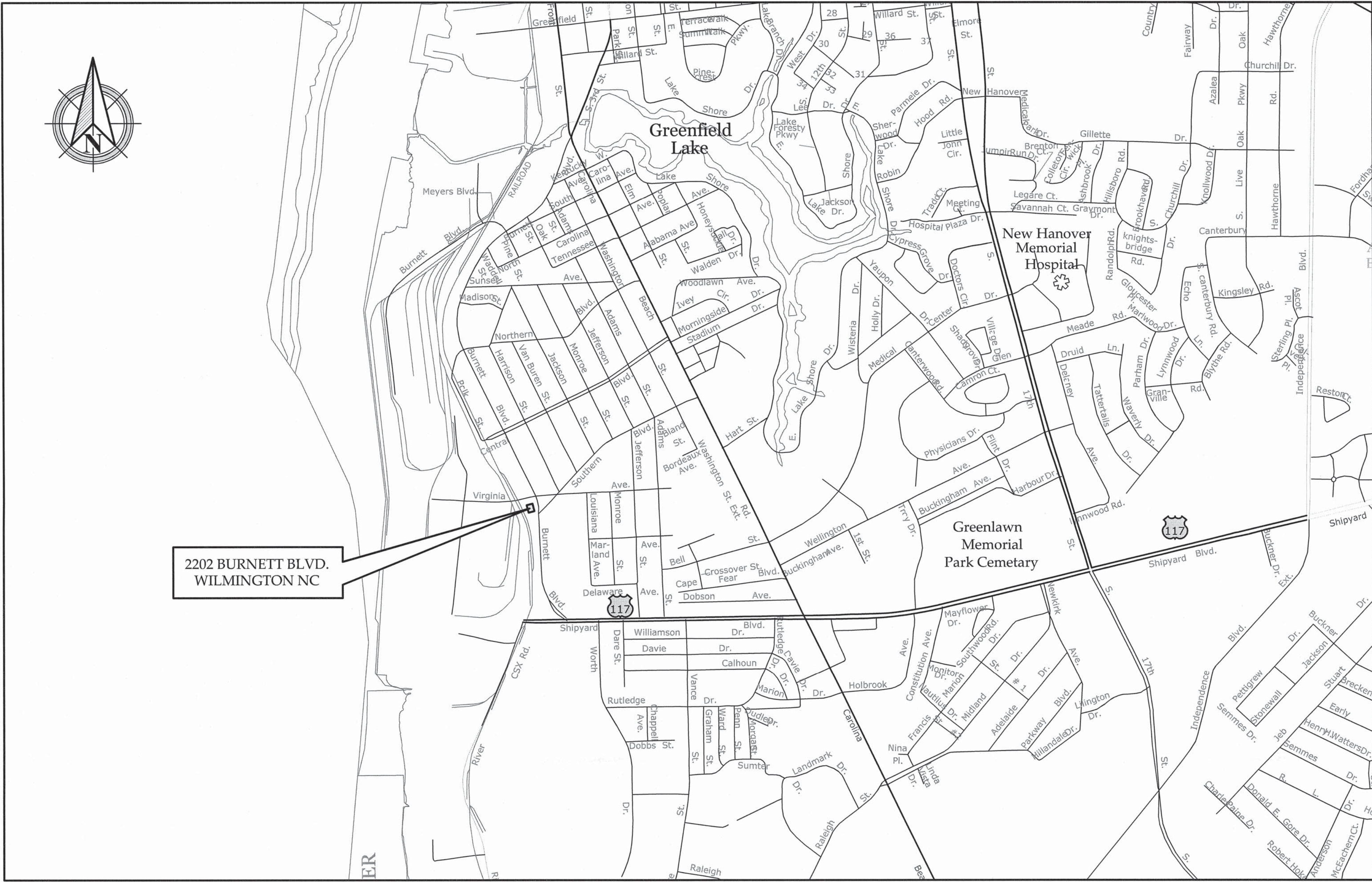


MARITIME BUILDING REPLACE IT HVAC SYSTEM PORT OF WILMINGTON WILMINGTON, NORTH CAROLINA

SCO ID# 18-19916-01A
NCSPA CONTRACT NO. C-1189(W)
NCSPA PROJECT NO. 10438



SCHEDULE OF DRAWINGS	
SHEET NUMBER	DESCRIPTION
COVER	COVER SHEET
G0.01	BUILDING CODE SUMMARY
M0.01	MECHANICAL LEGEND, SCHEDULES & GENERAL NOTES
M1.01	FIRST FLOOR MECHANICAL AND SERVICE YARD PLANS - DEMOLITION
M1.02	SECOND FLOOR PARTIAL MECHANICAL PLANS - RENOVATION
E0.01	ELECTRICAL COVER
E1.01	ELECTRICAL PLAN FIRST FLOOR
E1.02	ELECTRICAL PLAN SECOND FLOOR
A1.01	ARCHITECTURAL WINDOW CLOSURE

 **CHEATHAM AND ASSOCIATES, P.A.**
CONSULTING ENGINEERS

3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA
(910) 452-4210 FAX (910) 452-4211
office@cheathampa.com
www.cheathampa.com
LICENSE# C-1073

 **CHEATHAM AND ASSOCIATES, P.A.**
CONSULTING ENGINEERS

3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PH: (910) 452-4210 FAX: (910) 452-4211
E-MAIL: office@cheathampa.com
LIC LICENSE # C-1073

DESIGNED BY

DRAWN BY

CHECKED BY

JOB NUMBER 17.88

SHEET

OF

DATE

JULY 10, 2020

COVER

**MARITIME BUILDING - REPLACE IT HVAC SYSTEM
PORT OF WILMINGTON**

WILMINGTON, NORTH CAROLINA

SCO ID# 18-19916-01A
NCSPA CONTRACT NO. C-1189(W)
NCSPA PROJECT NO. 10438

REVISION	
DATE	DESCRIPTION

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: NCSPA Maritime Building - Replace IT HVAC System
Address: Port Of Wilmington, 2202 Burnett Blvd, Wilmington, NC
Owner/Authorized Agent: Barry Adderton, Phone # (910) 251 - 5676 E-Mail: barry_adderton@ncports.com
Owned By: NCDOT - NCSPA ☐ City/County ☐ Private ☒ State ☐ County ☒ State
Code Enforcement Jurisdiction: ☐ City ☐ County ☒ State

CONTACT:
DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL
Architectural Sawyer Sherwood & Associates, PC Doug Sherwood 10075 (910) 762-0892 doug@s2a3.com
Civil N/A ()
Electrical Cheatham & Associates, PA Mark Ciarracca 17593 (910) 452-4210 mciarracca@cheathampa.com
Fire Alarm N/A ()
Plumbing N/A ()
Mechanical Cheatham & Associates, PA Kenneth Lynch 17655 (910) 452-4210 klynch@cheathampa.com
Sprinkler-Standpipe N/A ()
Structural N/A ()
Retaining Walls >5' High N/A ()
Other N/A ()
(*Other* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
☐ Phased Construction - Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☒ Level II ☐ Level III
☐ Historic Property ☐ Change of Use
CONSTRUCTED: (date) 1965 CURRENT OCCUPANCY(S) (Ch. 3): Business
RENOVATED: (date) Numerous PROPOSED OCCUPANCY(S) (Ch. 3): Business
RISK CATEGORY (Table 1604.5): Current: ☐ I ☒ II ☐ III ☐ IV
Proposed: ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA - NO CHANGES TO EXISTING
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☒ II-B (ASSUMED) ☐ III-B ☐ V-B
Sprinklers: ☐ No ☒ Partial ☐ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☐ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes Flood Hazard Area: ☒ No ☐ Yes
Special Inspections Required: ☒ No ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

2018 NC Administrative Code and Policies Revised 6/15/2020

Gross Building Area Table			
	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor	14,510	-	14,510
Mezzanine	-	-	-
1st Floor	13,400	-	13,400
Basement	-	-	-
TOTAL	27,910	-	27,910

ALLOWABLE AREA- NO CHANGES TO EXISTING
Primary Occupancy Classification(s):
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☒ Existing
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I-2 Condition ☐ 1 ☐ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐
Accessory Occupancy Classification(s):
Incidental Uses (Table 509):
Special Uses (Chapter 4 - List Code Sections):
Special Provisions: (Chapter 5 - List Code Sections):
Mixed Occupancy: ☒ No ☐ Yes Separation: _____ Hr. Exception:
☐ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.
Actual Area of Occupancy A + Actual Area of Occupancy B ≤ 1
Allowable Area of Occupancy A Allowable Area of Occupancy B
+ + = ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE1,2	(D) ALLOWABLE AREA PER STORY OR UNLIMITED3

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase If = 100[F/P - 0.25] x W/30 = _____ (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT- NO CHANGES TO EXISTING			
	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE 1
Building Height in Feet (Table 504.3) 2	55	25'-9" (Existing)	
Building Height in Stories (Table 504.4) 3	2	2 (Existing)	

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
2 The maximum height of air traffic control towers must comply with Table 412.3.1.
3 The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS - NO CHANGES TO EXISTING							
BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

*Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS - NO CHANGES TO EXISTING			
FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS- NO CHANGES TO EXISTING
Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☐ No ☒ Yes
Smoke Detection Systems: ☐ No ☒ Yes ☐ Partial _____
Carbon Monoxide Detection: ☒ No ☐ Yes

LIFE SAFETY PLAN REQUIREMENTS- NO CHANGES TO EXISTING

ACCESSIBLE DWELLING UNITS - N/A
(SECTION 1107)

ACCESSIBLE PARKING- NO CHANGES TO EXISTING
(SECTION 1106)

PLUMBING FIXTURE REQUIREMENTS- NO CHANGES TO EXISTING
(TABLE 2902.1)

SPECIAL APPROVALS - N/A
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY - N/A - ONLY CHANGES TO EXISTING ENVELOPE ARE WINDOW INFILL

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE) - NO CHANGES TO EXISTING

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY - SEE MECHANICAL DRAWINGS

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY - N/A - REUSING EXISTING LIGHTING FIXTURES

REVISION	
DATE	DESCRIPTION

MARITIME BUILDING - REPLACE IT HVAC SYSTEM
PORT OF WILMINGTON
WILMINGTON, NORTH CAROLINA
SCO ID# 18-19916-01A
NCSPA CONTRACT NO. C-1189(W)
NCSPA PROJECT NO. 10436

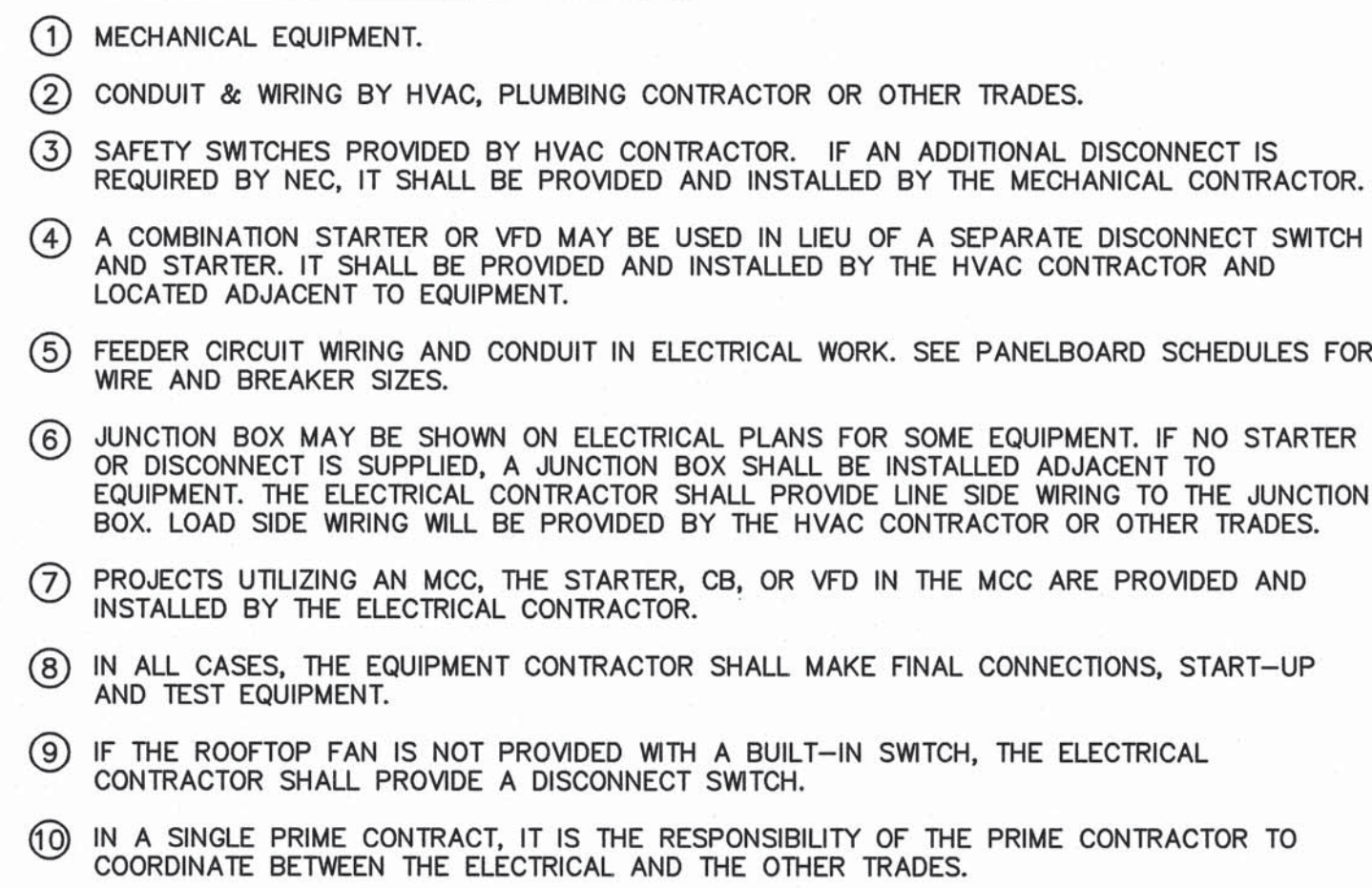
CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3402 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PH: (910) 692-3620 FAX: (910) 452-4211
www.cheathamandassociates.com
NC LICENSE #P-1073



DESIGNED BY KL
DRAWN BY NAH
CHECKED BY KL
JOB NUMBER 17.88
SHEET

G0.01

OF 8
DATE JULY 10, 2020



 MECHANICAL EQUIPMENT CONNECTION DETAIL
NO SCALE

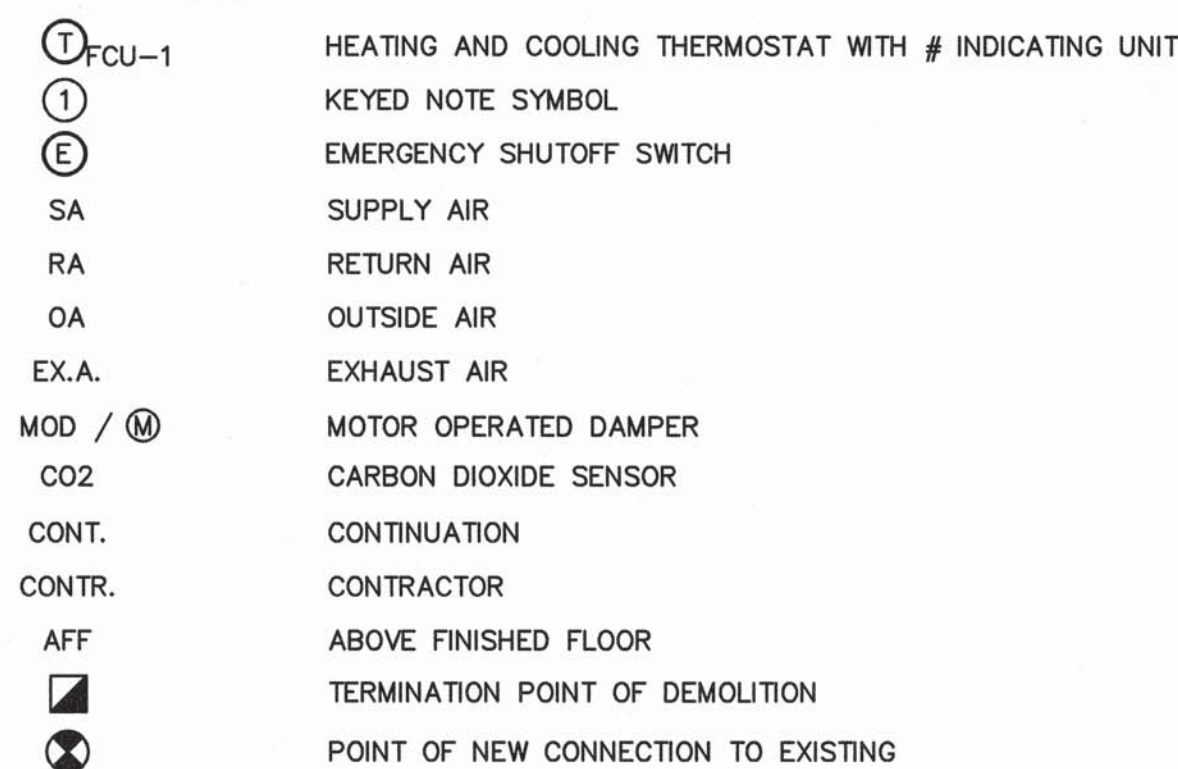
- ① EXT. S.P. INCLUDES SUPPLY AND RETURN DUCTWORK. MERV 11 FILTERS IN UNIT ARE NOT INCLUDED IN THIS FIGURE.
- ② CAPACITY WHEN MATCHED WITH INDOOR SECTION AT 95°F OUTDOOR AMBIENT AIR CONDITIONS AND INDOOR SECTION ENTERING CONDITIONS OF 72.0°F DB, 60°F WB, AND 50% RH.
- ③ SCR CONTROL.
- ④ UPFLOW WITH TOP SUPPLY CONNECTION AND REAR BOTTOM RETURN CONNECTION.
- ⑤ WITH FACTORY SUPPLIED SUPPLY AIR PLENUM WITH ADJUSTABLE BLADES.
- ⑥ MAXIMUM AMOUNT OF REFRIGERANT IN ENTIRE SYSTEM:
 - A. R-410A - LESS THAN 155 LBS.
 - B. R-407C - LESS THAN 110 LBS.
- ⑦ MINIMUM SCOP-127 EFFICIENCY FOR UPFLOW UNITS PER ANSI/ASHRAE 127.
- ⑧ INDOOR SECTION'S MAXIMUM WIDTH SHALL FIT THROUGH AN EXISTING 34.5" WIDE DOORWAY.

GENERAL NOTES:

1. HVAC CONTRACTOR SHALL FIELD VERIFY ALL RELEVANT DIMENSIONS, CLEARANCES, LOCATIONS AND ELEVATIONS PRIOR TO ORDERING, FABRICATION, AND INSTALLATION OF HIS WORK. DISCREPANCIES OR INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER/ARCHITECT AS SOON AS POSSIBLE. DRAWINGS DIAGRAMMATICALLY INDICATE THE GENERAL LOCATION OF DUCTS, PIPING AND EQUIPMENT AND DO NOT SHOW ALL OFFSETS, FITTINGS, SUPPORTS, BOLTS, CONNECTIONS, ETC. THE CONTRACTOR SHALL FIELD VERIFY SYSTEMS AND MAKE DRAWINGS TO BE FOLLOWED AS CLOSELY AS POSSIBLE. IF IT IS FOUND NECESSARY TO CHANGE THE LOCATION OF ANY WORK TO ACCOMMODATE THE CONDITIONS AT THE BUILDING, SUCH CHANGES SHALL BE MADE WITH MINOR ADDITIONAL COST TO THE OWNER, AND AS DIRECTED BY THE ENGINEER.
2. SEE SECTION 230900 1.10 FOR PROVISION OF AND DIVISION OF WORK FOR POWER TO DO CONTROL SYSTEM CONTROL PANELS, CONTROLLERS, ETC.
3. ANY NEW PIPING PENETRATIONS THROUGH RATED WALLS OR FLOORS SHALL BE FIRE STOPPED USING UL APPROVED PIPE PENETRATIONS.
4. ALL NEW THERMOSTATS AND SWITCHES FOR MECHANICAL SYSTEMS SHALL BE MOUNTED 44" AFF MAXIMUM.
5. ALL TESTING AND BALANCING SHALL BE PROVIDED AND CERTIFIED BY AN INDEPENDENT TEST AND BALANCE CONTRACTOR AS A SUBCONTRACTOR IN ACCORDANCE WITH AABC OR NEBB TESTING AND BALANCING SHALL NOT BEGIN UNTIL AFTER ALL WORK IS COMPLETE. BALANCE ALL SYSTEMS TO WITHIN 10% OF SCHEDULED/SPECIFIED VALUES. PROVIDE TWO COPIES OF TEST AND BALANCE DATA IN SOUND REPORTS.
6. CONTRACTOR SHALL BE RESPONSIBLE REMOVING AND REINSTALLING ANY CEILING OR FLOOR TILES OR CEILING GRID NECESSARY TO FACILITATE THE WORK. ANY DAMAGED CEILING TILE OR GRID SHALL BE REPLACED BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.
7. BUILDING WILL REMAIN OCCUPIED MONDAY THROUGH FRIDAY FROM 7:00 AM TO 5:00 PM. HVAC SHALL REMAIN OPERATIONAL. WORK SHALL OCCUR DURING UNOCCUPIED TIMES. ANY OUTAGE OF HVAC SHALL BE COORDINATED/SCHEDULED WITH THE OWNER PRIOR TO BEGINNING THE WORK.
8. THE FURNITURE, IT EQUIPMENT, BELONGINGS, ETC. SHALL BE PROTECTED AND REPAIRED IF MISSING OR DAMAGED BY THE CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNER.
9. PROVIDE ANY ADDITIONAL CONDITIONING AS NECESSARY TO MAINTAIN CONDITIONS DURING THE CONSTRUCTION PROCESS AS NEEDED, SEE DRAWINGS FOR TEMPORARY HVAC UNIT LOCATION AND REQUIREMENTS.



- A. MANUFACTURER FURNISHED UNIT MOUNTED TEMPERATURE AND HUMIDITY CONTROLLER SHALL OPERATE COOLING COIL AND COMPRESSORS IN STAGES, REHEAT COIL IN STAGES, AND HUMIDIFIER IN LEAD UNIT AND STANDBY UNIT AS NECESSARY TO MAINTAIN SPACE TEMPERATURE AND RH SETPOINTS.
- B. IF LEAD UNIT CANNOT MAINTAIN SPACE TEMPERATURE SETPOINT, GENERATE ALARM TO THE BAS, AND CONTROLLER SHALL ENERGIZE STANDBY UNIT.
- C. UNIT'S CONTROL SYSTEM SHALL ROTATE ON AN ADJUSTABLE SCHEDULE WHICH UNIT IS LEAD AND WHICH UNIT IS STANDBY.
- D. WHEN UNIT IS IN OPERATION, UNIT'S REMOTE DAMPER CONTROL SHALL OPEN (NO) DAMPER IN RA DUCT. (NO) DAMPER IN STANDBY UNIT SHALL BE CLOSED.
- E. INTERNAL BACNET COMMUNICATION CARD SHALL CONNECT UNIT TO EXISTING BRADY TRANE BAS. ALL INFORMATION INCLUDING SETPOINTS, DIAGNOSTICS AND ALARMS AVAILABLE ON UNIT'S CONTROL DISPLAY SHALL BE AVAILABLE TO BAS, LAN AND REMOTE PANEL (SEE PLANS FOR LOCATION).
- F. UPON A SIGNAL FROM THE COMPUTER ROOM'S CLEAN AGENT FIRE SUPPRESSION SYSTEM, COMPUTER ROOM UNIT SHALL BE DEENERGIZED THROUGH HARD-WIRED INTERLOCKS.
- G. BAS SENSOR SHALL MONITOR SPACE TEMPERATURE AND ALARM TO BAS WHEN HIGH OR LOW SETPOINTS ARE EXCEEDED.



☐ COMPLIANCE PER CHAPTER 4 NORTH CAROLINA ENERGY CONSERVATION CODE – SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE) AND C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS.

- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☐ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING

- ☐ COMPLIANCE PER CHAPTER 4 NATIONAL CAROLINA ENERGY CONSERVATION CODE – SECTIONS C403.2 (MANDATORY), C403.3 ECONOMIZERS (PRESCRIPTIVE), C403.4 HYDRONIC AND MULTIPLE ZONE (PRESCRIPTIVE) AND C409 (ADDITIONAL EFFICIENCY PACKAGE OPTIONS).
- ☐ C406.2 MORE EFFICIENT HVAC PERFORMANCE
- ☐ C406.3 REDUCED LIGHTING POWER DENSITY
- ☐ C406.4 ENHANCED LIGHTING CONTROLS
- ☐ C406.5 ON-SITE RENEWABLE ENERGY
- ☐ C406.6 DOAS PROVISION FOR CERTAIN HVAC
- ☐ C406.7 HIGH ENERGY SERVICE WATER HEATING
-
- ☐ COMPLIANCE PER CHAPTER 4 NATIONAL CAROLINA ENERGY CONSERVATION CODE – SECTIONS C405.2, C405.3, C406, C408.2, C408.3, C409 and C407 TOTAL BUILDING PERFORMANCE. THE ENERGY CODE SHALL BE EQUAL TO OR LESS THAN 85 PERCENT OF THE STANDARD REFERENCE DESIGN BUILDING.
- ☐ COMPLIANCE PER ANSI/ASHRAE/IESNA 90.1–2013.
- ☐ COMPLIANCE PER NATIONAL CAROLINA SPECIFIC COMMECKOR OR ASHRAE 90.1–2013 COMMECKOR.

CLIMATE ZONE 3A

EXTERIOR DESIGN CONDITIONS
winter dry bulb: 26°F
summer dry bulb: 92°F DB/76°F WB

INTERIOR DESIGN CONDITIONS:
winter dry bulb: 72°F
summer dry bulb: 72°F
relative humidity: 50%

BUILDING HEATING LOAD: BASED ON EXISTING EQUIPMENT FOR REPLACEMENT- IT SPACE ONLY

BUILDING COOLING LOAD: BASED ON EXISTING EQUIPMENT FOR REPLACEMENT - IT SPACE ONLY

MECHANICAL SPACING CONDITIONING SYSTEM

Unitary:
description of unit:
heating efficiency:
cooling efficiency:
heat output of unit:
cooling output of unit:

} SEE SCHEDULES ON THIS SHEET


Boiler: N/A
total boiler output. If oversized, state reason.
Chiller: N/A
total chiller capacity. If oversized, state reason.

LIST EQUIPMENT EFFICIENCIES: SEE SCHEDULES ON THIS SHEET
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)

motor horsepower: }
number of phases: } SEE SCHEDULES ON THIS SHEET
minimum efficiency: }
motor type: }
of poles: }

DESIGNER STATEMENT

To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the North Carolina Energy Conservation Code.

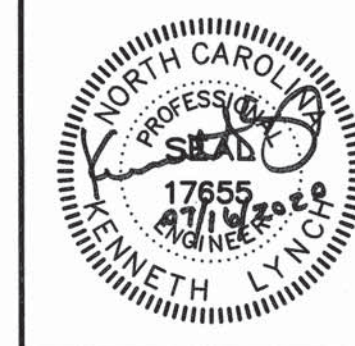
SIGNED: 
NAME: Kenneth Lynch, P.E.
TITLE: Professional Engineer

MARITIME BUILDING - REPLACE IT HVAC SYSTEM

NSCO ID# 18-19916-01A
 NCSPA CONTRACT NO. C-1189(W)
 NCSPA PROJECT NO. 10438

PORT OF WILMINGTON
WILMINGTON, NORTH CAROLINA

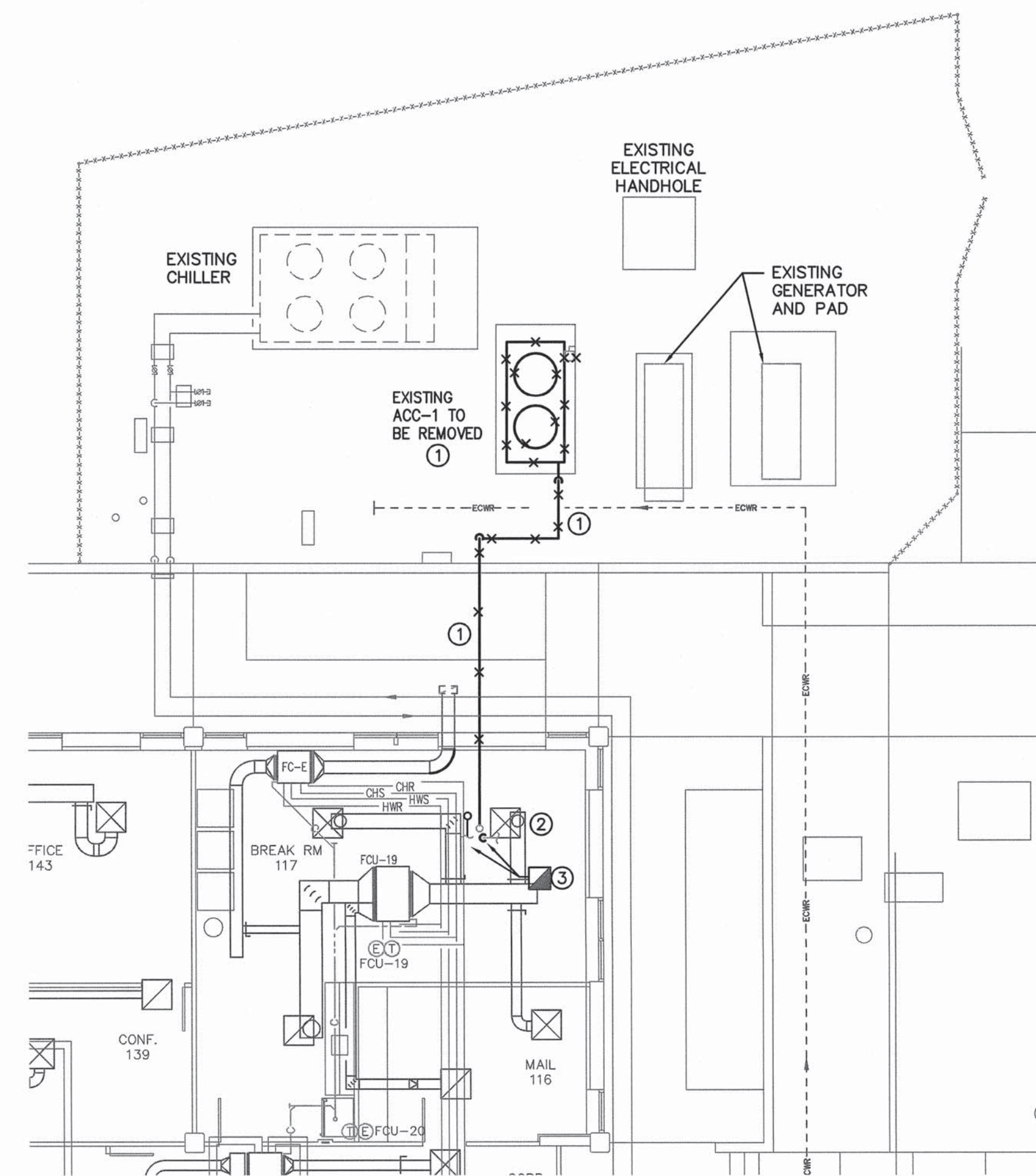
THE CHEATHAM AND ASSOCIATES, P.A.



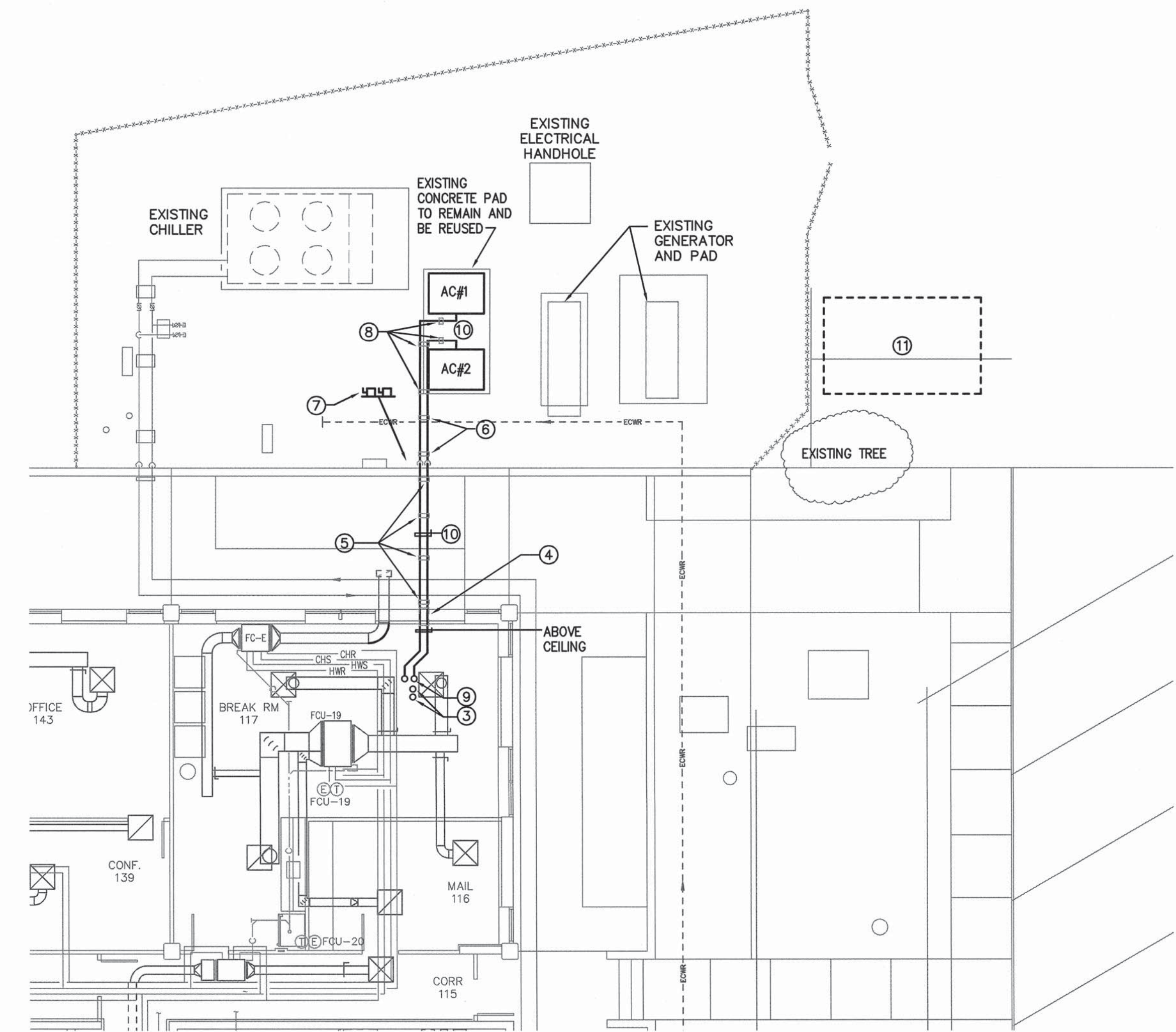
DESIGNED BY	KI
DRAWN BY	NA
CHECKED BY	KI
JOB NUMBER	17
SHEET	

MO.01

OF	8
DATE	JULY 10, 2020



1 PARTIAL MECHANICAL FIRST FLOOR PLAN – DEMOLITION
M1.01 SCALE: 1/8" = 1'-0"



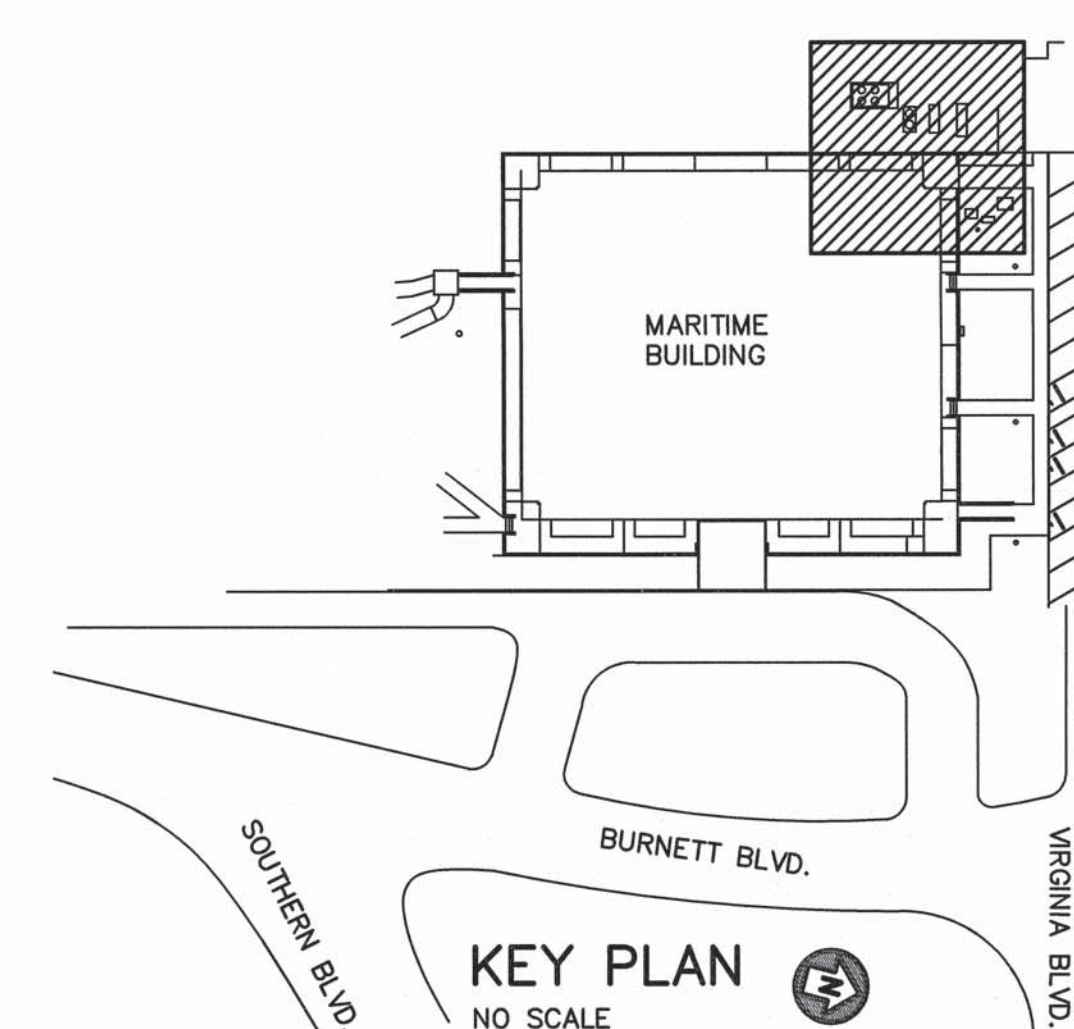
2 PARTIAL MECHANICAL FIRST FLOOR PLAN – RENOVATION
M1.01 SCALE: 1/8" = 1'-0"

KEYED NOTES: (THIS SHEET ONLY)

- ① REMOVE EXISTING ACC-1, REFRIGERANT PIPING, ELECTRICAL DISCONNECT AND ALL SUPPORTS. CONCRETE PAD TO REMAIN AND BE REUSED. RECOVER REFRIGERANT AS SPECIFIED IN APPROVED CYLINDERS AND PROPERLY DISPOSE OF.
- ② EXISTING REFRIGERANT PIPING TO BE REMOVED UP THROUGH THE FLOOR AND UP TO UNIT ON SECOND FLOOR. EXISTING FLOOR OPENINGS TO BE REUSED AS NECESSARY FOR THE NEW SYSTEM. SEE 3/M1.02 FOR NEW WORK.
- ③ CONDENSATE AND WATER PIPING TO REMAIN AND BE REUSED. FIELD VERIFY EXACT SIZE AND LOCATION.
- ④ PIPING THROUGH EXISTING WALL OPENING, EXPAND OPENING AS REQUIRED AND SEAL AROUND PIPING AIRTIGHT.
- ⑤ SUPPORT REFRIGERANT PIPING ON EXISTING OVERHEAD STRUT CHANNEL SUPPORT SYSTEM, PROVIDE CROSS BRACING AS REQUIRED FOR NEW PIPING.
- ⑥ PROVIDE SUPPORTS FROM THE GROUND FOR REFRIGERANT PIPING, MAXIMUM 36" OC.
- ⑦ MOUNT DISCONNECT ON STRUT CHANNEL SYSTEM, EXPAND SUPPORT SYSTEM AS NECESSARY.
- ⑧ EXISTING CONCRETE PAD TO REMAIN AND BE REUSED.
- ⑨ REFRIGERANT PIPING UP TO SECOND FLOOR, EXPAND OPENINGS AS REQUIRED FOR REFRIGERANT PIPING AND CORE DRILL ANY NEW OPENINGS AS REQUIRED FOR PIPING. PIPING INSULATION SHALL BE CONTINUOUS THROUGH OPENING. FIRE STOP PIPING PENETRATIONS THROUGH FLOOR ABOVE AS SPECIFIED.
- ⑩ INSULATE EXTERIOR PIPING AND COVER WITH PROTECTIVE ALUMINUM JACKET AS SPECIFIED.
- ⑪ LOCATION FOR TEMPORARY HVAC UNIT(S) FOR IT ROOM DURING CONSTRUCTION – PROVIDE STAND ALONE POWER SUPPLY FOR UNIT(S). ROUTE FLEXIBLE DUCTS FROM UNIT(S) TO WINDOW INFILL LOCATIONS AS SHOWN ON PLAN 2/M1.02. DUCT ROUTE SHALL NOT INTERFERE WITH STAFF WALKWAYS, DOORS, ETC.

TEMPORARY HVAC UNIT(S) REQUIREMENTS

1. UNIT(S) SHALL BE PROVIDED BY AND MAINTAINED BY THE CONTRACTOR.
 2. UNIT(S) SHALL BE LOCATED ON THE GROUND.
 3. UNIT(S) SHALL INCLUDE ITS OWN POWER SUPPLY. UNIT(S) SHALL NOT BE CONNECTED TO BUILDING'S POWER SUPPLY.
 4. UNIT(S) SHALL MAINTAIN COMPUTER ROOM AT 68 TO 72 DEGREE F DB AND 50% RH DURING THE EXISTING CRAC UNIT REPLACEMENTS UNTIL BOTH CRAC UNITS ARE COMPLETELY FUNCTIONAL.
 5. UNIT(S) SHALL HAVE MINIMUM COOLING, HEATING, DEHUMIDIFICATION, AND HUMIDIFICATION CAPACITIES AS CRAC UNITS.
 6. UNIT(S) SHALL HAVE STANDBY BACKUP CAPACITIES. OTHERWISE PROVIDE SEPARATE STANDBY UNIT AND DUCTED INTO THE COMPUTER ROOM.
 7. UNIT(S) SHALL BE CONNECTED TO COMPUTER ROOM'S CLEAN AGENT FIRE SUPPRESSION SYSTEM FOR SHUTDOWN. SEE ELECTRICAL DRAWINGS FOR INTERFACE TO SUPPRESSION SYSTEM.
 8. UNIT(S) SHALL INCLUDE DUCTING FROM UNIT INTO THE COMPUTER ROOM TO WINDOW INFILL LOCATIONS.
 9. DUCT ROUTES SHALL NOT INTERFERE WITH STAFF WALK PATHS, DOORS, ETC.
10. WHEN WORK INSIDE THE COMPUTER ROOM REQUIRES THE RACKS TO BE COVERED WITH PROTECTION IN ADDITION TO CONDITIONING THE COMPUTER ROOM, ADDITIONAL DUCTS SHALL BE EXTENDED FROM THE WINDOW INFILL LOCATIONS TO ALSO CONDITION INSIDE THE RACKS' PROTECTIVE COVERINGS.
11. COST OF TEMPORARY UNIT(S) AND THEIR OPERATION SHALL BE INCLUDED IN THE CONTRACTOR'S BID.



△ CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS

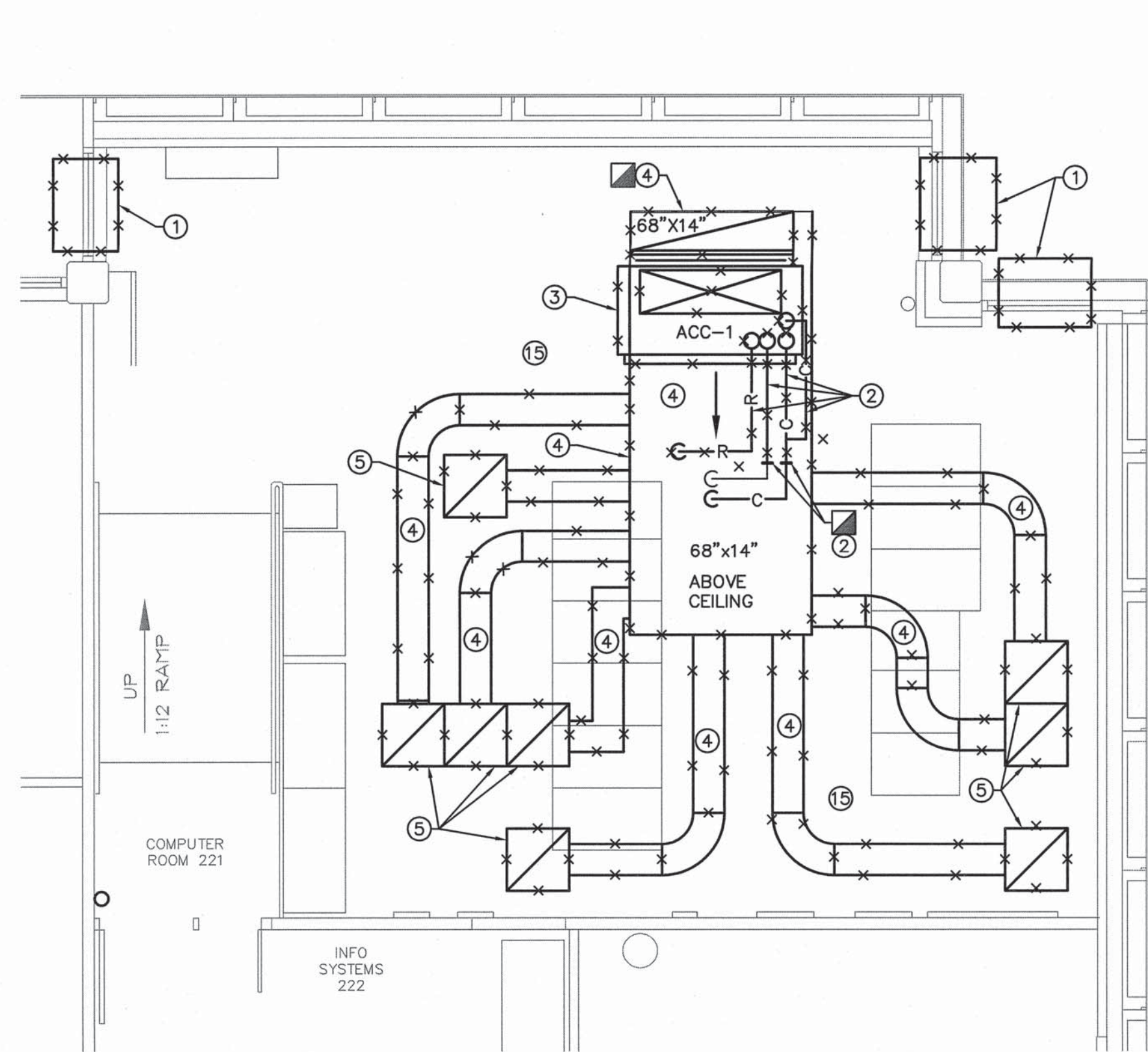
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
PH: (910)452-4210 FAX: (910)452-4211
E-MAIL: office@chealthampa.com
NC LICENSE #C-1073



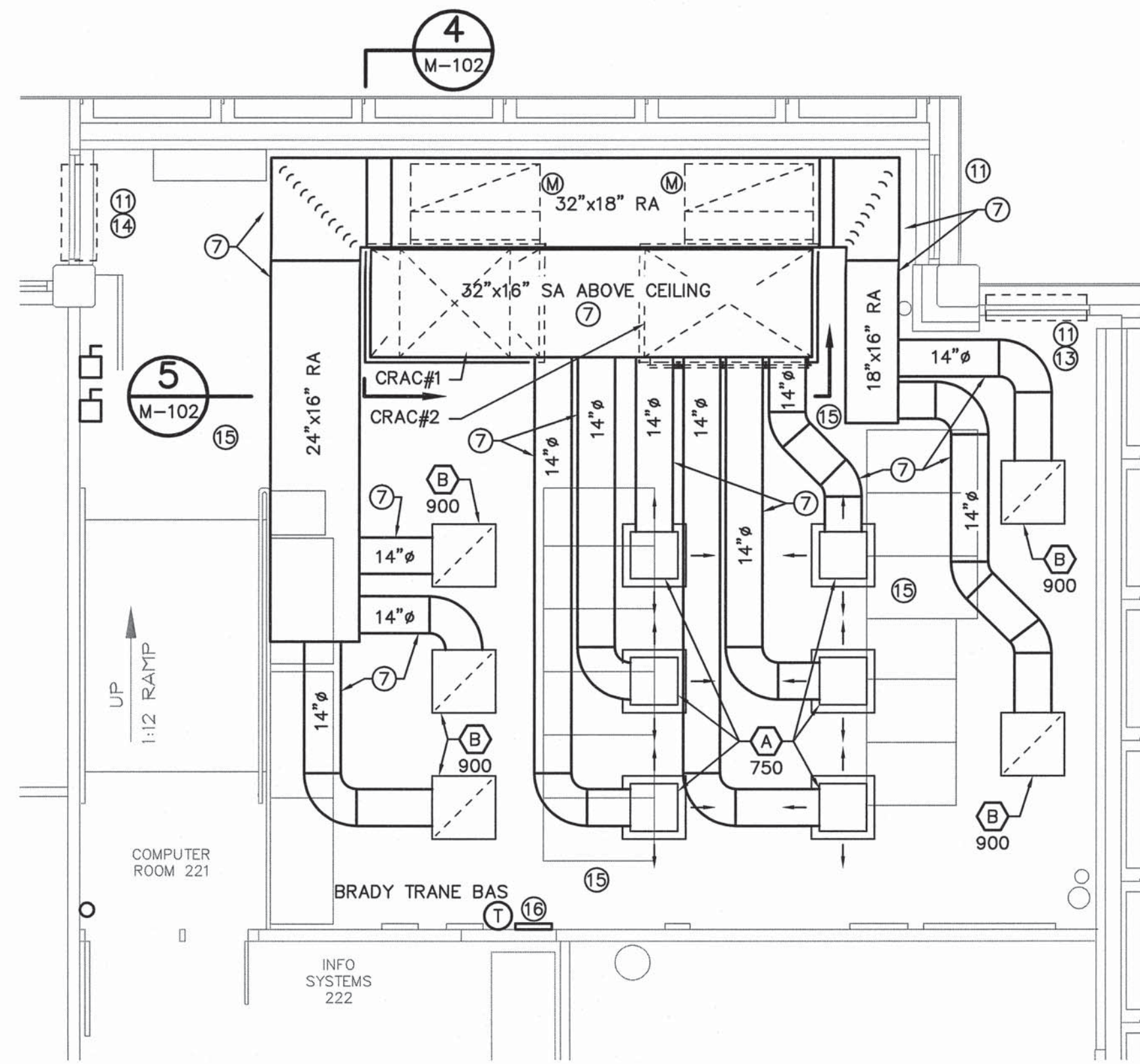
SIGNED BY	KL
DRAWN BY	NAH
CHECKED BY	KL
WAVE NUMBER	17.88

M1.01

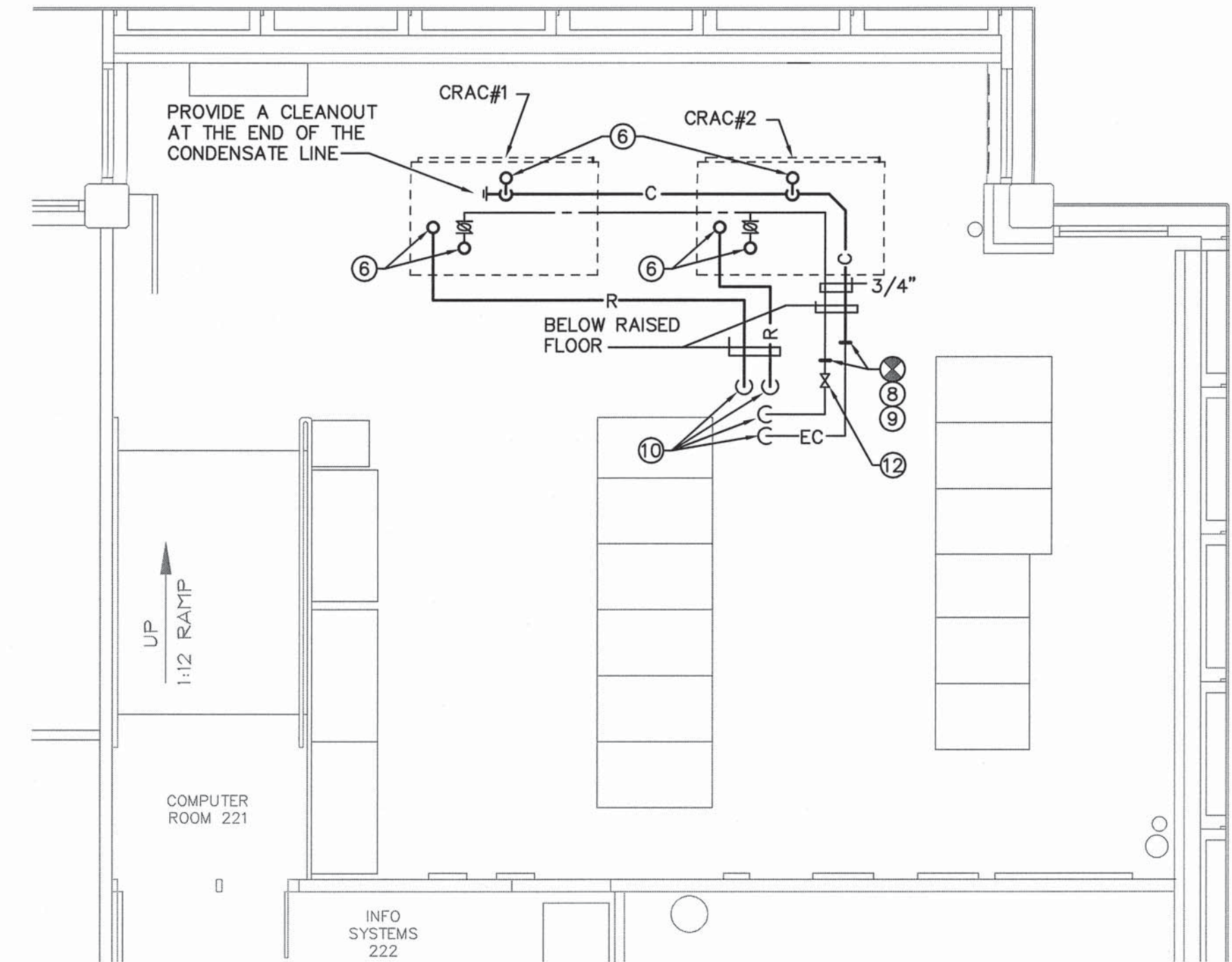
8
JULY 10, 2020



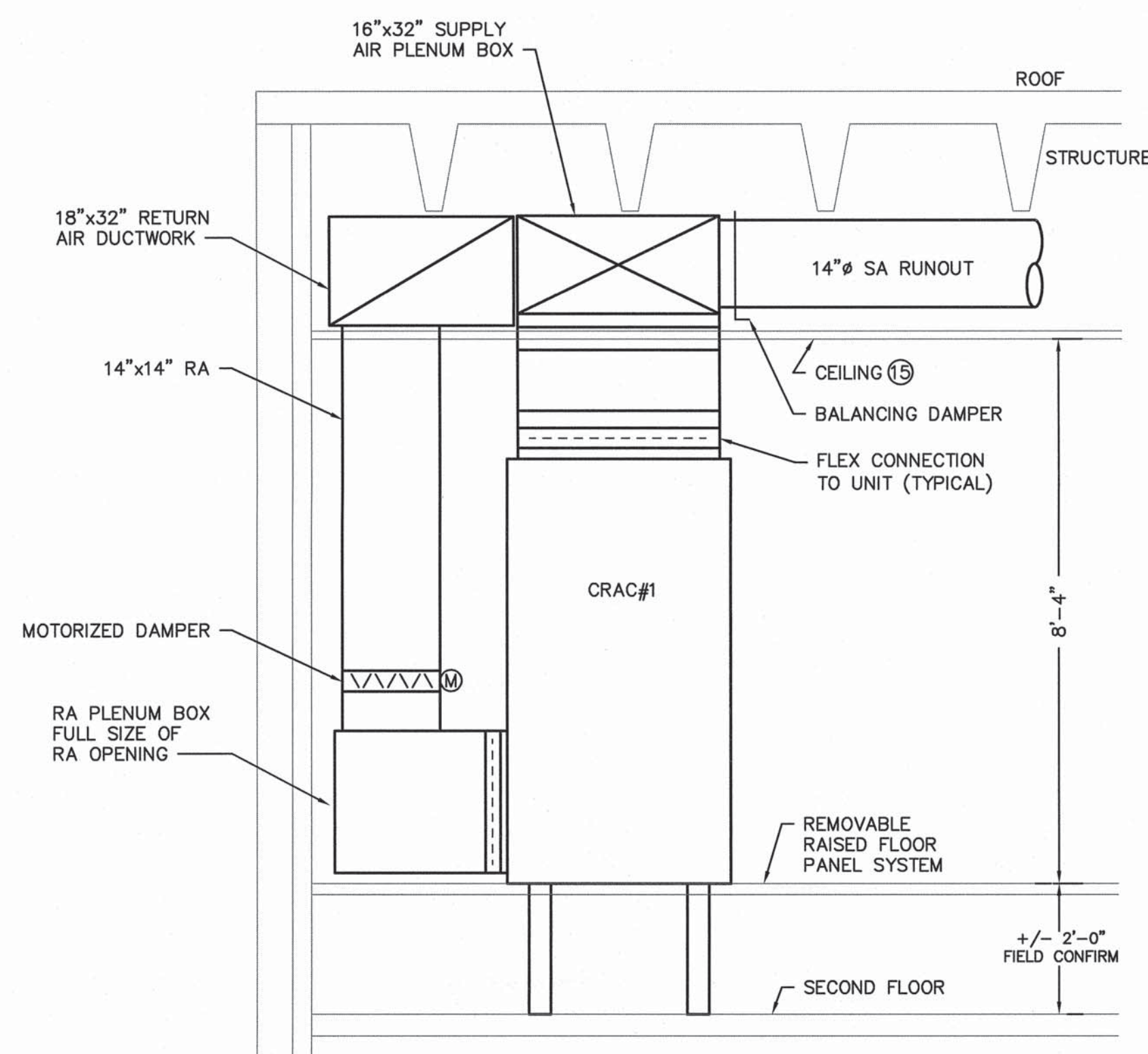
1 PARTIAL MECHANICAL SECOND FLOOR PLAN – DEMOLITION
SCALE: 1/4" = 1'-0"



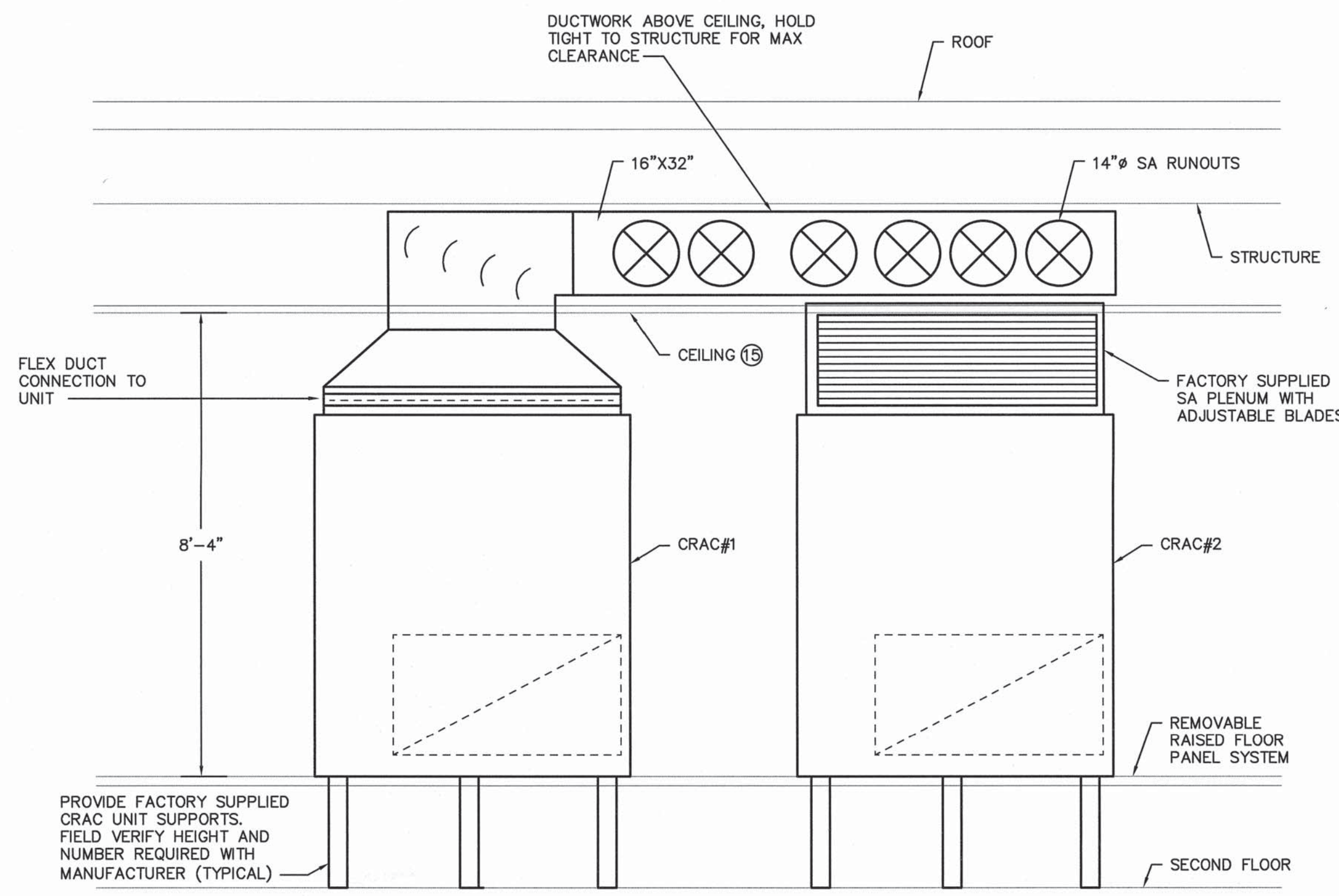
2 PARTIAL MECHANICAL SECOND FLOOR PLAN – RENOVATION
SCALE: 1/4" = 1'-0"



3 PARTIAL MECHANICAL UNDER SECOND FLOOR PLAN – RENOVATION
SCALE: 1/4" = 1'-0"



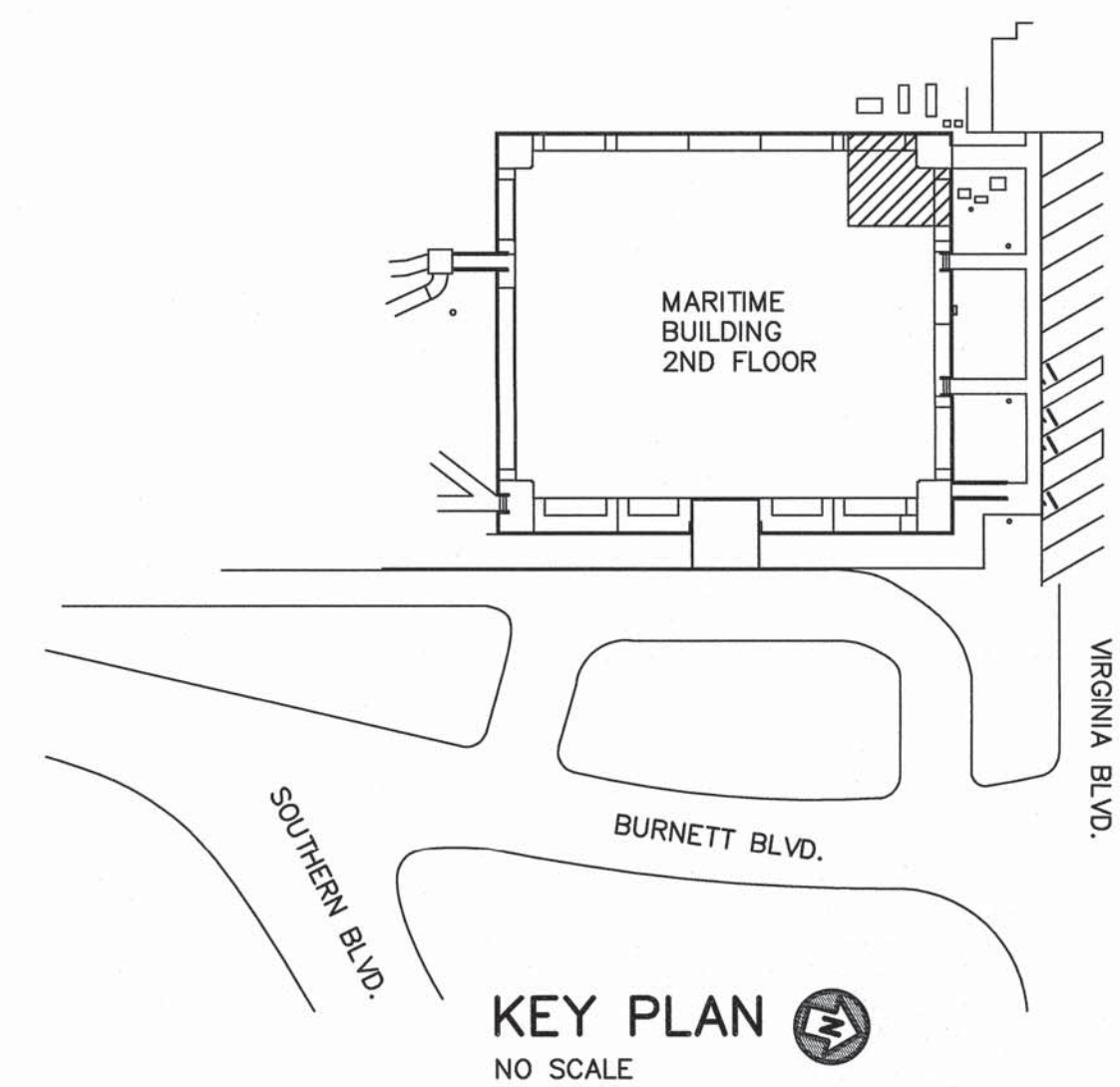
4 SECTION
SCALE: 1/2" = 1'-0"



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

KEYED NOTES: (THIS SHEET ONLY)

- 1 EXISTING THRU THE WALL AIR CONDITIONING UNITS TO BE REMOVED. DO NOT USE WALL A/C UNITS FOR SUPPLEMENTAL COOLING DURING CRAC UNIT REPLACEMENT. WINDOWS TO BE USED FOR DUCTED TEMPORARY A/C FROM A TEMPORARY UNIT MOUNTED OUTSIDE ON THE GROUND, SEE 2/M1.01.
- 2 EXISTING CONDENSATE PIPING, WATER PIPING AND REFRIGERANT BELOW RAISED FLOOR TO BE DEMOLITIONED AS SHOWN.
- 3 EXISTING ACC-1 COMPUTER ROOM UNIT TO BE REMOVED.
- 4 REMOVE RETURN AIR DUCTWORK AND HANGERS.
- 5 RETURN AIR GRILLES TO BE REMOVED. REMOVE HANGERS AND STRAPS.
- 6 CONNECT NEW REFRIGERANT PIPING, CONDENSATE AND COLD WATER PIPING TO UNIT. FIELD VERIFY EXACT SIZE AND LOCATION. PROVIDE ISOLATION BALL VALVE AND STRAINER IN WATER PIPING TO EACH UNIT.
- 7 DUCTWORK ABOVE CEILING.
- 8 CONNECT NEW WATER MAKE-UP TO EXISTING. FIELD VERIFY EXACT SIZE AND LOCATION.
- 9 CONNECT NEW CONDENSATE TO EXISTING. FIELD VERIFY EXACT SIZE AND LOCATION.
- 10 REUSE EXISTING FLOOR OPENING FOR REFRIGERANT PIPING TO CRAC#1. PROVIDE NEW FLOOR OPENING(S) FOR REFRIGERANT PIPING TO CRAC#2. FIELD VERIFY EXACT SIZE AND LOCATIONS AND ENLARGE AS NECESSARY. FIRE STOP ALL PIPING FLOOR PENETRATIONS.
- 11 SEE ARCH DRAWING A1.01 FOR WINDOW INFILL INFORMATION.
- 12 EXISTING SHUT-OFF WATER VALVE TO REMAIN. FIELD VERIFY EXACT SIZE AND LOCATION.
- 13 USE EXISTING WINDOW AREA FOR TEMPORARY A/C COOLING SUPPLY AIR TO THE ROOM.
- 14 USE EXISTING WINDOW AREA FOR TEMPORARY A/C COOLING RETURN AIR FROM THE ROOM.
- 15 REMOVE, PROTECT AND REINSTALL CEILING GRID AND TILES AS NECESSARY FOR REMOVAL AND INSTALLATION OF NEW DUCTWORK. REPLACE ANY DAMAGED CEILING GRID AND CEILING TILES TO MATCH EXISTING.
- 16 CRAC SYSTEM REMOTE PANEL.



REVISION	
DATE	DESCRIPTION

MARITIME BUILDING - REPLACE IT HVAC SYSTEM

PORT OF WILMINGTON

WILMINGTON, NORTH CAROLINA

SCO ID# 18-19916-01A

NCSPP CONTRACT NO. C-1188(W)

NCSPP PROJECT NO. 10438

CHEATHAM AND ASSOCIATES, P.A.

CONSULTING ENGINEERS

3412 ENTERPRISE DRIVE

WILMINGTON, NORTH CAROLINA 28405

P: 910.342.4211

E: JAL@cheatham.com

NC LICENSE #C-1073

DESIGNED BY: KL

DRAWN BY: NAH

CHECKED BY: KL

JOB NUMBER: 17.88

SHEET: 8

M1.02

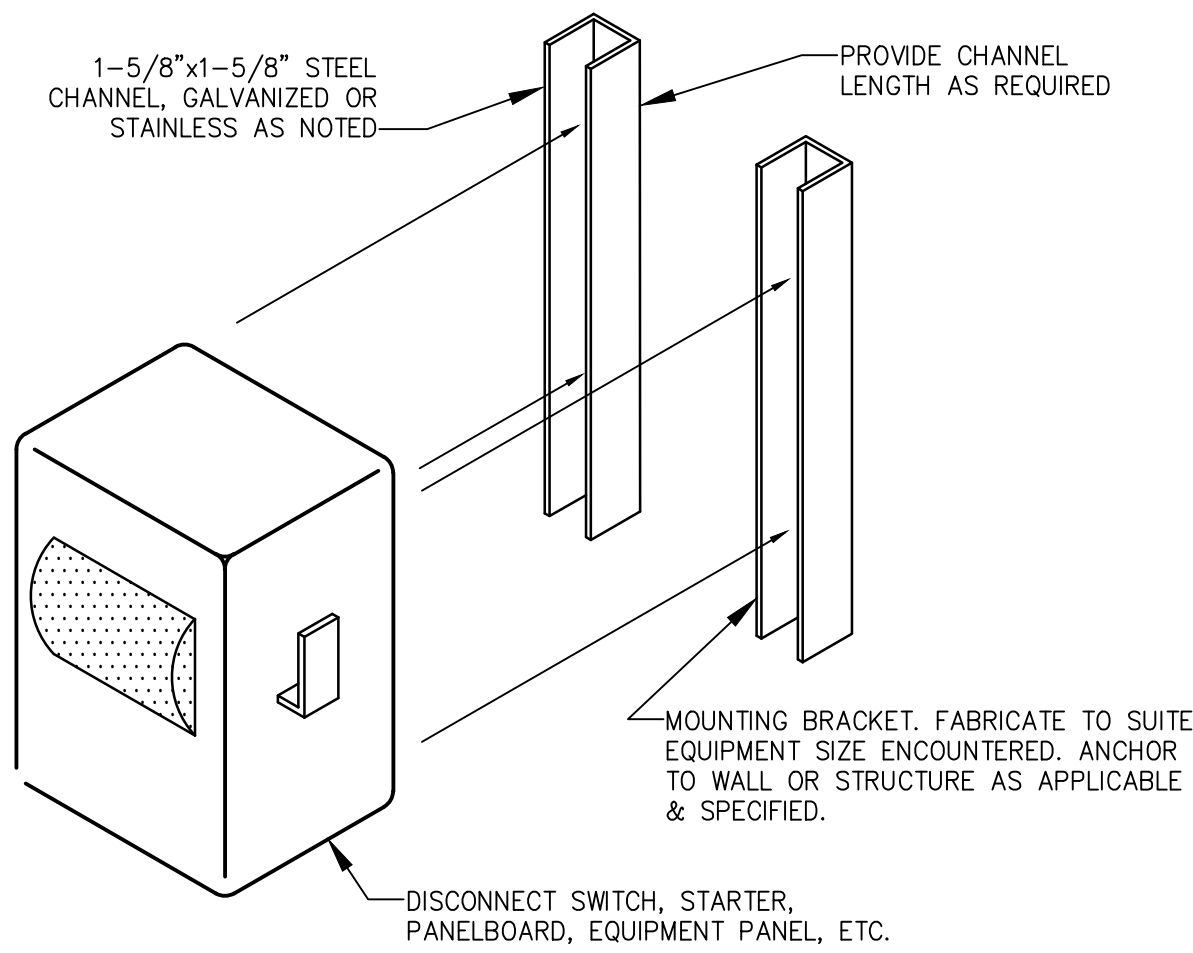
DATE: JULY 10, 2020

ELECTRICAL NOTES

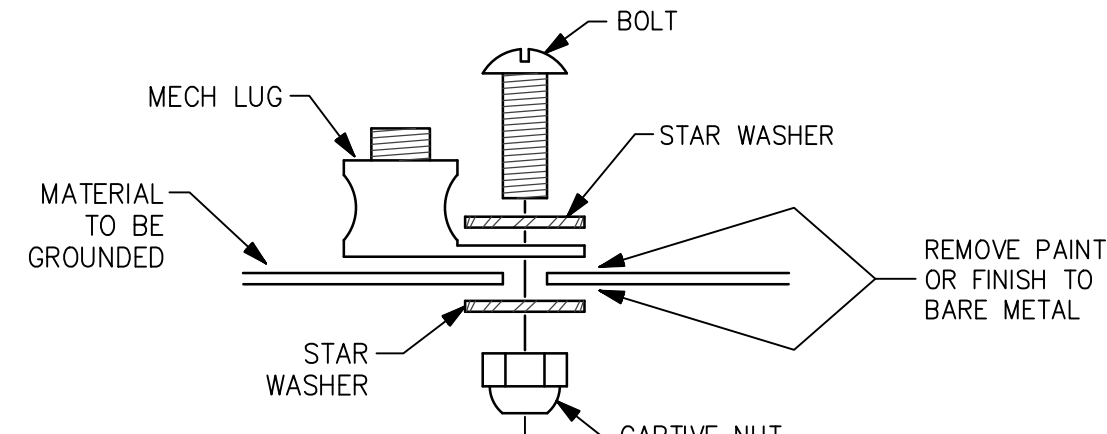
1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
2. THE ELECTRICAL CONTRACTOR AND ANY OF HIS SUBCONTRACTORS SHALL VISIT THE PROJECT SITE TO WITNESS EXISTING CONDITIONS AND BECOME FAMILIAR WITH THE SCOPE OF THE WORK REQUIRED PRIOR TO SUBMITTING PROPOSALS. WORK REQUIRED BY EXISTING JOB CONDITIONS NOT INDICATED ON DRAWINGS SHALL BE INCLUDED IN THE BID.
3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO RESULT IN THE PRODUCTION OF A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND OTHER SERVICES AS NECESSARY TO COMPLETE THE WORK.
4. DISCREPANCIES IN THE DRAWINGS AND SPECIFICATIONS THAT WILL AFFECT THE WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND/OR OWNER PRIOR TO SUBMITTING PROPOSALS.
5. REVIEW PLANS OF OTHER TRADES FOR COORDINATION OF WORK AND FOR RELATED AND ADJOINING WORK.
6. COORDINATE DEVICE AND EQUIPMENT MOUNTING HEIGHTS WITH OTHER DISCIPLINE DRAWINGS, CASEWORK DETAILS & SUBMITTALS, ETC.
7. PENETRATIONS OF FIRE-RATED WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE FIRE STOPPED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT FIRE STOPPING IS COMPLETED.
8. PENETRATIONS OF SMOKE PARTITIONS SHALL BE SEALED IN ACCORDANCE WITH REQUIREMENTS OF THE STATE BUILDING CODE. COORDINATE WORK TO INSURE THAT SMOKE PARTITION SEALING IS COMPLETED.
9. PENETRATIONS OF EXTERIOR BUILDING WALLS, FLOORS, OR ROOFS SHALL BE SEALED WATER-TIGHT. INTERIORS OF RACEWAY PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED WITH NON-HARDENING ELECTRICAL PUTTY.
10. CUTTING AND PATCHING TO INSTALL DEVICES AND EQUIPMENT SHALL BE PERFORMED WITH FINISHES RESTORED TO THEIR ORIGINAL CONDITION. SUCH WORK SHALL BE COMPLETED TO A DEGREE THAT IS ACCEPTABLE TO THE ENGINEER AND/OR OWNER.
11. COORDINATE PRECISE LOCATION OF HVAC EQUIPMENT WITH THE MECHANICAL CONTRACTOR.
12. FOR HVAC EQUIPMENT, VERIFY CIRCUIT BREAKER RATINGS, FUSE RATINGS, AND WIRE SIZES. IF RATINGS DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ENGINEER AND OWNER FOR DIRECTION. PROVIDE OVERCURRENT PROTECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURER NAMEPLATE DATA. IF THE EQUIPMENT LISTING LABEL REQUIRES FUSED PROTECTION, ENSURE THAT FUSES IN A FUSED DISCONNECT SWITCH AT THE EQUIPMENT ARE SIZED AS INDICATED ON THE EQUIPMENT LABEL.
13. VERIFY PROPER SIZING OF OVERLOAD DEVICES IN STARTERS BASED ON EQUIPMENT NAMEPLATE DATA.
14. IF HORSEPOWER OR LOAD RATINGS OF EQUIPMENT DIFFER FROM THOSE INDICATED ON THE DRAWINGS, NOTIFY THE ENGINEER AND OWNER FOR DIRECTION.
15. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
16. NO MOUNTING HARDWARE SHALL BE ATTACHED TO ROOF DECKS. ATTACHMENTS SHALL BE MADE TO THE ROOF SUPPORTING STRUCTURE.
17. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; PROTECT AND MAINTAIN IN OPERATION EXISTING LIFE SAFETY SYSTEMS, PUBLIC ADDRESS SYSTEMS, ELECTRICAL SYSTEMS, ETC. WHEN SHUTDOWNS ARE REQUIRED, NOTIFY THE ENGINEER AND OWNER FOR COORDINATION WELL IN ADVANCE OF ANY SYSTEM SHUTDOWN. WHERE AN OUTAGE OF EXTENDED DURATION IS NOT ACCEPTABLE TO THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
18. ONE SHUTDOWN FOR ATS REPLACEMENT WILL REQUIRE SIGNIFICANT COORDINATION WITH THE OWNER FOR DURATION AND ACCEPTABLE SCHEDULE. THIS IS NOT A WHOLE-BUILDING OUTAGE, BUT IT DOES AFFECT ALL IT FUNCTIONALITY.
19. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; WORK MAY BE REQUIRED TO BE PERFORMED WHILE REMAINING OCCUPIED BY OWNER STAFF. WORK SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION TO THE OWNER.
20. WHERE WORKING IN EXISTING BUILDINGS, FACILITIES, OR STRUCTURES; EXISTING ABANDONED CIRCUITS USED TO CONNECT NEW LOADS IN THE SAME AREA SHALL BE CLEARLY IDENTIFIED ON AS-BUILT MARK-UP DRAWINGS WITH REGARD TO PANEL-CIRCUIT AND CIRCUITRY ROUTING CONFIGURATION.
21. ABANDONED CIRCUITRY (RACEWAY & CONDUCTORS) SHALL BE REMOVED IN ITS ENTIRETY FROM ITS SOURCE. ABANDONED LOW VOLTAGE CABLING SHALL BE REMOVED IN ITS ENTIRETY UNLESS OTHERWISE NOTED.
22. PANEL BREAKER CONFIGURATIONS SHALL BE INSTALLED AS INDICATED ON THE PANEL SCHEDULES OR AS NOTED. BREAKER POSITION REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.
23. LOAD CIRCUITS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. CIRCUITRY REVISIONS WILL NOT BE ACCEPTED UNLESS APPROVED IN WRITING BY THE ENGINEER.

ABBREVIATIONS

A	AMPERES
AC	AIR CONDITIONING
ADA	AMERICAN DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPABILITY
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
C	CONDUIT
C/B	CIRCUIT BREAKER
CLG	CEILING
CKT	CIRCUIT
CRAC	COMPUTER ROOM AIR CONDITIONER
CU	COPPER
DIA	DIAMETER
DWG	DRAWING
ENCL	ENCLOSED
EXSTG	EXISTING
G	EQUIPMENT GROUND
GENSET	GENERATOR
HP	HORSEPOWER
K	KILO (THOUSAND)
LTG	LIGHTING
LTS	LIGHTS
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
N	NEUTRAL
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NAT. ELECT. MANUFACTURERS ASSOC.
NTS	NOT TO SCALE
P	PHASE OR POLE
PH	PHASE
PNL	PANEL
REC	RECEPTACLE
RECP	RECEPTACLE
REQ.	REQUIRED
S.S.	STAINLESS STEEL
SYS	SYSTEM
S/N	SOLID NEUTRAL
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UNO	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
W	WATTS
W	WIRE
W/	WITH
WP	WEATHERPROOF



EQUIPMENT MOUNTING DETAIL
NO SCALE



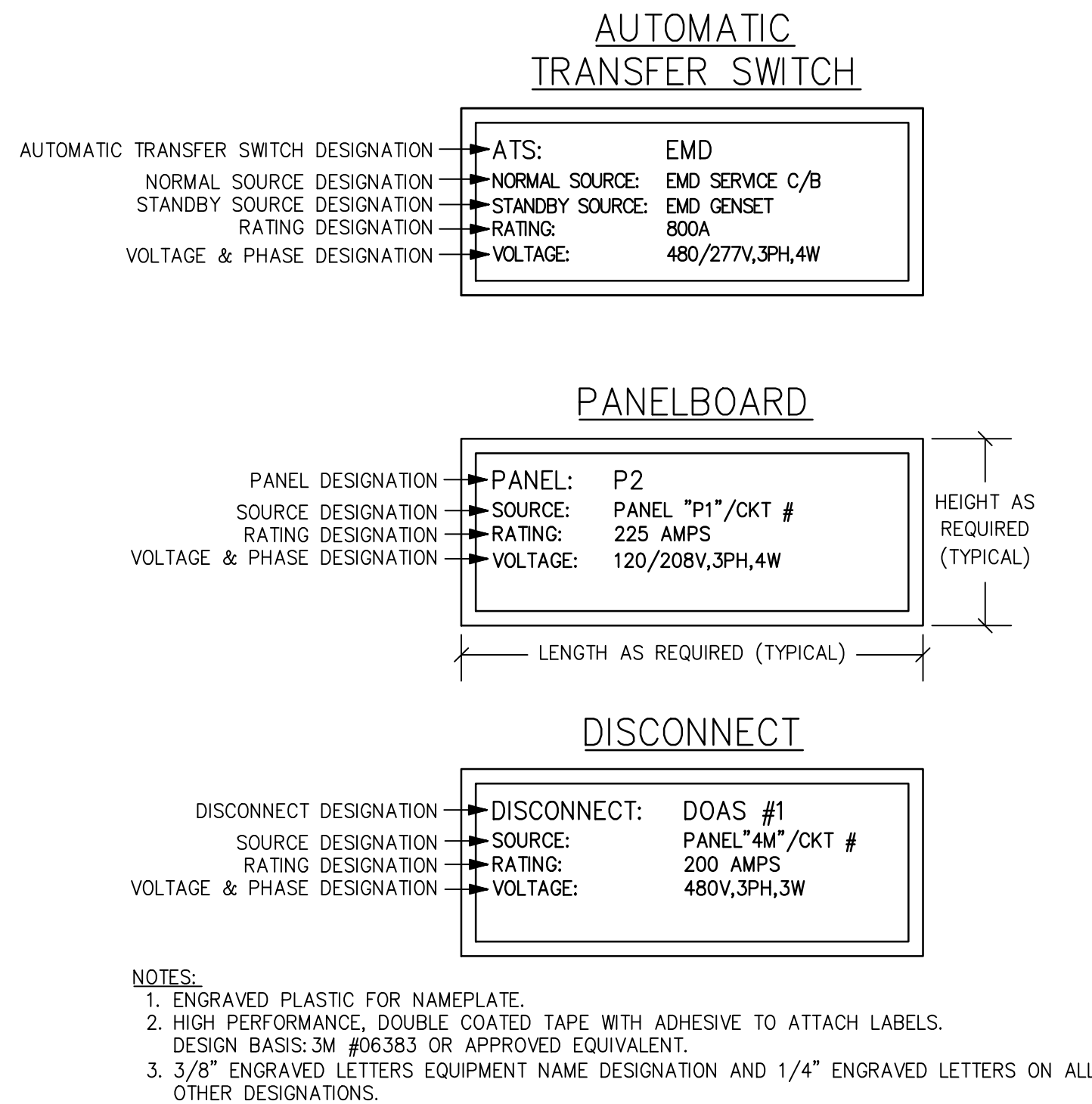
GROUNDING LUG DETAIL
NO SCALE

CS

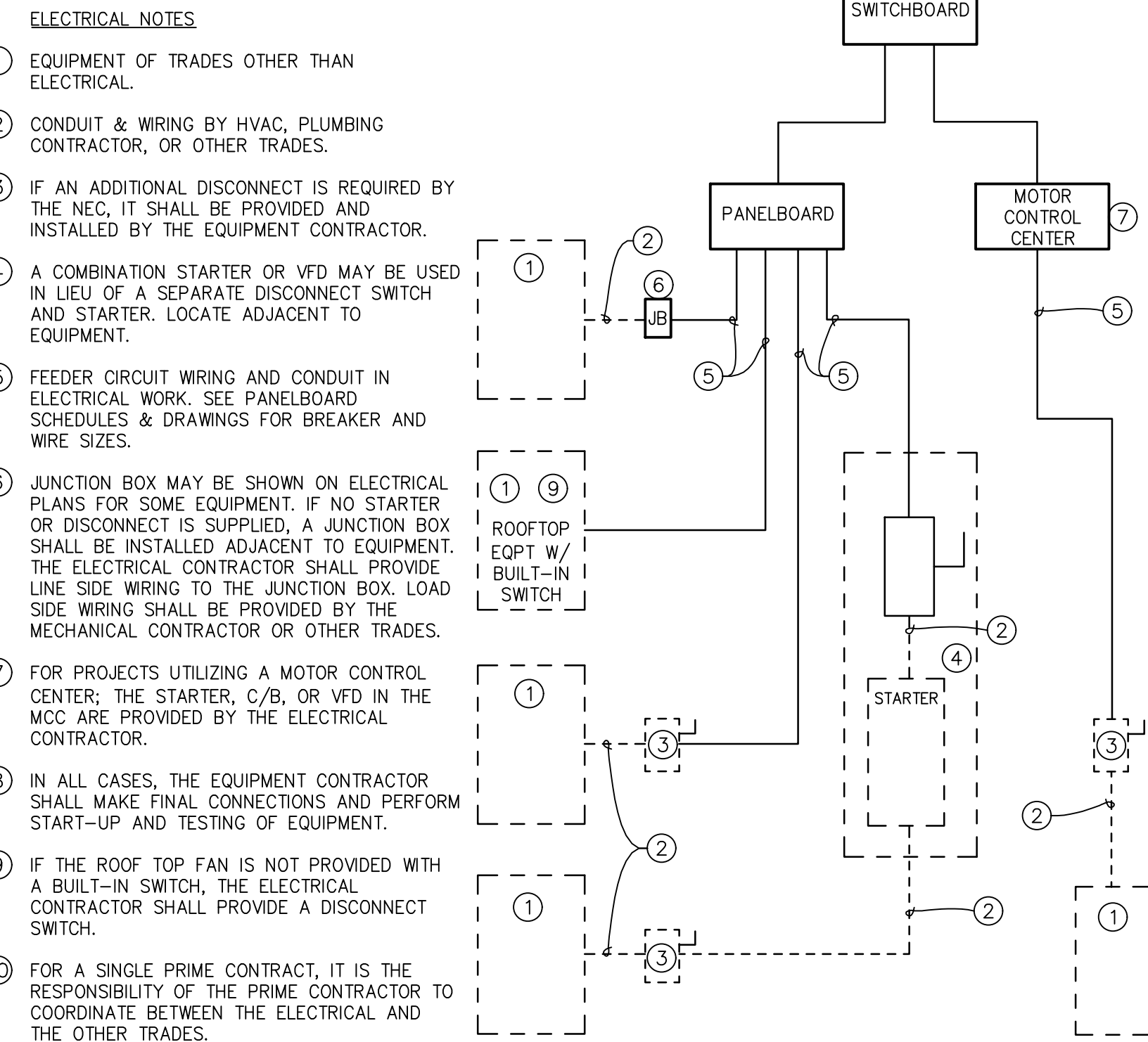
ROOM: ELEC RM			VOLTS: 208Y/120V 3P 4W			AIC: 22,000					
MOUNTING: SURFACE			BUS AMPS: 600			MAIN BKR: MLO					
FED FROM: ATS			NEUTRAL: 100%			LUGS: STANDARD					
NOTE:											
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	125/3	CRAC#1	13.2			2	125/3	CRAC#2	13.2		
3				13.2		4					
5					13.2	6					13.2
7	20/2	(*) ELEC. RM HVAC	1.5			8	20/1	SPARE	0		
9				1.5		10	20/1	SPARE		0	
11	20/1	(*) CHILLER CONTROL PANEL			1	12	20/1	SPARE			0
13	20/1	(*) 120V LOAD	1			14	150/3	(*) UPS	13.3		
15	100/2	(*) PANEL CS1	6.65			16			13.3		
17				6.65		18					13.3
19	100/3	SPARE	0			20	100/3	SPARE	0		
21				0		22			0	0	
23					0	24					0
25	-/1	SPACE	0			26	-/1	SPACE	0		
27	-/1	SPACE	0	0		28	-/1	SPACE	0	0	
29	-/1	SPACE			0	30	-/1	SPACE			0
31	-/1	SPACE	0			32	-/1	SPACE	0	0	
33	-/1	SPACE			0	34	-/1	SPACE			0
35	-/1	SPACE			0	36	-/1	SPACE			0
37	15/3	AC#1	0.6			38	15/3	AC#2	0.6		
39				0.6		40				0.6	
41					0.6	42					0.6
TOTAL CONNECTED KVA BY PHASE									43.5	49.2	48.7
TOTAL CONNECTED AMPS BY PHASE									362	410	406
CONN KVA			CALC KVA			CONN KVA			CALC KVA		
LARGEST MOTOR			3	0.75	(25%)	NONCONJUNJIOUS			1	1	(100%)
MOTORS			41.5	41.5	(100%)	COOLING			3	3	(100%)
						DIVERSE			95.8	39.4	(41%)
						TOTAL LOAD				85.6	
						BALANCED 3-PHASE AMPS				238	
(*) RECONNECT EXISTING CONDUCTORS											

MISC. ELECTRICAL SYMBOL LEGEND	
	EQUIPMENT CONNECTION
	SAFETY SWITCH DISCONNECT, HEAVY-DUTY, FUSED AT NAMEPLATE RATING OF EQUIPMENT SERVED, NEMA 1 INSIDE, NEMA 4X OUTSIDE (UNO), AMPERAGE AS INDICATED OR BASED ON SUPPLY CIRCUIT BREAKER RATING.
	JUNCTION BOX. SIZE PER THE NEC.
HOMERUN DESIGNATION, #12 CONDUCTORS UNLESS NOTED OTHERWISE.	
	EQUIPMENT GROUND CONDUCTOR
	PHASE CONDUCTOR
	NEUTRAL CONDUCTOR
LETTER INDICATES ELEVATION OR DETAIL; NUMBER INDICATES PLAN OR SECTION	
	SHEET NUMBER WHERE PLAN, SECTION, ELEVATION OR DETAIL IS DRAWN

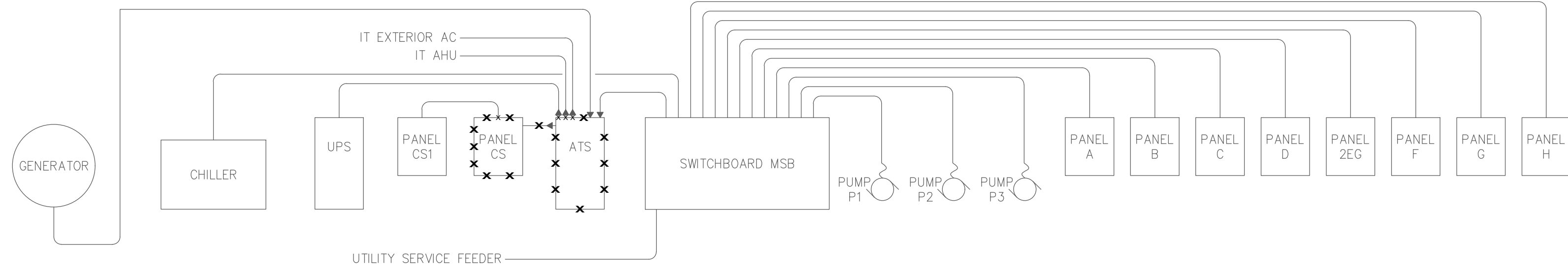
LOAD SUMMARY FOR EXISTING 1200A MDP		
EXISTING SERVICE		MARITIME BUILDING
12 Month Recorded Peak Demand	164.0	kW
25% Additional Load (NEC 220.87)	41.0	kW
Total	205.0	kW
Estimated Power Factor	85%	
Sub Total	241.2	kVA
New HVAC Equipment Load	83.0	kVA
Other New Connected Load	0.0	kVA
Total Load (kVA)	324.2	kVA
Service Voltage	208	Volts
Amps @ Service Voltage	899.8	Amps



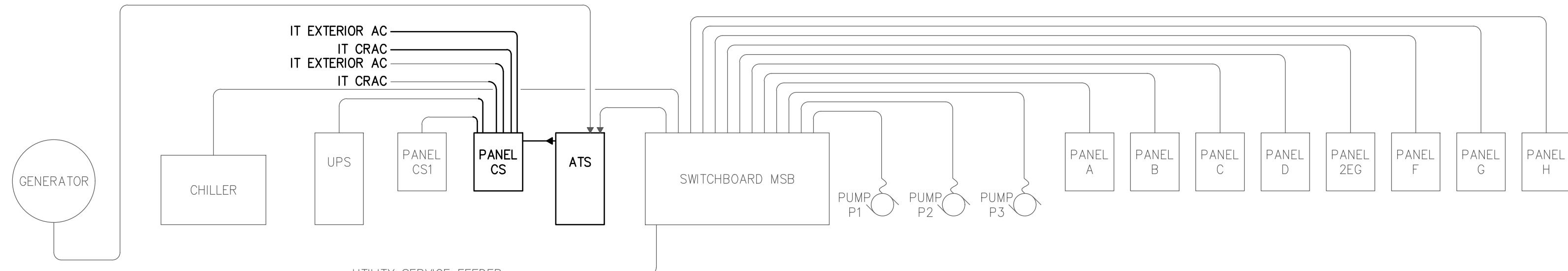
TYPICAL NAMEPLATE DETAILS
NO SCALE



ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT
NO SCALE



EXISTING POWER RISER BLOCK DIAGRAM (FOR REFERENCE)
NO SCALE



PROPOSED POWER RISER BLOCK DIAGRAM (FOR REFERENCE)
NO SCALE

MARITIME BUILDING - REPLACE IT HVAC SYSTEM
PORT OF WILMINGTON
WILMINGTON, NORTH CAROLINA

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
P: 910.342.4211
F: 910.342.4211
E: info@cheatham.com
NC LICENSE #C-1073



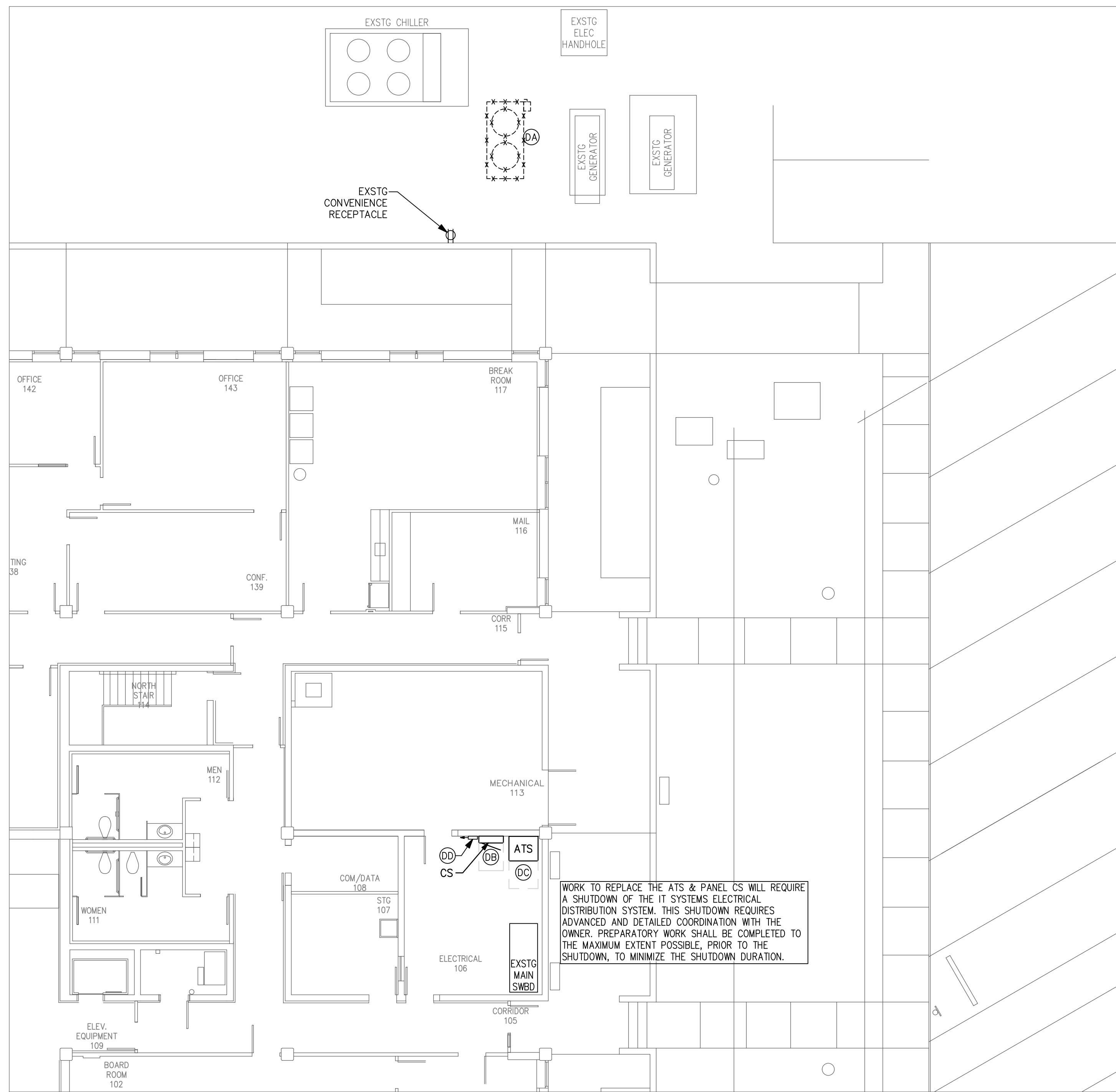
DESIGNED BY: MARK CIARRROCCA
DRAWN BY: MIKE STAUBLIN
CHECKED BY: MARK CIARRROCCA
JOB NUMBER: 17.88

SHEET

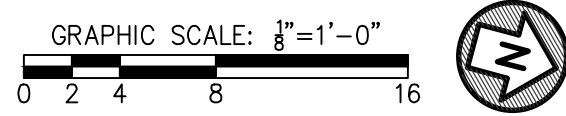
E0.01

DATE: JULY 10, 2020

SCO ID# 18-19916-01A
NCSPA CONTRACT NO. C-1188(W)
NCSPA PROJECT NO. 10438

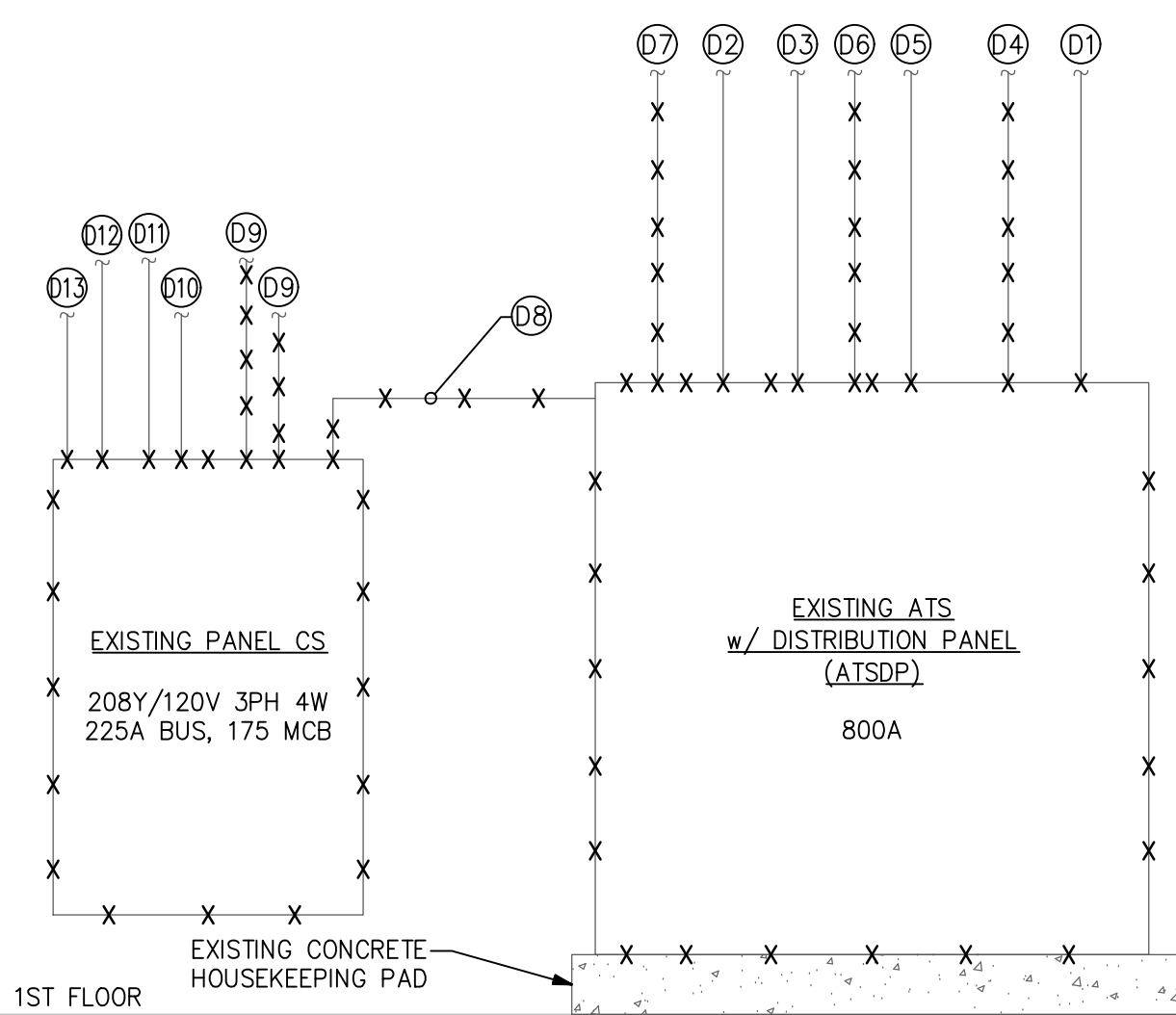


1 ELECTRICAL DEMOLITION PLAN - 1ST FLOOR
SCALE: 1/8" = 1'-0"



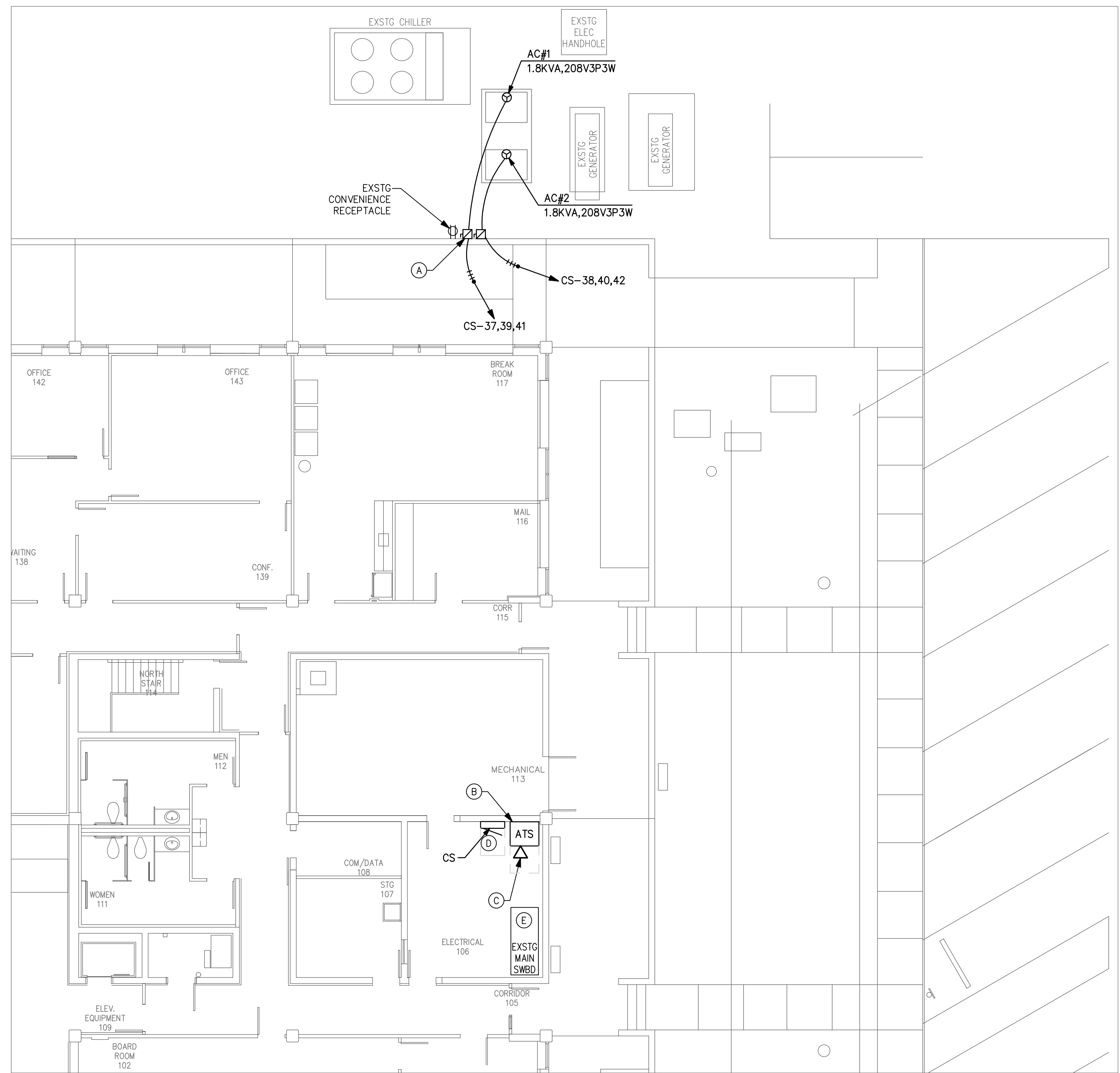
DEMOLITION PLAN KEYED NOTES:

- 10A DISCONNECT AIR CONDITIONING UNIT. THE UNIT IS SUPPLIED WITH A 208V, 3PH, 30A FEEDER FROM ATS DISTRIBUTION PANEL IN THE 1ST FLOOR ELECTRICAL ROOM. EXISTING FEEDER MAY BE RE-USED, BUT IT MUST BE REWORKED TO A NEW LOCAL SAFETY SWITCH DISCONNECT (SEE PLAN 2/E1.01).
- 10B EXISTING PANEL CS TO BE REMOVED. SEE NEW WORK PLANS & RISERS FOR THE EXISTING CIRCUITRY TO BE REWORKED THAT IS CURRENTLY SUPPLIED OUT OF THE EXISTING ATSS DISTRIBUTION PANEL.
- 10C EXISTING ATS & INTEGRAL DISTRIBUTION PANEL (ATSDP) TO BE REMOVED. EXISTING NORMAL AND GENERATOR FEEDERS TO REMAIN & BE RECONNECTED IN NEW WORK PHASE.
- 10D EXISTING CHILLER CONTROL PANEL. SHIFT TO THE LEFT, REWORKING CIRCUITRY AS REQUIRED, TO ACCOMMODATE INSTALLATION OF THE NEW ATS AND PANEL CS.

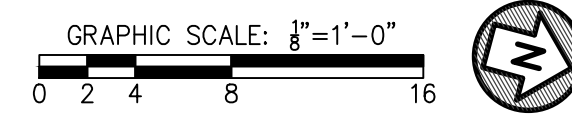


DEMOLITION

A ELECTRICAL DEMOLITION POWER RISER DIAGRAM
SCALE: NO SCALE

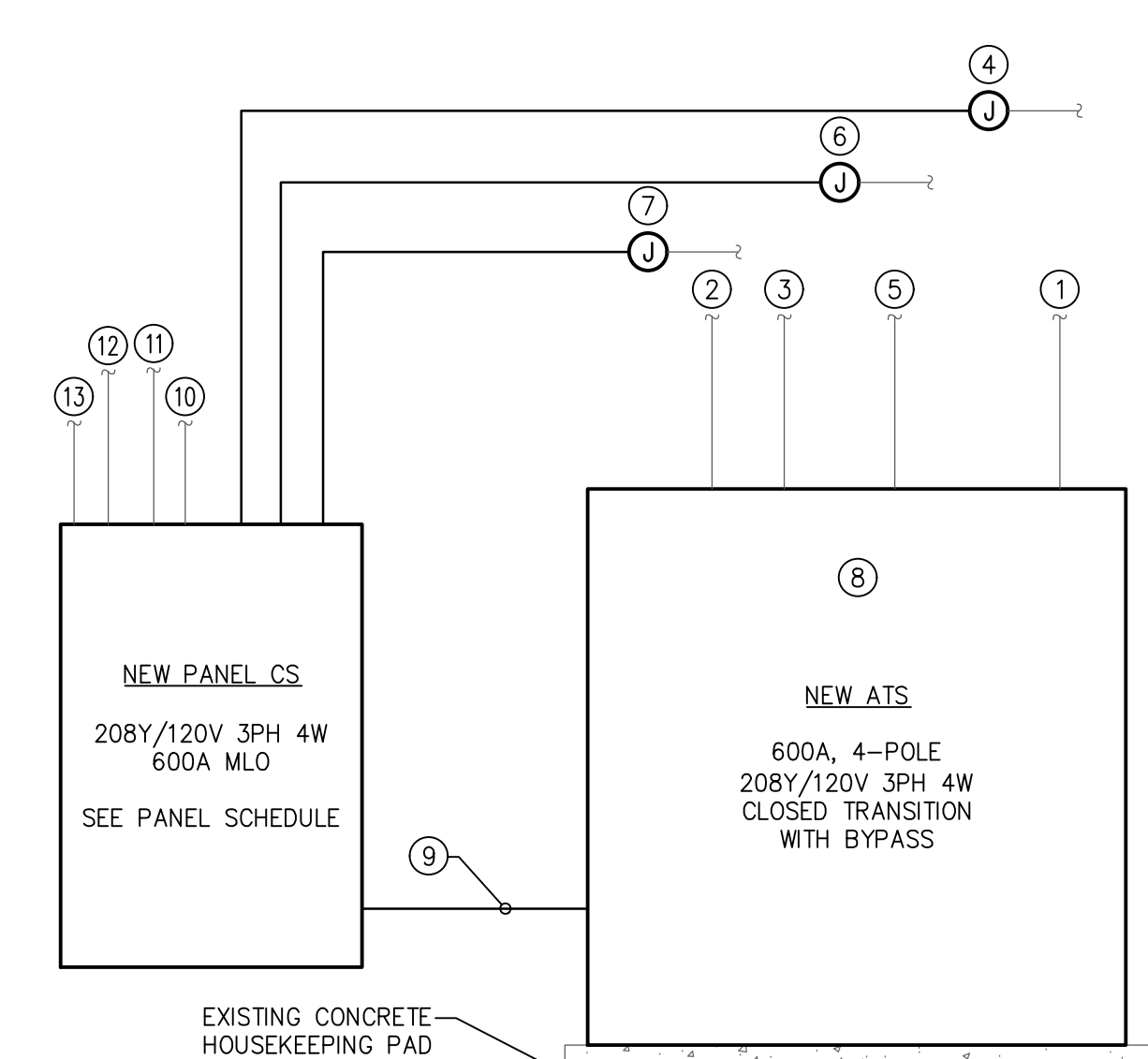


2 ELECTRICAL PLAN - 1ST FLOOR
SCALE: 1/8" = 1'-0"



KEYED NOTES:

- A REWORK EXISTING EQUIPMENT FEEDER TO NEW LOCAL SAFETY SWITCH LOCATION. PROVIDE FUSES IN ACCORDANCE WITH EQUIPMENT NAMEPLATE RATINGS.
- B NEW ATS. EXISTING NORMAL AND GENERATOR FEEDERS TO REMAIN & BE RECONNECTED.
- C NEW ETHERNET CABLES TO ACCOMMODATE COMMUNICATION WITH ATS. INSTALL 1" C WITH (2) CAT 6 CABLES TO PATCH PANEL IN 2ND FLOOR IT ROOM.
- D NEW PANEL CS. SEE PANEL SCHEDULE.
- E EXISTING MAIN SWITCHBOARD, G.E. SPECTRA JOB NO. 8230883D01, PLANT ME319& AT EXISTING ATS BREAKER, G.E. SPECTRA RMS CAT NO. SKLA38AT0800 SERIES, REPLACE 800A TRIP UNIT TYPE SRPK800A WITH 600A TRIP UNIT.



CONSTRUCTION

B ELECTRICAL POWER RISER DIAGRAM
SCALE: NO SCALE

KEYED NOTES:

- 1 REWORK & RETERMINATE EXISTING NORMAL FEEDER FROM BUILDING MAIN SWITCHBOARD AT NEW ATS.
- 2 REWORK & RETERMINATE EXISTING GENERATOR FEEDER AT NEW ATS.
- 3 REWORK & RETERMINATE EXISTING GENERATOR START CONTROL CIRCUIT AT NEW ATS.
- 4 INSTALL A JUNCTION BOX & EXTEND EXISTING 175A UPS FEEDER TO NEW PANEL CS USING 1 1/2" C, 3#2/0, #2/0 N, #6G.
- 5 REWORK & RETERMINATE MONITORING CIRCUITRY AT NEW ATS.
- 6 INSTALL A JUNCTION BOX & EXTEND EXISTING 30A FEEDER FOR NEW AC#1 UNIT TO NEW PANEL CS USING 3/4" C, 3#10, #10G.
- 7 INSTALL A JUNCTION BOX & EXTEND EXISTING 150A FEEDER CONDUIT FOR NEW CRAC #1 UNIT TO NEW PANEL CS. INSTALL NEW CONDUCTORS FROM PANEL CS TO NEW CRAC UNIT. USE 1 1/2" C, 3#1/0, #6G.
- 8 CONTRACTOR SHALL VERIFY EXISTING ATS FEEDER AND LOAD CONDUCTOR SIZES AND QUANTITIES FOR TERMINATIONS AT THE NEW ATS.
- 9 600A FEEDER: 2 SETS, 3" C, 3#300 KCMIL, #300 KCMIL N, #1G.
- 10 REWORK & RETERMINATE EXISTING 20A ELEC RM AC UNIT CIRCUITRY AT NEW PANEL CS.
- 11 REWORK & RETERMINATE EXISTING 100A PANEL CS1 FEEDER AT NEW PANEL CS.
- 12 REWORK & RETERMINATE EXISTING 120V, 20A CIRCUITRY AT NEW PANEL CS.
- 13 REWORK & RETERMINATE EXISTING 20A CHILLER CONTROL PANEL CIRCUITRY AT NEW PANEL CS.

REVISION	
DATE	DESCRIPTION

MARITIME BUILDING - REPLACE IT HVAC SYSTEM

PORT OF WILMINGTON

WILMINGTON, NORTH CAROLINA

SCO ID# 18-19916-01A

NCSPA CONTRACT NO. C-1185(W)

NCSPA PROJECT NO. 10438

CHEATHAM AND ASSOCIATES, P.A.

CONSULTING ENGINEERS

3412 ENTERPRISE DRIVE

WILMINGTON, NORTH CAROLINA 28405

T: 910.762.4271

F: 910.762.4271

NC LICENSE #C-1073

DESIGNED BY: MARK CIARRROCCA

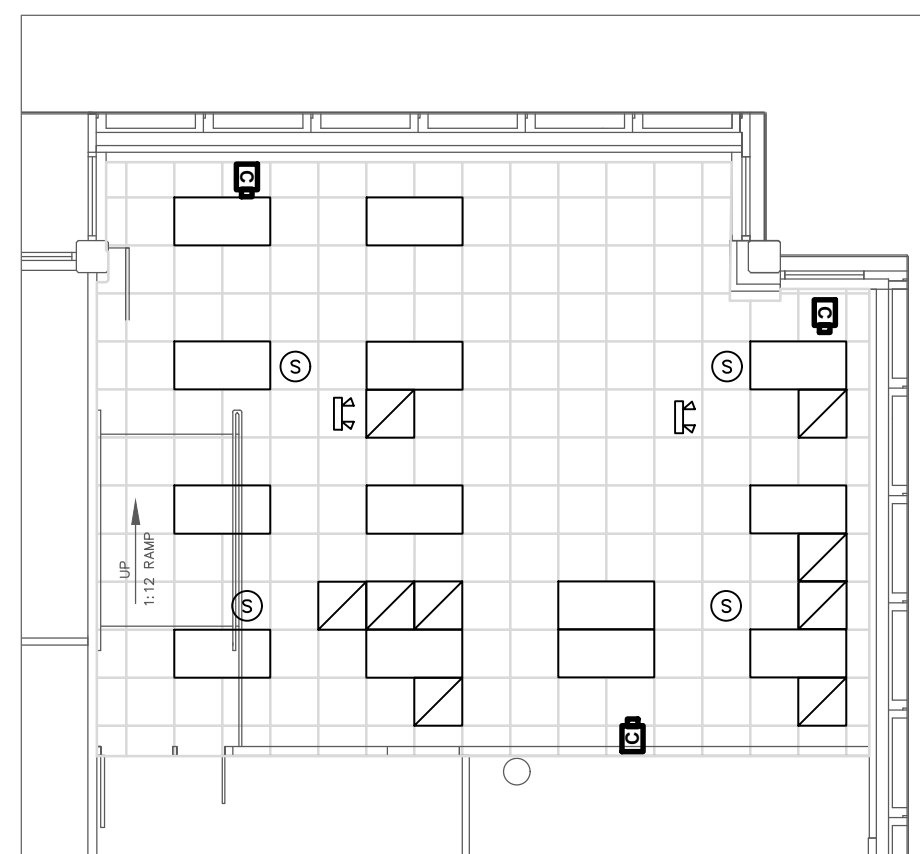
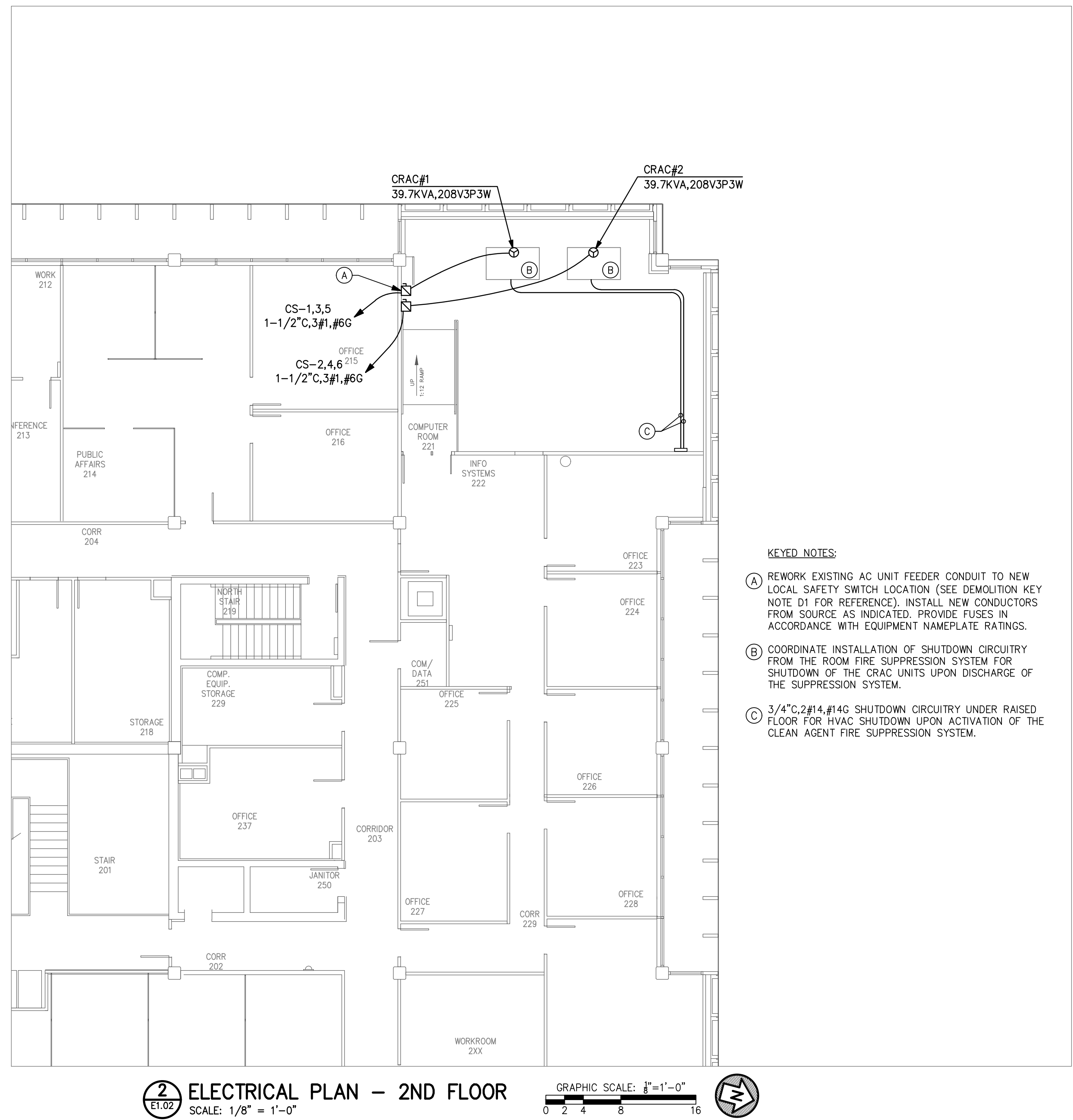
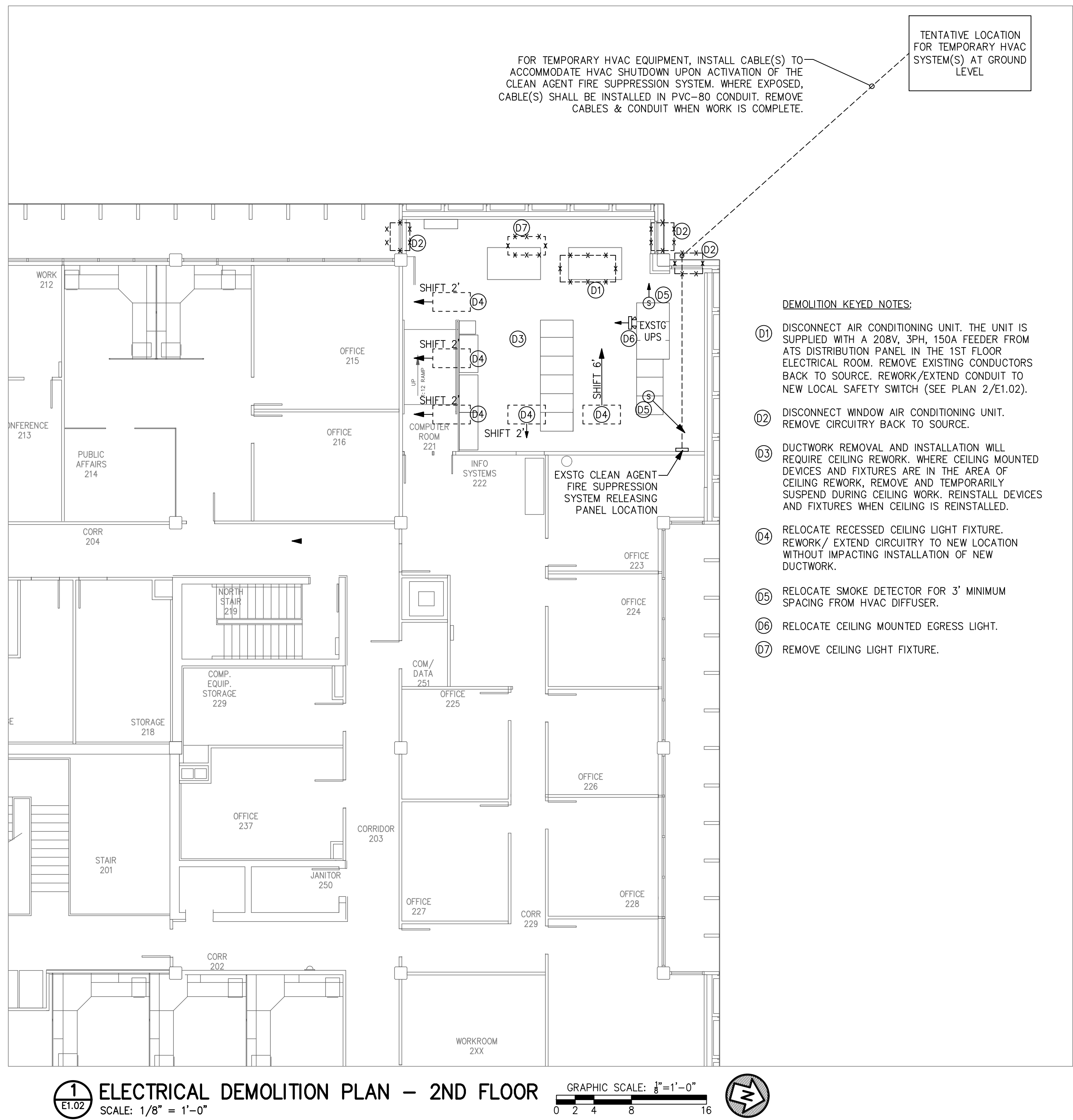
DRAWN BY: MIKE STAUBLIN

CHECKED BY: MARK CIARRROCCA

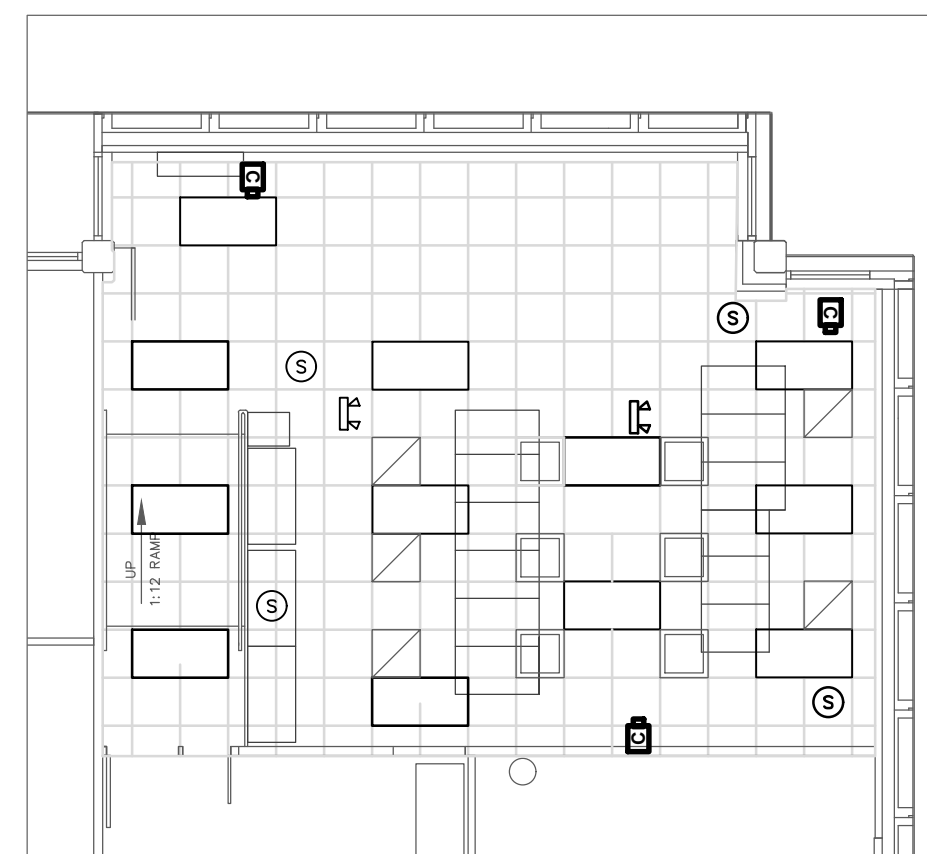
JOB NUMBER: 17.88

SHEET: **E1.01**

DATE: JULY 10, 2020



- REFLECTED CEILING PLAN LEGEND
- RECESSED LIGHT FIXTURE
 - EGRESS LIGHT FIXTURE
 - SMOKE DETECTOR
 - SECURITY CAMERA
 - HVAC RETURN DIFFUSER
 - HVAC SUPPLY DIFFUSER



REVISION	
DATE	DESCRIPTION

MARITIME BUILDING - REPLACE IT HVAC SYSTEM

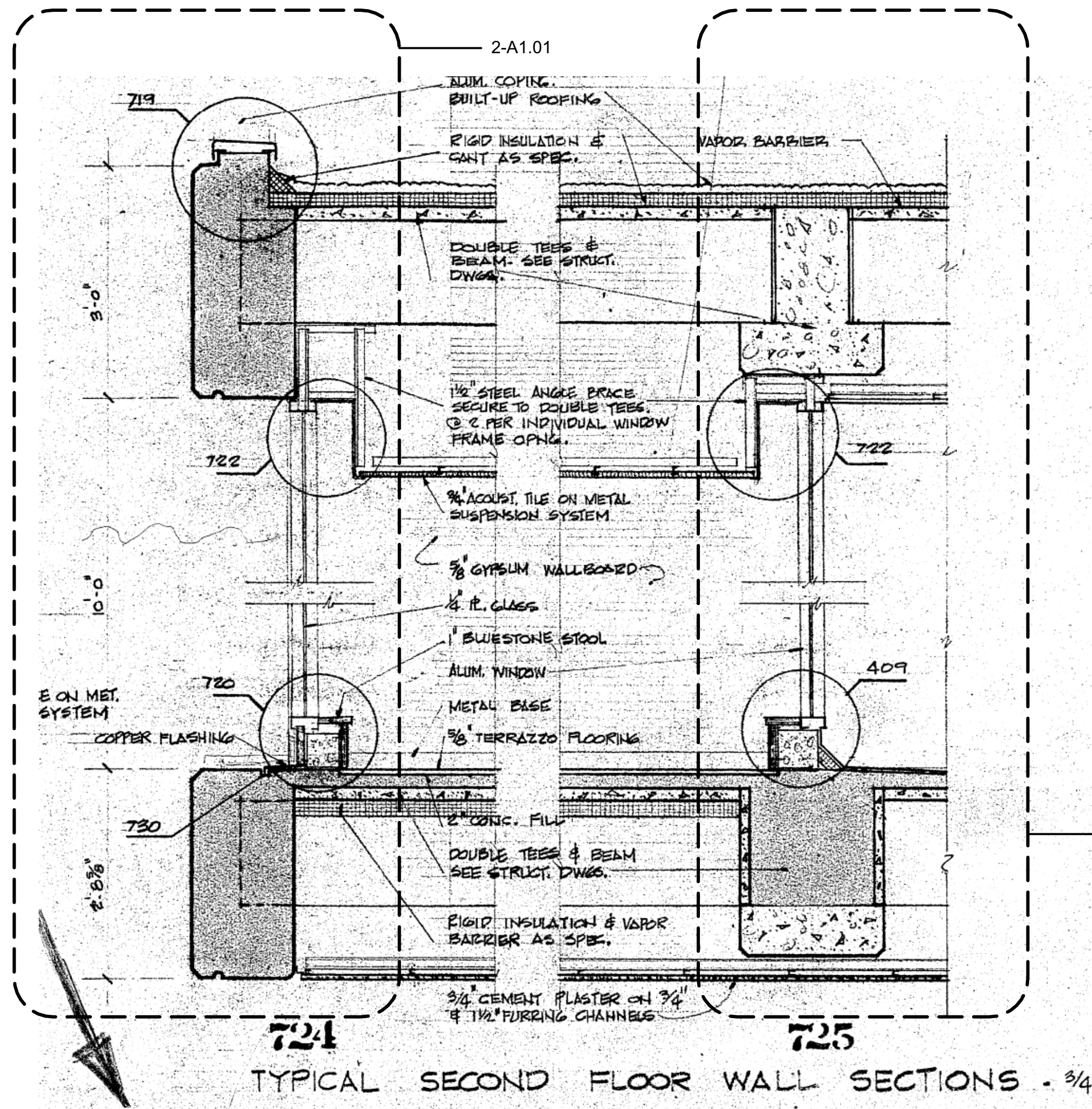
PORT OF WILMINGTON

WILMINGTON, NORTH CAROLINA

DESIGNED BY: MARK CIARROCCA
DRAWN BY: MIKE STAUBLIN
CHECKED BY: MARK CIARROCCA
JOB NUMBER: 17.88
SHEET: E1.02
DATE: JULY 10, 2020

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS
3412 ENTERPRISE DRIVE
WILMINGTON, NORTH CAROLINA 28405
P: 910.342.4271
F: 910.342.4271
E: info@cheatham.com
NC LICENSE #C-1073

SCO ID# 18-19916-01A
NCSPA CONTRACT NO. C-1188(W)
NCSPA PROJECT NO. 10438



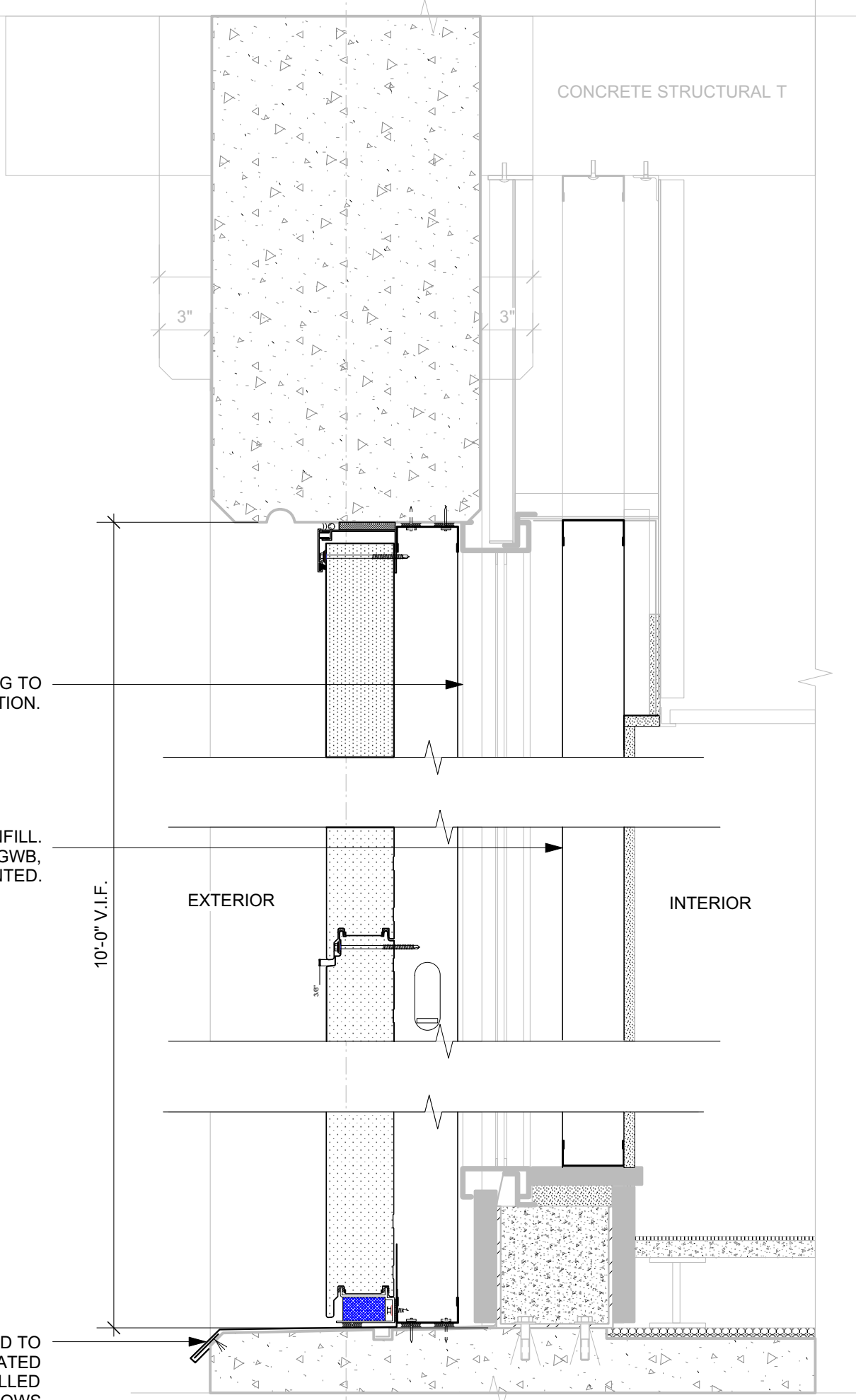
1 Original Drawing Wall Sections For Reference
Scale: 3/4" = 1'-0"

WINDOW FRAME AND GLAZING TO REMAIN AT THIS LOCATION.

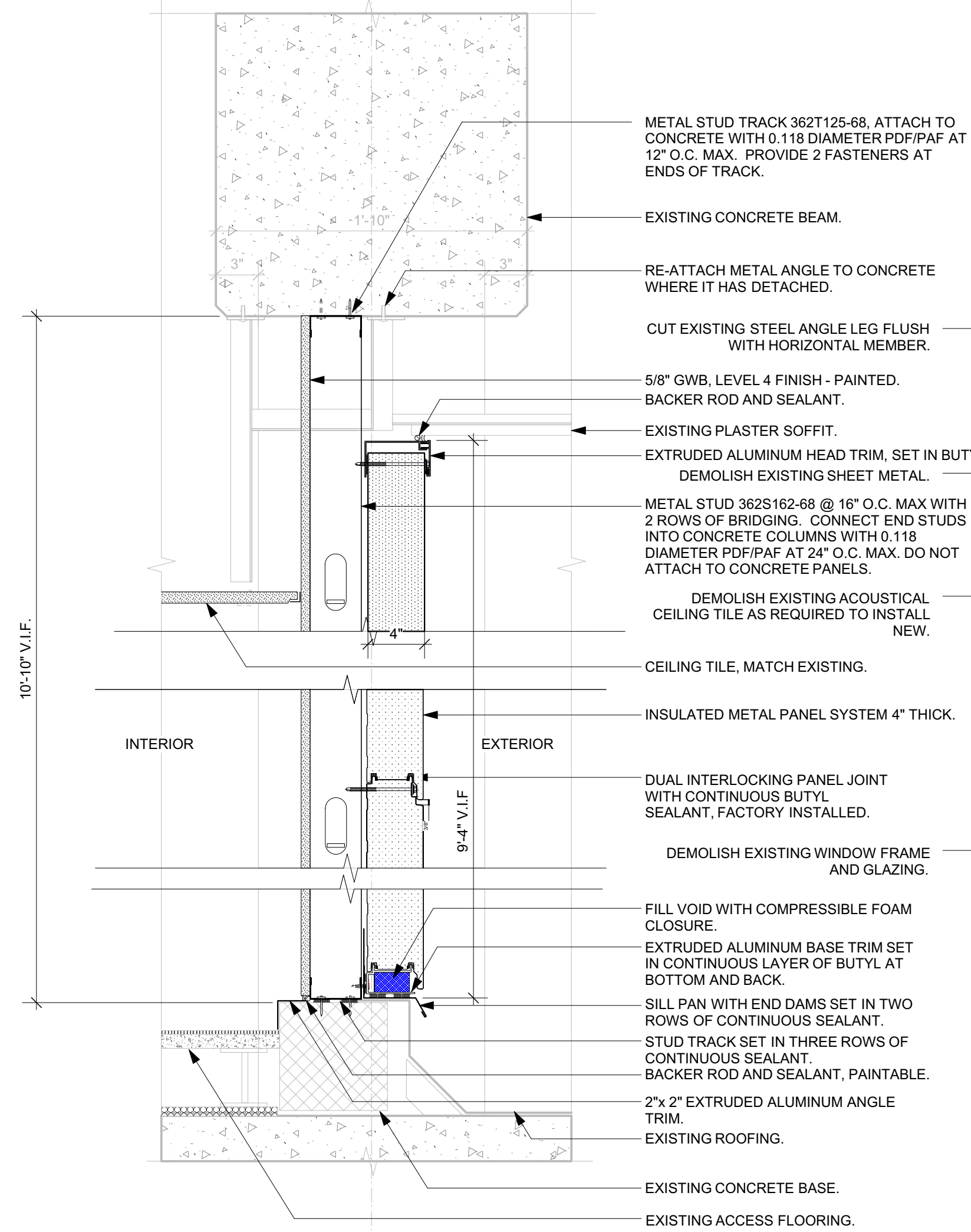
INTERIOR METAL STUD & GWB INFILL, 362S125-18 @ 16" O.C. WITH 5/8" GWB, LEVEL 4 FINISH - PAINTED.

SEE 3-A1.01 FOR TYPICAL NOTES

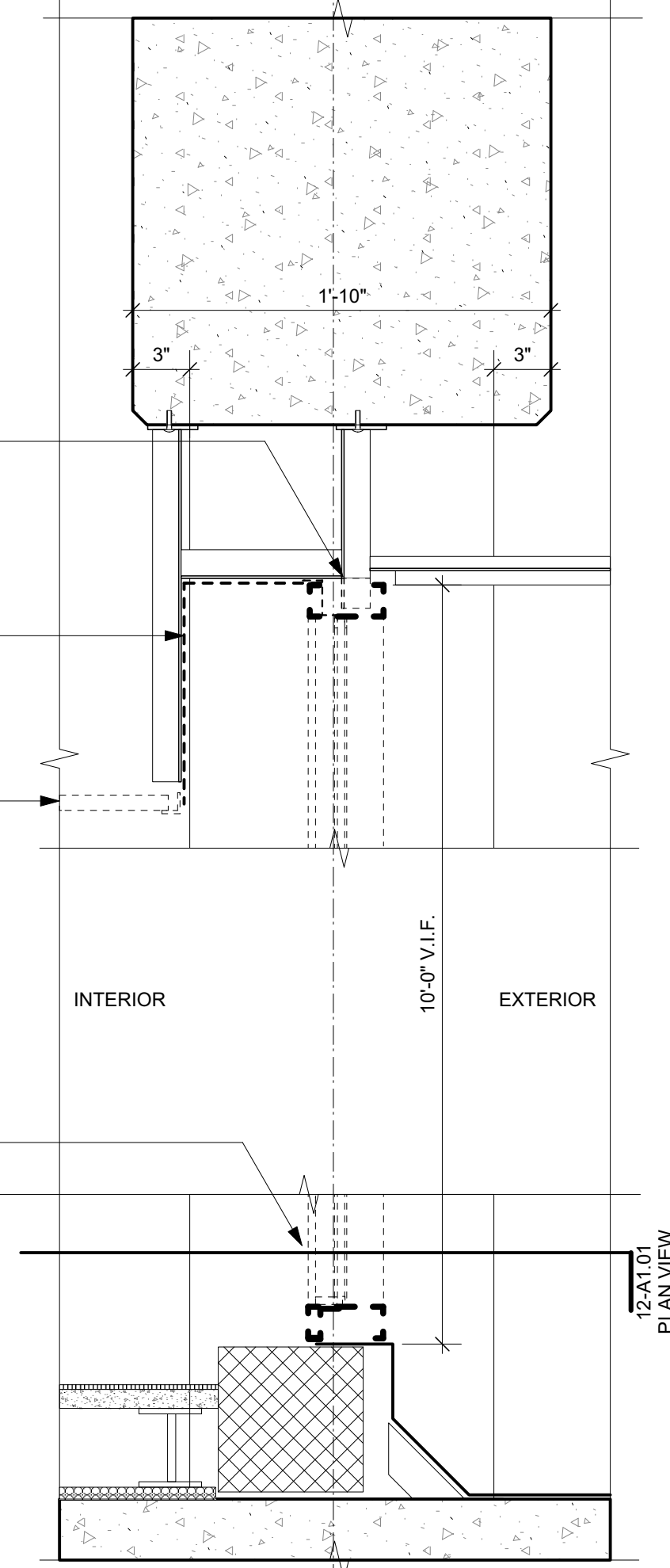
SILL PAN WITH END DAMS SLOPED TO DRAIN TO THE EXTERIOR, FABRICATED WITH A HEMMED EDGE, INSTALLED OVER A GLEAT AND SET IN FOUR ROWS OF CONTINUOUS SEALANT.



2 Wall Section New Work
Scale: 1 1/2" = 1'-0"

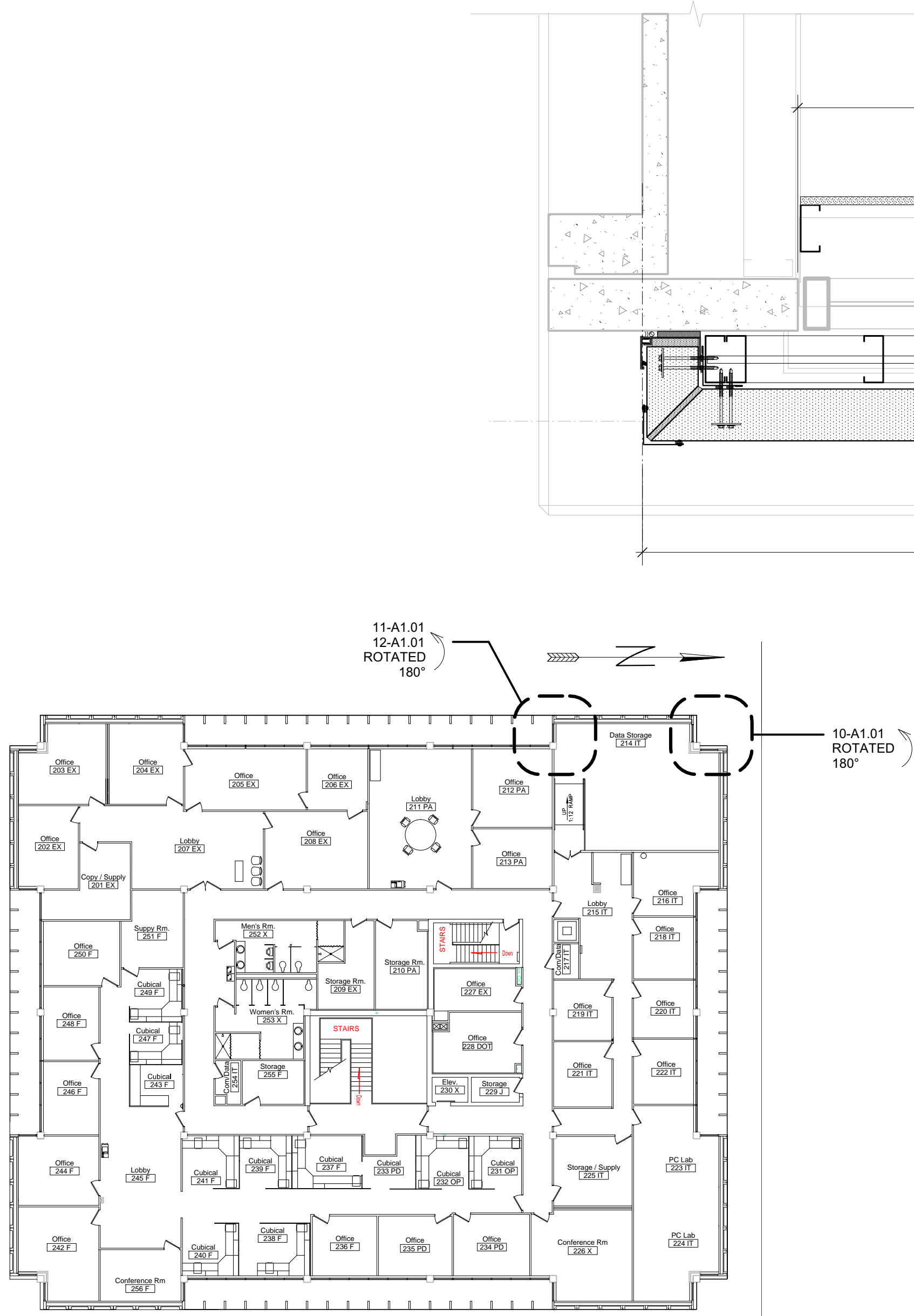


3 Wall Section New Work
Scale: 1 1/2" = 1'-0"



4 Wall Section Demolition
Scale: 1 1/2" = 1'-0"

NOTES:
1. SEE PLAN 1/M1.02 FOR DEMOLITION OF WINDOW HVAC UNITS.
2. V.I.F. (VERIFY IN FIELD) GC IS TO FIELD VERIFY THE EXACT SIZE OF WINDOW OPENINGS.



9 Key Plan
Scale: 1/8" = 1'-0"

SEE 11-A1.01 FOR TYPICAL NOTES

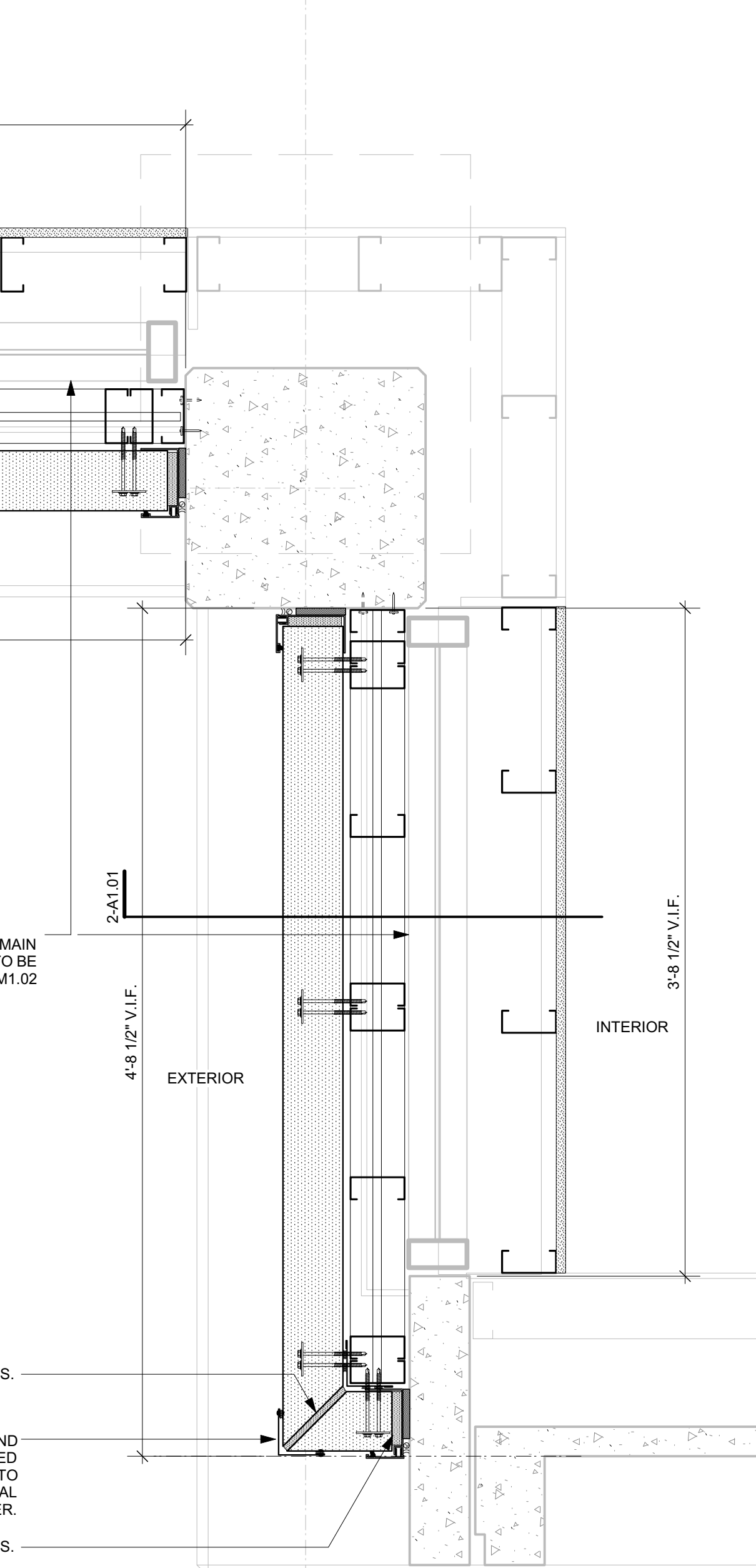
WINDOW FRAME AND GLAZING TO REMAIN AT THESE LOCATIONS. HVAC UNITS TO BE REMOVED AT THESE. SEE 1/M1.02

OPEN TO BELOW

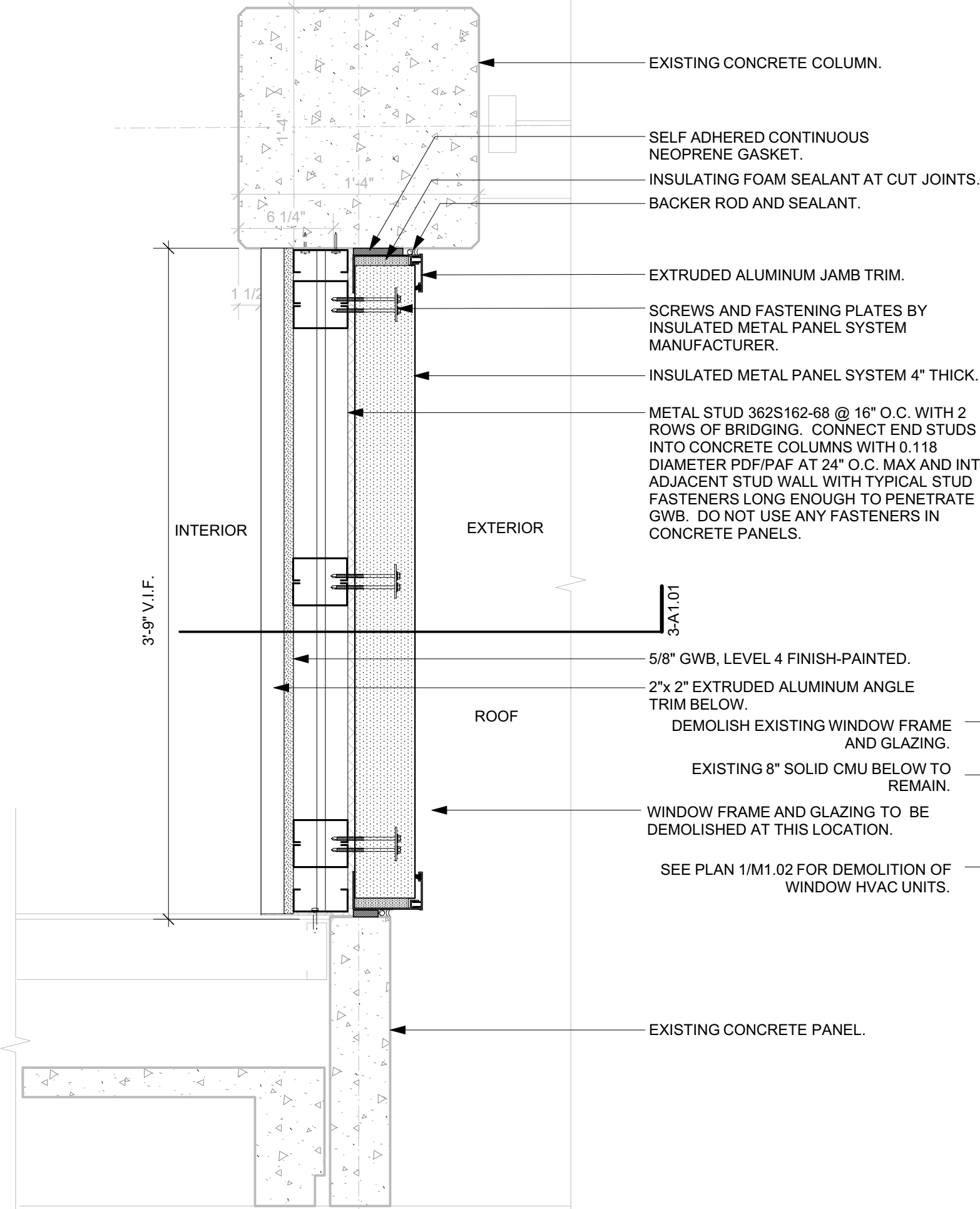
INSULATING FOAM SEALANT AT CUT JOINTS.

METAL TRIM SET IN BUTYL AND RIVETED TO FACE OF INSULATED METAL PANEL SYSTEM. PAINTED TO MATCH, BY INSULATED METAL PANEL SYSTEM MANUFACTURER.

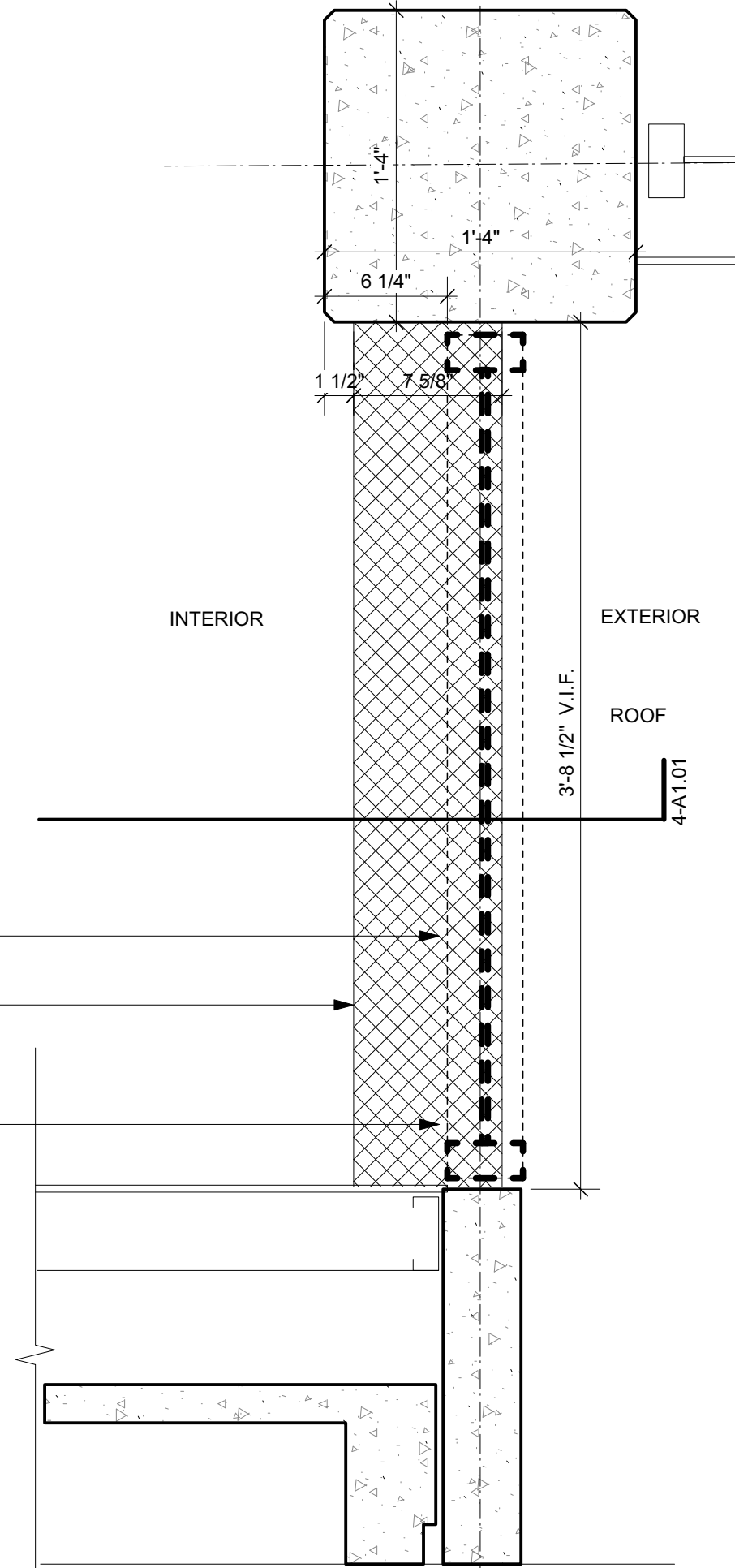
INSULATING FOAM SEALANT AT CUT JOINTS.



10 Enlarged Plan New Work
Scale: 1 1/2" = 1'-0"

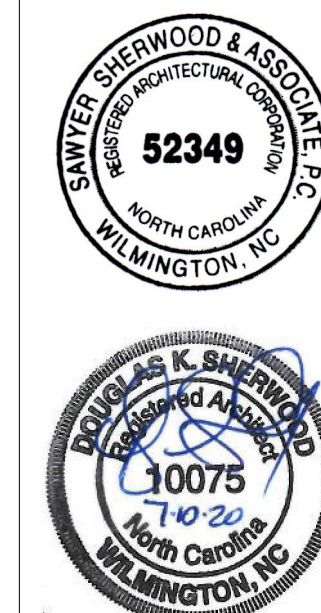


11 Enlarged Plan New Work
Scale: 1 1/2" = 1'-0"



12 Enlarged Plan Demolition
Scale: 1 1/2" = 1'-0"

SAWYER SHERWOOD & ASSOCIATES, P.C.
124 MARKET STREET
WILMINGTON, NC 28401
PH: (910) 252-2882
E-MAIL: DDOUG@SSA3.COM
NC LICENSE # 352349



DESIGNED BY DS
DRAWN BY DS
CHECKED BY DS
JOB NUMBER 17.88
SHEET

A1.01
OF 1
DATE July 10, 2020

MARITIME BUILDING - REPLACE IT HVAC SYSTEM

PORT OF WILMINGTON

WILMINGTON, NORTH CAROLINA

SCO ID# 18-19916-01A
NCSFA CONTRACT NO. C-1189(W)
NCSFA PROJECT NO. 10438

CHEATHAM AND ASSOCIATES, P.A.
CONSULTING ENGINEERS

3412 ENTERPRISE DRIVE
WILMINGTON, NC 28405
PH: (910) 852-4210 FAX: (910) 852-4211
WWW.CHEATHAM-PA.COM
NC LICENSE # 352349

DESIGNED BY DS
DRAWN BY DS
CHECKED BY DS
JOB NUMBER 17.88
SHEET

A1.01
OF 1
DATE July 10, 2020