

DRAWING INDEX

GENERAL DRAWINGS

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G000	COVER SHEET
G001	LOGISTICS PLAN AND CODE SUMMARY

ARCHITECTURAL DEMOLITION DRAWINGS

SHEET NUMBER	SHEET NAME
AD101	DEMOLITION PLAN & RCP
AD102	EXISTING CONDITIONS

ARCHITECTURAL DRAWINGS

NUMBER	NAME
A101	FLOOR PLAN & RCP
A601	INTERIOR ELEVATIONS & CASEWORK DETAILS

MECHANICAL DRAWINGS

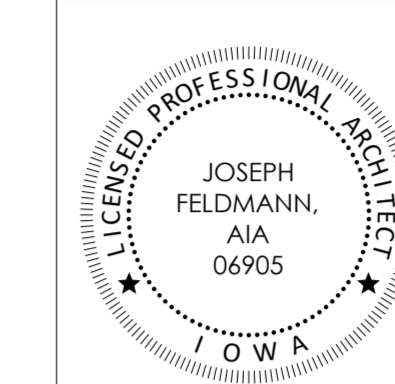
NUMBER	NAME
M000	MECHANICAL GENERAL NOTES & SYMBOLS
M101	MECHANICAL HVAC PLAN
M200	MECHANICAL ROOF PLAN, DETAILS, AND SCHEDULES

ELECTRICAL DRAWINGS

NUMBER	NAME
E000	ELECTRICAL GENERAL NOTES & SYMBOLS
E101	ELECTRICAL PLANS
E402	ELECTRICAL SCHEDULES

All questions regarding these plans and specifications should be directed to:

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Project Manager
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(515) 309-6862

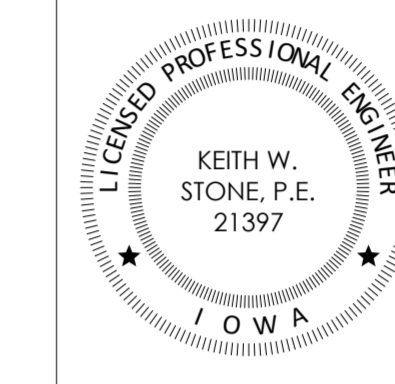


I hereby certify these plans and specifications were prepared by me or under my direct personal supervision and that I am a duly licensed professional architect under the laws of the state of Iowa.

Signature: *Joseph Feldmann*
Name: JOSEPH FELDMANN, AIA

Iowa Registration No: 06905 Renewal Date: 06/30/26

Sheets covered by this seal: Listed As "Architectural"

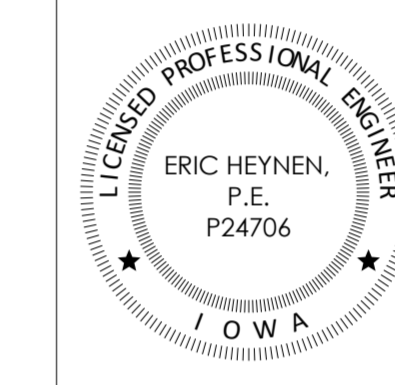


I hereby certify this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.

Signature: *Keith W. Stone* 06/02/2026
Name: KEITH W. STONE, P.E.

Iowa Registration No: 21397 Renewal Date: 12/31/27

Sheets covered by this seal: Listed As "Mechanical, Plumbing"



I hereby certify this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.

Signature: *Eric Heynen* 06/02/2026
Name: ERIC HEYNEN, P.E.

Iowa Registration No: P24706 Renewal Date: 12/31/27

Sheets covered by this seal: Listed As "Electrical"

State Of Iowa - Project: 9532.00 - DCI - ANK Room A155, A156 and A157 Renovation

2250 S ANKENY BLVD, ANKENY, IA 50023



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ARCHITECT

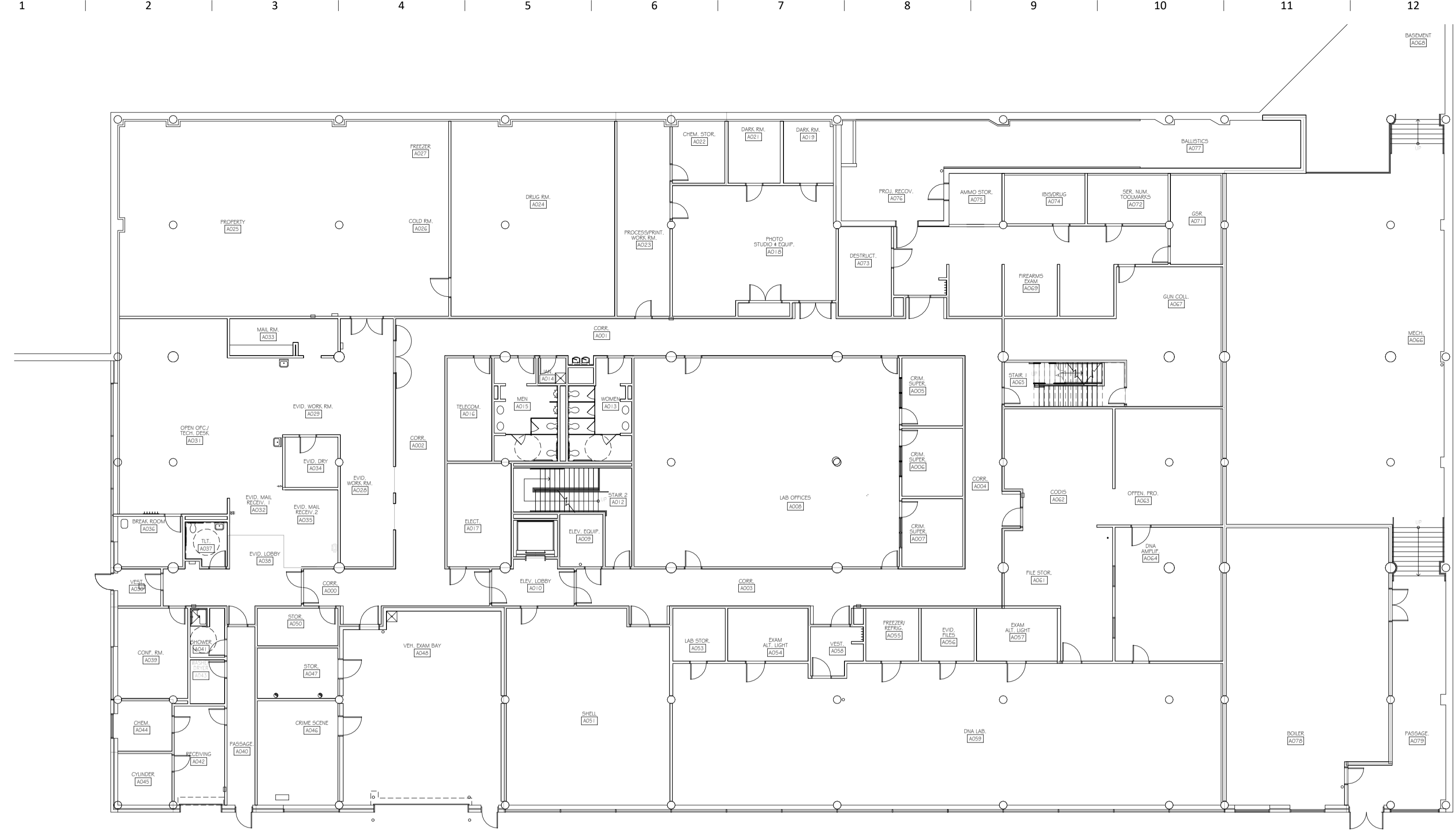
OPN ARCHITECTS
100 COURT AVENUE, SUITE 100
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CONSTRUCTION MANAGER

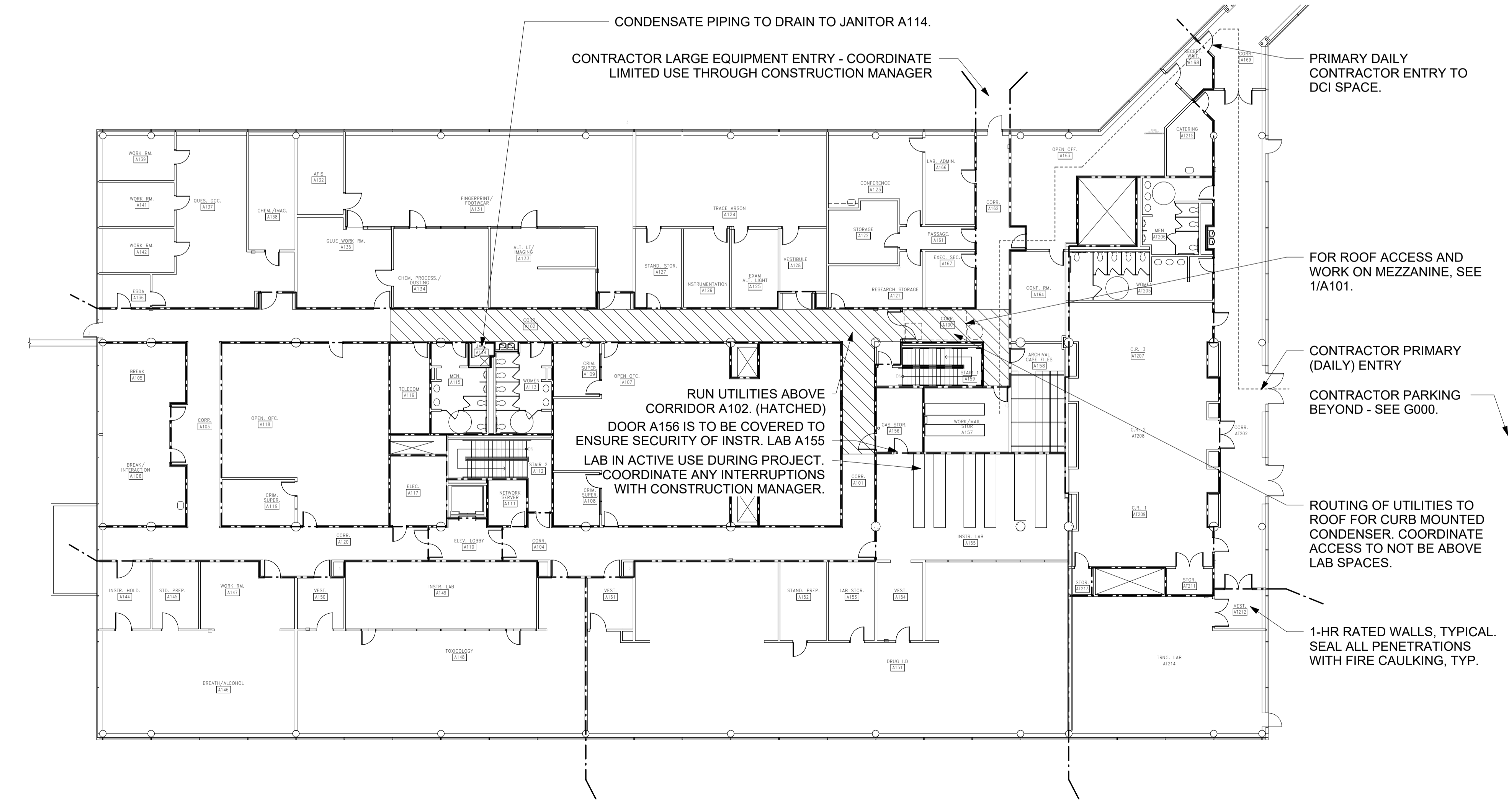
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MECHANICAL & ELECTRICAL ENGINEER

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300 4TH ST
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2 BUILDING A - LOWER LEVEL - OVERALL FLOOR PLAN
1/16" = 1'-0"



1 BUILDING A - LEVEL 1 - OVERALL FLOOR PLAN
1/16" = 1'-0"

APPLICABLE CODE INFORMATION

- The project shall comply with the following codes:
- 2024 INTERNATIONAL BUILDING CODE AS ADOPTED BY IOWA ADMINISTRATIVE RULE CHAPTERS 481-280 AND 481-301
 - 2010 AMERICANS WITH DISABILITIES ACT AS ADOPTED BY IOWA ADMINISTRATIVE RULE CHAPTER 481-301
 - STATE MECHANICAL CODE AS ADOPTED BY THE DEPARTMENT OF PUBLIC HEALTH IOWA ADMINISTRATIVE RULE CHAPTER 481-426
 - STATE PLUMBING CODE AS ADOPTED BY THE DEPARTMENT OF PUBLIC HEALTH IOWA ADMINISTRATIVE RULE CHAPTER 481-425
 - 2024 INTERNATIONAL FIRE CODE AS ADOPTED BY IOWA ADMINISTRATIVE RULE CHAPTERS 481-280
 - STATE ELECTRICAL CODE AS ADOPTED BY THE STATE ELECTRICAL LICENSING BOARD IOWA ADMINISTRATIVE RULE CHAPTER 481-404
 - 2024 INTERNATIONAL EXISTING BUILDING CODE AS ADOPTED BY IOWA ADMINISTRATIVE RULE CHAPTERS 481-301

Building Characteristics

Project description: Project is modification to and existing building space to update casework and room configuration for new lab instruments and addition of supplemental cooling due to increased heat load. The square footage, occupancy and exiting of the building are unchanged.

Building Area: 162,797 SF (UNCHANGED)
 Building Height: 40'-0" (UNCHANGED)
 Number of Stories: 2 (UNCHANGED)
 Fully Sprinkled: Yes - Equipped with fully automated sprinkler system (UNCHANGED - WILL BE MAINTAINED)
 Fire Alarm: Yes - Equipped with emergency voice/alarm communication system (UNCHANGED - WILL BE MAINTAINED)

IBC Chapter 3 - Use and Occupancy Classification

Occupancy Group: B S-2 (Nonseparated occupancy use) (UNCHANGED)

IBC Chapter 5 - General Building Heights and Areas

The General Building Height and Areas are unchanged.

IBC Chapter 6 - Types of Construction

The Type of Construction will be matched / maintained. All fire resistance ratings will be maintained.

Construction Classification: Type IIB

IBC Chapter 7 - Fire and Smoke Protection Features

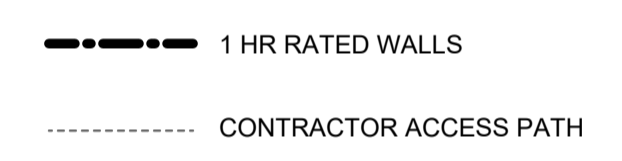
The scope of work is limited and existing construction is not being modified.

IBC Chapter 9 - Fire Protection Systems

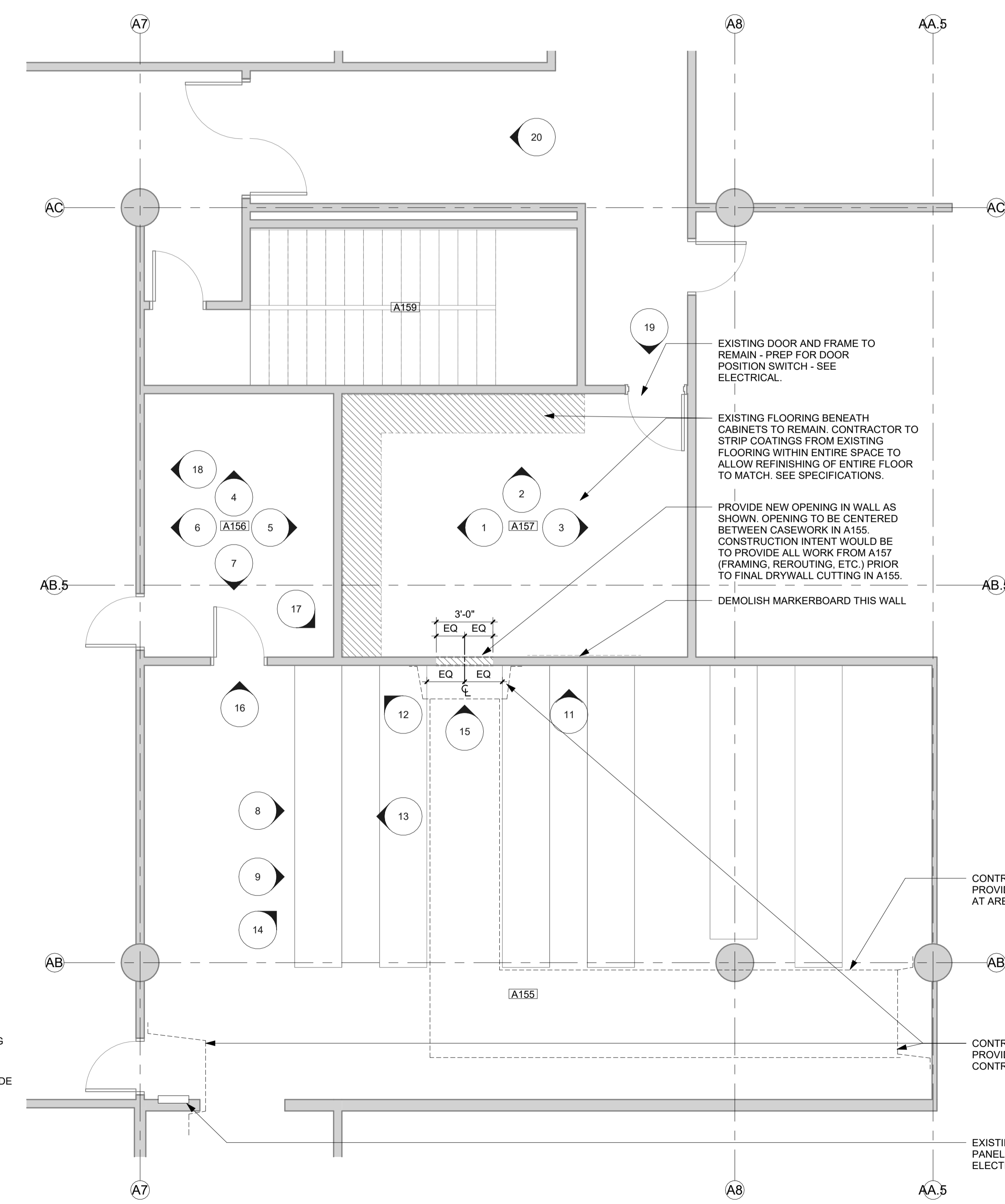
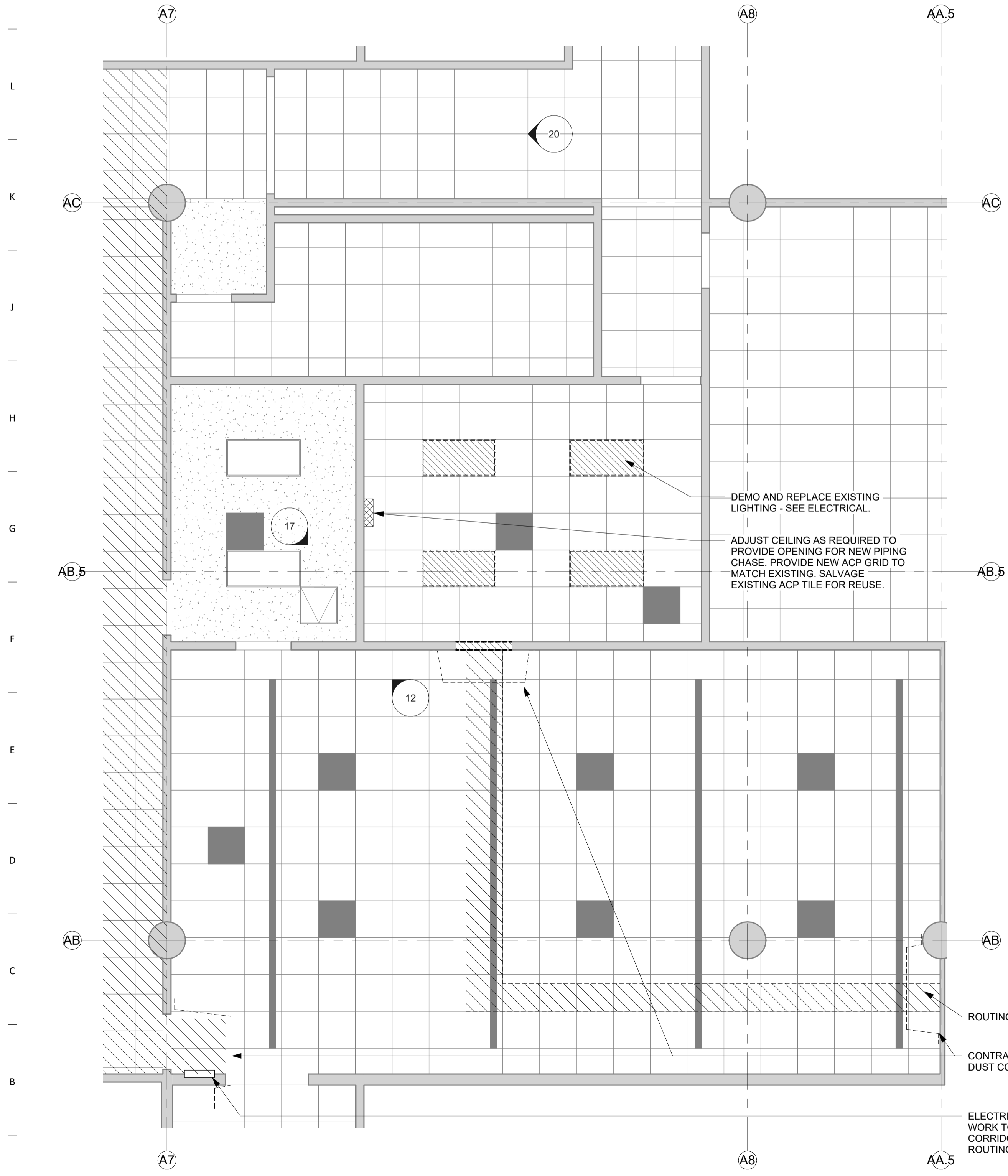
The scope of work is limited and existing Fire Protection Systems will be maintained.

IBC Chapter 10 - Means of Egress

All means of egress are being maintained in the existing building.



- DEMOLITION LEGEND**
- INDICATES EXISTING 1 HR FIRE BARRIER
 - DENOTES AREA OF COMPLETE REMOVAL OF AN EXISTING BUILDING ELEMENT
- DEMOLITION CEILING LEGEND**
- EXISTING CEILING OR CEILING COMPONENT TO BE REMOVED IN ITS ENTIRETY, INCLUDING LIGHT FIXTURES, MECHANICAL GRILLES, CEILING FANS, AND ELECTRICAL DEVICES, UNLESS NOTED OTHERWISE
- CEILING LEGEND**
- DASHED LINE DENOTES LOCATIONS OF ACOUSTIC PARTITIONS TO RECEIVE ACOUSTICAL BATT INSULATION AND SOUND SEALANT AT PERIMETER AND PENETRATIONS. REFER TO FLOOR PLANS FOR WALL TYPES.
 - ACCESS PANEL
 - RECTANGULAR FIXTURE
 - LINEAR FIXTURE
 - DOWN LIGHTS
 - LINEAR PENDANT
 - DOWN LIGHT PENDANTS
 - UTILITY LIGHTS
 - CEILING & WALL MOUNT EXIT SIGNS
 - HVAC SUPPLY DIFFUSER
 - HVAC RETURN DIFFUSER
 - HVAC EXHAUST DIFFUSER
 - HVAC SLOT DIFFUSER
 - HVAC ROUND DIFFUSER
 - PROJECTOR
 - PROJECTOR SCREEN
 - OCCUPANCY SENSOR
 - SPEAKER
 - MICROPHONE
 - WIRELESS ACCESS POINT
 - CEILING & WALL MOUNT CLOCK
 - SMOKE DETECTOR
 - CEILING & WALL MOUNT CAMERA
 - DATA & POWER
 - SPRINKLER
- KEYNOTE LEGEND**



EXISTING IMAGE 01

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- REMOVE AND REPLACE LIGHTING - SEE ELECTRICAL.
- REMOVE EXISTING CASEWORK COMPLETE. REMOVE ALL ATTACHMENTS COMPLETE. PATCH AND REPAIR WALL AS REQUIRED FOR FINISHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
- EXISTING POWER DATA TO REMAIN - PROTECT IN PLACE.
- REMOVE AND REPLACE RUBBER BASE AT ALL WALLS.
- EXISTING RESILIENT FLOORING TO REMAIN - PROTECT IN PLACE.

EXISTING IMAGE 02

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- REMOVE AND REPLACE LIGHTING - SEE ELECTRICAL.
- REMOVE EXISTING CASEWORK COMPLETE. REMOVE ALL ATTACHMENTS COMPLETE. PATCH AND REPAIR WALL AS REQUIRED FOR FINISHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
- EXISTING DOOR TO REMAIN - PREP FOR NEW DOOR POSITION SWITCH - SEE ELECTRICAL.
- REMOVE AND REPLACE RUBBER BASE AT ALL WALLS.
- EXISTING RESILIENT FLOORING TO REMAIN - PROTECT IN PLACE. FLOORING RUNS UNDER EXISTING CABINETS AND IS TO REMAIN.

EXISTING IMAGE 03

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- REMOVE AND REPLACE LIGHTING - SEE ELECTRICAL.
- EXISTING MECH / ELECT / FIRE ALARM AND SPRINKLERS TO REMAIN - PROTECT IN PLACE DURING CONSTRUCTION - SEE ME/P/IT FOR FULL SCOPE.
- REMOVE EXISTING TACKBOARD COMPLETE. REMOVE ALL ATTACHMENTS COMPLETE. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING ADJACENT SURFACES.
- EXISTING DOOR TO REMAIN - PREP FOR NEW DOOR POSITION SWITCH - SEE ELECTRICAL.
- REMOVE AND REPLACE RUBBER BASE AT ALL WALLS.
- EXISTING RESILIENT FLOORING TO REMAIN - PROTECT IN PLACE.

EXISTING IMAGE 04

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING LOCATION OF LAB GASES. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES.
- EXISTING RUBBER BASE TO REMAIN - PROTECT IN PLACE.
- EXISTING SEALED CONCRETE FLOOR TO REMAIN - PROTECT IN PLACE.

EXISTING IMAGE 05

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING LOCATION OF LAB GASES. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES.
- EXISTING RUBBER BASE TO REMAIN - PROTECT IN PLACE.
- EXISTING SEALED CONCRETE FLOOR TO REMAIN - PROTECT IN PLACE.

EXISTING IMAGE 06

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING LOCATION OF LAB GASES. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES.
- EXISTING RUBBER BASE TO REMAIN - PROTECT IN PLACE.
- EXISTING SEALED CONCRETE FLOOR TO REMAIN - PROTECT IN PLACE.

EXISTING IMAGE 07

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING ENTRY FROM HALLWAY - NO WORK, PROTECT DURING CONSTRUCTION.
- EXISTING ENTRY FROM A155 - NO WORK, PROTECT DURING CONSTRUCTION.
- EXISTING LOCATION OF LAB GASES. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES.

EXISTING IMAGE 08

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING LAB CASEWORK - NEW CASEWORK TO MATCH EXISTING FINISHES / HARDWARE.
- SEE NEW ELEVATIONS TO COORDINATE PASS THROUGH GROMMETS IN CASEWORK.

EXISTING IMAGE 09

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING LAB CASEWORK - NEW CASEWORK TO MATCH EXISTING FINISHES / HARDWARE.
- SEE NEW ELEVATIONS TO COORDINATE PASS THROUGH GROMMETS IN CASEWORK.

EXISTING IMAGE 10

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING WALLS IN A155 LAB SPACE TO REMAIN - PROTECT DURING CONSTRUCTION. AS PART OF WORK FOR NEW PASS THROUGH BETWEEN ROOMS, TOUCH UP WALL AS REQUIRED TO MATCH EXISTING (MATCH PAINT PATTERNS).
- EXAMPLE OF EXISTING LAB MECHANICAL / ELECTRICAL CHASE. INTENT IS TO MIMIC THIS IN NEW A157 SPACE.

EXISTING IMAGE 11

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXAMPLE OF EXISTING LAB MECHANICAL / ELECTRICAL CHASE. INTENT IS TO MIMIC THIS IN NEW SPACE.

EXISTING IMAGE 12

- EXAMPLE OF ROUTING TO MIMIC IN NEW A157 SPACE. ROUTE PIPING TO SIMILAR AS SHOWN, NOZZLE ATTACHMENTS WILL NOT BE IN THE CASEWORK BUT MOUNTED BELOW COUNTERTOP SURFACE. COORDINATE FINAL LOCATION WITH OWNER.
- EXAMPLE OF ROUTING TO MIMIC IN NEW A157 SPACE. SEE ELECTRICAL FOR REQUIREMENTS.

EXISTING IMAGE 13

- EXAMPLE OF EXISTING LAB INSTRUMENTS TO BE PLACED IN NEW ROOM (UNITS BY OWNER).
- EXAMPLE OF ROUTING TO MIMIC IN NEW A157 SPACE. ROUTE PIPING TO SIMILAR AS SHOWN, NOZZLE ATTACHMENTS WILL NOT BE IN THE CASEWORK BUT MOUNTED BELOW COUNTERTOP SURFACE. COORDINATE FINAL LOCATION WITH OWNER.
- EXISTING LAB CASEWORK - NEW CASEWORK TO MATCH EXISTING FINISHES / HARDWARE.

EXISTING IMAGE 14

- SEE ELEVATIONS FOR LAYOUT OF LAB CASEWORK. CASEWORK TO PROVIDE ADEQUATE SUPPORT FOR EQUIPMENT. MATCH EXISTING CONSTRUCTION AS REQUIRED.
- EXISTING LAB CASEWORK - NEW CASEWORK TO MATCH EXISTING FINISHES / HARDWARE.

EXISTING IMAGE 15

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING WALLS IN A155 LAB SPACE TO REMAIN - PROTECT DURING CONSTRUCTION. AS PART OF WORK FOR NEW PASS THROUGH BETWEEN ROOMS, TOUCH UP WALL AS REQUIRED TO MATCH EXISTING (MATCH PAINT PATTERNS).
- EXAMPLE OF EXISTING LAB MECHANICAL / ELECTRICAL CHASE. INTENT IS TO MIMIC THIS IN NEW SPACE.

EXISTING IMAGE 16

- EXISTING DOOR FROM A155 TO A156 GAS STORAGE ROOM - AS NO WORK REQUIRED.

EXISTING IMAGE 17

- EXISTING FINISHED CEILING TO REMAIN, PROTECT IN PLACE.
- EXISTING LIGHTING TO REMAIN, PROTECT IN PLACE.
- EXISTING ACCESS HATCH TO ABOVE CEILING IN A156 GAS STORAGE ROOM - AS REQUIRED FOR ACCESS.
- EXISTING LOCATION OF LAB GASES. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES.

EXISTING IMAGE 18

- EXISTING LOCATION OF UNUSED LAB GAS TO BE REUSED. SEE MECHANICAL FOR REQUIRED WORK RELATED TO LAB GASES SCOPE. ROUTING AND NEW WORK REQUIRED. MINIMIZE AND COORDINATE ALL TIE-INS TO MINIMIZE DOWN TIME OF LAB GASES. PROVIDE ALL NEW LABELING AS REQUIRED ON DEVICES TO MATCH EXISTING.

EXISTING IMAGE 19

- PROTECT ALL EXISTING ADJACENT FINISHES WITHIN HALLWAY.
- EXISTING SIGN TO REMAIN.
- EXISTING DOOR TO REMAIN - PREP FOR NEW DOOR POSITION SWITCH - SEE ELECTRICAL.
- DOOR TO BE PROTECTED DURING CONSTRUCTION.

EXISTING IMAGE 20

- INTENDED AREA OF UNITS ABOVE ON ROOF. CENTER UNITS ON BEAM FOR SUPPORT. COORDINATE LINE SET ROUTING WITH ALL EXISTING UTILITIES.
- ROOF ACCESS LADDER AND HATCH ABOVE.
- EXISTING MEZZANINE FOR ACCESS AND ROUTING FOR NEW MECHANICAL UNITS
- ACCESS TO MAIN LEVEL FROM CORRIDOR A100.

OPN ARCHITECTS

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Owner
State of Iowa - Project: 9532.00

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Key Plan

Revision	Description	Date

OPN Project No.
26819000

Sheet Issue Date
100% BID DOCUMENTS 06/02/2026

Sheet Name
EXISTING CONDITIONS

Sheet Number
AD102

GENERAL NOTES

- DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
- FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS - TYPICAL FOR ALL DRAWINGS.
- IN THE EVENT OF A DISCREPANCY BETWEEN ARCHITECTURAL AND CONSULTANT DRAWINGS, NOTIFY ARCHITECT IMMEDIATELY PRIOR TO COMMENCING WORK - TYPICAL FOR ALL DRAWINGS.
- ALL PENETRATIONS IN FIRE RATED FLOORS AND WALLS MUST BE SEALED WITH APPROPRIATE FIRESTOPPING SYSTEM.
- PATCH AND REPAIR EXISTING FLOOR SLABS AND WALL SURFACES DAMAGED FROM DEMOLITION.
- SEE FRAME PLANS AND INTERIOR ELEVATIONS FOR DIMENSIONAL SIZES WITH MATERIALS OF FRAMES.
- PREPARE DOOR AND FRAME FOR PAINT - BONDO DENTS AND SAND SCRATCHES SMOOTH.
- PAINT HOLLOW METAL DOORS AND FRAMES EPT-1.
-

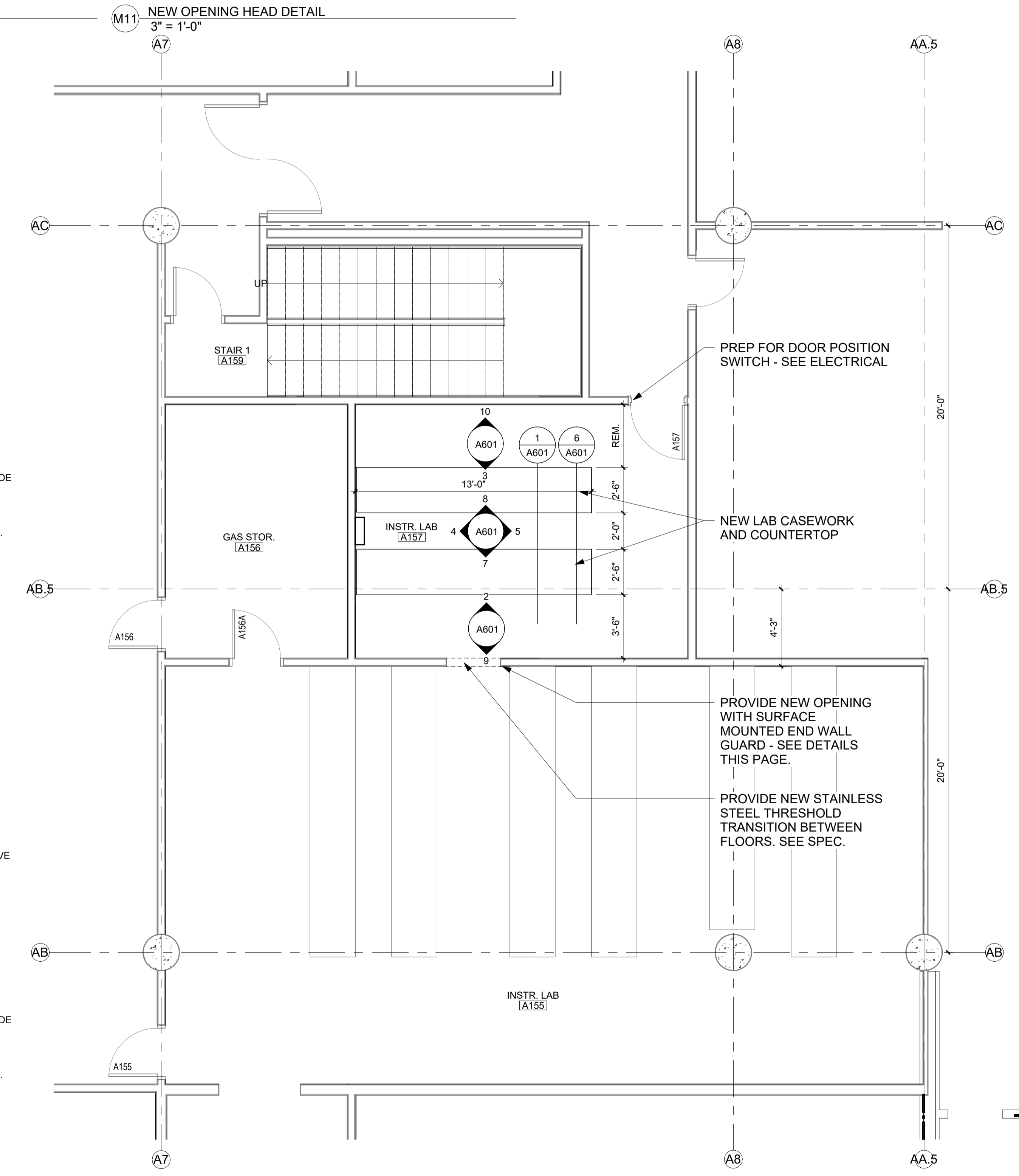
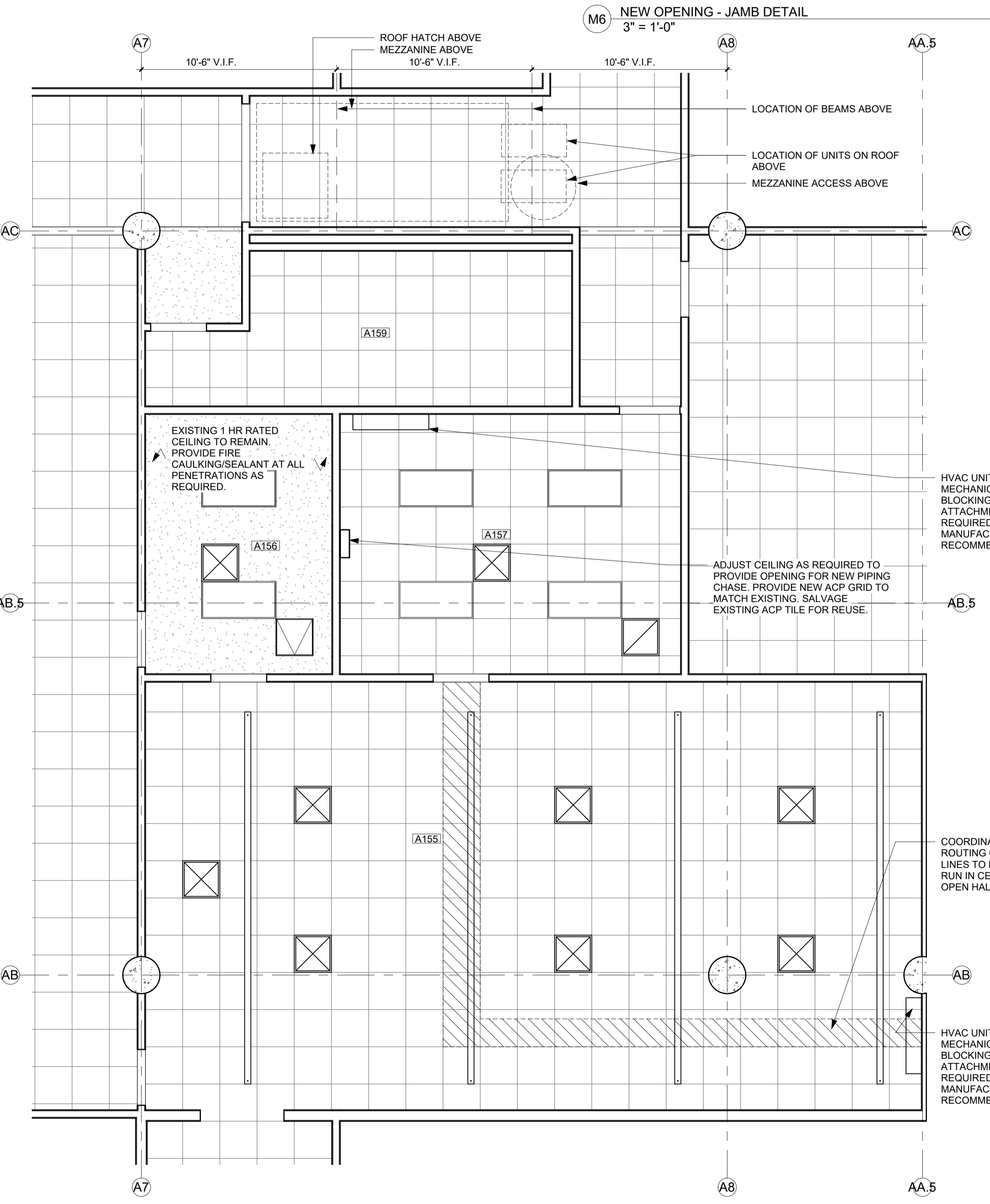
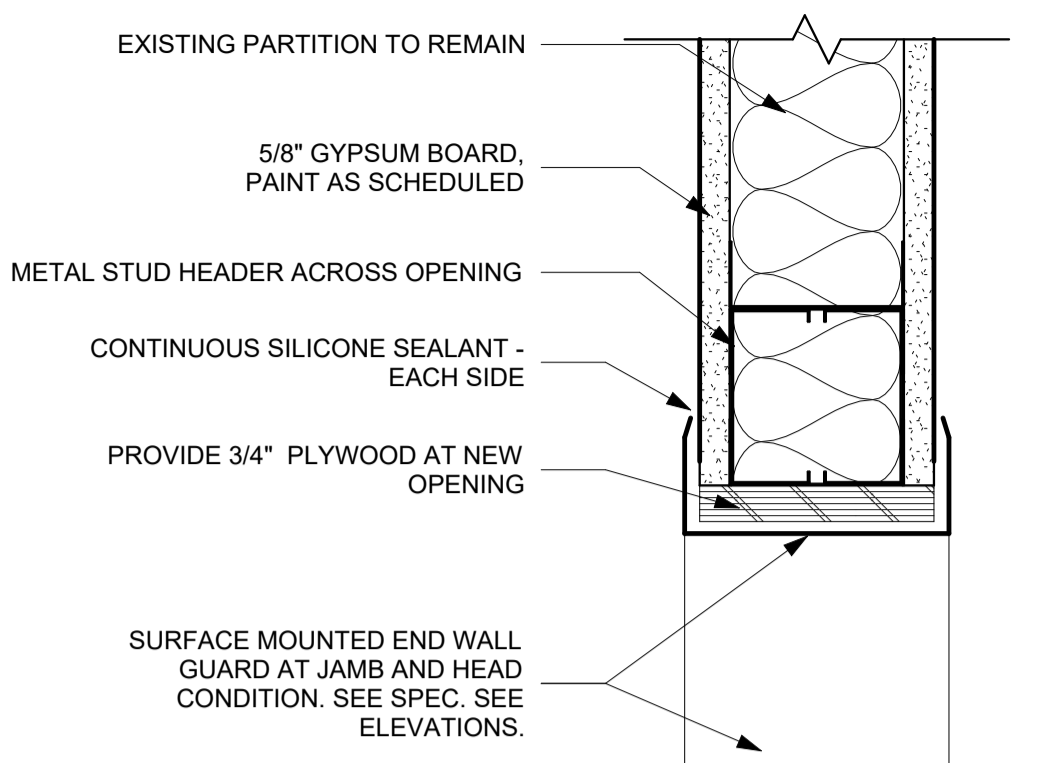
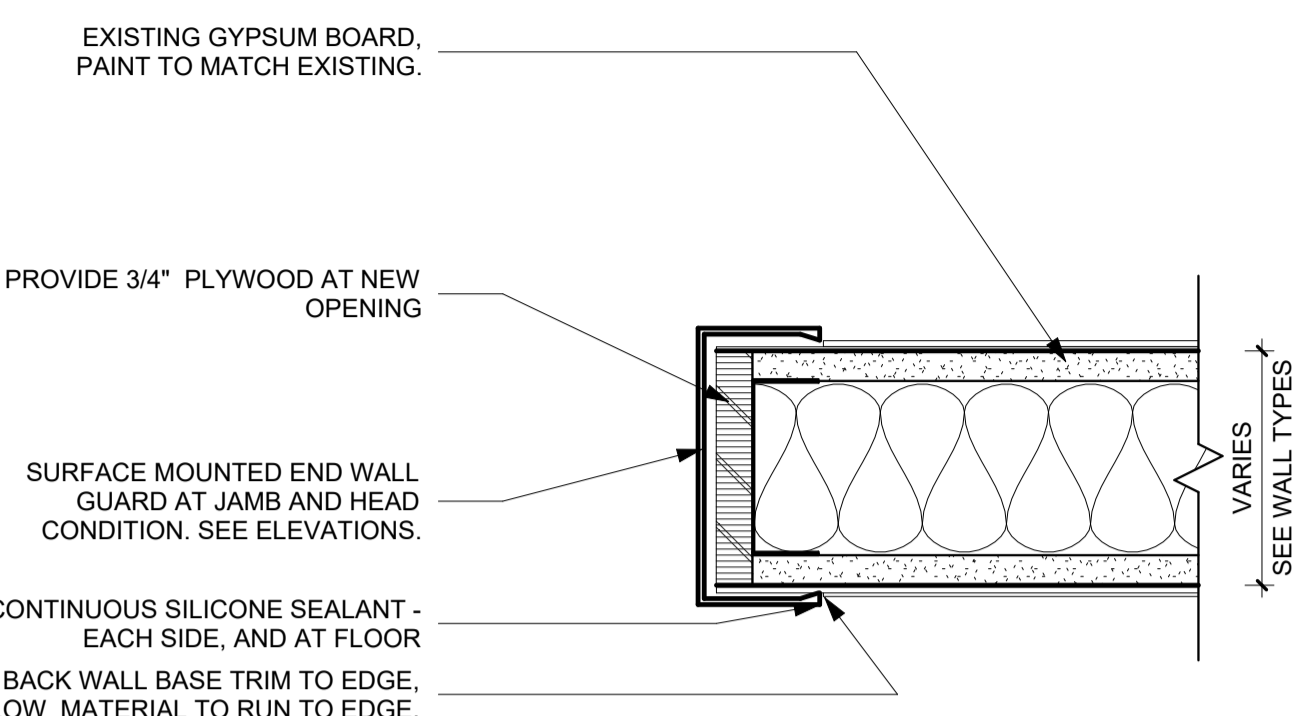
KEYNOTE LEGEND

ROOM FINISH SCHEDULE					
Number	ROOM NAME	FLOOR		WALL	CEILING
		FINISH	BASE	FINISH	FINISH
Level 1					
A155	INSTR. LAB	EXISTING	EXISTING	EXISTING	EXISTING
A156	GAS STOR.	EXISTING	EXISTING	EXISTING	EXISTING
A157	INSTR. LAB	EXISTING TO REMAIN	NEW RB-1	PATCH & REPAIR / PAINT ALL WALLS	EXISTING

NOTE 1: EXISTING DOOR FRAMES TO REMAIN. TOUCH-UP AS REQUIRED DUE TO CONSTRUCTION ACTIVITIES.
NOTE 2: FOR ROOM A155, ASSUME ALL WALLS TO BE PROTECTED AND NO PAINT TOUCH-UP IS REQUIRED.

FLOORING:
RB-1
MANUFACTURER: JOHNSONITE
STYLE: 4" COVE
COLOR: BLACK 40

PAINT:
EPT-1
SYSTEM: PAINT I-OP
MANUFACTURER: AS SPECIFIED
COLOR: MATCH EXISTING (SINGLE COLOR)
FINISH: EGGSHELL, SEMI-GLOSS ON CMU
APPLICATION: FIELD PAINT - U.N.O.



1 LEVEL 1 RCP
1/4" = 1'-0"

A17 LEVEL 1 FLOOR PLAN
1/4" = 1'-0"

MECHANICAL - DEMOLITION NOTES

- 1. MECHANICAL DEMOLITION DRAWINGS SHOWING EXISTING CONDITIONS HAVE BEEN PREPARED BASED ON NON-DESTRUCTIVE FIELD OBSERVATION AND AS-BUILT DRAWINGS PROVIDED BY THE OWNER. FIELD VERIFY EXISTING SYSTEMS BEFORE BEGINNING WORK. NOTIFY ARCHITECT/ENGINEER IF EXISTING CONDITIONS ARE MATERIALLY DIFFERENT THAN THOSE SHOWN ON THE PLANS.
2. BE FAMILIAR WITH EXISTING MECHANICAL SYSTEMS THAT WILL BE AFFECTED BY THE DEMOLITION WORK. OBTAIN PERMISSION FROM THE OWNER'S REPRESENTATIVE TO SHUT OFF SERVICES OR SYSTEMS THAT AFFECT AREAS BEYOND THE LIMITS OF THE IMMEDIATE DEMOLITION AREA. INFORM THE OWNER'S REPRESENTATIVE OF THE REASON FOR AND DURATION OF THE SHUTDOWN. MINIMIZE IMPACT TO OTHER AREAS. PROCEED WITH THE SHUT-DOWN AFTER PERMISSION FROM THE OWNER IS GRANTED.
3. REMOVE PIPING, HANGERS, DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, ETC. THAT ARE INDICATED TO BE REMOVED IN A TIMELY MANNER IN ACCORDANCE WITH THE GENERAL DEMOLITION SPECIFICATIONS. COORDINATE WITH THE OWNER AND OTHER CONTRACTORS.
4. UNLESS EQUIPMENT TO BE REMOVED IS NOTED AS OWNER'S SALVAGE, DISPOSE OF EQUIPMENT AND/OR MATERIALS INDICATED TO BE REMOVED PROMPTLY.
5. REMOVE ALL ABANDONED PIPING AND DUCTWORK THAT IS EXPOSED OR ACCESSIBLE WITHOUT WALL OR CEILING DEMOLITION. REFER TO ARCH PLANS FOR CEILINGS TO BE REMOVED.

HVAC - NOTES

- 1. COORDINATE WORK WITH ALL OTHER TRADES AS DESCRIBED IN MECHANICAL GENERAL NOTE #1.
2. PROVIDE A COMPLETE HVAC SYSTEM, INCLUDING SUPPLY, RETURN, EXHAUST, AND VENTILATION DUCTWORK; MECHANICAL EQUIPMENT, SUPPORTS, HANGERS, DIFFUSERS, GRILLES, REGISTERS, AND ALL APPURTENANCES. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. INSTALL SYSTEM TO MEET ALL CITY AND STATE CODES AND REQUIREMENTS.
3. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM, INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED BY ARCHITECT/ENGINEER.
4. ALL DUCT DIMENSIONS INDICATED ARE INTERIOR FREE AREA DUCT DIMENSIONS AND DO NOT INCLUDE INSULATION REQUIREMENTS.
5. SEAL ALL WALL AND FLOOR DUCT PENETRATIONS. PROVIDE FIRE CAULKING ASSEMBLIES FOR PENETRATIONS OF RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR ASSEMBLY RATINGS.
6. CONTINUE DUCT AND PIPE INSULATION THROUGH WALLS, FLOORS, AND CEILING PENETRATIONS UNBROKEN, EXCEPT WHERE FIRE OR FIRE/SMOKE DAMPERS ARE INSTALLED IN DUCTWORK. SEAL AROUND DUCT INSULATION AT WALL PENETRATIONS.

PLUMBING - NOTES

- 1. COORDINATE WORK WITH ALL OTHER TRADES AS DESCRIBED IN MECHANICAL GENERAL NOTE #1.
2. PROVIDE A COMPLETE PLUMBING SYSTEM INCLUDING PIPE, INSULATION, HANGERS, SUPPORTS, EQUIPMENT, WATER HEATERS, FIXTURES, MIXING VALVES, VALVES, ACCESSORIES AND SPECIALTIES. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. SIZE AND INSTALL PLUMBING SYSTEM PER PLUMBING CODE. COMPLY WITH ALL LOCAL AND STATE CODES AND OWNER'S REQUIREMENTS.
3. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PLUMBING SYSTEM.
4. EXISTING PLUMBING DISTRIBUTION AND EQUIPMENT SHOWN ARE BASED ON NON-DESTRUCTIVE SITE OBSERVATION AND AS-BUILT DOCUMENTS PROVIDED BY THE OWNER. FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING LOCATING UNDER FLOOR PIPING AND PIPING CONCEALED IN BUILDING ASSEMBLIES WHERE WORK IS REQUIRED.
5. SEAL ALL WALL PIPE PENETRATIONS. PROVIDE THROUGH-PENETRATION FIRESTOPPING WHERE REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR WALL, FLOOR, AND CEILING ASSEMBLY RATINGS.
6. CONTINUE PIPE INSULATION THROUGH WALL, FLOOR, AND CEILING PENETRATIONS UNBROKEN. SEAL AROUND PIPE INSULATION AT PENETRATIONS.
7. LABORATORY GAS PIPING INSTALLATION TO BE BY CONTRACTOR CERTIFIED PER NFPA 99, 2012 VERSION, AND PER SPECIFICATIONS. CONTRACTOR SHALL PERFORM 24 HOUR PRESSURE TEST FOR LABORATORY GAS PIPING.
8. VERIFY WITH ENGINEER FOR ANY FIXTURES NOT TAGGED OR PIPED PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING FIXTURES SHOWN ON ARCHITECTURAL DRAWINGS, TAGGED OR NOT TAGGED ON PLUMBING / MECHANICAL DRAWINGS UNLESS SPECIFICALLY NOTED AS EXCLUDED FROM SCOPE.

FIRE PROTECTION - NOTES

- 1. COORDINATE WORK WITH ALL OTHER TRADES AS DESCRIBED IN MECHANICAL GENERAL NOTE #1.
2. PROVIDE A COMPLETE FIRE PROTECTION SYSTEM INCLUDING PIPE, SPRINKLERS, COVERS, VALVES, FLOW SWITCHES, HANGERS, SUPPORTS, EQUIPMENT, AND ALL APPURTENANCES. INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. SIZE AND INSTALL FIRE PROTECTION SYSTEM PER NFPA 13. COMPLY WITH ALL LOCAL AND STATE CODES AND REQUIREMENTS.
3. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF FIRE PROTECTION SYSTEM. ROUTE PIPING TO AVOID AND/OR MINIMIZE CONFLICT WITH OTHER TRADES. PIPING REQUIRED TO BE SLOPED HAS PRIORITY IN COORDINATION.
4. LOCATE SPRINKLER HEADS TO PROVIDE SUFFICIENT COVERAGE IN INDIVIDUAL SPACES WITHOUT CONFLICT WITH LIGHTS, DIFFUSERS, AIR TERMINALS, AND OTHER CEILING ELEMENTS.
5. PROVIDE MANUAL DRAIN VALVES AT ALL LOW POINTS IN THE SYSTEM WHERE OFFSETS ARE REQUIRED TO AVOID COORDINATION CONFLICTS.
6. CENTER SPRINKLER HEADS WITHIN CEILING TILES OR AS INDICATED ON THE ARCHITECTURAL REFLECTED CEILING PLAN (RCP) UNLESS INDICATED OTHERWISE.
7. DO NOT INSTALL SPRINKLER PIPING OR SPRINKLERS THAT ENCRATCH ON THE REQUIRED CLEARANCE OF ANY OTHER EQUIPMENT. RELOCATE PIPING AND HEADS WHERE CLEARANCES ARE OBSTRUCTED.
8. INCLUDE COST TO REMOVE AND REPLACE ALL EXISTING PIPING IN OUTLINED SCOPE OF WORK AREA. AS THE EXISTING PIPING MAY CONFLICT WITH NEW DUCTWORK, NEW DUCTWORK HAS PRIORITY OVER NEW AND EXISTING SPRINKLER PIPING.

PIPING LEGEND - FIRE PROTECTION

Table with 2 columns: Symbol and Description. Symbols include FPD, FPP, and FPW. Descriptions include FIRE PROTECTION DRY, FIRE PROTECTION PRE-ACTION, and FIRE PROTECTION WET.

MECHANICAL ABBREVIATIONS

Table with 3 columns: Abbreviation, Description, Abbreviation, Description. Includes terms like ABSOR, ACU, AD, AFF, AFG, AHU, AV, BOT, BTU, BTUH, BV, CA, CB, CENT, CFM, CI, CL, COND, CO, CONC, CONTR, CP, CU, CUH, CWP, DDC, DN, DR, DS, EA, EAT, EC, EDBT, EEW, EF, EJ, EQUIP, ESE, EST, EWB, EWC, EWT, EX, EXH, EXP, FAI, FCU, FD, FLEX, FLR, FPM, FPS, FS, FSEC, FT, FTG, GA, GAL, GALV, GC, GW, GPH, GPM, HR, HTG, HB, ISP, JR, LAV, LDBT, LNT, LWT, LWBT, MB, MBH, MC, MECH, MH, NTS, OA, OD, PC, PSI, PRV, PRV, PV, PVC, RA, RD, RH, RTU, RV, RVT, SA, SH, SO, ST, TCC, TYP, UH, UR, UV, VA, VTR, WB, WC, WHA, WH.

MECHANICAL - GENERAL NOTES

- 1. COORDINATE MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. BEGIN INSTALLATION AND ROUGH-IN AFTER COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION IS COMPLETE. COORDINATE BUILDING STRUCTURE, ARCHITECTURAL ASSEMBLIES, SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR REWORK ASSOCIATED WITH FAILURE TO COORDINATE.
2. INCORPORATE MECHANICAL SPECIFICATIONS, DRAWINGS, STATE AND LOCAL CODES, AND OWNER STANDARDS INTO WORK.
3. REFER TO ARCHITECTURAL SPECIFICATIONS FOR THROUGH-PENETRATION FIRESTOPPING AND TO ARCHITECTURAL CODE PLAN FOR FIRE RATED WALLS, FLOORS, AND CEILINGS. EACH TRADE IS RESPONSIBLE TO FIRESTOP PENETRATIONS THROUGH RATED ASSEMBLIES.
4. EACH TRADE IS RESPONSIBLE FOR MAKING PENETRATIONS WHERE REQUIRED IN EXISTING WALLS, FLOORS, CEILINGS, AND ROOFS. MAKE PENETRATIONS NEAT, PATCH, CONCEAL, OR CAULK OVERCUT.
5. COVER EXPOSED WALL PENETRATIONS WITH ESCUTCHEONS OR SHEET METAL AS APPROPRIATE.
6. CAULK ALL CONCEALED AND EXPOSED PIPING AND DUCT WALL PENETRATIONS TO PREVENT NOISE TRANSFER BETWEEN SPACES.
7. CREATE OPENINGS IN THE BUILDING THAT ARE REQUIRED TO REMOVE EXISTING ITEMS AND TO BRING IN NEW EQUIPMENT. PATCH ALL OPENINGS CREATED AND FINISHED WITH MATERIALS TO MATCH EXISTING CONDITIONS. INCLUDE THIS WORK IN BID.
8. ON COMPLETION OF THE INSTALLATION, COOPERATE WITH THE OWNER TO PROVIDE TESTING, ADJUSTING, AND BALANCING TO OBTAIN PROPER OPERATION OF ALL EQUIPMENT AND SYSTEMS. PROVIDE ALL FACILITIES AND EQUIPMENT AND COMPLETE ALL TESTS REQUIRED FOR ADJUSTMENTS AND BALANCING TO ESTABLISH THE PROPER PERFORMANCE OF EQUIPMENT.
9. PROVIDE WARRANTIES FOR ALL EQUIPMENT AND INSTALLATION PER THE CONTRACT DOCUMENTS. CONDITIONING REFRIGERATION SYSTEMS SHALL BE WARRANTED FOR A MINIMUM OF 5 YEARS, PARTS ONLY, NON-PRORATED, FROM THE DATE OF OCCUPANCY OR SUBSTANTIAL COMPLETION, OR WHICHEVER OCCURS FIRST. THE WARRANTY SHALL COVER COMPRESSORS, EVAPORATORS, CONDENSER COILS, HIGH AND LOW SIDE PIPING, AND PIPING SPECIALTIES INCLUDING EXPANSION AND SOLENOID VALVES, RELIEF VALVES, FILTER-DRYER, AND SIGHT GLASSES. PRESSURE GAUGES AND PRESSURE SWITCHES ARE NOT UNDER THE EXTENDED WARRANTY EXCEPT FOR LOSS OF REFRIGERANT AND CONSEQUENTIAL DAMAGE TO THE SYSTEM WHICH WILL BE AN EXTENDED WARRANTY OBLIGATION. ALL DEFECTS THAT BECOME APPARENT WITHIN THE WARRANTY PERIOD SHALL BE REPAIRED BY THE MECHANICAL CONTRACTOR AS DIRECTED BY THE ENGINEER THROUGH THE OWNER'S REPRESENTATIVE. WARRANTY DOES NOT OBLIGATE THE MECHANICAL CONTRACTOR TO REPAIR DAMAGE RESULTING FROM THE OWNER'S ACCIDENT, IMPROPER OPERATION, OR FAILURE TO PROVIDE MAINTENANCE. WARRANTY COVERS DEFECTIVE MATERIAL AND INSTALLATION. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS AND OTHER WARRANTY INFORMATION.

PIPING LEGEND - MECHANICAL

Table with 2 columns: Symbol and Description. Symbols include CD, PC, HWR, HWS, RS, RHG, RL. Descriptions include CONDENSATE DRAIN, PUMPED CONDENSATE, HYDRONIC RETURN, HYDRONIC SUPPLY, REFRIGERANT GAS, REFRIGERANT HOT GAS, REFRIGERANT LIQUID.

PIPING LEGEND - PLUMBING

Table with 2 columns: Symbol and Description. Symbols include CA, CW, HW, DSW, GW, H2, HE, G, GV, N2, PA, PH, RHW, SAN, ST, SO, P, V. Descriptions include COMPRESSED AIR, DOMESTIC COLD WATER, DOMESTIC HOT WATER, DOMESTIC SOFT WATER, GREASE WASTE, HYDROGEN, HELIUM, NATURAL GAS, NATURAL GAS VENT, NITROGEN, PROCESSED AIR, PRESSURE RELIEF, RECIRCULATING HOT WATER, SANITARY, STORM, STORM OVERFLOW, TRAP PRIMER, VENT.

PIPE FITTINGS

Table with 2 columns: SINGLE LINE and DOUBLE LINE. Lists various pipe fittings such as ELBOW, TEE, CROSS, LATERAL, REDUCER, and FLANGED CONNECTION with their respective symbols.

PLUMBING ACCESSORY LEGEND

Table with 2 columns: Symbol and Description. Lists plumbing accessories like HOSE BIBB, ROOF HYDRANT, CLEAN OUT, FLOOR CLEAN OUT, FLOOR DRAIN, VENT THRU ROOF, ROOF DRAIN / OVERFLOW ROOF DRAIN, COMBO ROOF/OVERFLOW DRAIN, LAMB TONGUE, BACKFLOW PREVENTER, VALVE - BALL / SHUT-OFF.

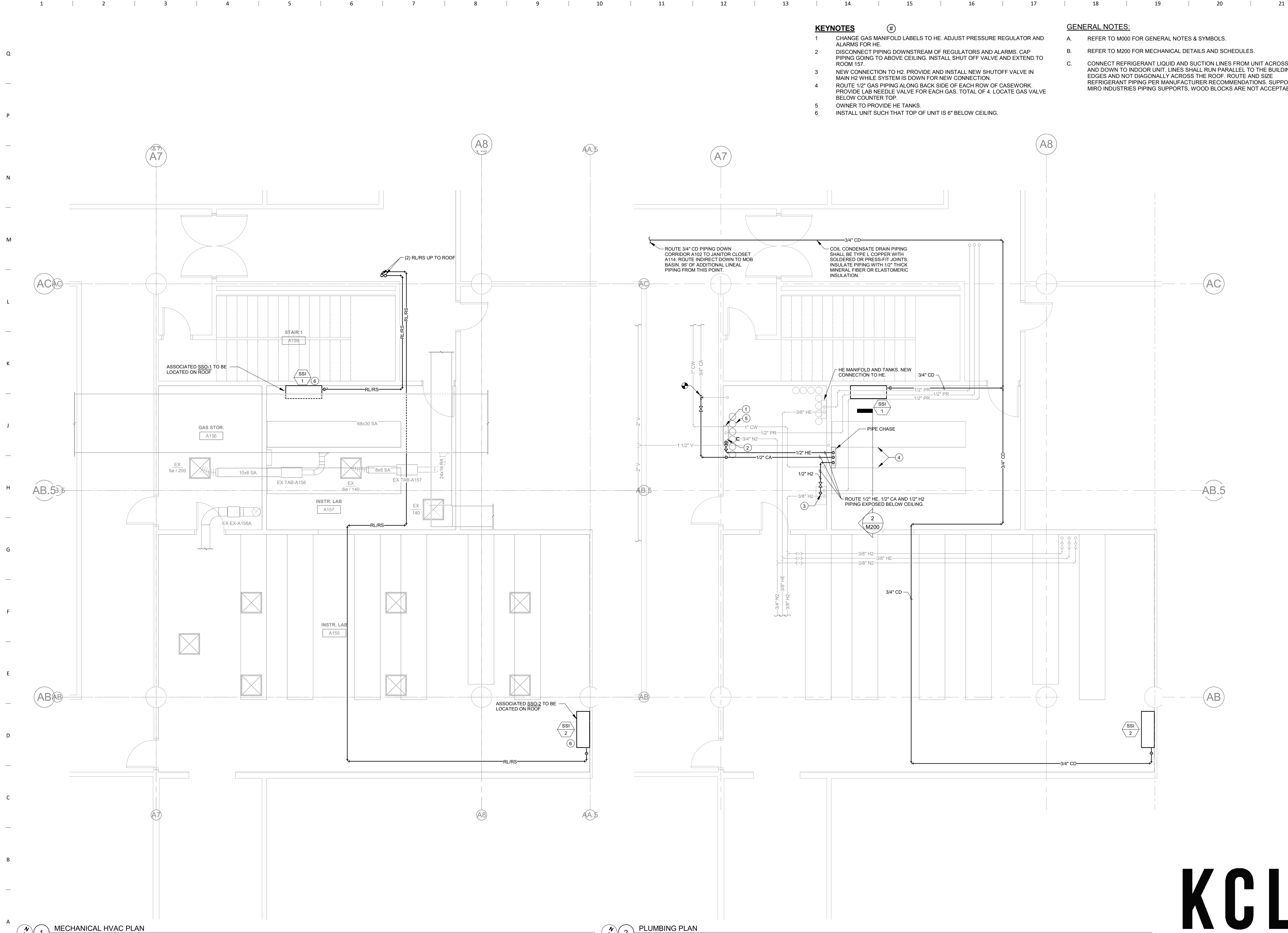
NOTE: ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT

GENERAL SYMBOLS

Table with 2 columns: Symbol and Description. Lists general symbols like EXISTING = HALFTONE LINEWORK, NEW = DARK LINEWORK, DEMO = DASHED DARK LINEWORK, BELOW GRADE = LONG DASHED DARK LINEWORK, NEW CONNECTION POINT, POINT OF DISCONNECT, KEYNOTE, EQUIPMENT IDENTIFICATION TAG, DETAIL DRAWING REFERENCE TAG, SECTION CUT REFERENCE TAG, INTERIOR ELEVATION DRAWING REFERENCE TAG.

H.V.A.C. / DUCTWORK SYMBOLS

Table with 2 columns: Symbol and Description. Lists HVAC and ductwork symbols like RECT. RND. OVAL, SUPPLY (SA), OUTSIDE (OA), VENTILATION (VA) AIR DUCT, RETURN (RA) AIR DUCT, EXHAUST (EA) AIR DUCT, RECTANGULAR DUCT, ROUND DUCT, FLAT OVAL DUCT, SUPPLY DIFFUSER, SUPPLY REGISTER OR GRILLE, LINEAR SLOT DIFFUSER, RETURN REGISTER OR GRILLE, EXHAUST REGISTER OR GRILLE, DUCT ACCESS DOOR, DUCT END CAP, TURNING VANES, VAV TERMINAL UNIT, FLEXIBLE DUCTWORK, ELEVATION CHANGE, HIGH EFF. TAKE OFF FITTING, BACKDRAFT DAMPER, OPPOSED BLADE DAMPER, PARALLEL BLADE DAMPER, VOLUME DAMPER, FIRE DAMPER, SMOKE DAMPER, FIRE/SMOKE DAMPER, MOTORIZED ACTUATOR, THERMOSTAT, CARBON MONOXIDE SENSOR, HUMIDISTAT, SIDE WALL DIFFUSER, ROUND DIFFUSER, EXTERIOR LOUVER, FIXTURE IDENTIFICATION TAG.



KEYNOTES

- 1 CHANGE GAS MANIFOLD LABELS TO HE. ADJUST PRESSURE REGULATOR AND ALARMS FOR HE.
- 2 DISCONNECT PIPING DOWNSTREAM OF REGULATORS AND ALARMS. CAP PIPING GOING TO ABOVE CEILING. INSTALL SHUT OFF VALVE AND EXTEND TO ROOM 157.
- 3 NEW CONNECTION TO H2. PROVIDE AND INSTALL NEW SHUTOFF VALVE IN MAIN H2 WHILE SYSTEM IS DOWN FOR NEW CONNECTION.
- 4 ROUTE 1/2" GAS PIPING ALONG BACK SIDE OF EACH ROW OF CASEWORK. PROVIDE LAB NEEDLE VALVE FOR EACH GAS. TOTAL OF 4. LOCATE GAS VALVE BELOW COUNTER TOP.
- 5 OWNER TO PROVIDE HE TANKS.
- 6 INSTALL UNIT SUCH THAT TOP OF UNIT IS 6" BELOW CEILING.

GENERAL NOTES:

- A. REFER TO M000 FOR GENERAL NOTES & SYMBOLS.
- B. REFER TO M200 FOR MECHANICAL DETAILS AND SCHEDULES.
- C. CONNECT REFRIGERANT LIQUID AND SUCTION LINES FROM UNIT ACROSS ROOF AND DOWN TO INDOOR UNIT. LINES SHALL RUN PARALLEL TO THE BUILDING EDGES AND NOT DIAGONALLY ACROSS THE ROOF. ROUTE AND SIZE REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS. SUPPORT WITH MIRO INDUSTRIES PIPING SUPPORTS, WOOD BLOCKS ARE NOT ACCEPTABLE.



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Key Plan

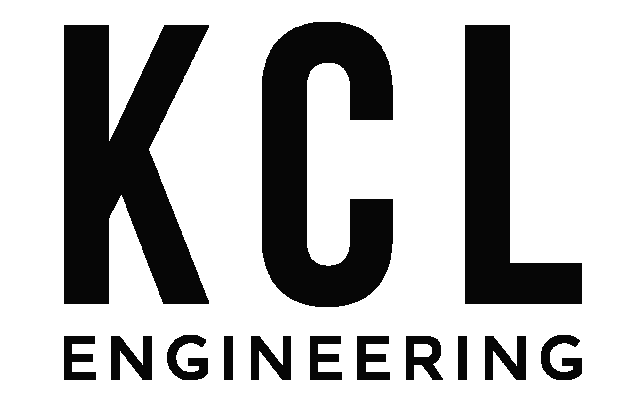
Revision Description Date

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26819000

Sheet Issue Date
100% CD SET 06/02/26

Sheet Name
MECHANICAL HVAC PLAN

Sheet Number



PRELIMINARY. NOT FOR CONSTRUCTION.

M101

1 MECHANICAL HVAC PLAN
1/4" = 1'-0"

2 PLUMBING PLAN
1/4" = 1'-0"

SPLIT SYSTEM INDOOR UNIT SCHEDULE

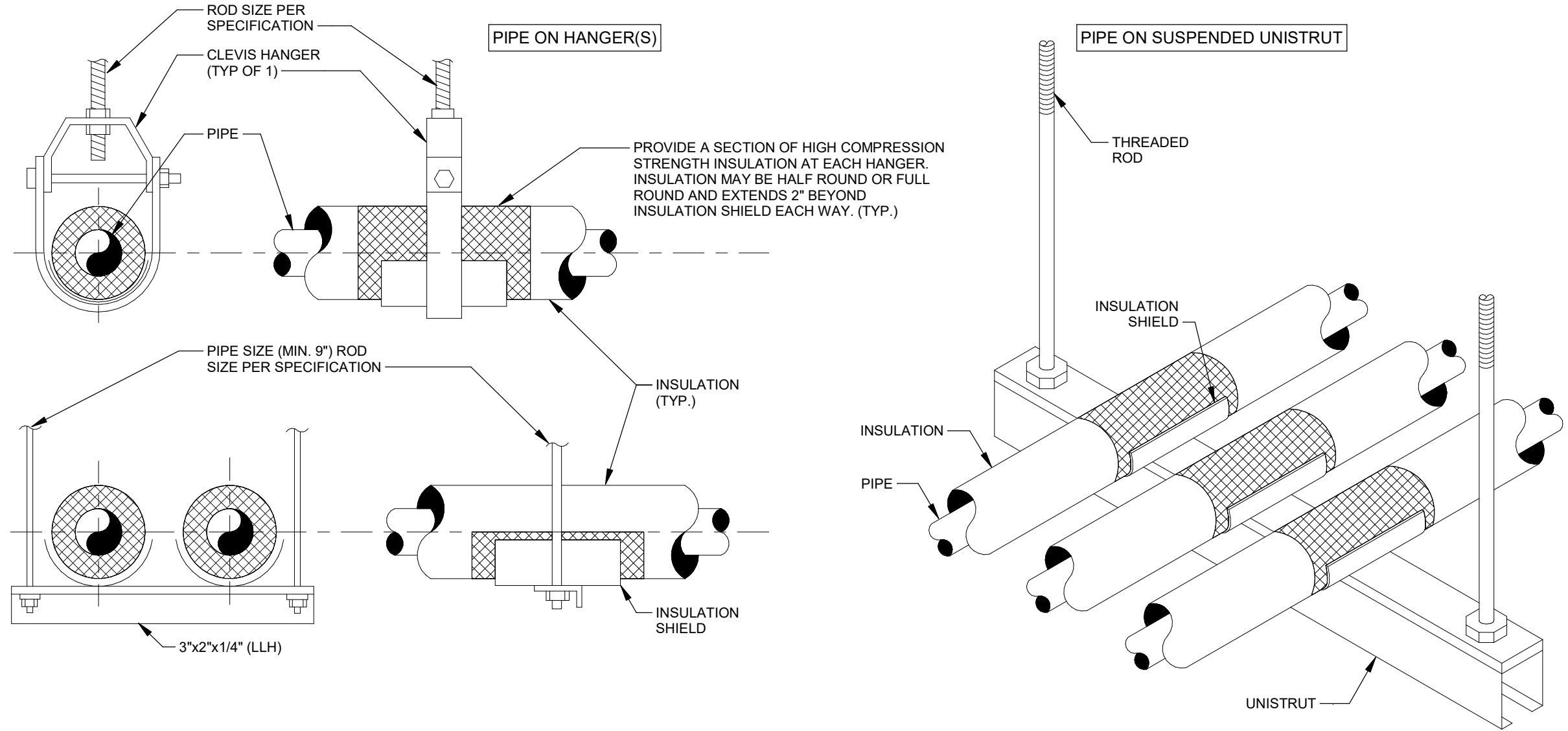
REFERENCE	SSI-1,2
MANUFACTURER	MITSUBISHI
MODEL #	PKA-AL36NL
TYPE	WALL MOUNT
WEIGHT (LBS)	46
DIMENSIONS - L x W x D (INCHES)	46 x 12 x 15
REFRIGERANT TYPE	R454B
NOMINAL CAPACITY (TONS)	3
MAX UNIT AIRFLOW (CFM)	920
COOLING CAPACITY - RATED (BTU/H)	36,000
HEATING CAPACITY - RATED (BTU/H)	N/A
ELECTRICAL DATA	
VOLTAGE - PH	208 - 1
MCA	1.00
MOCP	SEE SSO SCHEDULE
NOTES	1,2,3,4,5

- NOTES:
1. PROVIDE WITH REMOTE WALL MOUNTED THERMOSTAT. WIRING BY M.C.
 2. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT BY INTERCONNECTED WIRING PROVIDED WITH UNIT, WIRING INSTALLATION AND DISCONNECT BY E.C.
 3. PROVIDE FILTER WITH UNIT.
 4. UNIT IS COOLING ONLY.
 5. PROVIDE UNIT WITH CONDENSATE LIFT KIT.

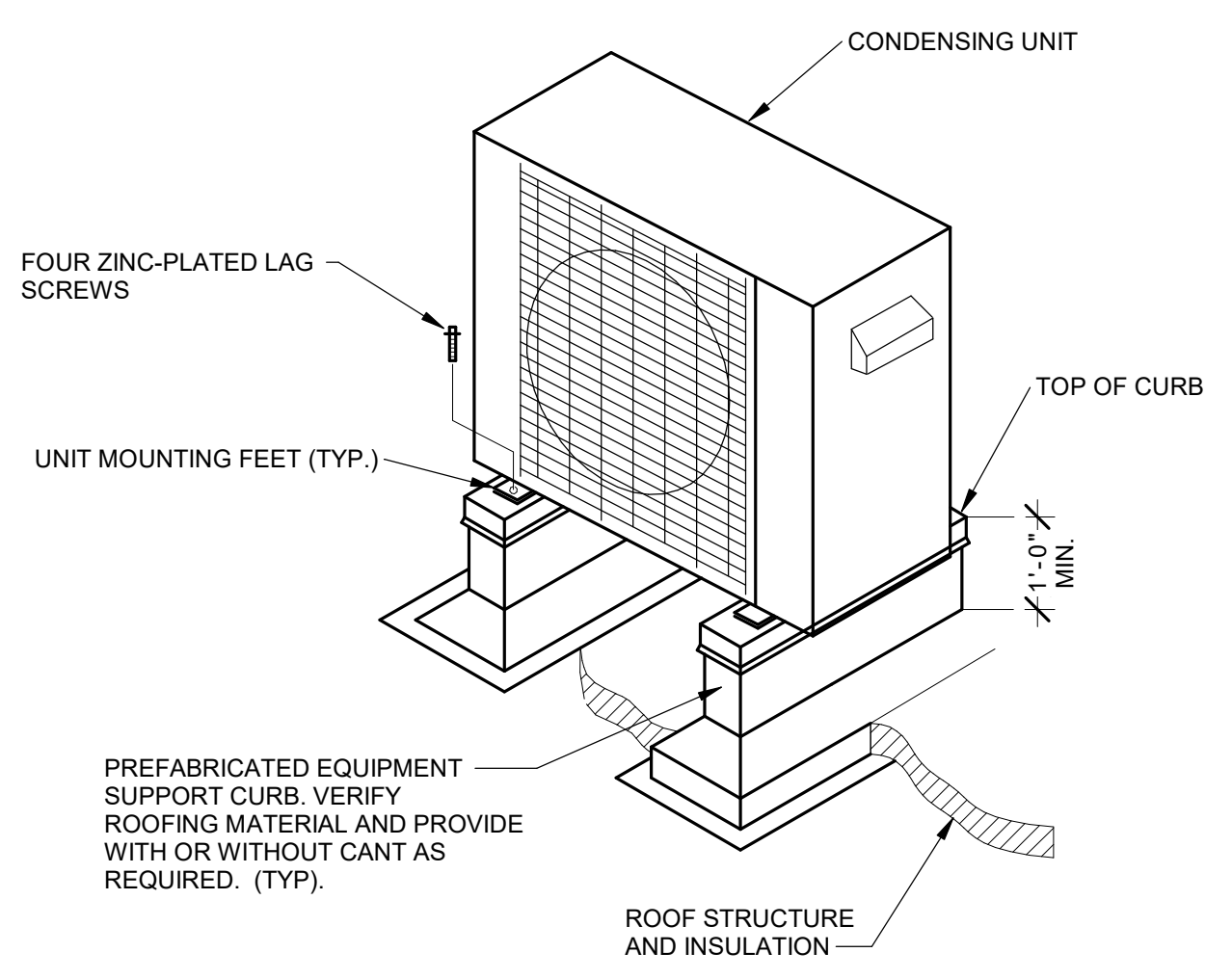
SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

REFERENCE	SSO-1,2
MANUFACTURER	MITSUBISHI
MODEL #	PUY-AK36NL
SERVES	SSI-1,2
WEIGHT (LBS)	225
DIMENSIONS W/ CURB & ACCESSORIES - L x W x H (INCHES)	42 x 12 x 53
REFRIGERANT TYPE	R454B
COMPRESSOR QUANTITY	1
NOMINAL CAPACITY (TONS)	3
COOLING CAPACITY - RATED (BTU/H)	36,000
HEATING CAPACITY - RATED (BTU/H)	N/A
ELECTRICAL DATA	
VOLTAGE - PH	208 - 1
MCA	34
MOCP	56
NOTES	1,2,3,4

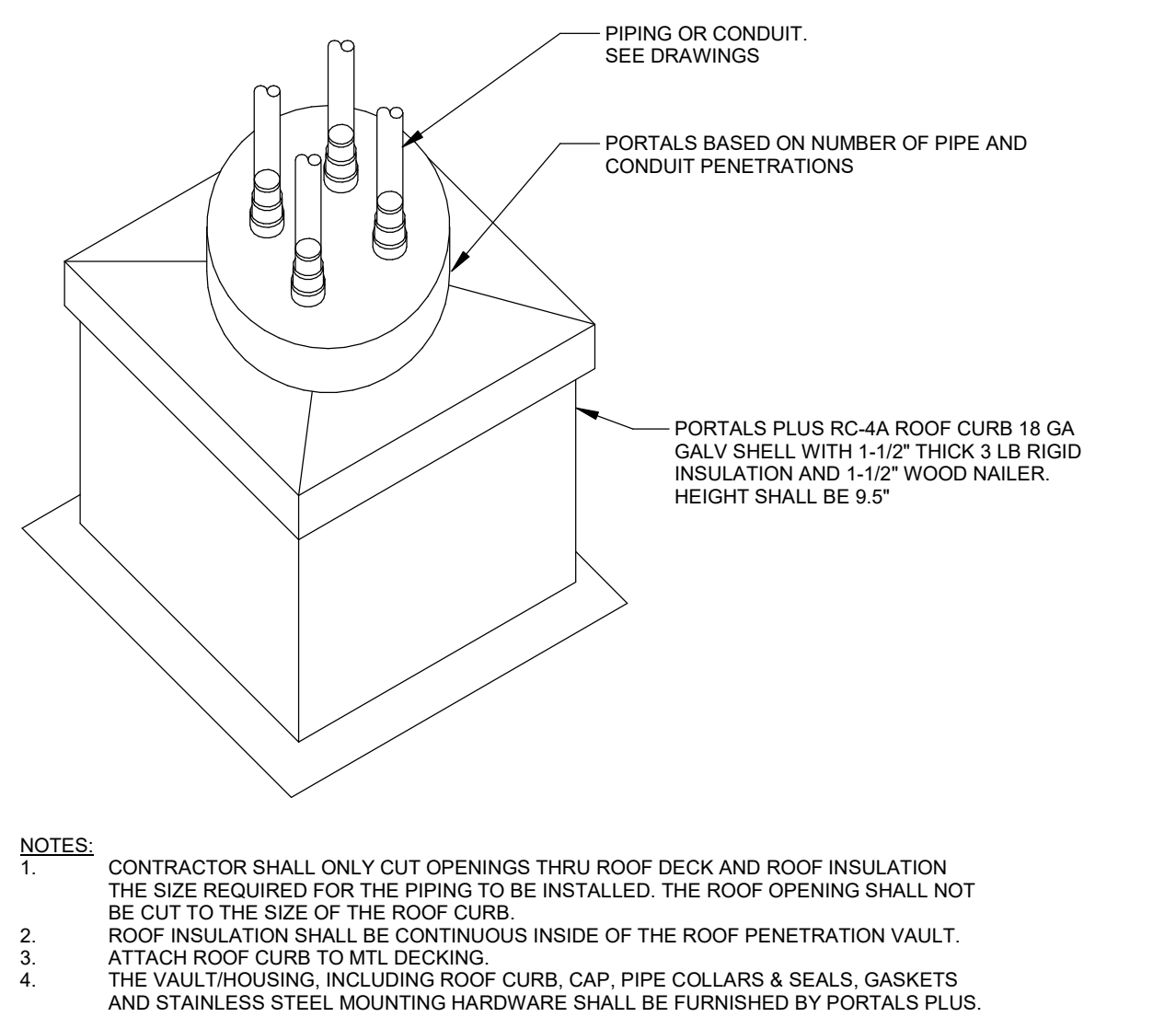
- NOTES:
1. DISCONNECT SHALL BE PROVIDED AND INSTALLED BY E.C.
 2. UNIT TO BE MOUNTED ON PREFABRICATED ROOF CURB PER MFR RECOMMENDATIONS; MINIMUM 24 INCHES ABOVE TOP OF ROOFING. INSTALL CURB PER ROOF MFR RECOMMENDATIONS.
 3. REFER TO SPLIT SYSTEM INDOOR UNIT SCHEDULE FOR CAPACITY RATING CONDITIONS.
 4. SYSTEM REQUIRES LOW AMBIENT AIR COOLING OPERATION (-20 °F), PROVIDE LOW AMBIENT WIND BAFFLES.



5 CLEVIS TYPE PIPE HANGER DETAIL
NTS



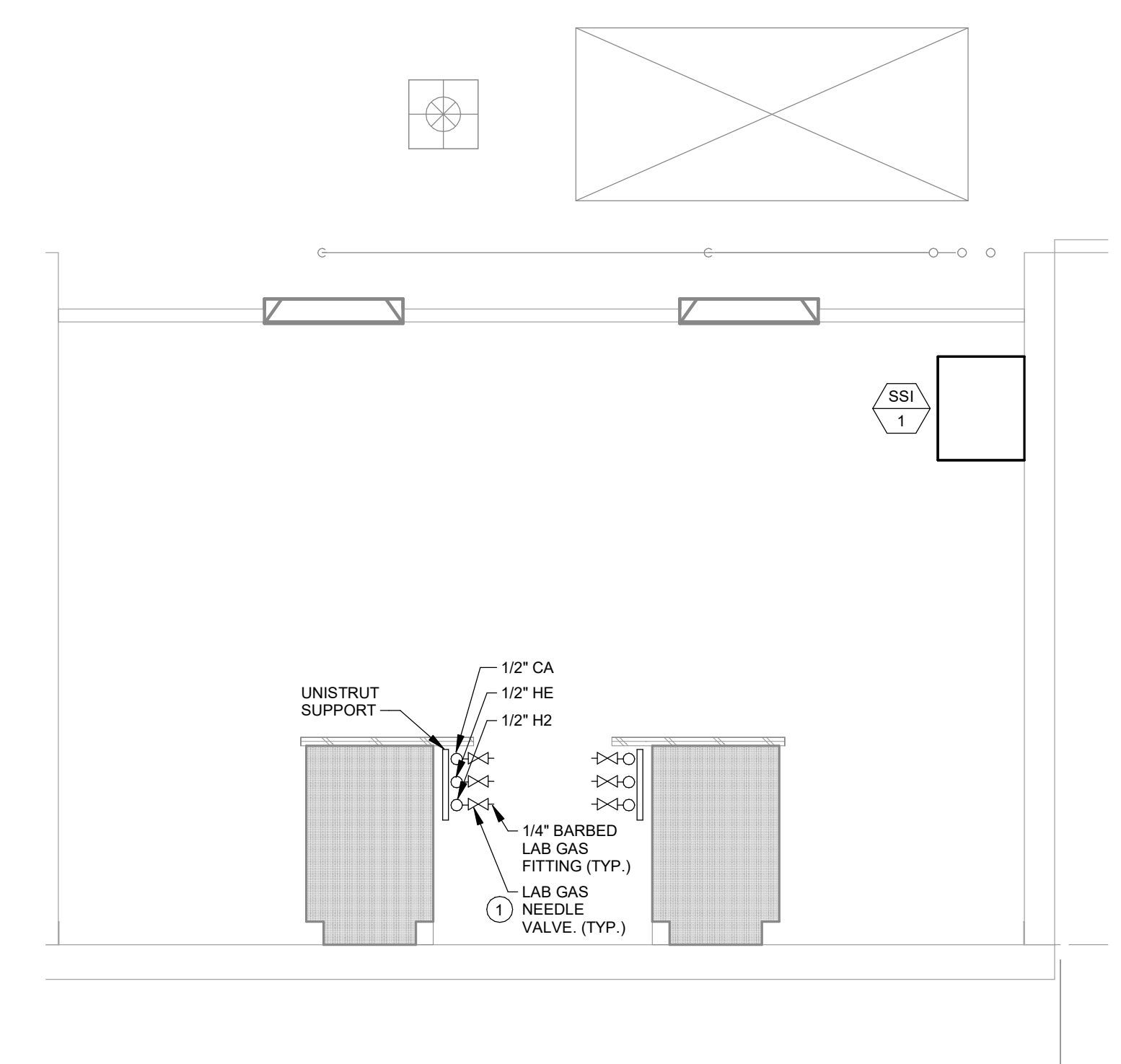
4 CONDENSER SUPPORT DETAIL
NTS



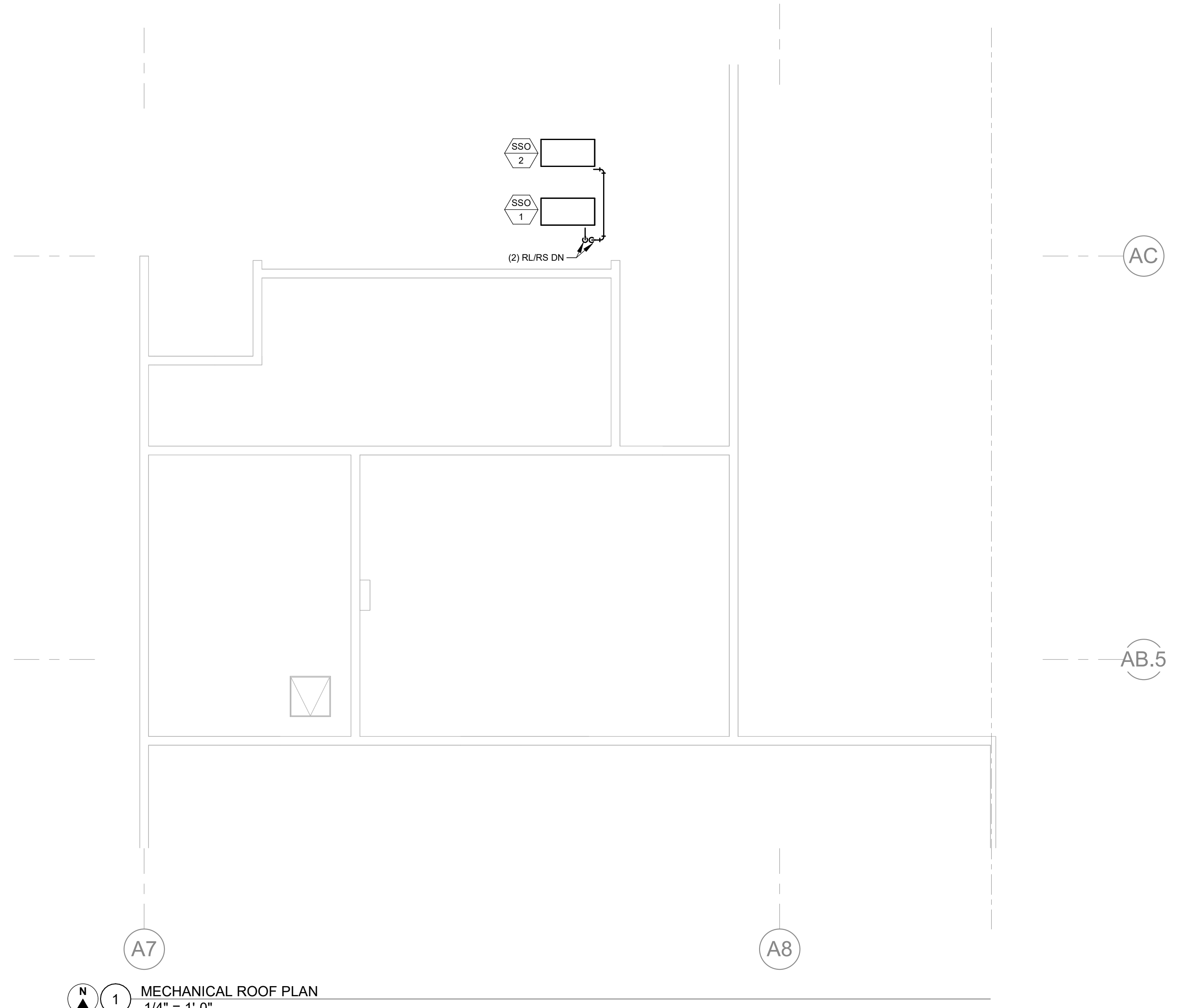
3 REFRIGERANT CURBS DETAIL
NTS

KEYNOTES

1 LAB GAS FINE CONTROL NEEDLE VALVE. THE VALVE BODY IS FORGED BRASS WITH A POLISHED CHROME PLATED FINISH. THE VALVE UNIT FEATURES A FLOATING TAPERED STAINLESS STEEL NEEDLE AND REPLACEABLE STAINLESS STEEL SEAT. THE VALVE GOES FROM CLOSED TO OPEN IN 8 REVOLUTIONS OF THE HANDLE. PROVIDING PRECISE FLOW REGULATION. THE FORGED BRASS FOUR-ARM HANDLE FEATURES A COLOR-CODED INDEX DISC (SPECIFY GAS BEING USED WHEN ORDERING). THE INLET AND OUTLET ARE BOTH 3/8\"/>



2 CASEWORK PIPING SECTION
1/2" = 1'-0"



MECHANICAL ROOF PLAN
1/4" = 1'-0"

Key Plan

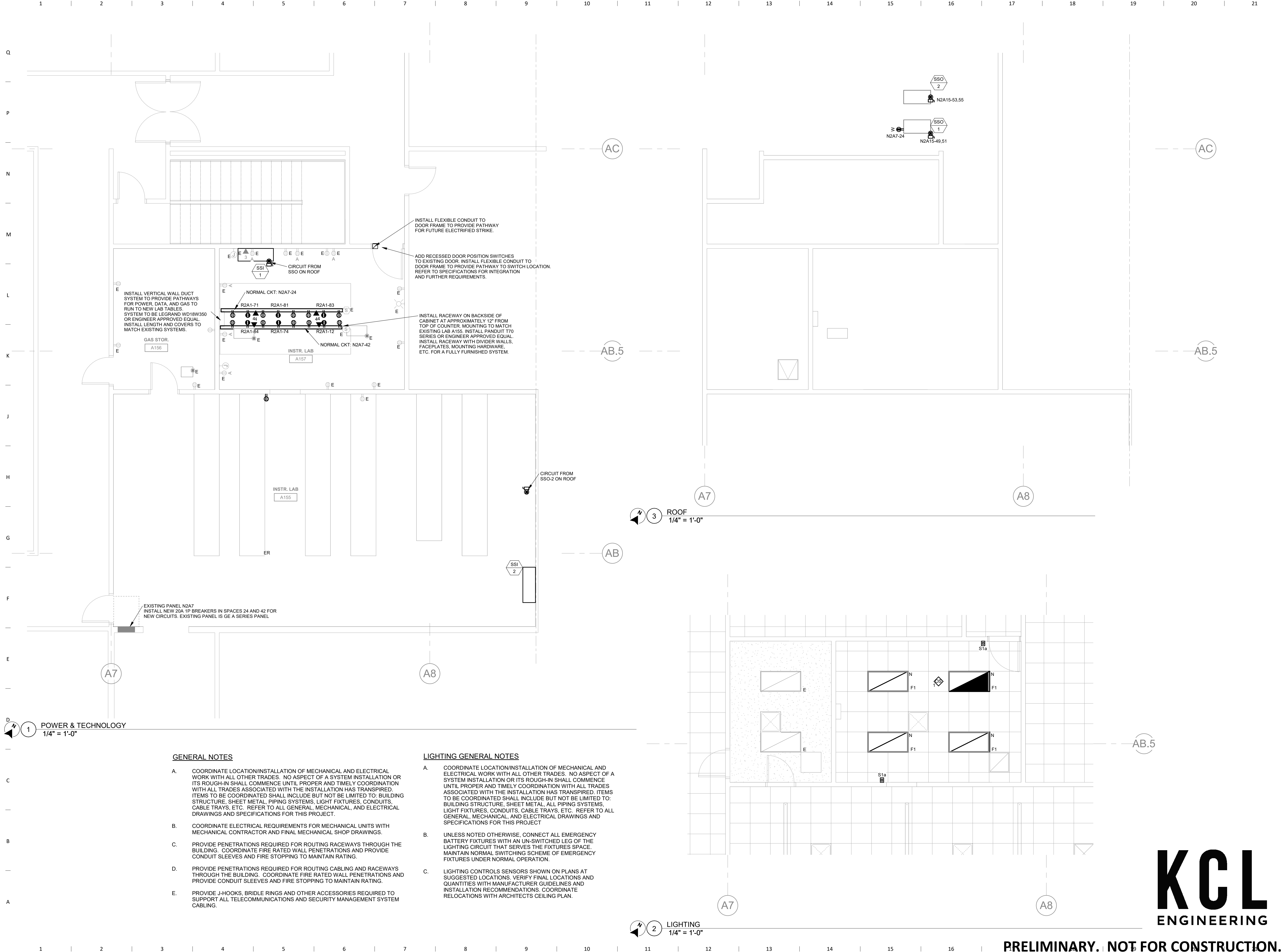
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Sheet Name
MECHANICAL ROOF PLAN, DETAILS AND SCHEDULES

Sheet Number
M200



1 POWER & TECHNOLOGY
1/4" = 1'-0"

- GENERAL NOTES**
- COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
 - COORDINATE ELECTRICAL REQUIREMENTS FOR MECHANICAL UNITS WITH MECHANICAL CONTRACTOR AND FINAL MECHANICAL SHOP DRAWINGS.
 - PROVIDE PENETRATIONS REQUIRED FOR ROUTING RACEWAYS THROUGH THE BUILDING. COORDINATE FIRE RATED WALL PENETRATIONS AND PROVIDE CONDUIT SLEEVES AND FIRE STOPPING TO MAINTAIN RATING.
 - PROVIDE PENETRATIONS REQUIRED FOR ROUTING CABLING AND RACEWAYS THROUGH THE BUILDING. COORDINATE FIRE RATED WALL PENETRATIONS AND PROVIDE CONDUIT SLEEVES AND FIRE STOPPING TO MAINTAIN RATING.
 - PROVIDE J-HOOKS, BRIDLE RINGS AND OTHER ACCESSORIES REQUIRED TO SUPPORT ALL TELECOMMUNICATIONS AND SECURITY MANAGEMENT SYSTEM CABLING.

- LIGHTING GENERAL NOTES**
- COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
 - UNLESS NOTED OTHERWISE, CONNECT ALL EMERGENCY BATTERY FIXTURES WITH AN UN-SWITCHED LEG OF THE LIGHTING CIRCUIT THAT SERVES THE FIXTURES SPACE. MAINTAIN NORMAL SWITCHING SCHEME OF EMERGENCY FIXTURES UNDER NORMAL OPERATION.
 - LIGHTING CONTROLS SENSORS SHOWN ON PLANS AT SUGGESTED LOCATIONS. VERIFY FINAL LOCATIONS AND QUANTITIES WITH MANUFACTURER GUIDELINES AND INSTALLATION RECOMMENDATIONS. COORDINATE RELOCATIONS WITH ARCHITECTS CEILING PLAN.

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

Key Plan

Revision	Description	Date

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EQUIPMENT CONNECTION SCHEDULE

ABBREVIATIONS:				NOTES:			
1 NEMA 1 ENCLOSURE	INT INTEGRAL WITH EQUIPMENT FROM FACTORY	1. PROVIDE AND INSTALL ELECTRICAL SYSTEMS MEETING THE REQUIREMENTS OF THE SPECIFIED MECHANICAL, FIRE PROTECTION, PLUMBING AND BUILDING SYSTEMS. REFERENCE THE ENTIRE PROJECT DOCUMENTS, MANUALS, SCHEDULES, DETAILS, AND NOTES					
3R NEMA 3R ENCLOSURE	MMS MANUAL MOTOR STARTER W/ THERMAL OVERLOAD	2. PROVIDE CONNECTIONS AND ACCESSORIES INCLUDING STARTERS, DISCONNECTS, CONTROL WIRING, ETC. AS REQUIRED FOR THE BUILDING EQUIPMENT. INFORMATION HEREIN AND ON THE DRAWINGS IS FOR GENERAL DESCRIPTION AND ESTIMATING PURPOSES ONLY. VERIFY VOLTAGE, AMPERAGE, PHASE, INRUSH, ETC. FOR EACH ITEM OF EQUIPMENT BEFORE PROCEEDING WITH INSTALLATION. INSTALL PER MANUFACTURERS INSTRUCTIONS.					
4 NEMA 4 ENCLOSURE	NFD NON-FUSED DISCONNECT SWITCH, HEAVY DUTY	3. REVIEW EQUIPMENT SHOP DRAWINGS FOR COMPLIANCE AND COORDINATION WITH ELECTRICAL CONNECTIONS. NOTIFY ENGINEER IF CHANGES TO ELECTRICAL CONNECTIONS, WIRING, AND BREAKER REQUIREMENTS ARE NECESSARY.					
4X NEMA 4X ENCLOSURE	PFS PLUG FUSE WITH INTEGRATED SWITCH	4. DO NOT RELEASE ELECTRICAL DISTRIBUTION EQUIPMENT UNTIL ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS HAVE BEEN SUBMITTED AND APPROVED. MAKE MINOR ADJUSTMENTS TO BREAKER SIZES, DISCONNECT SIZES, ETC PRIOR TO SUBMITTAL RELEASE.					
BO PROVIDED BY OTHERS	RF RETURN AIR DUCT DETECTOR	5. INSTALL DISCONNECTS TO ALLOW EQUIPMENT REMOVAL WITHOUT DISCONNECT REMOVAL AND TO MINIMIZE WIRE LENGTH.					
CB CIRCUIT BREAKER IN PANEL	RSR RUN STATUS RELAY , NORMALLY OPEN	6. PROVIDE HEAVY DUTY DISCONNECTS RATED FOR THE INSTALLED ENVIRONMENT; NEMA 1 INDOORS, MINIMUM NEMA 3R...					
CSD COMBINATION STARTER/DISCONNECT	SD SUPPLY AIR DUCT DETECTOR	7. VERIFY ALL EQUIPMENT LOCATIONS WITH THE ASSOCIATED SUB-CONTRACTOR.					
CP CORD AND PLUG PROVIDED WITH UNIT	SSP START/STOP PUSHBUTTON WITH PILOT	8. INCLUDE AUXILIARY CONTACTS AND LOW-VOLTAGE WIRING TO AUXILIARY EQUIPMENT THAT RUNS IN TANDEM WITH EQUIPMENT. (I.E. 120V DAMPERS WITH 480V MOTORS).					
ECB ENCLOSED CIRCUIT BREAKER	SS START/STOP PUSHBUTTON						
FAR FIRE ALARM SHUTDOWN RELAY	ST SHUNT TRIP						
FDS FUSED DISCONNECT SWITCH, HEAVY DUTY	TOR TIME DELAY OFF RELAY						
GF GROUND FAULT CIRCUIT INTERRUPTION	TS TOGGLE SWITCH						
HOA HAND-OFF-AUTO	VFD VARIABLE FREQUENCY DRIVE						

TAG	ELECTRICAL CHARACTERISTICS					DISCONNECT			CONTROLS		REMARKS	
	VOLTAGE	PHASE	MOTOR HP	KW	MCA	TYPE	SIZE (AMPS)	NEMA RATING	FUSE SIZE (AMPS)	STARTER		DESCRIPTION
SSI-1	208 V 1		-	-	1	PFS	20	1	-	-	-	POWERED FROM OUTDOOR UNIT
SSI-2	208 V 1		-	-	1	PFS	20	1	-	-	-	POWERED FROM OUTDOOR UNIT
SSO-1	208 V 1		-	-	34	NFD	60	3R	-	-	-	-
SSO-2	208 V 1		-	-	34	NFD	60	3R	-	-	-	-

LIGHTING FIXTURE SCHEDULE

- NOTES:**
- ALL FIXTURES SHALL BE U.L. OR SIMILARLY LISTED.
 - INCLUDE A MINIMUM 1 YEAR WARRANTY FOR LIGHTING FIXTURES, WHERE NOT OTHERWISE SPECIFIED.
 - REFER TO ARCHITECTURAL DOCUMENTS FOR EXACT MOUNTING LOCATIONS, DETAILS, AND CONFIGURATIONS OF ALL LUMINAIRES. IF ARCHITECTURAL DRAWINGS DO NOT CLARIFY EXACT MOUNTING LOCATION OR DETAIL, ISSUE AN RFI FOR ARCHITECT TO SPECIFICALLY CLARIFY PRIOR TO FIXTURE ROUGH-IN.
 - VERIFY COMPATIBILITY OF LIGHT FIXTURES WITH ARCHITECTURAL CEILING PLAN, MATERIALS, ADJACENT CONSTRUCTION, AND ADJACENT FINISHES PRIOR TO SHOP DRAWINGS SUBMITTAL. ADJUST FIXTURE TYPE, CONSTRUCTION, FLANGE....
 - CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE NECESSARY TO INSTALL AND SUPPORT THE LUMINAIRES.
 - AIM AND TARGET ADJUSTABLE INTERIOR AND EXTERIOR LIGHT FIXTURES UNDER THE OBSERVATION AND IN COMPLIANCE WITH RECOMMENDATIONS OF THE ARCHITECT. INCLUDE LABOR AND MATERIAL COSTS MADE NECESSARY BY THIS REQUIREMENT.
 - CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FILLING OUT ALL UTILITY REBATE FORMS FOR OWNER.

DESIGNED BY: EDH

TYPE	MANUFACTURER	MODEL	DESCRIPTION	FINISH	LUMENS	CRI	DRIVER TYPE	SOURCE-CCT	VOLTAGE	LOAD-VA	APPROVED EQUALS
F1	KENALL	CSEA31-22-F-90L-D IM1-DV	RECESSED 2X4 LAY-IN, SEALED, INDIRECT/DIRECT FIXTURE	WHITE	8000	80	0-10V DIMMING	LED	277 V	90 VA	AS APPROVED BY ENGINEER

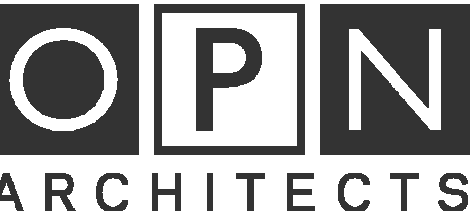
LIGHTING CONTROLS SCHEDULE

- NOTES:**
- PROVIDE LIGHTING CONTROLS AS A COMPLETE RSYM AND INCLUDE MATERIAL AND INSTALLATION FOR ALL POWER PACKS, ACCESSORIES, CONTROLLERS, AND WIRING REQUIRED FOR OPERATION.
 - ALL DEVICES SHALL BE U.L. OR SIMILARLY LISTED.
 - ALL DEVICES PROVIDED WITH MANUFACTURER LIMITED 5 YEAR WARRANTY.
 - PROVIDE LIGHTING CONTROLS WITH MANUFACTURER COMPLIANT POWER PACKS AND LOW VOLTAGE ROOM CONTROLLERS IN QUANTITY REQUIRED TO INSTALL A COMPLETE AND OPERATIONAL SYSTEM. MANUFACTURER OR MANUFACTURERS REP TO PROVIDE DEVICE QUANTITIES, LAYOUTS AND TYPICAL WIRING DETAILS DURING SHOP SUBMITTAL PROCESS. PROVIDE DIMMING COMPATIBLE DEVICES WHERE DIMMING CONTROLS ARE SHOWN. COORDINATE DIMMING TYPE WITH LIGHTING FIXTURES SHOWN. REFER TO LUMINAIRE SCHEDULE FOR FIXTURE DIMMING TYPE.
 - WHERE WIRELESS LIGHTING CONTROLS ARE PROVIDED, POWERPACKS SHALL BE PROVIDED AND INSTALLED WITHIN MANUFACTURER RECOMMENDED DISTANCES TO ENSURE CONTROLLER OPERATION.
 - INSTALL LOW VOLTAGE POWER PACKS AND ROOM CONTROLLERS ABOVE NEARBY ACCESSIBLE CEILING TILES OR IN MECHANICAL/STORAGE SPACES ADJACENT TO CONTROLLED FIXTURES. DO NOT INSTALL POWERPACKS EXPOSED IN COMMON SPACES OR IN INACCESSIBLE LOCATIONS.
 - PROVIDE FACTORY AUTHORIZED REPRESENTATIVE TO DEMONSTRATE TYPICAL INSTALLATION AND COMMISSIONING OF EQUIPMENT.
 - WHERE APPROVED EQUAL MANUFACTURER PRODUCTS SENSOR COVERAGE OR LOAD RATINGS DIFFER FROM BASIS OF DESIGN, CONTRACTOR AND MANUFACTURER ARE RESPONSIBLE FOR PROVIDING ADDITIONAL DEVICES AS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.
 - ETD'S AND ALL EMERGENCY LIGHTING CONTROLS COMPONENTS SHALL BE TESTED AND LISTED AS COMPATIBLE BY MANUFACTURER WITH NORMAL LIGHTING CONTROLS IN ALL AREAS.
 - UNLESS INDICATED OTHERWISE, LIGHTING CONTROL SCHEMES/OPERATION SHALL BE AS FOLLOWS:

CORRIDORS, VESTIBULES, COMMON SPACES:	SENSORS PROGRAMMED FOR OCCUPANCY MODE, AUTOMATIC ON/OFF OPERATION, 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM. DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.
ALL OTHER SPACES	SENSORS PROGRAMMED FOR VACANCY MODE, MANUAL ON/AUTOMATIC OFF OPERATION 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.

DESIGNED BY: EDH

TYPE	DESCRIPTION	ELECTRICAL	MOUNTING	SENSOR TYPE	COVERAGE	APPROVED MANUFACTURERS
S1a	SINGLE ZONE CONTROL LIGHT SWITCH. DIMMING LIGHTING CONTROL. LIGHTING CONTROLS NETWORK COMPATIBLE DEVICE. ROOM CONTROLLER COMPATIBLE. ENABLING MULTI-ZONE SWITCHING CONTROL AND MULTI-SOURCE DIMMING. PROVIDED WITH MANUFACTURER DECORATIVE WALLPLATE. DEVICE FINISH MATCHING WIRING DEVICES SPEC.	LOW VOLTAGE	WALL SWITCH / SINGLE GANG	N/A	N/A	HUBBELL, CRESTRON, ACUITY, WATTSTOPPER, AS APPROVED BY ENGINEER.
OS 1	CEILING MOUNTED OCCUPANCY/VACANCY SENSOR. WHITE FINISH. AUTOMATIC SELF-ADAPTIVE COVERAGE THRESHOLD AND FALSE ON/FALSE OFF CORRECTION. 8-30 MINUTE TIMER SETTINGS. INDOOR USE.	LOW VOLTAGE	CEILING / 8'-12" MH	DUAL-TECH	2000 SQ FT / 360 DEG	HUBBELL, CRESTRON, ACUITY, WATTSTOPPER, GREENGATE, AS APPROVED BY ENGINEER.



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Key Plan

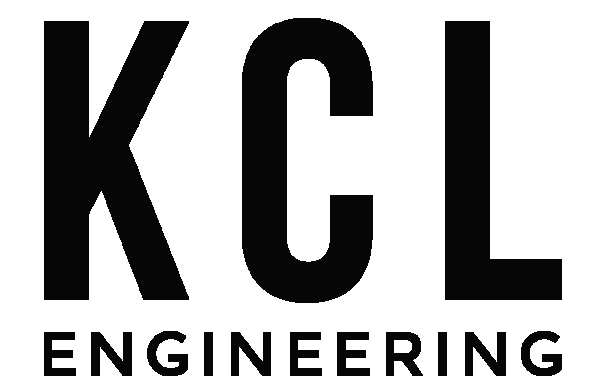
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