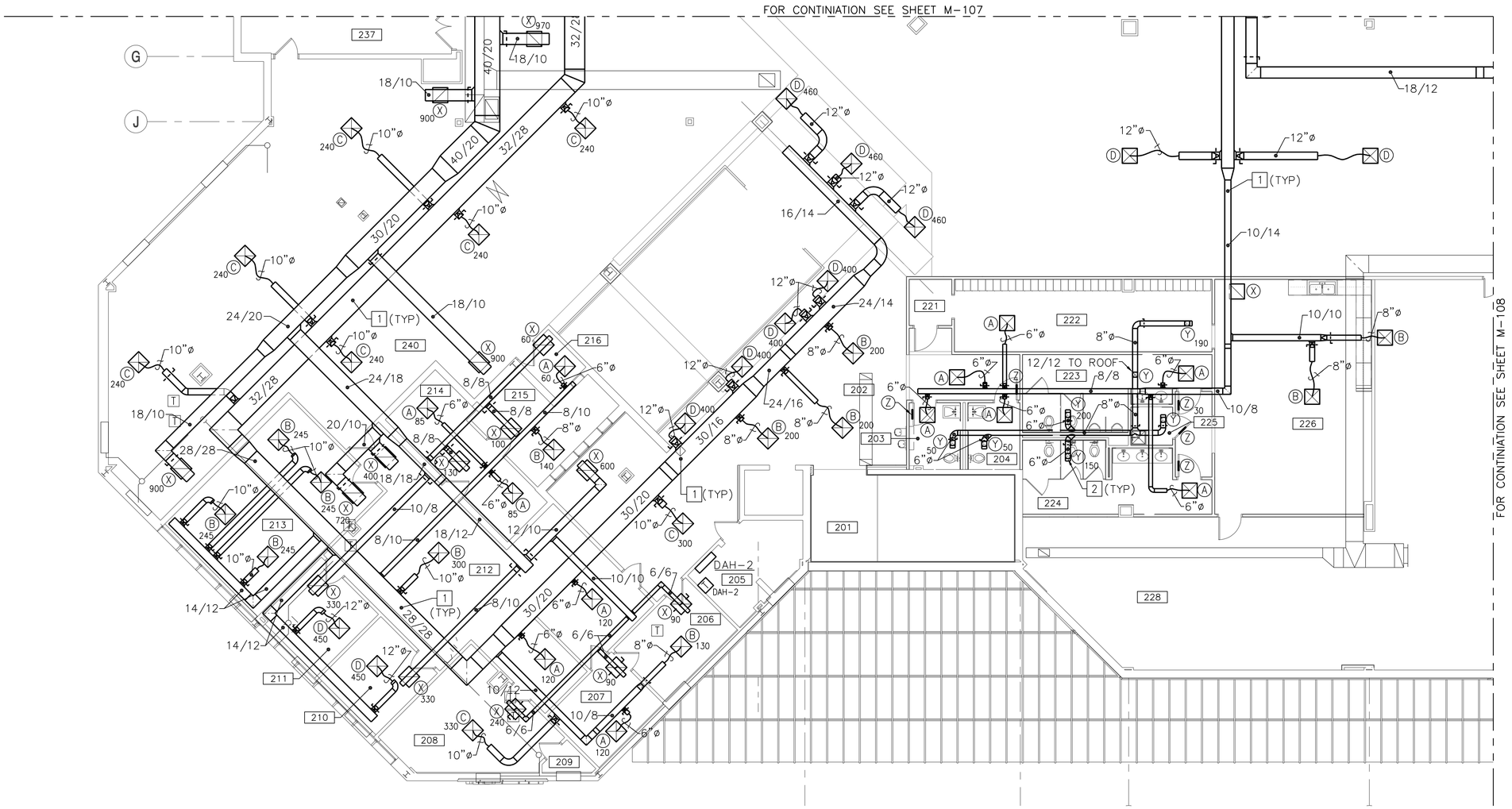
ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPs

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NE IPT
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
FIRST FLOOR – DUCTWORK PLAN – AREA 'E'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667801
SHEET 157 OF 248
M-105

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



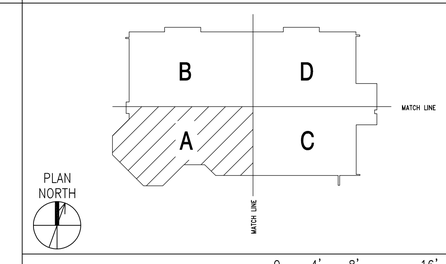
SECOND FLOOR - DUCTWORK PLAN - AREA 'A'

1/8" = 1'-0"

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.
2. PROVIDE ALL EXHAUST FAN, DUCTWORK AND GRILLES AS INDICATED.

KEY PLAN



SYM	DESCRIPTION	DATE	APPR

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NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
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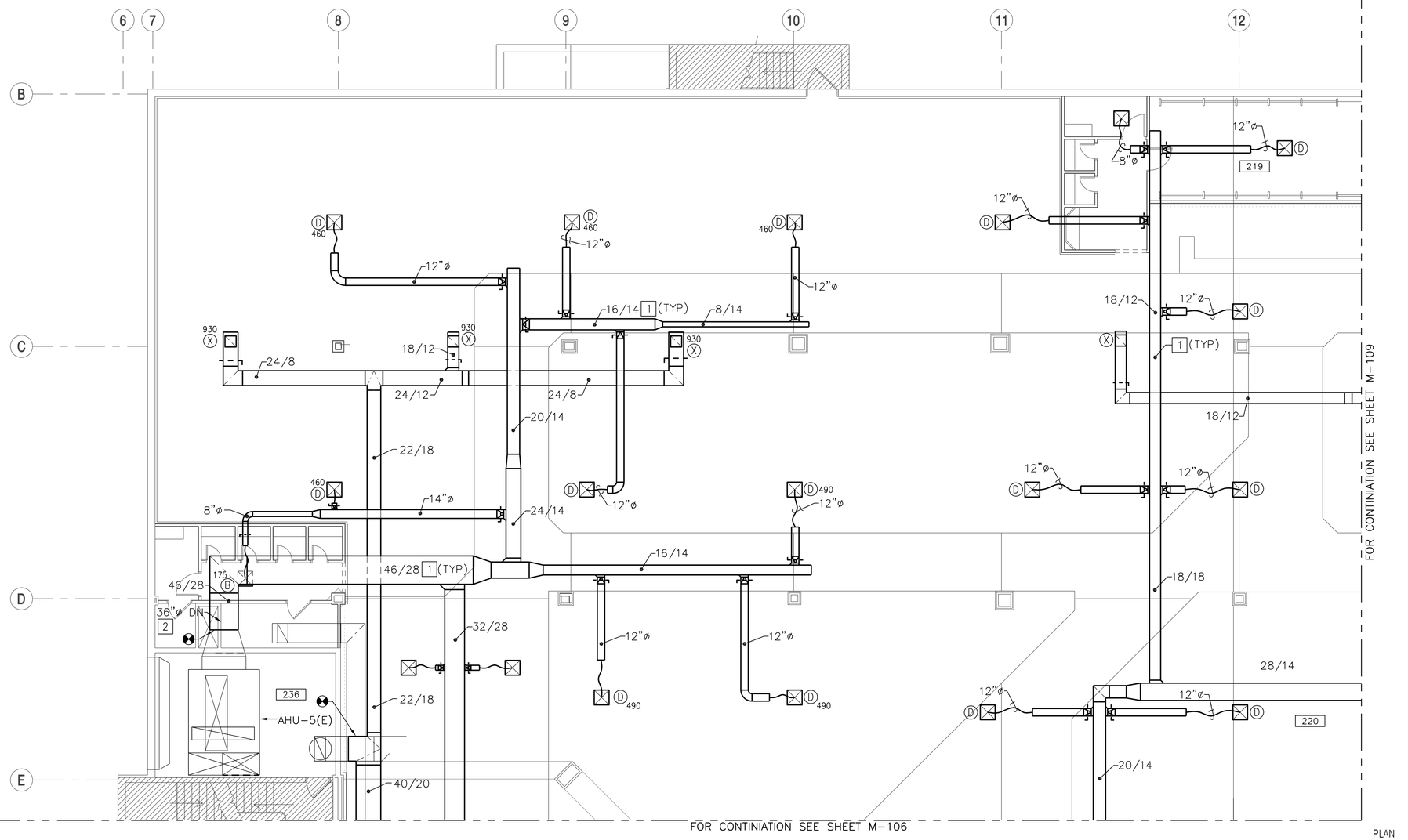
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NORFOLK, VIRGINIA
NAVAL STATION – GROTON, CT
NE IPT
SUBASE NEW LONDON
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR – DUCTWORK PLAN – AREA 'A'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667802
SHEET 158 OF 248
M-106

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



SECOND FLOOR - DUCTWORK PLAN - AREA 'B'

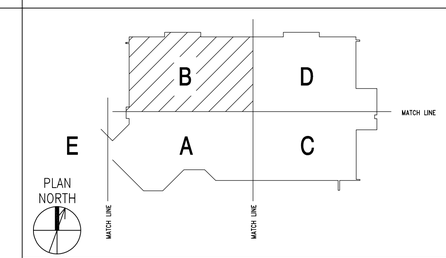
1/8" = 1'-0"

PLAN NORTH

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.
2. EXISTING 36"ø ROUND RETURN DUCT DOWN THRU SLAB.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

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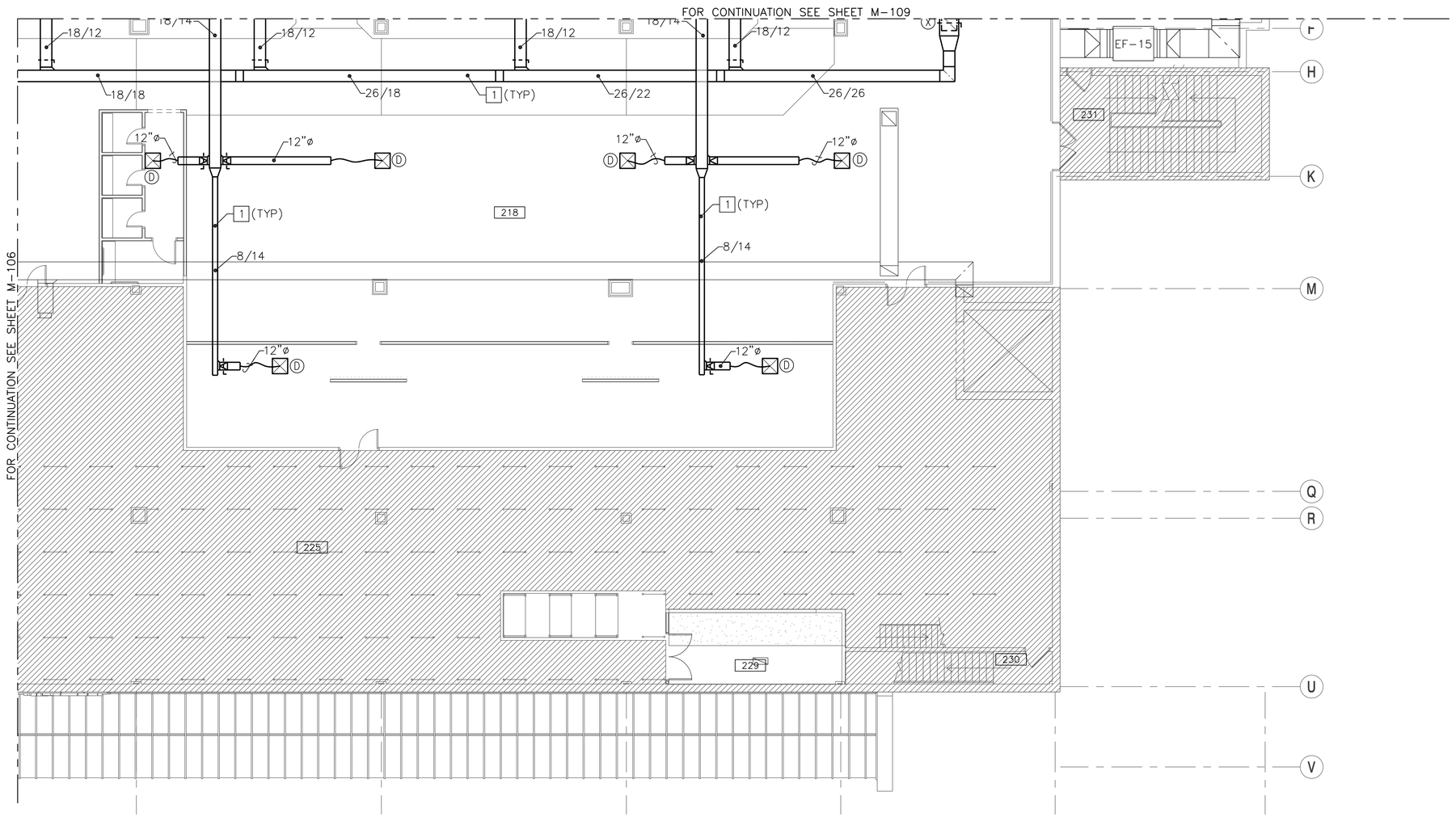
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR – DUCTWORK PLAN – AREA 'B'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667803
SHEET 159 OF 248
M-107

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:20pm USER: dlawson



SECOND FLOOR - DUCTWORK PLAN - AREA 'C'

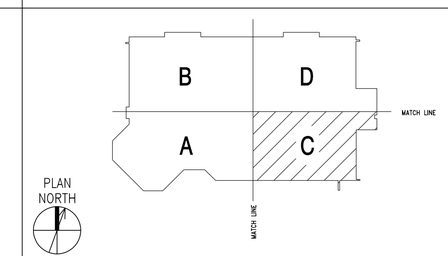
1/8" = 1'-0"

PLAN NORTH

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

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FIRE PROTECTION DPS

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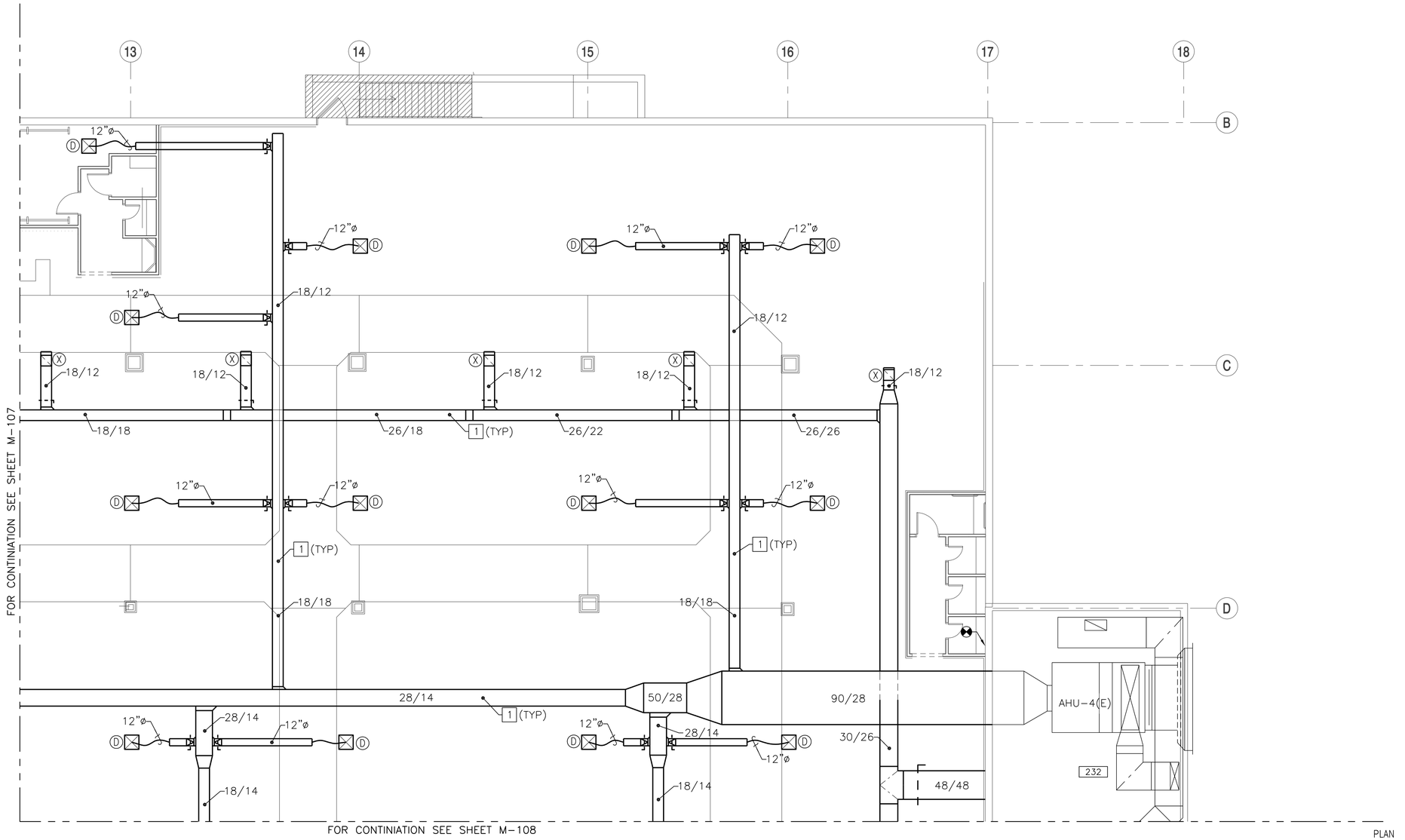
NAVAL STATION – GROTON, CT
SUBASE NEW LONDON
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR – DUCTWORK PLAN – AREA 'C'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667804
SHEET 160 OF 248
M-108

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:21pm USER: dlawson



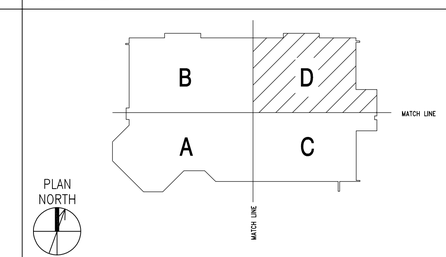
SECOND FLOOR - DUCTWORK PLAN - AREA 'D'

1/8" = 1'-0"

NEW WOEK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE SUPPLY AND RETURN DUCTWORK, INSULATION, DIFFUSERS, REGISTERS AND GRILLES AS INDICATED.

KEY PLAN



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

SYM	DESCRIPTION	DATE	APPR

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FIRE PROTECTION DPS

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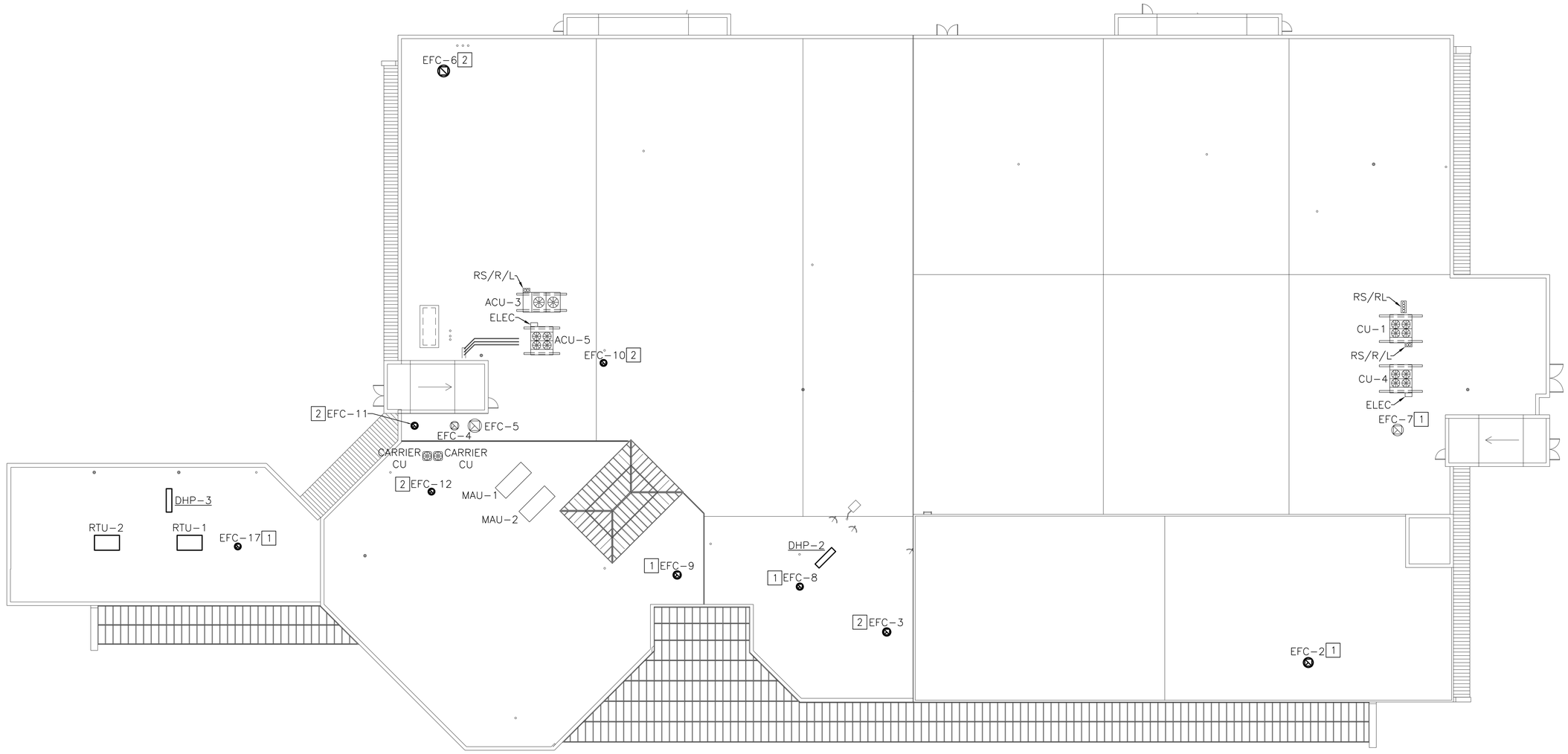
NAVAL STATION – NORFOLK, VIRGINIA
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SECOND FLOOR – DUCTWORK PLAN – AREA 'D'

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667805
SHEET 161 OF 248
M-109

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:21pm USER: dlawson



MECHANICAL ROOF PLAN

1/16" = 1'-0"

NEW WORK KEYNOTES (THIS SHEET ONLY)

1. PROVIDE EXHAUST FAN ON EXISTING CURB. PROVIDE EXTENDED CURB CAP OR TRANSITION CURB AS REQUIRED.
2. CAP AND SEAL EXISTING CURB SO AS TO MAKE WEATHERPROOF.

GRAPHIC SCALE

1/16"=1'-0" 0' 5' 10' 20' 30' 40' 50' 60'

SYM	DESCRIPTION	DATE	APPR

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NAVAL FACILITIES ENGINEERING COMMAND
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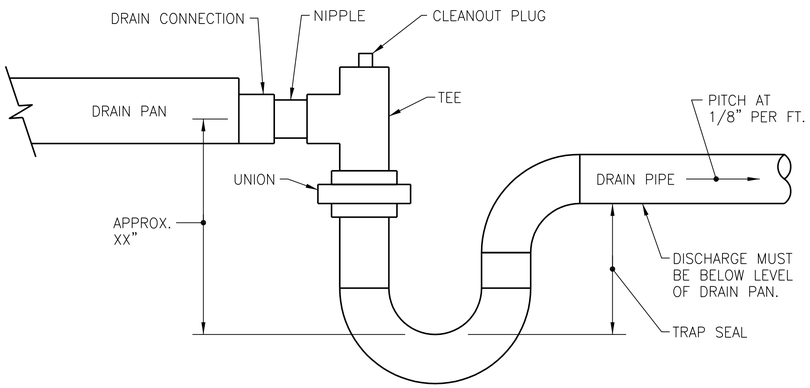
NE IPT
SUBASE NEW LONDON
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
MECHANICAL ROOF PLAN

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667806
SHEET 162 OF 248
M-110

FILE NAME: G:\2012\12-032A NEX MAIN STORE – CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 – 3:21pm USER: dlawson

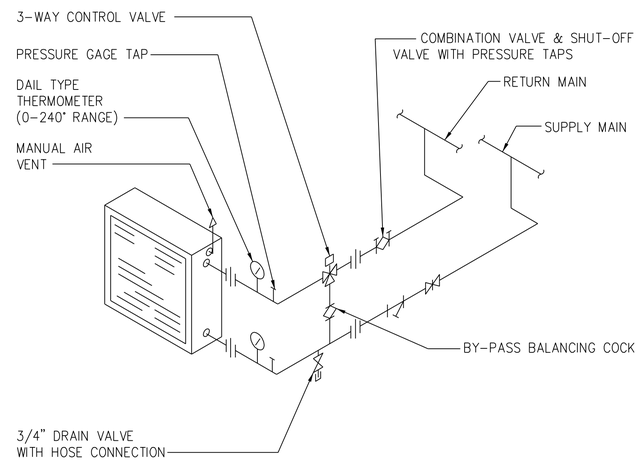


NOTES:

1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
2. PITCH DRAIN FOR PROPER RUN-OFF.
3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRY SEAL.
4. SUPPORT DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
5. TRAP SEAL MUST BE APPROX. 1-1/2" GREATER THAN STATIC PRESSURE AT SUPPLY AIR PLENUM. (TYPICAL ALL CHILLED WATER COILS)

CONDENSATE DRAIN TRAP PIPING DETAIL

NO SCALE — M-102,M106,M-110 — B1

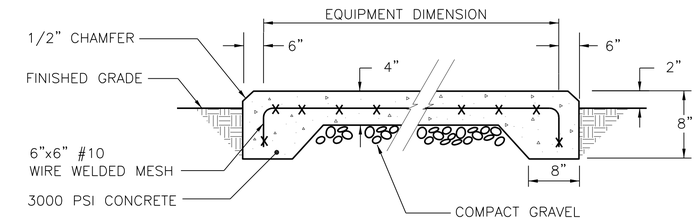


NOTES:

1. ARRANGE PIPING TO PERMIT REMOVAL OF COIL.
2. THE FLOW CONTROL BALANCING VALVES SHALL BE INSTALLED BY THE CONTRACTOR IN COMPLIANCE WITH VALVE MANUFACTURERS RECOMMENDED SPACING OF DOWNSTREAM FORM PIPE CHANGES IN DIRECTION AND/OR OTHER VALVES/COMPONENTS IN THE PIPING.

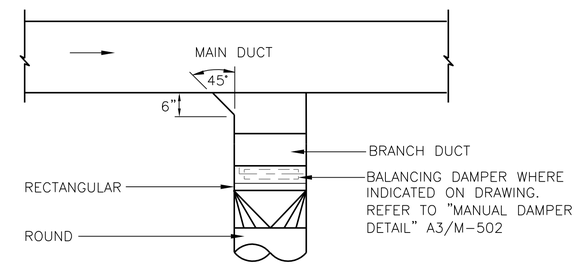
COIL-AHU PIPING DIAGRAM

NO SCALE — M-105 — B2



EQUIPMENT PAD-4 INCH DETAIL

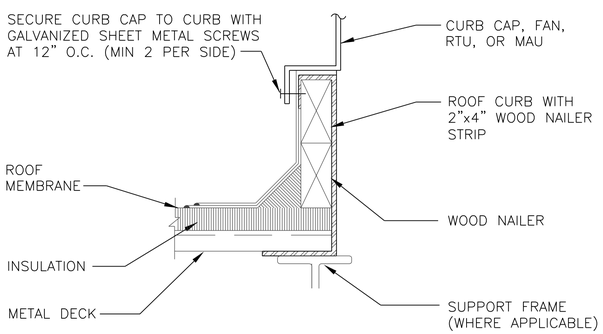
NO SCALE — M-102 — D4



USE ONLY AT LAST TAKE-OFF BEFORE OUTLET & THEN ONLY WHERE RECTANGULAR RUNOUTS ARE INDICATED ON DRAWINGS.

DUCT-BRANCH CONNECTION DETAIL

NO SCALE — M-101,M-102,M-103,M-104,M-105,M-106,M-107,M-108,M-109 — B4

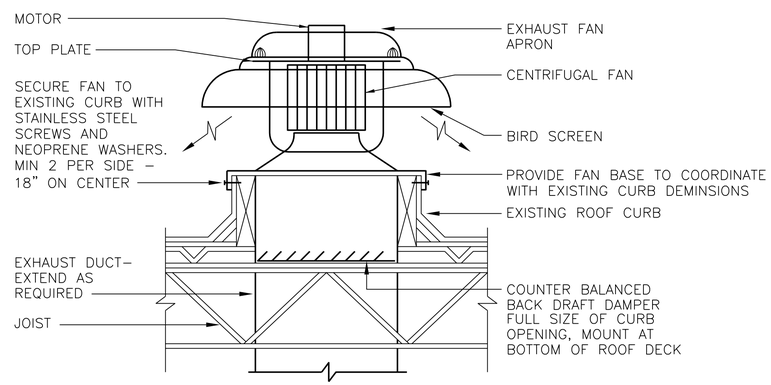


NOTE:

INSTALL TOP OF CURB LEVEL, PROVIDE SLOPED ROOF CURB WHERE NECESSARY.

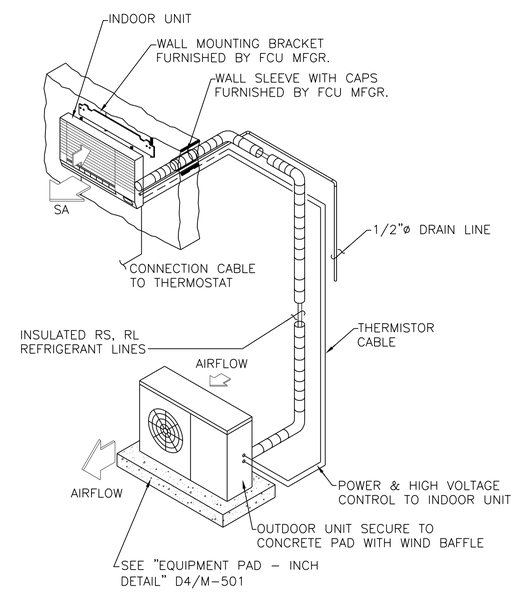
TYPICAL ROOF CURB DETAIL

NO SCALE — M-110 — A1



EXHAUST FAN-ROOF MOUNTED DETAIL

NO SCALE — M-110 — A2



DUCTLESS SPLIT SYSTEM INSTALLATION DETAIL - GRADE LEVEL

NO SCALE — M-102 — A4

SYM	DESCRIPTION	DATE	APPR

APPROVED David W Grunfeld
FOR COMMANDER NAVFAC

ACTIVITY: CDR MARC BERNATH, NEXCOM - FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
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BRANCH MANAGER
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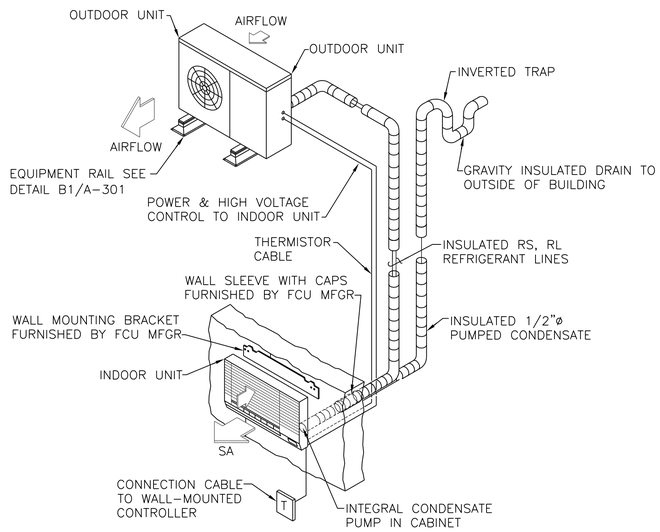
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND — NAVAL STATION - NORFOLK, VIRGINIA
NE IPT
SUBASE NEW LONDON — GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
DETAILS

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667807
SHEET 163 OF 248
M-501

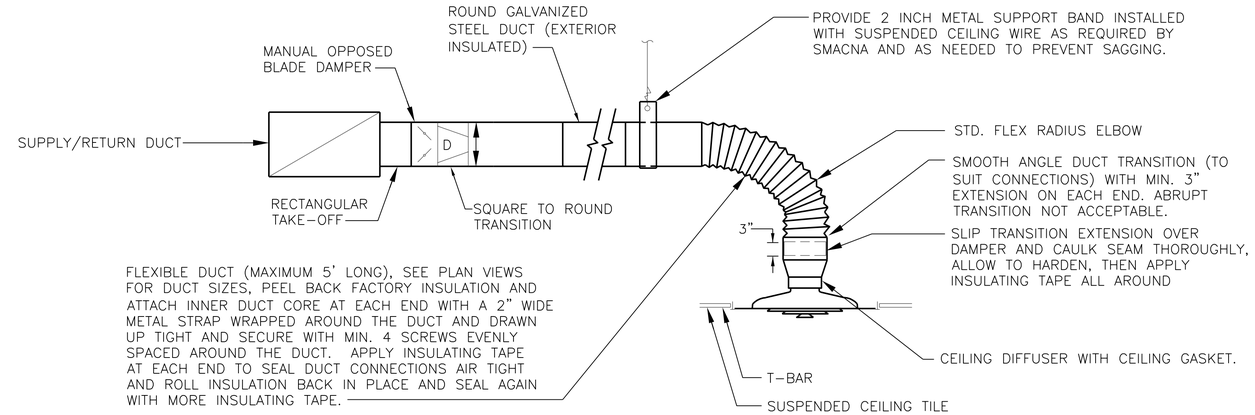
FILE NAME: G:\2012\12-032A NEX MAIN STORE - CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 - 3:21pm USER: dlawson



DUCTLESS SPLIT SYSTEM INVERTED TRAP DETAIL

NO SCALE

M-501 **C1**

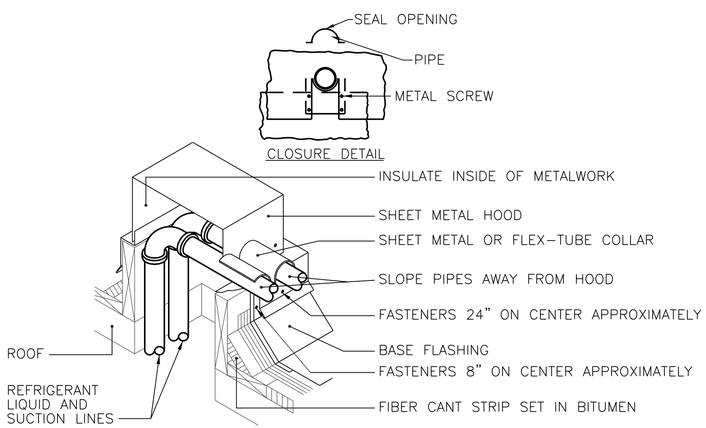


NOTE: THE BRANCH TAKE-OFF FITTING AND DAMPER SECTION SIZES SHALL BE EQUAL TO THE FLEX DUCT SIZE.

SUPPLY AIR DIFFUSER / RETURN AIR GRILLE DUCTWORK DETAIL

NO SCALE

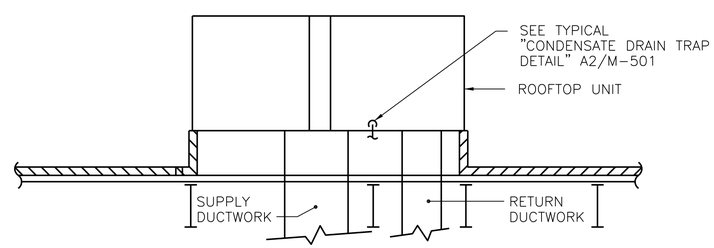
M-101,M-102,M-103,M-104,M-105,M-106,M-107,M-108,M-109 **C2**



REFRIGERANT LINES THRU ROOF DETAIL

NO SCALE

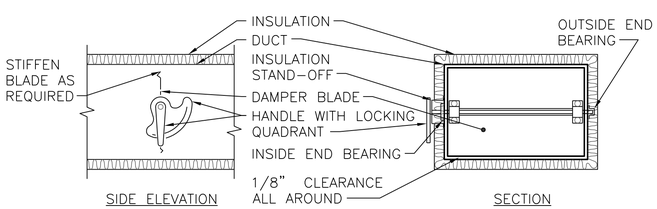
M-110 **B1**



ROOF TOP UNIT-INSTALLATION DETAIL

NO SCALE

M-110 **B2**



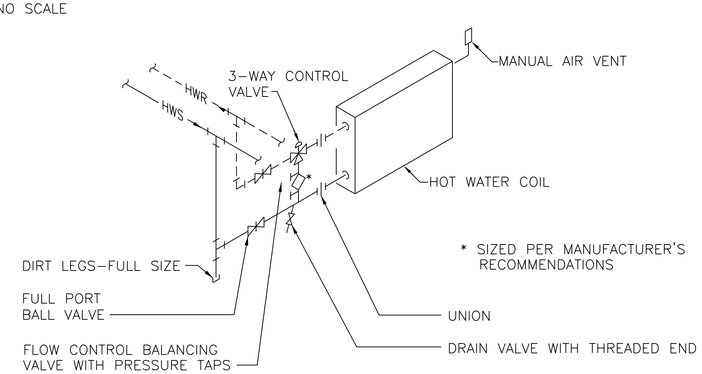
NOTES:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS.
3. END BEARINGS SHALL HAVE MOLDED SYNTHETIC INSERTS.

VOLUME DAMPER DETAIL

NO SCALE

M-101,M-102,M-103,M-104,M-105,M-106,M-107,M-108,M-109 **A1**



COIL-HOT WATER DIAGRAM

NO SCALE

M-105 **A2**

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
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BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
DETAILS

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667808
SHEET 164 OF 248
M-502

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PACKAGED ROOFTOP UNIT SCHEDULE

MARK	FAN DATA					COOLING COIL DATA (DIRECT EXPANSION)								ELECTRICAL DATA						BASIS OF DESIGN	NOTES
	AIRFLOW CFM	OA CFM	ESP "WC	MOTOR HP	FAN RPM	SENSIBLE MBH	TOTAL MBH	EAT		LAT		ROWS	FINS PER INCH	TOTAL FLA	MCA	MOCP	VOLTS	PH	ARI SEER		
								°FDB	°FWB	°FDB	°FWB										
RTU-1	1330	340	0.5	1	DIRECT	33.4	47.2	76.9	64.4	53.7	52.4	3	15	29	29	40	208	3	17.5	CARRIER 50LC005	①②③④⑤⑥⑦⑧⑨
RTU-2	1830	440	0.5	1	DIRECT	48.6	60.2	76.3	64.5	53.5	52.7	4	15	31	32	45	208	3	17.2	CARRIER 50LC006	①②③④⑤⑥⑦⑧⑨

NOTES:

① THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE.

② PROVIDE 2" PLEATED FILTERS WITH A MINIMUM RATING OF MERV-8.

③ PROVIDE MANUFACTURER'S STANDARD-HEIGHT ROOF CURB.

④ PROVIDE INTEGRATED COMPARATIVE-ENTHALPY ECONOMIZER WITH BAROMETRIC DAMPER.

⑤ PROVIDE PROGRAMMABLE THERMOSTAT WITH TIME CLOCK AND LOCKING COVER.

⑥ THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE. EQUIVALENT PRODUCTS FROM ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE, PROVIDED THEY MEET THE SPECIFICATIONS AND PERFORMANCE REQUIREMENTS.

⑦ HEATING SHALL BE PROVIDED BY DUCT-MOUNTED HOT-WATER COIL. SEE "DUCT-MOUNTED HEATING COIL SCHEDULE", SHEET M-001.

⑧ PROVIDE CONDENSER COILS WITH CORROSION - PROTECTIVE COATING.

⑨ ECONOMIZER OUTDOOR AIR DAMPER LEAKAGE RATE SHALL NOT EXCEED 3 CFM/SF AT A DIFFERENTIAL PRESSURE OF 1" WATER GAUGE.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

INDOOR UNIT						OUTDOOR UNIT										BASIS OF DESIGN (MITSUBISHII)	NOTES
MARK	AIR FLOW CFM	VOLTS	PH	MCA	MOCP	MARK	REFRIGERANT	COOLING CAPACITY (MBH)			REVERSE-CYCLE HEATING CAPACITY (MBH)		VOLTS	PH	MCA	MOCP	INDOOR UNIT/OUTDOOR UNIT	
								MIN	RATED	SEER	RATED	COP						
DAH-1	380	208	1	1	15	DHP-1	R-410A	8	18	15.3	13	2.28	208	1	13	20	PKA-A18HA4/PUZ-A18NHA4	①②③④⑤⑥⑦⑧⑨⑩⑪
DAH-2	380	208	1	1	15	DHP-2	R-410A	8	18	15.3	13	2.28	208	1	13	20	PKA-A18HA4/PUZ-A18NHA4	①②③④⑤⑥⑦⑧⑨⑩⑪
DAH-3	700	208	1	1	15	DHP-3	R-410A	12	24	17.0	18	2.40	208	1	18	30	PKA-A24KA4/PUZ-A24NHA4	①②③④⑤⑥⑦⑧⑨⑩⑪

NOTES:

① THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE.

② AIRFLOW IS BASED ON HI FAN SPEED AND A WET COIL.

③ POWER (208VAC) AND CONTROLS (24VDC) TO INDOOR UNIT UNIT SHALL BE SUPPLIED FROM THE OUTDOOR UNIT.

④ COOLING CAPACITY IS BASED ON AHRI STANDARD CONDITIONS: 80°FDB/67°FWB (EVAPORATOR), 95°FDB/75°WDB (CONDENSER).

⑤ REVERSE-CYCLE HEATING CAPACITY IS BASED ON AHRI STANDARD CONDITIONS: 17°FDB (CONDENSER).

⑥ PROVIDE CONDENSER COIL CORROSION PROTECTION.

⑦ PROVIDE HI-WALL MOUNT INDOOR UNIT AND CONDENSATE REMOVAL PUMP.

⑧ PROVIDE INVERTER-DRIVEN VARIABLE-SPEED COMPRESSOR CAPABLE OF MODULATING CAPACITY BETWEEN "MIN" COOLING CAPACITY AND "RATED" COOLING CAPACITY.

⑨ PROVIDE OUTDOOR UNIT WITH ACCESSORY WIND BAFFLE FOR LOW AMBIENT COOLING OPERATION TO 0°FDB.

⑩ PROVIDE WALL-MOUNTED HARD-WIRED CONTROLLER.

⑪ PROVIDE CONDENSER COILS WITH CORROSION - PROTECTIVE COATING.

DUCT CONSTRUCTION AND LEAK TEST SCHEDULE

MARK	DUCT PRESSURE CLASS				DUCT SEAL CLASS	DUCT LEAK CLASS (ROUND/RECT)	DUCT TEST PRESSURE	DUCT TEST TYPE	NOTES
	SUPPLY DUCT	RETURN DUCT	EXHAUST DUCT	OUTSIDE AIR DUCT					
RTU-1, RTU-2	<2	1	-	-	A	12/24	②	①	
AHU-1(E), AHU-3(E), AHU-4(E), AHU-5(E)	3	<2	-	NIC	A	6/12			
EXHAUST FANS	-	-	1	-	A	12/24			

NOTES:

① TEST PER SHEET METAL & AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA) HVAC AIR DUCT LEAKAGE TEST MANUAL.

② SAME AS DUCT PRESSURE CLASS.

③ NIC=NOT IN CONTRACT.

HVAC DESIGN CONDITIONS

INDOORS			OUTDOORS		
SUMMER		WINTER	SUMMER		WINTER
°FDB	%RH	°FDB	°FDB	MCWB-°F	°FDB
74	50	70	83	72	14

NOTES:

OUTDOOR CONDITIONS BASED ON THE 1% DATA (SUMMER) AND 99% DATA (WINTER) FOR WMO STATION #725046, GROTON, CT. INDOOR CONDITIONS ARE BASED ON DIRECTIVE FROM NEX. PER NAVFAC DESIGN STANDARDS, ROOF-MOUNTED EQUIPMENT PERFORMANCE SHALL BE EVALUATED AT AN AMBIENT TEMPERATURE 5°F GREATER THAN THE PUBLISHED DESIGN DATA.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

COMMONWEALTH OF VIRGINIA
S. G. Roberts
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5-15-15
PROFESSIONAL ENGINEER

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NAVAL STATION - NORFOLK, VIRGINIA
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SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SCHEDULES

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667809
SHEET 165 OF 248
M-601

FILE NAME: G:\2012\12-032A NEX MAIN STORE - CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 - 3:21pm USER: dlawson

EXHAUST FAN SCHEDULE

MARK	TYPE	AREA SERVED	AIR FLOW CFM	ESP "WC	INLET SOUND dBA	MOTOR HP (AMPS)	FAN RPM	ELECTRIC SERVICE		MOTOR STARTER		DRIVE	BASIS OF DESIGN	NOTES
								VOLTS	PH	SIZE	TYPE			
EF-1	INLINE CENTRIFUGAL	134/136/137/138	1200	0.4	61	1/4	1651	115	1	00	–	DIRECT	GREENHECK SQ-100-VG	1 3 4 5 9
EF-2	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	125/134	2000	0.5	67	3/4	1590	115	1	0	–	DIRECT	GREENHECK G-133-VG	1 2 3 4 5
EF-3	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	EXIST FRONT OFFICES 1ST FLOOR	–	–	–	1/2	–	208	3	–	–	–	–	7 8
EF-4	INLINE CENTRIFUGAL	EXIST MEAT RECEIVING	–	–	–	(2.1)	–	115	1	–	–	–	–	7 8
EF-5	ROOF-MOUNTED CENTRIFUGAL, UPBLAST	EXIST JUNKYARD DOGS	–	–	–	2	–	208	3	–	–	–	–	6 8
EF-6	INLINE CENTRIFUGAL	1ST FLOOR REAR STOCKROOM	–	–	–	1-1/2	–	208	3	–	–	–	–	7 8
EF-7	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	EXIST MEZZANINE	–	–	–	1	–	208	3	–	–	–	–	6 8
EF-8	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	203/204/222/ 223/224/225	670	0.15	54	1/6	1519	115	1	00	–	DIRECT	GREENHECK G-90-VG	1 2 3 4 5
EF-9	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	153/155/168/169/170	1200	0.3	60	1/4	1586	115	1	00	–	DIRECT	GREENHECK G-103-VG	1 2 3 4 5
EF-10	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	EXIST BEAUTY SHOP	–	–	–	1/4	–	115	1	–	–	–	–	7 8
EF-11	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	EXIST FOOD COURT ADMIN	–	–	–	1/4	–	115	1	–	–	–	–	7 8
EF-12	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	EXIST TV/ELECTRONICS SALES	–	–	–	1/4	–	115	1	–	–	–	–	7 8
EF-13	INLINE CENTRIFUGAL	EXIST AHU-3 RET/EXH	–	–	–	10	–	208	3	–	–	–	–	6 8
EF-14	INLINE CENTRIFUGAL	EXIST AHU-5 RET/EXH	–	–	–	7-1/2	–	208	3	–	–	–	–	6 8
EF-15	INLINE CENTRIFUGAL	EXIST AHU-4 RET/EXH	–	–	–	10	–	208	3	–	–	–	–	6 8
EF-16	INLINE CENTRIFUGAL	EXIST AHU-1 RET/EXH	–	–	–	2	–	208	3	–	–	–	–	6 8
EF-17	ROOF-MOUNTED CENTRIFUGAL, DOWNBLAST	173/174/178/181	785	0.3	57.0	1/6	1522	115	1	00	–	DIRECT	GREENHECK G-095-VG	1 2 3 4 5
EF-18	SIDEWALL PROPELLER	MER 102 EXHAUST	–	–	–	2	–	208	3	–	–	–	–	6 8

NOTES:

1. THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE. EQUIVALENT PRODUCTS FROM ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE, PROVIDED THEY MEET THE SPECIFICATIONS AND PERFORMANCE REQUIREMENTS.
2. PROVIDE FAN BASE TO MATCH EXISTING ROOF CURB.
3. PROVIDE SOLID-STATE MOTOR SPEED CONTROLLER.
4. PROVIDE ELECTRICALLY-COMMUTATED MOTOR
5. MECHANICAL CONTRACTOR SHALL PROVIDE MOTOR STARTERS, ELECTRICAL CONTRACTOR SHALL INSTALL.
6. EXISTING TO REMAIN
7. REMOVE EXISTING FAN, CAP AND SEAL PENETRATIONS.
8. ELECTRICAL DATA FOR EXISTING FANS IS PER RECORD DRAWINGS
9. TRANSITION FAN DISCHARGE TO AND TIE INTO EXISTING WALL LOUVER

GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	MAX CFM	SERVICE	NECK SIZE INCHES	FACE SIZE	APD "WC	THROW	NC	NOTES
A	120	SUPPLY	6" ø	24X24"	0.01	5	10	1 4
B	240	SUPPLY	8" ø	24X24"	0.02	9	15	1 4
C	400	SUPPLY	10" ø	24X24"	0.03	13	22	1 4
D	650	SUPPLY	12" ø	24X24"	0.03	18	24	1 4
S	170	TRANSFER	24X6"	24X6"	0.03	–	22	6
T	100	RET / EXH	6"ø	24X24"	0.09	–	10	5
U	200	RET / EXH	8"ø	24X24"	0.13	–	17	5
V	360	RET / EXH	10"ø	24X24"	0.17	–	24	5
W	600	RET / EXH	12"ø	24X24"	0.23	–	29	5
X	1340	RET / EXH	22X22"	24X24"	0.06	–	20	5
Y	120	RET / EXH	6X6"	12X12"	0.09	–	12	2 3
Z	5500	RETURN	48X24"	48X24"	0.07	–	32	3 7

NOTES:

1. SQUARE CONE DIFFUSER, LAY-IN, TITUS "TMS" OR EQUAL.
2. PERFORATED GRILLE, SURFACE MOUNT, TITUS "PAR" OR EQUAL.
3. PROVIDE BALANCE DAMPER IN NECK OF DEVICE, ADJUSTABLE FROM THE OCCUPIED SIDE OF CEILING.
4. PROVIDE MANUFACTURER'S MOLDED INSULATION BLANKET ON REAR OF BACKPAN.
5. PERFORATED GRILLE, LAY-IN, TITUS "PAR" OR EQUAL.
6. DOOR GRILLE, SURFACE MOUNT, TITUS "T-700L" OR EQUAL. THE BASIS OF DESIGN IS NOT INTENDED TO INDICATE A SOLE SOURCE FOR PROCUREMENT, BUT TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE. EQUIVALENT PRODUCTS FROM ALTERNATIVE MANUFACTURERS SHALL BE ACCEPTABLE, PROVIDED THEY MEET THE SPECIFICATIONS AND PERFORMANCE REQUIREMENTS.
7. LOUVERED RETURN GRILLE, 0° BLADE DEFLECTION, SURFACE-MOUNT, TITUS "350ZFL" OR EQUAL.

AIR HANDLING SCHEDULE

MARK	AREA SERVED	SUPPLY CFM	OUTSIDE AIR CFM	DESIGN ESP	MOTOR HP	NOTES
AHU-1	FIRST FLOOR EAST RETAIL & ADMIN	17930	5235		15	2 5
AHU-2	FIRST FLOOR BREAK ROOM	–	–	–	–	3
AHU-3	FIRST FLOOR WEST RETAIL & ADMIN	6820	1356		15	2 5
AHU-4	SECOND FLOOR EAST RETAIL	15250	5580		15	2 5
AHU-5	SECOND FLOOR EAST RETAIL & ADMIN	12920	3435		15	2 5
AHU-6	SECOND FLOOR MEZZANINE	–	–	–	–	4

NOTES:

1. PERFORMANCE IN THIS SCHEDULE IS PROVIDED FOR REFERENCE ONLY.
2. EXISTING UNIT TO REMAIN. CONTRACTOR SHALL BENCH MARK PERFORMANCE PRIOR TO BEGINNING DEMOLITION.
3. EXISTING UNIT TO BE DEMOLISHED. BENCHMARK NOT REQUIRED.
4. EXISTING UNIT NOT IN CONTRACT. BENCHMARK NOT REQUIRED.
5. DO NOT EXCEED THE UNITS MAXIMUM FAN SPEED.

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FOR COMMANDER NAVFAC

ACTIVITY
CDR MARC BERNATH
NEXCOM – FACILITIES DIVISION

SATISFACTORY TO DATE 07JUL2014
DES MJH DRW WLF CHK SGR
PM/DM RDS/PJB
BRANCH MANAGER
CHIEF ENG/ARCH DWG
FIRE PROTECTION DPS

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NORFOLK, VIRGINIA
NE IPT
SUBASE NEW LONDON
GROTON, CT
BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
SCHEDULES

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085-14-C-5203
NAVFAC DRAWING NO. 12667810
SHEET 166 OF 248
M-602

FILE NAME: G:\2012\12-032A NEX MAIN STORE - CT\NAVIGATOR\NEX MAIN STORE EXPANSION & RENOVATION\Sheets\ PLOTTED: Thursday, May 14, 2015 - 3:21pm USER: dlawson

SEQUENCE OF OPERATION RTU-1/RTU-2/EF-18

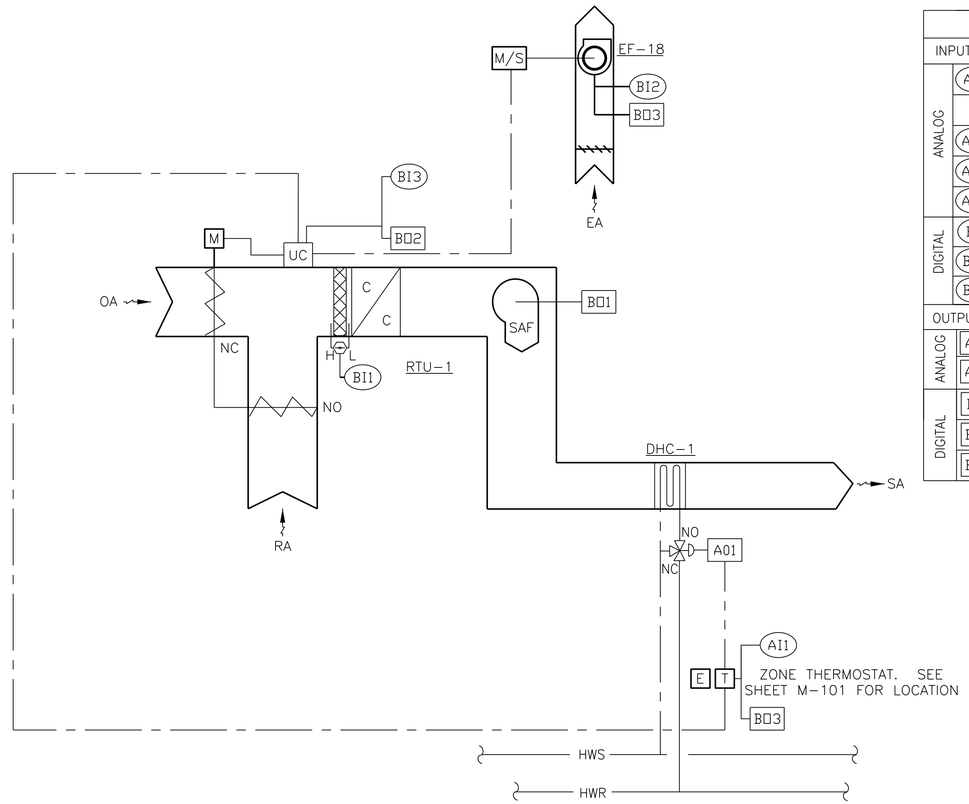
RUN CONDITIONS – SCHEDULED:
UNLESS DE–ENERGIZED OR GOVERNED BY SAFETIES OR SHUTDOWN BY THE AIR DISTRIBUTION SHUT OFF SWITCH RTU–1, RTU–2 AND EF–18 SHALL RUN BASED UPON AN OPERATOR–ADJUSTABLE SCHEDULE. SETPOINTS SHALL BE AS DEFINED IN THE HVAC DESIGN CONDITIONS SCHEDULE ON SHEET M–601.

OCCUPIED MODE:
THE ECONOMIZER DAMPER SHALL BE INDEXED TO ITS PRESET OPEN POSITION. THE SUPPLY FAN AND EF–18 SHALL BE ENERGIZED AND RUN CONTINUOUSLY.

OUTSIDE AIR VENTILATION
AN INTEGRATED, COMPARITIVE–ENTHALPY ECONOMIZER DAMPER, CONSISTING OF AN OUTSIDE AIR DAMPER AND RETURN AIR DAMPER, SHALL PROVIDE MEANS FOR VENTILATION. WHEN THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY THE UNIT SHALL BE PLACED INTO ECONOMIZER MODE. THE OUTSIDE AIR DAMPER SHALL BE MECHANICALLY LINKED TO THE RETURN AIR DAMPER SUCH THAT AS THE OUTSIDE AIR DAMPER IS DRIVEN CLOSED BY THE ECONOMIZER ACTUATOR, THE RETURN AIR DAMPER SHALL OPEN PROPORTIONATELY, AND VICE VERSA, SO AS TO MAINTAIN A CONSTANT FLOW OF OUTSIDE AIR THROUGH RTU–1 AND RTU–2. UPON A POWER FAILURE TO THE ECONOMIZER DAMPER ACTUATOR THE OUTSIDE AIR DAMPER SHALL SPRING–RETURN TO ITS FULLY CLOSED POSITION AND THE RETURN AIR DAMPER SHALL SPRING–RETURN TO ITS FULLY OPEN POSITION.

COOLING:
ON A RISE IN SPACE TEMPERATURE ABOVE THE OCCUPIED COOLING SETPOINT (74° ADJ). RTU–1 COMPRESSOR SHALL BE ENERGIZED AND THE RTU CONTROLLER SHALL INITIATE REFRIGERATION CONTROL IN THE COOLING MODE TO PROVIDE SENSIBLE AND LATENT COOLING. ON A SUBSEQUENT DECREASE IN SPACE TEMPERATURE BELOW THE OCCUPIED COOLING SETPOINT THE COMPRESSOR SHALL BE DE–ENRGIZED.

HEATING:
ON A FALL IN ZONE TEMPERATURE BELOW THE OCCUPIED ZONE HEATING SETPOINT (70°F ADJ) HW HEATING VALVE SHALL MODULATE OPEN TO PROVIDE HEATING TO THE ZONE. UPON A SUBSEQUENT INCREASE IN ZONE TEMPERATURE ABOVE THE OCCUPIED HEATING SETPOINT THE HW HEATING VALVE SHALL MODULATE CLOSED.



SLEEP CLINIC			
INPUTS			
ANALOG	AI1	ZONE TEMP	
	AI2	RETURN AIR TEMP	
	AI3	SUPPLY AIR TEMP	
	AI4	OUTSIDE AIR ENTHALPY	
DIGITAL	BI1	FILTER STATUS	
	BI2	EF–18 FAN STATUS	
	BI3	RTU–1 SAFETY	
OUTPUTS			
ANALOG	AO1	HW VALVE POSITION	
	AO2	ECON POSITION	
DIGITAL	BO1	RTU–1 SAF START	
	BO2	RTU–1 COOL1	
	BO3	EF–18 START	

RTU-1/RTU-2/EF-18 CONTROL DIAGRAM

NO SCALE

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BLDG. 484 - NEX MAIN STORE EXPANSION & RENOVATION
CONTROLS AND SEQUENCE OF OPERATIONS

SCALE: GRAPHIC
EPROJECT NO. 1305708
CONSTR. CONTR. NO. N40085–14–C–5203
NAVFAC DRAWING NO. 12667811
SHEET 167 OF 248
M-701

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