

NORTH MYRTLE BEACH MIDDLE SCHOOL HVAC REPLACEMENT

11240 SC-90, LITTLE RIVER, SC 29566



Whole Building Systems LLC
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DRAWING INDEX

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GENERAL NOTES (APPLICABLE TO ALL SHEETS)

A. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS.

B. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO PROCURING ANY EQUIPMENT OR MATERIALS, AND PRIOR TO FABRICATING ANY WORK.



DATE SEALED: 2/16/2024

**NORTH MYRTLE BEACH
MIDDLE SCHOOL
HVAC REPLACEMENT**
 11240 SC-90 LITTLE RIVER, SC 29566

PROJECT TEAM

CODES AND STANDARDS

OWNER

HORRY COUNTY SCHOOL DISTRICT
1180 E. HWY 501
CONWAY, SC 29526

CONTACT: JOE BURCH
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ENGINEER

WHOLE BUILDING SYSTEMS, LLC
P.O. BOX 1845
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ARCHITECT

THOMAS & DENZINGER ARCHITECTS

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STRUCTURE

ADC ENGINEERING

CONTACT: CHRIS GILGER, P.E.
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APPLICABLE BUILDING CODES AND STANDARDS

THE FOLLOWING CODES AND STANDARDS APPLY TO THE WORK OF THIS PROJECT:

- ALL CURRENTLY ADOPTED BUILDING CODES AND STATUTES ADOPTED BY THE STATE OF SOUTH CAROLINA INCLUDING, BUT NOT LIMITED TO:
- THE SOUTH CAROLINA BUILDING CODE, 2021 EDITION WITH SC MODIFICATIONS,
- THE SOUTH CAROLINA MECHANICAL CODE, 2021 EDITION,
- THE SOUTH CAROLINA FIRE CODE, 2021 EDITION WITH SC MODIFICATIONS,
- THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC), 2009 EDITION,
- THE NATIONAL ELECTRICAL CODE (NFPA-70), 2020 EDITION

SEISMIC AND WIND DESIGN CRITERIA

WIND RESTRAINT LOADING:

- ULTIMATE WIND SPEED (3 SEC GUST), V_{ult} : 155 MPH
- BUILDING CLASSIFICATION (RISK) CATEGORY: III
- IMPORTANCE FACTOR: 1.0
- SURFACE ROUGHNESS: B
- EXPOSURE CATEGORY: B
- MINIMUM 10 LB/SQ FT MULTIPLIED BY AREA OF THE MECHANICAL COMPONENT PROJECTED ON A VERTICAL PLANE THAT IS NORMAL TO THE WIND DIRECTION, AND 45 DEGREES EITHER SIDE OF NORMAL.

SEISMIC RESTRAINT LOADING:

- BUILDING CLASSIFICATION (RISK) CATEGORY: III
- SITE CLASSIFICATION: D
- $S_{DS} = 0.271g$
- $S_{D1} = 0.156g$
- SEISMIC DESIGN CATEGORY: C (IBC 2015, TABLE 1613.3.5 (1) & (2).

SEE SEISMIC AND WIND LOAD SCHEDULE ON SHEET M001 FOR ADDITIONAL INFORMATION REGARDING EQUIPMENT SEISMIC AND WIND LOAD REQUIREMENTS.

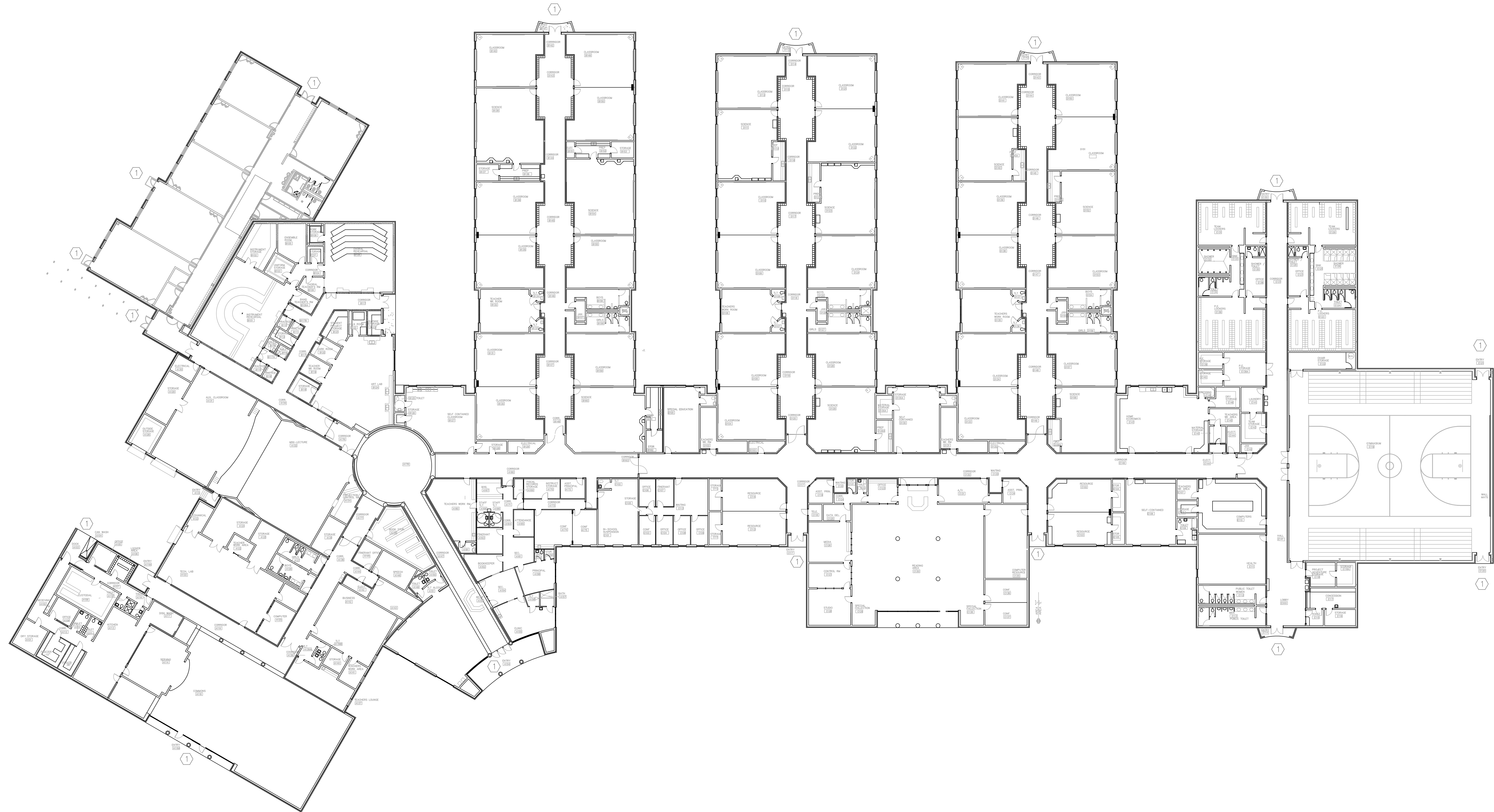
PROJ. NO. 23090001
DATE: 02/16/24
DESIGNED BY: MDK
DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS

NO.	DATE	NOTES

TITLE PAGE

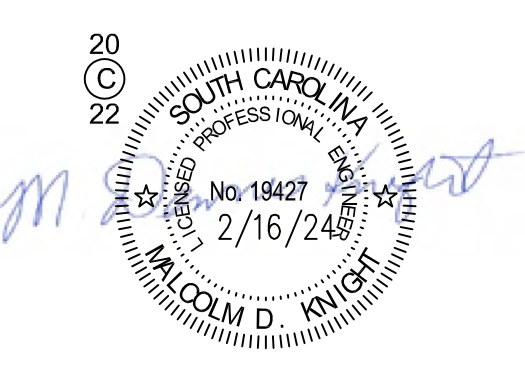
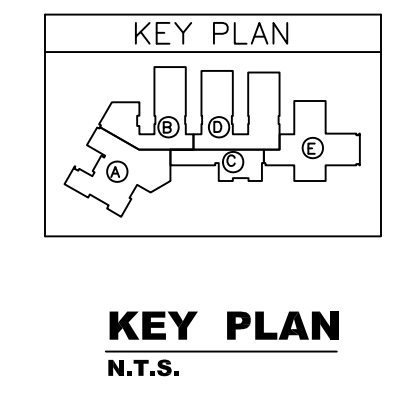
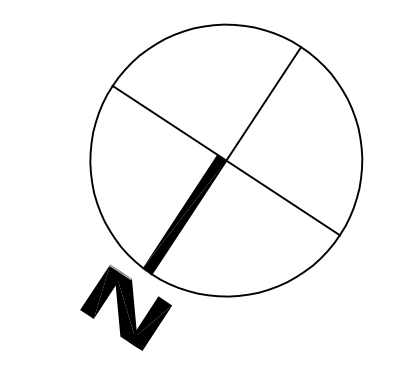
G001



KEY NOTES

① NO CONSTRUCTION IS ALLOWED DURING OCCUPIED HOURS. EXITS ARE TO REMAIN OPEN AND UNOBSTRUCTED AS LONG AS THERE ARE NON-CONSTRUCTION PEOPLE IN THE BUILDING. EXIT EGRESS CORRIDORS SHALL REMAIN OPEN AND UNOBSTRUCTED AS LONG AS THERE ARE NON-CONSTRUCTION PEOPLE IN THE BUILDING. IF CONSTRUCTION IS REQUIRED DURING OCCUPIED HOURS, CONTRACTOR SHALL MARK UP THIS PLAN WITH HOW EXITS AND EXIT EGRESS CORRIDORS ARE TO REMAIN OPEN, PROTECTED, ACCESSIBLE AND UNOBSTRUCTED. THE REVISED PLAN SHALL BE SUBMITTED TO THE HORRY COUNTY SCHOOL DISTRICT FACILITIES STAFF FOR APPROVAL PRIOR TO BEGINNING THE WORK.

LIFE SAFETY PLAN
SCALE: 3/64" = 1'-0"



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11240 SC-90 LITTLE RIVER, SC 29566**

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LIFE SAFETY PLAN

G002

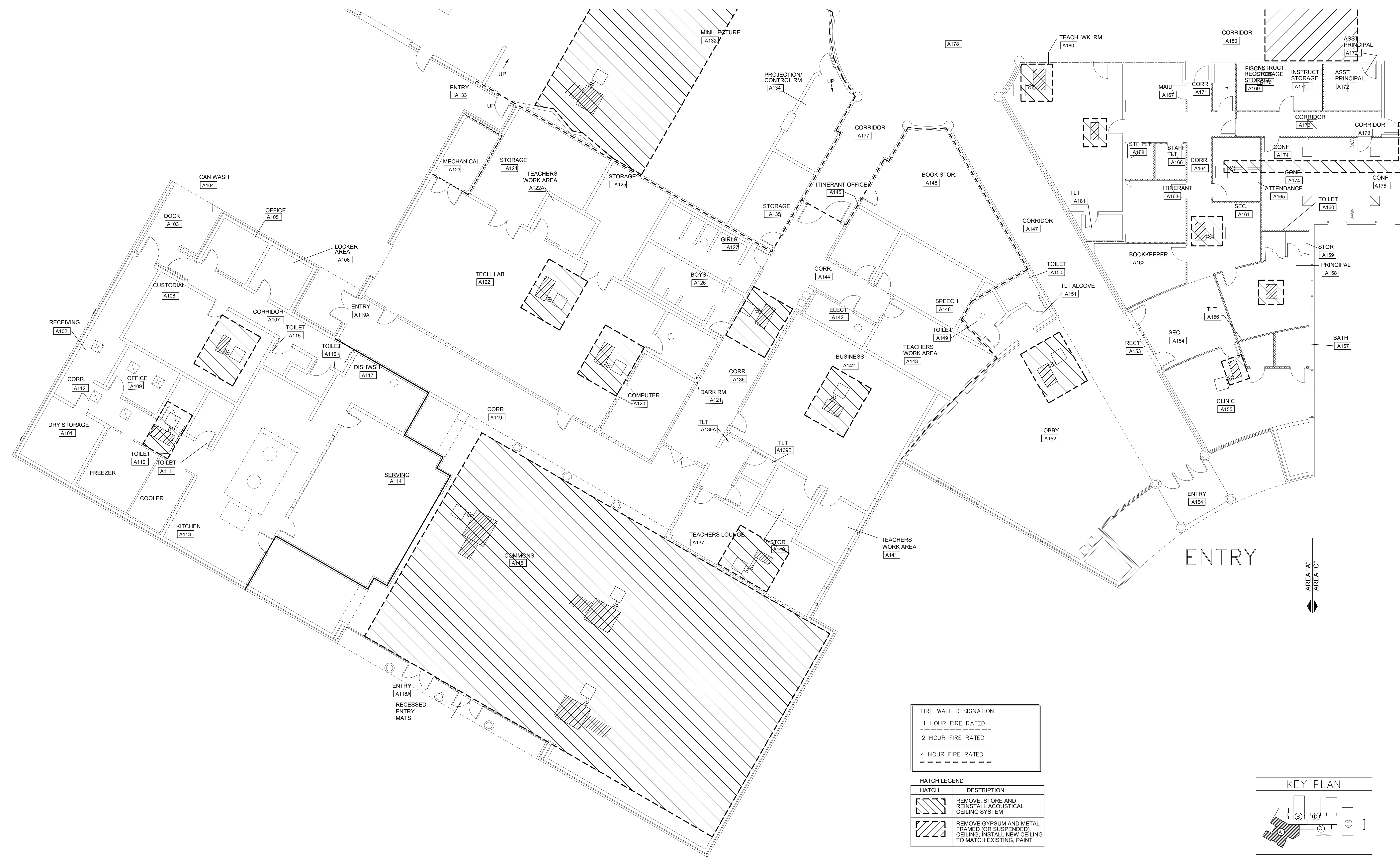
**NORTH MYRTLE BEACH MIDDLE SCHOOL
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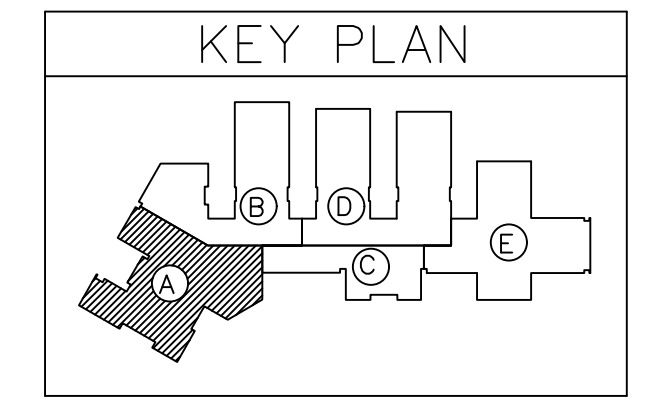
RCP AREA 'A'

A101

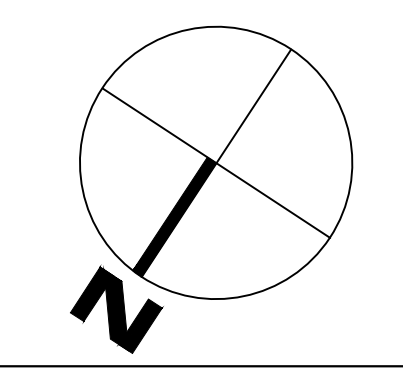


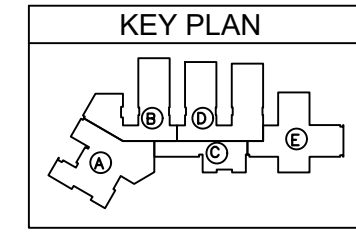
FIRE WALL DESIGNATION	
—	1 HOUR FIRE RATED
- - -	2 HOUR FIRE RATED
---	4 HOUR FIRE RATED

HATCH LEGEND	
	REMOVE STORE AND REINSTALL ACOUSTICAL CEILING SYSTEM
	REMOVE GYPSUM AND METAL FRAMED (OR SUSPENDED) CEILINGS. INSTALL NEW CEILING TO MATCH EXISTING, PAINT

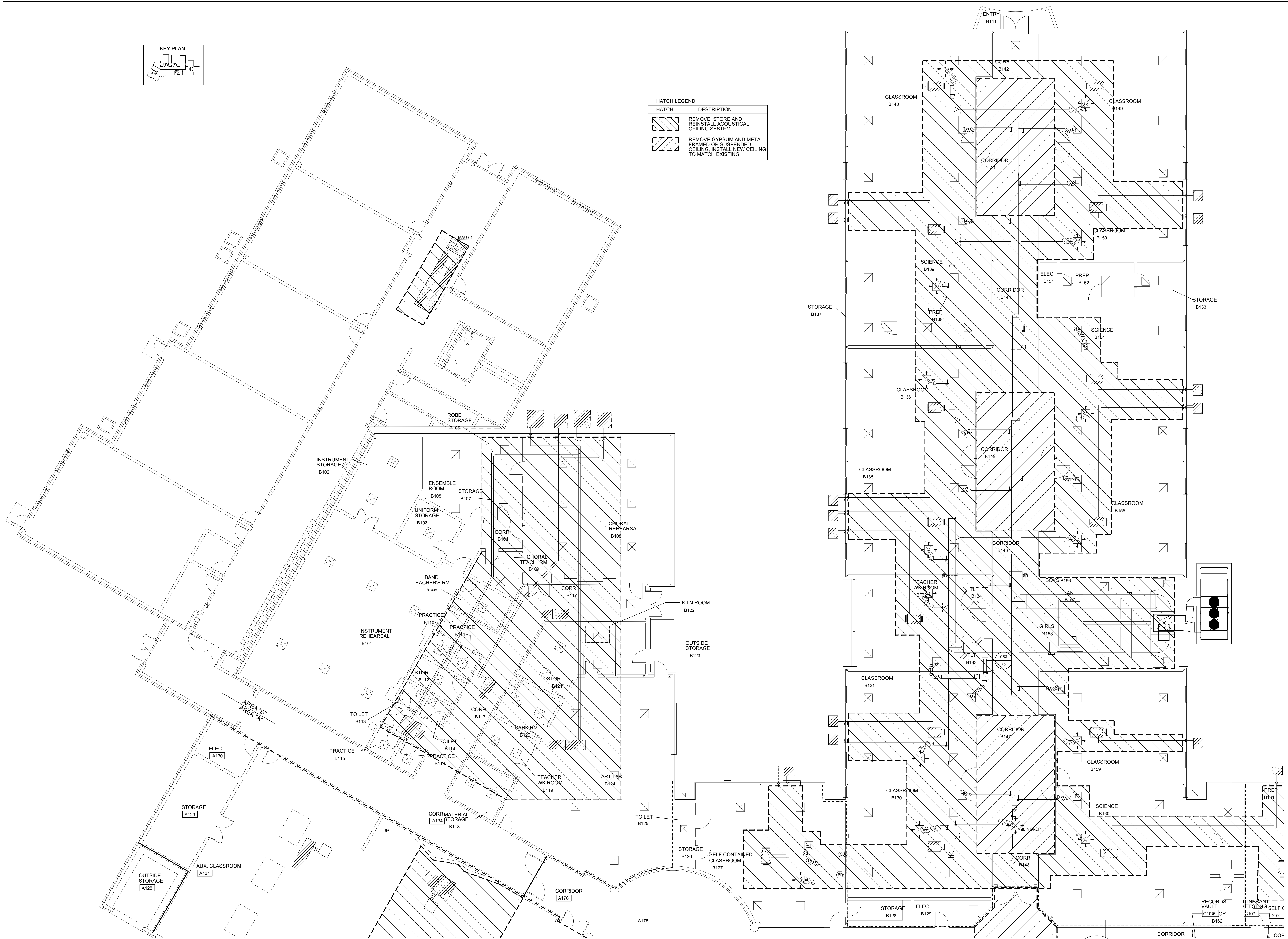


1 DEMO AND NEW REFLECTIVE CEILING PLAN
 A101 | A101 SCALE: 1/8"=1'-0"

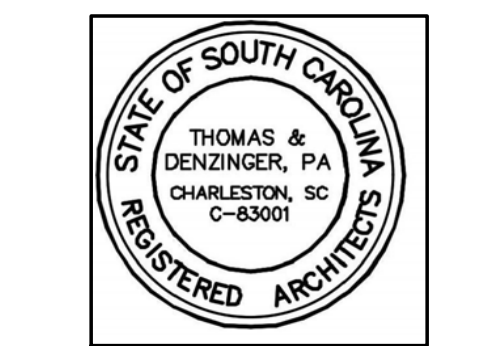
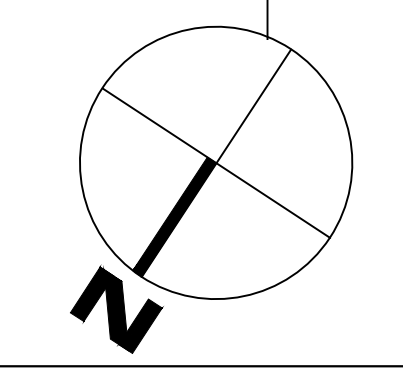




HATCH LEGEND	
HATCH	DESCRIPTION
	REMOVE, STORE AND REINSTALL ACOUSTICAL CEILING SYSTEM
	REMOVE GYPSUM AND METAL FRAMED OR SUSPENDED CEILING, INSTALL NEW CEILING TO MATCH EXISTING



1 DEMO AND NEW REFLECTIVE CEILING PLAN
 A102 SCALE: 1/8"=1'-0"



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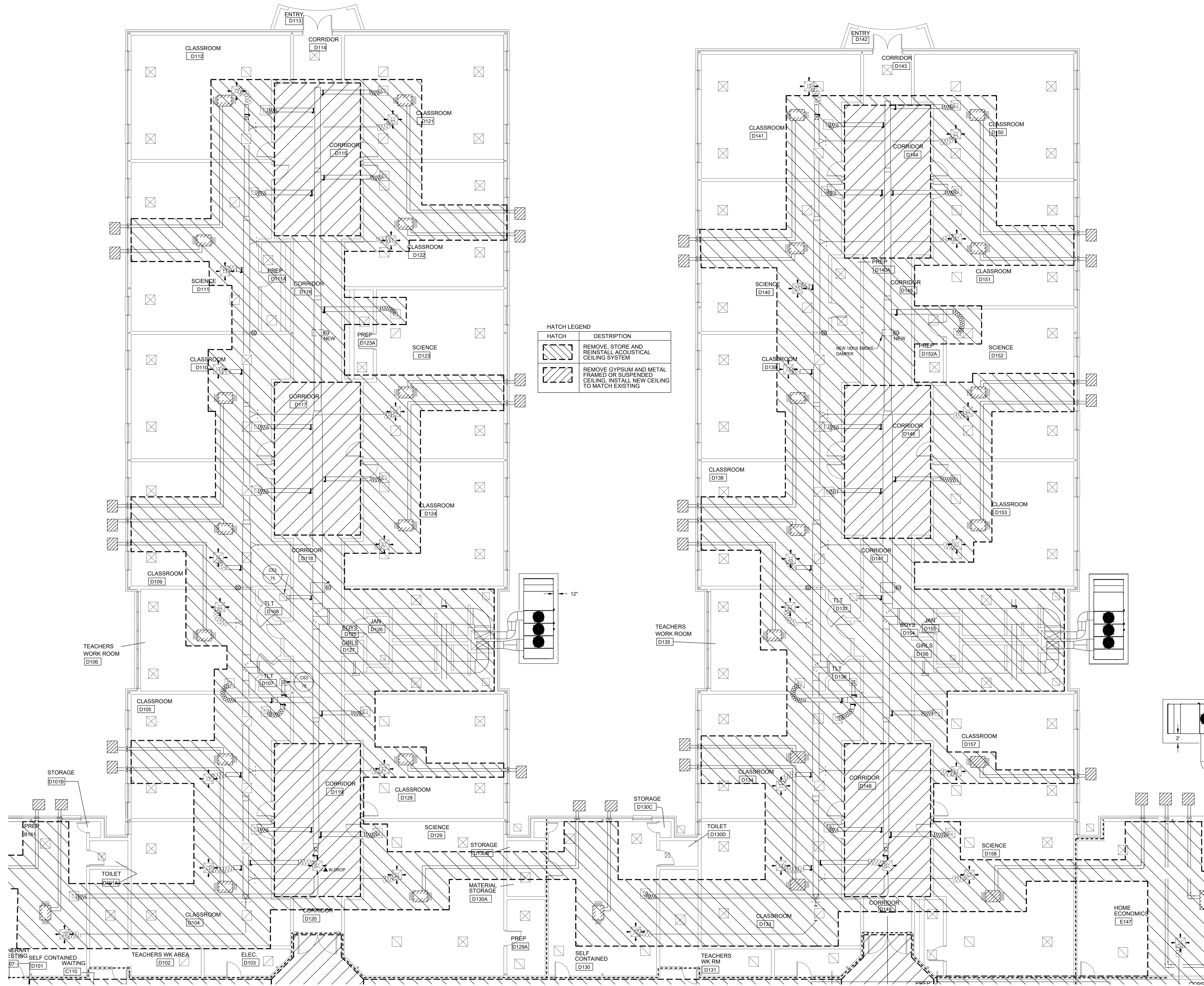
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 CHECKED BY: MDK

REVISIONS

NO.	DATE	NOTES

RCP AREA 'B'

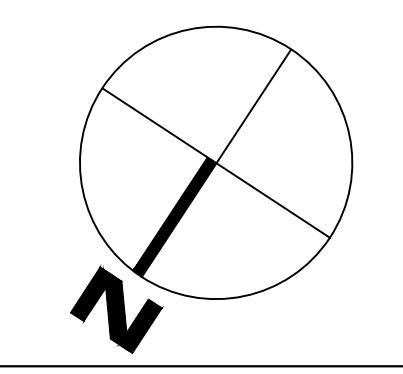
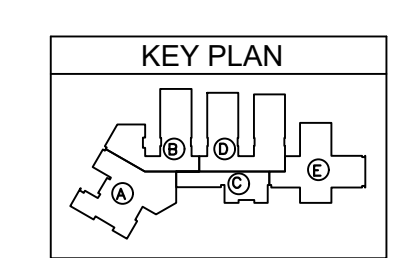
A102



HATCH LEGEND

HATCH	DESCRIPTION
	REMOVE, STORE AND REINSTALL ACOUSTICAL CEILING SYSTEM
	REMOVE GYPSUM AND METAL FRAMED OR SUSPENDED CEILING. INSTALL NEW CEILING TO MATCH EXISTING

1 DEMO AND NEW REFLECTIVE CEILING PLAN
 A103 A103 SCALE: 1/8"=1'-0"



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RCP AREA 'D'

A103

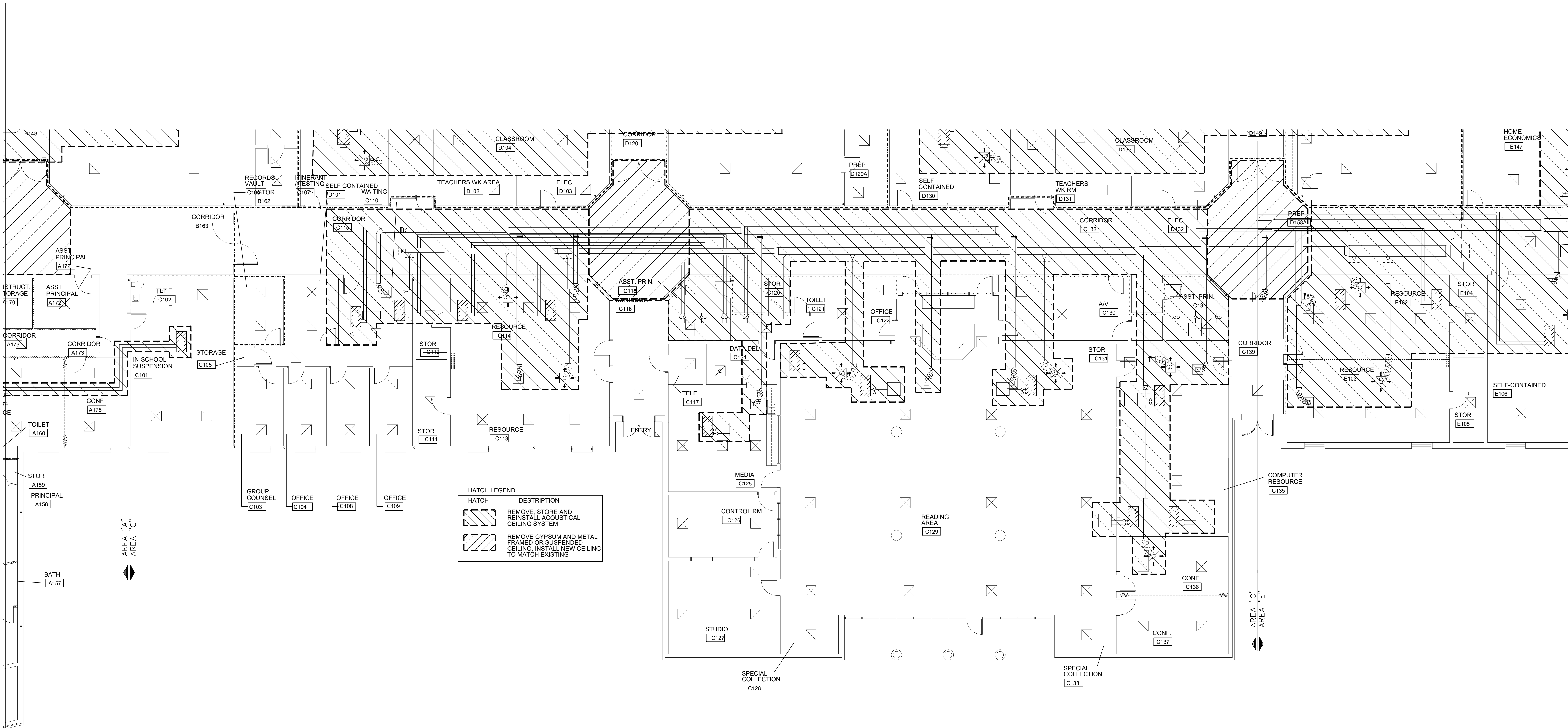
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RCP AREA 'C'

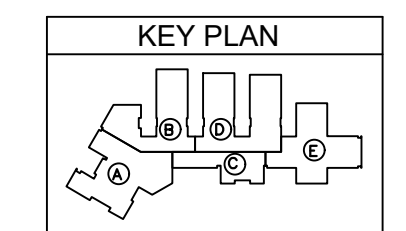
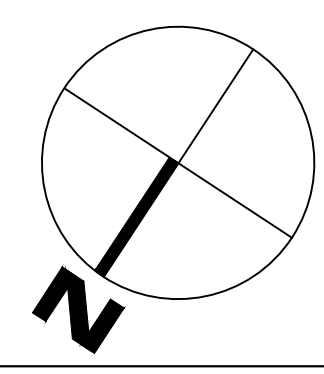
A104

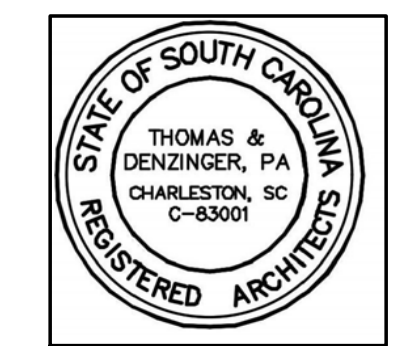
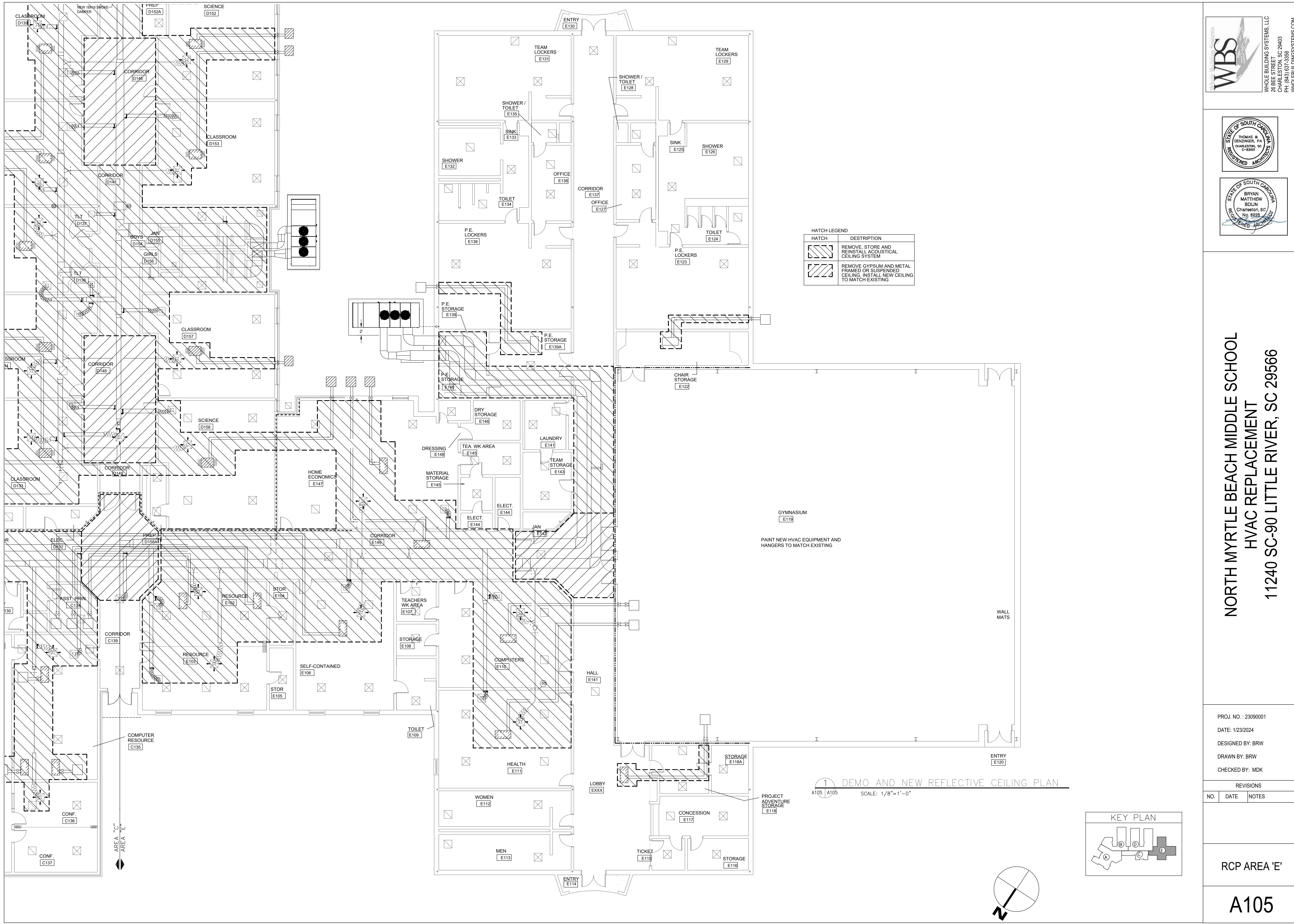


HATCH LEGEND

HATCH	DESCRIPTION
	REMOVE, STORE AND REINSTALL ACOUSTICAL CEILING SYSTEM
	REMOVE GYPSUM AND METAL FRAMED OR SUSPENDED CEILING, INSTALL NEW CEILING TO MATCH EXISTING

1 DEMO AND NEW REFLECTIVE CEILING PLAN
 A104 A104 SCALE: 1/8"=1'-0"





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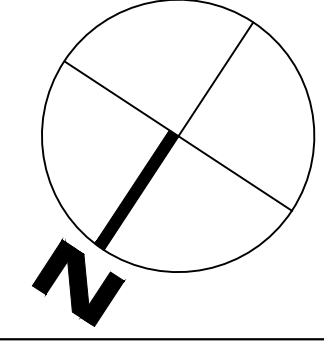
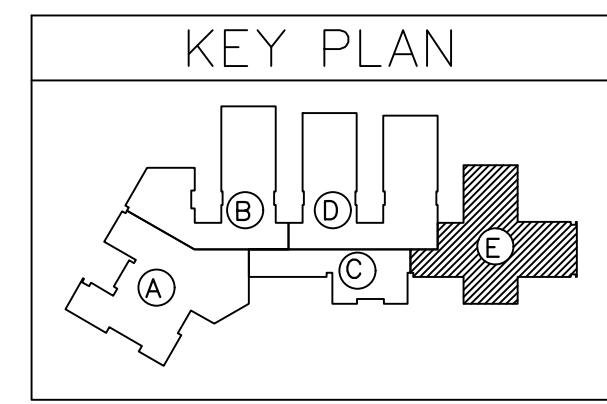
REVISIONS		
NO.	DATE	NOTES

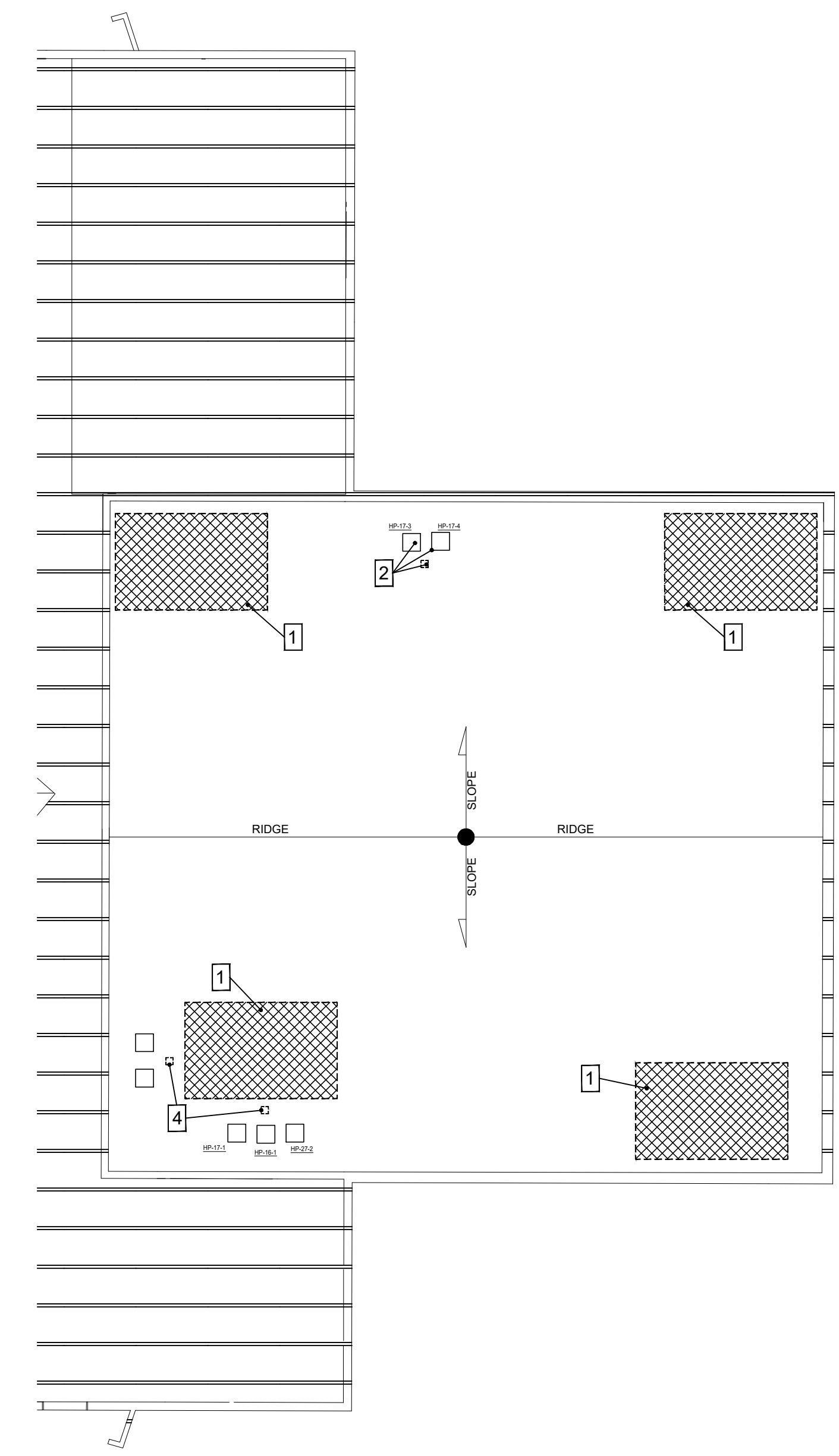
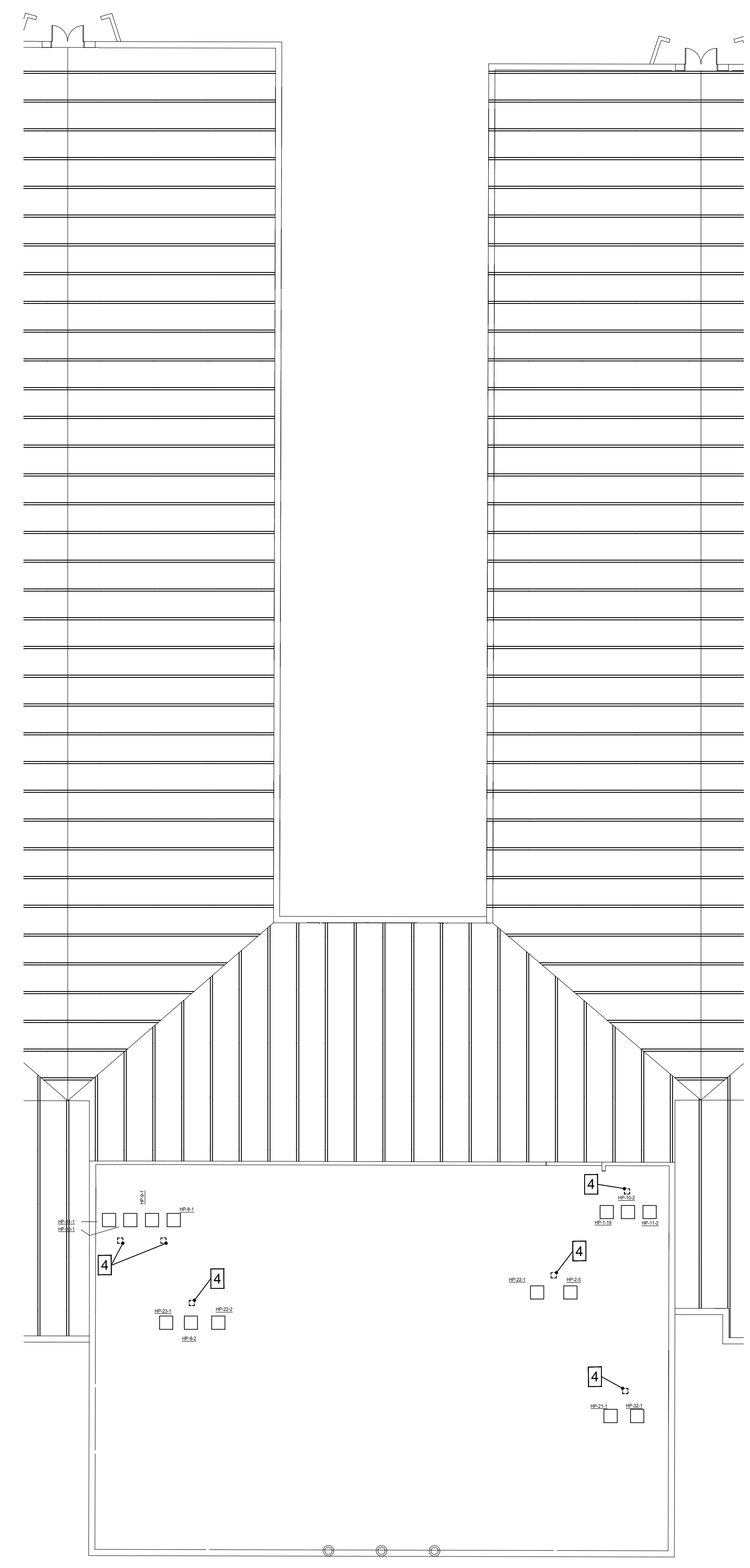
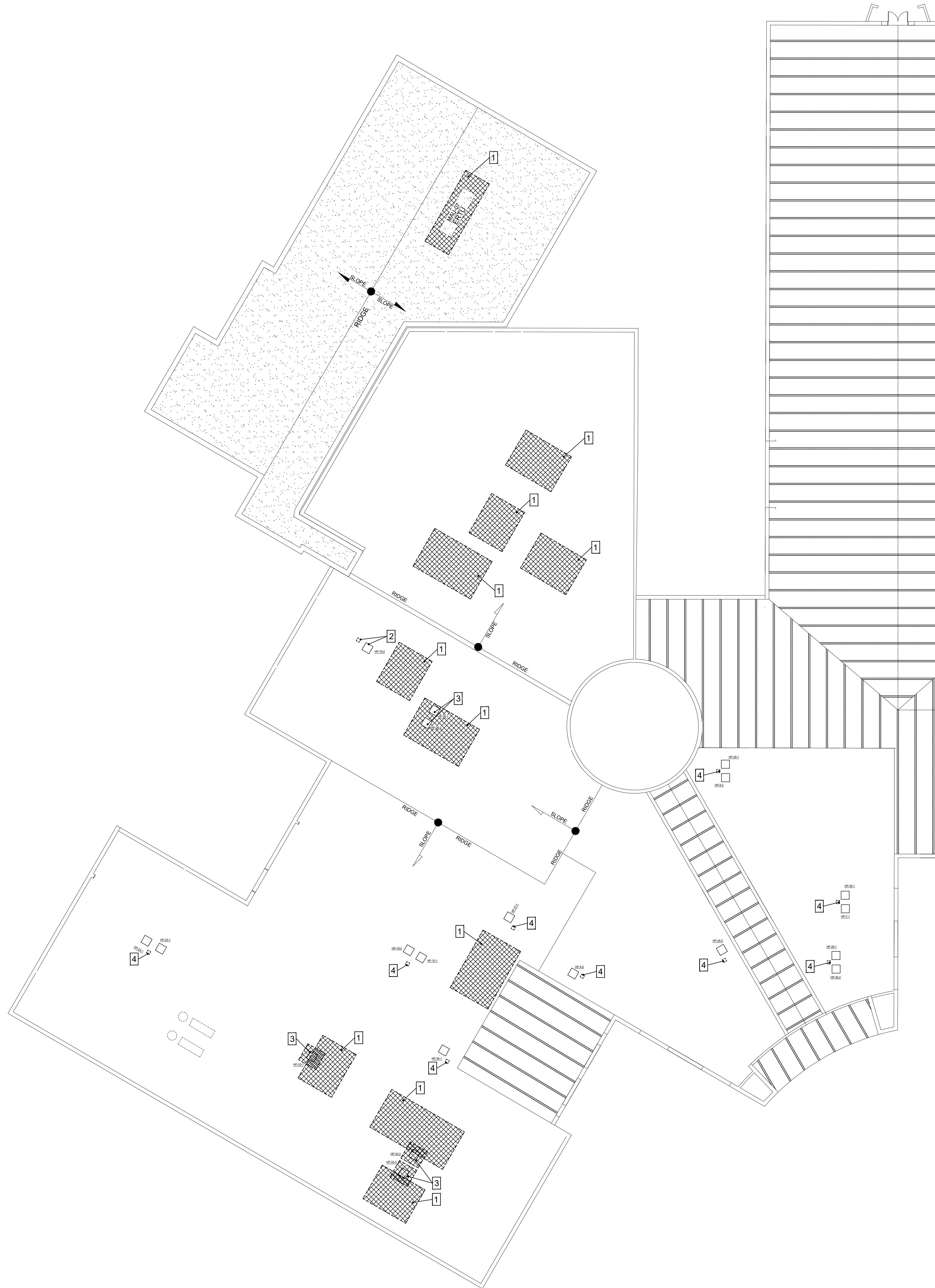
RCP AREA 'E'

A105

HATCH	DESCRIPTION
	REMOVE, STORE AND REINSTALL ACoustICAL CEILING SYSTEM
	REMOVE GYPSUM AND METAL FRAMED OR SUSPENDED CEILING. INSTALL NEW CEILING TO MATCH EXISTING

1 DEMO AND NEW REFLECTIVE CEILING PLAN
 A105 A105 SCALE: 1/8"=1'-0"





ROOF TYPE HATCH LEGEND	
HATCH	DESCRIPTION
NO HATCH	TPO, WHITE
	SBS BUR WITH GRAVEL

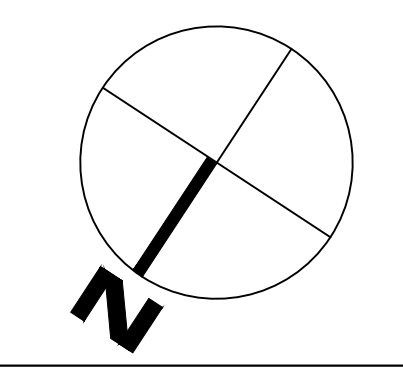
DEMOLITION LEGEND	
DESCRIPTION	SYMBOL
ITEM TO BE DEMOLISHED	
ROOF SYSTEM DEMOLITION AREA	

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	KEY NOTE

ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
ERTU	EXISTING ROOF TOP UNIT
RTU	ROOF TOP UNIT

DEMOLITION KEY NOTES	
1	REMOVE ROOF SYSTEM AS NEEDED TO REMOVE MECHANICAL UNIT AND/OR INSTALL NEW STRUCTURAL SUPPORT MEMBERS AND MECHANICAL UNIT
2	REMOVE RTU AND LINE SHED PENETRATION HOUSING, CURB TO REMAIN
3	REMOVE RTU, LINE SHED PENETRATION HOUSING, CURB, ALUMINUM STAND
4	REMOVE LINE SHED PENETRATION HOUSING, CURB TO REMAIN

1 DEMO ROOF PLAN
AR101 AR101 SCALE: 1/8"=1'-0"



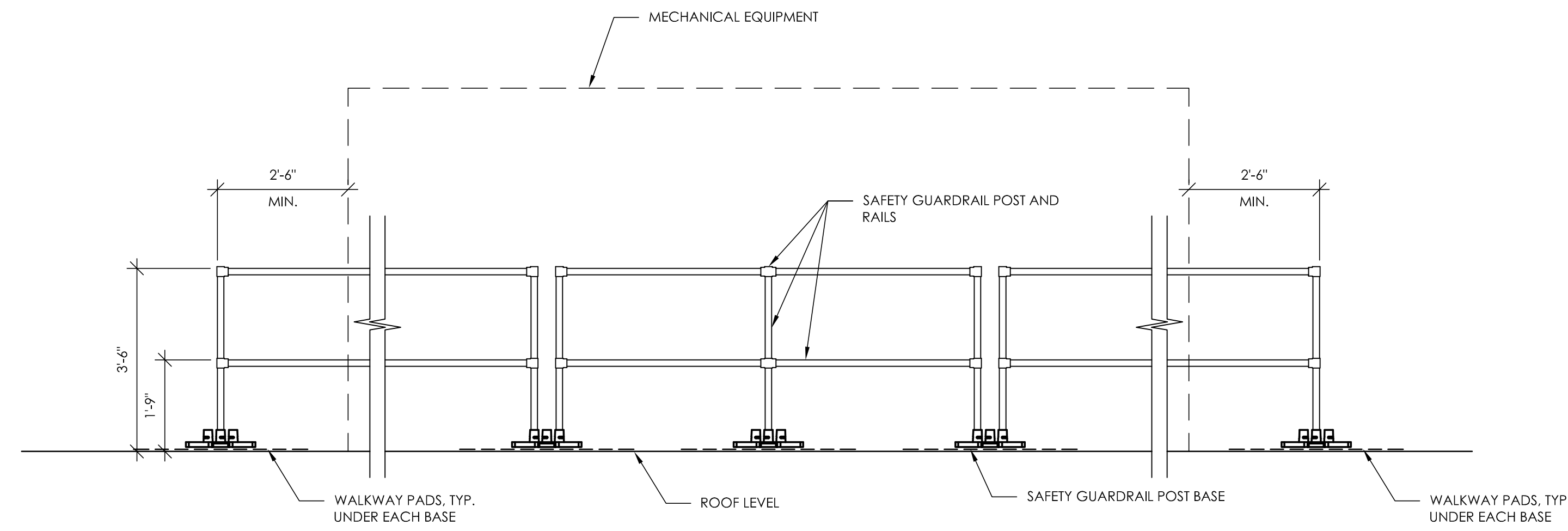
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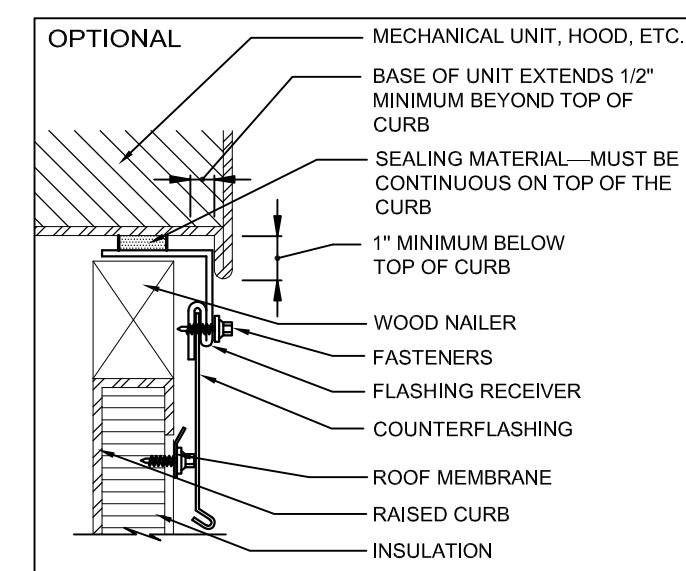
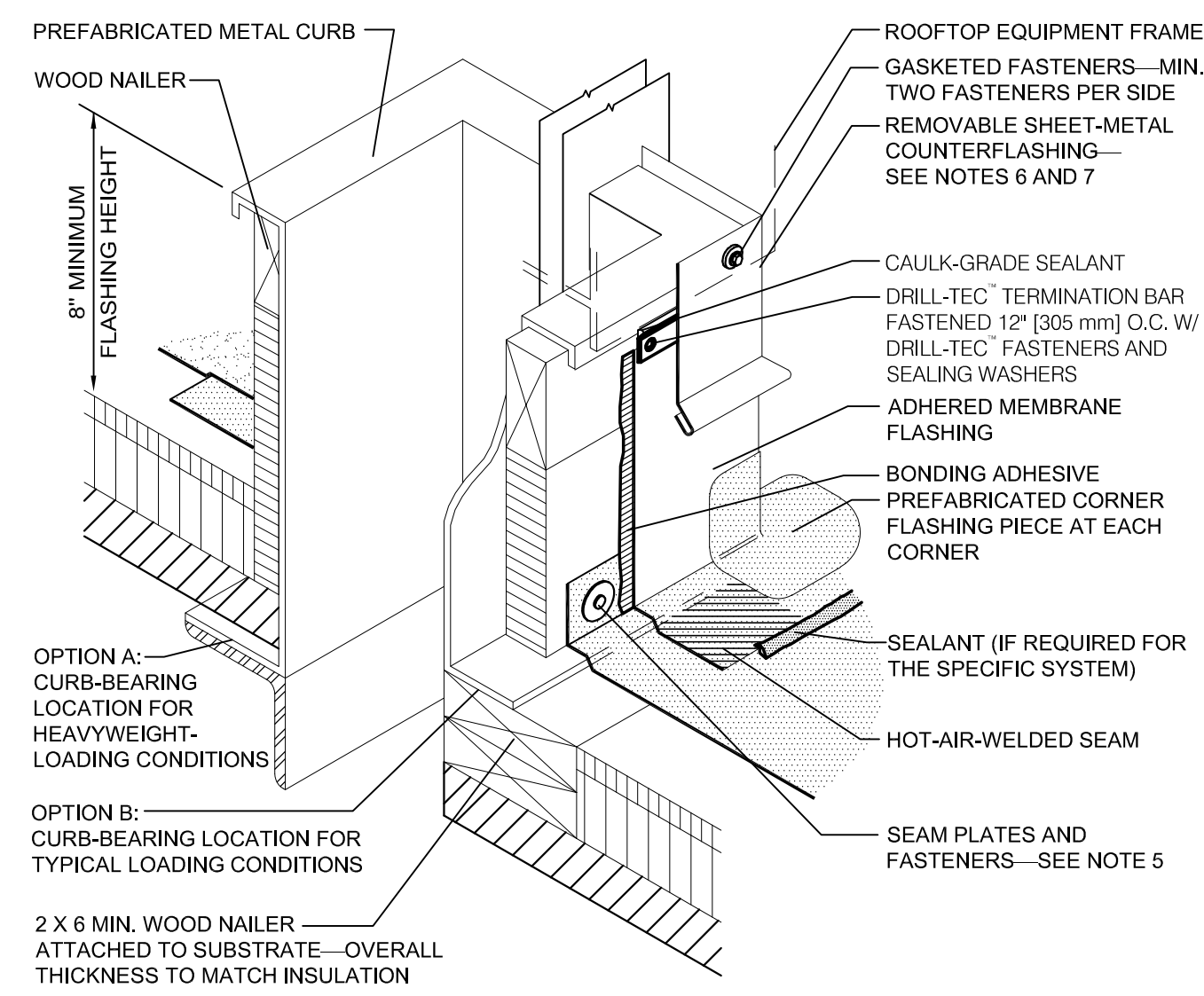
REVISIONS		
NO.	DATE	NOTES

DEMOLITION
ROOF PLAN

AR101

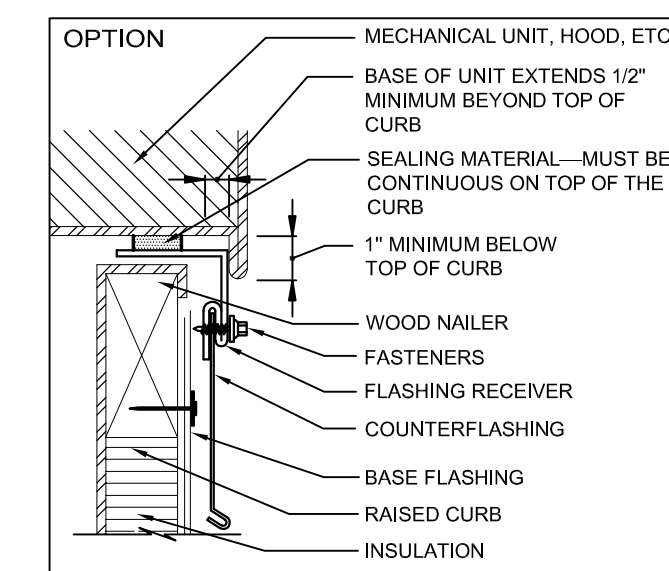
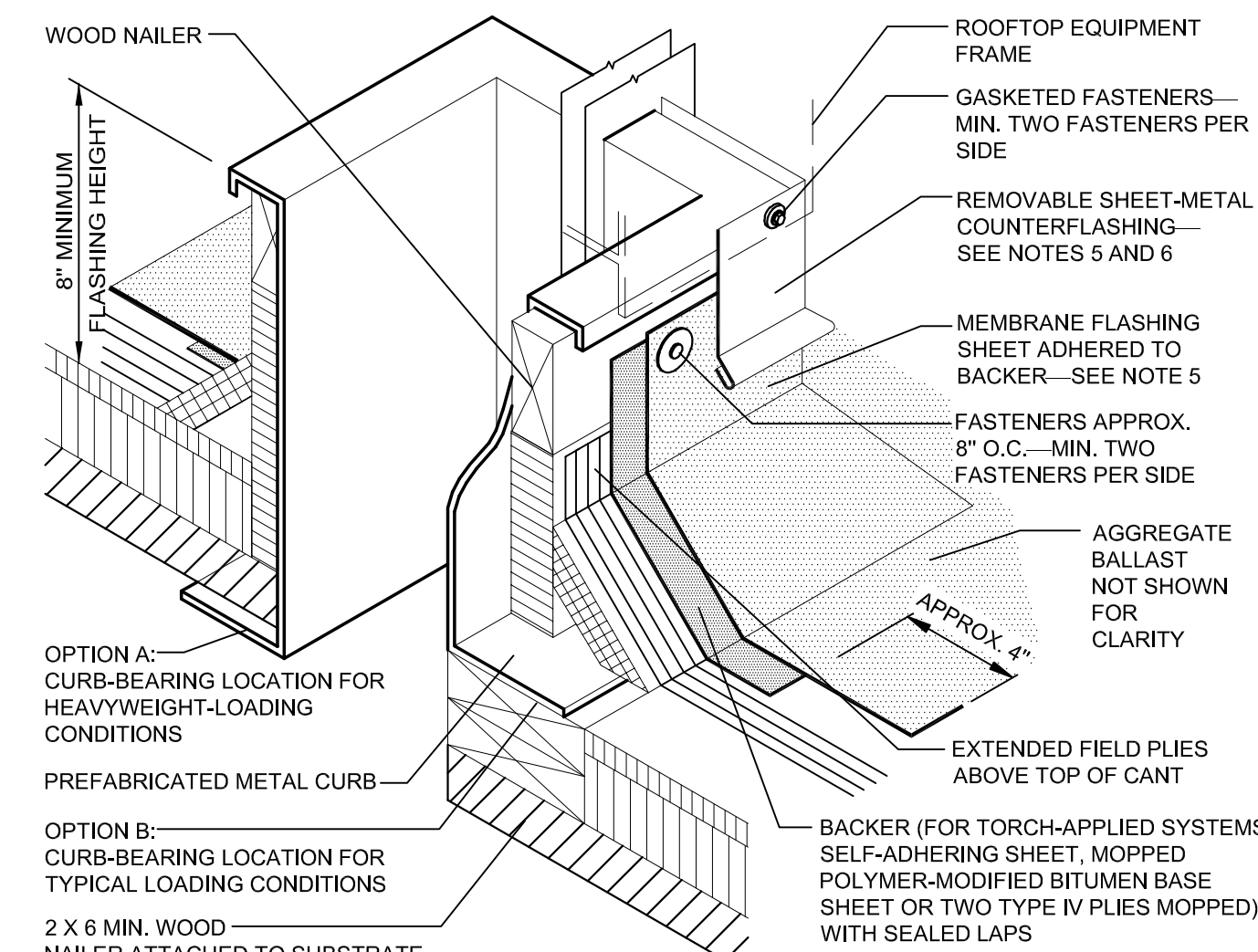


1
A501 R501
ROOF EDGE GUARDRAIL PROTECTION SYSTEM
ELEVATION DETAIL
SCALE: 1/2"=1'-0"



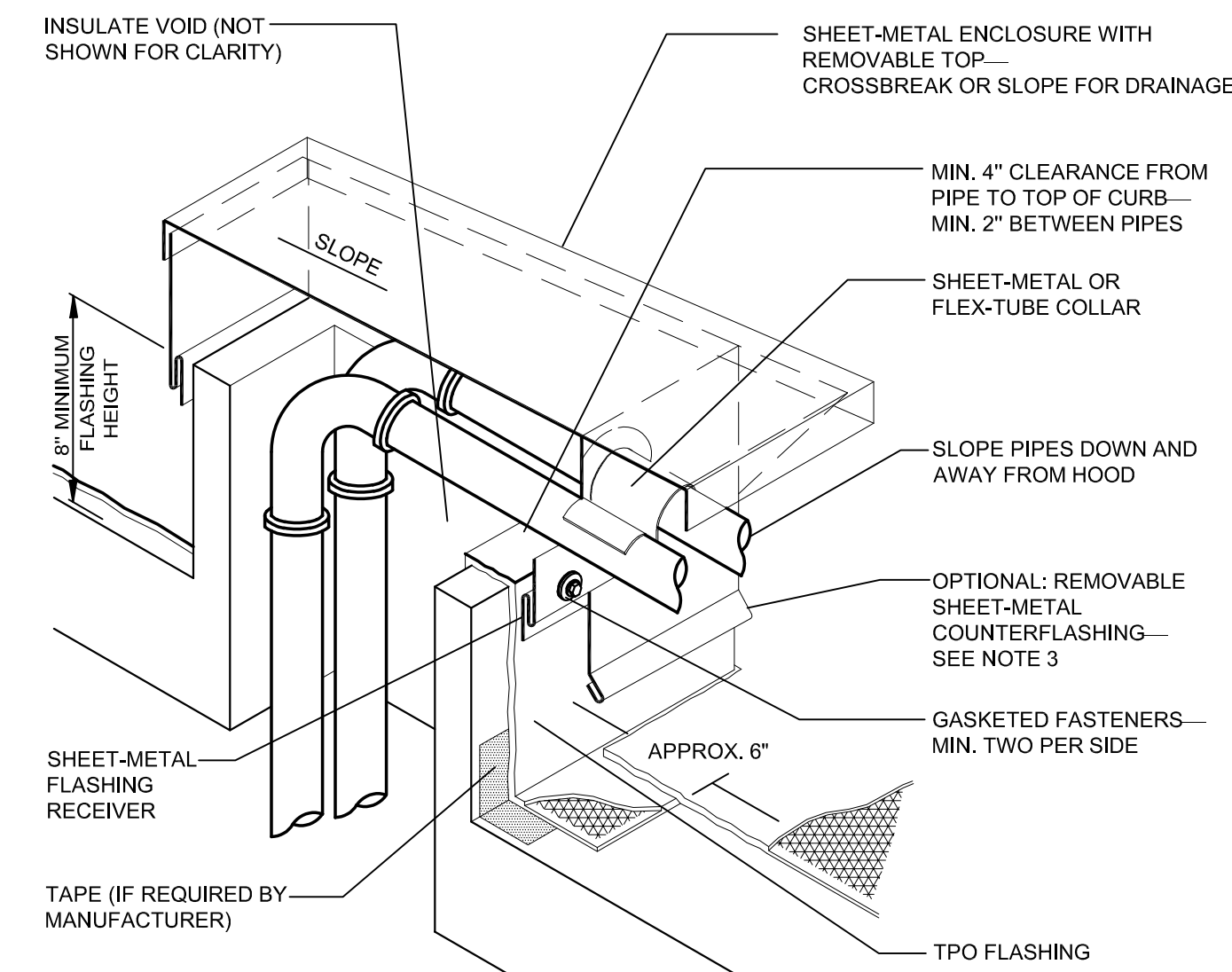
- NOTES:**
1. THE CURBS, TOP WOOD NAILER AND SEAL STRIP ARE TO BE SUPPLIED BY THE CURB MANUFACTURER.
 2. WHEN POSSIBLE, THE MECHANICAL UNITS SHOULD NOT BE SET UNTIL THE ROOF MEMBRANE AND FLASHING HAVE BEEN INSTALLED.
 3. WHERE THE SKYLIGHT, SCUTTLE OR SMOKE VENT FRAME OVERLAPS THE BASE FLASHING AT LEAST 3 INCHES, THE REMOVABLE SHEET-METAL COUNTERFLASHING IS NOT REQUIRED.
 4. NRCA RECOMMENDS DESIGNERS CONSIDER PERMANENT INTERNAL OR EXTERNAL FALL-PROTECTION DEVICES AT ALL SKYLIGHTS.
 5. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ALTERNATIVE BASE SECUREMENT OPTIONS.
 6. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION AND AIR LEAKAGE CONTROL, AND REROOFING FOR DESIGN, JOINERY AND SECUREMENT OPTIONS FOR COUNTERFLASHINGS.
 7. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.

BASE FLASHING AT PREFABRICATED METAL CURB



- NOTES:**
1. THIS DETAIL IS APPLICABLE FOR HOT, COLD-OR TORCH-APPLIED FLASHING SYSTEMS.
 2. THE CURBS, TOP WOOD NAILER AND SEAL STRIP ARE TO BE SUPPLIED BY THE CURB MANUFACTURER.
 3. WHEN POSSIBLE, THE MECHANICAL UNITS SHOULD NOT BE SET UNTIL THE ROOF MEMBRANE AND FLASHING HAVE BEEN INSTALLED.
 4. WHERE THE SKYLIGHT, SCUTTLE OR SMOKE VENT FRAME OVERLAPS THE BASE FLASHING AT LEAST 3 INCHES, THE REMOVABLE SHEET-METAL COUNTERFLASHING IS NOT REQUIRED.
 5. WHEN POTENTIAL FIRE HAZARDS CAN BE MITIGATED, NRCA CONSIDERS IT ACCEPTABLE TO INSTALL TORCH-APPLIED POLYMER-ADHESIVED BITUMEN SHEET OVER THE SPECIFIED BACKER FLASHING USING THE DIRECT TORCHING METHOD PROVIDED LOW OUTPUT (50,000 BTU OUTPUT OR LESS) TORCHING EQUIPMENT IS USED. WHEN POTENTIAL FIRE HAZARDS CANNOT BE ADEQUATELY MITIGATED, TORCH-APPLIED POLYMER-ADHESIVED BITUMEN SHEET SHALL BE INSTALLED USING INDIRECT TORCHING METHODS, SUCH AS THE TORCH-AND-FLOP APPLICATION METHOD.
 6. NRCA RECOMMENDS DESIGNERS CONSIDER PERMANENT INTERNAL OR EXTERNAL FALL-PROTECTION DEVICES AT ALL SKYLIGHTS.
 7. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION AND AIR LEAKAGE CONTROL, AND REROOFING FOR DESIGN, JOINERY AND SECUREMENT OPTIONS FOR COUNTERFLASHINGS.
 8. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.

3
AR102 R501
MECHANICAL EQUIPMENT CURB – BUILT UP ROOF SYSTEM
AXONOMETRIC DETAIL
SCALE: NOT TO SCALE



- NOTES:**
1. THIS DETAIL ILLUSTRATES ANOTHER METHOD OF ELIMINATING PITCH POCKETS AND AN OPTIONAL METHOD OF GROUPING PIPING THAT MUST COME UP ABOVE THE ROOF SURFACE.
 2. MANY MANUFACTURERS OFFER PREFABRICATED BOOTTS AND OTHER MATERIALS FOR THIS PURPOSE. SPECIFICS ABOUT THESE PROPRIETARY DESIGNS VARY GREATLY, AND INDIVIDUAL MANUFACTURER'S SPECIFICATIONS SHOULD BE CONSULTED FOR THEIR USE.
 3. WHERE THE SHEET-METAL ENCLOSURE OVERLAPS THE BASE FLASHING AT LEAST 3 INCHES, THE REMOVABLE SHEET-METAL COUNTERFLASHING IS NOT REQUIRED.
 4. REFER TO THE MANUFACTURER FOR RECOMMENDATIONS ON ACCEPTABLE SUBSTRATE MATERIALS FOR THE LIQUID-APPLIED ROOF MEMBRANE APPLICATION.
 5. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION AND AIR LEAKAGE CONTROL, AND REROOFING FOR DESIGN, JOINERY AND SECUREMENT OPTIONS FOR COUNTERFLASHINGS.
 6. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.

4
AR102 R501
MECHANICAL EQUIPMENT CURB – W/ PENETRATION HOUSING
AXONOMETRIC DETAIL
SCALE: NOT TO SCALE

2
AR102 R501
MECHANICAL EQUIPMENT CURB – TPO ROOF SYSTEM
AXONOMETRIC DETAIL
SCALE: NOT TO SCALE

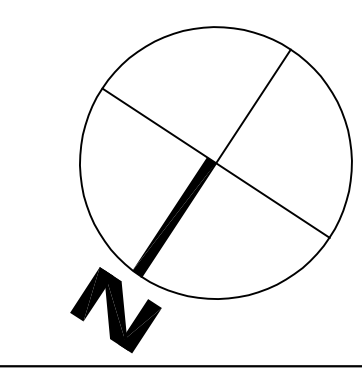
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ROOF DETAILS

A501



ABBREVIATIONS:

Table of abbreviations including AB (ANCHOR BOLT), ADJ (ADJACENT), AESS (ARCHITECTURALLY EXPOSED STRUCTURAL STEEL), AFF (ABOVE FINISHED FLOOR), AHU (AIR HANDLING UNIT), ALUM (ALUMINUM), ALT (ALTERNATE), APPD (APPROVED), APPROX (APPROXIMATE), ARCH (ARCHITECT), B/ (BOTTOM OF), BLDG (BUILDING), BM (BEAM), BOT (BOTTOM), BRDG (BRIDGING), BRG (BEARING), BLK (BLOCK), BTWN (BETWEEN), CANT (CANTILEVER), C/C (CENTER TO CENTER), CHAM (CHAMFER), CIRC (CIRCULAR), CJ (CONTROL JOINT), CLR (CLEAR), CMU (CONCRETE MASONRY UNITS), COL (COLUMN), CONC (CONCRETE), CONN (CONNECTION), CONST (CONSTRUCTION), CONT (CONTINUOUS), CONTR (CONTRACTOR), COORD (COORDINATE), CTRD (CENTERED), D (DEPTH), DBE (DECK BEARING ELEVATION), DBL (DOUBLE), DET (DETAIL), DIA (DIAMETER), DIAG (DIAGONAL), DIM (DIMENSION), DL (DEAD LOAD), DWGS (DRAWINGS), E (EAST), EA (EACH), EB (EXPANSION BOLT), EF (EACH FACE), EJ (EXPANSION JOINT), EL (ELEVATION), ELEV (ELEVATOR), EMBED (EMBEDMENT), ENGR (ENGINEER), EOS (EDGE OF SLAB), EQ (EQUAL), EQUIP (EQUIPMENT), EQUIV (EQUIVALENT), ES (EACH SIDE), EW (EACH WAY), EXP (EXPANSION), EXIST (EXISTING), EXT (EXTERIOR), FC (FILLED CELL), FF (FINISHED FLOOR), FIN (FINISH), FLR (FLOOR), FDN (FOUNDATION), FRMG (FRAMING), FT (FEET), FTG (FOOTING), FV (FIELD VERIFY), GA (GAUGE), HDG (HOT DIP GALVANIZED), HORIZ (HORIZONTAL), HSA (HEADED STUD ANCHOR), HSB (HIGH STRENGTH BOLT), HT (HEIGHT), ID (INSIDE DIAMETER), IF (INSIDE FACE), IN (INCH), INCL (INCLUDE, ING), INT (INTERIOR), JBE (JOIST BEARING ELEVATION), LB (POUND), LG (LONG), LL (LIVE LOAD), LBB (LONG LEG BACK TO BACK), LLH (LONG LEG HORIZONTAL), LLV (LONG LEG VERTICAL), LONG (LONGITUDINAL), LSL (LONG SLOTTED HOLES), LT (LIGHT), LTWT (LIGHTWEIGHT), MAS (MASONRY), MAX (MAXIMUM), MECH (MECHANICAL), MEZZ (MEZZANINE), MFR (MANUFACTURER), MID (MIDDLE), MIN (MINIMUM), MISC (MISCELLANEOUS), MJ (MASONRY JOINT), MO (MASONRY OPENING), N (NORTH), NIC (NOT IN CONTRACT), NO (NUMBER), NOM (NOMINAL), NS (NEAR SIDE), NTS (NOT TO SCALE), O/O (OUT TO OUT), OC (ON CENTER), OD (OUTSIDE DIAMETER), OF (OUTSIDE FACE), OPNG (OPENING), OPP (OPPOSITE), OW (OPEN WEB), PAF (POWDER ACTUATED FASTENER), PL (PLATE), PLF (POUNDS PER LINEAL FOOT), PROJ (PROJECTION), PSF (POUNDS PER SQUARE FOOT), PSI (POUNDS PER SQUARE INCH), PT (PRESSURE TREATED), RAD (RADIUS), REF (REFERENCE), REINF (REINFORCEMENT), RET (RETURN), REV (REVISION), RP (RADIUS POINT), RT (RIGHT), RTU (ROOF TOP UNIT), S (SOUTH), SA (SLEEVE ANCHOR), SB (SLAB BOLSTER), SCHED (SCHEDULE), SECT (SECTION), SF- (STEP FOOTING), SIM (SIMILAR), SPEC (SPECIFICATIONS), SP (SPACINGS), SQ (SQUARE), SSL (SHORT SLOTTED HOLES), SS (STAINLESS STEEL), STD (STANDARD), STIFF (STIFFENERS), STL (STEEL), SYMM (SYMMETRICAL), T/ (TOP OF), TB (TIE BEAM), TC (TIE COLUMN), TCX (TOP CHORD EXTENSION), T&B (TOP AND BOTTOM), TEMP (TEMPORARY), TRAN (TRANSVERSE), TS (TUBE STEEL), TYP (TYPICAL), UNO (UNLESS NOTED OTHERWISE), VERT (VERTICAL), W (WEST), W/ (WITH), W/O (WITHOUT), WP (WORK POINT), WT (WEIGHT), WWM (WELDED WIRE MESH)

GENERAL NOTES

- 1. STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE ENTIRE SET OF PROJECT DRAWINGS, PROJECT MANUAL, AND ALL SHOP DRAWING SUBMITTALS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND COORDINATING DIMENSIONS, CLEARANCES AND ALL OTHER COORDINATION ISSUES WITH OTHER TRADES.
3. IN CASE OF CONFLICT BETWEEN VARIOUS STRUCTURAL DRAWINGS, STRUCTURAL PLANS, OR STRUCTURAL DETAILS THE MORE STRINGENT SHALL GOVERN. THE CONTRACTOR SHALL MAKE ALLOWANCE IN HIS BID FOR THE MORE COSTLY CONDITION.
4. IN CASE OF CONFLICT BETWEEN DRAWINGS, DRAWING NOTES, AND SPECIFICATIONS THE MORE STRINGENT SHALL GOVERN. THE CONTRACTOR SHALL MAKE ALLOWANCE IN HIS BID FOR THE MORE COSTLY CONDITION.
5. WORK NOT INDICATED ON THE DRAWINGS, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
6. ALL NOTES, DETAILS AND SECTIONS ARE INTENDED TO BE TYPICAL FOR THE GENERAL CONDITIONS INDICATED OR REFERENCED. ALL NOTES, DETAILS AND SECTIONS SHALL APPLY TO ANY SIMILAR SITUATION THROUGHOUT THE ENTIRE PROJECT UNLESS A SEPARATE NOTE, DETAIL OR SECTION IS PROVIDED.
7. REVIEW ALL PROJECT DOCUMENTS PRIOR TO FABRICATION AND START OF CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH WORK.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING AND IN PLACE WORK OR UTILITIES DURING CONSTRUCTION.
9. COORDINATE STRUCTURAL DRAWINGS WITH OTHER CONTRACT DRAWINGS, SPECIFICATIONS, OR SHOP DRAWINGS WHICH MAY AFFECT THE STRUCTURAL WORK.
10. USE OF REPRODUCED CONTRACT DRAWINGS IN PART OR WHOLE FOR THE PURPOSE OF SHOP DRAWING PREPARATION SHALL NOT RELIEVE THE CONTRACTOR OR SUBCONTRACTOR FROM THE REQUIREMENT TO ACCURATELY LAYOUT, COORDINATE, DETAIL, FABRICATE AND INSTALL A COMPLETE STRUCTURE.
11. ALL SUBMITTALS SHALL BE REVIEWED BY THE SUBCONTRACTOR AND CONTRACTOR FOR CONFORMANCE TO THE CONTRACT DOCUMENTS, FOR COMPLETENESS, AND TO RESPOND TO CONTRACTOR COORDINATION RELATED QUESTIONS PRIOR TO SUBMITTING FOR APPROVAL. ALL SHEETS SHALL BE STAMPED AND INITIALED BY THE CONTRACTOR INDICATING SUCH A REVIEW HAS BEEN COMPLETED PRIOR TO ISSUING SUBMITTAL FOR APPROVAL.
12. CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN APPROVAL.
13. ALL ELEVATIONS INDICATED IN STRUCTURAL DRAWINGS ARE IN REFERENCE TO A GROUND FLOOR FINISHED SLAB ELEVATION OF 0'-0" UNLESS NOTED OTHERWISE. SEE CIVIL FOR GROUND FLOOR FINISHED SLAB ELEVATION.

STRUCTURAL STEEL FRAMING

- 1. ALL STRUCTURAL STEEL FRAMING SHALL CONFORM TO SPECIFICATION SECTION 051200-"STRUCTURAL STEEL FRAMING".
2. ALL STRUCTURAL STEEL ERECTION SHALL COMPLY WITH AISC 360-16 AND AISC 303-16.
3. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACINGS OR GUYS TO PROVIDE LATERAL SUPPORT OF THE STRUCTURAL STEEL UNTIL THE PERMANENT LATERAL FORCE RESISTING SYSTEM IS COMPLETED.
5. THE ERECTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER'S SPECIAL INSPECTOR FOR PRE-INSTALLATION VERIFICATION OF SLIP CRITICAL BOLT TIGHTENING PROCEDURES.
6. FIELD TESTING AND INSPECTION OF STRUCTURAL STEEL MATERIALS AND STRUCTURAL STEEL INSTALLATION SHALL BE COMPLETED BY AN INDEPENDENT TESTING AGENCY COMMISSIONED BY THE OWNER, AND SHALL BE IN ACCORDANCE WITH THE SCHEDULE OF SPECIAL INSPECTIONS.

POST INSTALLED STRUCTURAL ANCHORS

- 1. ALL POST INSTALLED STRUCTURAL ANCHORS SHALL CONFORM TO SPECIFICATION SECTION 050520-"POST INSTALLED STRUCTURAL ANCHORS".
2. NOTED EMBEDMENT DEPTHS ARE FROM FACE OF CMU OR FACE OF CONCRETE.
3. ALL INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S DATA AND THE ASSOCIATED ICC REPORT.
4. ALL PERSONNEL INSTALLING ANCHORS SHALL HAVE ATTENDED INSTALLER TRAINING PER THE SPECIFICATIONS.
5. FIELD TESTING AND INSPECTION OF POST INSTALLED ANCHOR MATERIALS AND POST INSTALLED ANCHOR INSTALLATION SHALL BE COMPLETED BY AN INDEPENDENT TESTING AGENCY COMMISSIONED BY THE OWNER, AND SHALL BE IN ACCORDANCE WITH THE SCHEDULE OF SPECIAL INSPECTIONS.

FIELD WELDING

- 1. ALL FIELD WELDING SHALL CONFORM TO SPECIFICATION SECTION 051200-"STRUCTURAL STEEL FRAMING" FOR WELDING STRUCTURAL STEEL FRAMING.
2. ALL FIELD WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE-STEEL" AND AWS D1.3, "STRUCTURAL WELDING CODE-SHEET STEEL", LATEST EDITIONS.
3. ALL FIELD WELDING SHALL BE IN STRICT ACCORDANCE WITH WRITTEN WELD PRODUCTION (WPS) FOR THE GIVEN WELD CONDITION.
4. REPAIR ALL DAMAGED GALVANIZING, PRIMER OR PAINT ONCE WELDING IS COMPLETE.
5. ELECTRODES SHALL BE STORED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
6. ALL PERSONNEL COMPLETING FIELD WELDS SHALL BE CERTIFIED IN ACCORDANCE WITH AWS TO PERFORM THE GIVEN WELD.
7. FIELD TESTING AND INSPECTION OF FIELD WELDING MATERIALS AND FIELD WELDING SHALL BE COMPLETED BY AN INDEPENDENT TESTING AGENCY COMMISSIONED BY THE OWNER, AND SHALL BE IN ACCORDANCE WITH THE SCHEDULE OF SPECIAL INSPECTIONS.

BAR JOIST AND JOIST GIRDER RETROFIT NOTES

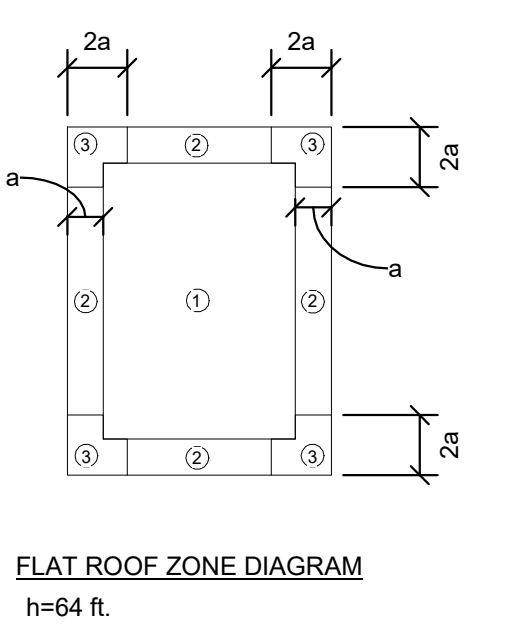
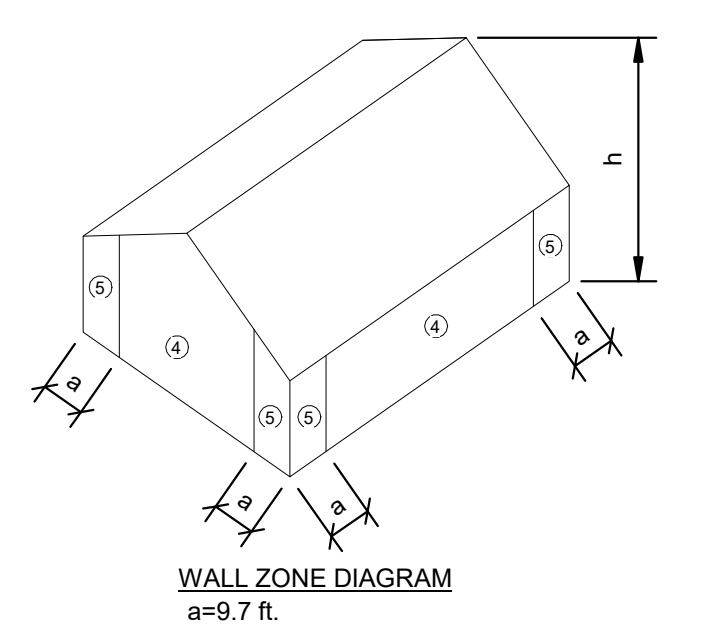
- 1. THE G.C. SHALL ENGAGE A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF SOUTH CAROLINA TO ANALYZE THE EXISTING BAR JOISTS TO DETERMINE IF THE JOISTS ARE CAPABLE OF SUPPORTING THE NEW HVAC UNITS, PLUS THE FOLLOWING NORMAL ROOF LOADS: 20 PSF LL, 20 PSF DL, 36 PSF W UPLIFT.
2. IF THE JOISTS/JOIST GIRDERS ARE DETERMINED TO NOT HAVE THE CAPACITY TO SUPPORT THE NORMAL ROOF LOADING AND THE WEIGHT OF THE NEW MEP EQUIPMENT AND FRAMING, THE JOIST DESIGNER SHALL PROVIDE A RETROFIT DESIGN FOR THE G.C. TO INSTALL PRIOR TO INSTALLING ANY NEW EQUIPMENT.
3. THE JOIST DESIGNER SHALL PROVIDE SIGNED AND SEALED CALCULATIONS AND SHOP DRAWINGS FOR THE FOLLOWING:
A. VERIFICATION OF JOIST HAVING SUFFICIENT CAPACITY TO SUPPORT NORMAL ROOF LOADS AND THE NEW EQUIPMENT LOADS. THIS MAY BE IN CALCULATION AND CUT SHEET/LETTER FORMAT.
B. PROVIDE RETROFIT DESIGN REQUIREMENTS IN SHOP DRAWING AND CALCULATIONS FOR JOISTS/JOIST GIRDERS THAT ARE NOT CAPABLE OF SUPPORTING THE NORMAL LOADS AND THE NEW EQUIPMENT. THESE SHOP DRAWINGS AND CALCULATIONS WILL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE E.O.R.
4. THE JOIST DESIGNER SHALL IDENTIFY ALL ASSUMPTIONS AND PROVIDE THEM TO THE E.O.R. THE G.C. WILL NEED TO FIELD VERIFY AND PROVIDE NEEDED INFORMATION FOR ASSUMPTIONS.
5. THE G.C. SHALL PROVIDE AN ALLOWANCE OF \$25,000 FOR BAR JOIST RETROFITS.
6. PRIOR TO THE USE OF THIS MONEY, THE G.C. SHALL PROVIDE A POTENTIAL CHANGE ORDER FOR APPROVAL. THIS WILL NEED TO BE REVIEWED AND APPROVED PRIOR TO STARTING WORK.
7. BELOW ARE JOIST RETROFIT DESIGN ENGINEER CONTACTS THE G.C. MAY CHOOSE TO ENGAGE. THE G.C. HAS THE OPTION OF RETAINING THEIR OWN QUALIFIED JOIST RETROFIT ENGINEER.
A. IVAN TOLIVER, P.E. - IVAN@SPHENGINEERING.COM (817) 985-7808
B. LARRY LANG, P.E. - LARRY@LANGJOIST.COM (760) 702-7744.

STRUCTURAL DESIGN CRITERIA

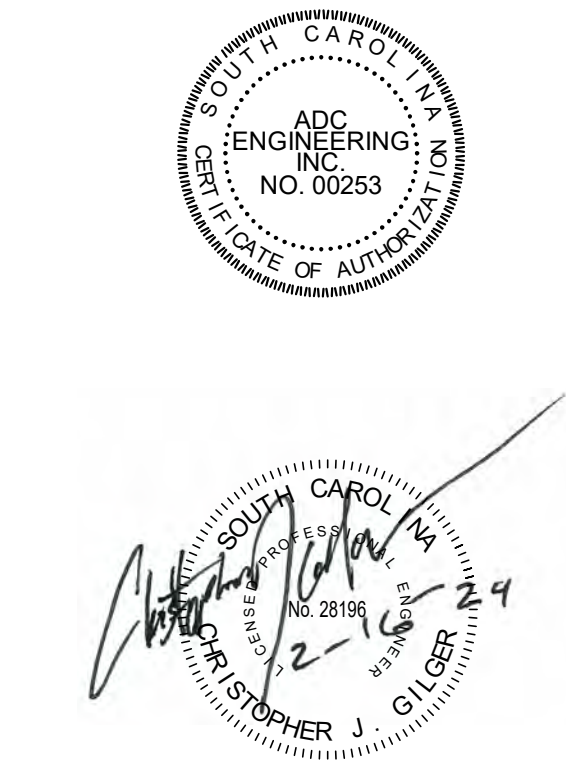
DESIGN BASED ON THE FOLLOWING CODES:
- INTERNATIONAL BUILDING CODE (IBC) 2021
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7-16 - MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES

- 1. FOUNDATION DESIGN VALUES: ALLOWABLE BEARING CAPACITY N/A, DIFFERENTIAL SETTLEMENT N/A, TOTAL SETTLEMENT N/A.
2. GRAVITY LOAD DESIGN VALUES: FLOOR LIVE LOADS: (1ST FLOOR) CORRIDORS 100-PSF, LOBBY 100-PSF, RESTROOMS 100-PSF, OFFICES 50-PSF, CLASSROOMS 40-PSF. ROOF LIVE LOADS: ROOF 20-PSF.
GROUND SNOW LOADS: SNOW 10-PSF.
DEAD LOADS: ACTUAL MATERIAL WEIGHTS PER ASCE 7-16. SEE ARCHITECTURAL DRAWINGS FOR ROOF, WALL, AND FLOOR CONSTRUCTION.
3. SEISMIC DESIGN VALUES: Ss = 0.254, S1 = 0.098, Sds = 0.271g, Sd1 = 0.156g, SITE CLASS: "D" (ASSUMED), BUILDING CATEGORY: "II", IMPORTANCE FACTOR: Ie = 1.25, SEISMIC DESIGN CATEGORY: "C", ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE (ELF), SEISMIC FORCE RESISTING SYSTEM: EXISTING INTERMEDIATE REINFORCED MASONRY SHEAR WALLS, RESPONSE MODIFICATION FACTOR: R = 3.0 NOT DETAILED FOR SEISMIC DEFLECTION AMPLIFICATION FACTOR: Cd = 3.0 NOT DETAILED FOR SEISMIC SYSTEM OVERSTRENGTH FACTOR: OmegaE = 3.0 NOT DETAILED FOR SEISMIC. ALLOWABLE INTERSTORY DRIFT: 0.02 Hsx.
4. WIND LOAD DESIGN VALUES: V = 155 mph (3-sec gust), BUILDING CATEGORY: "III", IMPORTANCE FACTOR: I = 1.00, EXPOSURE CATEGORY: "B", ENCLOSURE CLASSIFICATION: ENCLOSED, DIRECTIONAL FACTOR: Kd = 0.85, TOPOGRAPHIC FACTOR: Kzt = 1.0, GROUND ELEVATION FACTOR: Ke = 1.0, VELOCITY EXPOSURE COEFFICIENT: Kz = 0.89, VELOCITY PRESSURE: q = 38.1 psf, INTERNAL PRESSURE COEFFICIENT: Gcpi = +/- 0.18, ALLOWABLE INTERSTORY DRIFT: 0.0025 Hsx.

Table titled 'Components and Cladding Wind Pressures (Unfactored/Ultimate): Flat Roofs h=25''. Includes internal pressures and a table with columns: DESCRIPTION, AREA, ZONE, MAX P, MIN P. Rows include ROOF FIELD, ROOF FIELD EDGE, ROOF EDGE, ROOF CORNER, WALL FIELD, WALL EDGE.



Horry County Schools
North Myrtle Beach Middle School HVAC
11240 SC-90
Little River, SC 29566

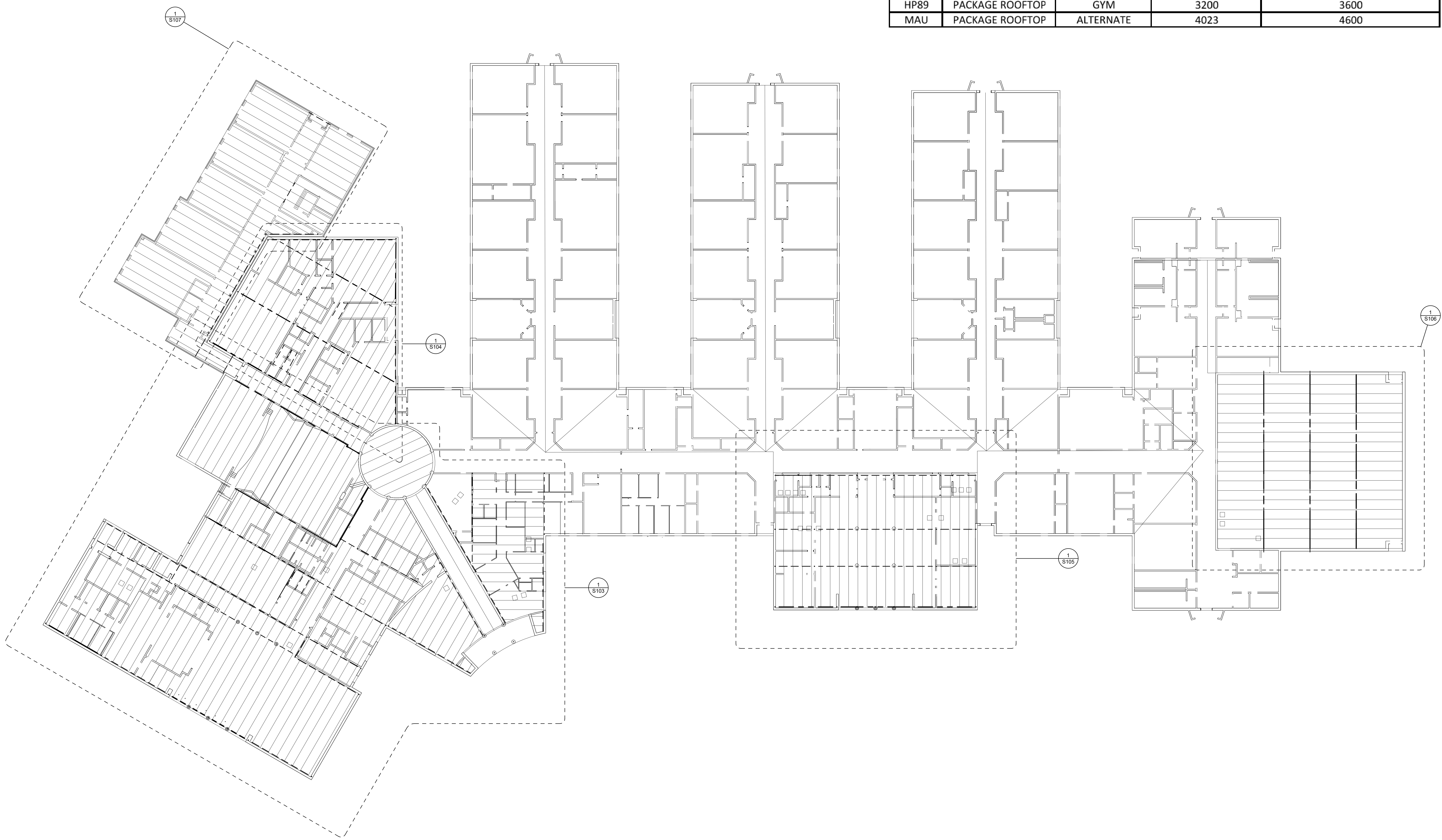


DATE: 02/16/2024
ADC PROJECT#: 23379
DESIGNED: C.J.G.
CHECKED: C.J.G.
DRAWN: DCC
REVISION:

GENERAL NOTES

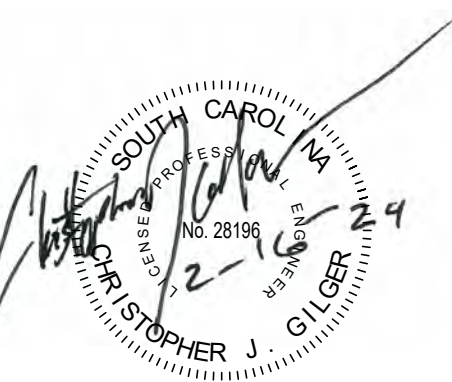
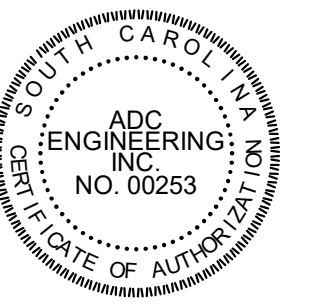
S000

BASIS OF DESIGN - UNIT SCHEDULE				
TAG	TYPE	AREA	UNIT WEIGHT (LBS)	ESTIMATED WEIGHT: UNIT, CURB, AND MISC FRAMING (LBS)
HP05	PACKAGE ROOFTOP	CAFETERIA	4407	5000
HP06	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP07	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP12	PACKAGE ROOFTOP	A WING	3134	3600
HP13	PACKAGE ROOFTOP	AUDITORIUM	3108	3600
HP14	PACKAGE ROOFTOP	AUDITORIUM	825	1200
HP21	PACKAGE ROOFTOP	ART	1512	2000
HP22	PACKAGE ROOFTOP	CORRIDOR	825	1200
HP23	PACKAGE ROOFTOP	BAND	3191	3600
HP24	PACKAGE ROOFTOP	CHORUS	1468	2000
HP88	PACKAGE ROOFTOP	GYM	3200	3600
HP89	PACKAGE ROOFTOP	GYM	3200	3600
MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600



Horry County Schools
North Myrtle Beach Middle School HVAC

11240 SC-90
 Little River, SC 29566



DATE: 02/16/2024
 ADC PROJECT #: 23379
 DESIGNED: C/JG
 CHECKED: C/JG
 DRAWN: DCC
 REVISION:

FULL ROOF FRAMING PLAN

S102

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1 FULL ROOF FRAMING PLAN
 3/64" = 1'-0"

KEYED NOTES (THIS SHEET ONLY)	
501	NEW C12X20.7
502	EXISTING DOUBLE JOIST
504	EXISTING 3" DIA. PIPE COLUMN
505	EXISTING 4" DIA. PIPE COLUMN
506	EXISTING 5" DIA. PIPE COLUMN
507	EXISTING W8X24 COLUMN
509	NEW W12X16 BELOW DECKING
510	G.C. TO HAVE JOIST EVALUATED TO DETERMINE IF IT IS ADEQUATE TO SUPPORT THE NEW UNITS AND NORMAL ROOF LOADS. SEE JOIST AND JOIST GIRDER RETROFIT NOTES ON S000. SOME JOIST LOADING DIAGRAMS HAVE BEEN PROVIDED. IF ADDITIONAL DIAGRAMS ARE NEEDED FOR ADDITIONAL JOISTS, NOTIFY ADC.
511	G.C. TO PROVIDE JOIST MEMBER SIZES TO JOIST RETROFIT DESIGNER.

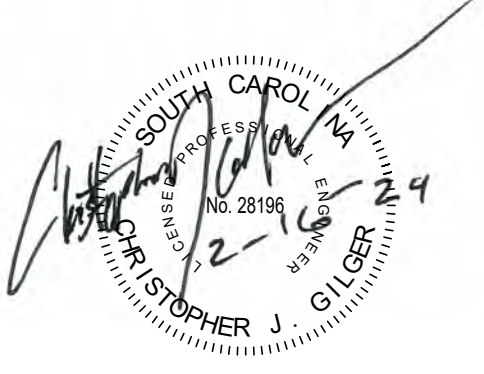
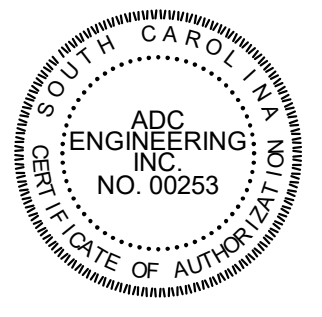
GENERAL NOTE:

- WEIGHTS INDICATED HEREIN SHALL BE MAX WEIGHT FOR THE UNIT AND THE CURB. SEE S002 FOR MAX UNIT WEIGHT. IF WEIGHT IS GREATER THAN THAT INDICATED, NOTIFY THE EOR.



BASIS OF DESIGN - UNIT SCHEDULE				
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HP13	PACKAGE ROOFTOP	AUDITORIUM	3108	3600
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HP24	PACKAGE ROOFTOP	CHORUS	1468	2000
HP88	PACKAGE ROOFTOP	GYM	3200	3600
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MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600

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 11240 SC-90
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DATE: 02/16/2024
 ADC PROJECT#: 23379
 DESIGNED: C.JG
 CHECKED: C.JG
 DRAWN: DCC
 REVISION:

PARTIAL 'A' ROOF FRAMING PLAN

S103

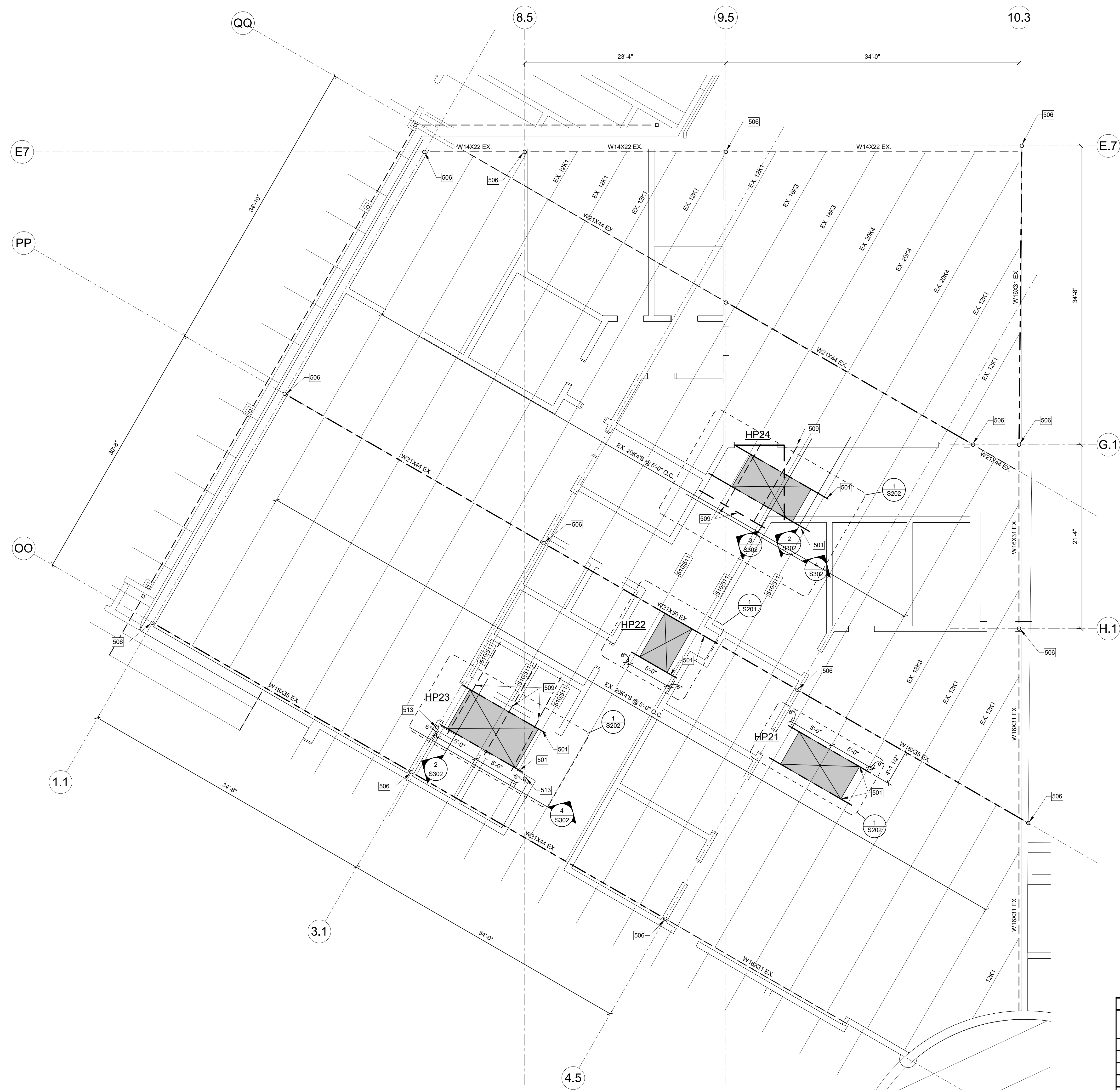
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1 PARTIAL 'A' ROOF FRAMING PLAN
 1" = 10'-0"

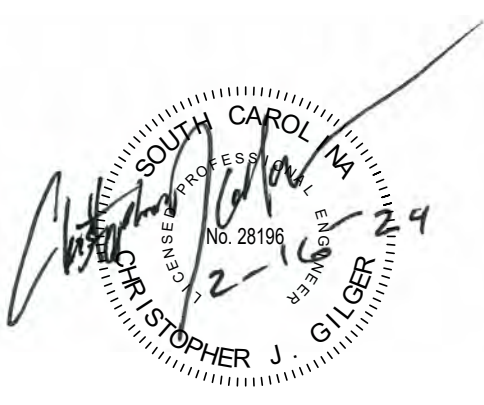
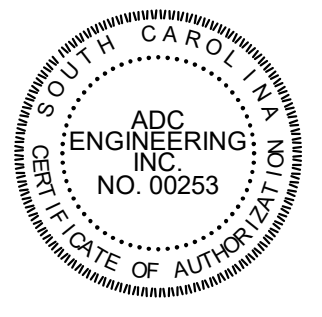
KEYED NOTES (THIS SHEET ONLY)	
501	NEW C12X30.7
506	EXISTING 5" DIA. PIPE COLUMN.
509	NEW W12X16 BELOW DECKING.
510	G.C. TO HAVE JOIST EVALUATED TO DETERMINE IF IT IS ADEQUATE TO SUPPORT THE NEW UNITS AND NORMAL ROOF LOADS. SEE JOIST AND JOIST GIRDER RETROFIT NOTES ON S000. SOME JOIST LOADING DIAGRAMS HAVE BEEN PROVIDED. IF ADDITIONAL DIAGRAMS ARE NEEDED FOR ADDITIONAL JOISTS, NOTIFY ADC.
511	G.C. TO PROVIDE JOIST MEMBER SIZES TO JOIST RETROFIT DESIGNER.
513	HSS 4X4.

GENERAL NOTE:

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 Little River, SC 29566



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 DRAWN: DCC
 REVISION:

BASIS OF DESIGN - UNIT SCHEDULE				
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HP24	PACKAGE ROOFTOP	CHORUS	1468	2000
HP88	PACKAGE ROOFTOP	GYM	3200	3600
HP89	PACKAGE ROOFTOP	GYM	3200	3600
MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600

1 PARTIAL 'B' ROOF FRAMING PLAN
 3/16" = 1'-0"

PARTIAL 'B' ROOF FRAMING PLAN

S104

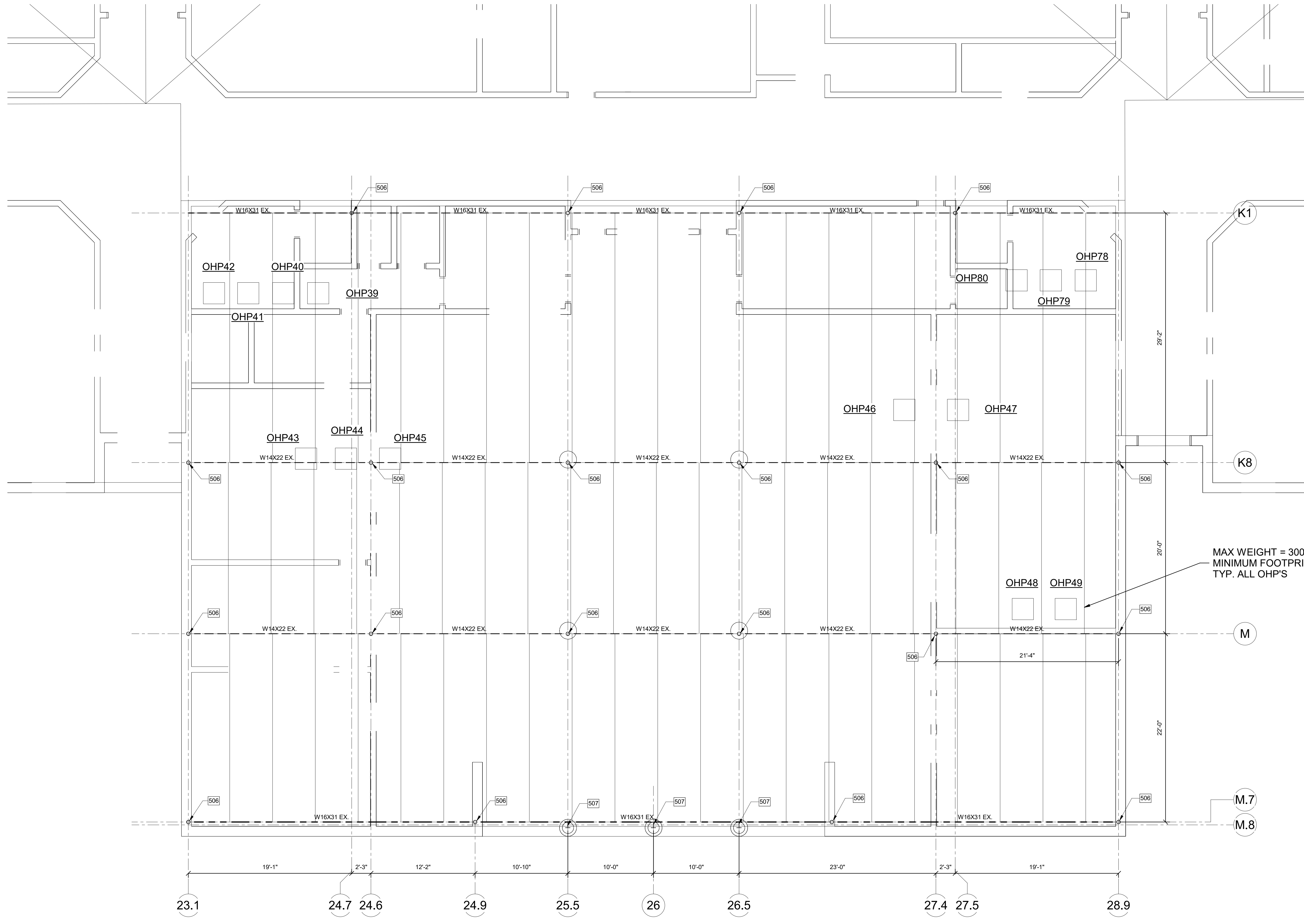
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KEYED NOTES (THIS SHEET ONLY)	
506	EXISTING 5" DIA. PIPE COLUMN.
507	EXISTING W8X24 COLUMN.

GENERAL NOTE:

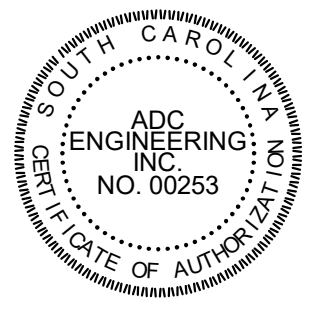
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HP89	PACKAGE ROOFTOP	GYM	3200	3600
MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600



MAX WEIGHT = 300 LBS
 MINIMUM FOOTPRINT = 24"X24"
 TYP. ALL OHP'S

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 North Myrtle Beach Middle School HVAC
 11240 SC-90
 Little River, SC 29566



Signature
 J. GILBERT
 PROJECT MANAGER

ADC ENGINEERING
 1226 YEAMANS HALL ROAD
 HANAHAN, SC 29410
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DATE: 02/16/2024
 ADC PROJECT #: 23379
 DESIGNED: C.J.G.
 CHECKED: C.J.G.
 DRAWN: DCC
 REVISION:

PARTIAL 'C' ROOF FRAMING PLAN

S105

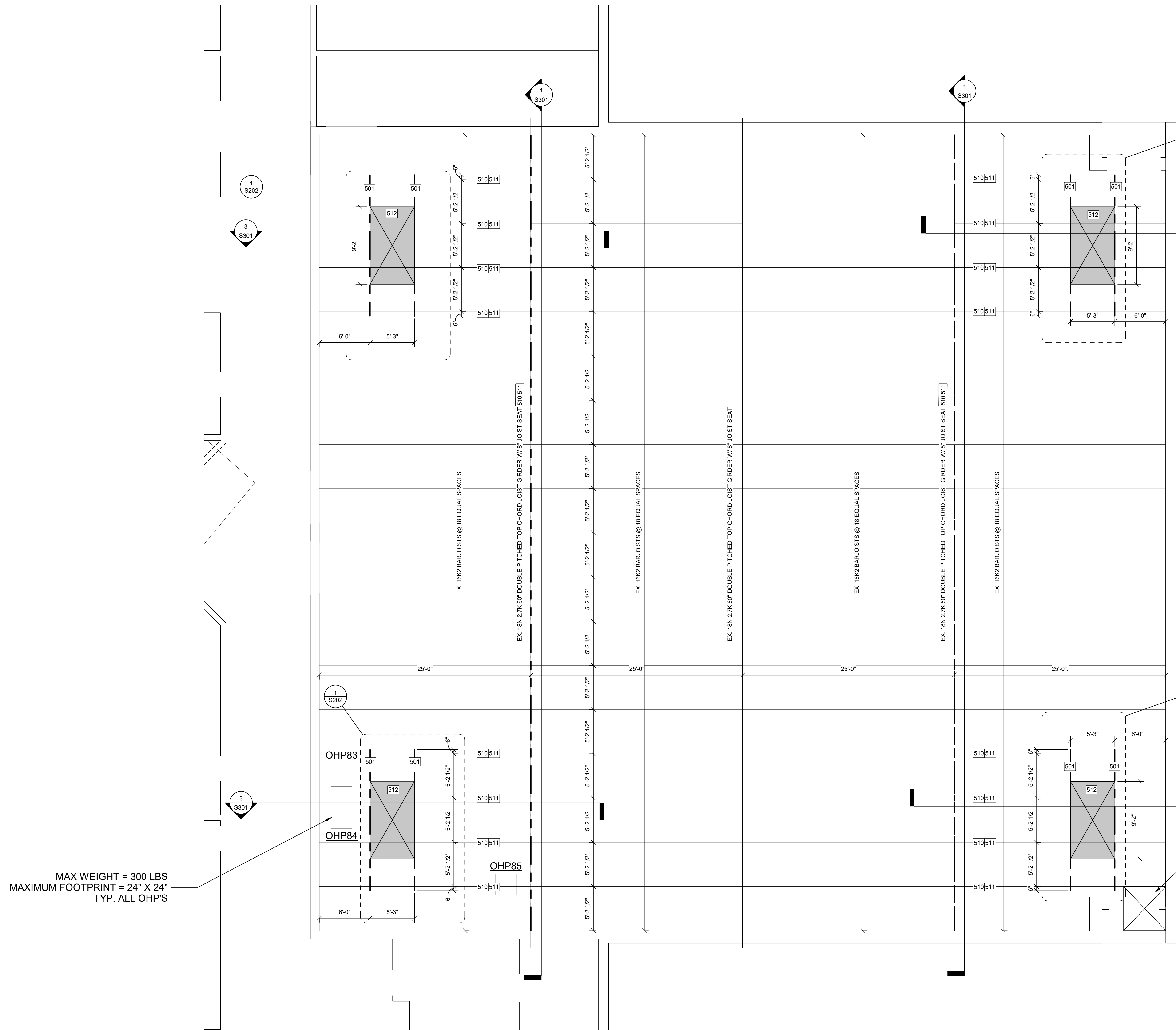
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1 PARTIAL 'C' ROOF FRAMING PLAN
 3/16" = 1'-0"

KEYED NOTES (THIS SHEET ONLY)	
501	NEW C12X20.7
510	G.C. TO HAVE JOIST EVALUATED TO DETERMINE IF IT IS ADEQUATE TO SUPPORT THE NEW UNITS AND NORMAL ROOF LOADS. SEE JOIST AND JOIST GIRDER RETROFIT NOTES ON 5000. SOME JOIST LOADING DIAGRAMS HAVE BEEN PROVIDED. IF ADDITIONAL DIAGRAMS ARE NEEDED FOR ADDITIONAL JOISTS, NOTIFY ADC.
511	G.C. TO PROVIDE JOIST MEMBER SIZES TO JOIST RETROFIT DESIGNER.
512	SEE MEP DRAWINGS FOR UNIT SIZE. MAX WEIGHT=3200 LBS. MAX WEIGHT WITH CURB AND NG=3600 LBS.

GENERAL NOTE:
WEIGHTS INDICATED HEREIN SHALL BE MAX WEIGHT FOR THE UNIT AND THE CURB. SEE 5002 FOR MAX UNIT WEIGHT. IF WEIGHT IS GREATER THAN THAT INDICATED, NOTIFY THE EOR.

BASIS OF DESIGN - UNIT SCHEDULE				
TAG	TYPE	AREA	UNIT WEIGHT (LBS)	ESTIMATED WEIGHT-UNIT, CURB, AND MISC FRAMING (LBS)
HP05	PACKAGE ROOFTOP	CAFETERIA	4407	5000
HP06	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP07	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP12	PACKAGE ROOFTOP	A WING	3134	3600
HP13	PACKAGE ROOFTOP	AUDITORIUM	3108	3600
HP14	PACKAGE ROOFTOP	AUDITORIUM	825	1200
HP15	PACKAGE ROOFTOP	ART	1512	2000
HP22	PACKAGE ROOFTOP	CORRIDOR	825	1200
HP23	PACKAGE ROOFTOP	BAND	3191	3600
HP24	PACKAGE ROOFTOP	CHORUS	1468	2000
HP88	PACKAGE ROOFTOP	GYM	3200	3600
HP89	PACKAGE ROOFTOP	GYM	3200	3600
MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600

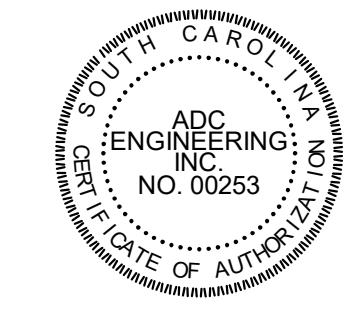


MAX WEIGHT = 300 LBS
MAXIMUM FOOTPRINT = 24" X 24"
TYP. ALL OHP'S

ROOF HATCH

1 PARTIAL 'E' ROOF FRAMING PLAN
3/16" = 1'-0"

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PARTIAL 'E' ROOF FRAMING PLAN

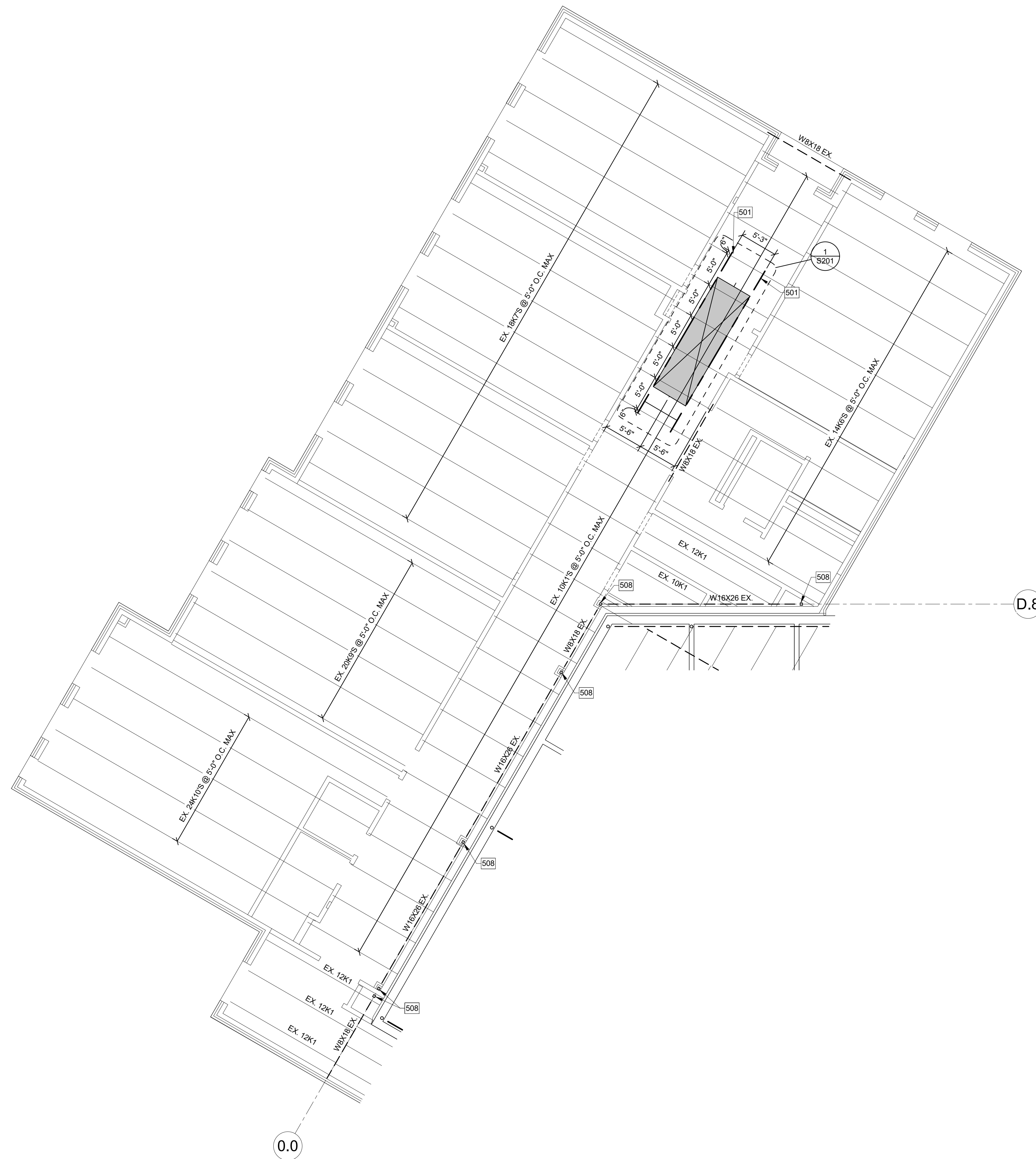
S106

KEYED NOTES (THIS SHEET ONLY)	
501	NEW C12X20.7
508	EXISTING HSS4X4X3/8 COLUMN

GENERAL NOTE:

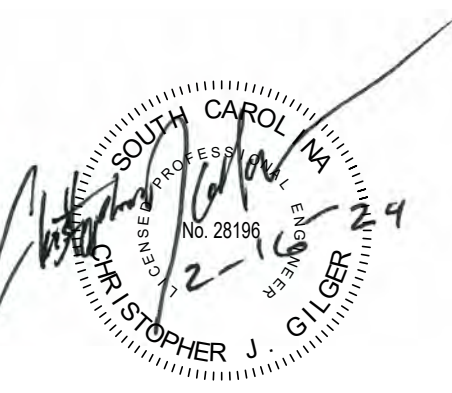
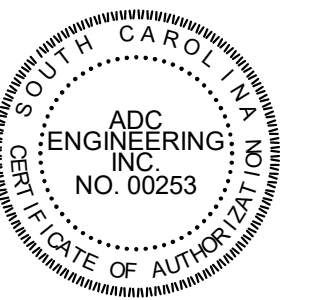
- WEIGHTS INDICATED HEREIN SHALL BE MAX WEIGHT FOR THE UNIT AND THE CURB. SEE, S002 FOR MAX UNIT WEIGHT. IF WEIGHT IS GREATER THAN THAT INDICATED, NOTIFY THE EOR.

BASIS OF DESIGN - UNIT SCHEDULE				
TAG	TYPE	AREA	UNIT WEIGHT (LBS)	ESTIMATED WEIGHT: UNIT, CURB, AND MISC FRAMING (LBS)
HP05	PACKAGE ROOFTOP	CAFETERIA	4407	5000
HP06	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP07	PACKAGE ROOFTOP	CAFETERIA	1060	1500
HP12	PACKAGE ROOFTOP	A WING	3134	3600
HP13	PACKAGE ROOFTOP	AUDITORIUM	3108	3600
HP14	PACKAGE ROOFTOP	AUDITORIUM	825	1200
HP21	PACKAGE ROOFTOP	ART	1512	2000
HP22	PACKAGE ROOFTOP	CORRIDOR	825	1200
HP23	PACKAGE ROOFTOP	BAND	3191	3600
HP24	PACKAGE ROOFTOP	CHORUS	1468	2000
HP88	PACKAGE ROOFTOP	GYM	3200	3600
HP89	PACKAGE ROOFTOP	GYM	3200	3600
MAU	PACKAGE ROOFTOP	ALTERNATE	4023	4600



1 PARTIAL ADDITION ROOF FRAMING PLAN
1/8" = 1'-0"

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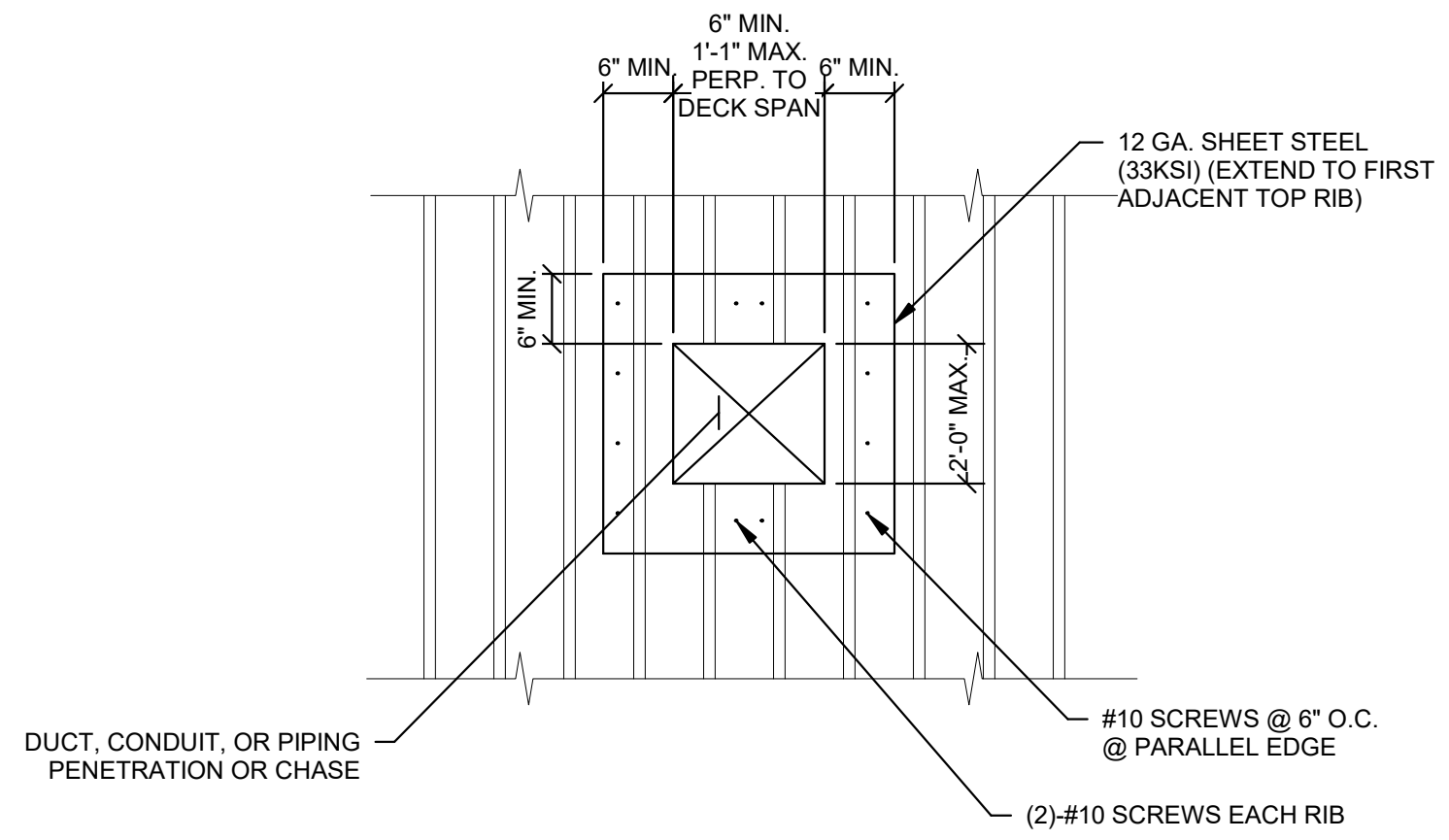


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PARTIAL ADDITION ROOF FRAMING PLAN

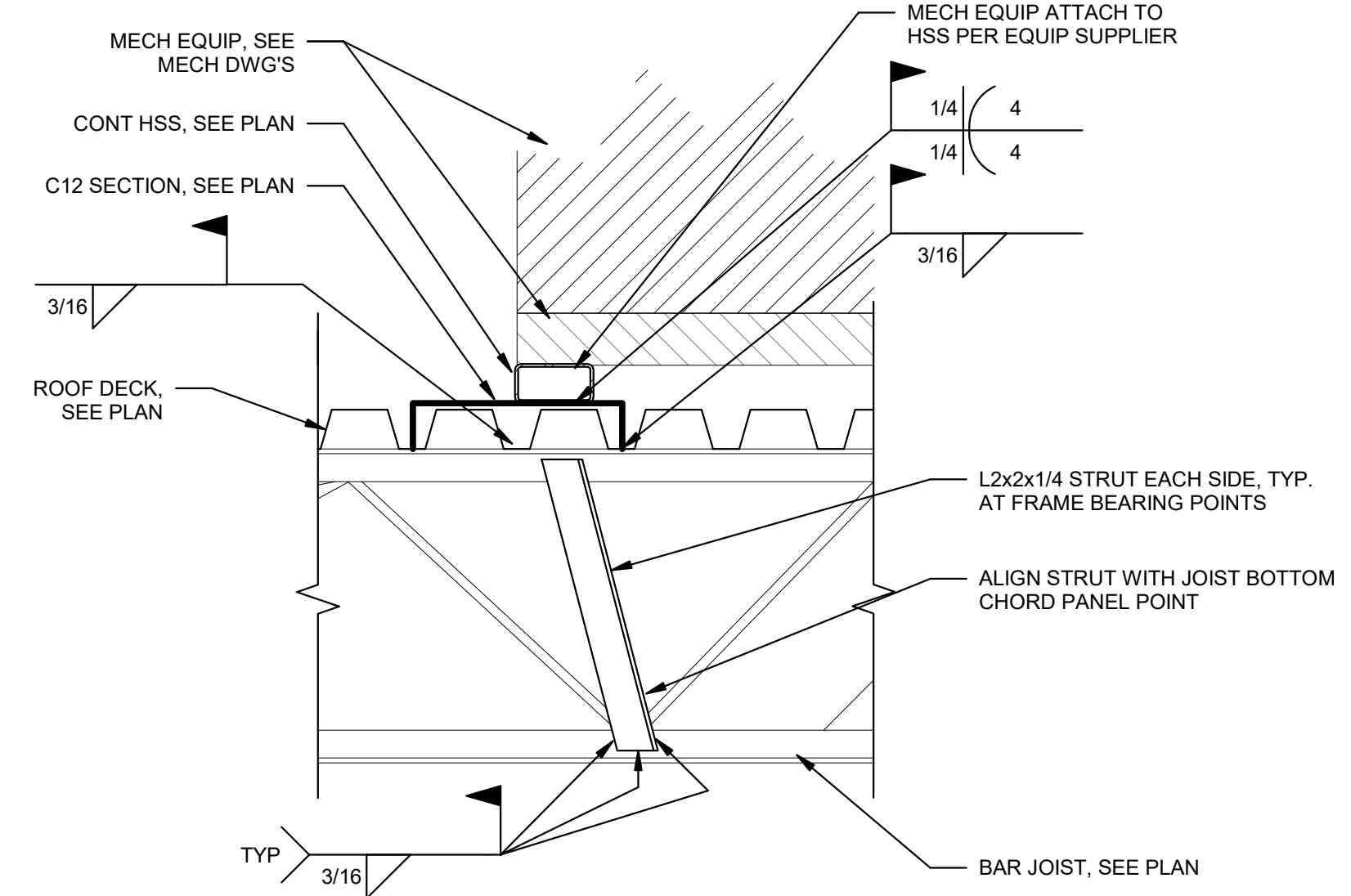
S107

NOTE:
G.C. SHALL PROVIDE THE FRAMING SHOWN HEREIN IF EXISTING CONDITIONS DO NOT MATCH AT A MINIMUM.



- NOTES:
- SEE ROOF FRAME DETAILS FOR PENETRATIONS AT ROOF DRAINS
 - DETAIL APPLIES TO FLOOR PENETRATIONS THAT EXIST AT TIME OF CONCRETE POUR
 - DETAIL DOES NOT APPLY FOR SMALL FLOOR PENETRATIONS SAW CUT OR CORE DRILLED AFTER CONCRETE POUR

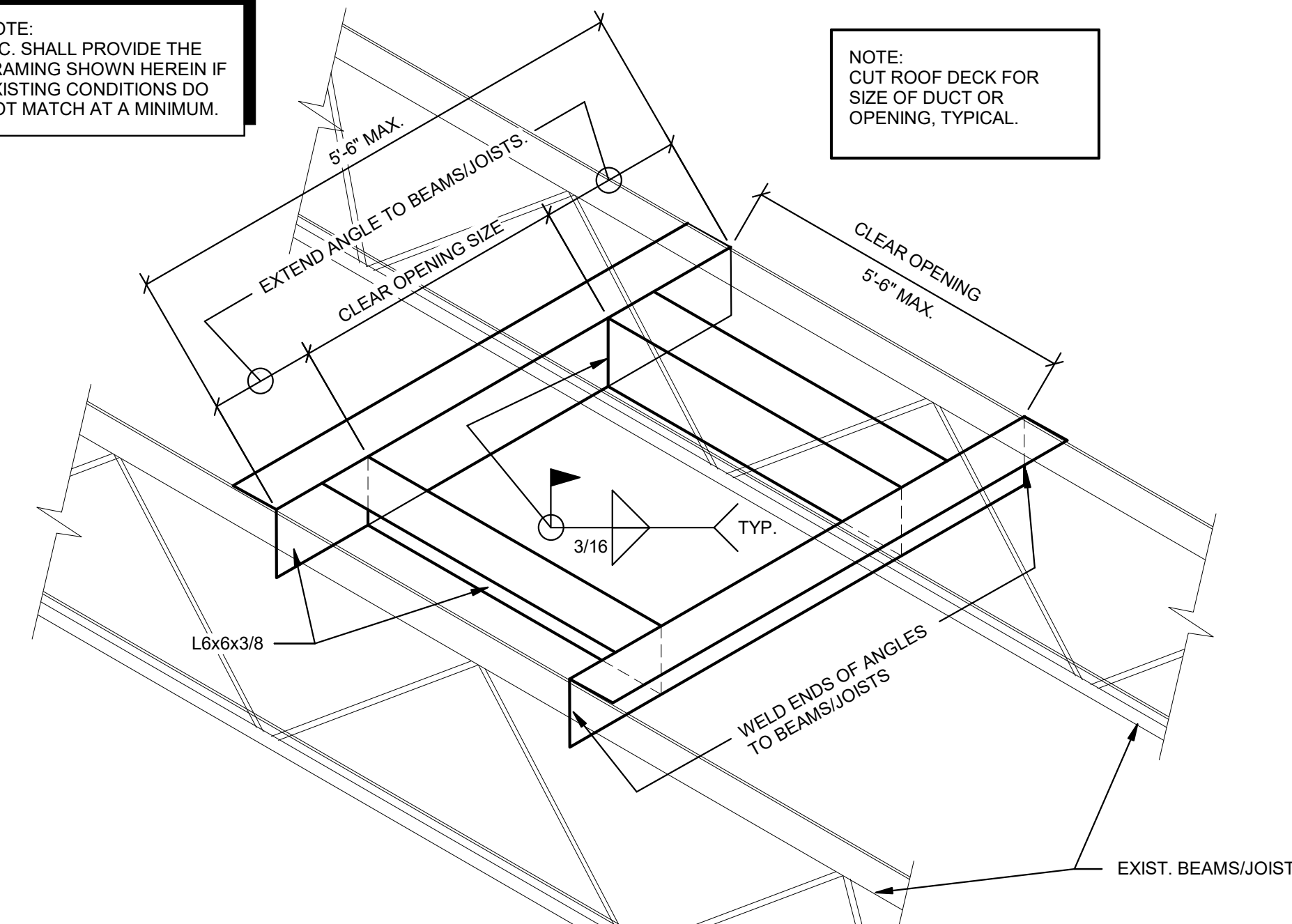
3 TYP. "SMALL" FLOOR/ROOF PENETRATION
3/4" = 1'-0"



- NOTE:
- DETAIL IS TYPICAL AT ALL MECHANICAL UNIT ROOF FRAME BEARING POINTS
 - DETAIL IS TYPICAL AT ALL CONCENTRATED LOADS EXCEEDING 200 LBS NOT OCCURRING AT PANEL POINTS
 - DETAIL IS SIMILAR WHERE CONCENTRATED LOAD IS APPLIED AT BOTTOM CHORD. LOCATE TOP OF STRUT TO ALIGN WITH TOP CHORD PANEL POINT.

4 TYP. JOIST STRUT (CONCENTRATED LOAD)
1" = 1'-0"

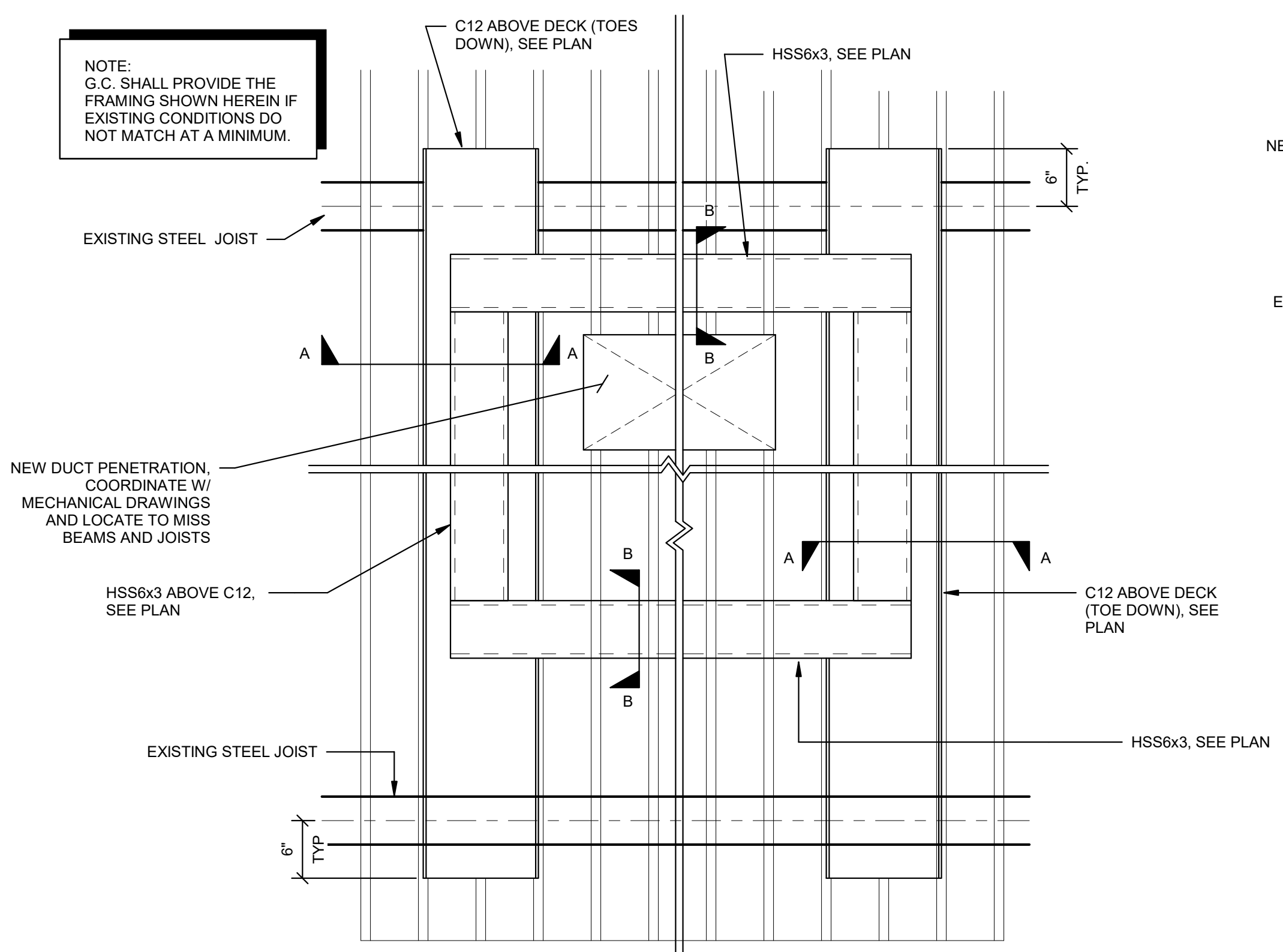
NOTE:
G.C. SHALL PROVIDE THE FRAMING SHOWN HEREIN IF EXISTING CONDITIONS DO NOT MATCH AT A MINIMUM.



- NOTES:
- PROVIDE AN L6x6x3/8 ANGLE AROUND ALL EDGES OF DECK OPENING.

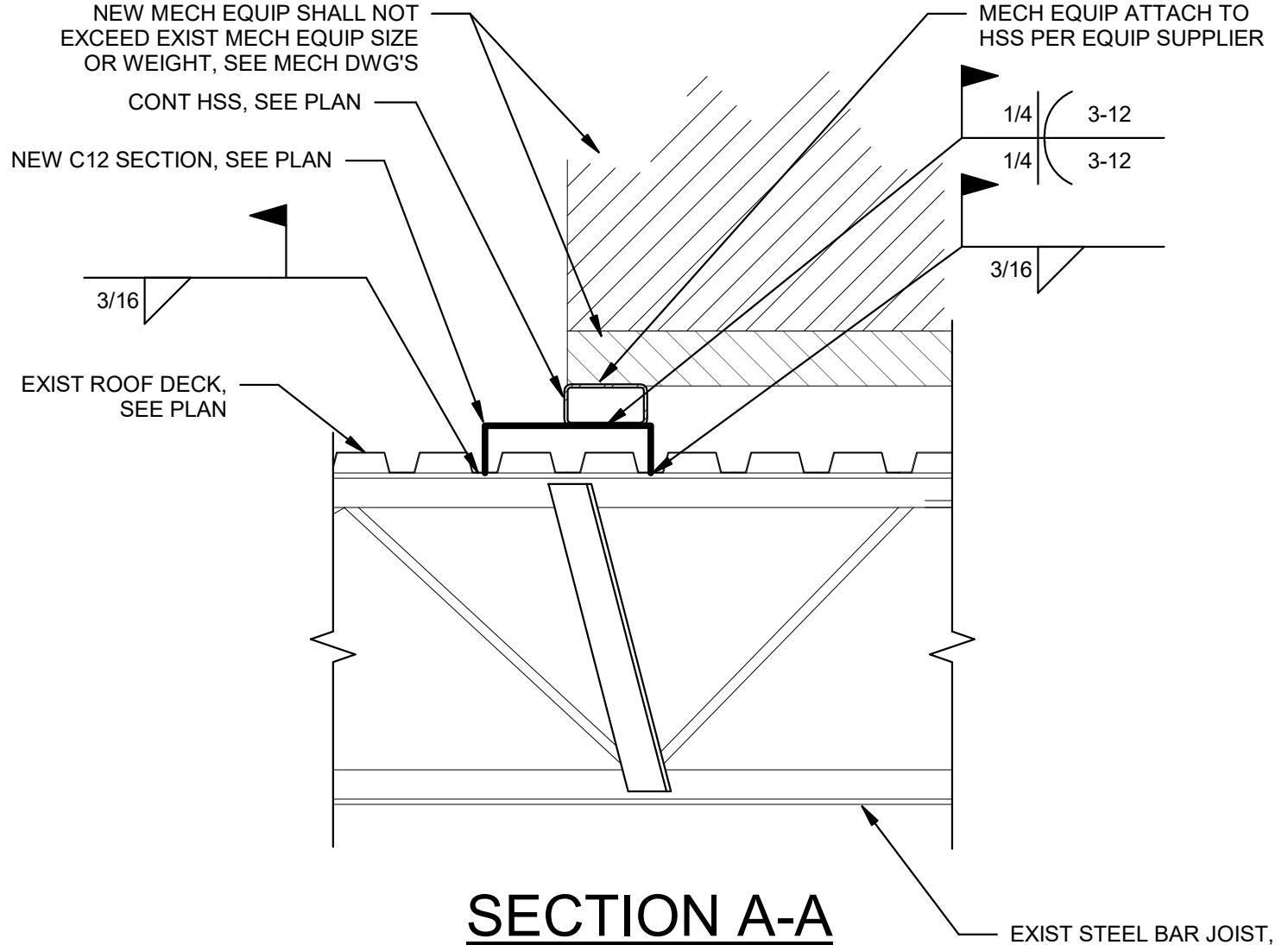
2 TYP. EXIST ROOF PENETRATION RETROFIT DETAIL
1" = 1'-0"

NOTE:
G.C. SHALL PROVIDE THE FRAMING SHOWN HEREIN IF EXISTING CONDITIONS DO NOT MATCH AT A MINIMUM.



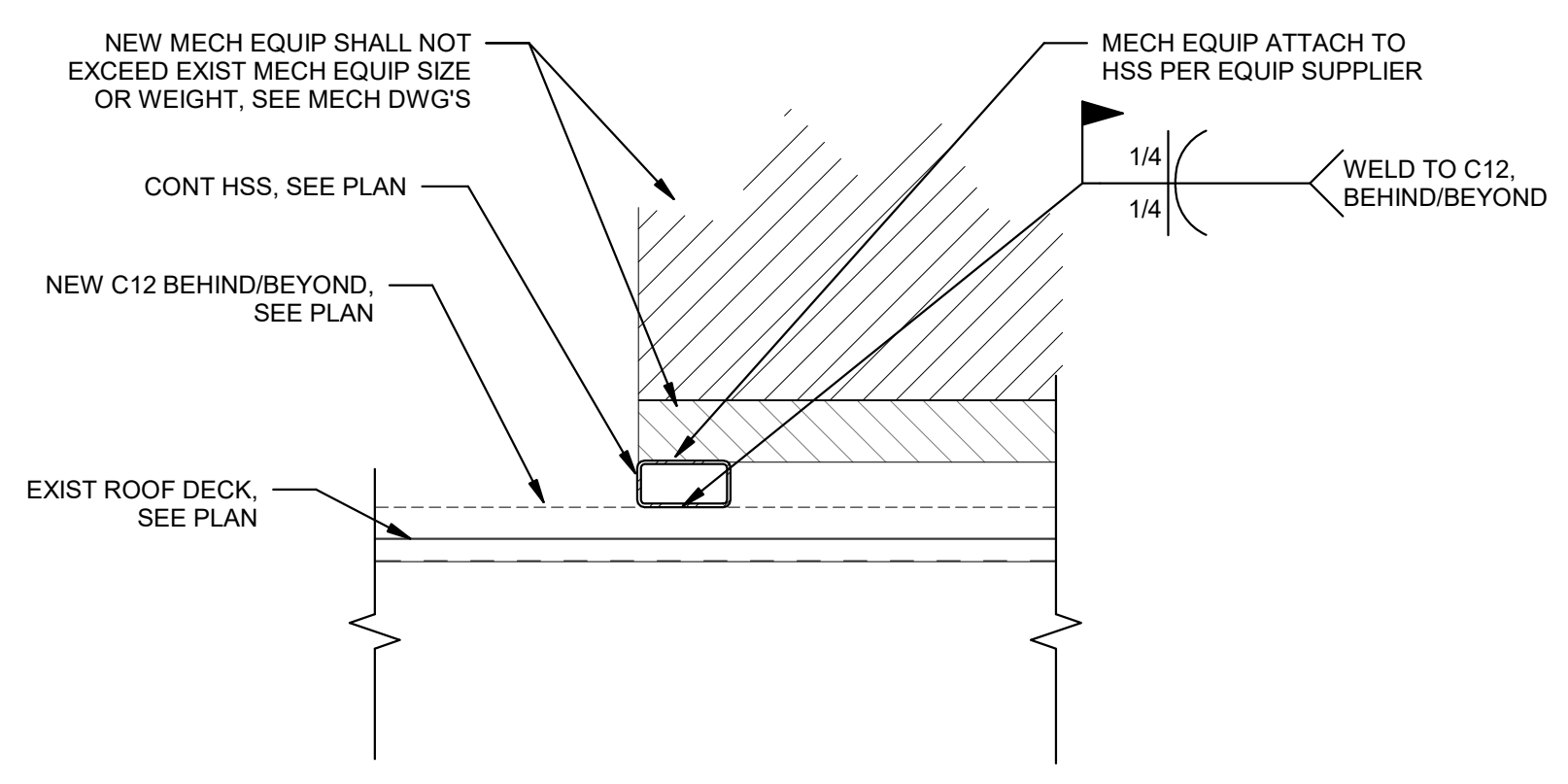
PLAN VIEW

1 TYP. RTU CURB DETAIL (METAL DECK) (SINGLE BAY OF JOISTS)
1" = 1'-0"

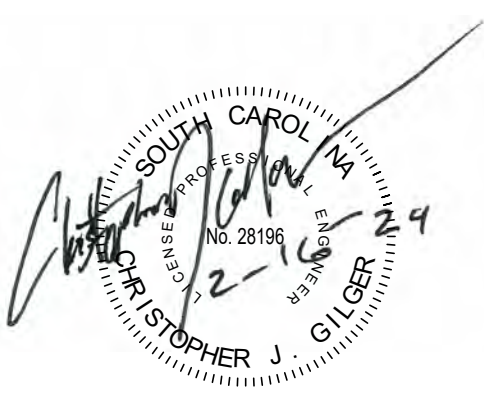
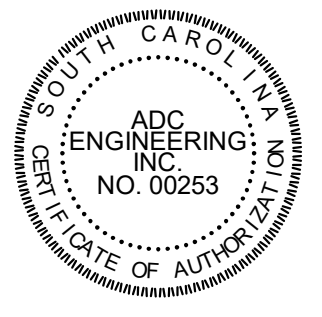


SECTION A-A

- NOTE:
- DETAIL IS TYPICAL AT ALL MECHANICAL UNIT ROOF FRAME BEARING POINTS.
 - AT EVERY LOCATION WHERE CHANNEL BEARS ON JOIST, INSTALL JOIST STRUT PER 4/5201.

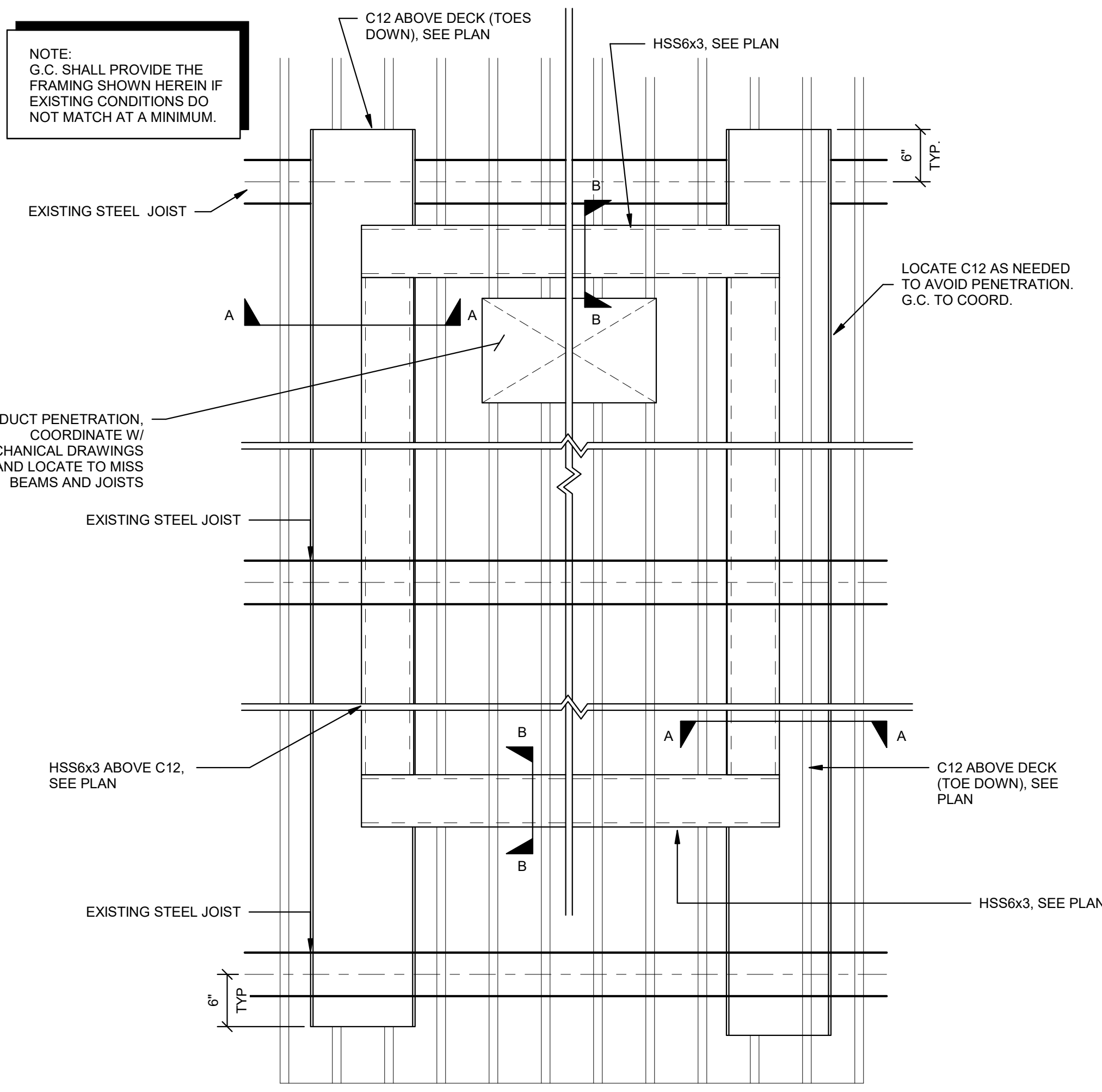


SECTION B-B



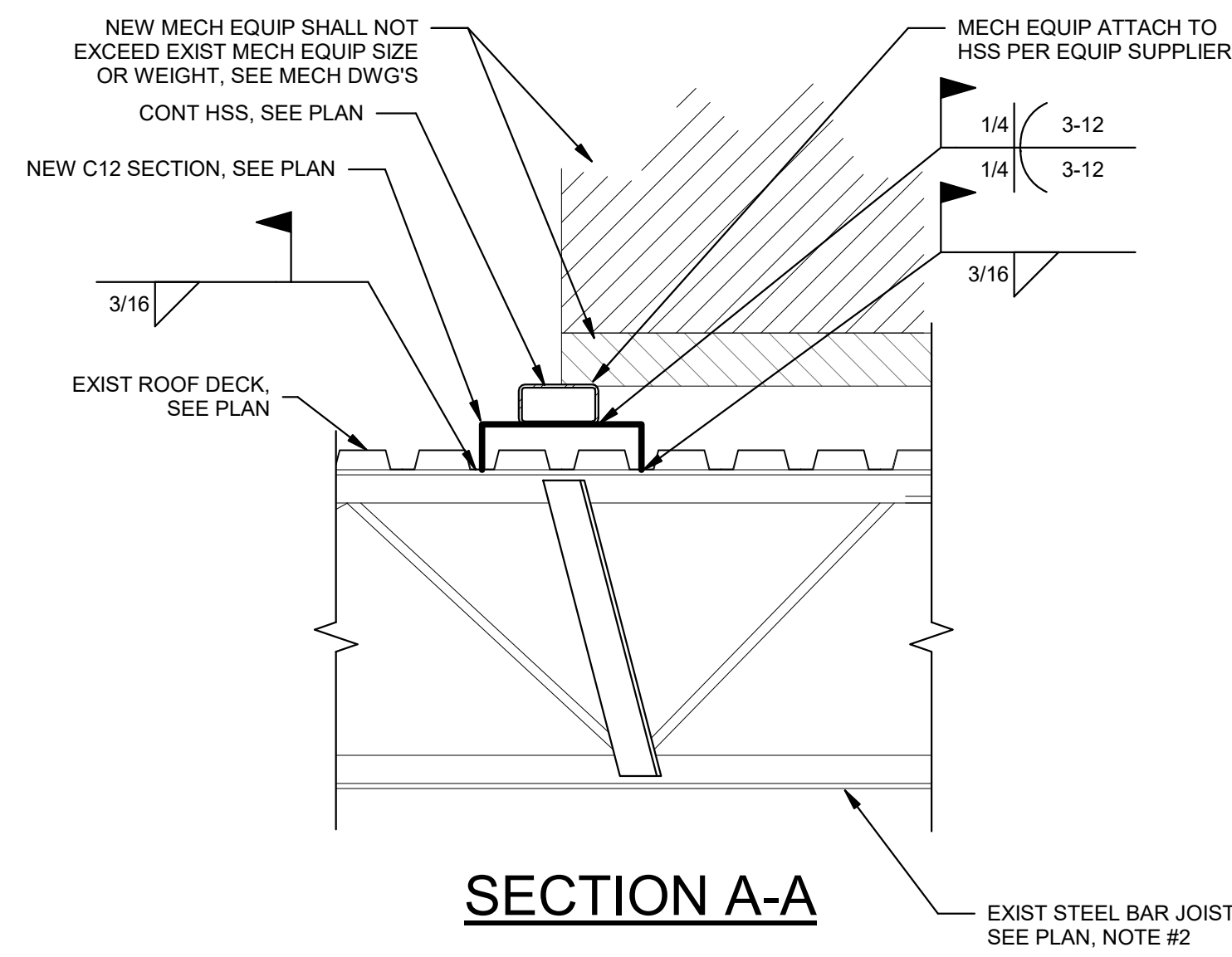
DATE: 02/16/2024
ADC PROJECT#: 23379
DESIGNED: C.JG/W.JH
CHECKED: C.JG
DRAWN: DCC
REVISION:

TYPICAL HVAC SUPPORT STEEL ON STEEL DECK DETAILS



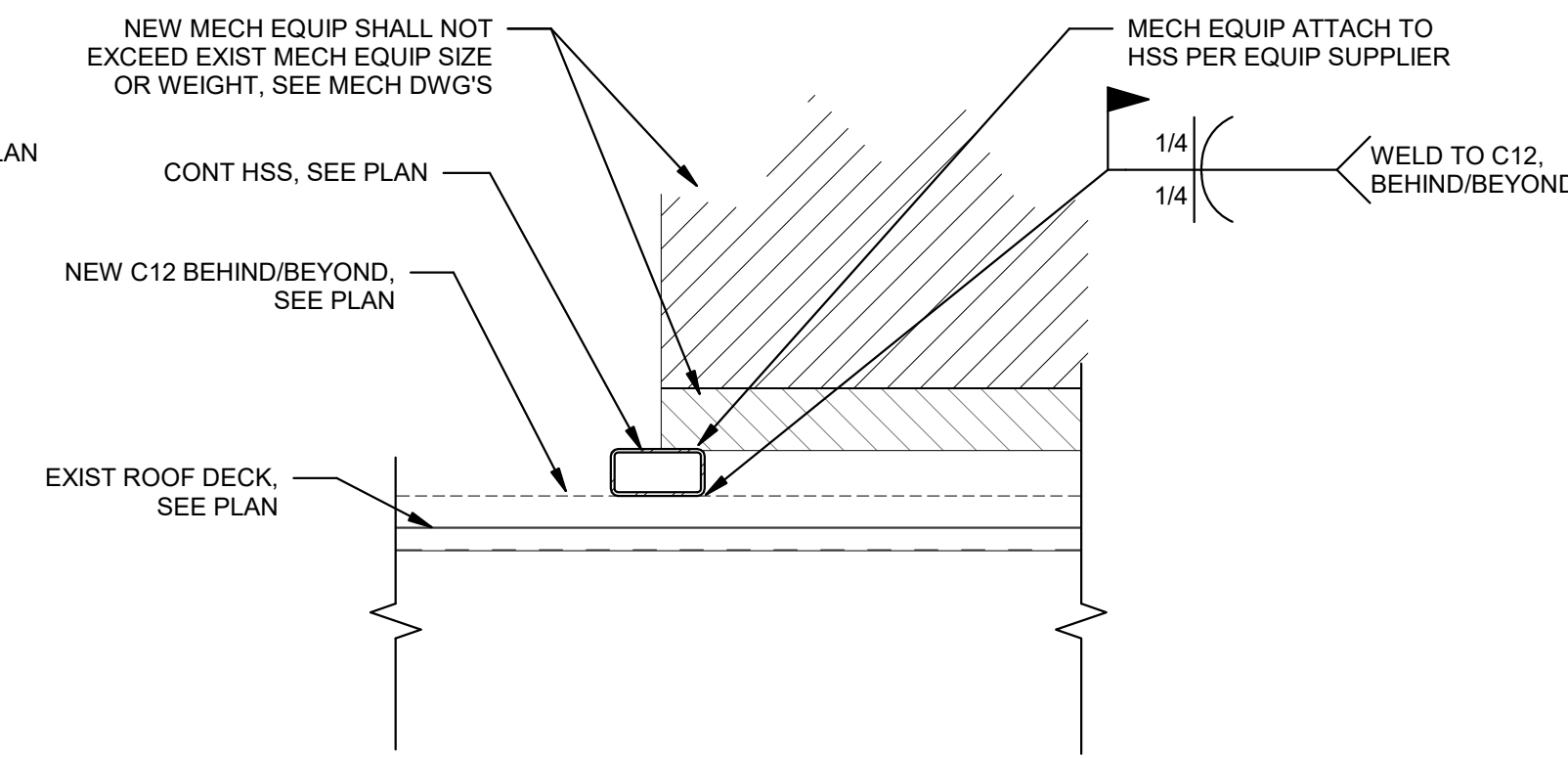
PLAN VIEW

1 TYP. RTU CURB DETAIL (METAL DECK) (MULTIPLE BAY OF JOISTS)
1" = 1'-0"

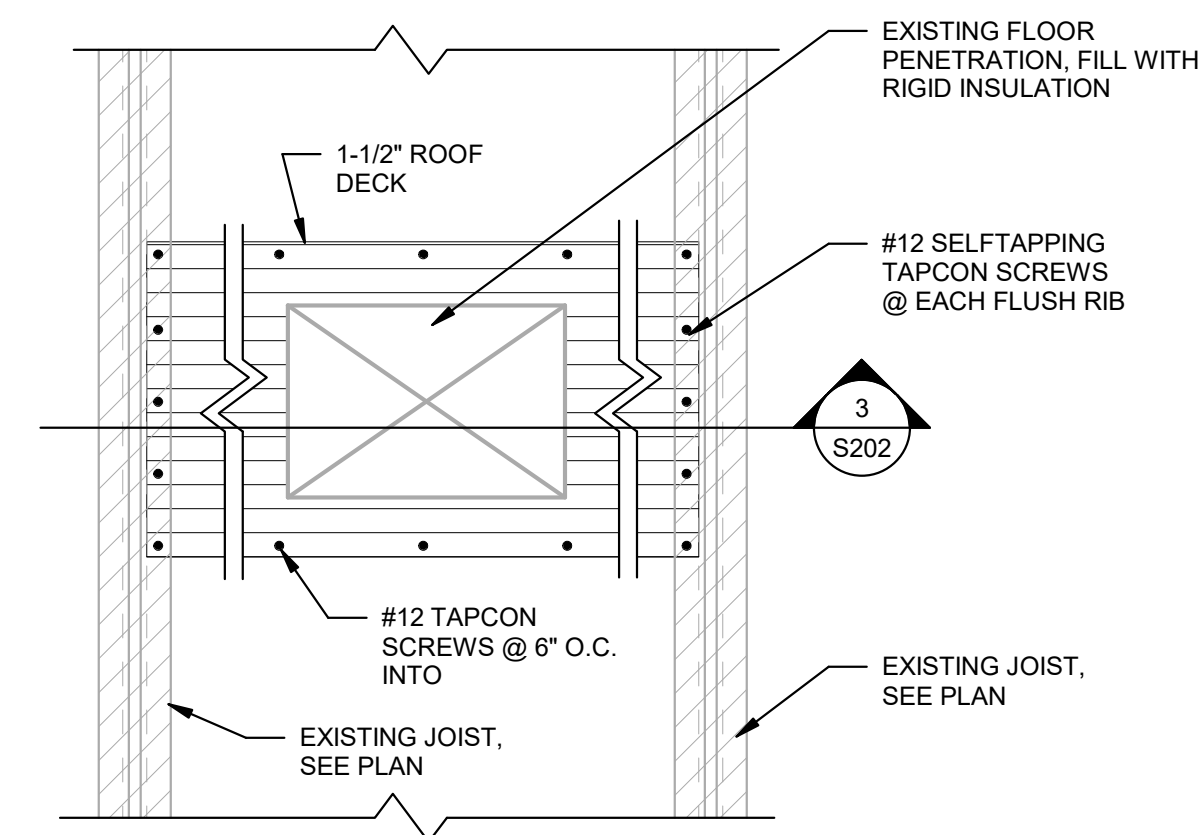


SECTION A-A

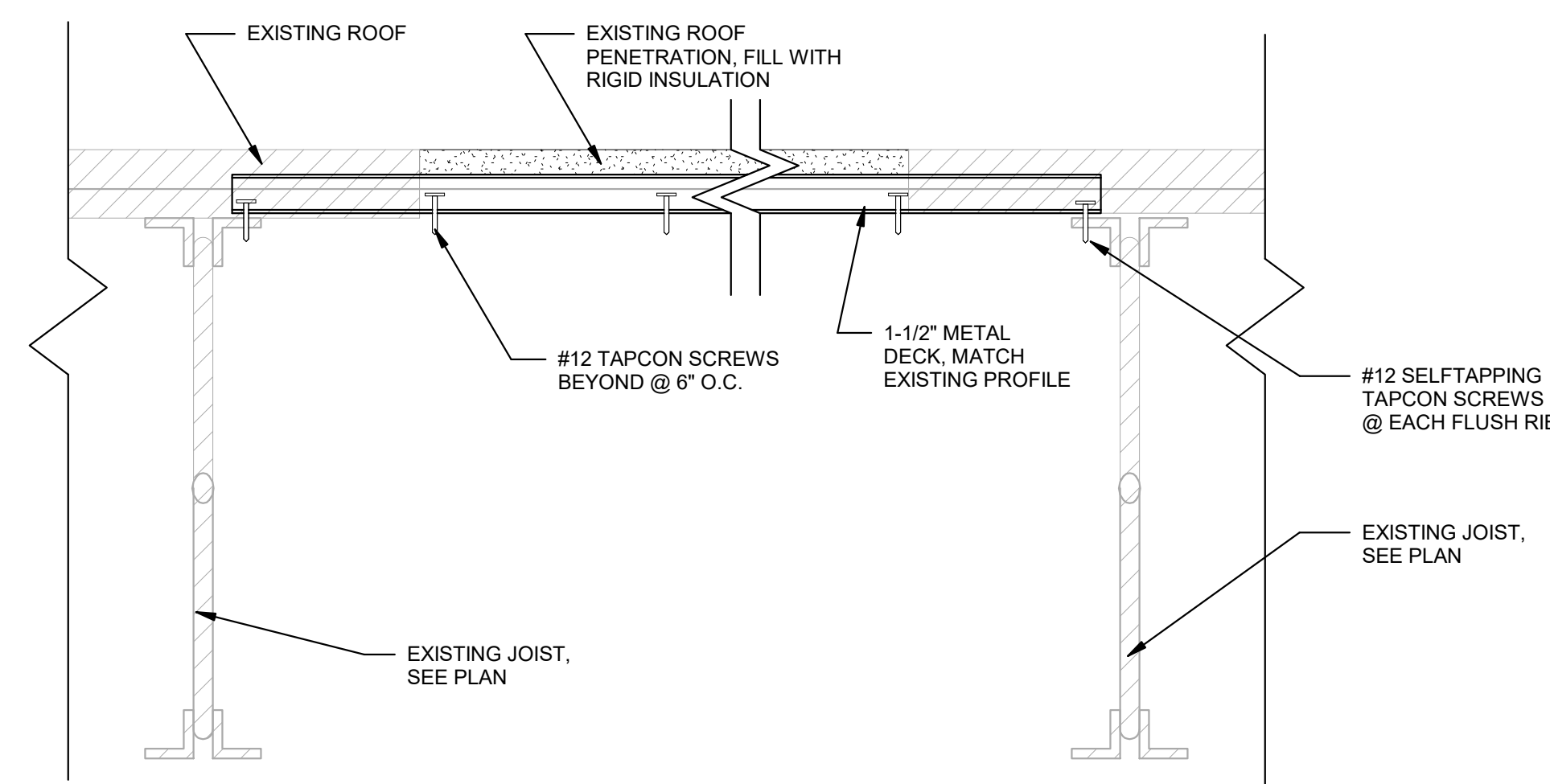
NOTE:
1. DETAIL IS TYPICAL AT ALL MECHANICAL UNIT ROOF FRAME BEARING POINTS.
2. AT EVERY LOCATION WHERE CHANNEL BEARS ON JOIST, INSTALL JOIST STRUT PER



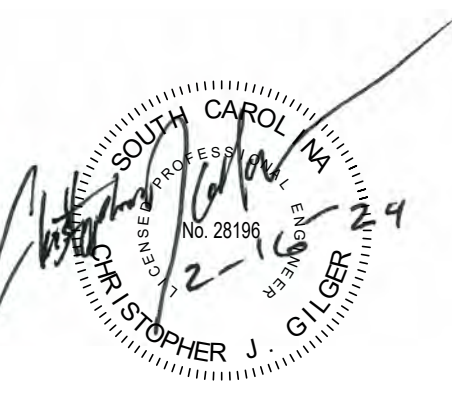
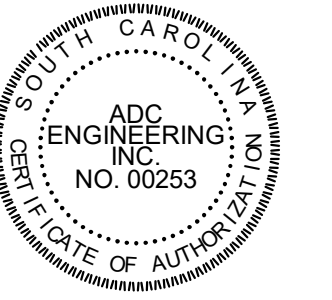
SECTION B-B



2 TYPICAL ROOF PENETRATION PATCH
1 1/2" = 1'-0"



3 TYPICAL METAL ROOF OPENING INFILL DETAIL
3" = 1'-0"



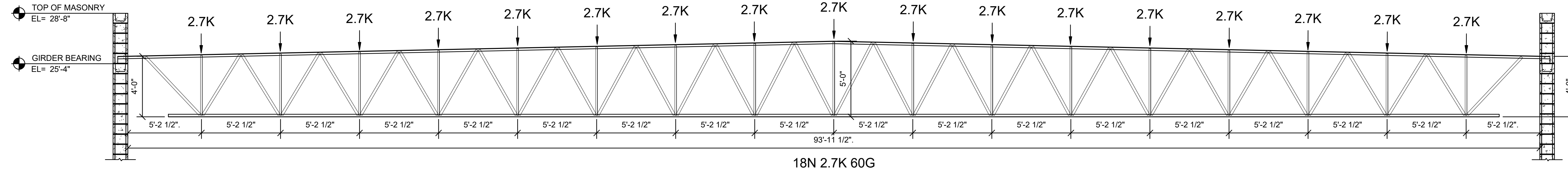
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REVISION:

TYPICAL HVAC SUPPORT STEEL ON DECK DETAILS

S202

M = @ 627.2 K-FT
 V = @ 25.4 K
 8" JOIST SEATS

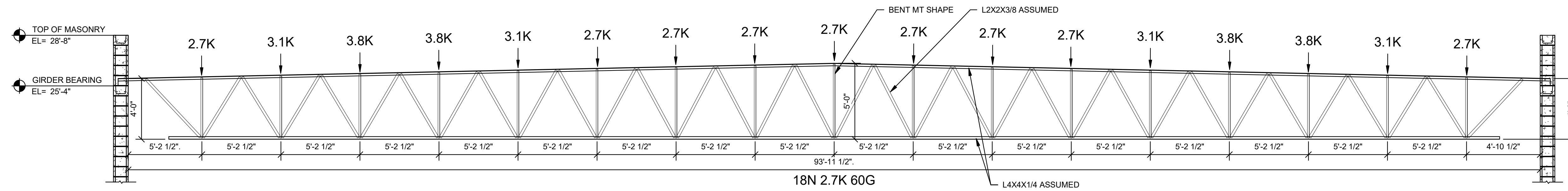
NOTE:
 SEE 2/S301 FOR NEW LOADING REQUIREMENTS



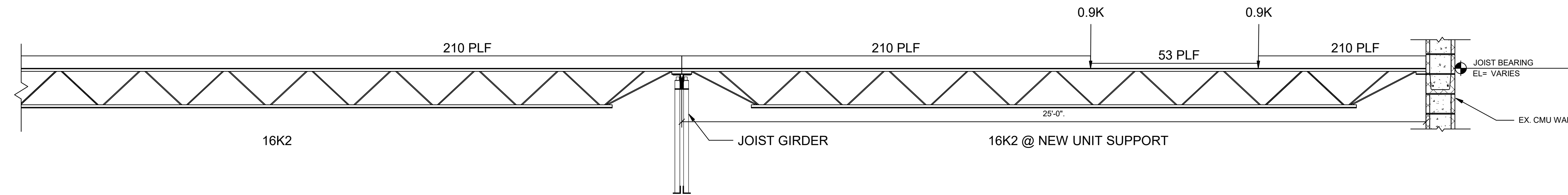
1 EX. JOIST GIRDER ORIGINAL LOADING
 1/4" = 1'-0"

M = @ 675.0 K-FT - 7.7% INCREASE
 V = @ 28.0 K - 10.2% INCREASE
 8" JOIST SEATS

PSF ROOF DL = 8-10 LBS
 PSF ROOF LL = 12
 25'-0" TRIBUTARY AREA
 UPLIFT = 39 PSF

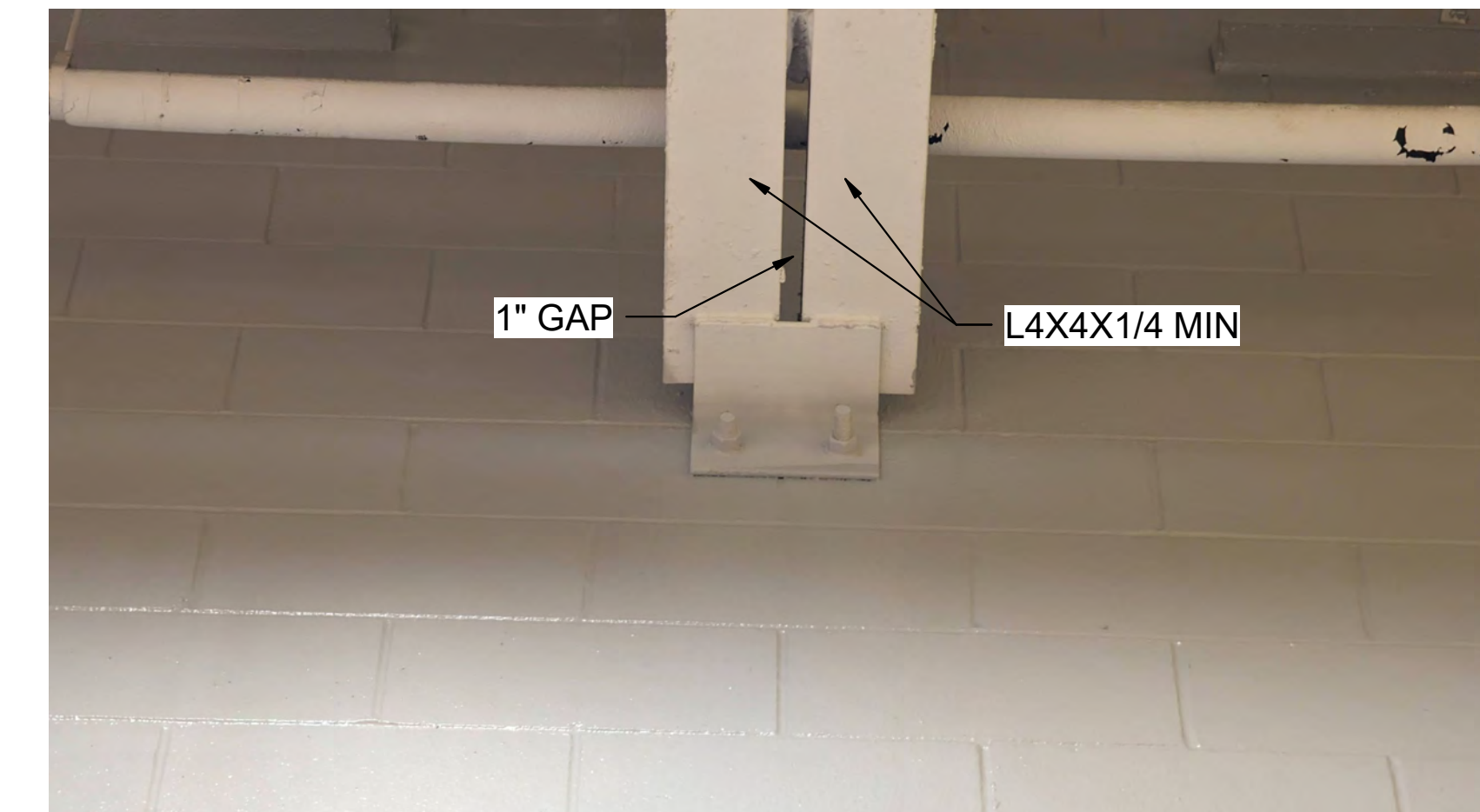
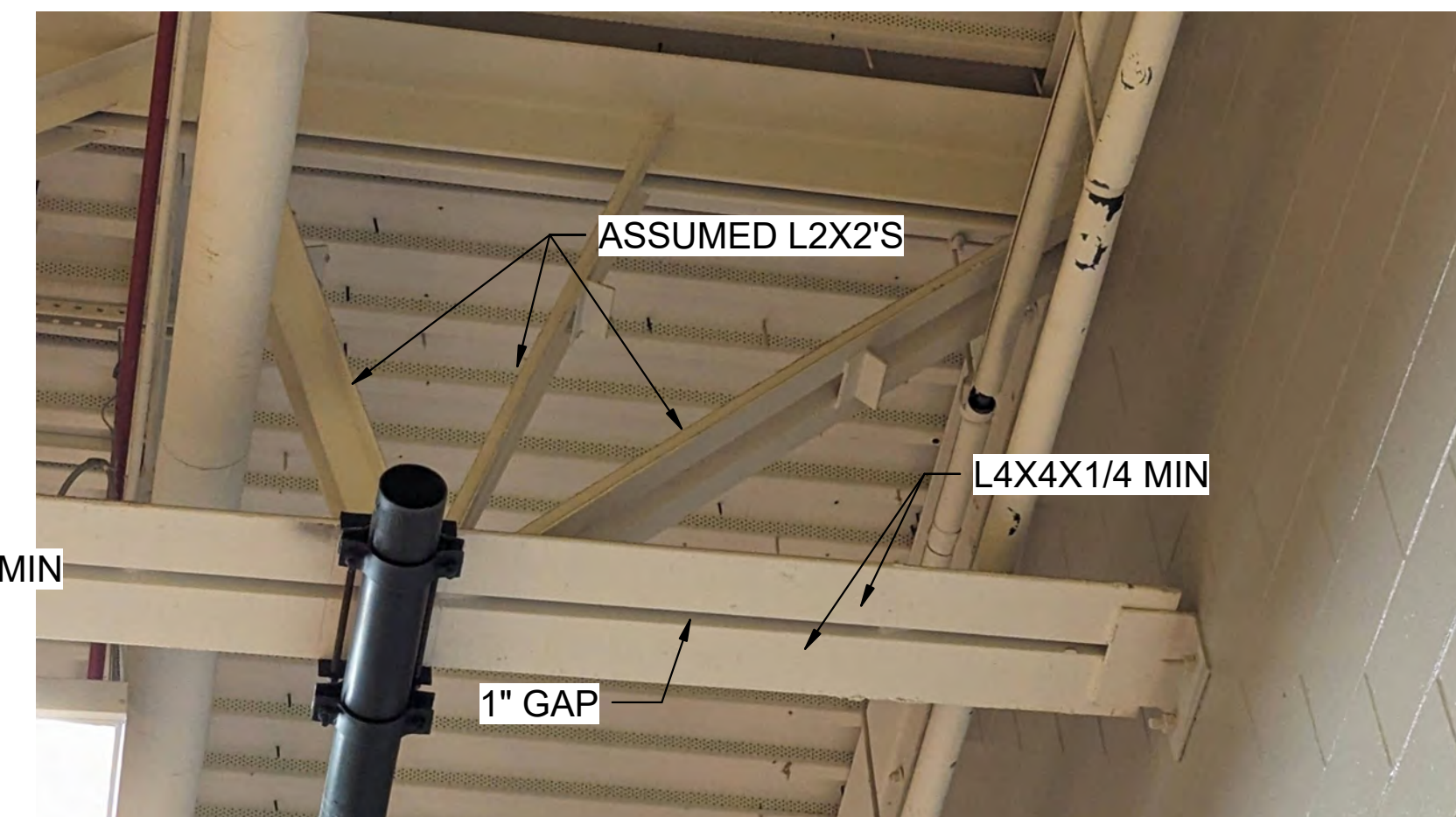
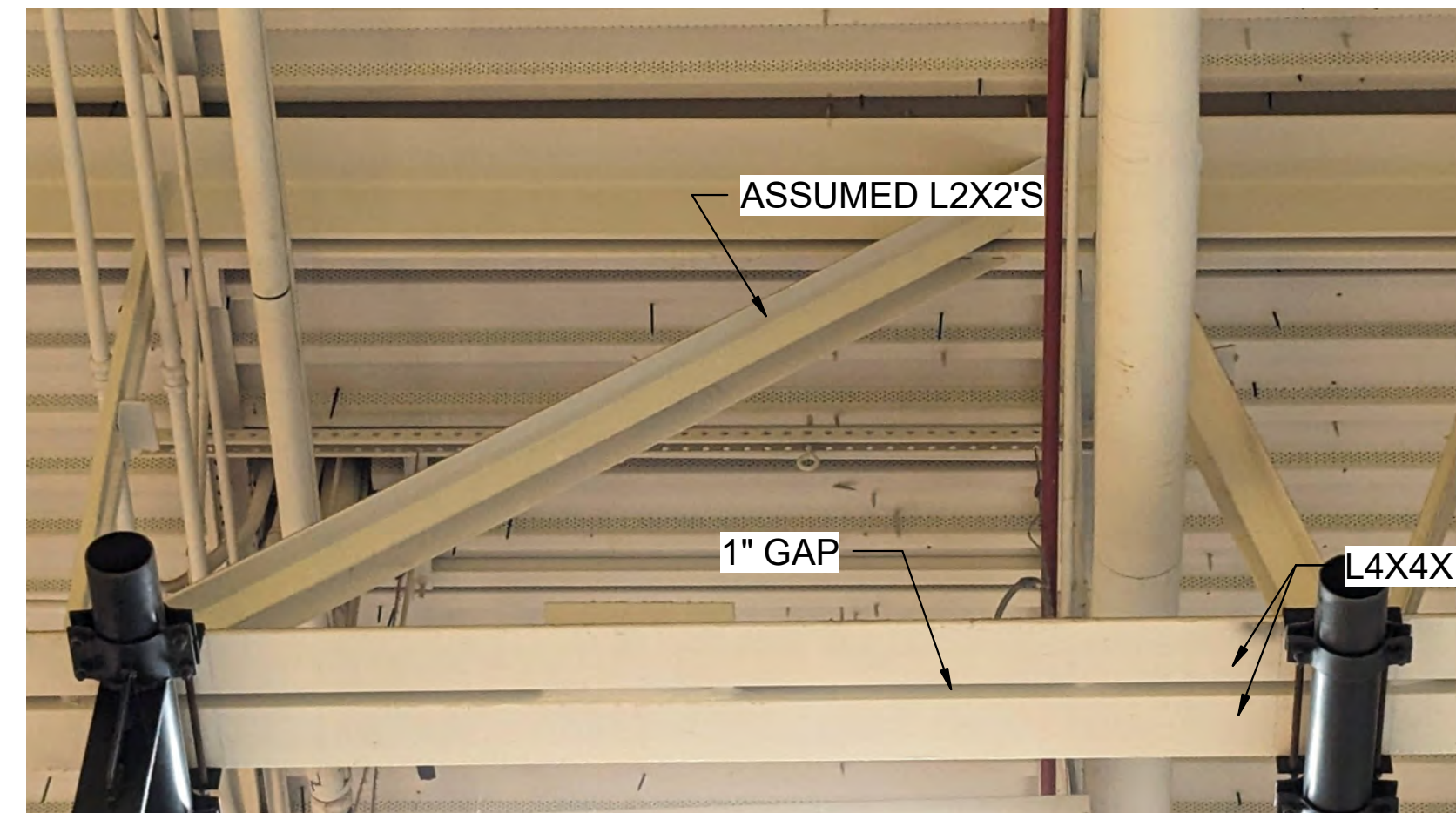
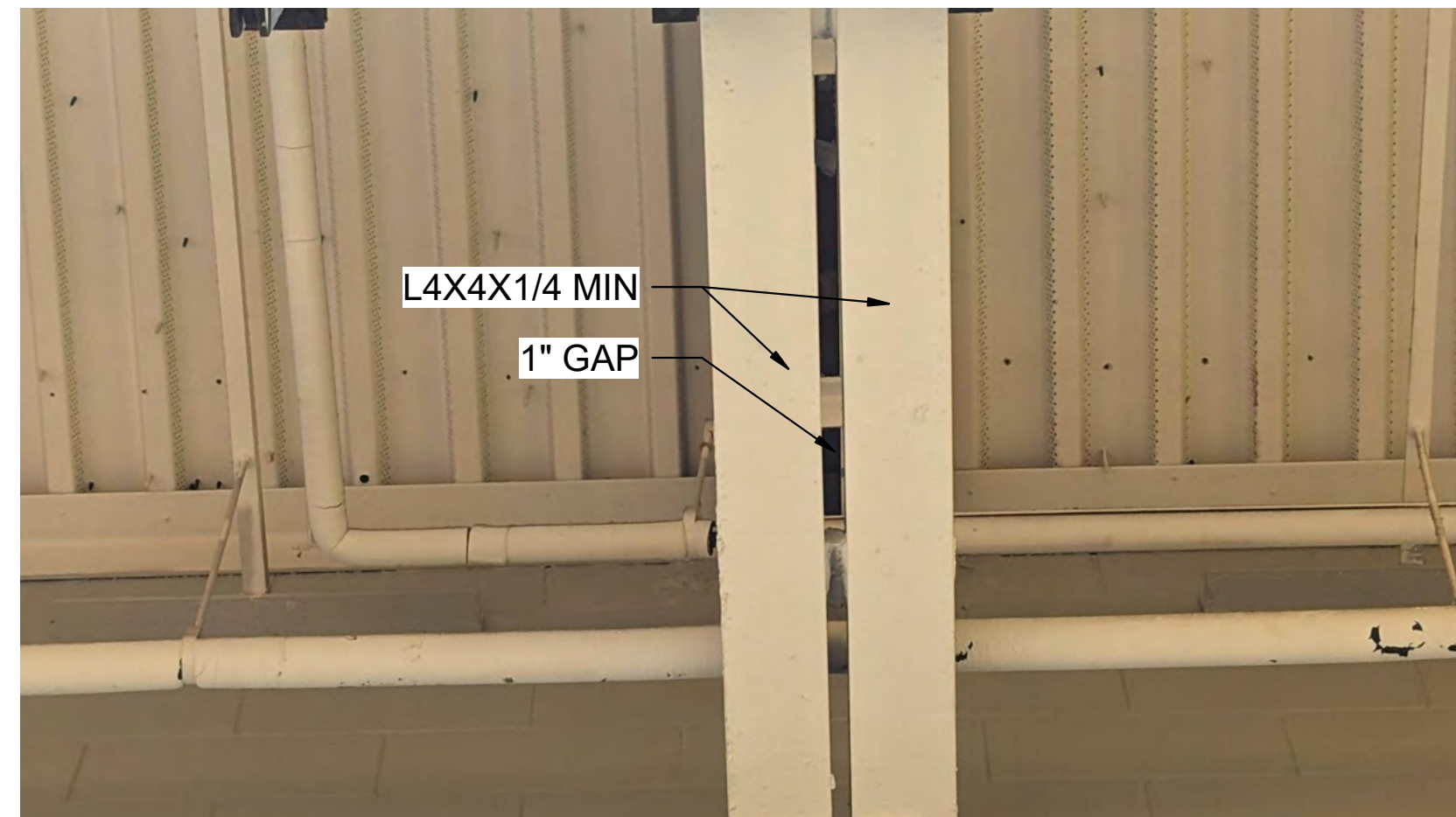


2 EX. JOIST GIRDER NEW LOADING
 1/4" = 1'-0"



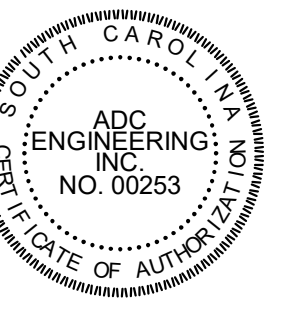
PSF ROOF DL = 20 PSF
 PSF ROOF LL = 20 PSF
 5.22' TRIBUTARY AREA
 UPLIFT = 39 PSF

3 JOIST @ NEW UNIT
 1/2" = 1'-0"



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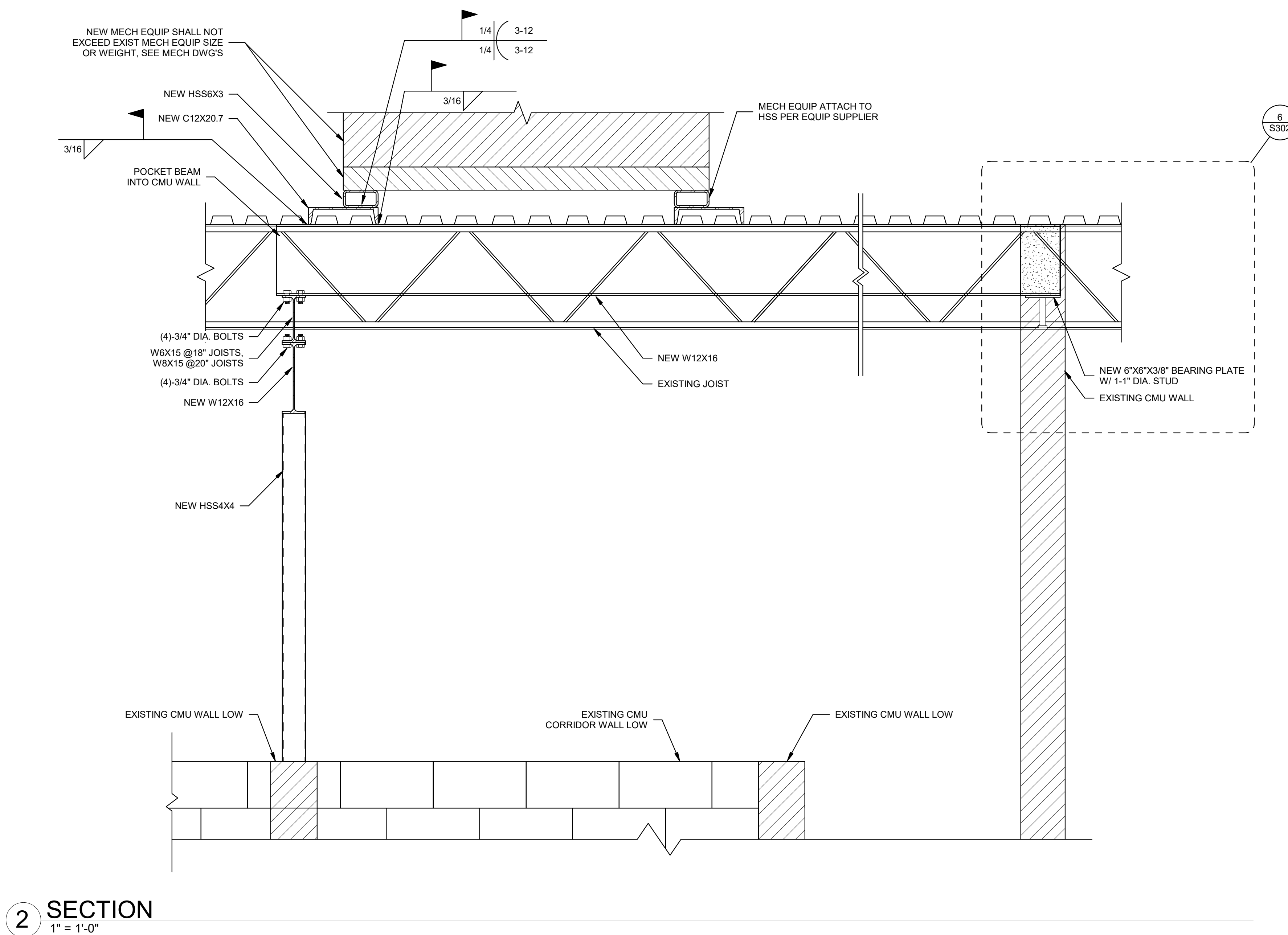
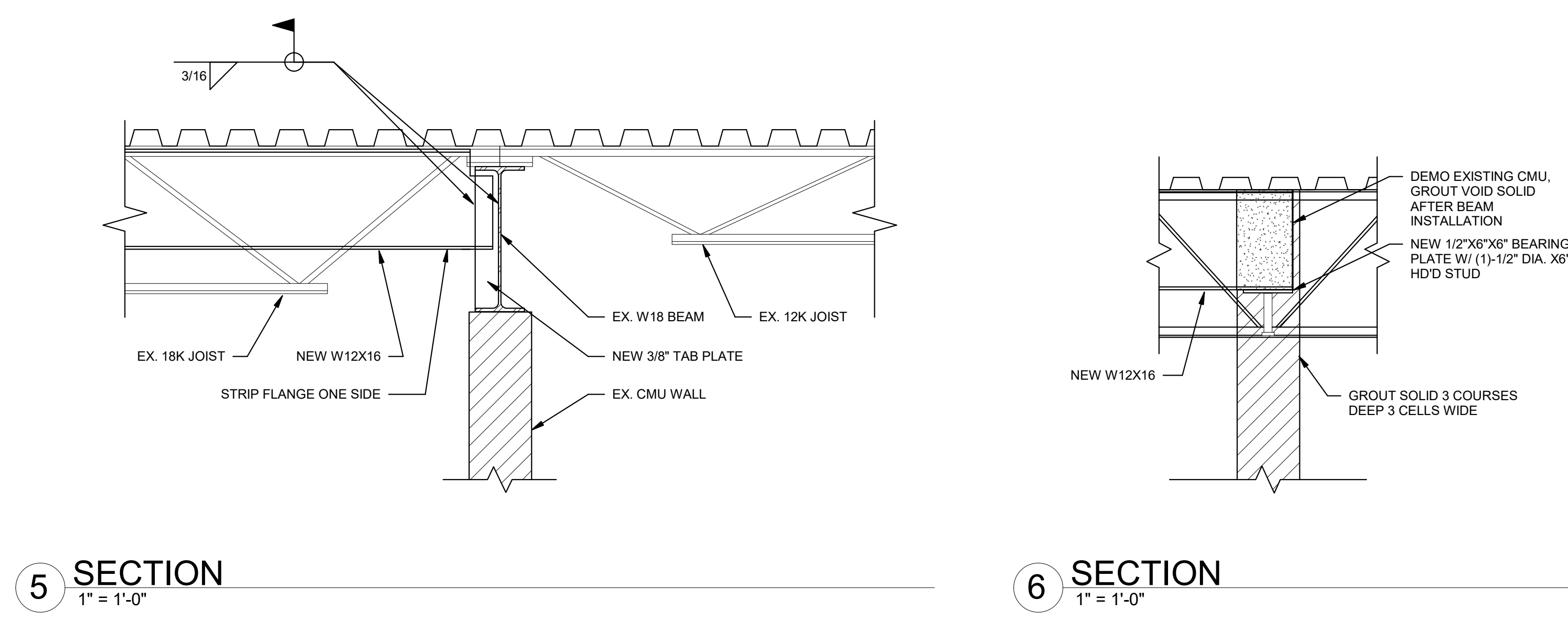
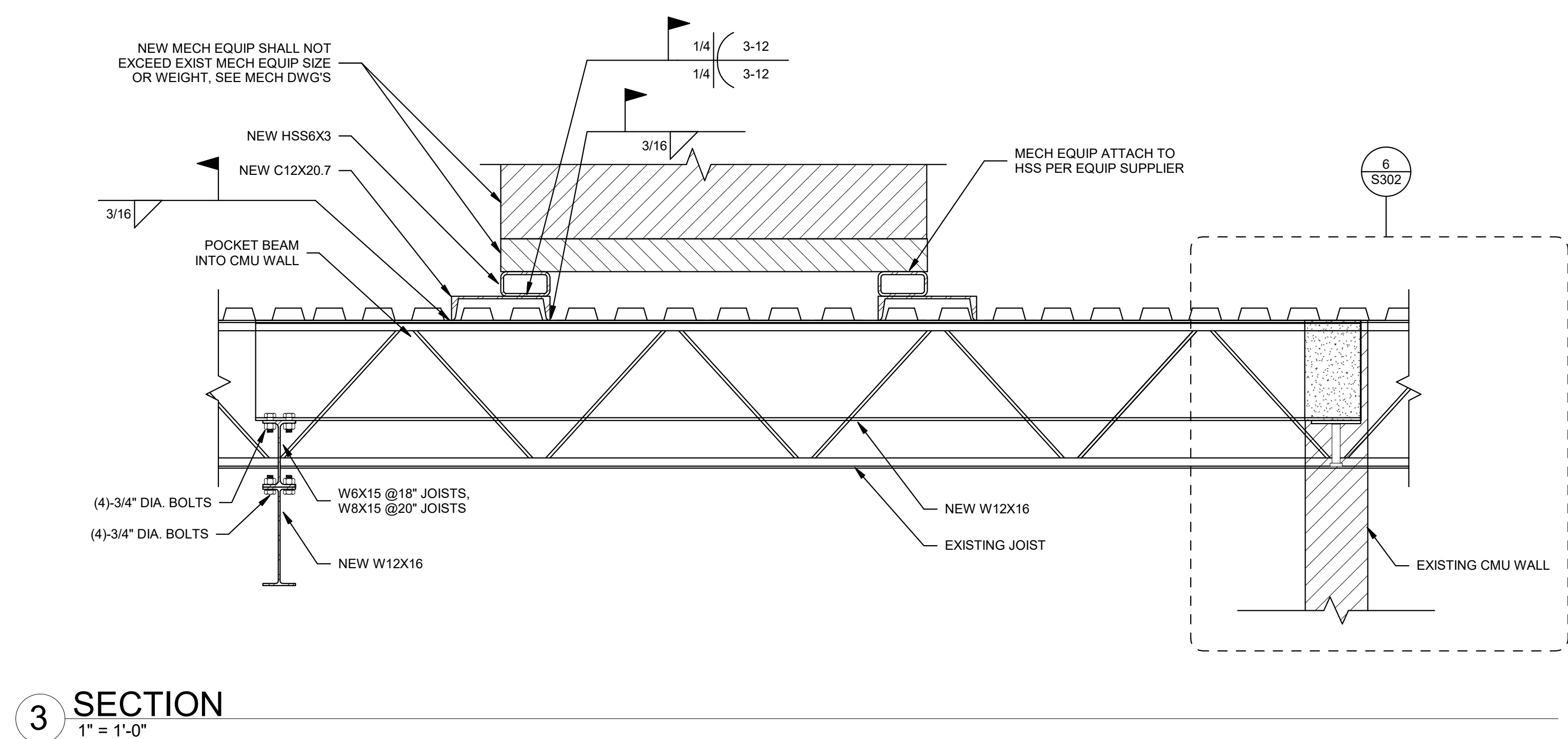
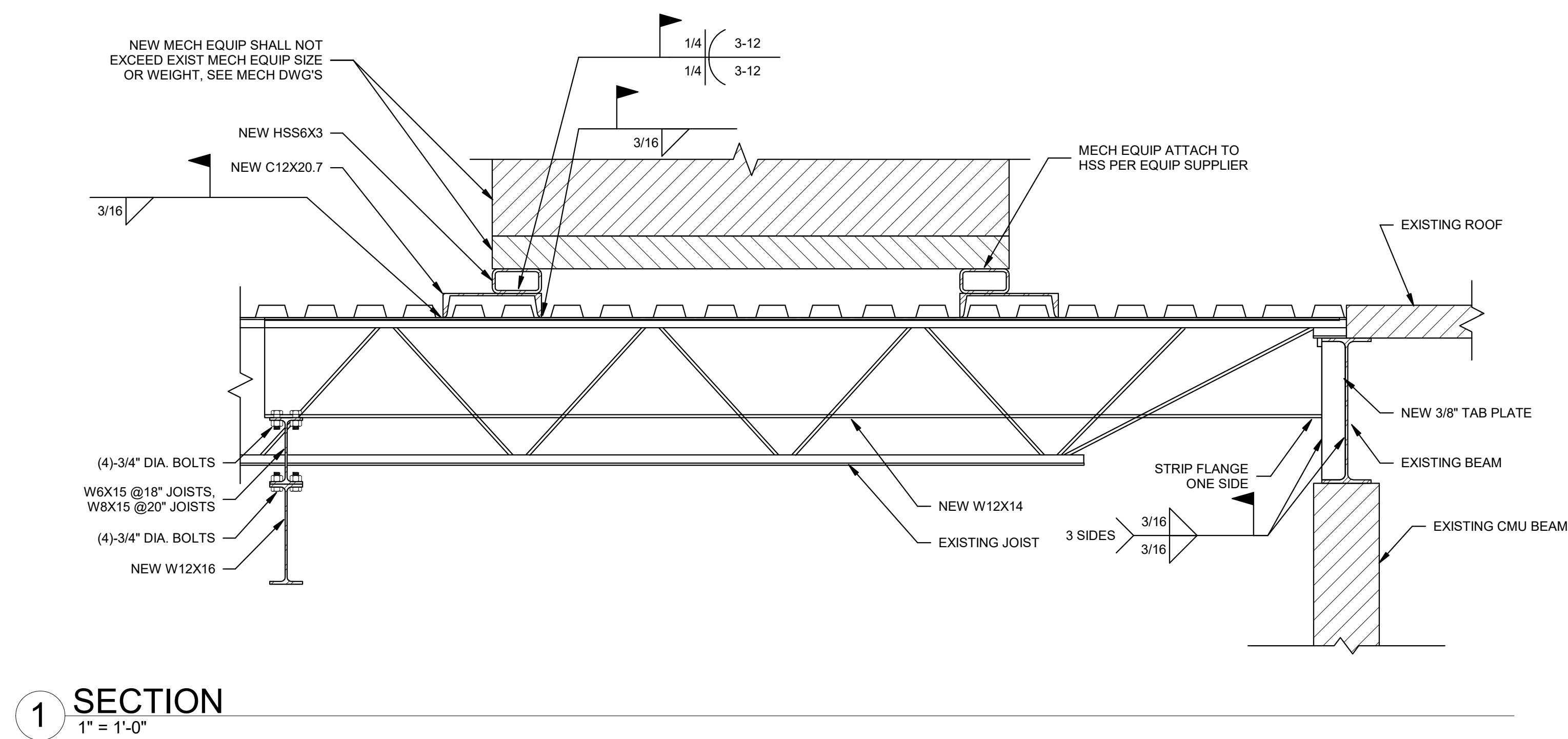
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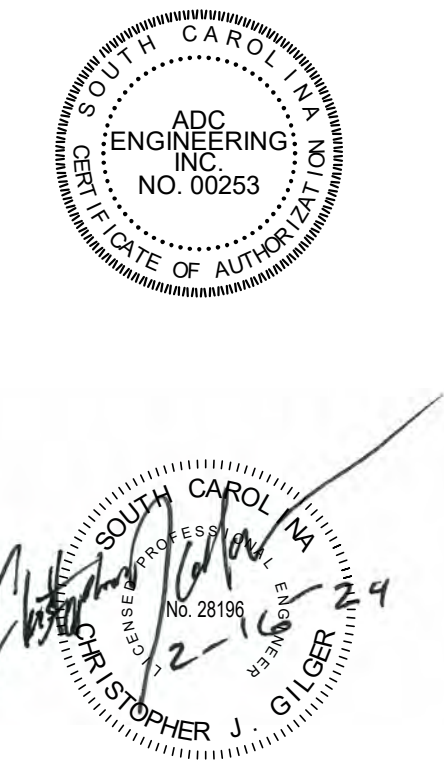
SECTIONS AND DETAILS

S301

2/16/2024 10:53:03 AM S:\DWG\Projects\2023\23379 - North Myrtle Beach Middle School HVAC\23379-North Myrtle Beach Middle School HVAC-Struct.R23-Local.DylanC.rvt



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REVISION:	

SECTIONS AND DETAILS

S302

CONSTRUCTION DOCUMENTS SHEET OF

SEISMIC AND WIND LOAD REQUIREMENTS

A. PER THE INTERNATIONAL BUILDING CODE - 2021, MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT AND COMPONENTS, INCLUDING THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED FOR SEISMIC FORCES IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7-16.

B. EXTERIOR EQUIPMENT (INCLUDING ROOF CURBS & ROOF RAILS) EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES DETERMINED IN ACCORDANCE WITH CHAPTERS 26 TO 29 OF ASCE 7-16.

C. WHERE DESIGN FOR SEISMIC AND WIND LOADS IS REQUIRED, THE MORE DEMANDING FORCE MUST BE USED.

D. REFERENCE THE STRUCTURAL DRAWINGS FOR SITE SPECIFIC INFORMATION ON SEISMIC DESIGN CATEGORY, WIND SPEEDS, ETC. IF STRUCTURAL DRAWINGS ARE NOT INCLUDED IN THE SCOPE OF THE CONTRACT DOCUMENTS, REFERENCE THE SITE SPECIFIC SEISMIC AND WIND LOAD DESIGN INFORMATION HEREIN.

E. ALL EQUIPMENT AND SYSTEMS FOR THIS PROJECT HAVE A COMPONENT IMPORTANCE FACTOR (Ip) OF 1.0 UNLESS NOTED OTHERWISE.

F. USE TABLE BELOW TO DETERMINE SEISMIC RESTRAINT REQUIREMENTS FOR EACH COMPONENT.

G. FOR ALL COMPONENTS/SYSTEMS REQUIRING SEISMIC RESTRAINT, THE COMPONENT SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED (CALCULATIONS AND INSTALLATION DETAILS) AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER THAT IS DIRECTLY EMPLOYED BY THE SEISMIC RESTRAINT MANUFACTURER WITH AT LEAST FIVE YEARS OF SEISMIC DESIGN EXPERIENCE, LICENSED IN THE STATE OF THE JOB LOCATION. ALL RESTRAINING DEVICES SHALL HAVE A PREAPPROVAL NUMBER FROM CALIFORNIA OSHPD OR SOME OTHER RECOGNIZED GOVERNMENT AGENCY SHOWING MAXIMUM RESTRAINT RATINGS.

H. WHERE SEISMIC RESTRAINT IS REQUIRED, HOUSEKEEPING PADS NEEDED FOR THE INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT MUST BE DESIGNED AND STAMPED BY THE SEISMIC ENGINEER. DO NOT POUR ANY HOUSEKEEPING PADS PRIOR TO THE RECEIPT OF AN APPROVED SEISMIC SUBMITTAL FROM THE ENGINEER OF RECORD. ALL HOUSEKEEPING PADS DESIGNED AS EXPANSIONS TO EXISTING PADS OR INSTALLED ON TOP OF EXISTING CONCRETE FLOOR SYSTEMS SHALL BE DOWELED INTO THE EXISTING SYSTEMS.

I. SEISMIC RESTRAINTS FOR DUCTWORK, PIPING, CONDUIT, CABLE TRAY, AND BUS DUCT MUST BE SHOWN ON LAYOUT DRAWINGS SHOWING SPECIFIC RESTRAINT LOCATIONS ALONG WITH ACCOMPANYING DETAILS AND CALCULATIONS PER THE SEISMIC ENGINEER.

COMPONENT/SYSTEM IMPORTANCE FACTOR (Ip) SCHEDULE AND SEISMIC DESIGN INFORMATION	
Ip = 1.0	ALL SYSTEMS

- SEISMIC DESIGN INFORMATION:**
- RISK CATEGORY = III
 - SITE CLASSIFICATION = D
 - SHORT PERIOD DESIGN SPECTRAL ACCELERATION (Sd1) = 0.156g
 - LONG PERIOD DESIGN SPECTRAL ACCELERATION (Sds) = 0.271g

SEISMIC DESIGN CATEGORY TABLE - DESIGN CATEGORIES D, E, & F

	COMPONENT IMPORTANCE FACTOR (Ip)			
	Ip = 1.0		Ip = 1.5	
	COMPONENT/SYSTEM IDENTIFICATION	ASCE 7-16 REFERENCE	COMPONENT/SYSTEM IDENTIFICATION	ASCE 7-16 REFERENCE
ROOF MOUNTED EQUIPMENT	RESTRAIN ALL (SEE NOTE 1)	13.1.4.6	RESTRAIN ALL	13.1.4.6
FLOOR MOUNTED EQUIPMENT	RESTRAIN ALL (SEE NOTES 1, 2)	13.1.4.6	RESTRAIN ALL	13.1.4.6
WALL MOUNTED EQUIPMENT	RESTRAIN ALL (SEE NOTES 1, 2)	13.1.4.6	RESTRAIN ALL	13.1.4.6
COMPONENT SUPPORTS	RESTRAIN ALL (SEE NOTE 1)	13.6.5	RESTRAIN ALL	13.6.5
SUSPENDED EQUIPMENT	IN LINE WITH DUCT/PIPE	RESTRAIN IF > 75 LBS PROVIDE FLEX. CONN. (SEE NOTE 3)	RESTRAIN IF > 75 LBS PROVIDE FLEX. CONN. (SEE NOTE 3)	13.6.7
	NOT IN LINE WITH DUCT/PIPE	RESTRAIN ALL (SEE NOTE 1)	RESTRAIN ALL	13.1.4.6
SUSPENDED DUCTILE PIPING (STEEL, ALUMINUM, COPPER, ETC.)	RESTRAIN IF > 3" (SEE NOTE 4)	13.6.8.3.3.c	RESTRAIN IF > 1" (SEE NOTE 4)	13.6.8.3.3.b
SUSPENDED NON DUCTILE PIPING (CAST IRON, PLASTIC, CERAMIC)	RESTRAIN ALL (SEE NOTE 4)	13.6.8.3.3	RESTRAIN ALL (SEE NOTE 4)	13.6.8.3.3
SUSPENDED PIPE ON TRAPEZE	RESTRAIN IF ANY PIPE ON TRAPEZE > 3" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10 LBS/FT (SEE NOTE 4)	13.6.8.3.1	RESTRAIN IF ANY PIPE ON TRAPEZE > 1" RESTRAIN IF TOTAL WEIGHT OF PIPES ON TRAPEZE > 10 LBS/FT (SEE NOTE 4)	13.6.8.3.1
DUCTWORK	RESTRAIN IF > 6 SOFT AND > 17 LBS/FT (SEE NOTES 4,5)	13.6.7	RESTRAIN IF > 6 SOFT AND > 17 LBS/FT (SEE NOTES 4,5)	13.6.7
MULTIPLE DUCTS ON TRAPEZE	RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT (SEE NOTES 4,5)	13.6.7	RESTRAIN IF TOTAL WEIGHT OF DUCTS ON TRAPEZE > 10 LBS/FT (SEE NOTES 4,5)	13.1.4.6
SINGLE CONDUIT	RESTRAIN IF > 2.5" (SEE NOTE 4)	13.6.5.6	RESTRAIN IF > 2.5" (SEE NOTE 4)	13.6.5.6
CABLE TRAY/BUS DUCT/TRAPEZED CONDUIT	RESTRAIN IF TOTAL WEIGHT OF RACEWAY > 10 LBS/FT (SEE NOTE 4)	13.6.5.6	RESTRAIN IF TOTAL WEIGHT OF RACEWAY > 10 LBS/FT (SEE NOTE 4)	13.6.5.6
PENDANT, LAY-IN, AND CAN LIGHTS	REQUIRED (SEE NOTE 6)	13.5.6.2	REQUIRED (SEE NOTE 6)	13.5.6.2
COMPONENT CERTIFICATION	NOT REQUIRED	13.2.2	REQUIRED (SEE NOTE 7)	13.2.2

- EQUIPMENT 20 LBS. OR LESS IS EXEMPT IF THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE, AND FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
- RESTRAINTS ARE NOT REQUIRED IF THE COMPONENT WEIGHS 400 LBS. OR LESS, IS MOUNTED WITH THE CENTER OF MASS AT 4 FT OR LESS ABOVE FINISHED FLOOR, IS POSITIVELY ATTACHED TO THE STRUCTURE, AND HAS FLEXIBLE CONNECTIONS BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
- FLEXIBLE CONNECTIONS REQUIRED FOR DUCT, PIPE, AND ELECTRICAL CONNECTIONS.
- RESTRAINT IS NOT REQUIRED IF THE PIPING/DUCTWORK/CONDUIT IS SUPPORTED BY HANGERS AND EACH HANGER IN THE PIPING RUN IS 12" OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE SUPPORTING STRUCTURE. WHERE PIPES ARE SUPPORTED ON A TRAPEZE, THE TRAPEZE SHALL BE SUPPORTED BY HANGERS HAVING A LENGTH OF 12" OR LESS. WHERE ROD HANGERS ARE USED, THEY SHALL BE EQUIPPED WITH SHIVELS, EYE NUTS, OR OTHER DEVICES TO PREVENT BENDING IN THE ROD.
- ALL DUCTWORK, REGARDLESS OF SIZE, DESIGNED TO CARRY TOXIC, HIGHLY TOXIC, OR EXPLOSIVE GASES OR USED FOR SMOKE CONTROL MUST BE RESTRAINED.
- COMPONENT CERTIFICATION MUST BE SUPPLIED BY THE EQUIPMENT MANUFACTURER AT TIME OF SUBMITTAL FOR REVIEW BY THE ENGINEER OF RECORD.

GENERAL NOTES:

- DRAWINGS ARE DIAGRAMMATIC IN NATURE. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO STARTING WORK.
- THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INTERIOR DIMENSIONS.
- SEE EQUIPMENT DETAILS FOR CONNECTIONS TO MECHANICAL EQUIPMENT.
- AIR DISTRIBUTION DEVICES ARE EXISTING AND ARE TO REMAIN WHERE LOCATED IN EXISTING CEILINGS. FOR NEW AIR DISTRIBUTION DEVICES LOCATED IN EXISTING CEILINGS, LOCATE NEW AIR DISTRIBUTION DEVICE WHERE PREVIOUS AIR DEVICE WAS LOCATED.
- EXISTING TO REMAIN (ETR) EQUIPMENT AND SYSTEMS ARE SHOWN FOR REFERENCE ONLY.
- REMOVE AND PROTECT CEILING TILES DURING DEMOLITION AND CONSTRUCTION FOR REUSE IN NEW WORK. CEILING TILES BROKEN OR DAMAGED DURING THE COURSE OF DEMOLITION AND/OR CNSTRUCTION SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO OWNER.
- AIRFLOW VALUES ARE SHOWN FOR TAB CONTRACTOR'S REFERENCE. TAB CONTRACTOR SHALL BALANCE THE SYSTEMS TO THE AIRFLOWS INDICATED. NEW AIR DEVICES ARE SHOWN WITH TAG AND AIRFLOW VALUE.
- LOCATIONS OF RATED WALLS ARE SHOWN BASED ON LIFE SAFETY AS-BUILT PLANS. CONTRACTOR SHALL VERIFY ALL RATED WALL LOCATIONS IN THE FIELD.

HVAC LEGEND

- SUPPLY DUCT RISER
- RETURN DUCT RISER
- EXHAUST DUCT RISER
- NEW DUCTWORK (FIRST DIMENSION IS WIDTH IN INCHES)
- EXISTING DUCTWORK (FIRST DIMENSION IS WIDTH IN INCHES)
- FLEXIBLE DUCTWORK
- DUCTWORK TAKE OFFS (SPIN-IN, CONICAL, SHOE)
- DUCTWORK TRANSITION (CONCENTRIC)
- DUCTWORK TRANSITION (ECCENTRIC)
- DUCTWORK TEE
- TURNING VANE
- RADIUS ELBOW
- INCLINED RISE (R) OR DROP (D), ARROW IN DIRECTION OF AIR FLOW
- MANUAL DAMPER
- HORIZONTAL FIRE (FD), SMOKE (SD), OR COMBINATION FIRE SMOKE (FSD) DAMPER
- MOTORIZED (MD) OR BACKDRAFT (BDD) DAMPER
- SUPPLY DIFFUSER (24"X24" FACE UNLESS NOTED OTHERWISE)
- SUPPLY REGISTER (SIDEWALL)
- RETURN AIR GRILLE (24"X24" FACE UNLESS NOTED OTHERWISE)
- EXHAUST AIR GRILLE (24"X24" FACE UNLESS NOTED OTHERWISE)
- RETURN OR EXHAUST AIR GRILLE (SIDEWALL)
- AREA OF DEMOLITION
- DISCONNECT FROM EXISTING
- CONNECT TO EXISTING
- EXISTING VAV (X DENOTES EQUIPMENT TAG)
- EXISTING RTU (X DENOTES EQUIPMENT TAG)
- EXISTING SSSHP OUTDOOR UNIT (X DENOTES EQUIPMENT TAG)
- EXISTING SSSHP INDOOR UNIT (X DENOTES EQUIPMENT TAG)
- EXISTING CEILING EXHAUST FAN (X DENOTES EQUIPMENT TAG)
- EXISTING ROOF MOUNTED EXHAUST FAN (X DENOTES EQUIPMENT TAG)
- NEW VAV (X DENOTES EQUIPMENT TAG)
- NEW RTU (X DENOTES EQUIPMENT TAG), PRECEDENT STYLE UNIT
- NEW RTU (X DENOTES EQUIPMENT TAG), IMPACK STYLE UNIT
- NEW SSSHP INDOOR UNIT (X DENOTES EQUIPMENT TAG)
- NEW SSSHP OUTDOOR UNIT (X DENOTES EQUIPMENT TAG)
- NEW CEILING EXHAUST FAN (X DENOTES EQUIPMENT TAG)
- NEW ROOF MOUNTED EXHAUST FAN (X DENOTES EQUIPMENT TAG)
- NEW DUCTLESS SPLIT SYSTEM INDOOR UNIT (X DENOTES EQUIPMENT TAG)
- NEW DUCTLESS SPLIT SYSTEM OUTDOOR (CONDENSING) UNIT (X DENOTES EQUIPMENT TAG)
- THERMOSTAT (DOTTED LINE SHOWS ASSOCIATED UNIT(S))

ABBREVIATIONS

- A/E ARCHITECT / ENGINEER
- AD ACCESS DOOR
- AFB ABOVE FINISHED FLOOR
- AFMS AIRFLOW MEASURING STATION
- AP ACCESS PANEL
- APD AIR PRESSURE DROP
- BAS BUILDING AUTOMATION SYSTEM
- BDD BACKDRAFT DAMPER
- BHP BRAKE HORSEPOWER
- BTU BRITISH THERMAL UNIT
- BTUH BRITISH THERMAL UNIT PER HOUR
- CC COOLING COIL
- CFM CUBIC FEET PER MINUTE
- CM CARBON MONOXIDE
- CO CLEAN OUT
- CO2 CARBON DIOXIDE
- COP COEFFICIENT OF PERFORMANCE
- CU CONDENSING UNIT
- CV CONSTANT VOLUME
- DB DRY BULB
- DDC DIRECT DIGITAL CONTROLS
- DEG DEGREE
- DOM DOMESTIC
- DHWR DOMESTIC HOT WATER RETURN
- DP DEW POINT
- DX DIRECT EXPANSION
- EA EXHAUST AIR
- EAT ENTERING AIR TEMPERATURE
- EER ENERGY EFFICIENCY RATIO
- ESP EXTERNAL STATIC PRESSURE
- ETR EXISTING TO REMAIN
- EX OR (E) EXISTING
- F FAHRENHEIT
- FA FREE AREA
- FC FLEXIBLE CONNECTION
- FT FEET
- HGR OR HGRH HOT GAS REHEAT
- HOA HAND/OFF/AUTOMATIC
- HP HORSEPOWER
- HX HEAT EXCHANGER
- HZ HERTZ
- I/O INPUT/OUTPUT
- IAQ INDOOR AIR QUALITY
- IN INCHES
- IN HG INCHES OF MERCURY
- IN WC INCHES WATER COLUMN
- IPLV INTEGRATED PART LOAD VALUE
- LAT LEAVING AIR TEMPERATURE
- LBS/HR POUNDS PER HOUR
- LF LINEAR FOOT (FEET)
- MAT MIXED AIR TEMPERATURE
- MAX MAXIMUM
- MBH 1000 BTUH
- MCA MINIMUM CIRCUIT AMPACITY
- MERV MINIMUM EFFICIENCY REPORTING VALUE
- MIN MINIMUM
- MOCP MAXIMUM OVERCURRENT PROTECTION
- NA NOT APPLICABLE
- NC NOISE CRITERIA
- NOM NOMINAL
- NTS NOT TO SCALE
- OA OUTSIDE AIR
- OAD OUTDOOR AIR DAMPER
- PD PRESSURE DROP
- PPM PARTS PER MILLION
- PSI POUNDS PER SQUARE INCH
- PSIG POUNDS PER SQUARE INCH - GAGE
- RA RETURN AIR
- RH RELATIVE HUMIDITY
- RHC REHEAT COIL
- RPM REVOLUTIONS PER MINUTE
- SA SUPPLY AIR
- SA SOUND ATTENUATOR
- SAT SUPPLY AIR TEMPERATURE
- SCR SILICON CONTROLLED RECTIFIER
- SP STATIC PRESSURE
- SS STAINLESS STEEL
- TAB TESTING, ADJUSTING, AND BALANCING
- TSP TOTAL STATIC PRESSURE
- TSTAT THERMOSTAT
- VAV VARIABLE AIR VOLUME
- VFD VARIABLE FREQUENCY DRIVE
- W WATTS
- WB WET BULB



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DATE SEALED: 2/16/2024

**NORTH MYRTLE BEACH
MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO.: 23090001
DATE: 02/16/24
DESIGNED BY: MDK
DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS

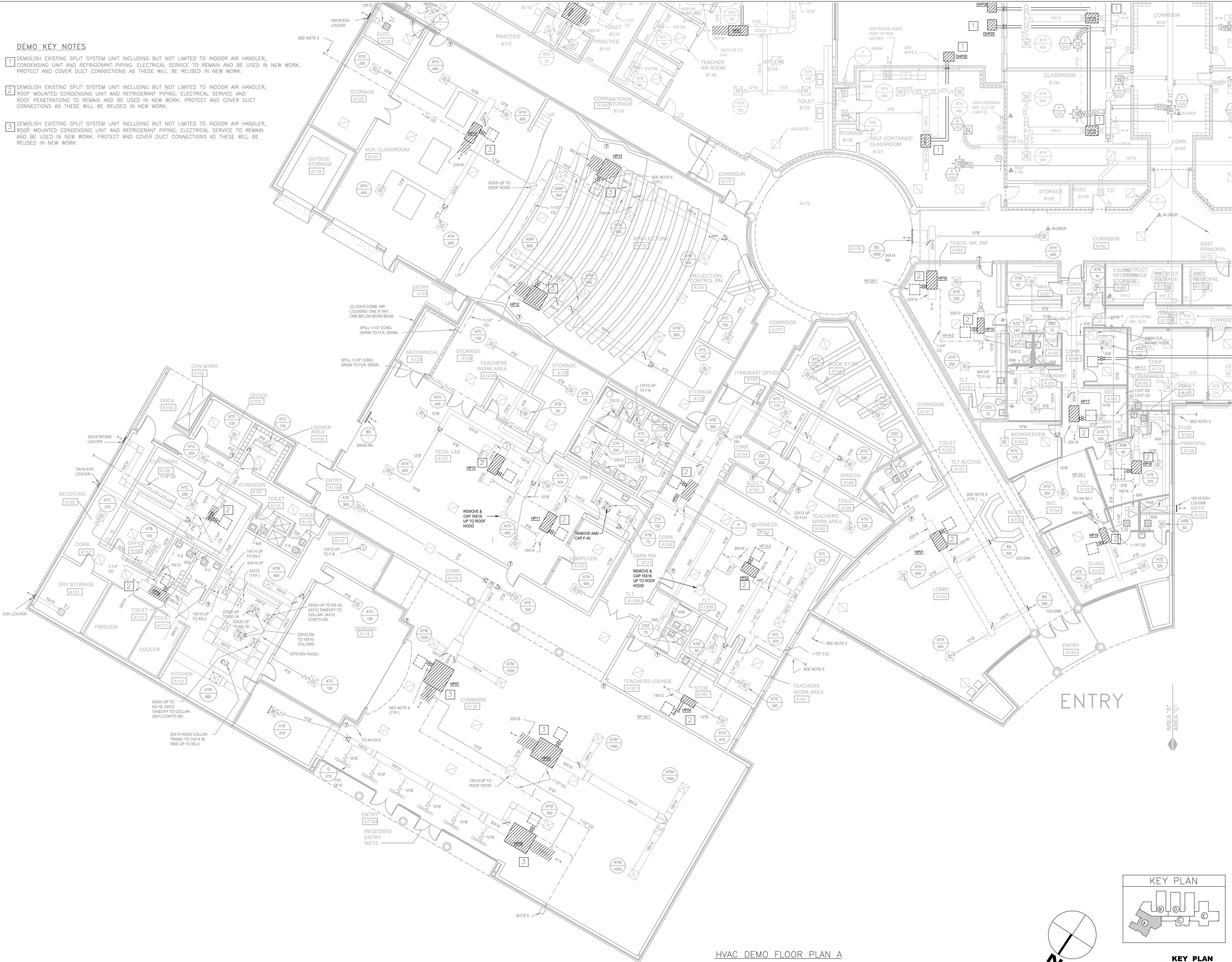
NO.	DATE	NOTES

HVAC LEGEND,
NOTES, AND
ABBREVIATIONS

M001

DEMO KEY NOTES

- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
- 2 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE AND ROOF PENETRATIONS TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
- 3 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.



HVAC DEMO FLOOR PLAN A
SCALE: 1/8" = 1'-0"



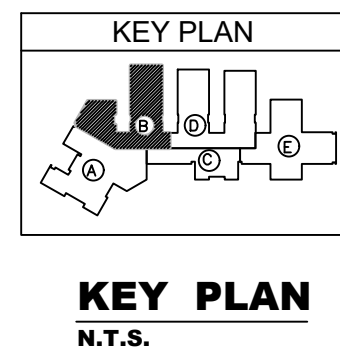
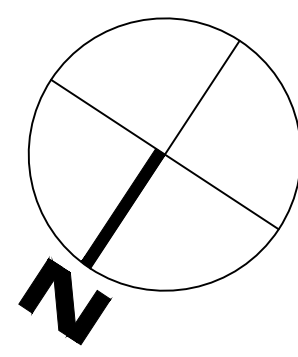
**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
DATE: 2/16/2024
DESIGNED BY: BRW
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CHECKED BY: MDK

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NO.	DATE	NOTES

**HVAC
DEMO
FLOOR PLAN 'A'**

MD101

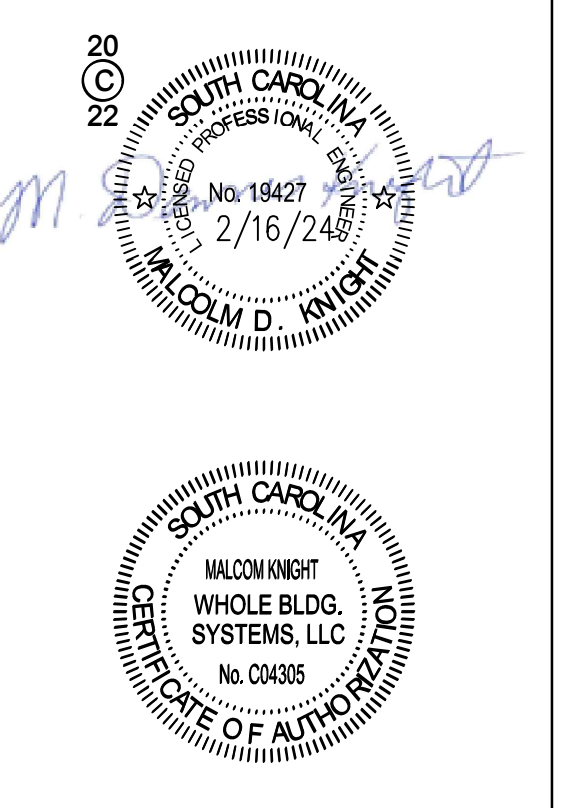


DEMO KEY NOTES

- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
- 2 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE AND ROOF PENETRATIONS TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
- 3 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
- 4 DEMOLISH EXISTING ROOFTOP UNIT. DISCONNECT GAS LINE FROM EXISTING UNIT. VALVE OFF LINE AND PROTECT SO GAS LINE AND REGULATOR CAN BE REUSED IN NEW WORK. EXISTING ROOF PENETRATIONS TO BE REUSED IN NEW WORK.
- 5 ALTERNATE #1



HVAC DEMO FLOOR PLAN 'B'
SCALE: 1/8" = 1'-0"



**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
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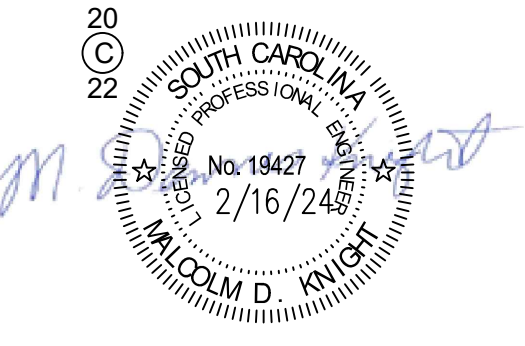
REVISIONS

NO.	DATE	NOTES

**HVAC
DEMO
FLOOR PLAN 'B'**
MD102

DEMO KEY NOTES

- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK



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HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

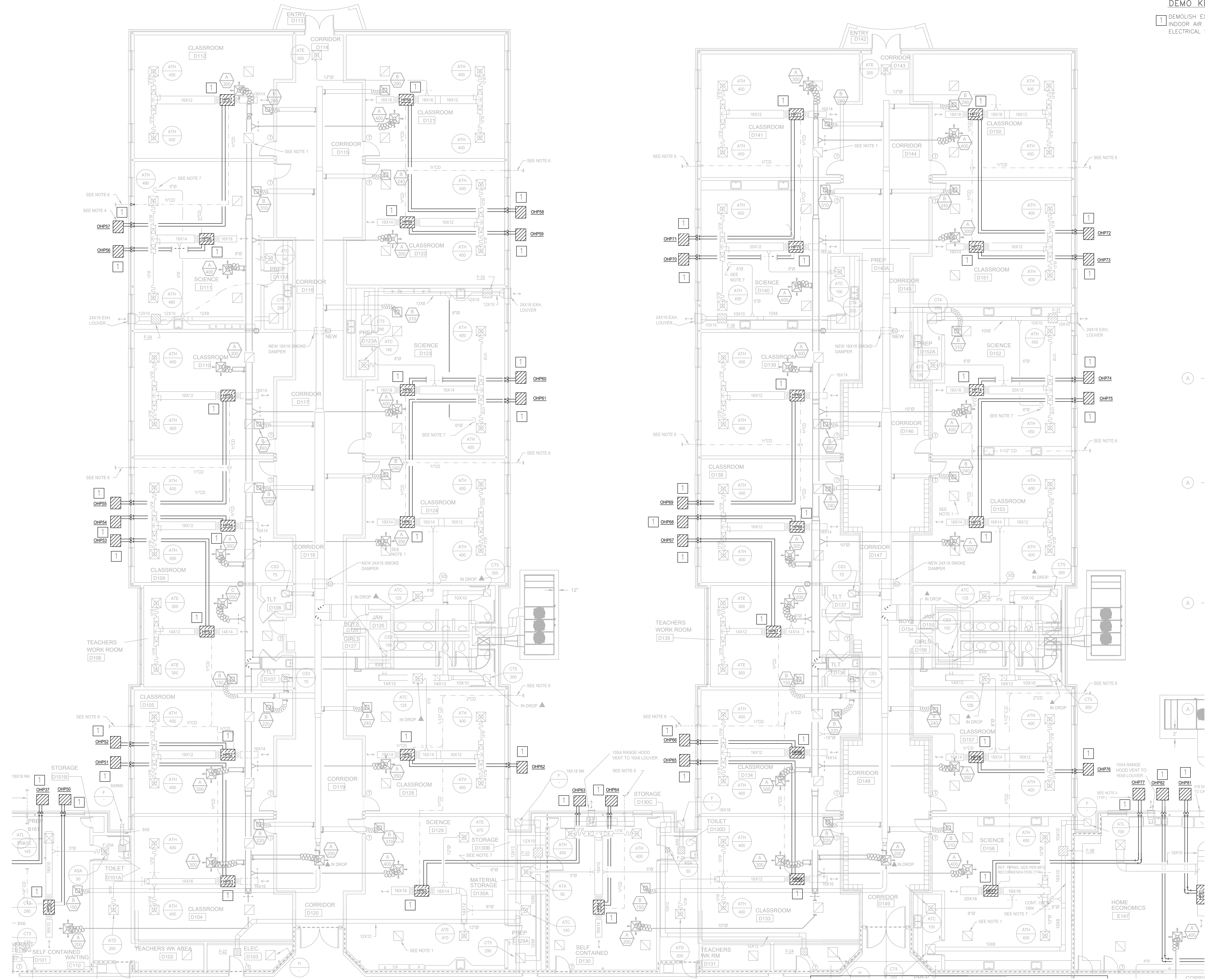
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DATE: 2/16/2024
DESIGNED BY: BRW
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CHECKED BY: MDK

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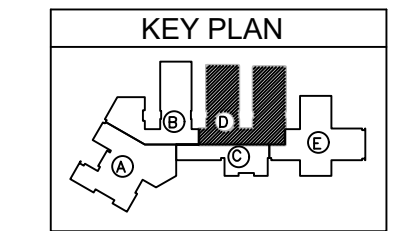
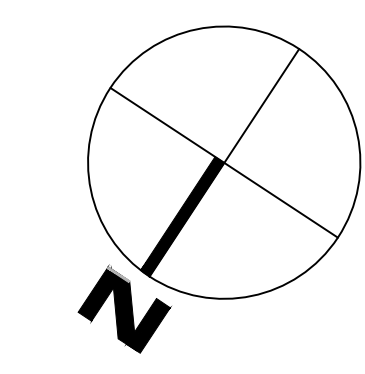
NO.	DATE	NOTES

HVAC DEMO FLOOR PLAN 'D'

MD103



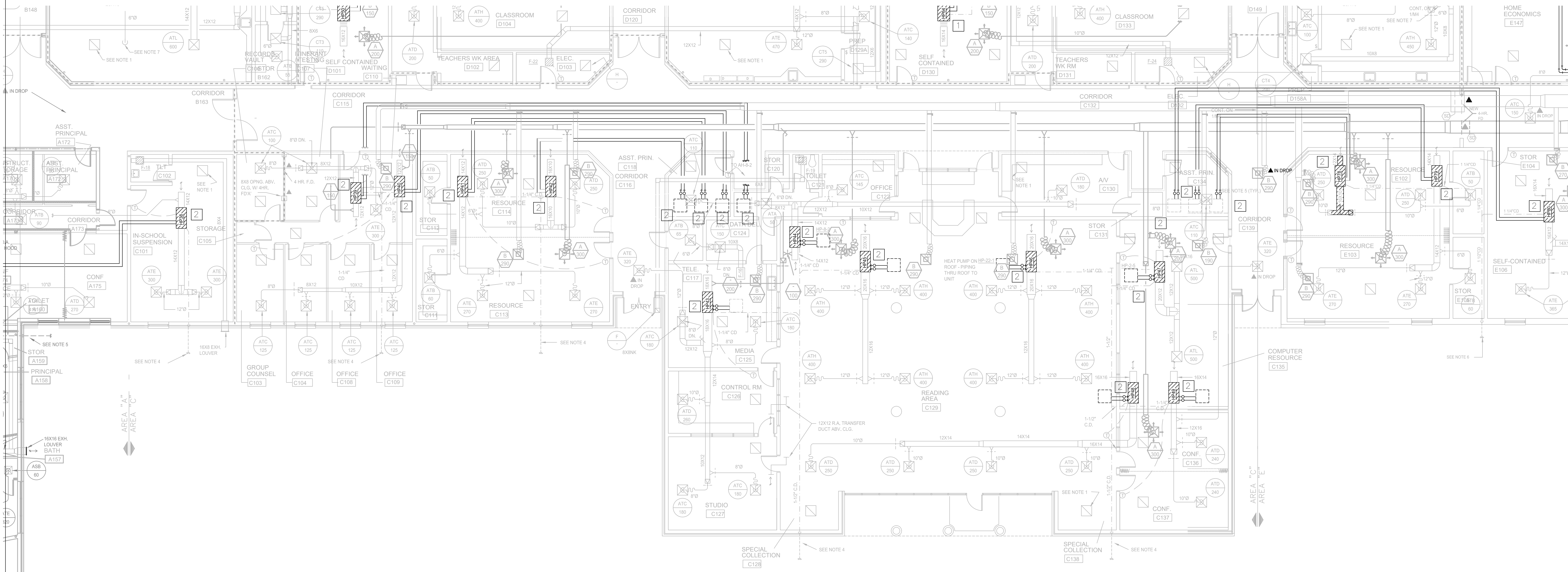
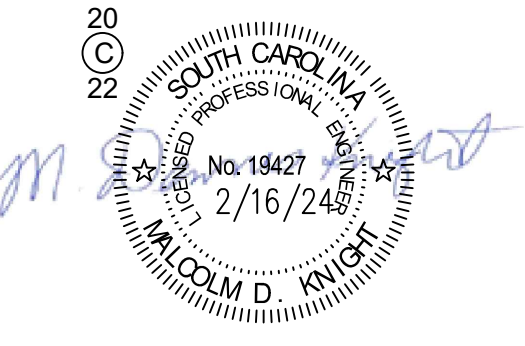
HVAC DEMO FLOOR PLAN 'D'
SCALE: 1/8" = 1'-0"



KEY PLAN
N.T.S.

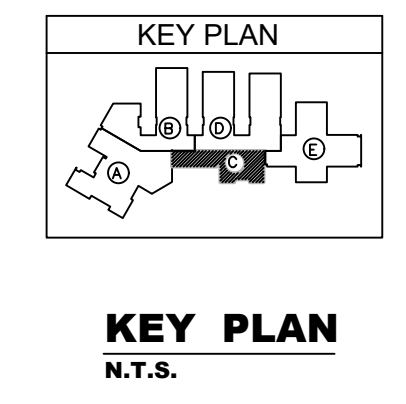
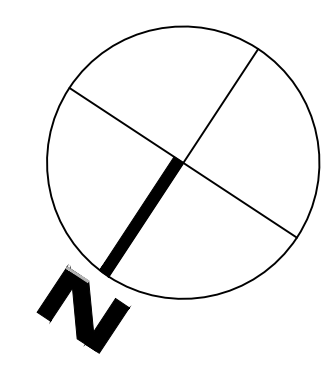
DEMO KEY NOTES

- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
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NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

HVAC DEMO FLOOR PLAN 'C'
 SCALE: 1/8" = 1'-0"



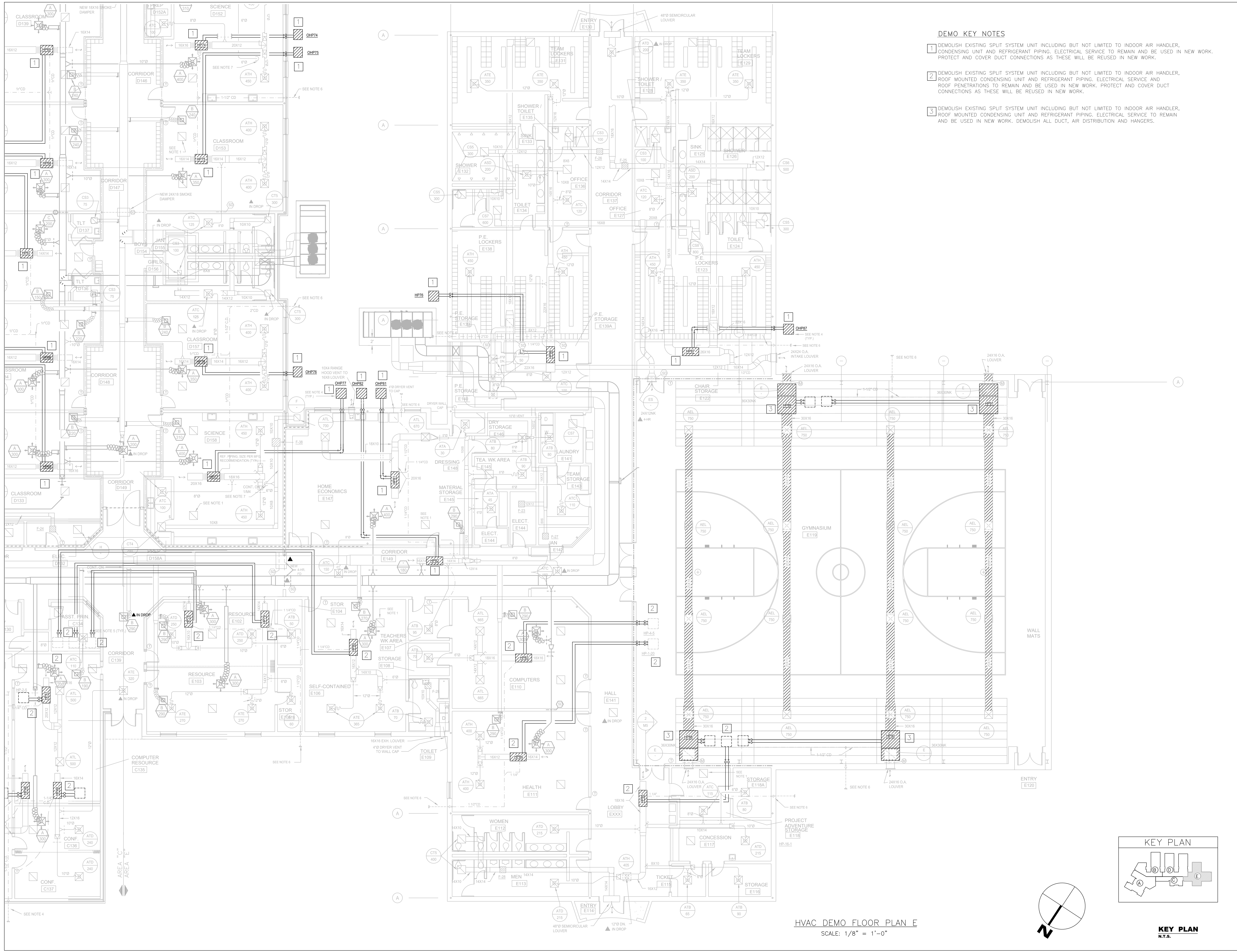
PROJ. NO. : 23090001
 DATE: 2/16/2024
 DESIGNED BY: BRW
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REVISIONS

NO.	DATE	NOTES

HVAC
 DEMO
 FLOOR PLAN 'C'

MD104



DEMO KEY NOTES

- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. PROTECT AND COVER DUCT CONNECTIONS AS THESE WILL BE REUSED IN NEW WORK.
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- 3 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK. DEMOLISH ALL DUCT, AIR DISTRIBUTION AND HANGERS.

WBS
Whole Building Systems

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26 BEE STREET
CHARLESTON, SC 29403
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WWW.WHOLEBUILDINGSYSTEMS.COM

SC 26
SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 19427
2/16/24
MICHAEL D. HANCOCK

SC 26
SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 05430
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HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

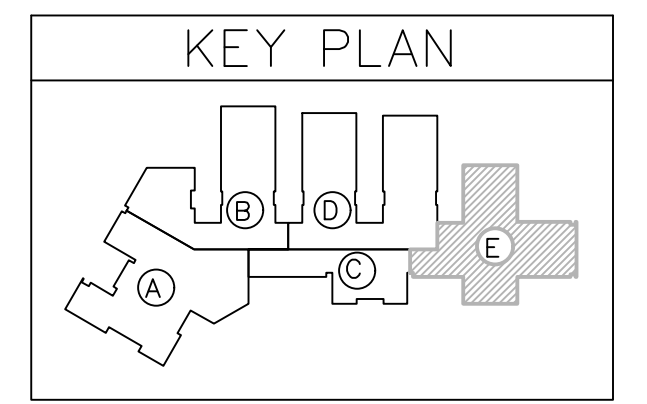
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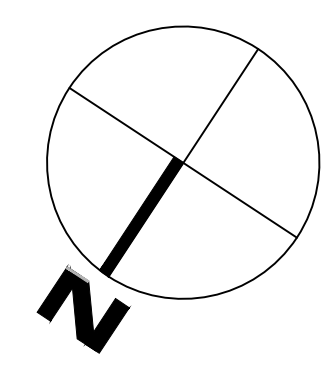
**HVAC
DEMO
FLOOR PLAN 'E'**

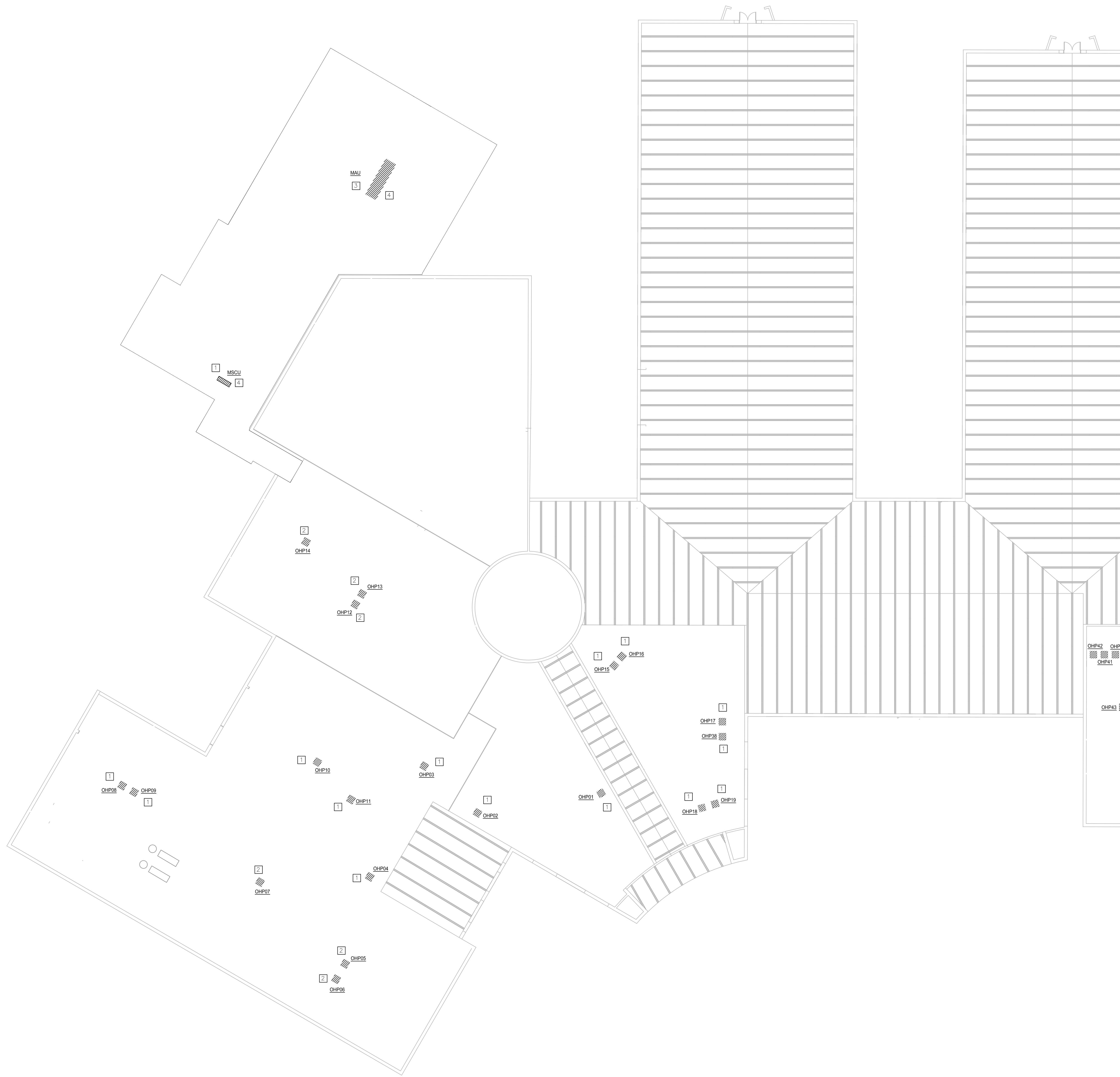
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HVAC DEMO FLOOR PLAN 'E'
SCALE: 1/8" = 1'-0"

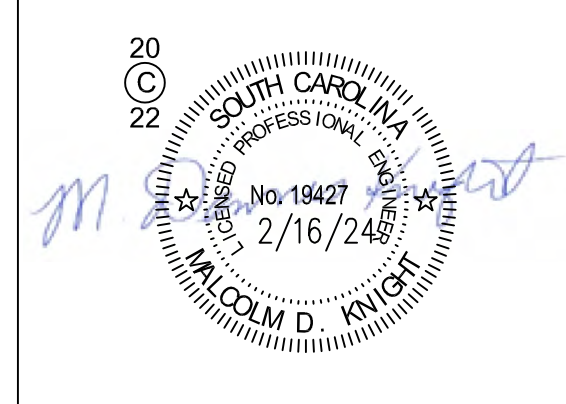


KEY PLAN
N.T.S.





- DEMO KEY NOTES**
- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE AND ROOF PENETRATIONS TO REMAIN AND BE USED IN NEW WORK.
 - 2 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO EQUIPMENT RAILS, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK.
 - 3 DEMOLISH EXISTING ROOFTOP UNIT. DISCONNECT GAS LINE FROM EXISTING UNIT. VALVE OFF LINE AND PROTECT SO GAS LINE AND REGULATOR CAN BE REUSED IN NEW WORK. EXISTING ROOF PENETRATIONS TO BE REUSED IN NEW WORK.
 - 4 ALTERNATE #1



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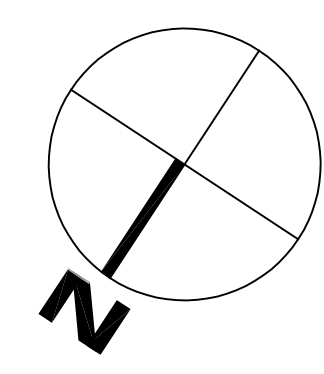
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NO.	DATE	NOTES

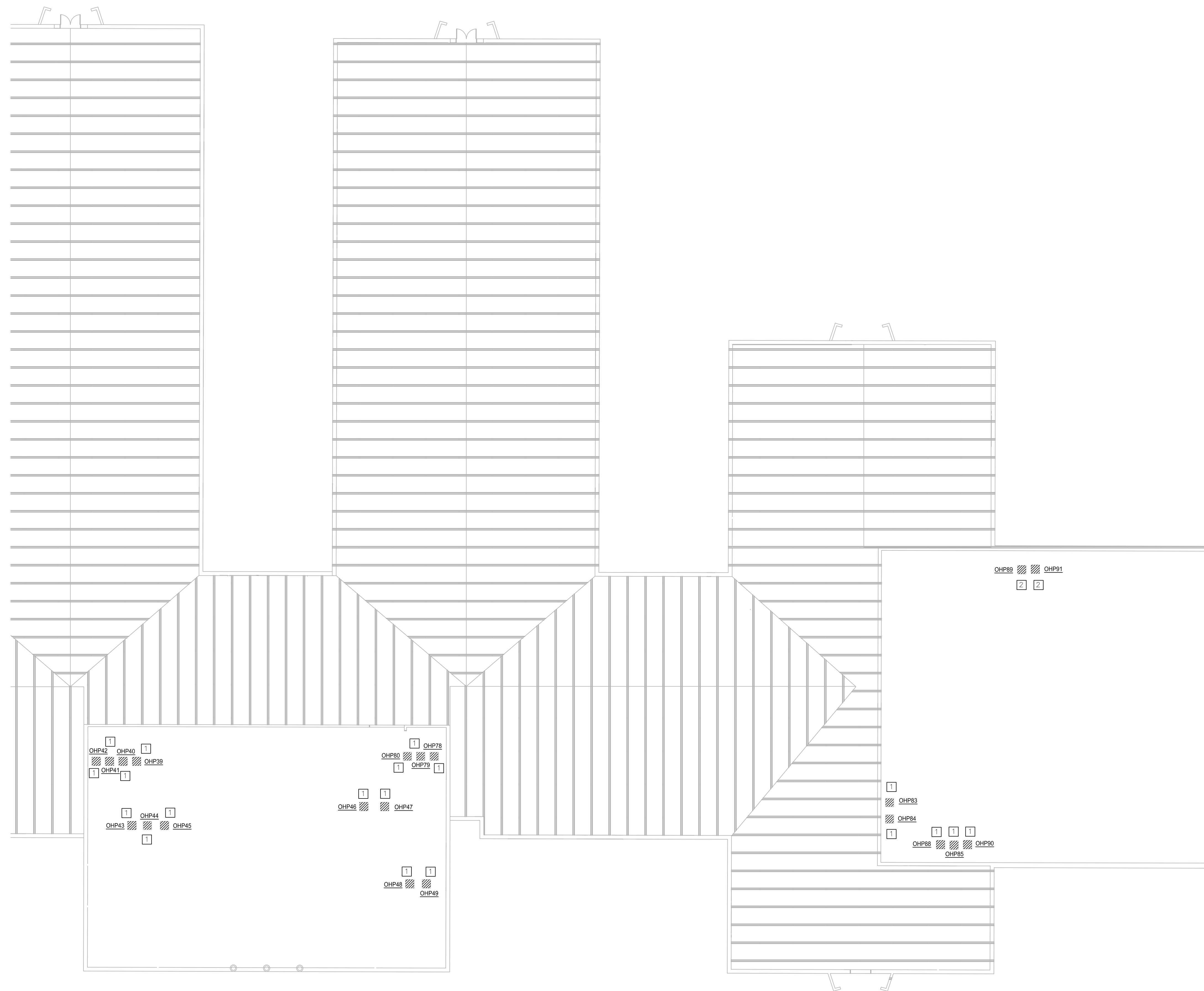
HVAC DEMO
PARTIAL ROOF
PLAN

MD106

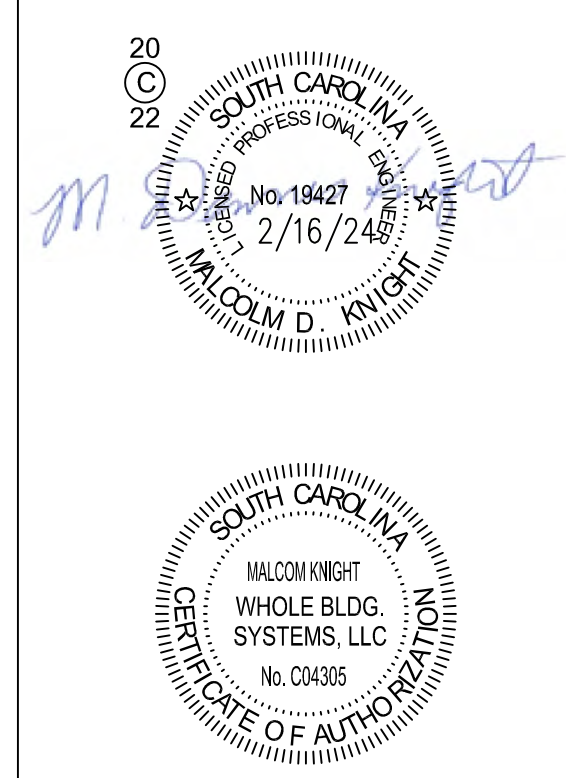
HVAC DEMO PARTIAL ROOF PLAN
 SCALE: 1/16" = 1'-0"



KEY PLAN
N.T.S.



- DEMO KEY NOTES**
- 1 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO INDOOR AIR HANDLER, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE AND ROOF PENETRATIONS TO REMAIN AND BE USED IN NEW WORK.
 - 2 DEMOLISH EXISTING SPLIT SYSTEM UNIT INCLUDING BUT NOT LIMITED TO EQUIPMENT RAILS, ROOF MOUNTED CONDENSING UNIT AND REFRIGERANT PIPING. ELECTRICAL SERVICE TO REMAIN AND BE USED IN NEW WORK.



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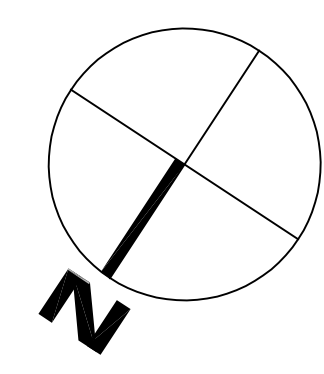
PROJ. NO. : 23090001
 DATE: 2/16/2024
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 DRAWN BY: BRW
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REVISIONS		
NO.	DATE	NOTES

HVAC DEMO
PARTIAL ROOF
PLAN

MD107

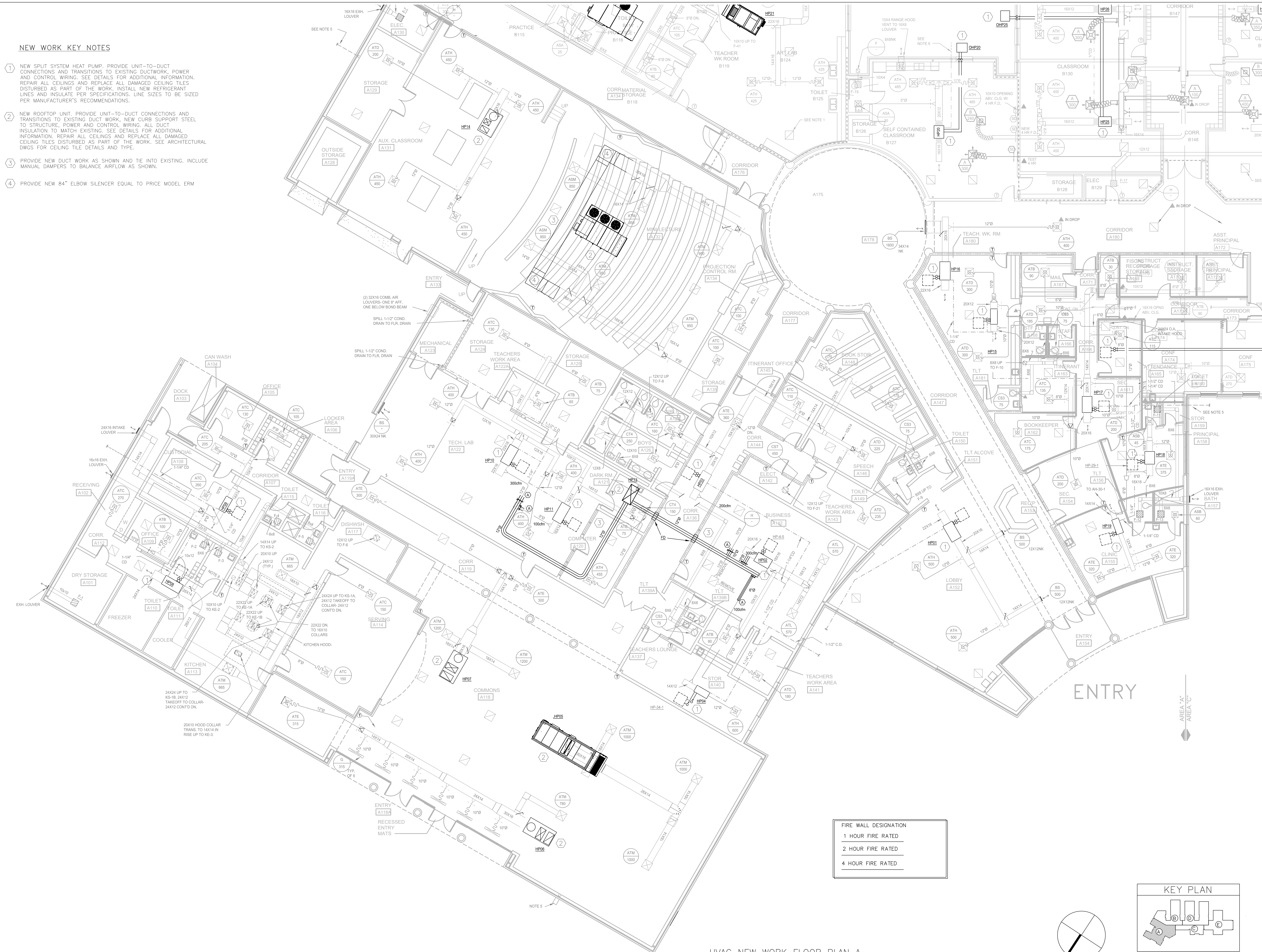
HVAC DEMO PARTIAL ROOF PLAN
 SCALE: 1/16" = 1'-0"



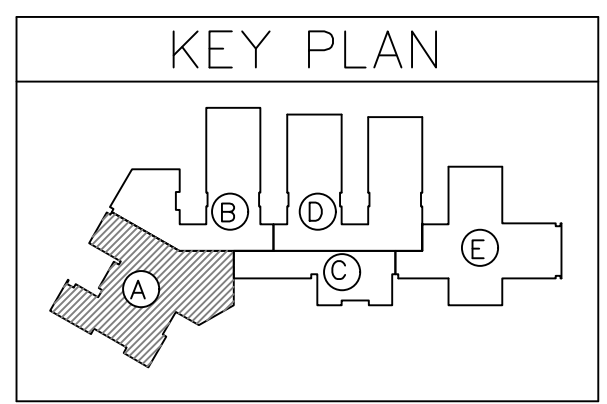
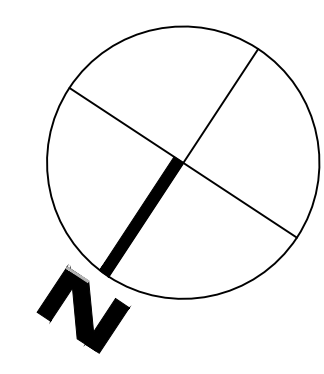
KEY PLAN
 N.T.S.

NEW WORK KEY NOTES

- 1 NEW SPLIT SYSTEM HEAT PUMP. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK, POWER AND CONTROL WIRING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINE SIZES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
- 2 NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCT WORK, NEW CURB SUPPORT STEEL TO STRUCTURE, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. SEE ARCHITECTURAL DWGS FOR CEILING TILE DETAILS AND TYPE.
- 3 PROVIDE NEW DUCT WORK AS SHOWN AND TIE INTO EXISTING. INCLUDE MANUAL DAMPERS TO BALANCE AIRFLOW AS SHOWN.
- 4 PROVIDE NEW 84" ELBOW SILENCER EQUAL TO PRICE MODEL ERM



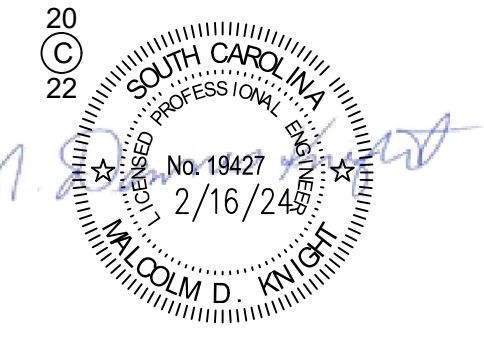
FIRE WALL DESIGNATION
1 HOUR FIRE RATED
2 HOUR FIRE RATED
4 HOUR FIRE RATED



KEY PLAN
N.T.S.

HVAC NEW WORK FLOOR PLAN A
SCALE: 1/8" = 1'-0"

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WHOLEBUILDINGSYSTEMS.COM



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HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

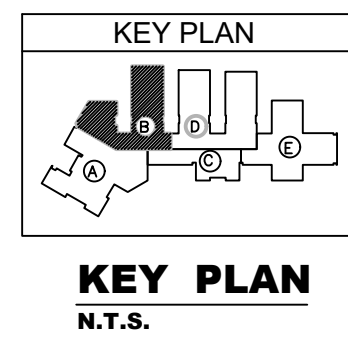
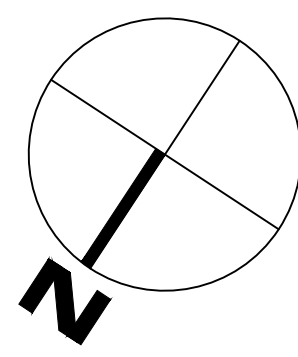
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CHECKED BY: MDK

REVISIONS

NO.	DATE	NOTES

HVAC
NEW WORK
FLOOR PLAN 'A'

M101

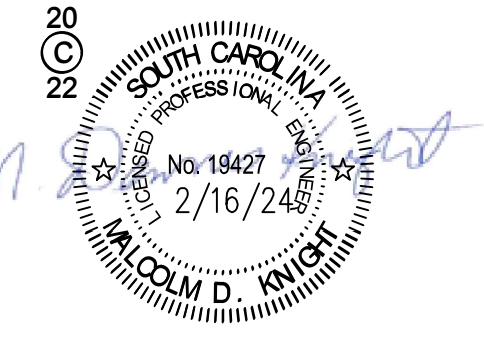


NEW WORK KEY NOTES

- 1 NEW SPLIT SYSTEM HEAT PUMP. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK, POWER AND CONTROL WIRING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINE SIZES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
- 2 NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK, NEW CURB SUPPORT STEEL TO STRUCTURE, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. SEE ARCHITECTURAL DWGS FOR CEILING TILE DETAILS AND TYPE.
- 3 NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK, NEW CURB SUPPORT STEEL TO STRUCTURE, GAS, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION.
- 4 ALTERNATE #1



HVAC NEW WORK FLOOR PLAN B
SCALE: 1/8" = 1'-0"



**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
DATE: 2/16/2024
DESIGNED BY: BRW
DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS

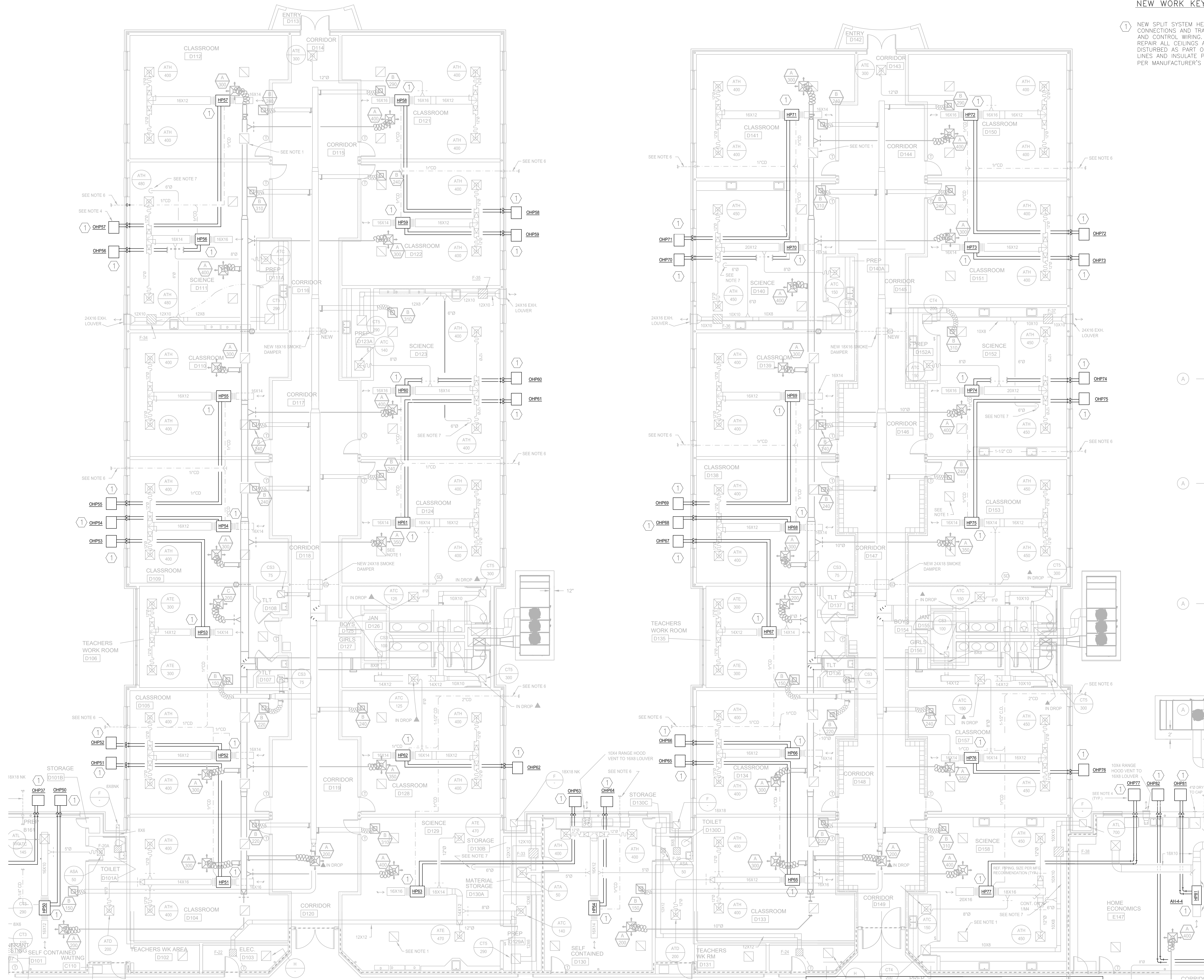
NO.	DATE	NOTES

**HVAC
NEW WORK
FLOOR PLAN 'B'**

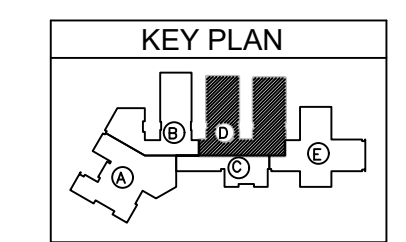
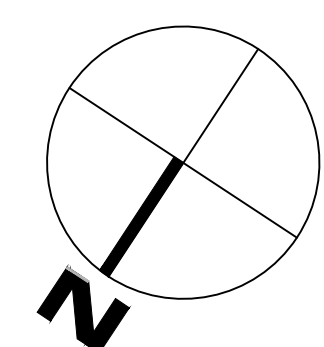
M102

NEW WORK KEY NOTES

- 1 NEW SPLIT SYSTEM HEAT PUMP. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK. POWER AND CONTROL WIRING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINE SIZES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.

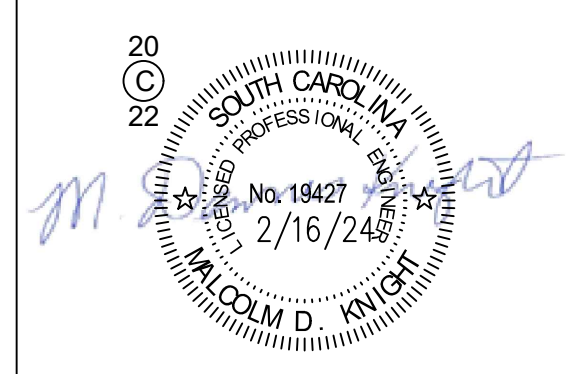


HVAC NEW WORK FLOOR PLAN 'D'
SCALE: 1/8" = 1'-0"



KEY PLAN
N.T.S.

WBS
Whole Building Systems
WHOLE BUILDING SYSTEMS, LLC
26 BEE STREET
CHARLESTON, SC 29403
PH: (843) 637-3388
WWW.WHOLEBUILDINGSYSTEMS.COM



NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO. : 23090001
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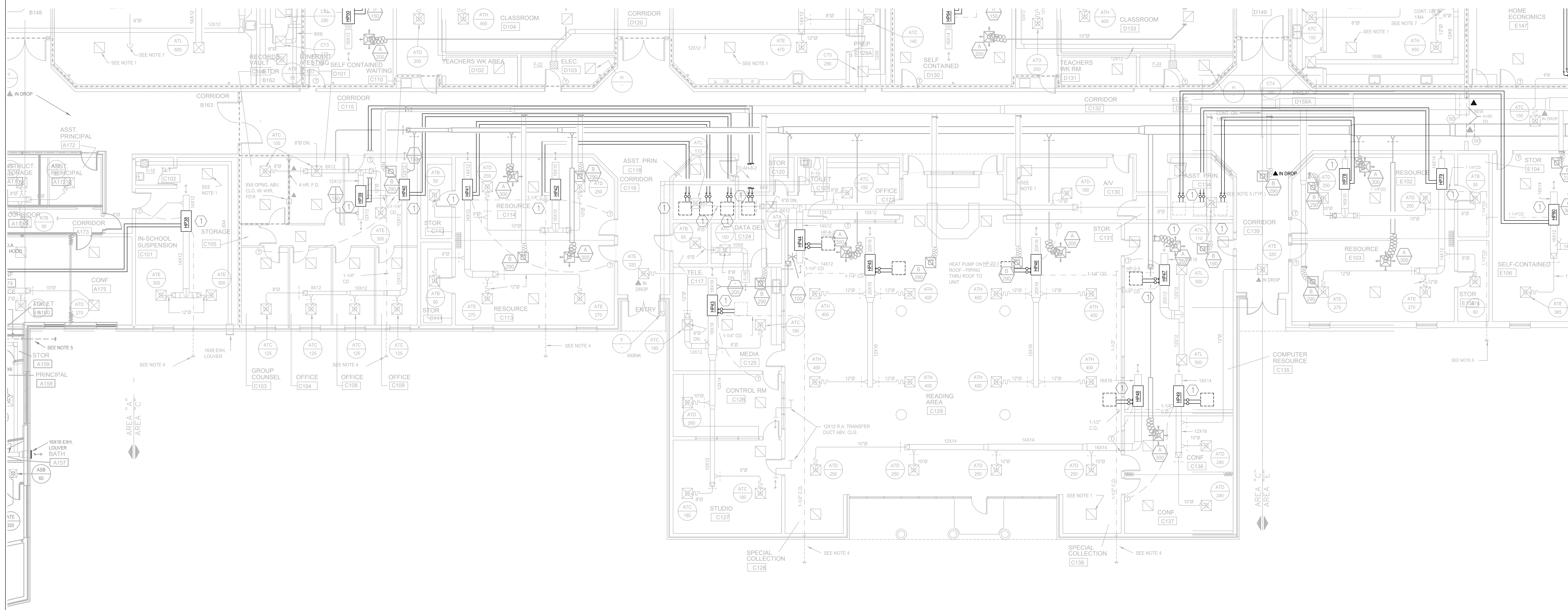
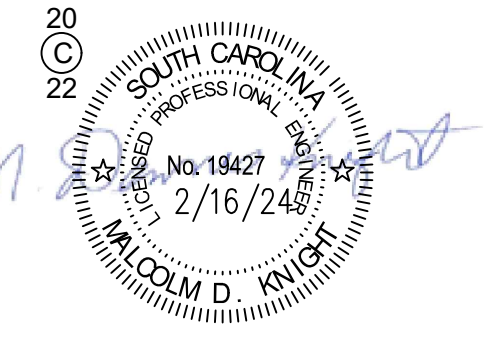
REVISIONS		
NO.	DATE	NOTES

HVAC
NEW WORK
FLOOR PLAN 'D'

M103

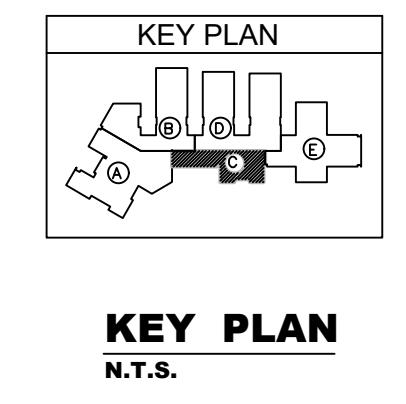
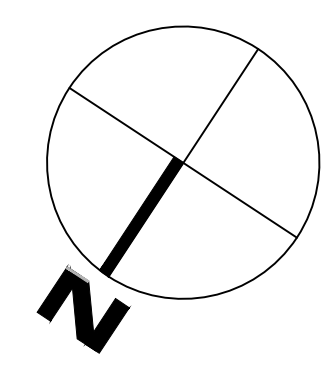
NEW WORK KEY NOTES

- ① NEW SPLIT SYSTEM HEAT PUMP. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK. POWER AND CONTROL WIRING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILING AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINE SIZES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.



**NORTH MYRTLE BEACH MIDDLE SCHOOL
 HVAC REPLACEMENT
 11240 SC-90 LITTLE RIVER, SC 29566**

HVAC NEW WORK FLOOR PLAN C
 SCALE: 1/8" = 1'-0"



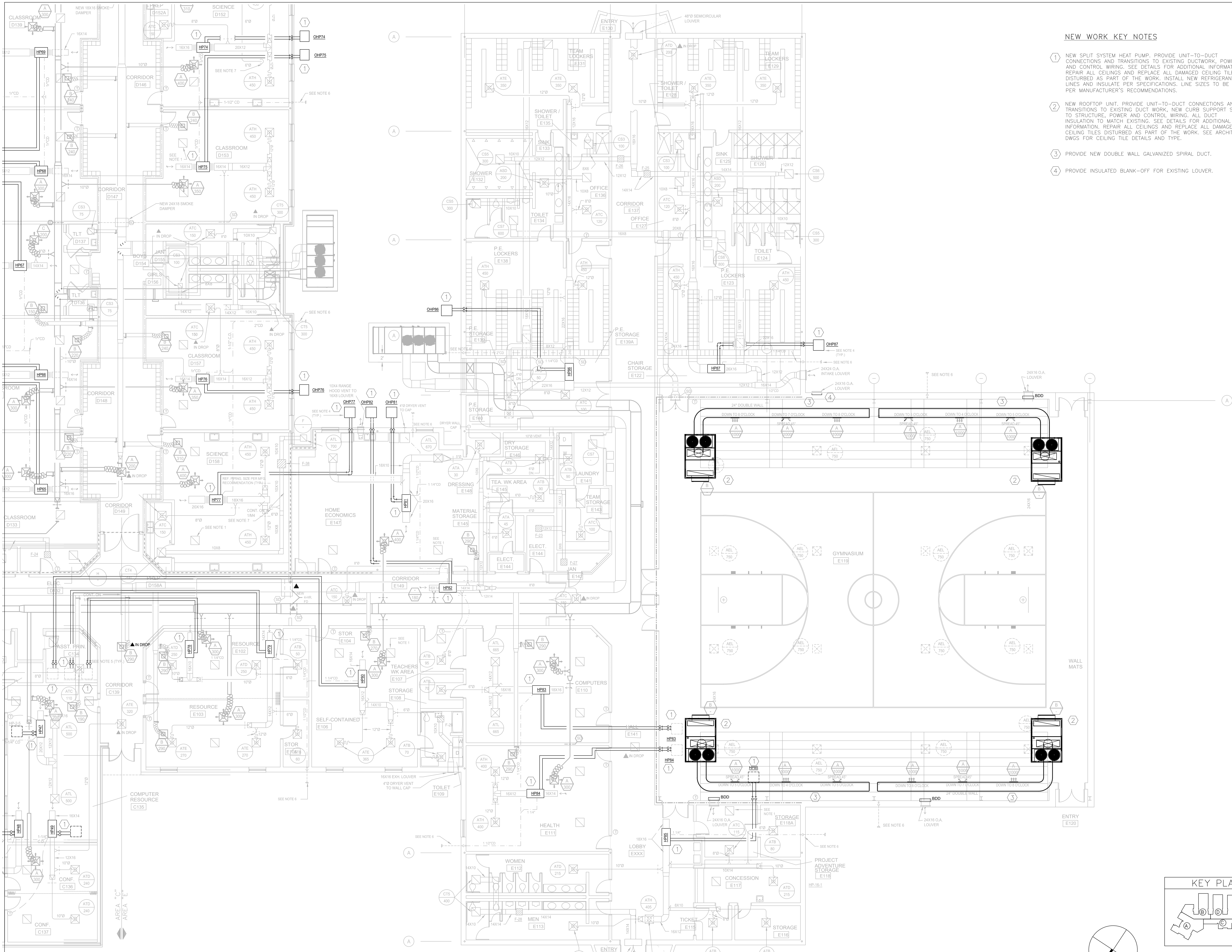
PROJ. NO. : 23090001
 DATE: 2/16/2024
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 DRAWN BY: BRW
 CHECKED BY: MDK

REVISIONS

NO.	DATE	NOTES

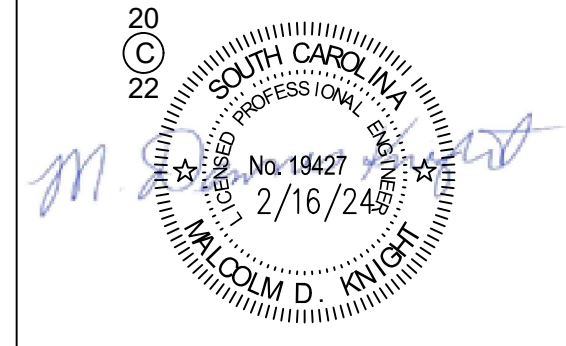
HVAC
 NEW WORK
 FLOOR PLAN 'C'

M104



NEW WORK KEY NOTES

- ① NEW SPLIT SYSTEM HEAT PUMP. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCTWORK, POWER AND CONTROL WIRING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINE SIZES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
- ② NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCT WORK. NEW CURB SUPPORT STEEL TO STRUCTURE, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION. REPAIR ALL CEILINGS AND REPLACE ALL DAMAGED CEILING TILES DISTURBED AS PART OF THE WORK. SEE ARCHITECTURAL DWGS FOR CEILING TILE DETAILS AND TYPE.
- ③ PROVIDE NEW DOUBLE WALL GALVANIZED SPIRAL DUCT.
- ④ PROVIDE INSULATED BLANK-OFF FOR EXISTING LOUVER.



NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

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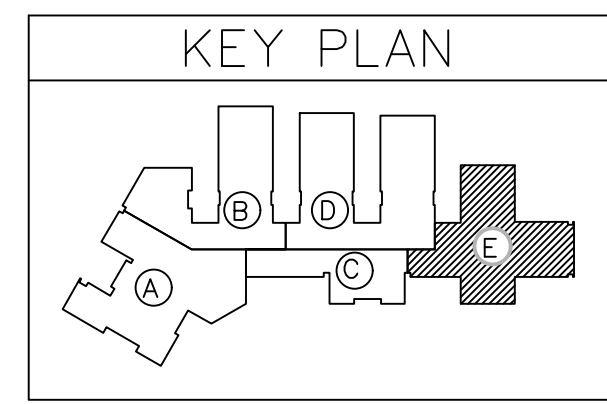
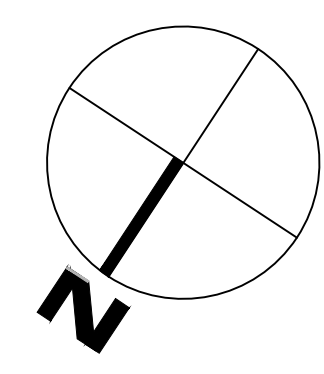
REVISIONS

NO.	DATE	NOTES

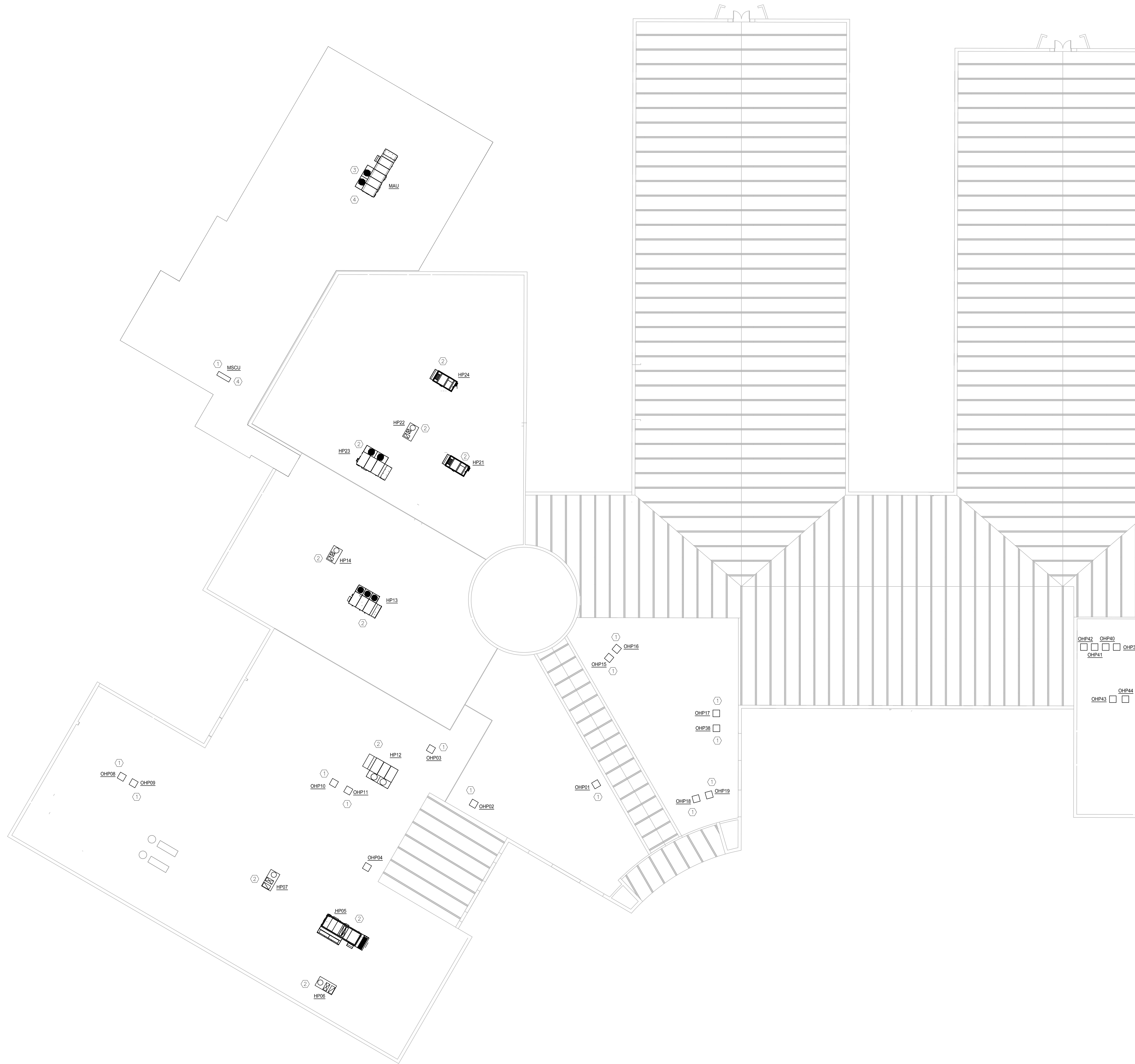
HVAC
NEW WORK
FLOOR PLAN 'E'

M105

HVAC NEW WORK FLOOR PLAN E
 SCALE: 1/8" = 1'-0"

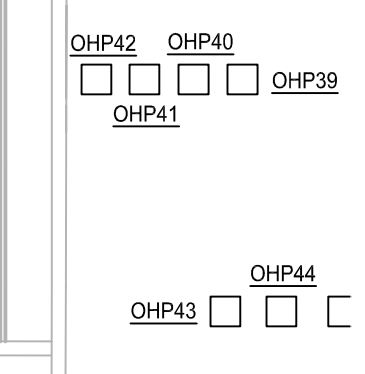


KEY PLAN

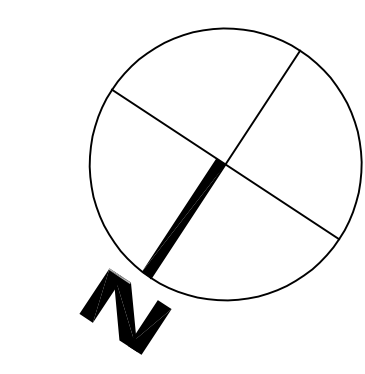


NEW WORK KEY NOTES

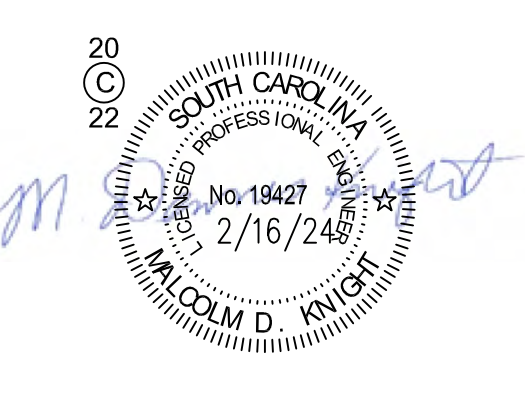
- ① NEW SPLIT SYSTEM HEAT PUMP- SEE DETAILS FOR ADDITIONAL INFORMATION. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
- ② NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCT WORK. NEW CURB SUPPORT STEEL TO STRUCTURE, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION.
- ③ NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCT WORK. NEW CURB SUPPORT STEEL TO STRUCTURE, GAS, POWER AND CONTROL WIRING. ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION.
- ④ ALTERNATE #1



HVAC NEW WORK PARTIAL ROOF PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN
N.T.S.



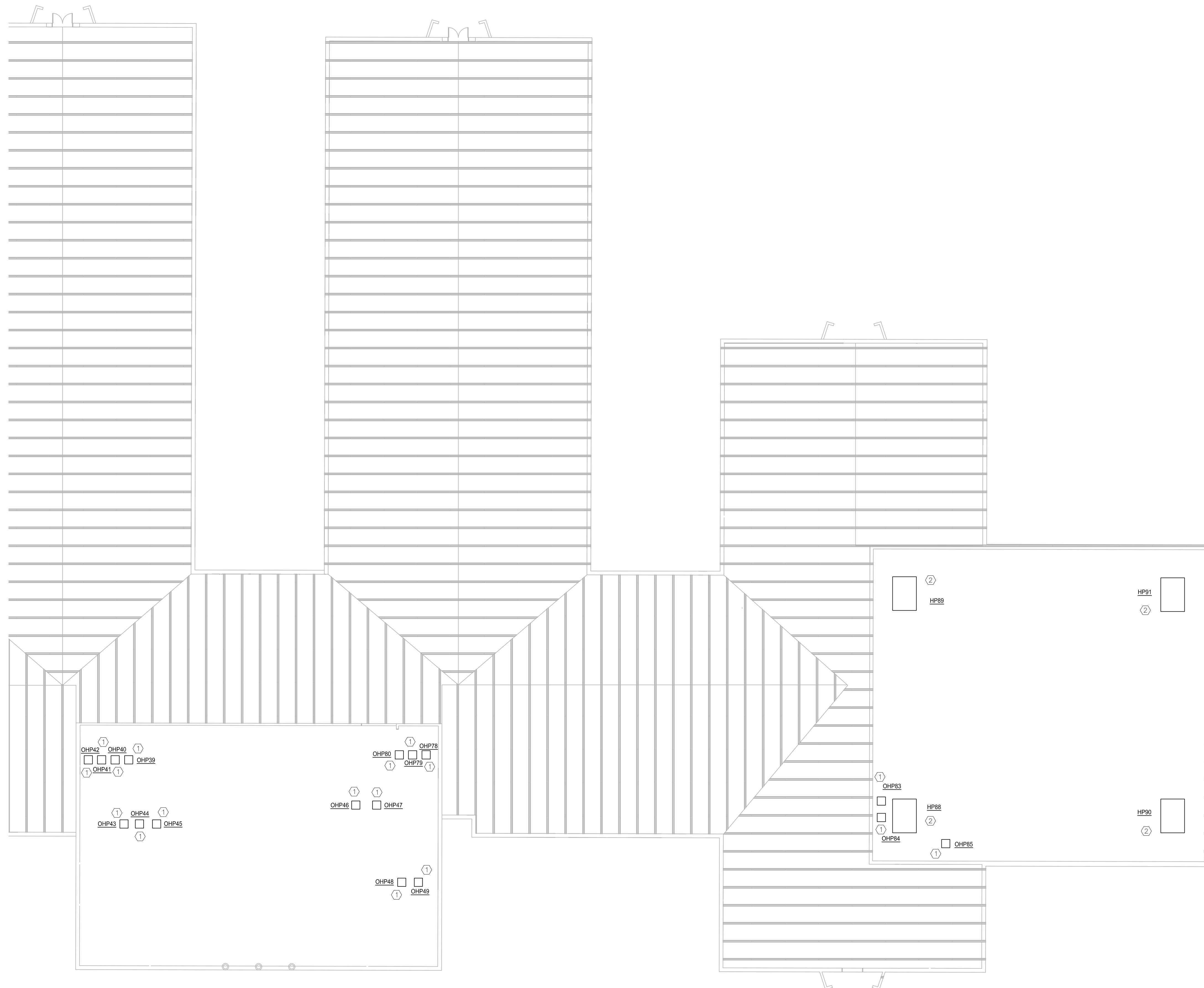
**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
DATE: 2/16/2024
DESIGNED BY: BRW
DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS		
NO.	DATE	NOTES

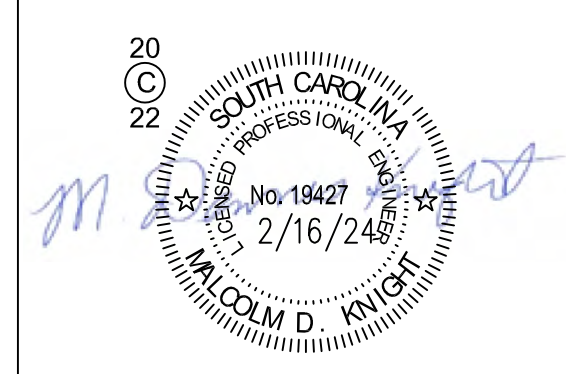
**HVAC NEW WORK
PARTIAL ROOF
PLAN**

M106



NEW WORK KEY NOTES

- ① NEW SPLIT SYSTEM HEAT PUMP. SEE DETAILS FOR ADDITIONAL INFORMATION. INSTALL NEW REFRIGERANT LINES AND INSULATE PER SPECIFICATIONS. LINES TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
- ② NEW ROOFTOP UNIT. PROVIDE UNIT-TO-DUCT CONNECTIONS AND TRANSITIONS TO EXISTING DUCT WORK. NEW CURB SUPPORT STEEL TO STRUCTURE. POWER AND CONTROL WIRING ALL DUCT INSULATION TO MATCH EXISTING. SEE DETAILS FOR ADDITIONAL INFORMATION.



NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

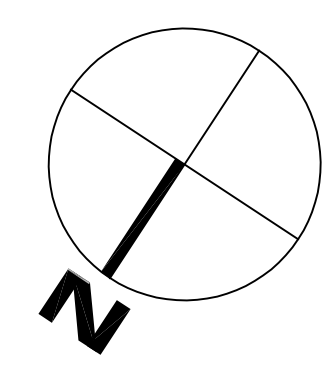
PROJ. NO. : 23090001
 DATE: 2/16/2024
 DESIGNED BY: BRW
 DRAWN BY: BRW
 CHECKED BY: MDK

REVISIONS		
NO.	DATE	NOTES

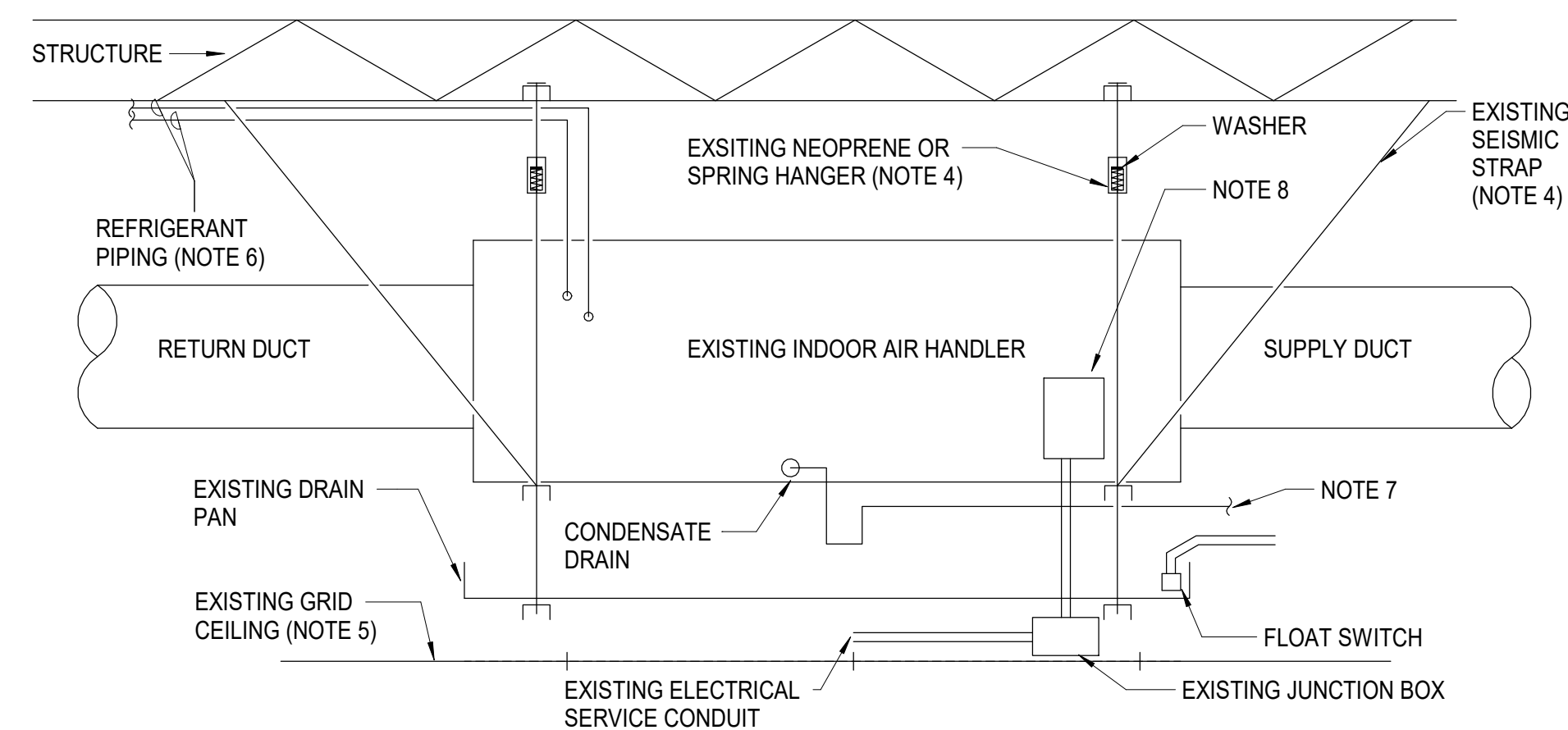
HVAC NEW WORK
PARTIAL ROOF
PLAN

M107

HVAC NEW WORK PARTIAL ROOF PLAN
 SCALE: 1/16" = 1'-0"

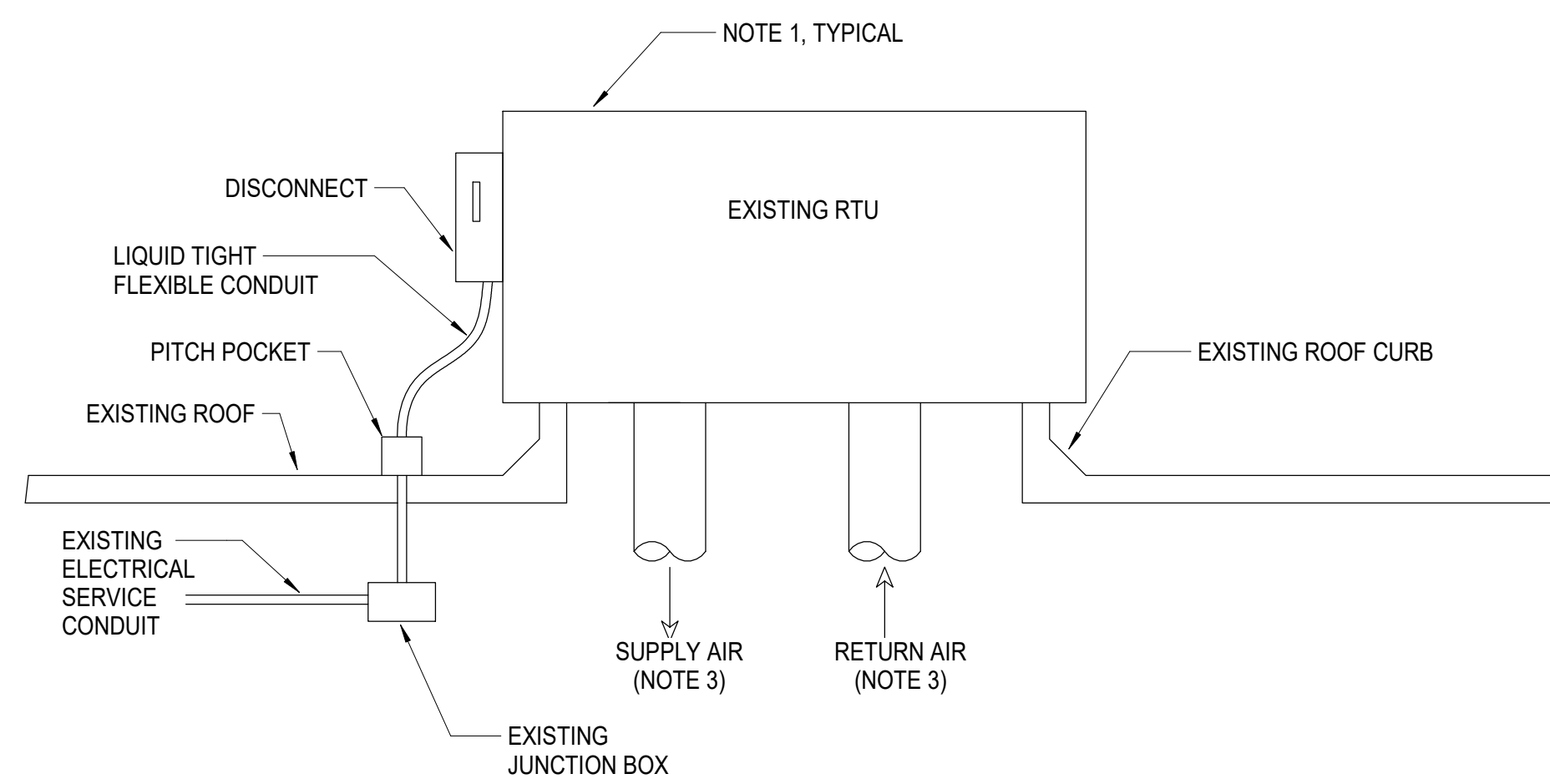


KEY PLAN
 N.T.S.



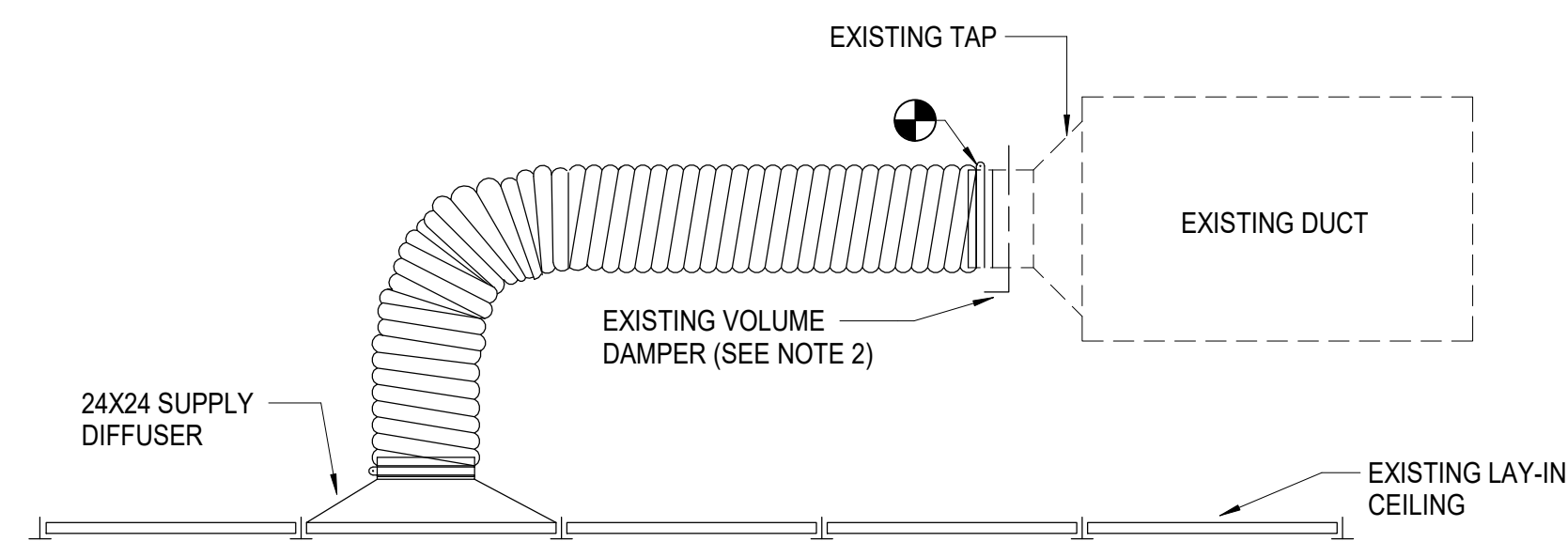
- NOTES:**
1. VERIFY ALL EQUIPMENT LOCATIONS AND CONFIGURATIONS IN THE FIELD PRIOR TO STARTING WORK.
 2. DISCONNECT INDOOR HVAC UNIT FROM EXISTING SUPPLY AND RETURN DUCTWORK. COVER AND PROTECT DUCTWORK OPENINGS FOR REUSE IN NEW WORK.
 3. REMOVE EXISTING STRUCTURE MOUNTED HVAC UNIT, COMPLETE INCLUDING, BUT NOT LIMITED TO UNIT, SUPPORTS, POWER SUPPLY, CONTROLS, DRAIN PAN, VALVE PACKAGES, AND CONDENSATE DRAIN CONNECTION.
 4. REMOVE AND PROTECT EXISTING SEISMIC RESTRAINT DEVICES WHERE POSSIBLE. AT CONTRACTOR'S OPTION, EXISTING SEISMIC RESTRAINT DEVICES NOT BROKEN OR DAMAGED MAY BE REUSED IN NEW WORK.
 5. REMOVE AND PROTECT EXISTING CEILING GRID TILES FOR REUSE IN NEW WORK. TILES BROKEN OR DAMAGED SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST TO OWNER.
 6. DEMOLISH EXISTING REFRIGERANT. NEW REFRIGERANT PIPING WILL BE USED IN NEW WORK.
 7. DISCONNECT EXISTING CONDENSATE PIPING FROM EXISTING AIR HANDLER. SEE INSTALLATION DETAIL 2 ON THIS SHEET FOR ADDITIONAL INFORMATION.
 8. REMOVE ELECTRICAL CIRCUIT TO FIRST JUNCTION BOX ABOVE CEILING AND INSTALL NEW ELECTRICAL AS SHOWN IN DETAIL 2 ON THIS SHEET.

1 TYP. BCU/FCU DEMOLITION DETAIL - ABOVE CEILING
NOT TO SCALE



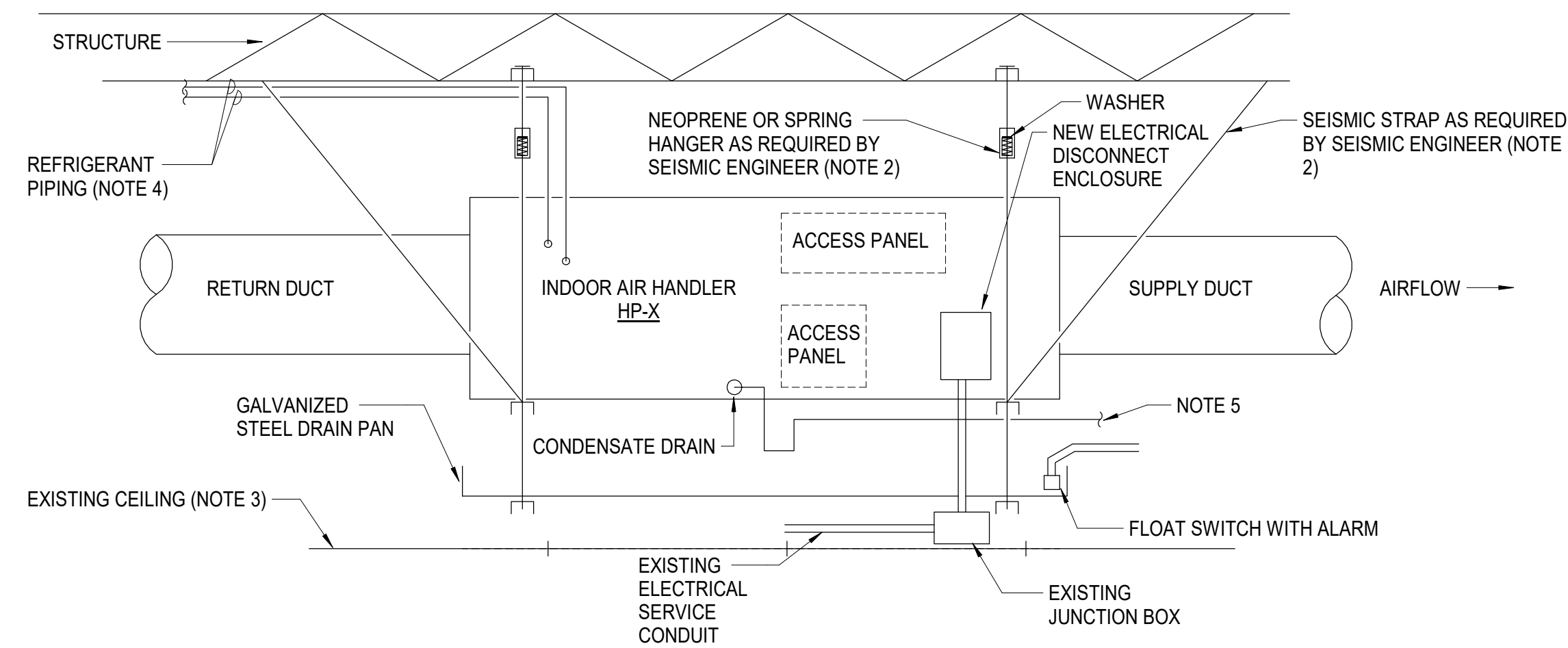
- NOTES:**
1. REMOVE EXISTING ROOF MOUNTED HVAC UNIT COMPLETE INCLUDING, BUT NOT LIMITED TO, UNIT, CURB, EQUIPMENT RAILS, SUPPORTS, POWER SUPPLY, CONTROLS, AND CONDENSATE DRAIN.
 2. REMOVE FLASHING FROM EXISTING CONCRETE CURB.
 3. DISCONNECT HVAC UNIT FROM EXISTING SUPPLY AND RETURN DUCTWORK. COVER AND PROTECT DUCTWORK OPENINGS FOR REUSE IN NEW WORK.
 4. REMOVE ELECTRICAL CIRCUIT TO FIRST JUNCTION BOX BELOW ROOF AND INSTALL NEW ELECTRICAL AS SHOWN IN DETAIL 8 ON THIS SHEET.

6 EXISTING RTU DEMOLITION DETAIL
NOT TO SCALE



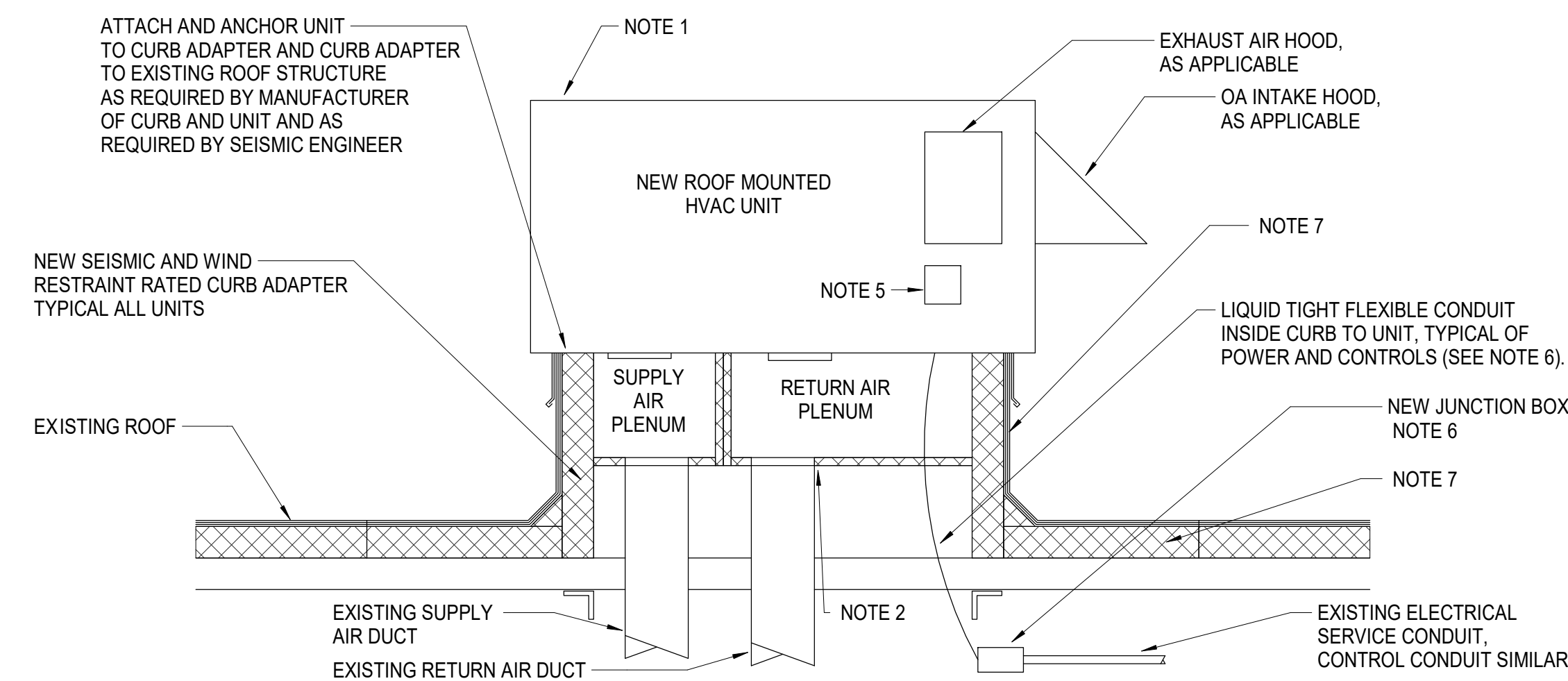
- NOTES:**
1. MAXIMUM UNSUPPORTED LENGTH OF FLEX DUCT SHALL BE 5 FEET.
 2. VERIFY DUCT TAKEOFF HAS EXISTING VOLUME DAMPER PRIOR TO STARTING WORK. PROVIDE VOLUME DAMPER IF NECESSARY.
- FLEX DUCT CONNECTION TO DIFFUSER (LAY-IN CLG)

5 FLEX DUCT CONNECTION TO DIFFUSER (LAY-IN CLG)
NOT TO SCALE



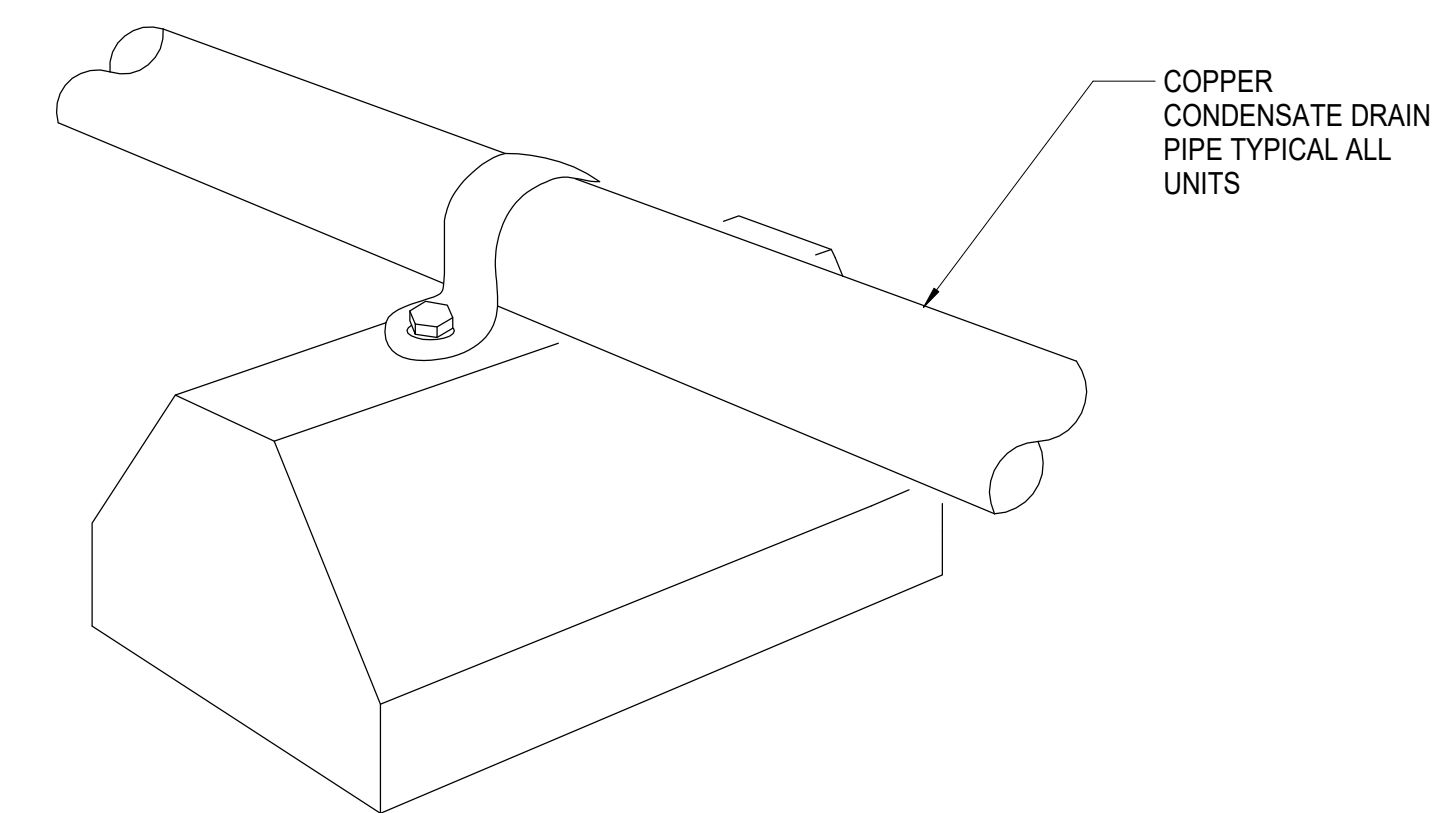
- NOTES:**
1. DETAIL SHOWN IS FOR UNITS WITH HORIZONTAL RIGHT CONFIGURATION. ADJUST (MIRROR) CONFIGURATION AS NECESSARY FOR UNITS WITH HORIZONTAL LEFT CONFIGURATION.
 2. PROVIDE SEISMIC RESTRAINT DEVICES AS REQUIRED BY SEISMIC ENGINEER. AT CONTRACTOR'S OPTION, EXISTING RESTRAINT DEVICES NOT BROKEN OR DAMAGED MAY BE REUSED IN NEW WORK.
 3. SEE ARCHITECTURAL CEILING PLANS FOR EXACT LAYOUT AND LOCATION OF CEILING GRID.
 4. PROVIDE NEW REFRIGERANT PIPING. SIZE PER MANUFACTURERS RECOMMENDATIONS.
 5. CONNECT CONDENSATE DRAIN TO EXISTING CONDENSATE DRAIN PIPING. CONDENSATE DRAIN PIPING SHALL BE SLOPED A MINIMUM OF 1/8" PER FOOT OF PIPING TOWARDS FLOOR DRAIN. SEE DETAIL 7 ON THIS SHEET FOR ADDITIONAL INFORMATION.
 6. PROVIDE NEW ELECTRICAL WIRING AND DISCONNECT AS INDICATED ON PLANS. DISCONNECT TO BE ENCLOSED CIRCUIT BREAKER SIZED TO MATCH EQUIPMENT LOAD INSTALLED IN A NEMA TYPE 2 ENCLOSURE. MOUNT DISCONNECT ON SIDE OF UNIT - DO NOT COVER ANY NAMEPLATES OR BLOCK ANY SERVICE ACCESS PANELS.

2 TYP. BCU/FCU INSTALLATION DETAIL - ABOVE CEILING
NOT TO SCALE



- NOTES:**
1. PROVIDE NEW ROOF MOUNTED HVAC UNIT COMPLETE INCLUDING, BUT NOT LIMITED TO, UNIT, FULL PERIMETER SEISMIC AND WIND RATED CURB ADAPTER, SEISMIC AND WIND RESTRAINTS CONNECTED TO EXISTING STRUCTURE AND NEW UNIT, SUPPORTS, POWER SUPPLY, CONTROLS, AND CONDENSATE DRAIN.
 2. CONNECT AND SEAL DUCT TO ADAPTER CURB DUCT CONNECTIONS AIR TIGHT.
 3. MINIMUM HEIGHT OF CURB SHALL BE 16 INCHES ABOVE ROOF SURFACE. MAXIMUM HEIGHT OF CURB SHALL BE 36 INCHES ABOVE ROOF SURFACE.
 4. INTERCEPT EXISTING POWER SUPPLY BELOW ROOF, PROVIDE JUNCTION BOX AND LIQUID TIGHT FLEXIBLE CONDUIT, SPLICE CONDUCTORS AND ROUTE TO UNIT INSIDE CURB. CONTROL POWER ROUTING SHALL BE SIMILAR. NO EXTERNAL POWER SUPPLIES OR CONTROL WIRING SHALL PENETRATE THE ROOF OUTSIDE OF CURB.
 5. PROVIDE EQUIPMENT WITH CIRCUIT BREAKER DISCONNECT WITH WEATHER PROOF COVER FACTORY FURNISHED AND INSTALLED. LOCATION MAY VARY IF UNIT MANUFACTURER DOES NOT PROVIDE CIRCUIT BREAKER DISCONNECT, PROVIDE EXTERNAL CIRCUIT BREAKER DISCONNECT IN NEMA 3R ENCLOSURE MOUNTED TO UNIT. DO NOT COVER ANY UNIT NAMEPLATES WITH DISCONNECT.
 6. PROVIDE CURB WITH AIRTIGHT INSULATED CHASE FOR POWER AND CONTROL WIRING CONDUITS TO ENTER THE BOTTOM OF THE UNIT THROUGH THE CHASE.
 7. REPAIR ROOF ALL AROUND TO MATCH EXISTING INCLUDING, BUT NOT LIMITED TO FLASHING, COUNTER FLASHING, INSULATION, BASE SHEETS, AND CAP SHEET.

8 NEW ROOFTOP UNIT INSTALLATION
NOT TO SCALE

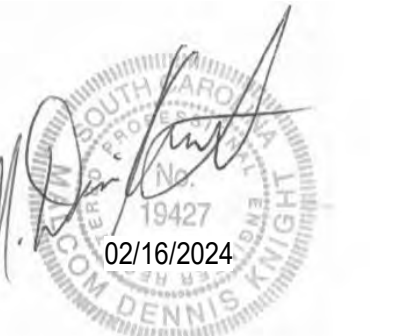


- NOTES:**
1. PROVIDE PIPING SUPPORTS FOR ALL PIPING LOCATED ON ROOF.
 2. PIPE SUPPORTS SHALL BE SPACED AS REQUIRED BY SMACNA-2006.
 3. CONDENSATE DRAIN PIPING SHALL BE SLOPED AT A MINIMUM OF 1/8" PER LINEAR FOOT.

4 PIPING SUPPORTS ON ROOF
NOT TO SCALE



Whole Building Systems LLC
P.O. Box 1845
Mt. Pleasant, South Carolina
29465
PH: (843) 224-9210
Wholebuildingystems.com



**NORTH MYRTLE BEACH
MIDDLE SCHOOL
HVAC REPLACEMENT**
11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO.: 23090001
DATE: 02/16/24
DESIGNED BY: MDK
DRAWN BY: BRW
CHECKED BY: BRW

REVISIONS

NO.	DATE	NOTES

HVAC DETAILS

M500



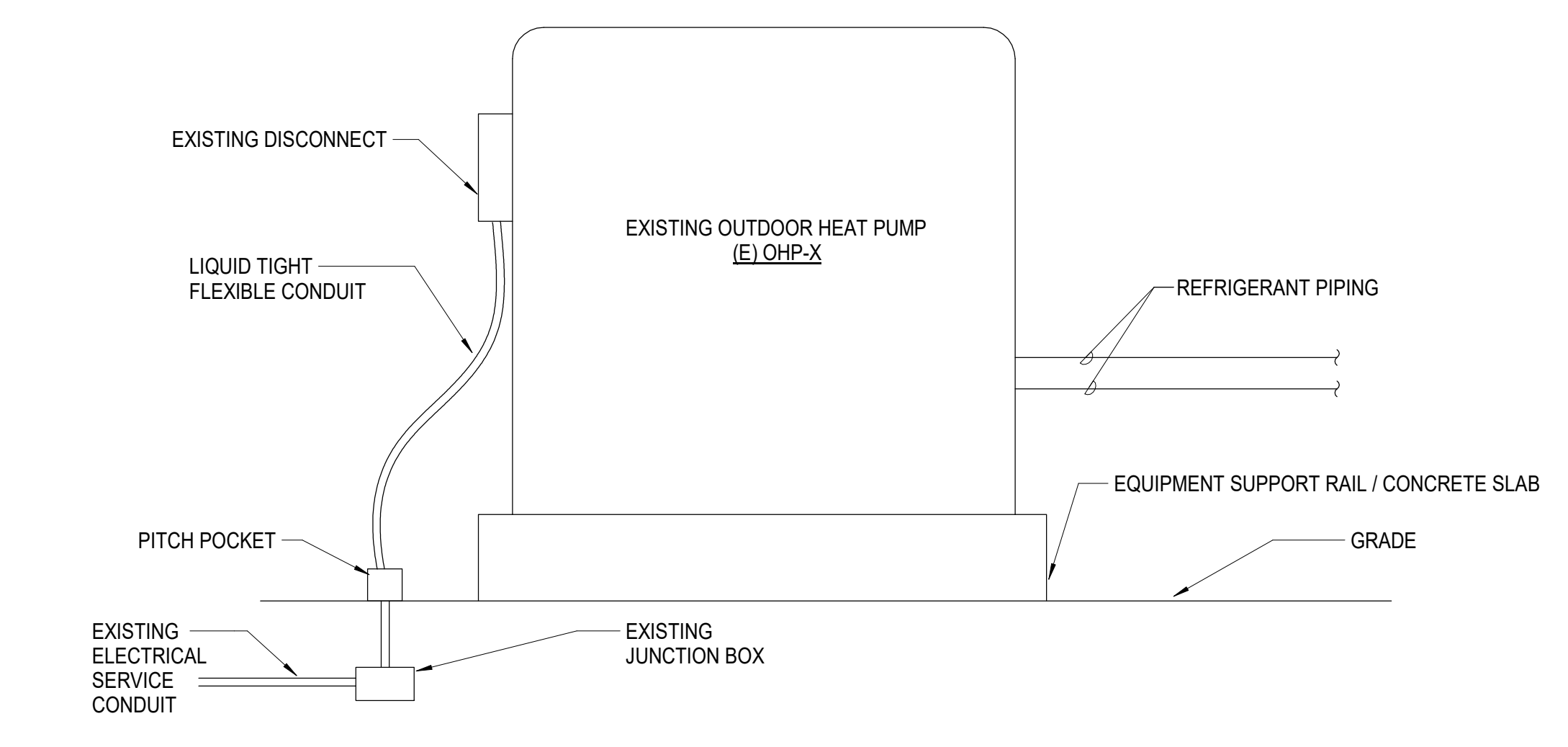
**NORTH MYRTLE BEACH
 MIDDLE SCHOOL
 HVAC REPLACEMENT**
 11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO. 23090001
 DATE: 02/18/24
 DESIGNED BY: MDK
 DRAWN BY: BRW
 CHECKED BY: BRW

REVISIONS		
NO.	DATE	NOTES

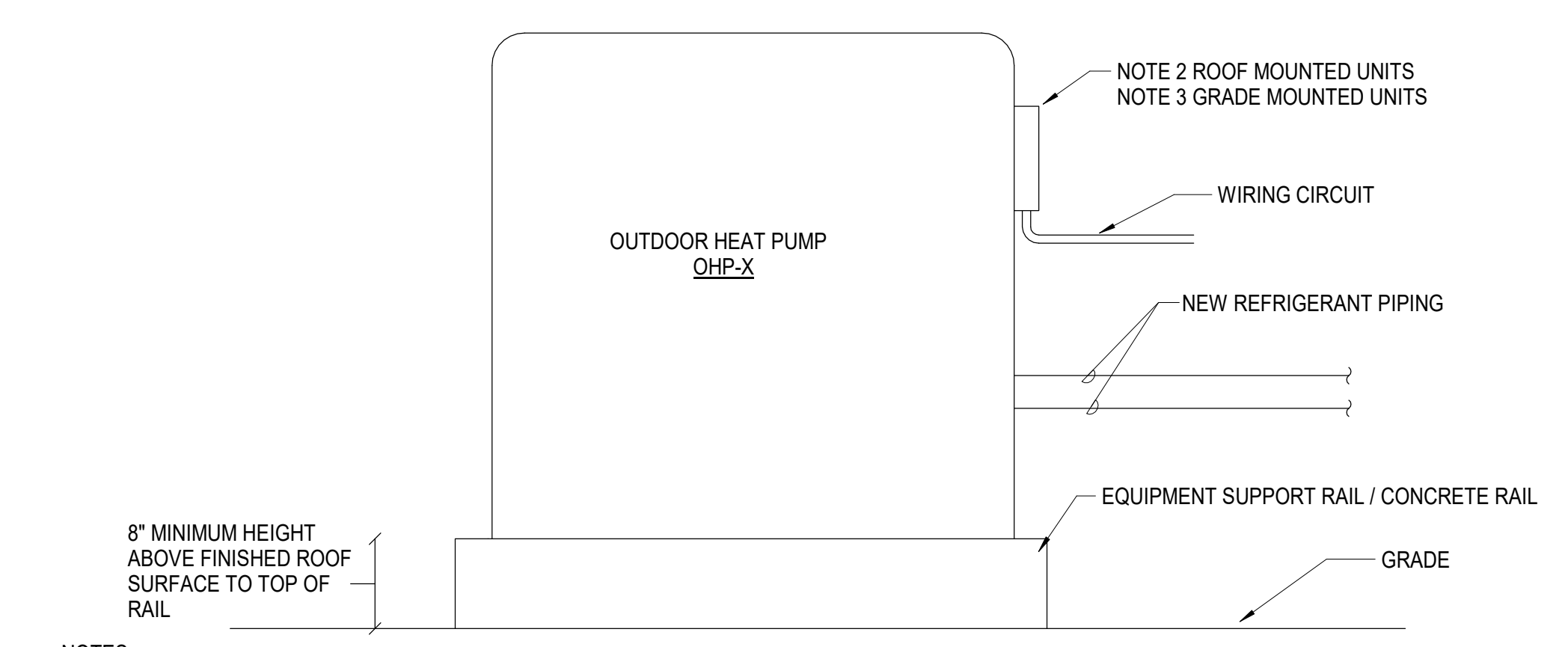
HVAC DETAILS

M501



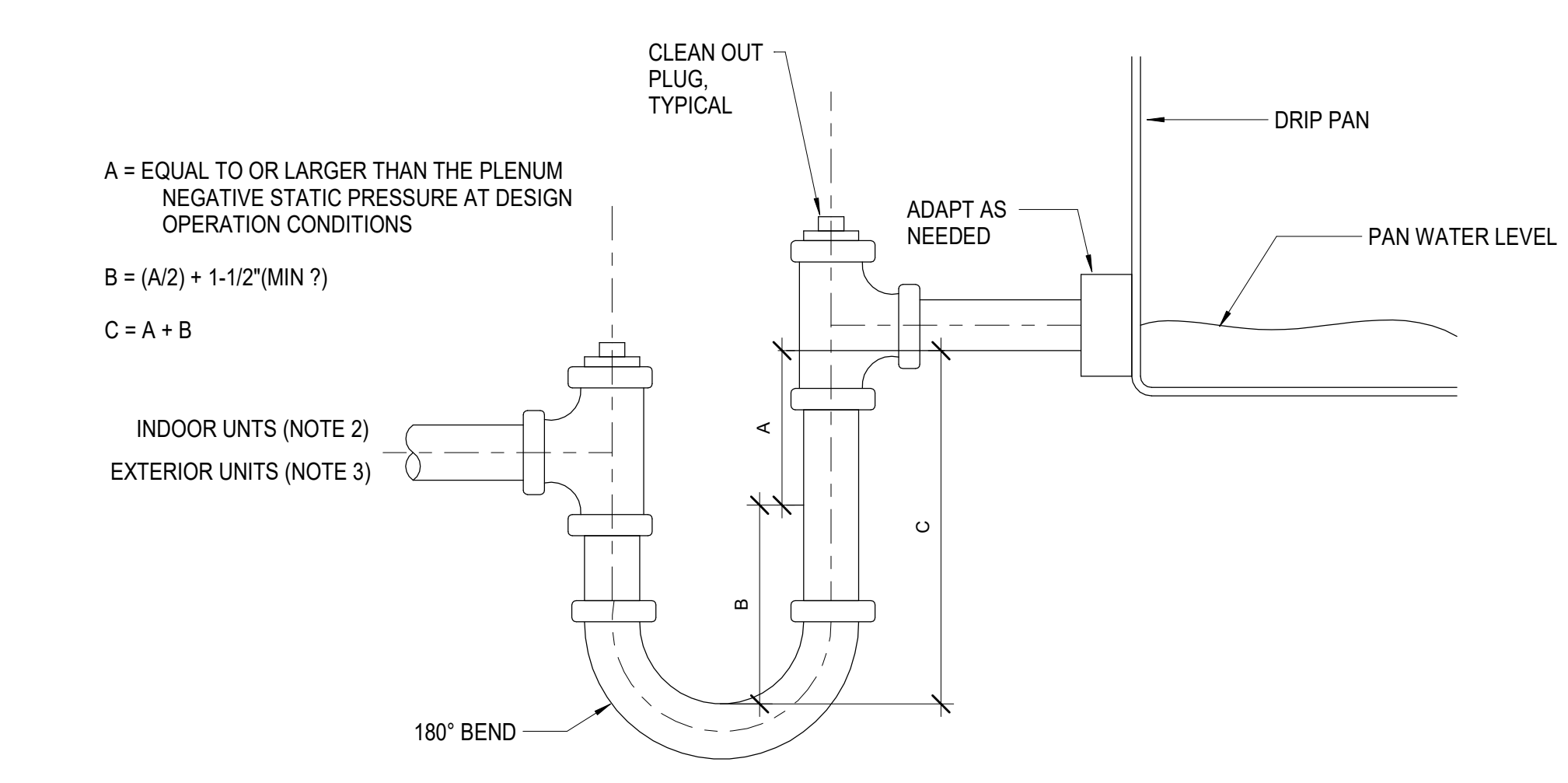
NOTES:
 1. REMOVE EXISTING OUTDOOR HP UNIT COMPLETE INCLUDING, BUT NOT LIMITED TO, UNIT, SUPPORTS, POWER SUPPLY, CONTROLS, AND REFRIGERANT PIPING.

TYP. OUTDOOR HEAT PUMP
 DEMOLITION DETAIL
 NOT TO SCALE



NOTES:
 1. PROVIDE NEW ROOF MOUNTED HVAC UNIT COMPLETE INCLUDING, BUT NOT LIMITED TO, UNIT, SEISMIC AND WIND RESTRAINTS CONNECTED TO EXISTING STRUCTURE AND NEW UNIT, SUPPORTS, POWER SUPPLY, AND CONTROLS.
 2. PROVIDE NEW ELECTRICAL WIRING AND DISCONNECT. DISCONNECT TO BE ENCLOSED MOLDED CASE CIRCUIT BREAKER SIZED TO MATCH EQUIPMENT LOAD INSTALLED IN NEMA 3R ENCLOSURE. MOUNT DISCONNECT ON SIDE OF UNIT - DO NOT COVER ANY NAMEPLATES OR BLOCK ANY SERVICE ACCESS PANELS.
 3. PROVIDE DISCONNECT. PROVIDE NEW WIRING FROM DISCONNECT TO NEW UNIT.

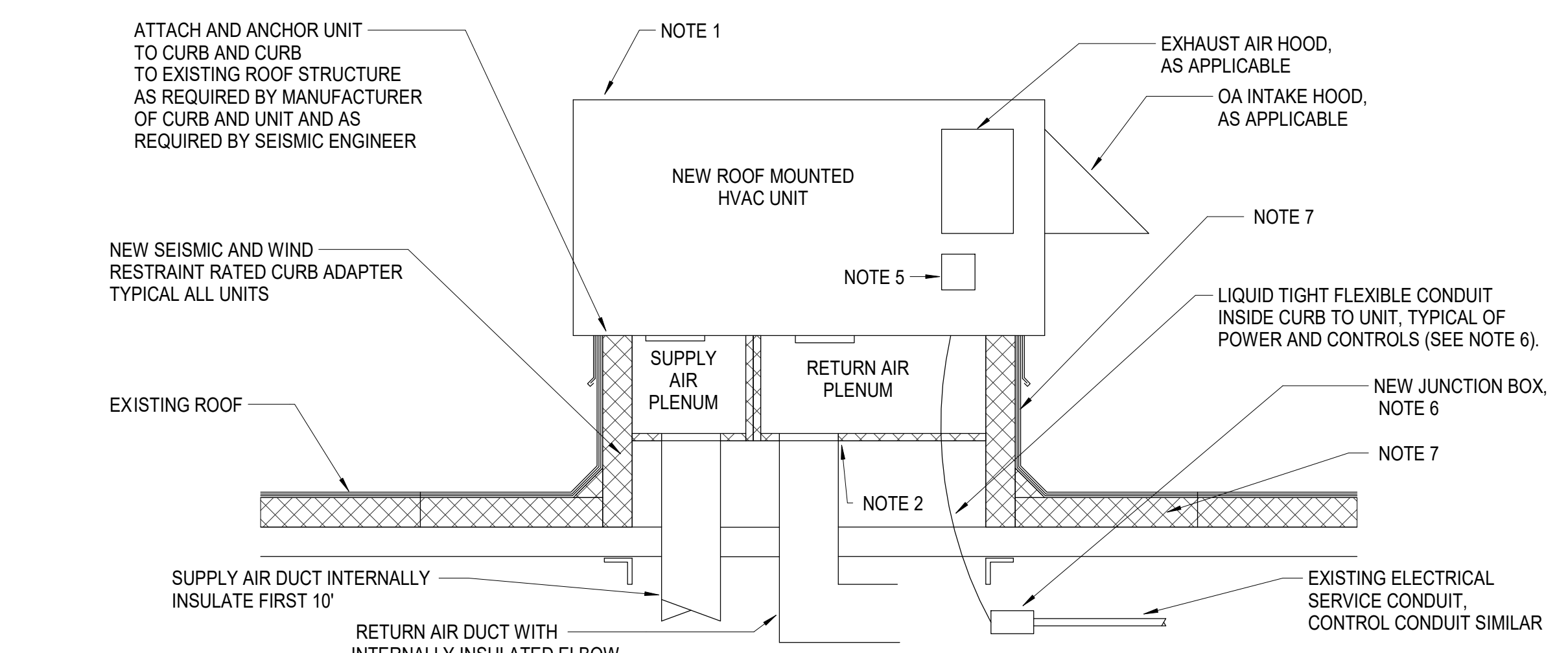
INSTALLATION DETAIL
 NOT TO SCALE



A = EQUAL TO OR LARGER THAN THE PLENUM
 NEGATIVE STATIC PRESSURE AT DESIGN
 OPERATION CONDITIONS
 B = (A/2) + 1-1/2" (MIN ?)
 C = A + B

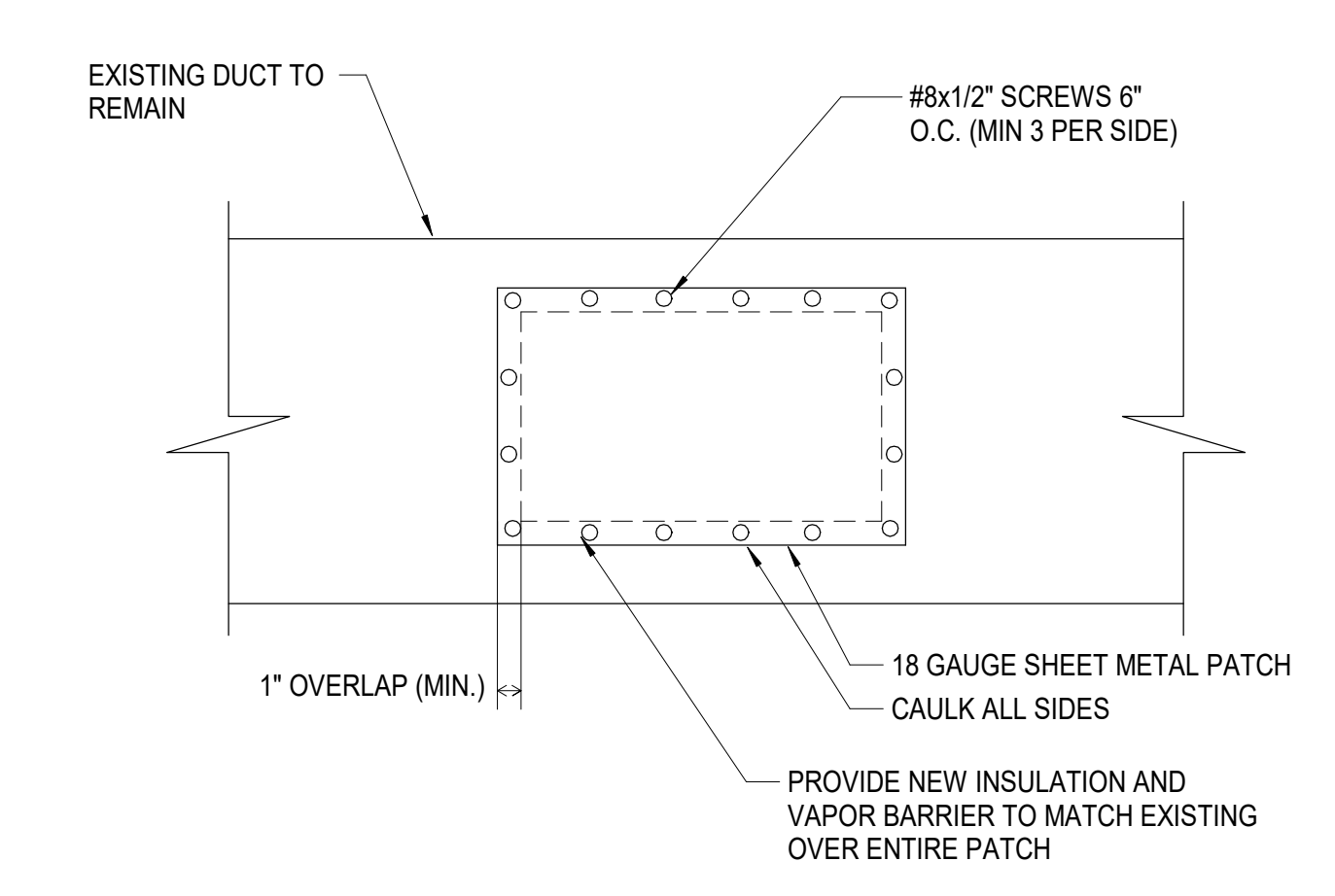
NOTES:
 1. PROVIDE CONDENSATE DRAIN TRAP SIZED AS INDICATED, OR ALTERNATIVELY AS PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL COORDINATE TRAP HEIGHT WITH UNIT DRAIN LOCATION AND EQUIPMENT CURB.
 2. FOR INDOOR EQUIPMENT CONNECT DRAIN PIPING TO EXISTING.
 3. FOR EQUIPMENT LOCATED ON ROOF ROUTE NEW COPPER CONDENSATE SAME AS EXISTING TO NEAREST DRAIN. SEE PIPING SUPPORTS ON ROOF DETAIL.

CONDENSATE DRAIN PIPING FOR
 DRAW-THRU UNIT DETAIL
 NOT TO SCALE

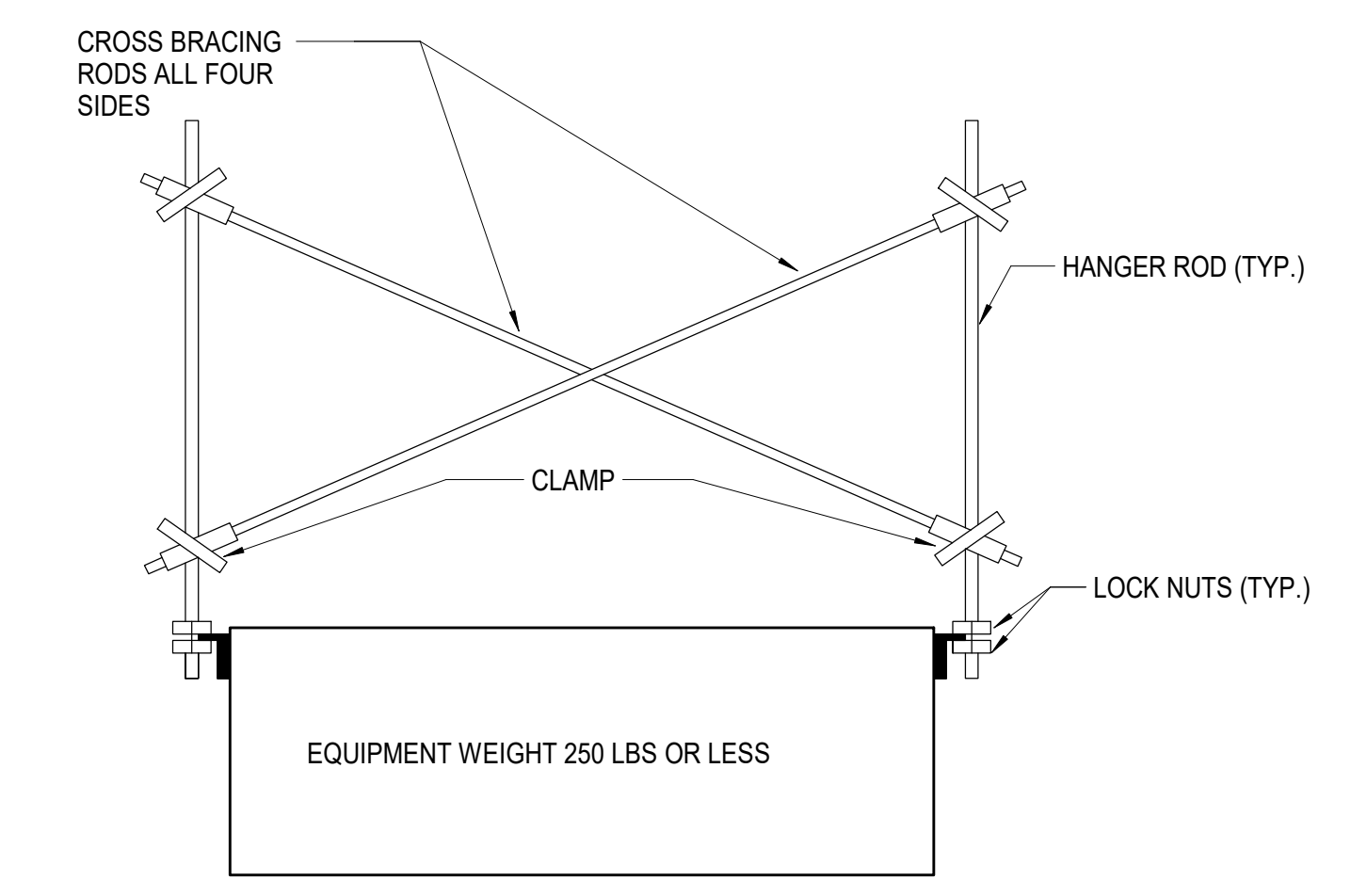


NOTES:
 1. PROVIDE NEW ROOF MOUNTED HVAC UNIT COMPLETE INCLUDING, BUT NOT LIMITED TO, UNIT, FULL PERIMETER SEISMIC AND WIND RATED CURB, SEISMIC AND WIND RESTRAINTS CONNECTED TO EXISTING STRUCTURE AND NEW UNIT, SUPPORTS, POWER SUPPLY, CONTROLS, AND CONDENSATE DRAIN.
 2. CONNECT AND SEAL DUCT TO ADAPTER CURB DUCT CONNECTIONS AIR TIGHT.
 3. MINIMUM HEIGHT OF CURB SHALL BE 16 INCHES ABOVE ROOF SURFACE. MAXIMUM HEIGHT OF CURB SHALL BE 36 INCHES ABOVE ROOF SURFACE.
 4. INTERCEPT EXISTING POWER SUPPLY BELOW ROOF. PROVIDE JUNCTION BOX AND LIQUID TIGHT FLEXIBLE CONDUIT. SPLICE CONDUCTORS AND ROUTE TO UNIT INSIDE CURB. CONTROL POWER ROUTING SHALL BE SIMILAR. NO EXTERNAL POWER SUPPLIES OR CONTROL WIRING SHALL PENETRATE THE ROOF OUTSIDE OF CURB.
 5. PROVIDE EQUIPMENT WITH CIRCUIT BREAKER DISCONNECT WITH WEATHER PROOF COVER FACTORY FURNISHED AND INSTALLED. LOCATION MAY VARY IF UNIT MANUFACTURER DOES NOT PROVIDE CIRCUIT BREAKER DISCONNECT, PROVIDE EXTERNAL CIRCUIT BREAKER DISCONNECT IN NEMA 3R ENCLOSURE MOUNTED TO UNIT. DO NOT COVER ANY UNIT NAMEPLATES WITH DISCONNECT.
 6. PROVIDE CURB WITH AIR TIGHT INSULATED CHASE FOR POWER AND CONTROL WIRING CONDUITS TO ENTER THE BOTTOM OF THE UNIT THROUGH THE CHASE.
 7. REPAIR ROOF ALL AROUND TO MATCH EXISTING INCLUDING, BUT NOT LIMITED TO FLASHING, COUNTER FLASHING, INSULATION, BASE SHEETS, AND CAP SHEET.

NEW ROOFTOP UNIT INSTALLATION
 PLENUM RETURN
 NOT TO SCALE



DUCT PATCH DETAIL
 NOT TO SCALE



NOTES:
 1. NOT REQUIRED FOR AIR TERMINAL UNITS.
 SEISMIC BRACING FOR LIGHT SUSPENDED EQUIPMENT

NOT TO SCALE

SPLIT SYSTEM UNIT SCHEDULE																							
TAG	UNIT TYPE	ZONE	AIRFLOW (CFM)	ESP (in.wc)	COOLING EAT	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	EER/EER2	SEER/SEER2	HEATING EAT	TOTAL HEATING (MBH)	EFFICIENCY COP	EFFICIENCY HSPF (BTUH/WATT)	AUX HEAT (KW)	INDOOR UNIT		OUTDOOR UNIT		NOTES				
															MODEL NUMBER	VOLTAGE/PHASE	MODEL NUMBER	VOLTAGE/PHASE					
HP01	SPLIT SYSTEM HEAT PUMP	LOBBY A152	1640	0.5	80/67	56.5	44.10	12.50	15.00	65	53.50	4.0	9.25	15.00	TEM6B0C60H51	460/3	4TWA4060A4	460/3	1,2,3,4				
HP02	SPLIT SYSTEM HEAT PUMP	BUSINESS A142	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	10.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP03	SPLIT SYSTEM HEAT PUMP	CORR A144, SPEECH A146, RESTROOMS A126,A127	1475	0.5	80/67	47.5	35.80	12.30	14.50	65	43.00	3.90	9.00	10.00	TEM6A0C48H41	460/3	4TWA4048A4	460/3	1,2,3,4				
HP04	SPLIT SYSTEM HEAT PUMP	TEACHER LOUNGE A137	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP08	SPLIT SYSTEM HEAT PUMP	KITCHEN A113	1640	0.5	80/67	56.5	44.10	12.50	15.00	65	53.50	4.0	9.25	15.00	TEM6B0C60H51	460/3	4TWA4060A4	460/3	1,2,3,4				
HP09	SPLIT SYSTEM HEAT PUMP	CUSTODIAL A108	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP10	SPLIT SYSTEM HEAT PUMP	TECH LAB A122	1475	0.5	80/67	47.5	35.80	12.30	14.50	65	43.00	3.90	9.00	10.00	TEM6A0C48H41	460/3	4TWA4048A4	460/3	1,2,3,4				
HP11	SPLIT SYSTEM HEAT PUMP	COMPUTER A120, STORAGE A124,A125	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP15	SPLIT SYSTEM HEAT PUMP	TEACHER WORK ROOM A180	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP16	SPLIT SYSTEM HEAT PUMP	CORR A178,A180	1640	0.5	80/67	56.5	44.10	12.50	15.00	65	53.50	4.0	9.25	15.00	TEM6B0C60H51	460/3	4TWA4060A4	460/3	1,2,3,4				
HP17	SPLIT SYSTEM HEAT PUMP	ADMIN	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	8.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP18	SPLIT SYSTEM HEAT PUMP	PRINCIPAL A158, ATTENDANCE A165	1085	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	8.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP19	SPLIT SYSTEM HEAT PUMP	CLINIC A155	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP20	SPLIT SYSTEM HEAT PUMP	SELF CONTAINED B127	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP25	SPLIT SYSTEM HEAT PUMP	CLASSROOM B130	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP26	SPLIT SYSTEM HEAT PUMP	CLASSROOM B131	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP27	SPLIT SYSTEM HEAT PUMP	TEACHER WORK ROOM B132	800	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP28	SPLIT SYSTEM HEAT PUMP	CLASSROOM B135	600	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP29	SPLIT SYSTEM HEAT PUMP	CLASSROOM B136	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP30	SPLIT SYSTEM HEAT PUMP	SCIENCE B139	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	8.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP31	SPLIT SYSTEM HEAT PUMP	CLASSROOM B140	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP32	SPLIT SYSTEM HEAT PUMP	CLASSROOM B149	1085	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP33	SPLIT SYSTEM HEAT PUMP	CLASSROOM B150	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP34	SPLIT SYSTEM HEAT PUMP	SCIENCE B154	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	8.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP35	SPLIT SYSTEM HEAT PUMP	CLASSROOM B155	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP36	SPLIT SYSTEM HEAT PUMP	CLASSROOM B159	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP37	SPLIT SYSTEM HEAT PUMP	SCIENCE B160	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	8.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP38	SPLIT SYSTEM HEAT PUMP	ISS C101	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP39	SPLIT SYSTEM HEAT PUMP	C106,C107,C110	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP40	SPLIT SYSTEM HEAT PUMP	OFFICE C103,C104,C108C109	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP41	SPLIT SYSTEM HEAT PUMP	RESOURCE C114	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP42	SPLIT SYSTEM HEAT PUMP	RESOURCE C114	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP43	SPLIT SYSTEM HEAT PUMP	MEDIA C126,CONTROL C126, STUDIO C127	1200	0.5	80/67	40.5	32.30	12.00	14.25	65	39.00	3.80	8.50	5.00	TEM6A0C42H41	460/3	4TWA4042A4	460/3	1,2,3,4				
HP44	SPLIT SYSTEM HEAT PUMP	ASST PNN C118, OFFICE C122	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP45	SPLIT SYSTEM HEAT PUMP	MEDIA CENTER C129	1475	0.5	80/67	47.5	35.80	12.30	14.50	65	43.00	3.90	9.00	10.00	TEM6A0C48H41	460/3	4TWA4048A4	460/3	1,2,3,4				
HP46	SPLIT SYSTEM HEAT PUMP	MEDIA CENTER C129	1475	0.5	80/67	47.5	35.80	12.30	14.50	65	43.00	3.90	9.00	10.00	TEM6A0C48H41	460/3	4TWA4048A4	460/3	1,2,3,4				
HP47	SPLIT SYSTEM HEAT PUMP	COMPUTER RESOURCE C135	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP48	SPLIT SYSTEM HEAT PUMP	MEDIA CENTER C129	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP49	SPLIT SYSTEM HEAT PUMP	CONFERENCE C136,137	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP50	SPLIT SYSTEM HEAT PUMP	SELF CONTAINED D105	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP51	SPLIT SYSTEM HEAT PUMP	CLASSROOM D104	1050	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP52	SPLIT SYSTEM HEAT PUMP	CLASSROOM D105	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP53	SPLIT SYSTEM HEAT PUMP	TEACHERS WORK ROOM D106	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP54	SPLIT SYSTEM HEAT PUMP	CLASSROOM D109	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP55	SPLIT SYSTEM HEAT PUMP	CLASSROOM D110	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP56	SPLIT SYSTEM HEAT PUMP	SCIENCE D111	1085	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	8.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP57	SPLIT SYSTEM HEAT PUMP	CLASSROOM D112	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP58	SPLIT SYSTEM HEAT PUMP	CLASSROOM D121	1085	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP59	SPLIT SYSTEM HEAT PUMP	CLASSROOM D122	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP60	SPLIT SYSTEM HEAT PUMP	SCIENCE D123	1085	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	8.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP61	SPLIT SYSTEM HEAT PUMP	CLASSROOM D124	1050	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP62	SPLIT SYSTEM HEAT PUMP	CLASSROOM D128	925	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP63	SPLIT SYSTEM HEAT PUMP	SCIENCE D129	1100	0.5	80/67	35.2	27.60	12.50	15.00	65	32.60	4.00	9.50	8.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP64	SPLIT SYSTEM HEAT PUMP	SELF CONTAINED D130	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP65	SPLIT SYSTEM HEAT PUMP	CLASSROOM D133	870	0.5	80/67	28.6	22.00	12.00	14.60	65	26.80	3.90	7.80	5.00	TEM6A0C36H31	460/3	4TWA4036A4	460/3	1,2,3,4				
HP66	SPLIT SYSTEM HEAT PUMP	CLASSROOM D134	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				
HP67	SPLIT SYSTEM HEAT PUMP	TEACHER WORK ROOM D135	600	0.5	80/67	18.7	12.70	12.30	15.20	65	19.30	3.90	7.80	5.00	TEM6A0B24H21	460/3	4TWR5018N1	208/1	1,2,3,4				
HP68	SPLIT SYSTEM HEAT PUMP	CLASSROOM D138	800	0.5	80/67	23.8	17.90	12.00	14.60	65	22.60	4.00	7.80	5.00	TEM6A0B30H21	460/3	4TWR4024N1	208/1	1,2,3,4				

INPUT/OUTPUT SUMMARY AIR COOLED SPLIT SYSTEM HP	INPUTS				OUTPUTS				FEATURES			
	DIGITAL	DIGITAL	ANALOG	ANALOG	DIGITAL	ANALOG	ALARM	ENERGY MGMT				
UNIT GRAPHIC DISPLAY												
STATUS (PERCENT SPEED)												
END SWITCH												
CURRENT SENSING RELAY												
ALARM CONTACT												
TEMPERATURE												
RELATIVE HUMIDITY												
CO2 LEVEL												
RUN TIME												
START/STOP												
ENABLE/DISABLE												
OPEN/CLOSE												
ACTIVATE/DEACTIVATE												
BAS CONTROL												
DAMPER POSITION												
FAN SPEED												
STATUS/INTERLOCK												
HIGH/LOW LIMIT												
OPTIMUM START/STOP												
DAY/NIGHT SETBACK												
ENERGY METERING												
OCCUPIED/UNOCCUPIED												
BAS TREND												
FAILURE MODE (SEE NOTES 1 AND 2)												
NOTES												
SUPPLY FAN START/STOP	X						X	X	X	X	C	2
SUPPLY FAN STATUS	X	X	X				X	X				
SPACE AIR TEMPERATURE	X				X				X			
SPACE AIR RELATIVE HUMIDITY	X				X	X			X			
SPACE CO2	X								X			
UNIT DISCHARGE AIR TEMPERATURE	X				X				X			
GLOBAL CO2 LEVEL/OA TEMP/RELATIVE HUMIDITY	X									X		

- NOTES:
- FAILURE MODE: O - OPEN
C - OFF OR CLOSED
L - LAST COMMAND
 - THE INDICATED FAILURE MODE POSITION SHALL OCCUR ON FAILURE FOR ANY REASON INCLUDING FAILURE OF THE BAS CONTROLLER OR ITS OUTPUTS.

PACKAGED AIR COOLED HEAT PUMP SYSTEM SEQUENCE OF OPERATION

NOTE:
ALL SCHEDULES AND SETPOINTS SHALL BE ADJUSTABLE.

SCHEDULES:

OCCUPIED: 6 AM TO 6 PM MONDAY THROUGH FRIDAY (CONFIRM FINAL SCHEDULE WITH OWNER AND DISTRICT ENERGY MANAGER)

UNOCCUPIED: ALL HOURS EXCEPT THOSE INDICATED AS OCCUPIED

OCCUPIED MODE OF OPERATION:

THE BAS SHALL COMMAND THE HP ON BASED ON THE OCCUPIED SCHEDULE ABOVE AND ENABLE THE HP'S AUTOMATIC CONTROLS TO OPERATE AS INDICATED BELOW.

OCCUPIED SPACE TEMPERATURE SETPOINTS:

COOLING: 74 DEGREES F / 55% RELATIVE HUMIDITY
HEATING: 70 DEGREES F

OCCUPIED SEQUENCE OF OPERATION:

WHEN THE SPACE TEMPERATURE IS BETWEEN ITS COOLING AND HEATING SETPOINTS THE HP COMPRESSORS/REFRIGERATION CIRCUITS SHALL BE OFF AND SUPPLY FANS SHALL BE OPERATING. COOLING: ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT THE HP REFRIGERATION CIRCUITS SHALL BE CYCLED TO MAINTAIN SPACE COOLING TEMPERATURE SETPOINT. HEATING: ON A CONTINUED FALL IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT THE HP REFRIGERATION CIRCUITS SHALL BE CYCLED TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT. NOTE: EMERGENCY ELECTRIC HEAT SHALL ONLY OPERATE ON A REFRIGERATION CIRCUIT FAILURE AND SHALL NEVER OPERATE SIMULTANEOUSLY WITH COMPRESSORS. PROVIDE HARDWARE AND SOFTWARE INTERLOCK TO PREVENT ELECTRIC HEAT AND COMPRESSORS FROM OPERATING TOGETHER.

UNOCCUPIED SEQUENCE OF OPERATION:

UNOCCUPIED SPACE TEMPERATURE SETPOINTS:

COOLING: 85 DEGREES F / 60% RELATIVE HUMIDITY
HEATING: 55 DEGREES F

WHEN THE SPACE TEMPERATURE IS BETWEEN ITS UNOCCUPIED COOLING AND HEATING TEMPERATURE SETPOINTS THE HP SHALL BE OFF.

COOLING: SAME AS OCCUPIED SEQUENCE - CYCLE UNIT ON AND OFF AS REQUIRED CONTROLLING TO UNOCCUPIED COOLING SETPOINT.

HEATING: SAME AS OCCUPIED SEQUENCE - CYCLE UNIT ON AND OFF AS REQUIRED CONTROLLING TO UNOCCUPIED HEATING SETPOINT.

OCCUPANCY OVERRIDE:

THE SYSTEM AND HP MAY BE PLACED INTO THEIR OCCUPIED MODE FOR A SCHEDULED OVERRIDE PERIOD FROM A CENTRAL COMMAND FROM THE BAS OR THE HP MAY BE PLACED INTO THEIR OCCUPIED MODE OF OPERATION FOR A MAXIMUM 2 HOUR OVERRIDE PERIOD BY PUSHING THE OVERRIDE BUTTON LOCATED ON THE SPACE TEMPERATURE SENSOR SERVING THE HP.

SUPPLY FAN CONTROL: WHEN THE SYSTEM IS COMMANDED ON BY THE BAS (NORMAL OCCUPIED SCHEDULE OR OVERRIDE) THE HP SHALL SOFT START AND RAMP THE UNIT UP TO AT ITS DESIGN (CONSTANT) SUPPLY FAN SPEED.

ALERTS AND NOTIFICATIONS:

THE FOLLOWING ALERTS AND NOTIFICATIONS SHALL BE SENT TO FACILITY MANAGEMENT AND THE FOLLOWING SEQUENCES SHALL OCCUR WHEN THE INDICATED CONDITION IS SENSED BY THE BAS. THE MESSAGE SHOULD SUGGEST A SERIES OF STEPS THE FACILITY MANAGER IS TO TAKE TO INVESTIGATE THE SITUATION UP AND INCLUDING CONTACTING QUALIFIED SERVICE PERSONNEL TO TROUBLESHOOT THE SITUATION.

LOW SAT: AT 45 DEGREES F SEND AN ALERT. IF CONDITION CONTINUES FOR 10 MINUTES SHUT THE HP DOWN, SEND A SECOND ALERT AND REQUIRE THIS ALERT TO BE MANUALLY RESET AT THE HP AFTER THE CONDITION HAS BEEN RESOLVED AND BEFORE THE UNIT MAY BE PLACED BACK INTO OPERATION.

SUPPLY FAN FAILURE: WHEN THE SUPPLY FAN IS COMMANDED TO START AND NO ELECTRIC CURRENT IS SENSED AT FAN MOTOR AN ALERT SHALL BE SENT AND THE HP SERVED SHALL BE SHUT DOWN.

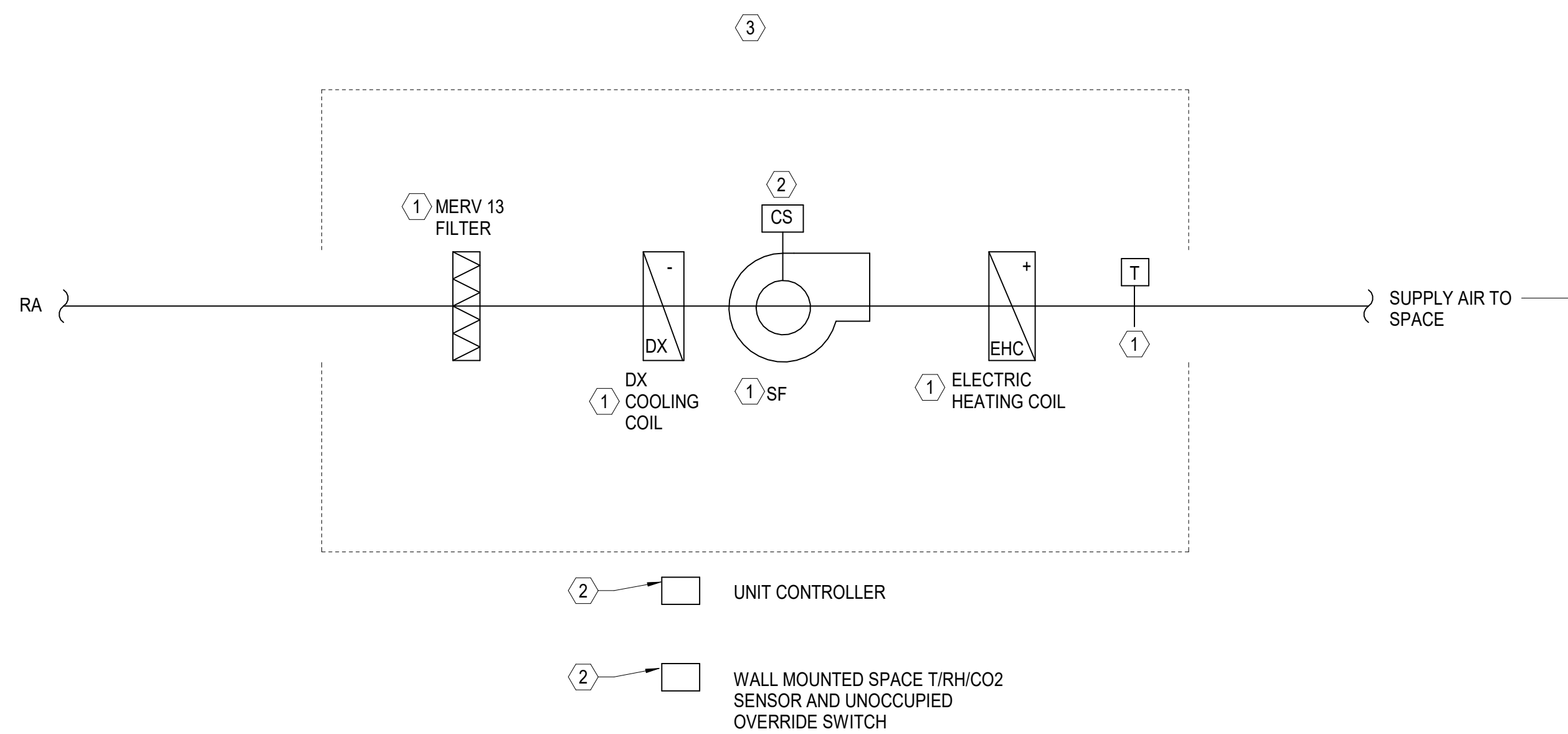
HIGH CO2 LEVEL: SEND AN ALERT IF SPACE CO2 RISES TO GREATER THAN OR EQUAL TO 1500 PPM FOR MORE THAN 15 MINUTES.

FIRE ALARM: UPON INITIATION OF FIRE ALARM UNIT SHALL SHUT DOWN.

OTHER SAFETIES: HIGH REFRIGERANT DISCHARGE PRESSURE, LOW REFRIGERANT SUCTION PRESSURE, COMPRESSOR FAILURE IF AVAILABLE FROM MANUFACTURER THROUGH A BACNET INTERFACE.

HVAC CONTROL DIAGRAM KEYED NOTES

- PART OR SENSOR INTEGRAL TO UNIT; PROVIDED BY EQUIPMENT MANUFACTURER. ALL SENSORS AND CONTROL COMPONENT WIRING SHALL BE BROUGHT TO A SINGLE TERMINAL STRIP SHOWN ON THE FACTORY WIRING DIAGRAM. TERMINAL DESIGNATIONS SHALL BE INDICATED ON WIRING DIAGRAM FOR BAS INTERFACE.
- PART OR SENSOR PROVIDED BY BAS PROVIDER (BOD, CMI) AND INSTALLED IN THE FIELD. UNIT CONTROLLER AND WALL MOUNTED SPACE TIRH/CO2 SENSOR AND OVERRIDE SWITCH MAY BE COMBINED INTO A SINGLE WALL MOUNTED DEVICE - BAS PROVIDER OPTION DEPENDING ON TYPE OF UNIT BEING CONTROLLED.
- DISPLAY GLOBAL OA TEMPERATURE, HUMIDITY, DEW POINT, AND CO2 LEVEL ON EACH UNIT'S GRAPHIC PAGE.



SOO AIR COOLED SPLIT SYTEM HEAT PUMP
1
1/2" = 1'-0"



Whole Building Systems LLC
P.O. Box 1845
Mt. Pleasant, South Carolina
29465
PH: (843) 224-9210
Wholebuildingystems.com



**NORTH MYRTLE BEACH
MIDDLE SCHOOL
HVAC REPLACEMENT**
11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO. 23090001
DATE: 02/16/24
DESIGNED BY: MDK
DRAWN BY: BRW
CHECKED BY: BRW

REVISIONS

NO.	DATE	NOTES
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SEQUENCE OF OPERATION

M700



Whole Building Systems LLC
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**NORTH MYRTLE BEACH
 MIDDLE SCHOOL
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 11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO.: 23090001
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DRAWN BY: BRW
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REVISIONS

NO.	DATE	NOTES
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SEQUENCE OF OPERATION

M701

PACKAGED AIR COOLED HEAT PUMP SEQUENCE OF OPERATION W/ ENTHALPY WHEEL AND HGR

Note:
 All schedules and setpoints shall be adjustable.
 This sequence applies to HP05

SCHEDULES:

- NOTES:
- ALL SCHEDULES AND SET POINTS SHALL BE ADJUSTABLE.
 - THE OBJECTIVE OF THIS SEQUENCE OF OPERATION IS TO DELIVER FILTERED AND CONDITIONED (ONLY WHEN NECESSARY) OUTSIDE AIR FOR VENTILATION WHILE MAINTAINING INDOOR SPACE COOLING AT 74 °F DB AND MAXIMUM 55% RH AND SPACE HEATING SET POINT AT 70 °F DB AND ALLOWING THE OUTSIDE AIR VENTILATION TO SATISFY THE SPACE LATENT LOAD DURING NORMAL OCCUPIED HOURS.
 - UNITS SHALL BE AIR COOLED HEAT PUMPS CAPABLE OF PRETREATING, COOLING, DEHUMIDIFYING OR HEATING OUTSIDE AIR USING THE DIRECT EXPANSION (DX) COIL, HGR AND ENTHALPY WHEEL AS REQUIRED TO MEET THIS SEQUENCE OF OPERATION.
 - UNITS SHALL HAVE VARIABLE SPEED OA SUPPLY FAN (OASF) AND VARIABLE SPEED EXHAUST AIR FAN (EAF).
 - OA INTAKE (OAI) TEMPERATURE AND HUMIDITY MAY USE BUILDING'S GLOBAL OA TEMPERATURE AND HUMIDITY SENSOR AND CALCULATED DEW POINT TEMPERATURES IN LIEU OF INDIVIDUAL SENSORS AT OA INTAKE OF THE ENTHALPY WHEEL FOR CONTROL SEQUENCE.
 - UNITS SHALL BE PROVIDED WITH HEAD PRESSURE CONTROL. HEAD PRESSURE CONTROL SHALL MODULATE THE CONDENSER FANS TO CONTROL UNITS REFRIGERANT HEAD PRESSURE TO ALLOW UNIT OPERATION THROUGHOUT ENTERING OA TEMPERATURES FROM AS LOW AS 27 °F UP TO 110 °F.
 - SEQUENCES OF OPERATION ARE FOR CONSTANT SA, OA AND EA FLOWS. HOWEVER, UNITS SHALL BE MANUFACTURED SUCH THAT SA, OA AND EA FLOWS MAY BE VARIED SHOULD THE DISTRICT IMPLEMENT DEMAND CONTROL VENTILATION STRATEGIES OR NEED TO REDUCE OA AND EA FLOWS FOR ELECTRICAL POWER DEMAND CONTROL IN THE FUTURE.

SCHEDULES:

OCCUPIED: 8:00 AM TILL 6:00 PM MONDAY THROUGH FRIDAY DURING REGULAR SCHOOL YEAR WHEN SCHOOL IS IN SESSION.
 UNOCCUPIED: ALL OTHER TIMES EXCEPT OCCUPIED PERIODS (EVENINGS, NIGHTS, WEEKENDS, HOLIDAYS, SUMMER, ETC.)

SEQUENCE OF OPERATION:

OCCUPIED PERIODS:

FANS:
 FANS SHALL BE ON AND DELIVERING CONSTANT VOLUMES OF DESIGN SA AND OA TO BUILDING/SPACES AND DISCHARGING DESIGN EA FLOW TO THE OUTSIDE. AIRFLOW MONITORING STATIONS LOCATED IN THE UNITS OA SUPPLY DUCT TO THE BUILDING/SPACES (OAS) AND EXHAUST AIR INTAKE DUCT FROM THE BUILDING/SPACES (EAI) SHALL PROVIDE CONTROL SIGNALS TO THE OASF AND EAF VARIABLE SPEED DRIVES TO MAINTAIN CONSTANT AIRFLOWS AND COMPENSATE FOR FILTER LOADING AND CHANGES IN BUILDING PRESSURE. FANS SHALL SOFT START.

MECHANICAL COOLING, DEHUMIDIFICATION, ENTHALPY WHEEL AND HEATING:

MECHANICAL COOLING:
 ON A RISE IN SPACE TEMPERATURE ABOVE 74 DEGREES F DB THE UNIT SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO MAINTAIN THE SPACE COOLING TEMPERATURE SETPOINT.

ENTHALPY WHEEL:
 WHEN OA TEMPERATURE IS BETWEEN 70 °F DB AND 76 °F DB AND BELOW 57 °F DEW POINT (ASSUMED SPACE RETURN/EXHAUST AIR CONDITION) ENTHALPY WHEEL SHALL BE OFF.
PRECOOLING AND DEHUMIDIFYING OA WITH ENTHALPY WHEEL:
 WHEN OA TEMPERATURE IS ABOVE 76 °F DB AND 57 °F DEW POINT (ASSUMED SPACE RETURN/EXHAUST AIR CONDITION) THE ENTHALPY WHEEL SHALL ROTATE AND VARY ITS SPEED TO MAINTAIN DX COIL ENTERING AIR DB TEMPERATURE AND HUMIDITY AS LOW AS CAN BE MAINTAINED TO MAXIMIZE THE EFFICIENCY OF THE ENTHALPY WHEEL.

PREHEATING OA WITH ENTHALPY WHEEL:
 WHEN OA IS BELOW 70 °F DB AND 48 °F DEW POINT THE ENTHALPY WHEEL SHALL ROTATE AND VARY ITS SPEED TO MAXIMIZE HEAT RECOVERY FROM THE WHEEL AND SHALL CONTINUE TO OPERATE UNTILL THE WHEEL CANNOT MAINTAIN A MINIMUM DX COIL ENTERING AIR TEMPERATURE AT OR ABOVE 40 °F.

DEHUMIDIFICATION:
 WHEN SPACE HUMIDITY RISES ABOVE 55 % RH THE UNIT'S REFRIGERATION SYSTEM SHALL BE IN THE DEHUMIDIFICATION MODE OF OPERATION AND SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO DEHUMIDIFY INCOMING OA AND MAINTAIN DX COIL DISCHARGE AIR TEMPERATURE AT 48 °F DB.

IN ADDITION, THE UNITS HOT REFRIGERANT GAS FLOW TO THE HOT GAS REHEAT COIL SHALL BE MODULATED TO MAINTAIN THE SPACE DB TEMPERATURE BETWEEN THE SPACE COOLING AND SPACE HEATING SETPOINTS.

MECHANICAL HEATING (HEAT PUMP):
 ON A DROP IN SPACE TEMPERATURE TO 70 DEGREES F DB THE UNIT SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS IN THE HEATING MODE TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT.

UNOCCUPIED PERIODS:
 UNIT SHALL BE OFF AND EAD AND OAD SHALL BE CLOSED AND THE RAD SHALL BE OPEN.

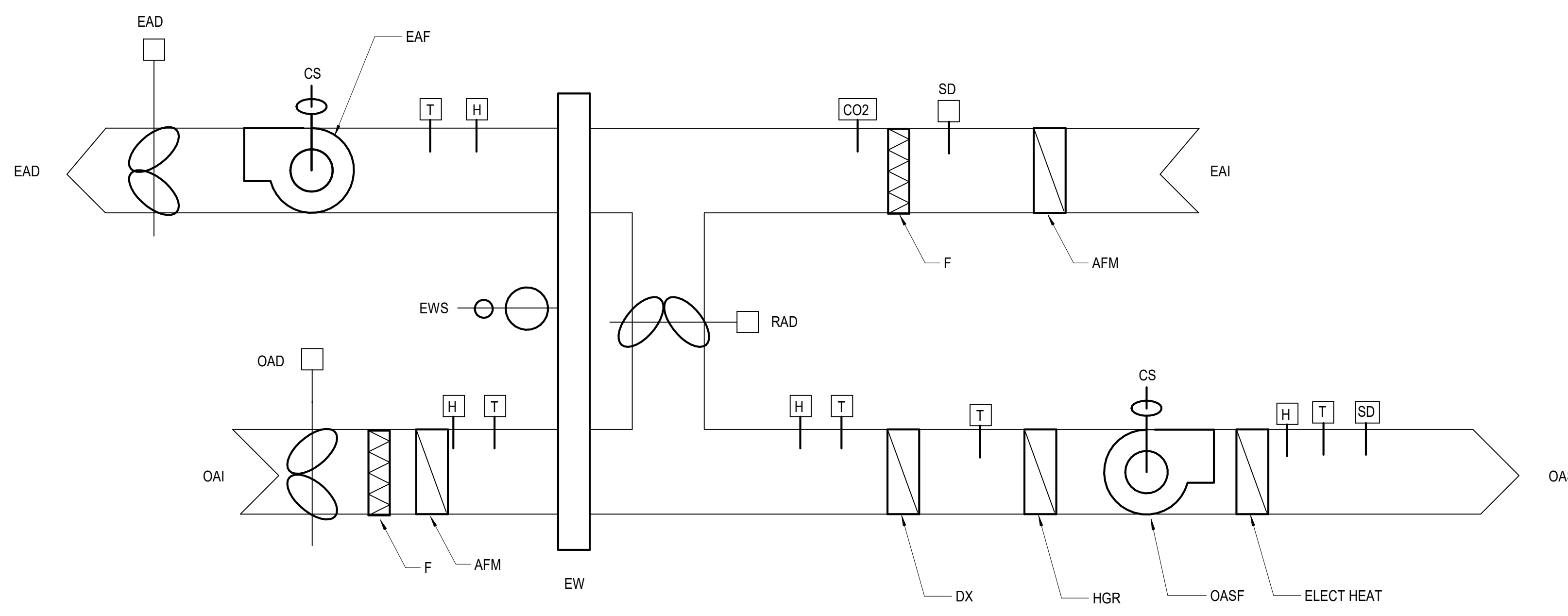
ON A RISE IN SPACE TEMPERATURE ABOVE 80 DEGREES F DB UNIT SHALL OPERATE IN THE OCCUPIED MECHANICAL COOLING MODE TO MAINTAIN SPACE TEMPERATURE AT 80 DEGREES F.

ON A DROP IN SPACE TEMPERATURE BELOW 65 DEGREES F DB UNIT SHALL OPERATE IN THE OCCUPIED MECHANICAL HEATING MODE TO MAINTAIN SPACE TEMPERATURE AT 65 DEGREES F.

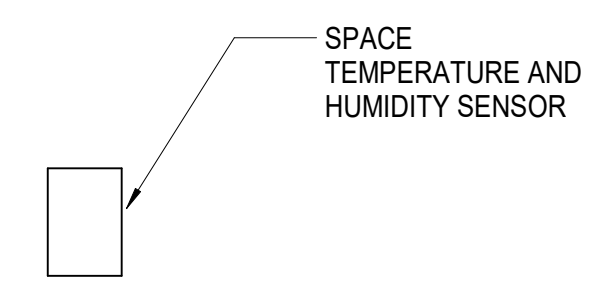
ON A RISE IN SPACE HUMIDITY ABOVE 65 % RH THE UNIT'S REFRIGERATION SYSTEM SHALL BE IN THE DEHUMIDIFICATION AND REHEAT MODE OF OPERATION AND SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO DEHUMIDIFY INCOMING OA AND MAINTAIN DX COIL DISCHARGE AIR TEMPERATURE AT 48 °F DB.

OVERRIDE PERIODS:
 WHEN OVERRIDE IS SCHEDULED BY FACILITY MANAGEMENT OR THE DISTRICTS ENERGY MANAGER UNIT SHALL OPERATE IN ITS OCCUPIED SEQUENCES OF OPERATION FOR THE DURATION OF THE SCHEDULED OVERRIDE PERIOD.

ALARMS AND SAFETIES (IN ADDITION TO MANUFACTURER REQUIRED ALARMS AND SAFETIES):
 ALL MANUFACTURERS REQUIRED SAFETIES SHALL BE MONITORED AND DISPLAYED ON THE BAS GRAPHIC CONSOLE.
 UPON INITIATION OF FIRE ALARM UNIT SHALL SHUT DOWN AND EAD AND OAD SHALL CLOSE.
 UPON SENSING SMOKE IN EITHER THE SUPPLY AIR DUCT OR THE EXHAUST AIR DUCT THE UNIT SHALL SHUT DOWN AND THE EAD AND OAD SHALL CLOSE.
 SHOULD DX COIL ENTERING AIR TEMPERATURE DROP BELOW 40 °F DB UNIT SHALL SHUT OFF, EAD AND OAD SHALL CLOSE AND A NOTIFICATION ALARM SHALL BE SENT TO THE BAS SYSTEM.
 A HIGH LIMIT DISCHARGE AIR CONDITION NOTIFICATION ALARM SHALL BE SENT TO THE BAS IF THE UNITS DISCHARGE AIR TEMPERATURE RISES ABOVE 85 °F DB OR IF DX COIL DEW POINT RISES ABOVE 60 °F WHEN UNIT IS IN THE COOLING/DEHUMIDIFICATION MODE. SHOULD CONDITION PERSIT FOR MORE THAN 30 MINUTES UNIT SHALL SHUT OFF AND EAD AND OAD SHALL CLOSE AND A TROUBLE ALARM SHALL BE SENT TO THE BAS.
 A LOW LIMIT DISCHARGE AIR CONDITION NOTIFICATION ALARM SHALL BE SENT TO THE BAS IF THE UNITS DISCHARGE AIR TEMPERATURE DROPS BELOW 65 °F DB WHEN UNIT IS IN THE HEATING MODE. SHOULD CONDITION PERSIT FOR MORE THAN 30 MINUTES UNIT SHALL SHUT OFF AND EAD AND OAD SHALL CLOSE AND A TROUBLE ALARM SHALL BE SENT TO THE BAS.
 ON A RISE IN SPACE HUMIDITY ABOVE 70% RH FOR MORE THAN 10 MINUTES, A TROUBLE ALARM SHALL BE SENT TO THE BAS.



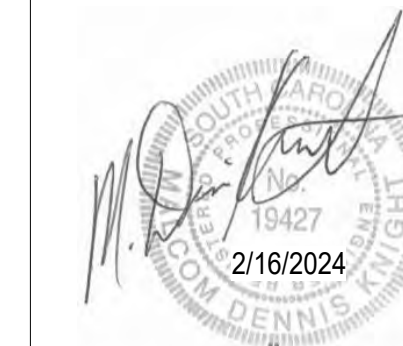
- GRAPHIC LEGEND:**
- AFM - AIRFLOW MONITORING STATION
 - CO2 - CO2 SENSOR (FOR MONITORING AND TRENDING ONLY)
 - CS - CURRENT SENSOR
 - DX - DIRECT EXPANSION REFRIGERANT COIL
 - EAD - EXHAUST AIR DAMPER/DISCHARGE
 - EAF - EXHAUST AIR FAN
 - EAI - EXHAUST AIR INTAKE (FROM SPACES)
 - EHT - ELECTRIC HEATER
 - EW - ENTHALPY WHEEL
 - EWS - ENTHALPY WHEEL STATUS
 - F - FILTER
 - H - HUMIDITY SENSOR
 - HGR - HOT GAS REHEAT COIL
 - OAD - OUTSIDE AIR DAMPER
 - OAI - OUTSIDE AIR INTAKE
 - OAS - OUTSIDE AIR SUPPLY
 - OASF - OUTSIDE AIR SUPPLY FAN
 - RAD - RETURN AIR DAMPER
 - SD - DUCT MOUNTED SMOKE DETECTOR
 - T - DRY BULB TEMPERATURE SENSOR



SOO PACKAGED AIR COOLED HEAT PUMP WITH EW and HGR
 1 None



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 HVAC REPLACEMENT**
 11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO.: 23090001
DATE: 02/16/24
DESIGNED BY: MDK
DRAWN BY: BRW
CHECKED BY: BRW

REVISIONS		
NO.	DATE	NOTES

SEQUENCE OF OPERATION

M702

PACKAGED AIR COOLED DX GAS HEAT SEQUENCE OF OPERATION W/ ENTHALPY WHEEL AND HGR

Note:
 All schedules and setpoints shall be adjustable.
 This sequence applies to MAU

SCHEDULES:

- NOTES:
- ALL SCHEDULES AND SET POINTS SHALL BE ADJUSTABLE.
 - THE OBJECTIVE OF THIS SEQUENCE OF OPERATION IS TO DELIVER FILTERED AND CONDITIONED (ONLY WHEN NECESSARY) OUTSIDE AIR FOR VENTILATION WHILE MAINTAINING INDOOR SPACE COOLING AT 74 °F DB AND MAXIMUM 55% RH AND SPACE HEATING SET POINT AT 70 °F DB AND ALLOWING THE OUTSIDE AIR VENTILATION TO SATISFY THE SPACE LATENT LOAD DURING NORMAL OCCUPIED HOURS.
 - UNITS SHALL BE AIR COOLED HEAT PUMPS CAPABLE OF PRETREATING, COOLING, DEHUMIDIFYING OR HEATING OUTSIDE AIR USING THE DIRECT EXPANSION (DX) COIL, HGR AND ENTHALPY WHEEL AS REQUIRED TO MEET THIS SEQUENCE OF OPERATION.
 - UNITS SHALL HAVE VARIABLE SPEED OA SUPPLY FAN (OASF) AND VARIABLE SPEED EXHAUST AIR FAN (EAF).
 - UNITS SHALL HAVE VARIABLE SPEED COMPRESSORS AND FULLY MODULATING HOT GAS REHEAT.
 - OA INTAKE (OAI) TEMPERATURE AND HUMIDITY MAY USE BUILDING'S GLOBAL OA TEMPERATURE AND HUMIDITY SENSOR AND CALCULATED DEW POINT TEMPERATURES IN LIEU OF INDIVIDUAL SENSORS AT OA INTAKE OF THE ENTHALPY WHEEL FOR CONTROL SEQUENCE.
 - UNITS SHALL BE PROVIDED WITH HEAD PRESSURE CONTROL. HEAD PRESSURE CONTROL SHALL MODULATE THE CONDENSER FANS TO CONTROL UNITS REFRIGERANT HEAD PRESSURE TO ALLOW UNIT OPERATION THROUGHOUT ENTERING OA TEMPERATURES FROM AS LOW AS 27 °F UP TO 110 °F.
 - SEQUENCES OF OPERATION ARE FOR CONSTANT SA, OA AND EA FLOWS. HOWEVER UNITS SHALL BE MANUFACTURED SUCH THAT SA, OA AND EA FLOWS MAY BE VARIED SHOULD THE DISTRICT IMPLEMENT DEMAND CONTROL VENTILATION STRATEGIES OR NEED TO REDUCE OA AND EA FLOWS FOR ELECTRICAL POWER DEMAND CONTROL IN THE FUTURE.

SCHEDULES:
 OCCUPIED: 8:00 AM TILL 6:00 PM MONDAY THROUGH FRIDAY DURING REGULAR SCHOOL YEAR WHEN SCHOOL IS IN SESSION.
 UNOCCUPIED: ALL OTHER TIMES EXCEPT OCCUPIED PERIODS (EVENINGS, NIGHTS, WEEKENDS, HOLIDAYS, SUMMER, ETC.).

SEQUENCE OF OPERATION:

OCCUPIED PERIODS:

FANS:

FANS SHALL BE ON AND DELIVERING CONSTANT VOLUMES OF DESIGN SA AND OA TO BUILDING/SPACES AND DISCHARGING DESIGN EA FLOW TO THE OUTSIDE. AIRFLOW MONITORING STATIONS LOCATED IN THE UNITS OA SUPPLY DUCT TO THE BUILDING/SPACES (OAS) AND EXHAUST AIR INTAKE DUCT FROM THE BUILDING/SPACES (EAI) SHALL PROVIDE CONTROL SIGNALS TO THE OASF AND EAF VARIABLE SPEED DRIVES TO MAINTAIN CONSTANT AIRFLOWS AND COMPENSATE FOR FILTER LOADING AND CHANGES IN BUILDING PRESSURE. FANS SHALL SOFT START.

MECHANICAL COOLING, DEHUMIDIFICATION, ENTHALPY WHEEL AND HEATING:

MECHANICAL COOLING:

ON A RISE IN SPACE TEMPERATURE ABOVE 74 DEGREES F DB THE UNIT SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO MAINTAIN THE SPACE COOLING TEMPERATURE SETPOINT.

ENTHALPY WHEEL:

WHEN OA TEMPERATURE IS BETWEEN 70 °F DB AND 76 °F DB AND BELOW 57 °F DEW POINT (ASSUMED SPACE RETURN/EXHAUST AIR CONDITION) ENTHALPY WHEEL SHALL BE OFF.

PRECOOLING AND DEHUMIDIFYING OA WITH ENTHALPY WHEEL:

WHEN OA TEMPERATURE IS ABOVE 76 °F DB AND 57 °F DEW POINT (ASSUMED SPACE RETURN/EXHAUST AIR CONDITION) THE ENTHALPY WHEEL SHALL ROTATE AND VARY ITS SPEED TO MAINTAIN DX COIL ENTERING AIR DB TEMPERATURE AND HUMIDITY AS LOW AS CAN BE MAINTAINED TO MAXIMIZE THE EFFICIENCY OF THE ENTHALPY WHEEL.

PREHEATING OA WITH ENTHALPY WHEEL:

WHEN OA IS BELOW 70 °F DB AND 48 °F DEW POINT THE ENTHALPY WHEEL SHALL ROTATE AND VARY ITS SPEED TO MAXIMIZE HEAT RECOVERY FROM THE WHEEL AND SHALL CONTINUE TO OPERATE UNTILL THE WHEEL CANNOT MAINTAIN A MINIMUM DX COIL ENTERING AIR TEMPERATURE AT OR ABOVE 40 °F.

DEHUMIDIFICATION:

WHEN SPACE HUMIDITY RISES ABOVE 55 % RH THE UNIT'S REFRIGERATION SYSTEM SHALL BE IN THE DEHUMIDIFICATION MODE OF OPERATION AND SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO DEHUMIDIFY INCOMING OA AND MAINTAIN DX COIL DISCHARGE AIR TEMPERATURE AT 48 °F DB.

IN ADDITION, THE UNIT'S HOT REFRIGERANT GAS FLOW TO THE HOT GAS REHEAT COIL SHALL BE MODULATED TO MAINTAIN THE SPACE DB TEMPERATURE BETWEEN THE SPACE COOLING AND SPACE HEATING SETPOINTS.

HEATING:

ON A DROP IN SPACE TEMPERATURE TO 70 DEGREES F DB THE UNIT SHALL MODULATE THE GAS HEATER IN THE HEATING MODE TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT.

UNOCCUPIED PERIODS:

UNIT SHALL BE OFF AND EAD AND OAD SHALL BE CLOSED AND THE RAD SHALL BE OPEN.

ON A RISE IN SPACE TEMPERATURE ABOVE 60 DEGREES F DB UNIT SHALL OPERATE IN THE OCCUPIED MECHANICAL COOLING MODE TO MAINTAIN SPACE TEMPERATURE AT 80 DEGREES F.

ON A DROP IN SPACE TEMPERATURE BELOW 65 DEGREES F DB UNIT SHALL OPERATE IN THE OCCUPIED MECHANICAL HEATING MODE TO MAINTAIN SPACE TEMPERATURE AT 65 DEGREES F.

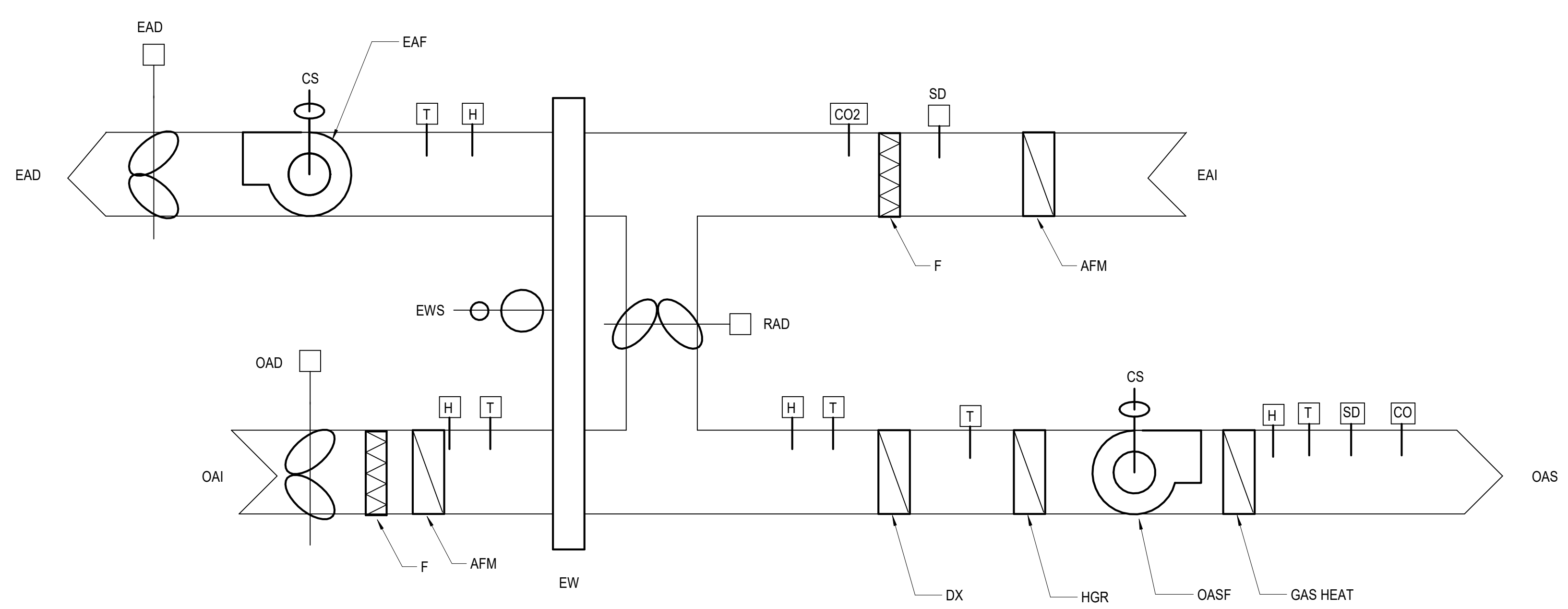
ON A RISE IN SPACE HUMIDITY ABOVE 65 % RH THE UNIT'S REFRIGERATION SYSTEM SHALL BE IN THE DEHUMIDIFICATION AND REHEAT MODE OF OPERATION AND SHALL STAGE AND VARY THE SPEED OF THE OF THE UNIT'S COMPRESSORS AND REFRIGERATION CIRCUITS TO DEHUMIDIFY INCOMING OA AND MAINTAIN DX COIL DISCHARGE AIR TEMPERATURE AT 48 °F DB.

VERRIDE PERIODS:

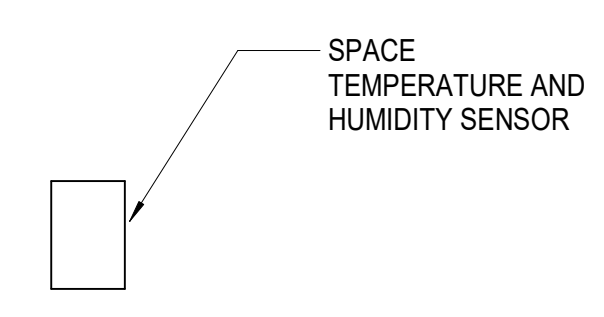
WHEN OVERRIDE IS SCHEDULED BY FACILITY MANAGEMENT OR THE DISTRICTS ENERGY MANAGER UNIT SHALL OPERATE IN ITS OCCUPIED SEQUENCES OF OPERATION FOR THE DURATION OF THE SCHEDULED OVERRIDE PERIOD.

ALARMS AND SAFETIES (IN ADDITION TO MANUFACTURER REQUIRED ALARMS AND SAFETIES):

ALL MANUFACTURERS REQUIRED SAFETIES SHALL BE MONITORED AND DISPLAYED ON THE BAS GRAPHIC CONSOLE.
 UPON INITIATION OF FIRE ALARM UNIT SHALL SHUT DOWN AND EAD AND OAD SHALL CLOSE.
 UPON SENSING SMOKE IN EITHER THE SUPPLY AIR DUCT OR THE EXHAUST AIR DUCT THE UNIT SHALL SHUT DOWN AND THE EAD AND OAD SHALL CLOSE.
 SHOULD DX COIL ENTERING AIR TEMPERATURE DROP BELOW 40 °F DB UNIT SHALL SHUT OFF, EAD AND OAD SHALL CLOSE AND A NOTIFICATION ALARM SHALL BE SENT TO THE BAS SYSTEM.
 A HIGH LIMIT DISCHARGE AIR CONDITION NOTIFICATION ALARM SHALL BE SENT TO THE BAS IF THE UNITS DISCHARGE AIR TEMPERATURE RISES ABOVE 85 °F DB OR IF DX COIL DEW POINT RISES ABOVE 60 °F WHEN UNIT IS IN THE COOLING/DEHUMIDIFICATION MODE. SHOULD CONDITION PERSIT FOR MORE THAN 30 MINUTES UNIT SHALL SHUT OFF AND EAD AND OAD SHALL CLOSE AND A TROUBLE ALARM SHALL BE SENT TO THE BAS.
 A LOW LIMIT DISCHARGE AIR CONDITION NOTIFICATION ALARM SHALL BE SENT TO THE BAS IF THE UNITS DISCHARGE AIR TEMPERATURE DROPS BELOW 65 °F DB WHEN UNIT IS IN THE HEATING MODE. SHOULD CONDITION PERSIT FOR MORE THAN 30 MINUTES UNIT SHALL SHUT OFF AND EAD AND OAD SHALL CLOSE AND A TROUBLE ALARM SHALL BE SENT TO THE BAS.
 ON A RISE IN SPACE HUMIDITY ABOVE 70% RH FOR MORE THAN 10 MINUTES, A TROUBLE ALARM SHALL BE SENT TO THE BAS.



- GRAPHIC LEGEND:**
- AFM - AIRFLOW MONITORING STATION
 - CO - CARBON DIOXIDE SENSOR
 - CO2 - CO2 SENSOR (FOR MONITORING AND TRENDING ONLY)
 - CS - CURRENT SENSOR
 - DX - DIRECT EXPANSION REFRIGERANT COIL
 - EAD - EXHAUST AIR DAMPER/DISCHARGE
 - EAF - EXHAUST AIR FAN
 - EAI - EXHAUST AIR INTAKE (FROM SPACES)
 - EHT - ELECTRIC HEATER
 - EW - ENTHALPY WHEEL
 - EWS - ENTHALPY WHEEL STATUS
 - F - FILTER
 - H - HUMIDITY SENSOR
 - HGR - HOT GAS REHEAT COIL
 - OAD - OUTSIDE AIR DAMPER
 - OAI - OUTSIDE AIR INTAKE
 - OAS - OUTSIDE AIR SUPPLY
 - OASF - OUTSIDE AIR SUPPLY FAN
 - RAD - RETURN AIR DAMPER
 - SD - DUCT MOUNTED SMOKE DETECTOR
 - T - DRY BULB TEMPERATURE SENSOR



SOO PACKAGED AIR COOLED GAS HEAT WITH EW and HGR
 1 None

ELECTRICAL LEGEND

□ PANEL

ABBREVIATIONS

A OR AMPS	AMPERES
BKR	BREAKER
C	CONDUIT
CKT	CIRCUIT
(E) OR EX	EXISTING
ELEC	ELECTRICAL
ETR	EXISTING TO REMAIN
FLA	FULL LOAD AMPS
G	GROUND
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL
MFS	MAXIMUM FUSE SIZE
MOP OR MOCP	MAXIMUM OVERCURRENT PROTECTION



Whole Building Systems LLC
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29465
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GENERAL NOTES:

1. ELECTRICAL FLOOR PLANS ARE SHOWN FOR EQUIPMENT AND PANEL LOCATION REFERENCE ONLY; REFER TO ELECTRICAL EQUIPMENT SCHEDULE ON E600 FOR ADDITIONAL INFORMATION.
2. REFER TO MECHANICAL FLOOR PLANS FOR RATED WALL LOCATIONS.
3. ALL FIRE ALARM COMPONENTS SHALL BE PROVIDED AND INSTALLED BY FIRE ALARM CONTRACTOR; ALL FIRE ALARM WIRING AND CONDUIT SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FINAL FIRE ALARM WIRING TERMINATION TO EQUIPMENT AND IN THE FIRE ALARM PANEL SHALL BE MADE BY THE FIRE ALARM CONTRACTOR. THE FIRE ALARM CONTRACTOR SHALL PROVIDE THE OWNER WITH AN AS-BUILT DRAWING OF THE NEW AND/OR RENOVATED FIRE ALARM SYSTEM.

**NORTH MYRTLE BEACH
MIDDLE SCHOOL
HVAC REPLACEMENT**
11240 SC-90 LITTLE RIVER, SC 29566

PROJ. NO.: 23090001
DATE: 02/16/24
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DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS

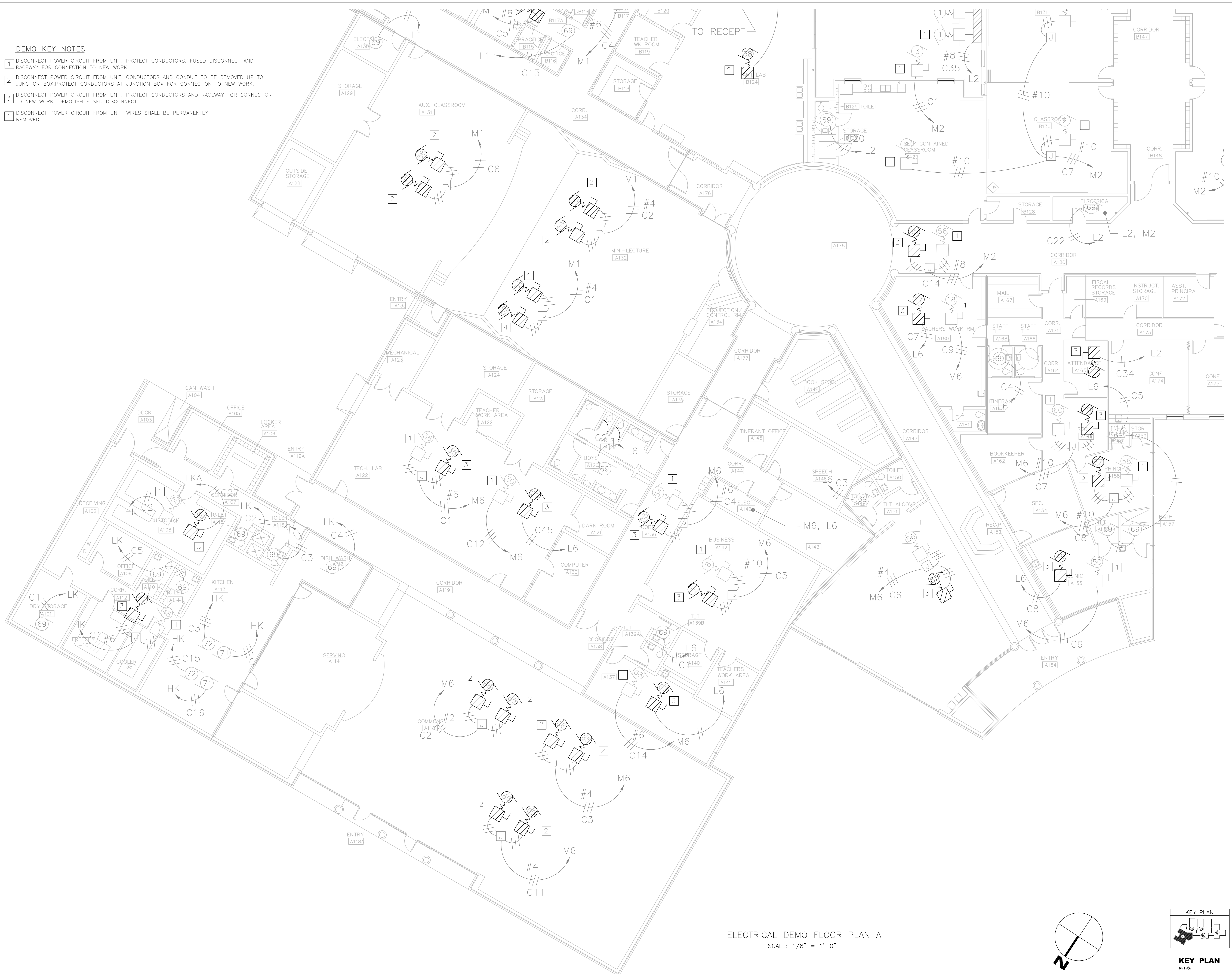
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ELECTRICAL
LEGEND, NOTES,
AND
ABBREVIATIONS

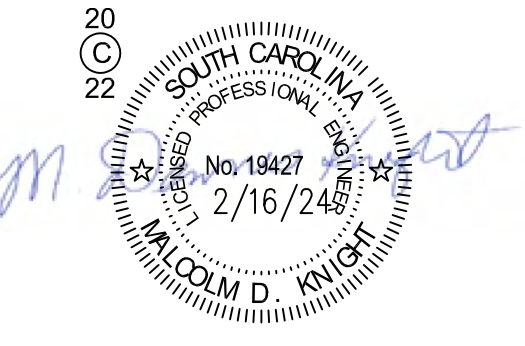
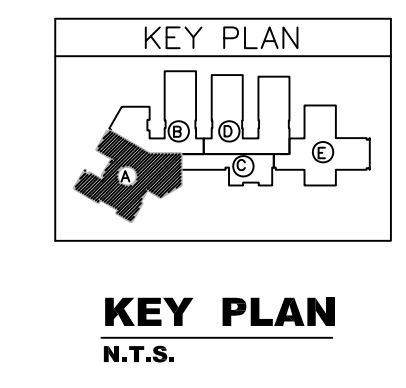
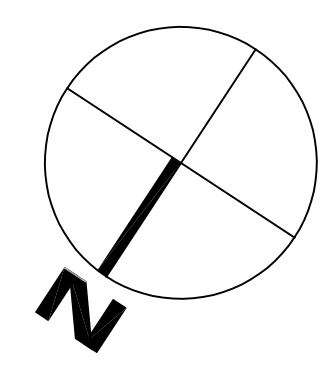
E001

DEMO KEY NOTES

- 1 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS, FUSED DISCONNECT AND RACEWAY FOR CONNECTION TO NEW WORK.
- 2 DISCONNECT POWER CIRCUIT FROM UNIT. CONDUCTORS AND CONDUIT TO BE REMOVED UP TO JUNCTION BOX. PROTECT CONDUCTORS AT JUNCTION BOX FOR CONNECTION TO NEW WORK.
- 3 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS AND RACEWAY FOR CONNECTION TO NEW WORK. DEMOLISH FUSED DISCONNECT.
- 4 DISCONNECT POWER CIRCUIT FROM UNIT. WIRES SHALL BE PERMANENTLY REMOVED.



ELECTRICAL DEMO FLOOR PLAN 'A'
SCALE: 1/8" = 1'-0"



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HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
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REVISIONS

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ELECTRICAL
DEMO
FLOOR PLAN 'A'

ED101

DEMO KEY NOTES

- 1 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS, FUSED DISCONNECT AND RACEWAY FOR CONNECTION TO NEW WORK.
- 2 DISCONNECT POWER CIRCUIT FROM UNIT. CONDUCTORS AND CONDUIT TO BE REMOVED UP TO JUNCTION BOX. PROTECT CONDUCTORS AT JUNCTION BOX FOR CONNECTION TO NEW WORK.
- 3 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS AND RACEWAY FOR CONNECTION TO NEW WORK. DEMOLISH FUSED DISCONNECT.
- 4 DISCONNECT POWER CIRCUIT FROM UNIT. WIRES SHALL BE PERMANENTLY REMOVED.
- 5 ALTERNATE #1



ELECTRICAL DEMO FLOOR PLAN 'B'
SCALE: 1/8" = 1'-0"

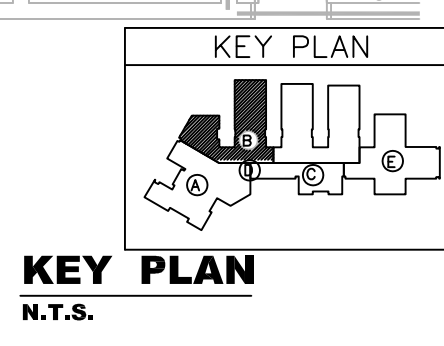


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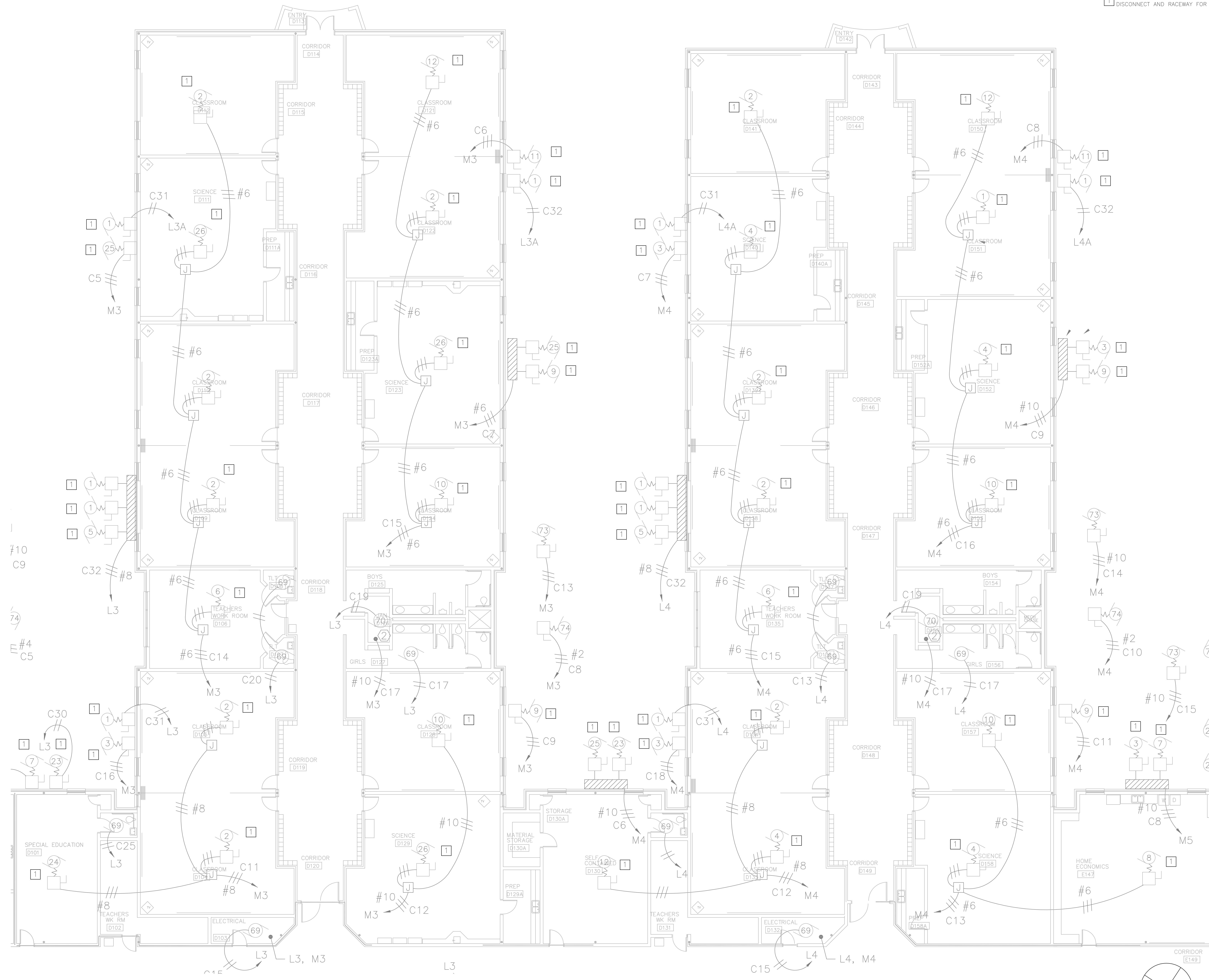
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DATE: 2/16/2024
DESIGNED BY: BRW
DRAWN BY: BRW
CHECKED BY: MDK

REVISIONS		
NO.	DATE	NOTES

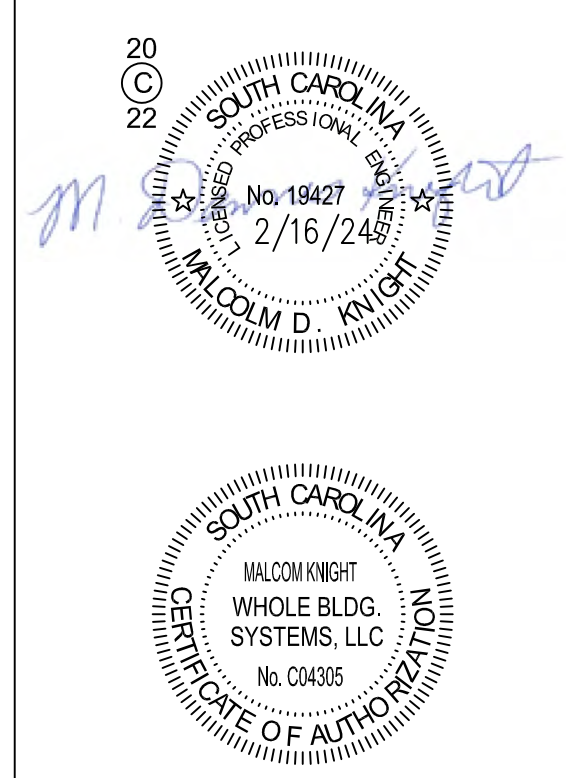
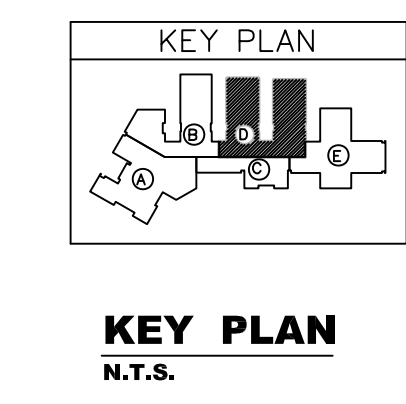
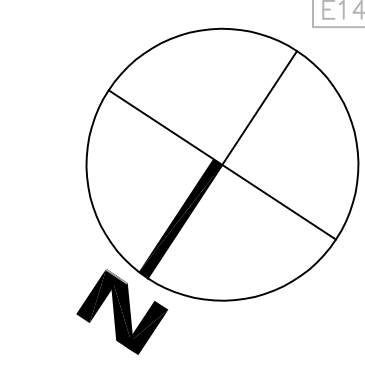
ELECTRICAL DEMO FLOOR PLAN 'B'
ED102



DEMO KEY NOTES
 1 DISCONNECT POWER CIRCUIT FROM UNIT, PROTECT CONDUCTORS, FUSED
 DISCONNECT AND RACEWAY FOR CONNECTION TO NEW WORK.



ELECTRICAL DEMO FLOOR PLAN 'D'
 SCALE: 1/8" = 1'-0"



**NORTH MYRTLE BEACH MIDDLE SCHOOL
 HVAC REPLACEMENT
 11240 SC-90 LITTLE RIVER, SC 29566**

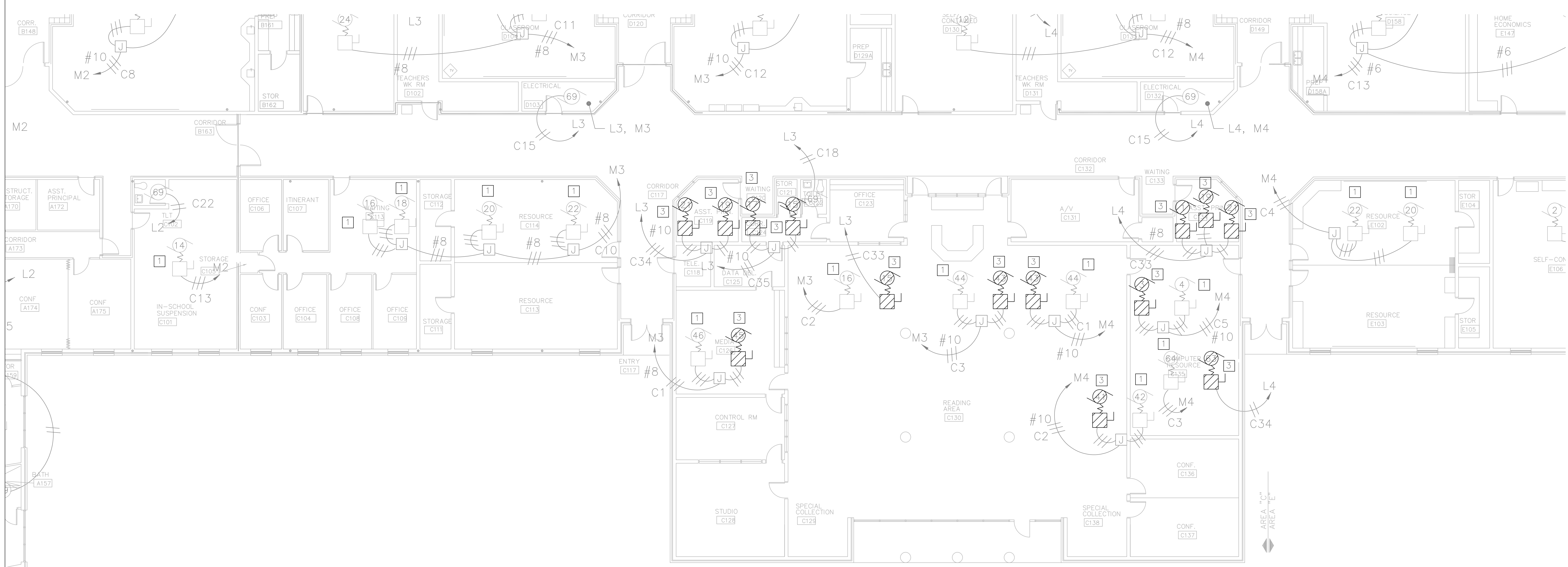
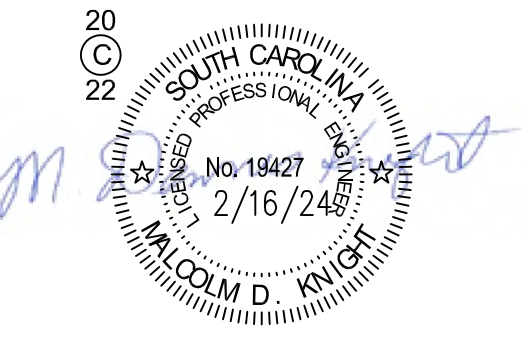
PROJ. NO. : 23090001
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REVISIONS		
NO.	DATE	NOTES

**ELECTRICAL
 DEMO
 FLOOR PLAN 'D'**
ED103

DEMO KEY NOTES

- 1 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS, FUSED DISCONNECT AND RACEWAY FOR CONNECTION TO NEW WORK.
- 2 NOT USED THIS SHEET
- 3 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS AND RACEWAY FOR CONNECTION TO NEW WORK. DEMOLISH FUSED DISCONNECT.



NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566

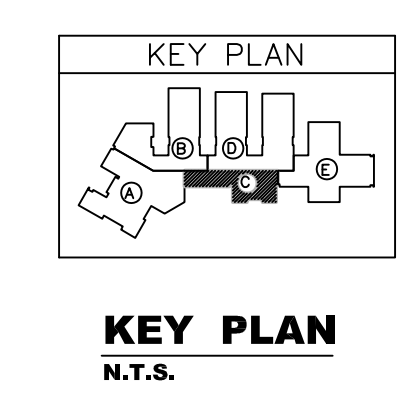
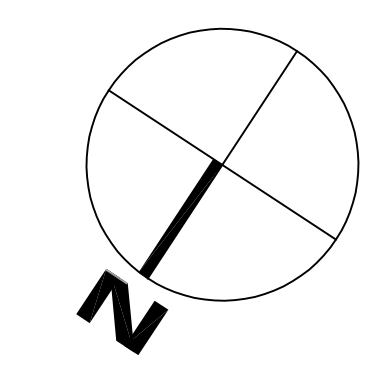
PROJ. NO. : 23090001
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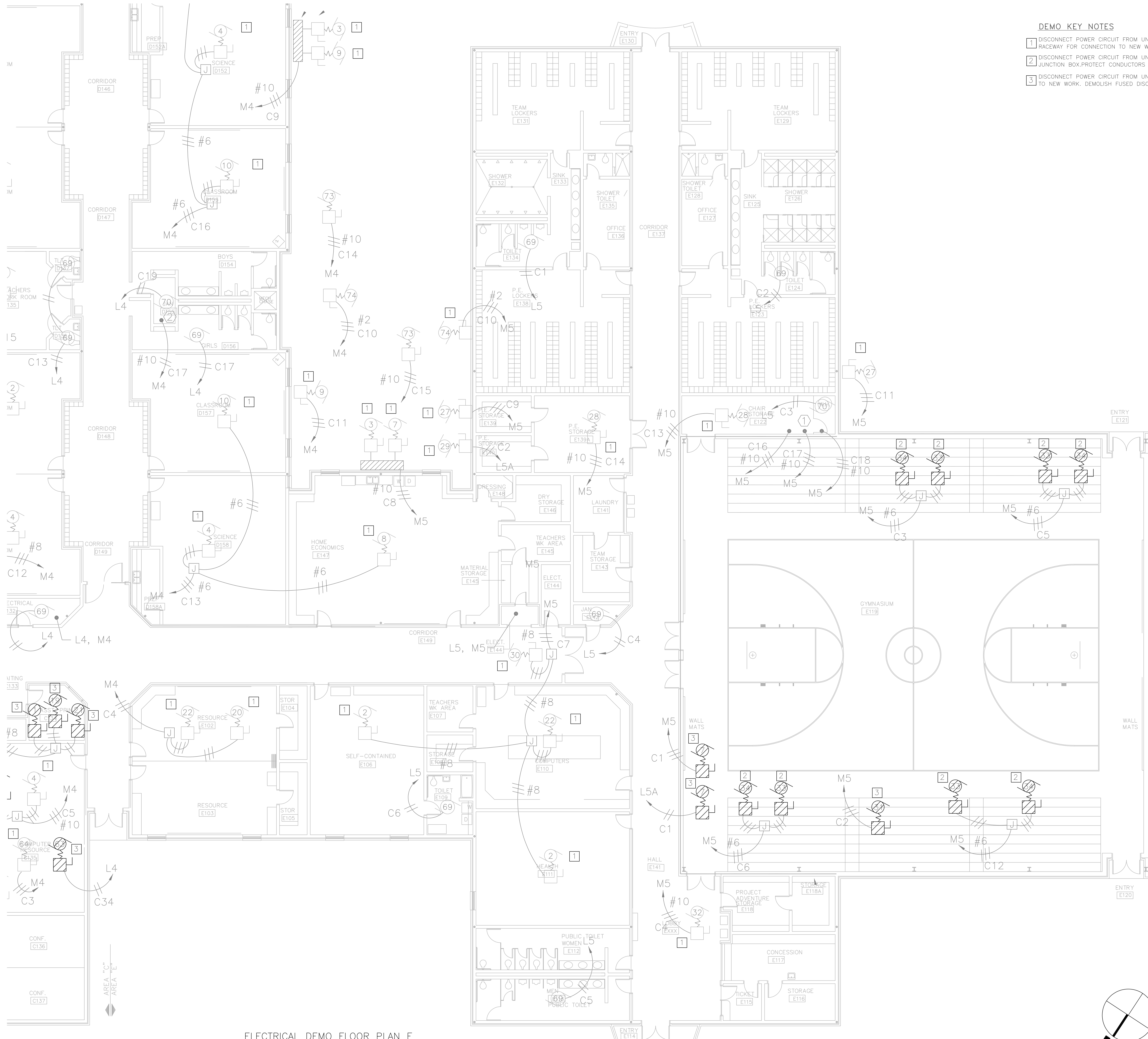
REVISIONS		
NO.	DATE	NOTES

ELECTRICAL
DEMO
FLOOR PLAN 'C'

ED104

ELECTRICAL DEMO FLOOR PLAN C
 SCALE: 1/8" = 1'-0"





DEMO KEY NOTES

- 1 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS, FUSED DISCONNECT AND RACEWAY FOR CONNECTION TO NEW WORK.
- 2 DISCONNECT POWER CIRCUIT FROM UNIT. CONDUCTORS AND CONDUIT TO BE REMOVED UP TO JUNCTION BOX. PROTECT CONDUCTORS AT JUNCTION BOX FOR CONNECTION TO NEW WORK.
- 3 DISCONNECT POWER CIRCUIT FROM UNIT. PROTECT CONDUCTORS AND RACEWAY FOR CONNECTION TO NEW WORK. DEMOLISH FUSED DISCONNECT.

ELECTRICAL DEMO FLOOR PLAN 'E'
SCALE: 1/8" = 1'-0"

Whole Building Systems
WBS
 WHOLE BUILDING SYSTEMS, LLC
 26 BEE STREET
 CHARLESTON, SC 29403
 PH: (843) 637-3556
 WWW.WBLSYSTEMS.COM

2026
 SOUTH CAROLINA
 PROFESSIONAL REGISTERED ELECTRICAL ENGINEER
 No. 19427
 2/16/248
 WALTER D. ANTON
 SOUTH CAROLINA
 REGISTERED PROFESSIONAL ENGINEER
 No. 69436
 CAROLINE D. ALTHOFF

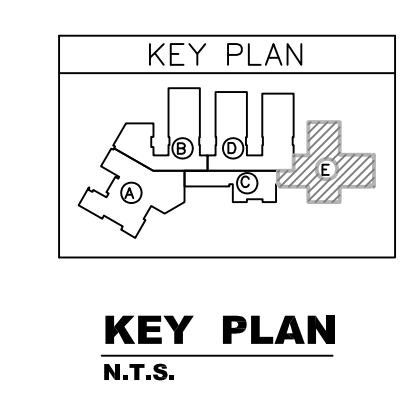
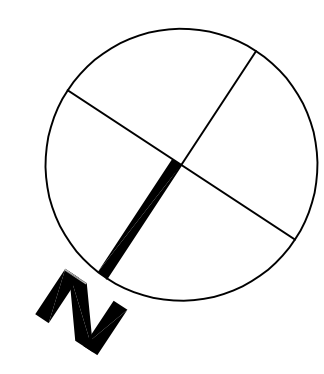
**NORTH MYRTLE BEACH MIDDLE SCHOOL
 HVAC REPLACEMENT
 11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
 DATE: 2/16/2024
 DESIGNED BY: BRW
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REVISIONS		
NO.	DATE	NOTES

**ELECTRICAL
 DEMO
 FLOOR PLAN 'E'**

ED105

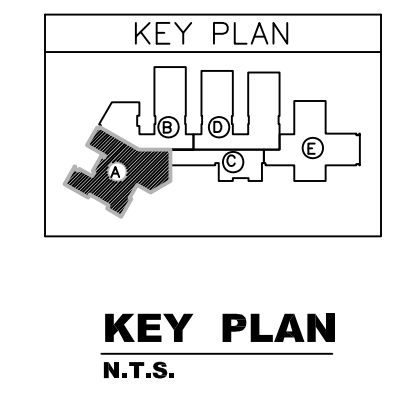


NEW WORK KEY NOTES

- ① PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ② PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. RUN NEW WIRE AND CONDUIT FROM JUNCTION BOX TO NEW UNIT. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ③ PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT NEW POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. RUN NEW WIRE AND CONDUIT FROM JUNCTION BOX TO NEW UNIT. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH FOR ELECTRIC HEAT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ④ PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. PROVIDE NEW NEMA 3R DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ⑤ PROVIDE NEW GFCI SERVICE RECEPTACLE MOUNTED ON EXISTING EQUIPMENT RAILS. PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT NEW RECEPTACLE TO EXISTING PANEL. RUN NEW CONDUIT THROUGH ROOF IN EXISTING DOGHOUSE. SEAL ALL NEW OPENINGS WEATHER TIGHT.



ELECTRICAL NEW WORK FLOOR PLAN A
SCALE: 1/8" = 1'-0"



WBS
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2028
SOUTH CAROLINA
REGISTERED PROFESSIONAL
ELECTRICAL ENGINEER
No. 19427
2/16/24
MICHAEL D. WATSON
ELECTRICAL ENGINEER
SOUTH CAROLINA
REGISTERED PROFESSIONAL
ELECTRICAL ENGINEER
No. 00435
2/16/24

**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. :	23090001
DATE:	2/16/2024
DESIGNED BY:	BRW
DRAWN BY:	BRW
CHECKED BY:	MDK

REVISIONS		
NO.	DATE	NOTES

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**ELECTRICAL
NEW WORK
FLOOR PLAN 'A'**

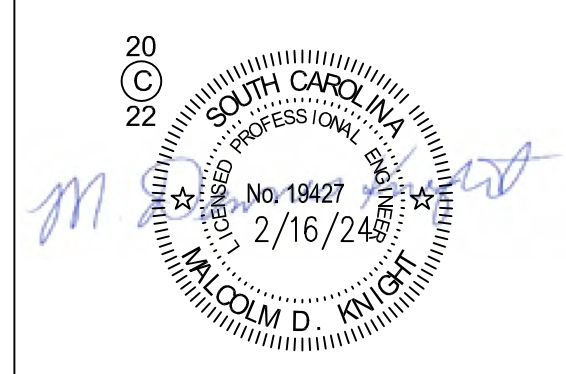
E101

NEW WORK KEY NOTES

- 1 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- 2 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. RUN NEW WIRE AND CONDUIT FROM JUNCTION BOX TO NEW UNIT. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- 3 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT NEW POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. RUN NEW WIRE AND CONDUIT FROM PANEL TO NEW UNIT. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- 4 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. PROVIDE NEW NEMA 3R DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- 5 PROVIDE NEW GFCI SERVICE RECEPTACLE MOUNTED ON EXISTING EQUIPMENT RAILS. PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT NEW RECEPTACLE TO EXISTING PANEL. RUN NEW CONDUIT THROUGH ROOF IN EXISTING DOGHOUSE. SEAL ALL NEW OPENINGS WEATHER TIGHT.
- 6 ALTERNATE #1



ELECTRICAL NEW WORK FLOOR PLAN 'B'
SCALE: 1/8" = 1'-0"



**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

PROJ. NO. : 23090001
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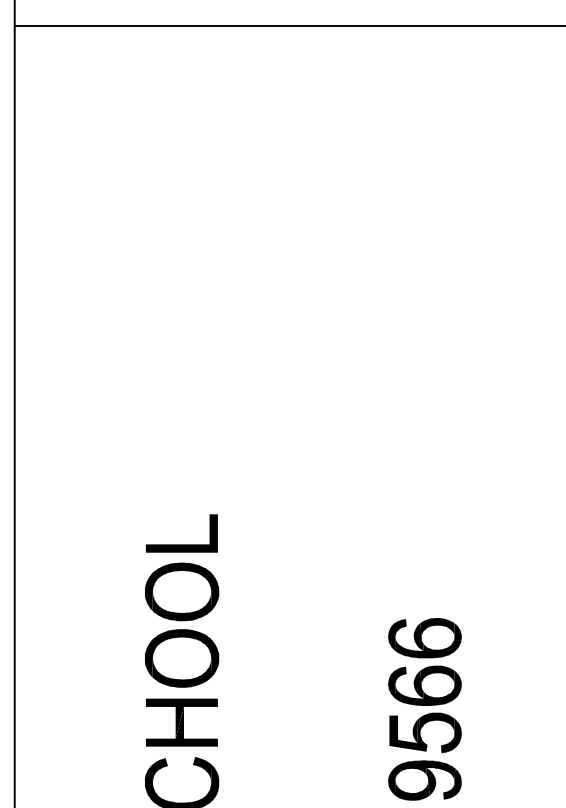
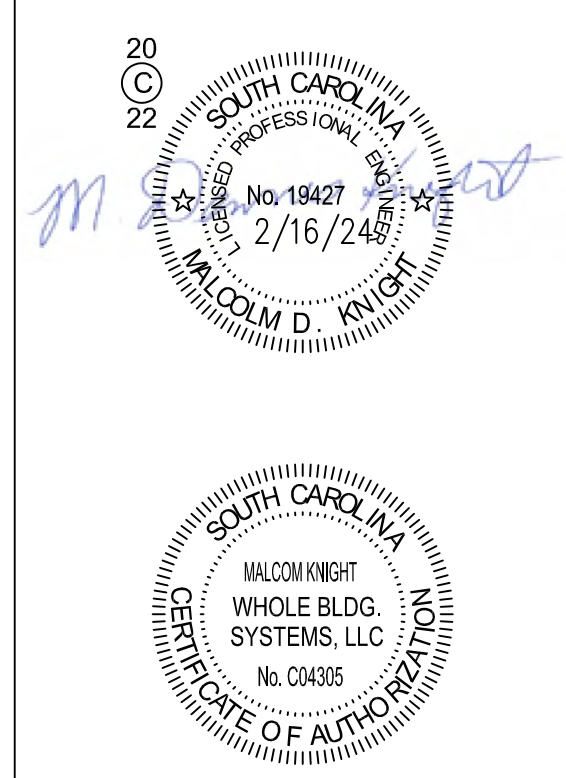
REVISIONS		
NO.	DATE	NOTES

**ELECTRICAL
NEW WORK
FLOOR PLAN 'B'**

E102



NEW WORK KEY NOTES
 ① PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.



**NORTH MYRTLE BEACH MIDDLE SCHOOL
 HVAC REPLACEMENT
 11240 SC-90 LITTLE RIVER, SC 29566**

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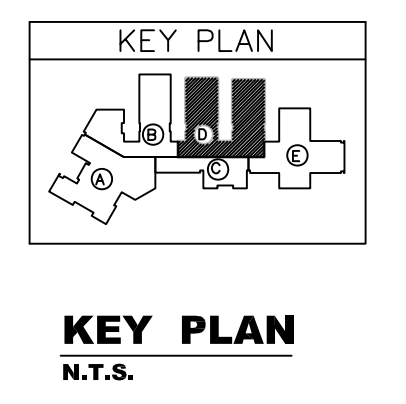
REVISIONS		
NO.	DATE	NOTES

**ELECTRICAL
 NEW WORK
 FLOOR PLAN 'D'**

E103



ELECTRICAL NEW WORK FLOOR PLAN 'D'
 SCALE: 1/8" = 1'-0"



NEW WORK KEY NOTES

- ① PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ② NOT USED THIS SHEET
- ③ NOT USED THIS SHEET
- ④ PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. PROVIDE NEW NEMA 3R DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- ⑤ PROVIDE NEW GFCI SERVICE RECEPTACLE MOUNTED ON EXISTING EQUIPMENT RAILS. PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT NEW RECEPTACLE TO EXISTING PANEL. RUN NEW CONDUIT THROUGH ROOF IN EXISTING DOGHOUSE. SEAL ALL NEW OPENINGS WEATHER TIGHT.



**NORTH MYRTLE BEACH MIDDLE SCHOOL
 HVAC REPLACEMENT
 11240 SC-90 LITTLE RIVER, SC 29566**

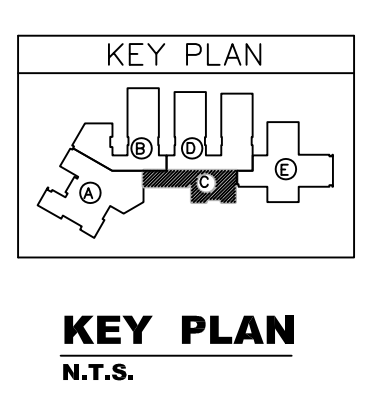
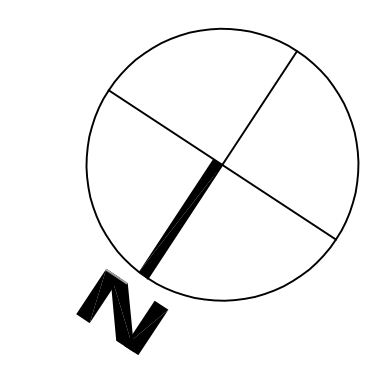
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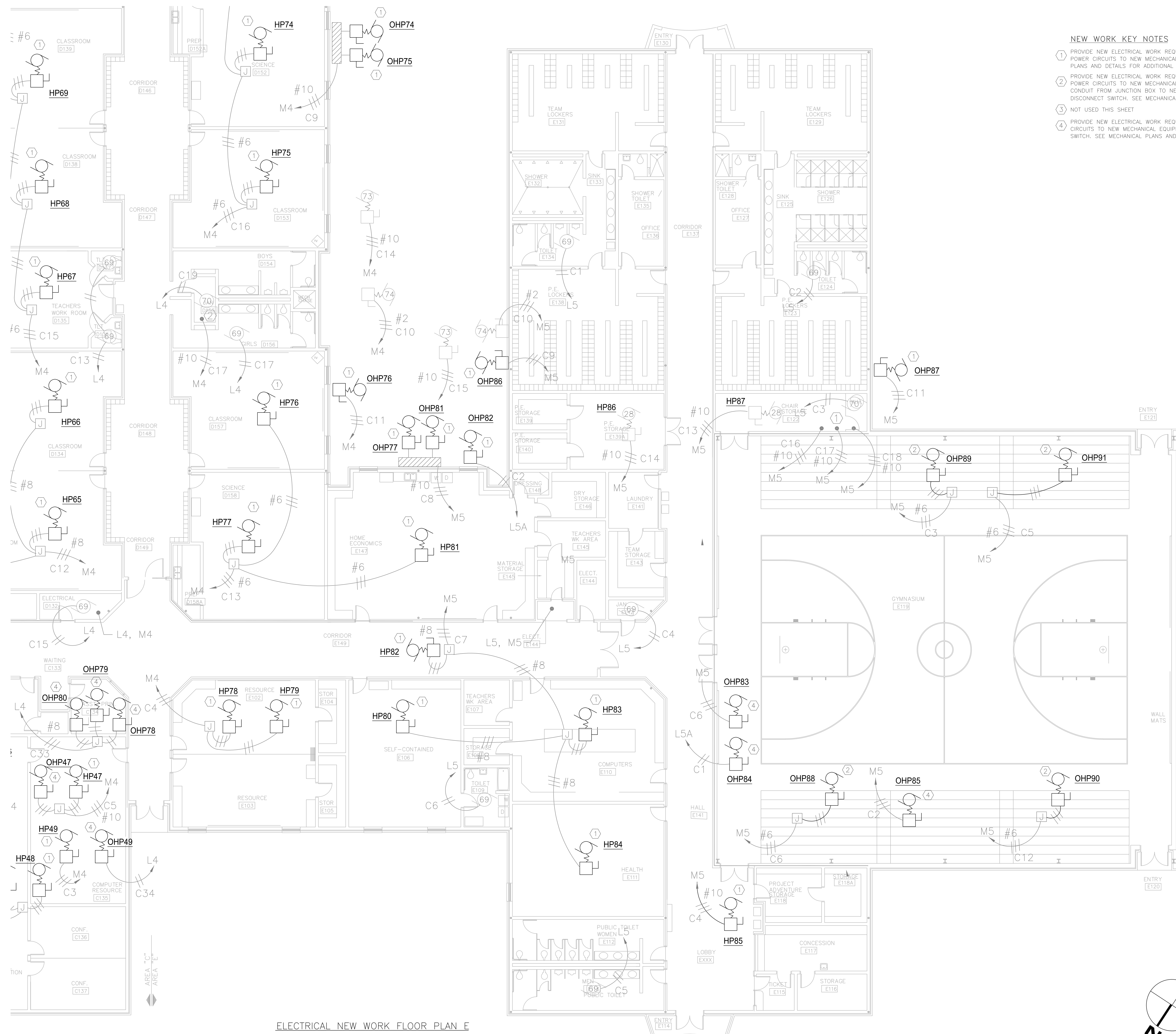
REVISIONS		
NO.	DATE	NOTES

**ELECTRICAL
 NEW WORK
 FLOOR PLAN 'C'**

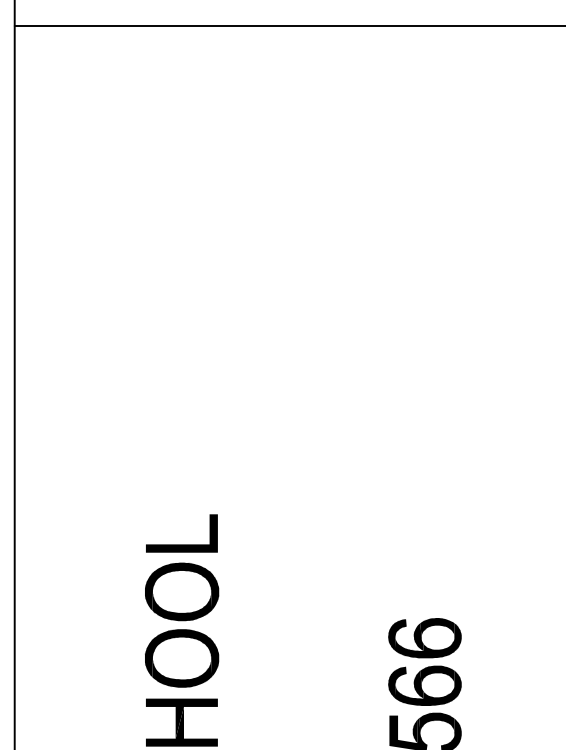
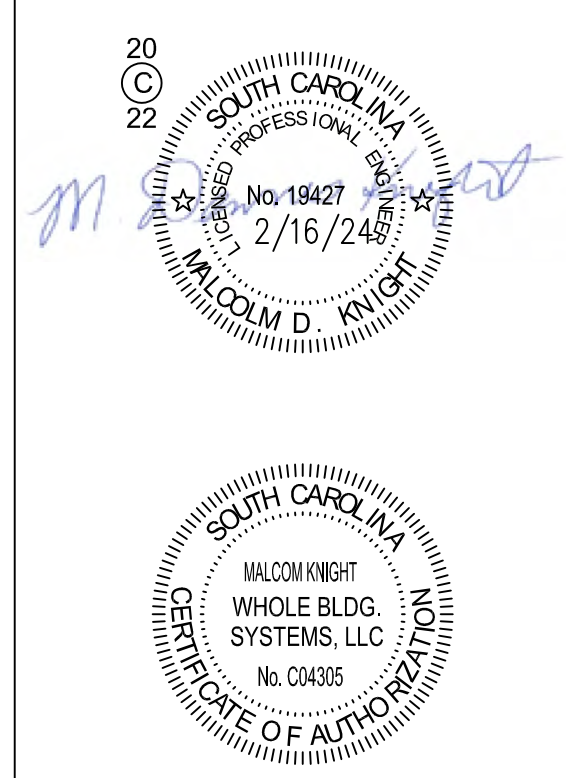
E104

ELECTRICAL NEW WORK FLOOR PLAN C
 SCALE: 1/8" = 1'-0"





- NEW WORK KEY NOTES**
- 1 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
 - 2 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. RUN NEW WIRE AND CONDUIT FROM JUNCTION BOX TO NEW UNIT. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
 - 3 NOT USED THIS SHEET
 - 4 PROVIDE NEW ELECTRICAL WORK REQUIRED TO CONNECT EXISTING POWER CIRCUITS TO NEW MECHANICAL EQUIPMENT. PROVIDE NEW NEMA 3R DISCONNECT SWITCH. SEE MECHANICAL PLANS AND DETAILS FOR ADDITIONAL INFORMATION.



**NORTH MYRTLE BEACH MIDDLE SCHOOL
HVAC REPLACEMENT
11240 SC-90 LITTLE RIVER, SC 29566**

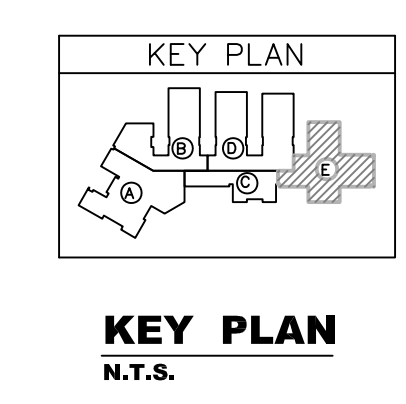
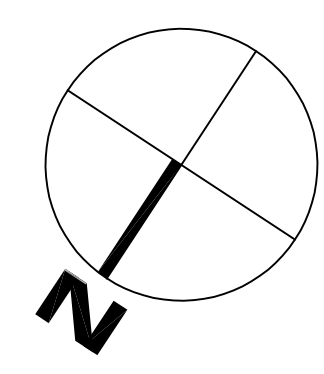
PROJ. NO. : 23090001
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NO.	DATE	NOTES

**ELECTRICAL
NEW WORK
FLOOR PLAN 'E'**

E105

ELECTRICAL NEW WORK FLOOR PLAN E
 SCALE: 1/8" = 1'-0"



ELECTRICAL HVAC SCHEDULE																					
TAG	TYPE OF UNIT	EX ELECTRICAL CHARACTERISTICS					NEW ELECTRICAL REQUIREMENTS										NOTES				
		EX PANEL NAME	EX VOLT/PHASE	EX CIRCUIT NUMBER	EX CKT BKR SIZE (AMPERES)	EX WIRE SIZE	NEW PANEL NAME	NEW VOLT/PHASE	NEW CIRCUIT NUMBER	NEW CKT BKR SIZE (AMPERES)	NEW WIRE SIZE	NEW EQUIPMENT MCA	NEW EQUIPMENT MOCP								
HP01	SPLIT SYSTEM AHU	M6	460/3	6	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	25.9	30	1.2							
OHP01	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9	15	1.7							
HP02	SPLIT SYSTEM AHU	M6	460/3	5	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	17.1	20	1.2							
OHP02	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP03	SPLIT SYSTEM AHU	M6	460/3	4	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	18.6	20	1.2							
OHP03	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP04	SPLIT SYSTEM AHU	M6	460/3	14	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP05	PACKAGED...	M6	460/3	3	80	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	73.3	80	1.5							
HP06	PACKAGED...	M6	460/3	11	80	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	47	50	1.5							
HP07	PACKAGED...	M6	460/3	2	80	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	47	50	1.5							
HP08	SPLIT SYSTEM AHU	HK	460/3	1	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	25.9	30	1.2							
OHP08	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9	15	1.7							
HP09	SPLIT SYSTEM AHU	HK	460/3	2	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP10	SPLIT SYSTEM AHU	M6	460/3	1	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	18.6	20	1.2							
OHP10	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP11	SPLIT SYSTEM AHU	M6	460/3	12	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP12	PACKAGED...	M6	460/3	13	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	52	60	1.4							
HP13	PACKAGED...	M1	460/3	2	80	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	65.6	80	1.5							
HP13	ELECTRIC HEAT	M1	460/3	2	80	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	50.3	60	1.5							
HP14	PACKAGED...	M1	460/3	5	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	33	35	1.5, 6							
HP15	SPLIT SYSTEM AHU	M6	460/3	9	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP16	SPLIT SYSTEM AHU	M2	460/3	14	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	25.9	30	1.2							
OHP16	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9	15	1.7							
HP17	SPLIT SYSTEM AHU	M6	460/3	7	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
OHP17	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP18	SPLIT SYSTEM AHU	M6	460/3	8	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
OHP18	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	6	15	1.7							
HP19	SPLIT SYSTEM AHU	M6	460/3	10	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP21	PACKAGED...	M1	460/3	4	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	34.4	40	1.5							
HP22	PACKAGED...	M1	460/3	4	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	19	20	1.5							
HP24	PACKAGED...	M1	460/3	6	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	52	50	1.3, 6							
HP23	PACKAGED...	M1	460/3	3	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	60	60	1.5, 6							
HP20	SPLIT SYSTEM AHU	M2	460/3	7	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP25	SPLIT SYSTEM AHU	M2	460/3	7	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP26	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP27	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP28	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP29	SPLIT SYSTEM AHU	M2	460/3	10	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP30	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP31	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP32	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP33	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP34	SPLIT SYSTEM AHU	M2	460/3	11	50	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP35	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP36	SPLIT SYSTEM AHU	M2	460/3	8	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP37	SPLIT SYSTEM AHU	M2	460/3	8	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP38	SPLIT SYSTEM AHU	M2	460/3	13	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP39	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP40	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP41	SPLIT SYSTEM AHU	M3	460/3	10	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP42	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP43	SPLIT SYSTEM AHU	M3	460/3	1	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
OHP43	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP44	SPLIT SYSTEM AHU	M3	460/3	2	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP45	SPLIT SYSTEM AHU	M3	460/3	3	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	18.6	20	1.2							
OHP45	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP46	SPLIT SYSTEM AHU	M4	460/3	1	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	18.6	20	1.2							
OHP46	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8	15	1.7							
HP47	SPLIT SYSTEM AHU	M4	460/3	5	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
OHP47	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	6	15	1.7							
HP48	SPLIT SYSTEM AHU	M4	460/3	2	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
OHP48	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	6	15	1.7							
HP49	SPLIT SYSTEM AHU	M4	460/3	3	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	13.1	15	1.2							
HP50	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP51	SPLIT SYSTEM AHU	M3	460/3	11	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP52	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP53	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP54	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP55	SPLIT SYSTEM AHU	M3	460/3	14	60	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP56	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP57	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP58	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP59	SPLIT SYSTEM AHU	M3	460/3	15	60	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP60	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP61	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP62	SPLIT SYSTEM AHU	M3	460/3	12	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP63	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP64	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP65	SPLIT SYSTEM AHU	M4	460/3	12	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP66	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP67	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP68	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP69	SPLIT SYSTEM AHU	M4	460/3	15	60	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP70	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP71	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP72	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP73	SPLIT SYSTEM AHU	M4	460/3	16	60	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP74	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP75	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP76	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP77	SPLIT SYSTEM AHU	M4	460/3	13	60	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP81	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	14.2	15	1.2							
HP78	SPLIT SYSTEM AHU	M4	460/3	4	20	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP79	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	8.8	15	1.2							
HP80	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP82	SPLIT SYSTEM AHU	M5	460/3	7	40	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP83	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							
HP84	SPLIT SYSTEM AHU					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	9.9	15	1.2							

1. PROVIDE NEW PANEL LABELS PER TAGGING LISTED IN THIS SCHEDULE
2. RESUSE EXISTING DISCONNECT SWITCH. PROVIDE NEW FUSES TO MATCH NEW EQUIPMENT MOCP
3. EXISTING CIRCUIT FEEDS CONDENSING UNITS THAT WILL NOT BE USED IN NEW WORK. PULL EXISTING CONDUCTORS BACK TO PANEL. PROVIDE NEW CONDUCTORS AND...
4. PROVIDE NEW CIRCUIT BREAKER, WIRE, CONDUIT AND NEMA 3R FUSED DISCONNECT SWITCH
5. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH. PROVIDE NEW WIRES AND CONDUIT FROM JUNCTION BOX TO NEW DISCONNECT SWITCH.
6. RECONFIGURE CONDUCTORS IN PANEL TO MATCH CIRCUIT TO NEW UNIT
7. PROVIDE NEW NEMA 3R FUSED DISCONNECT SWITCH

ELECTRICAL HVAC SCHEDULE																					
TAG	TYPE OF UNIT	EX ELECTRICAL CHARACTERISTICS					NEW ELECTRICAL REQUIREMENTS										NOTES				
		EX PANEL NAME	EX VOLT/PHASE	EX CIRCUIT NUMBER	EX CKT BKR SIZE (AMPERES)	EX WIRE SIZE	NEW PANEL NAME	NEW VOLT/PHASE	NEW CIRCUIT NUMBER	NEW CKT BKR SIZE (AMPERES)	NEW WIRE SIZE	NEW EQUIPMENT MCA	NEW EQUIPMENT MOCP								
HP85	SPLIT SYSTEM AHU	M5	460/3	4	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	17.1	20	1.2							
OHP85	CONDENSING UNIT					EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	25.9	30	1.2							
HP87	SPLIT SYSTEM AHU	M5	460/3	13	30	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	25.9	30	1.2							
HP88	PACKAGED...	M5	460/3	6	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	64	70	1.5							
HP89	PACKAGED...	M5	460/3	3	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	64	70	1.5							
HP90	PACKAGED...	M5	460/3	12	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	64	70	1.5							
HP91	PACKAGED...	M5	460/3	5	70	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	64	70	1.5							
OHP94	CONDENSING UNIT	L6																			