ROCKFORD PUBLIC SCHOOLS # 205

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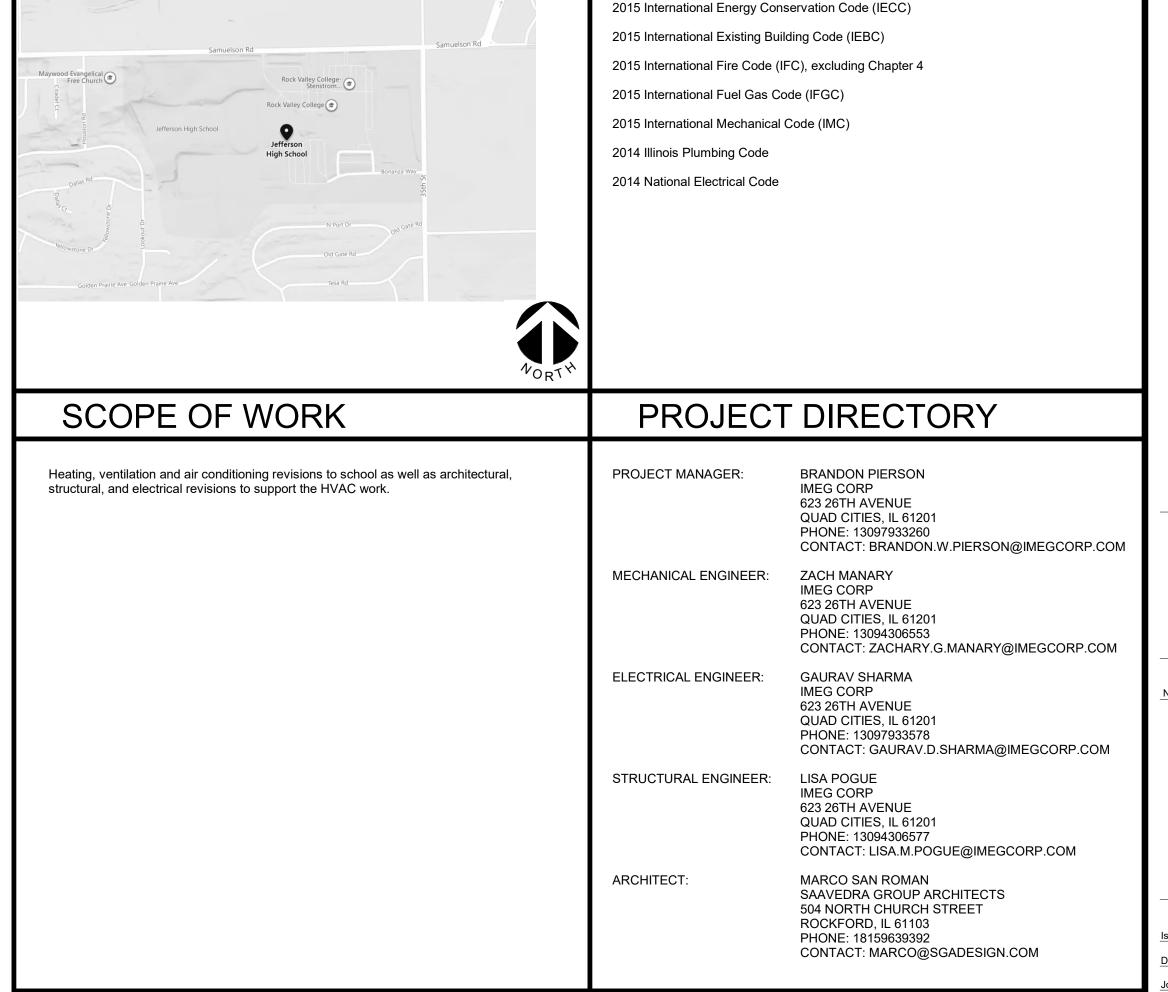
IFB# 23-16 PROJECT NUMBER: 2403

ESSER HVAC Improvements – Jefferson High School

Number	Name
C000	PROJECT COVERSHEET
G000	GENERAL INFORMATION, DOOR SCHEDULE, DOOR TYPE, FRAME TYPE, HEAD, SILL AND JAM DETAIL.
G001	FIRST FLOOR CODE PLAN
G002	ROOM FINISH SCHEDULE FIRST FLOOR
D101E	FIRST FLOOR DEMOLITION PLAN AREA E
A101E	FIRST FLOOR PLAN AREA E
A201E	FIRST REFLECTED CEILING FLOOR PLAN AREA E
A202E	ROOF PLAN AREA E

MECHANICAL / PLUMBING / ELECTRICAL Sheet List		
Number	Name	
M000	MECHANICAL COVERSHEET	
M101	LEVEL 01 DEMOLITION - MECHANICAL	
M102	ROOF DEMOLITION - MECHANICAL	
M201	LEVEL 01 - MECHANICAL	
M202	ROOF - MECHANICAL	
M400	MECHANICAL DETAILS	
M401	MECHANICAL DETAILS	
M500	MECHANICAL CONTROL DIAGRAMS	
M600	MECHANICAL SCHEDULES	
E000	ELECTRICAL COVERSHEET	
E101	LEVEL 01 DEMOLITION - ELECTRICAL	
E102	ROOF DEMOLITION - ELECTRICAL	
E201	LEVEL 01 - ELECTRICAL	
E202	ROOF - ELECTRICAL	





APPLICABLE CODES



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REVISIONS

No. Date** Revision / Issue**

REVISIONS

No. Date**

Revision / Issue

**Revision / Is

SHEET TITLE
PROJECT COVERSHEET

Construction Documents

November 03, 2022

21002885.11

Scale:

COOO

Architect: Saavedra Group Architects 04 North Church Street ockford, IL 61103	Structural Engineer: IMEG Corp. 623 26th Avenue Rock Island, IL 61201	M/P Engineer: IMEG Corp. 623 26th Avenue Rock Island, IL 61201	E Engineer: IMEG Corp. 623 26th Avenue Rock Island, IL 61201	
ICENSE EXP: mm/dd/yyyy	LICENSE EXP: mm/dd/yyyy	LICENSE EXP: mm/dd/yyyy	LICENSE EXP: mm/dd/yyyy	

C101.5, C102.1.1, C109.1, C109.3, C402.2.2, C402.5.1, C402.5.1.1 and C503.1

ncluding attached supporting documentation and calculations.

n accordance with Illinois Amendment to C101.5, US DOE COMcheck Energy Code Compliance Certificates have een submitted to the AHJ (Authority Having Jurisdiction) along with all associated supporting documentation. In

accordance with IECC Section 103.2. Insulation materials and R-values, Fenestration U-factors and SHGC's, area reighted U-factors and SHGC calculations, mechanical system design criteria, mechanical system and service hot vater system equipment types, sizes and efficiencies, economizer description, equipment and system controls, fan moto orsepower and controls, duct sealing, duct and pipe insulation and location, lighting and fixture schedules with wattage and control system, air sealing details and system commissioning requirements area detailed, described and pecified in the construction documents (Drawings and Project Manual) and the COMcheck Compliance Certificate

GENERAL DEMOLITION NOTES

- PERFORM DEMOLITION WORK AS NECESSARY TO ACCOMPLISH THE WORK INCLUDING THE REMOVAL AND PROPER DISPOSAL OF ITEMS WHICH ARE EXPOSED AND NOT TO REMAIN IN USE, INCLUDING BUT NOT NECESSARILY LIMITED TO ELECTRICAL ITEMS, ELECTRICAL DEVICES, MECHANICAL ITEMS, PLUMBING ITEMS, ETC.
 - DRAWINGS INDICATE THE GENERAL INTENT OF THE DEMOLITION WORK AND AR FOR REFERENCE PURPOSES ONLY. THEY ARE NOT INTENDED TO BE THE SOLE SOURCE OF EXISTING CONDITIONS TO BE DEMOLISHED.
- EXACT EXTENT OF DEMOLITION AS SHOWN ON DRAWINGS AND TO BE PERFORMED SHALL BE VERIFIED AT THE SITE. DETERMINE THE NATURE AND EXTENT OF DEMOLITION THAT WILL BE NECESSARY BY COMPARING THE DRAWINGS WITH EXISTING SITE CONDITIONS. OPERATIONS SHALL BE DONE IN A CAREFUL AND ORDERLY MANNER TO AVOID HAZARDS TO PERSONS AND PROPERTY, AND INTERFERENCE WITH THE USE OF ADJACENT AREAS, AND INTERRUPTION OF FREE PASSAGE TO AND FROM SUCH AREAS.
- CONTRACTOR TO PERFORM REQUIRED DEMOLITION AND TO LAWFULLY AND PROPERLY DISPOSE OF DEMOLISHED MATERIAL, OTHER OBSTACLES, DEBRIS, AND MATERIALS INCIDENTAL TO THE WORK FROM THE SITE.
- CONTRACTOR TO TAKE SPECIAL PRECAUTIONS TO ENSURE EXISTING CONSTRUCTION TO REMAIN IS NOT DAMAGED DURING DEMOLITION. IF ANY ITEM INDICATED TO BE REMOVED, STORED AND/OR REINSTALLED IS DAMAGED DURING THE DEMOLITIONS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE THE ITEM TO ITS PRE-DEMOLITION CONDITION. IF ANY ITEM SCHEDULED FOR DEMOLITION WAS DAMAGED PRIOR TO DEMOLITION, THE CONTRACTOR SHALL NOTIFY THE OWNER BEFORE PERFORMING THE DEMOLITION WORK.
- WHETHER OR NOT SPECIFICALLY INDICATED, THE CONTRACTOR SHALL RELOCATE EXISTING MECHANICAL, ELECTRICAL AND PLUMBING DEVICES AS REQUIRED INCLUDING BUT NOT LIMITED TO REROUTING CONDUITS, WIRING, PIPING, ETC. TO ACCOMMODATE THE WORK. PROVIDE NEW DEVICES INCLUDING BUT NOT LIMITED TO CONDUITS, WIRING, PIPING, ETC AS REQUIRED TO MAINTAIN CONTINUITY OF EXISTING SYSTEMS.

GENERAL NOTES

- CONTRACT.
- FIELD VERIFY AND COORDINATE ITEMS, DIMENSIONS, CONDITIONS, AND
- MAINTAIN REQUIRED EXITS FROM THE EXISTING BUILDING AND SITE ACCESS
- VERIFY WITH OWNER ITEMS TO BE SALVAGED AND RETURNED TO OWNER, INCLUDING BUT NOT NECESSARILY LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, ETC. ITEMS TO BE SALVAGED SHALL BE CAREFULLY REMOVED AS TO ALLOW FOR OWNER'S REUSE.
- REMOVE AND REINSTALL EXISTING CEILINGS, MECHANICAL, AND ELECTRICAL EQUIPMENT, DEVICES, LIGHTING, EXIT SIGNS, FIRE ALARM DEVICES, CONDUIT, WIRING, ETC. AS REQUIRED TO ACCOMPLISH REMOVAL AND INSTALLATION OF NEW WORK, UNLESS OTHERWISE NOTED, VERIFY THE OPERATING CONDITION OF EQUIPMENT PRIOR TO THE START OF THE WORK AND REPORT CONDITIONS TO THE ARCHITECT. EXISTING EQUIPMENT AFFECTED BY THE WORK WHICH IS NOT IN PROPER OPERATING CONDITION AFTER WORK IS COMPLETED SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- AT LOCATIONS WHERE NEW ELECTRICAL CONDUITS, MECHANICAL AND PLUMBING PIPING, ETC. PENETRATE THROUGH NEW OR EXISTING WALLS, AS REQUIRED.
- WHERE NEW PENETRATIONS ARE MADE IN EXISTING WALLS AND FLOORS AND WHERE DEMOLITION HAS OCCURRED, CONTRACTOR SHALL RECONSTRUCT WALL OR FLOOR TIGHT AROUND PENETRATION WITH MATERIALS TO MATCH EXISTING WALL OR FLOOR CONSTRUCTION.
- 0. PATCH AND REPAIR EXISTING CONSTRUCTION, EXISTING SURFACES, AND NEWLY EXPOSED CONSTRUCTION AFFECTED BY THE WORK WITH MATERIALS AND FINISHES CONSISTENT WITH EXISTING TO MATCH ADJACENT SURFACES AND FINISHES, WHETHER SHOWN OR NOT ON THE DRAWINGS, TYP. - UNLESS NOTED OTHERWISE. PROVIDE NECESSARY AND REQUIRED PREPARATORY WORK TO EXISTING CONSTRUCTION AFFECTED BY THE WORK TO RECEIVE NEW AND PROPER FINISHES.
- . RESTORE ITEMS/DAMAGED AREAS AT STAGING AREAS, ETC. TO ORIGINAL FULLY FUNCTIONAL CONDITION.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING AND ADJUSTING EXISTING ITEMS WHETHER SHOWN OR NOT, INCLUDING ELECTRICAL, WIRING, CONDUITS, MECHANICAL, PLUMBING, FLOOR DRAIN COVERS, ETC.
- 3. PATCH, REPAIR, AND PAINT EXISTING WALLS AND CEILINGS AS REQUIRED IN AREAS WHERE MECHANICAL SYSTEMS AND SUPPORTS, PLUMBING SYSTEMS AND SUPPORTS, AND EQUIPMENT AND SUPPORTS WERE REMOVED. PATCH, REPAIR, AND PAINT WALLS AND CEILINGS TO MATCH ADJACENT SURFACE.
- . PROPERLY PROTECT EXISTING BUILDING, CONCRETE WALKS, CURBS, PAVING, GRASS, LANDSCAPING, ETC. FROM DAMAGE DURING CONSTRUCTION. REPLACE ANY DISTURBED AND DAMAGED AREAS WITH NEW LIKE MATERIALS, SOD, LANDSCAPING, ETC, MATCHING EXISTING.
- 15. EXISTING ENTRANCES AND DRIVES MUST REMAIN OPEN AND PASSABLE.
- 6. MAINTAIN REQUIRED EXITS FROM THE EXISTING BUILDING THROUGH
- 17. COORDINATE STAGING AREA/LOCATIONS WITH OWNER.
- 18. CONTRACTOR TO AVOID EXISTING ROOF AREAS WHERE NO WORK IS REQUIRED. DO NOT STAGE MATERIALS ON EXISTING ROOFING AREAS. DAMAGE TO EXISTING ROOF AREAS CAUSED BY CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE AND PROVIDE A WATERTIGHT CONDITION THAT MATCHES ADJACENT ROOF SYSTEM. MAINTAIN
- 19. G.C. TO ENSURE THAT ANY FIRE RATED WALL SHALL MAINTAIN ITS FIRE RATING.



- EACH BIDDER SHALL VISIT THE SITE OF PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH CONDITIONS RELATING TO CONSTRUCTION AND LABOR SO THAT THEY MAY FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES, AND RESTRICTIONS AFFECTING THE COMPLETION OF WORK INCLUDED UNDER THE
- QUANTITIES, ETC. NOTIFY ARCHITECT OF ANY APPARENT DISCREPANCIES.
- THROUGH SUBSTANTIAL COMPLETION.
- ITEMS NOTED AS EXISTING ARE TO REMAIN, UNLESS OTHERWISE NOTED.
- EXISTING LOOSE ITEMS INCLUDING FURNITURE, EQUIPMENT, AND SUPPLIES SHALL BE REMOVED BY OWNER AS NECESSARY. COORDINATE MOVING SCHEDULE WITH OWNER FOR LOOSE ITEMS TO BE REMOVED BY OWNER PRIOR TO START OF THE WORK.
- INSTALL UL RATED THROUGH-PENETRATION FIRE STOPPING SYSTEM AROUND CONDUITS AND PIPING, ETC. TO PROVIDE A COMPLETE FIRE RATED SEPARATION

- SUBSTANTIAL COMPLETION.
- EXITING WARRANTIES.



ESSER HVAC Jefferson High

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KEY PLAN

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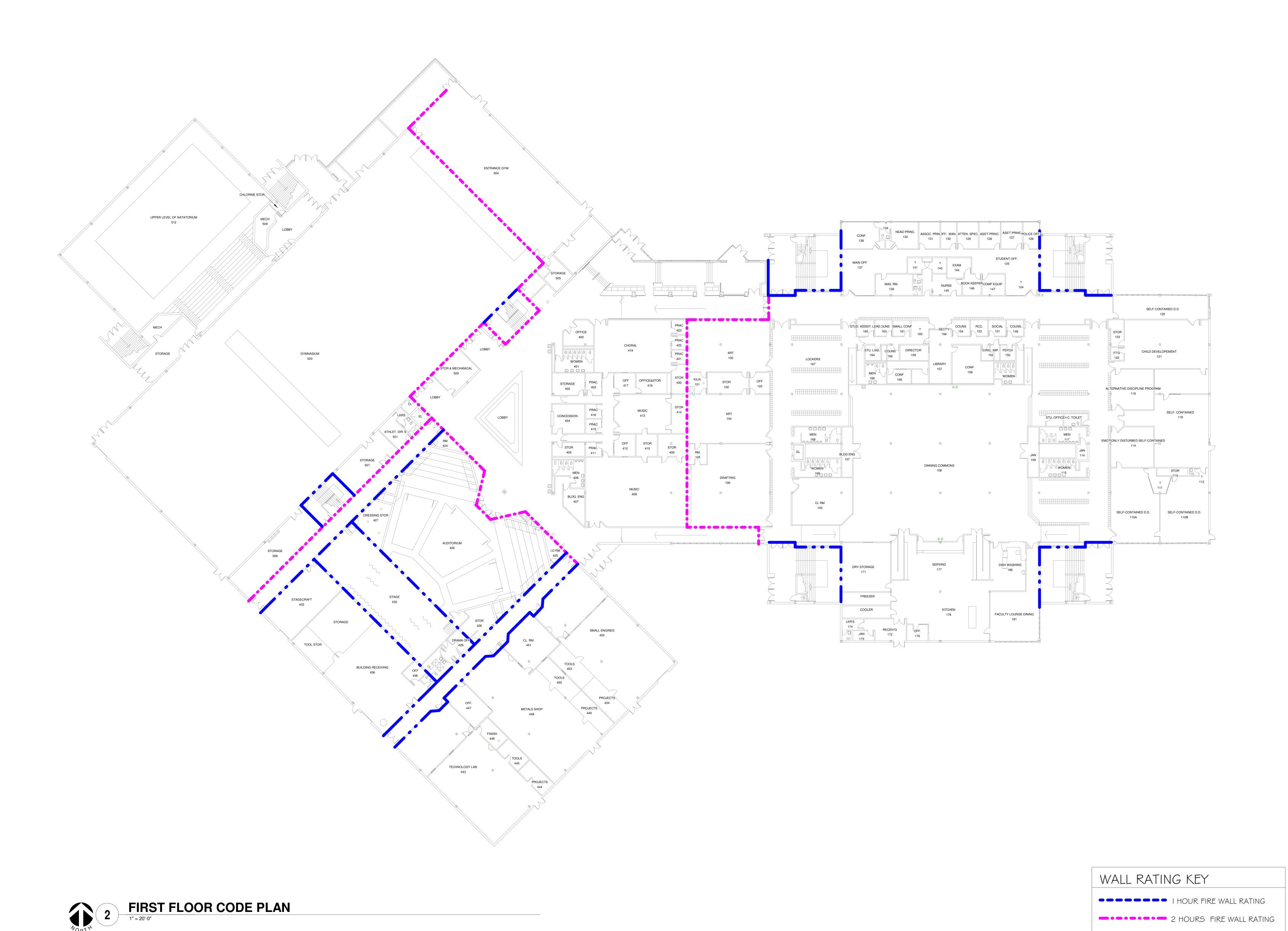
Revision / Issue

CONSTRUCTION DOCUMENTS **NOVEMBER 3, 2022** 22006.10

> **GENERAL** INFORMATION, SCHEDULE, DOOR TYPE, FRAME TYPE. HEAD, SILL **AND JAM** DETAIL.

Checked

As indicated



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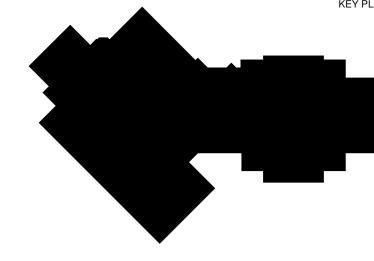
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> REVISIONS Revision / Issue

NOVEMBER 3, 2022

FIRST FLOOR CODE PLAN

2 HOURS FIRE WALL RATING

SMOKE COMPARTMENT

G001

JEFFERSON HIGH SCHOOL **ROOM FINISH SCHEDULE FLOOR** BASE KEYNOTE CEILING WALLS **CEILING HT** FIRST FLOOR ROOM FINISH SCHEDULE 443 TECHNOLOGY LAB 443A CL RM. 2, 3 447 OFFICE 448 METAL SHOPS 450 TOOLS 2, 3 451 CL RM. 452A CL RM. 452 SMALL ENGINES 453 TOOLS 454 PROJECTS

ROOM FINISH SCHEDULE GENERAL NOTES:

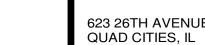
- A. DO NOT PAINT SUSPENDED ACOUSTICAL CEILING SYSTEM.
- B. PAINT ALL NEW EXPOSED DUCTWORK, CONDUIT, JUNCTION BOXES, ETC.INCLUDING ALL HANGERS, TRIM AND ASSOCIATED COMPONENTS WHETHER INDICATED OR NOT IN THE ROOM FINISH SCHEDULE.
- C. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS.
- D. PATCH TO MATCH EXISTING WALLS WHETHER INDICATED OR NOT TO ACCOMMODATE THE NEW WORK.
- E. PROVIDE GYPSUM BOARD CONTROL JOINTS ON HORIZONTAL AND VERTICAL SURFACES AT LOCATIONSINDICATED ON THE

ROOM FINISH SCHEDULE KEYNOTES:

- 1. PROVIDE CERAMIC TILE FLOORING TO MATCH EXISTING ADJACENT FLOORING AS REQUIRED TO COMPLETE THE WORK.
- 2. PAINT NEW MASONRY WALL.
- 3. PAINT MASONRY INFILL WALL TO MATCH EXISTING ADJACENT
- 4. PAINT FIRST COURSE TO MATCH EXISTING FIRST COURSE PAINTED CMU.

GENERAL PAINTING NOTES:

- 1. PROVIDE NEW PAINT FINISH AT EXISTING AREAS AFFECTED BY THE WORK, AS INDICATED IN THE ROOM FINISH SCHEDULE, AND AS NOTED ON THE DRAWINGS.
- 2. FIELD VERIFY ITEMS, CONDITIONS, QUANTITIES, ETC.
- 3. PROVIDE PREPARATION AS NECESSARY PRIOR TO PAINTING WORK INCLUDING BUT NOT LIMITED TO PATCHING HOLES AND OTHER AREAS OF DAMAGE, SECURING LOOSE TRIM, CONDUITS AND ANY OTHER WALL OR CEILING HARDWARE ITEMS REQUIRING ATTENTION.
- 4. PROPERLY PROTECT EXISTING ITEMS DURING CLEANING AND PAINTING INCLUDING BUT NOT LIMITED.
- 5. PRIOR TO PAINTING WORK, PROVIDE TRI-SODIUM PHOSPHATE (TSP) CLEANING OF EXISTING SURFACES TO RECEIVE PAINT USING APPROVED METHODS OF CLEANING PER CHEMICAL MANUFACTURER'S REQUIREMENTS. PROTECT EXISTING ITEMS DURING CLEANING AND PAINTING.
- 6. PAINT NEWLY EXPOSED WALL SURFACES PREVIOUSLY CONCEALED BY THE EXISTING CONDITIONS.PAINT THE ENTIRE WALL THAT WILL REMAIN VISIBLE.
- 7. DO NOT PAINT ELECTRICAL FIXTURES, HOUSINGS, ELECTRICAL WALL DEVICES, SAFETY DEVICES, FIRE ALARM EQUIPMENT INCLUDING PULLS, HORNS, VISUAL DEVICES, SMOKE AND HEAT DETECTORS, ETC. PAINT EXPOSED ELECTRICAL CONDUIT AND ELECTRICAL BOXES.
- 8. PAINT NEW ITEMS AS INDICATED.
- 9. PAINT NEW EXPOSED INTERIOR CONDUIT, JUNCTION BOXES, ETC. INCLUDING HANGERS. TRIM. AND ASSOCIATED COMPONENTS WITHIN FINISHED EXPOSED SPACES WHETHER INDICATED OR NOT IN ROOM FINISH SCHEDULE.
- 10. AT NEW MASONRY INFILL, PAINT ENTIRE WALL THAT WILL REMAIN VISIBLE.



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> **ROOM FINISH SCHEDULE** FIRST FLOOR

DS/MS

GENERAL DEMOLITION NOTES

- PERFORM DEMOLITION WORK AS NECESSARY TO ACCOMPLISH THE WORK INCLUDING THE REMOVAL AND PROPER DISPOSAL OF ITEMS WHICH ARE EXPOSED AND NOT TO REMAIN IN USE, INCLUDING BUT NOT NECESSARILY LIMITED TO ELECTRICAL ITEMS, ELECTRICAL DEVICES, MECHANICAL ITEMS, PLUMBING ITEMS, ETC.
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- CONTRACTOR TO PERFORM REQUIRED DEMOLITION AND TO LAWFULLY AND PROPERLY DISPOSE OF DEMOLISHED MATERIAL, OTHER OBSTACLES, DEBRIS, AND MATERIALS INCIDENTAL TO THE WORK FROM THE SITE.
- CONTRACTOR TO TAKE SPECIAL PRECAUTIONS TO ENSURE EXISTING CONSTRUCTION TO REMAIN IS NOT DAMAGED DURING DEMOLITION. IF ANY ITEM INDICATED TO BE REMOVED, STORED AND/OR REINSTALLED IS DAMAGED DURING THE DEMOLITIONS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE THE ITEM TO ITS PRE-DEMOLITION CONDITION. IF ANY ITEM SCHEDULED FOR DEMOLITION WAS DAMAGED PRIOR TO DEMOLITION, THE CONTRACTOR SHALL NOTIFY THE OWNER BEFORE PERFORMING THE DEMOLITION WORK.
- WHETHER OR NOT SPECIFICALLY INDICATED, THE CONTRACTOR SHALL RELOCATE EXISTING MECHANICAL, ELECTRICAL AND PLUMBING DEVICES AS REQUIRED INCLUDING BUT NOT LIMITED TO REROUTING CONDUITS, WIRING, PIPING, ETC. TO ACCOMMODATE THE WORK. PROVIDE NEW DEVICES INCLUDING BUT NOT LIMITED TO CONDUITS, WIRING, PIPING, ETC AS REQUIRED TO MAINTAIN CONTINUITY OF EXISTING SYSTEMS.

DEMOLITION KEY NOTES

- CORE/REMOVE MASONRY AS NECESSARY TO ROUTE NEW DUCTWORK OR D1 PIPING. REMOVE FULL CMU OR BRICK. REFER TO MECHANICAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- CAREFULLY REMOVE EXISTING ACT CEILING SYSTEM AND SALVAGE FOR



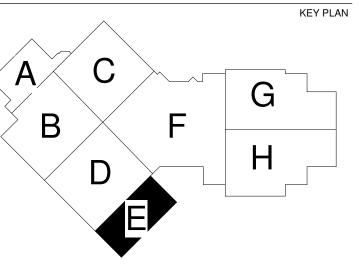
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FIRST FLOOR **DEMOLITION PLAN AREA E**

D101E

GENERAL COORDINATION NOTE | DEMO LEGEND

GENERAL CONTRACTOR TO COORDINATE DEMOLITION WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO COMMENCEMENT OF WORK

[DEMOLITION WORK

FIRST FLOOR DEMOLITION PLAN AREA E

1/8" = 1'-0"

PROJECTS

GENERAL NOTES

. FOR THE REMOVAL OF MECHANICAL DUCTWORK AND PIPING, REFER TO MECHANICAL DRAWINGS.

GENERAL CONTRACTOR TO REMOVE EXISTING EXIT SIGNS, SURFACE MOUNTED CLOCKS, SECURITY CAMERAS, WALL MOUNTED EMERGENCY LIGHT PACK, WALL MOUNTED SPEAKERS, WALL MOUNTED ALARM BELL AND SALVAGE FOR REINSTALLATION AS REQUIRED TO ACCOMMODATE THE NEW WORK.

THE EXTENT OF WALL AND FLOOR DEMOLITION IS SHOWN WHERE ANTICIPATED TO APPROXIMATE THE SCOPE OF WORK. THE INTENT IS TO ACCOMMODATE ALL MECHANICAL PIPING, DUCTWOR AND EQUIPMENT INSTALLATION. FINAL COORDINATION IS REQUIRED BETWEEN GENERAL CONTRACTOR AND MECHANICAL CONTRACTOR TO CONFIRM ALL PENETRATION SIZES AND LOCATIONS. INCLUDE ALL WORK AS SHOWN ON DRAWINGS AND AS REQUIRED BY THE MECHANICAL CONTRACTOR FOR THEIR INSTALLATION.

NEW WORK KEYNOTES

WHERE NEW DUCTWORK OR PIPING HAS BEEN ROUTED THROUGH AN EXISTING MASONRY WALL - INFILL HOLE TIGHT TO NEW DUCTWORK / PIPE WITH FULL MASONRY - MATCH THICKNESS AND COURSING PROVIDE FIRE CAULK ARROUND PENETRATION. WHERE INFILL IS EXPOSED AND VISIBLE, PAINT TO MATCH EXISTING.

WHERE NEW DUCTWORK OR PIPING HAS BEEN ROUTED - INFILL HOLE TIGHT TO NEW DUCTWORK / PIPE MATCH TO EXISTING

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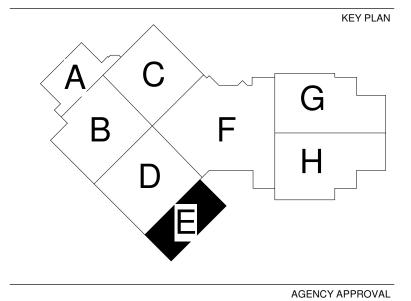
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CONSTRUCTION DOCUMENTS **NOVEMBER 3, 2022**

FIRST FLOOR PLAN AREA E

A101E

443A

TECHNOLOGY LAB.

ANY DAMAGE TO THE EXISTING ACOUSTIC CEILING TILES SYSTEM AND GRID SHALL BE REPLACE OR REPAIR AT NO COST TO THE OWNER. GENERAL CONTRACTOR TO VERIFY OWNER OF ANY DAMAGE CEILINGS PRIOR TO THE COMMENCEMENT OF DEMOLITION.

REFLECTED CEILING PLAN KEY NOTES

REINSTALL SALVAGED ACT CEILING SYSTEM

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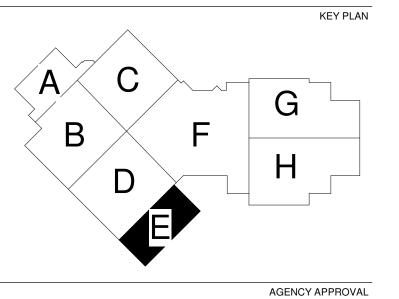
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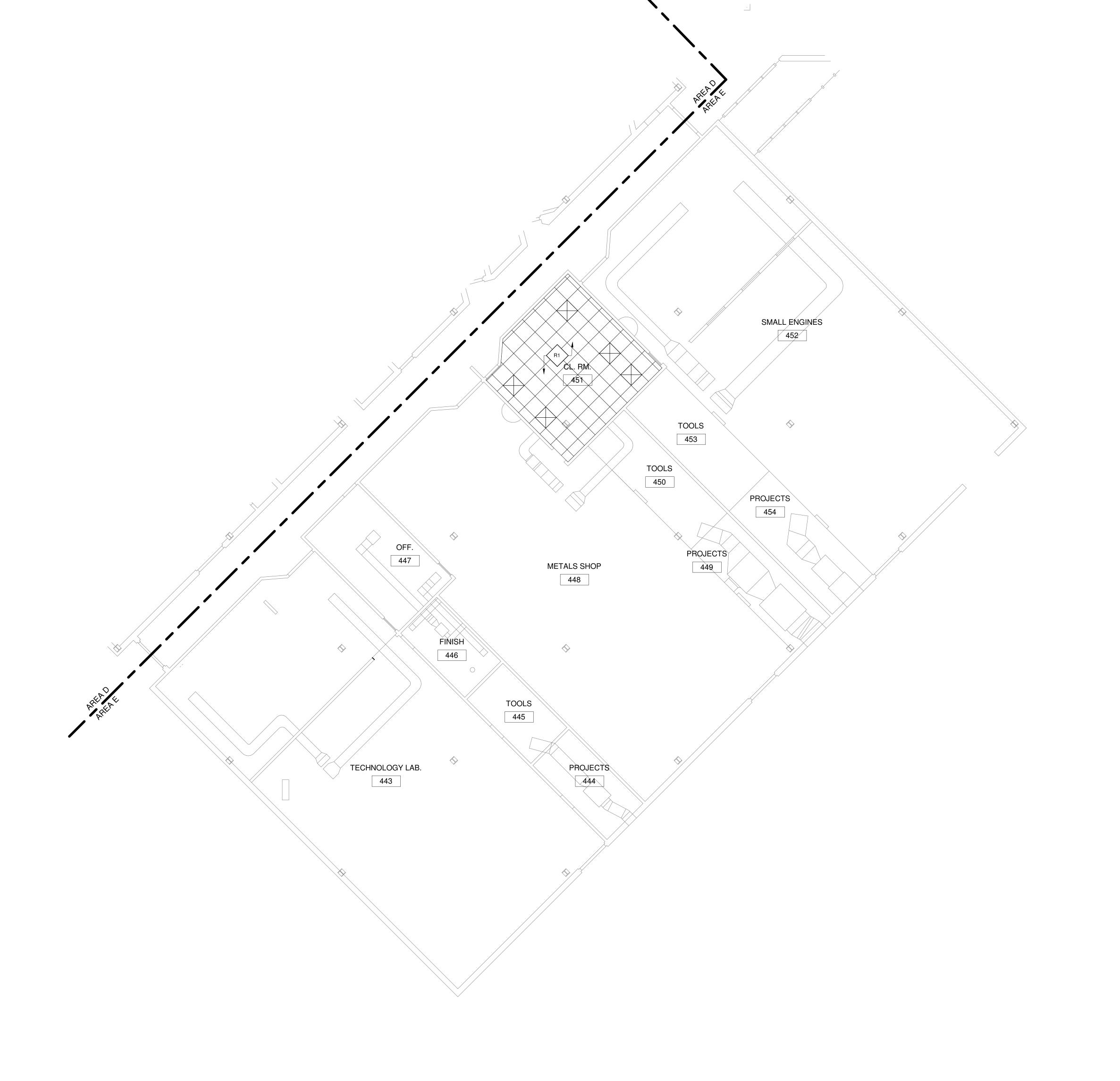
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SHEET TITLE
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FLOOR PLAN
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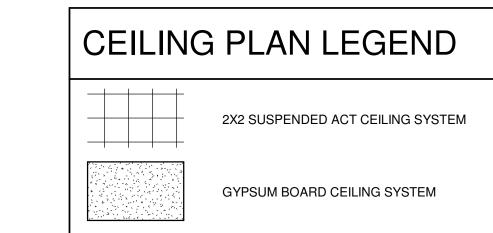
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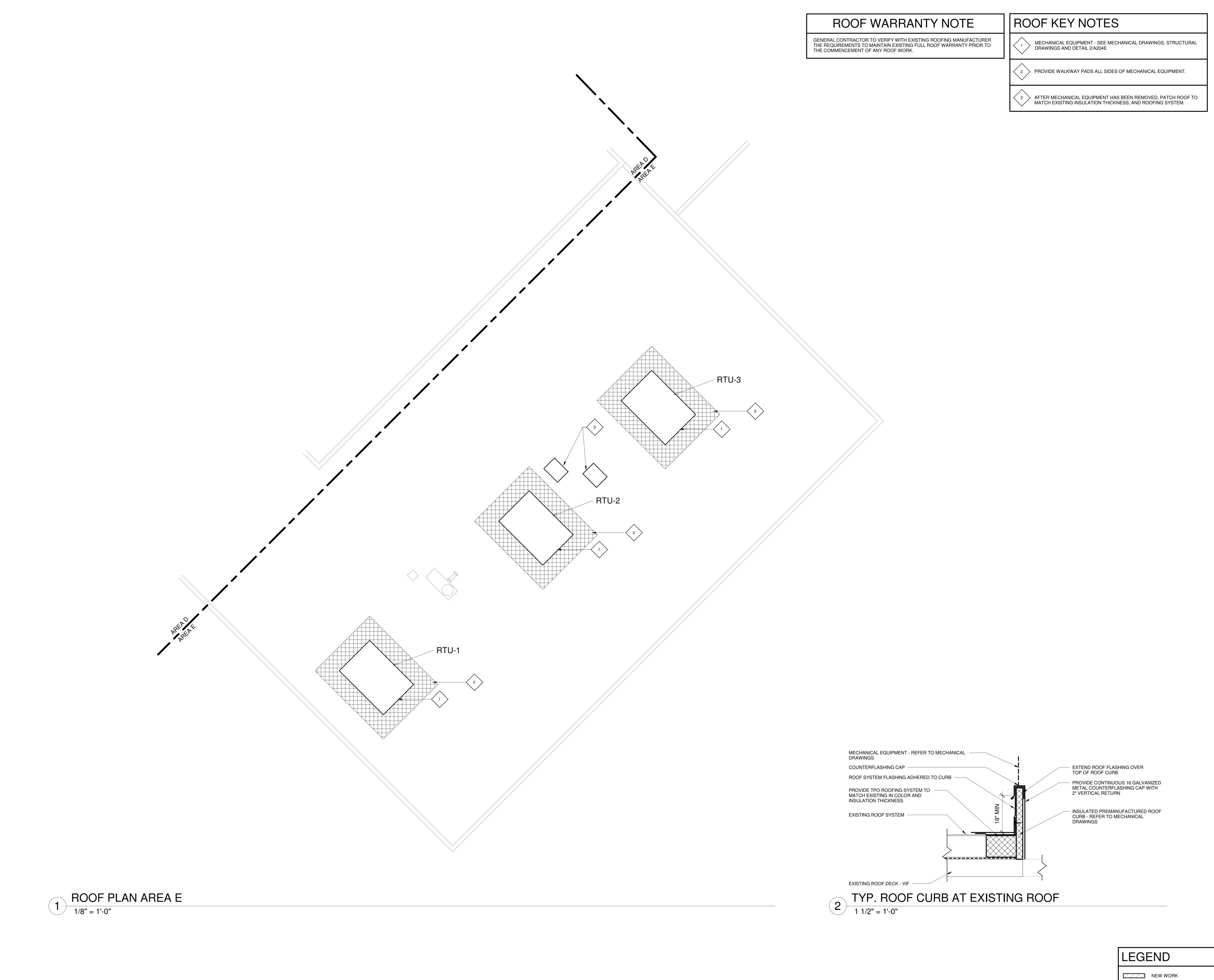
A201E



FIRST REFLECTED CEILING PLAN AREA E

1/8" = 1'-0"





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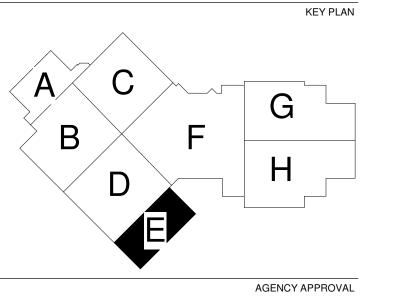
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ROOF PLAN AREA E

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A204E

FIRE / SMOKE BARRIER DESIGNATIONS

INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

THE LINE TYPES SHOWN ARE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY RATINGS WITH THE LATEST SET OF ARCHITECTURAL PLANS AND FURNISH ALL MATERIALS REQUIRED TO COMPLY WITH THOSE RATINGS WHETHER SHOWN OR NOT. ALL IFLOOR, FLOOR CEILING, AND ROOF CEILING! ASSEMBLIES SHALL BE DESIGNATED AS 1, 2 HOUR FIRE WALLS. UNLESS NOTED OTHERWISE ON THE PLANS. RATINGS WERE ACQUIRED FROM THE ARCHITECTURAL PLANS DATED 09/12/2022.

1 HOUR FIRE WALL	
2 HOUR FIRE WALL	

CONTRACTOR ABBREVIATION KEY		
ABBR:	DESCRIPTION:	
C.M.	CONSTRUCTION MANAGER	
E.C.	ELECTRICAL CONTRACTOR	
G.C.	GENERAL CONTRACTOR	
M.C.	MECHANICAL CONTRACTOR	
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR	

CONTACT PERSONS:		
DESCRIPTION:	PERSON:	
PROJECT MANAGER	BRANDON PIERSON	
MECHANICAL	ZACH MANARY	
ELECTRICAL	GAURAV SHARMA	

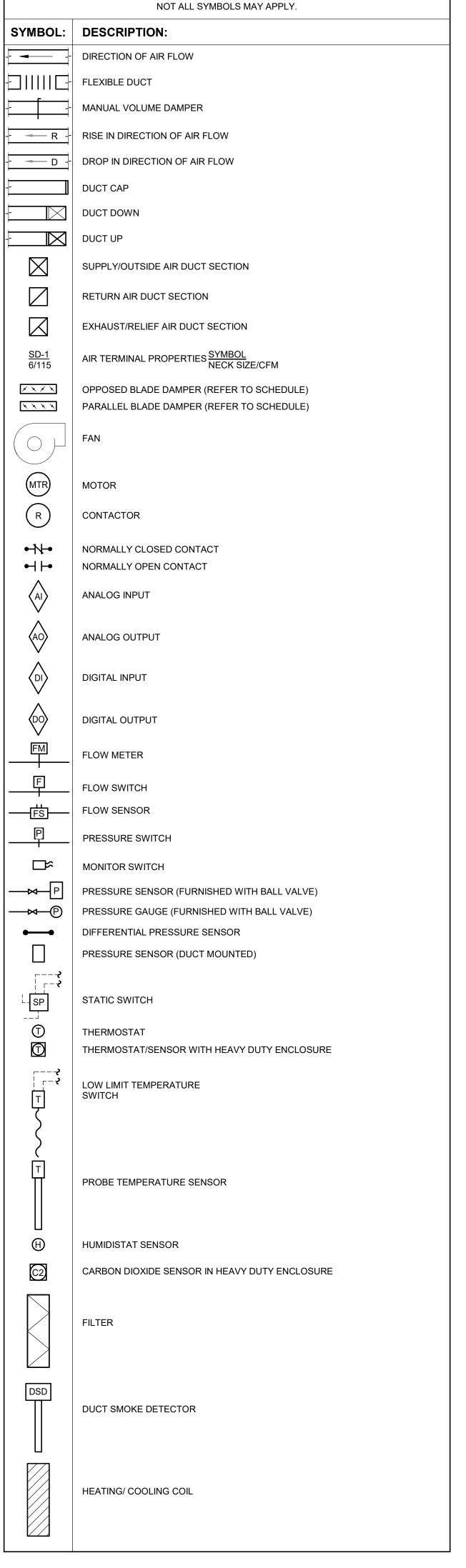
MEC	HANICAL DESIGN CONDITIONS:
DESIGN CONDIT	TIONS: BASED ON WEATHER DATA FOR: ROCKFORD, ILLINOIS
SUMMER: WINTER:	95°F DRY BULB, 78°F WET BULB -15°F DRY BULB
TYPICAL ROOM	SETPOINTS:
SUMMER DESIGN: WINTER DESIGN: SUMMER SETBACK	76°F DRY BULB, 55% RELATIVE HUMIDITY 68°F DRY BULB, NO HUMIDITY REQUIREMENT 85°F DRY BULB, NO HUMIDITY REQUIREMENT

WINTER SETBACK: 60°F DRY BULB, NO HUMIDITY REQUIREMENT

REFER TO CONTROL DIAGRAMS FOR ROOM SPECIFICS.

	MECHANICAL SHEET INDEX
M000	MECHANICAL COVERSHEET
M101	LEVEL 01 DEMOLITION - MECHANICAL
M102	ROOF DEMOLITION - MECHANICAL
M201	LEVEL 01 - MECHANICAL
M202	ROOF - MECHANICAL
M400	MECHANICAL DETAILS
M401	MECHANICAL DETAILS
M500	MECHANICAL CONTROL DIAGRAMS
M600	MECHANICAL SCHEDULES
GRAND TOTAL: 9	

MECHANICAL SYMBOL LIST NOT ALL SYMBOLS MAY APPLY SYMBOL: DESCRIPTION: ——CA—— | COMPRESSED AIR —DPP—— DRAIN - PIPING —G— NATURAL GAS —GRV—— GAS REGULATOR VENT —HWR—— HEATING WATER RETURN —HWS—— HEATING WATER SUPPLY —ST(1,000)— STORM DRAINAGE (ROOF SQUARE FOOTAGE) ----STS----- STORM DRAINAGE (SECONDARY) —_V—— | **----**∃ PIPE DOWN PIPE UP OR UP/DOWN ----0 PIPE SERVING FIXTURE ON FLOOR ABOVE FD (EXAMPLE: FD = FLOOR DRAIN) PITCH PIPE IN DIRECTION DIRECTION OF FLOW IN PIPE ROUTE TO DRAIN SHUTOFF VALVE NORMALLY OPEN SHUTOFF VALVE NORMALLY CLOSED THROTTLING VALVE BALANCING VALVE (NUMBER INDICATES GPM) ─────── CONTROL VALVE (THREE-WAY) VACUUM BREAKER "WYE" - STRAINER W/SHUTOFF VALVE AND HOSE CONNECTION WITH CAP CHECK VALVE FLEXIBLE CONNECTION REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB



MECHANICAL SYMBOL LIST

PLUMBING SLOPE REQUIREMENTS: BASED ON ILLINOIS PLUMBING CODE 2014 EDITIO CONDENSATE AND INDIRECT DRAINAGE: 1/8" PER FOOT

MECHANICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:		
AD	ACCESS DOOR		
AFF	ABOVE FINISHED FLOOR		
С	COMMON		
CO	CLEANOUT		
DPG (0-2")	DIFFERENTIAL PRESSURE GAUGE (RANGE)		
DPS	DIFFERENTIAL PRESSURE SWITCH		
Е	EXISTING		
EA	EXHAUST/RELIEF AIR		
EFD	EXISTING FIRE DAMPER		
ESE	EMERGENCY SHOWER/EYEWASH		
FD	FIRE DAMPER		
FM	FLOW METER		
FOB	FLAT ON BOTTOM		
FOT	FLAT ON TOP		
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)		
MA	MIXED AIR		
N.C.	NORMALLY CLOSED		
NIC	NOT IN CONTRACT		
N.O.	NORMALLY OPEN		
OA	OUTSIDE AIR		
PS	PRESSURE SWITCH		
RA	RETURN AIR		
RD	ROOF DRAIN		
SA	SUPPLY AIR		
SCCR	SHORT CIRCUIT CURRENT RATING		
TD	TRANSFER DUCT		
TYP	TYPICAL		
UON	UNLESS OTHERWISE NOTES		
\ (TD			

TAB POST-CONSTRUCTION NOTES:

1. AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION

VENT THROUGH ROOF

- 2. AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE- DEMOLITION REPORT).
- A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION
- 4. TAB CONTRACTOR SHALL COMPILE AND SUBMIT COPIES OF THE FINAL POST-
- CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93. 5. THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

VENTILATION GENERAL NOTES:

- 1. UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
- 2. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO FACH OTHER 3. PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
- 4. EXISTING AIR INLET AND OUTLET CFM SHOWN ON DRAWINGS ARE FROM EXISTING DRAWINGS, AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL USE PRE-BALANCE VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS
- CONTRACTOR MAY REUSE PORTIONS OF EXISTING DUCT PROVIDED SIZES AND PRESSURE CLASSES ARE CORRECT, DUCT IS THOROUGHLY CLEANED AND FREE OF DEFECTS, AND ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS ARE SEALED AS SPECIFIED FOR NEW DUCTWORK.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS. EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND
- REPORT ANY CONFLICTS BEFORE PROCEEDING. . NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
- 3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD
- 4. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED
- WITH THEIR WORK 5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF
- CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO
- 6. WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
- PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT
- 8. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW
- SYSTEMS ARE INSTALLED. 9. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE. 10. DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT

PLUMBING GENERAL NOTES:

THAT HAS BEEN REMOVED.

- 1. THE SYMBOLS ARE FOR THE CONVENIENCE OF THE CONTRACTOR, CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- 2. EXISTING CONDITIONS ON DEMOLITION PLANS ARE PROVIDED TO INDICATE THE GENERAL SCOPE OF ITEMS TO BE REMOVED. REFER TO SPECIFICATION SECTION 22 05 05 FOR ADDITIONAL DEMOLITION INFORMATION.

MECHANICAL PHASING NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES. INCLUDING BUT NOT LIMITED TO, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- 1. REFER TO GENERAL CONTRACTOR'S/ARCHITECT'S INSTRUCTIONS FOR MORE DETAILS AND PHASING SCHEDULES AND FOR CONCURRENT WORK. MECHANICAL, ELECTRICAL AND TECHNOLOGY DRAWINGS DEPICT THE INTENT OF THE FINAL DESIGN. THE MECHANICAL, ELECTRICAL. AND TECHNOLOGY DRAWINGS DO NOT DEPICT THE MEANS AND METHODS TO MEET THE REQUIREMENTS OF THE PHASING CRITERIA.
- 2. REVIEW PROJECT PHASING TO COORDINATE DEMOLITION WORK, OUTAGES, ETC. WITH AFFECTED ADJACENT AREAS. PROVIDE TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ZONE VALVES, ZONE
- ALARMS, ETC. AS NEEDED TO MAINTAIN SERVICE TO ALL AREAS DURING ALL PHASES OF 4. INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP ALL OCCUPIED SPACES OPERATIONAL THROUGHOUT ALL PHASES OF THE PROJECT
- 5. PHASE DEMOLITION WORK TO MINIMIZE DOWNTIME.

TEMPERATURE CONTROL GENERAL NOTES:

- 1. REFER TO EQUIPMENT SCHEDULES TO CROSS REFERENCE WHICH CONTROL DIAGRAMS APPLY TO WHICH ITEMS OF EQUIPMENT. REFER TO TERMINAL AIR BOX (TAB) SCHEDULES
- FOR TEMP SENSOR REQUIREMENTS FOR EACH TAB. . EACH D.I., D.O., A.I. AND A.O. POINT SHOWN FOR ALL CONTROL DIAGRAMS SHALL BE DISCRETE FROM ALL OTHER POINTS EXCEPT AS SPECIFICALLY NOTED.
- 3. ALL WIRING, CONTROL COMPONENTS, DEVICES AND PROGRAMMING SHOWN ON THESE CONTROL DRAWINGS SHALL BE PROVIDED BY THE TCC UNLESS SPECIFICALLY NOTED 4. TEMPERATURE CONTROL CABLING, CONDUIT, BOXES, IDENTIFICATION: REFER TO THE
- SPECIFICATIONS FOR A COMPLETE LIST OF REQUIREMENTS. THE FOLLOWING SCHEDULE IS PROVIDED AS A CONVENIENCE. REFER TO SECTION 23 09 00 AND DIV 16/26 FOR ADDITIONAL DETAILED REQUIREMENTS. A. CABLE/WIRE JACKET COLOR: BLUE
 - B. CONDUIT BOX COLOR ABOVE FINISHED CEILINGS AND UNFINISHED SPACES WITHOUT C. CONDUIT BOX COLOR IN SPACES WITH EXPOSED FINISHED STRUCTURE: MILL FINISH TO BE FIELD PAINTED; COLOR TO BE SELECTED BY ARCHITECT D. CABLE/WIRE INSTALLATION: IN CONDUIT
- . ALL ACTUATORS SHALL BE OF THE ELECTRICAL TYPE FOR THIS PROJECT UNLESS AN ACTUATOR IS SPECIFICALLY INDICATED ON THE DRAWINGS OR SPECIFICATIONS TO BE
- 6. ALL MODULATING DAMPER AND VALVE ACTUATORS SHOWN WITH POSITION FEEDBACK SHALL HAVE THE VALVE POSITION DISPLAYED ON GRAPHICAL SCREEN ADJACENT TO THE DAMPER/VALVE COMMAND SIGNAL. DISPLAYED VALVE POSITION SHALL BE FROM THE FEEDBACK DEVICE/CIRCUIT (OUTPUT SIGNAL FROM THE FMCS TO THE ACTUATOR IS NOT ACCEPTABLE) 7. MODULATING SIGNALS SHALL BE DISPLAYED AS % OPEN (SIGNALS DISPLAYED AS %
- CLOSED ARE NOT ACCEPTABLE). 8. PRESSURE TRANSMITTERS WHOSE SIGNAL IS UTILIZED FOR MAINTAINING DIFFERENTIAL PRESSURE OF ANY PUMPED WATER SYSTEM (E.G. HEATING HOT WATER, CHILLED WATER AND THE LIKE) SHALL BE WIRED DIRECTLY TO THE CONTROLLER THAT MODULATES PUMP SPEED. SIGNAL SHALL BE COMPLETELY INDEPENDENT OF THE FMCS NETWORK. 9. ALL CONTROL COMPONENTS SUCH AS RELAYS, SWITCHES, DDC CONTROLLERS, ETC.
- SHALL BE MOUNTED IN STEEL ENCLOSURES WITH STEEL MOUNTING BACKPLATES PER SPECIFICATION 23 09 00. 10. EACH CONTROL PANEL SHALL HAVE A LAMINATED COPY OF THE APPLICABLE SEQUENCE OF OPERATION AND CONTROL DIAGRAM INDICATING THE POINTS, COMPONENTS AND
- OPERATION OF EQUIPMENT ASSOCIATED WITH EACH PANEL. REFER TO SECTION 23 09 00 FOR ADDITIONAL REQUIREMENTS. 11. TCC SHALL EXTEND CONTROL SIGNAL FROM ADDRESSABLE RELAY DEVICE SERVING EACH AIR HANDLING UNIT. REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS. TCC SHALL
- EXTEND AND TERMINATE WIRING AS REQUIRED FOR EQUIPMENT SHUTDOWN. 12. TCC SHALL PROVIDE POWER SUPPLIES FOR ALL 24VAC POWER REQUIREMENTS TO INCLUDE, BUT NOT LIMITED TO, CONTROLLERS, DAMPER AND VALVE ACTUATORS, BUILDING PRESSURE SENSORS, AND OTHER CONTROL COMPONENTS AND DEVICES. REFER TO CONTROLS SPECIFICATIONS FOR POWER SUPPLY REQUIREMENTS. REFER TO TEMPERATURE CONTROL FLOOR PLANS FOR POWER SUPPLY LOCATIONS. PROVIDE LOW VOLTAGE WIRING FROM POWER SUPPLIES TO ALL CONTROLLERS, MONITORS, COMPONENTS AND DEVICES REQUIRING 24 VAC POWER. ADDITIONAL POWER SUPPLIES NOT SHOWN AND REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM SHALL BE PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR. THE TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE FINANCIAL PROVISIONS WITHIN THEIR BID FOR THE ELECTRICAL CONTRACTOR TO PROVIDE BRANCH POWER TO THE ADDITIONAL POWER SUPPLIES. COORDINATE THE LOCATION OF ADDITIONAL POWER SUPPLY CABINET WITH THE
- ELECTRICAL CONTRACTOR. 13. ELEMENT LENGTHS FOR BOTH MIXED AIR TEMP SENSORS AND LOW LIMIT TEMP SWITCHES SHALL BE MINIMUM 1 LINEAR FOOT PER SQUARE FOOT OF COIL SURFACE AREA. PROVIDE MULTIPLE SENSORS AND SWITCHES AS NEEDED TO ACHIEVE REQUIRED ELEMENT LENGTHS. LOCATE RESET SWITCHES MAX. 6'-6" ABOVE ADJACENT STANDING SURFACE (E.G. ROOF, PLATFORM OR FLOOR) SO THE RESET SWITCH CAN BE CYCLED WITHOUT THE NEED FOR A LADDER.
- 14. TO PREVENT GENERATOR OVERLOADING, TCC SHALL PROGRAM A STAGGERED START TIME FOR ALL MECHANICAL EQUIPMENT THAT IS CONTROLLED BY FMCS TO INCLUDE, BUT NOT LIMITED TO, AIR HANDLERS, PUMPS, EXHAUST FANS, AND CHILLERS. THE FIRST EQUIPMENT SHALL START 2 MINUTES (ADJ.) FROM THE TIME THE FMCS RECEIVES THE SIGNAL THAT THE TRANSFER SWITCH CHANGED TO EMERGENCY POWER SOURCE WITH ALL EQUIPMENT BEING ENERGIZED WITHIN A 20 MINUTE (ADJ.) TIME SPAN. COORDINATE ORDER OF EQUIPMENT STAGING WITH OWNER'S REPRESENTATIVE.
- CONTROL DEVICES AND COMPONENTS. REFER TO FLOOR PLANS, FLOW DIAGRAMS AND DETAILS FOR ADDITIONAL CONTROL DEVICES, COMPONENTS AND REQUIREMENTS NOT SHOWN ON THESE CONTROL DRAWINGS. 16. TCC SHALL PROVIDE ALL CONTROL COMPONENTS AND ACCESSORIES AS REQUIRED FOR EQUIPMENT TO BE CONTROLLED AS DESCRIBED IN THE SEQUENCE OF OPERATION

15. CONTROL DIAGRAMS ARE SCHEMATIC IN NATURE AND DO NOT SHOW ALL REQUIRED

REGARDLESS OF WHETHER ALL CONTROL COMPONENTS OR POINTS ARE SHOWN IN THE ASSOCIATED CONTROL DIAGRAM.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO. PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- 1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING
- CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT. 2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES. 3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO
- VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS. 4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE
- REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER 5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO
- COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR 6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL
- CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY
- AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS
- RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND 9. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE
- PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING 10. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE
- SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER 11. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE
- TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS 12. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED
- OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT. 13. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
- 14. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES. 15. MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
- 16. MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING; DUCTWORK, PIPING, ETC.
- 17. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT. 18. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE
- 19. ROOF WARRANTY NOTE: CONTRACTOR TO VERIFY WITH EXISTING ROOFING MANUFACTURER THE REQUIREMENTS TO MAINTAIN EXISTING FULL ROOF WARRANTY PRIOR TO THE COMMENCEMENT OF ANY

CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

PIPING GENERAL NOTES:

- 1. THE SIZE OF BRANCH PIPING TO TERMINAL HEATING DEVICES AND COILS SHALL BE 3/4" UNLESS NOTED OTHERWISE. 2. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
- 3. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.





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KEY PLAN

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> REVISIONS Revision / Issue

Construction Documents

Job Number

Checked

MECHANICAL

COVERSHEET

21002885.11

ZACMAN

BRAPIE

SCALE As indicated

SHEET NOTES: WHERE EXISTING INSULATION IS REMOVED FOR DEMOLITION. REINSULATE ANY EXISTING PIPING TO REMAIN PER NEW PIPING INSULATION SCHEDULE.

KEYNOTES: # PATCH HOLE LEFT BY REMOVED DUCTWORK. NEW DUCTWORK WILL BE ROUTED THROUGH EXISTING OPENING LET BY REMOVED DUCTWORK. REFER TO 1/M201. REMOVE ASU-25E AND
ACCESSORIES. REMOVE
CONDENSATE LINES, REFRIGERANT LINES, AND ASSOCIATED ACCU-E ON ROOF. REFER TO M102 FOR CONTINUATION. UP TO GOOSENECK. REMOVE GOOSENECK AND DUCTWORK. PATCH ROOF TO MATCH EXISTING CONSTRUCTION.

REMOVE AND REINSTALL DROP
CEILING AS NECESSARY FOR NEW

WORK. COORDINATE WITH E.C. AND ARCHITECT.



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ESSER HVAC Improvements – Jefferson High School

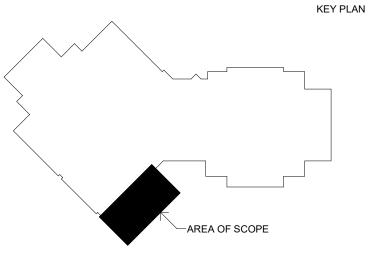
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REVISIONS

Construction Documents November 03, 2022 21002885.11 ZACMAN

> LEVEL 01 **DEMOLITION MECHANICAL**

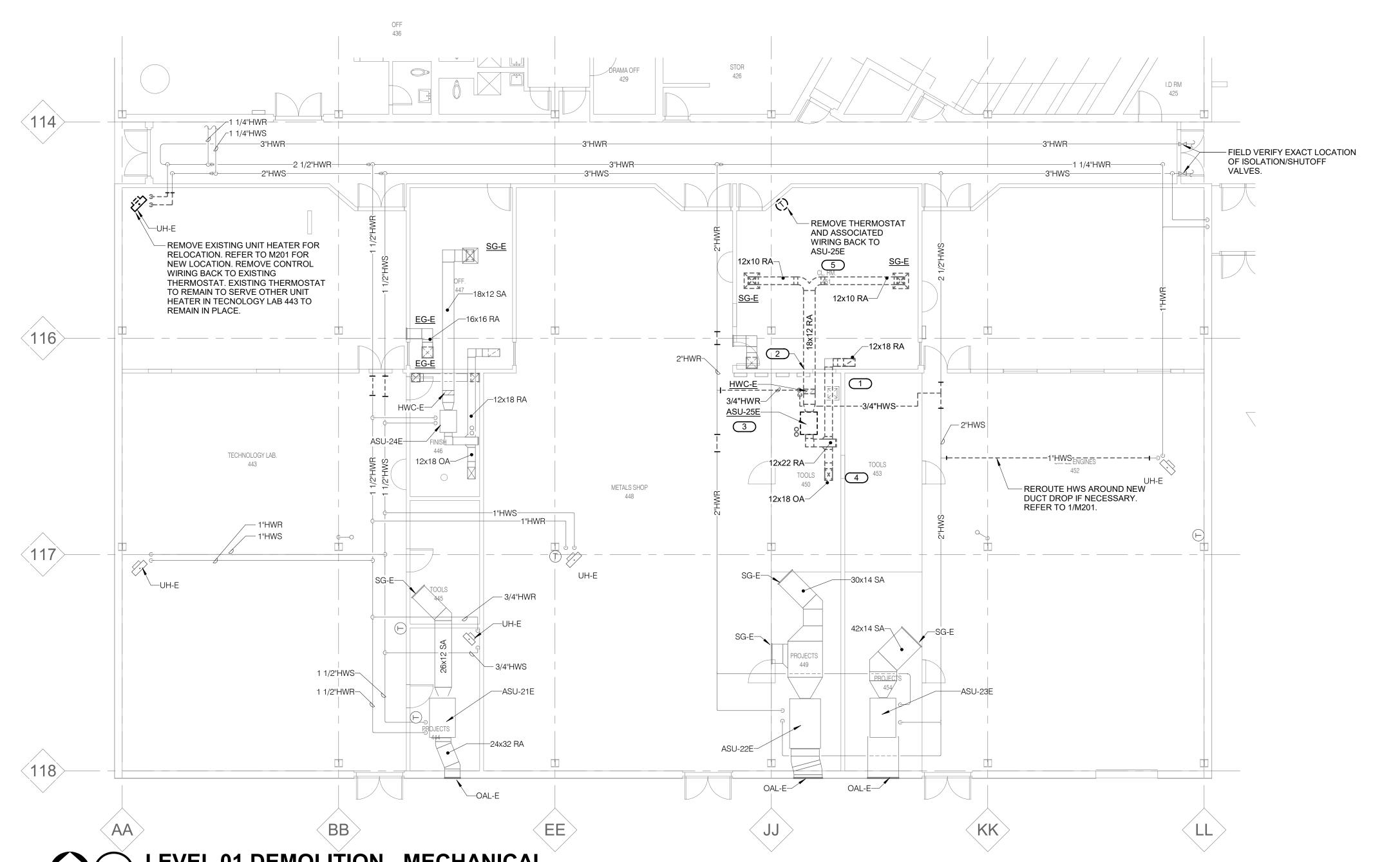
SCALE 1/8" = 1'-0"

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Illinois Design Firm Registration #184007637-0014 0 1 2 3

REF. SCALE IN INCHES PROJECT #21002885.11 SHEET NUMBER

M101



KEYNOTES: #

1. REMOVE ACCU-E ON ROOF AND ASSOCIATED PIPING. REFER TO M1 FOR CONTINUATION.

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KEY PLAN

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REFERENCE SCALE IN INCHES

0 1 2

No. Date Revision / Issue

SHEET INFORMATION

To Construction Documents

November 03, 2022

Number 21002885.11

The Construction Documents

2 November 03, 2022

Number 21002885.11

The Construction Documents

Received BRAPIE

The Construction Documents

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BRAPIE

The Construction Documents

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SHEET TITLE
ROOF
DEMOLITION
MECHANICAL

SCALE

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

SHEET NUMBER

M102

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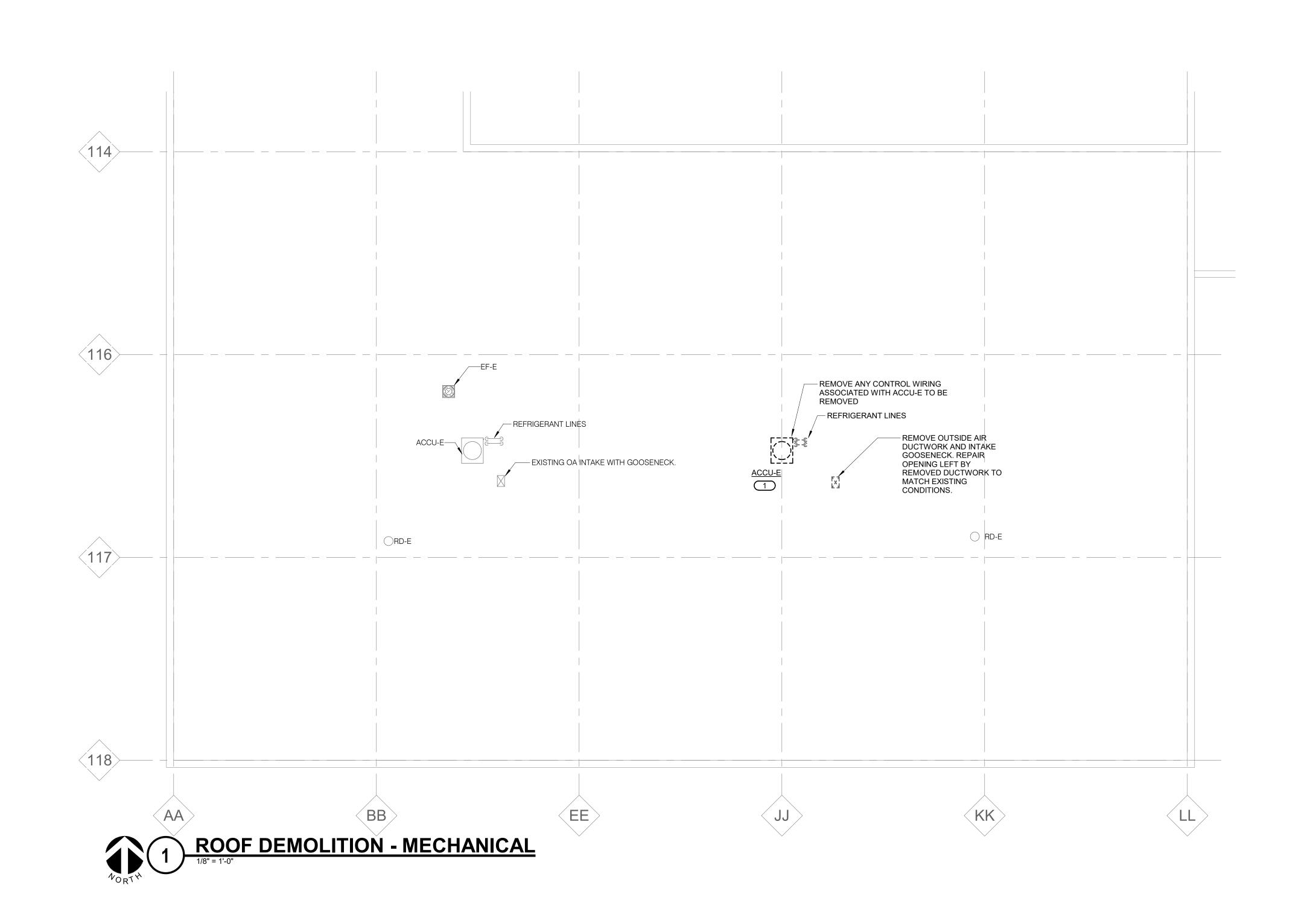
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— FIELD VERIFY EXACT LOCATION RTU-2 RTU-3 — OF ISOLATION/SHUTOFF -3"HWS-----—3"HWS— SR-1 ______ RG-1 24x12/470 RG-1 24x12/465 RG-1 24x12/465 <u>RG-1</u> 24x12/465 - NEW THERMOSTAT — 12"X12" EA DN FOR RELOCATED UH-E THROUGH LOFT FLOOR TO EG-E <u>HWC-2</u>-HVC-3
EXISTING PIPING AT
APPROXIMATELY 16' AFF.
28x9 SA HANG DUCT AS HIGH AS EXISTING PIPING AT 24x24 SA~ ASU-24E 2 APPROXIMATELY 16' AFF. POSSIBLE. HANG DUCT AS HIGH AS RELOCATE EXISTING UNIT HEATER —
TO NEW LOCATION. HANG AT
ORIGINAL ELEVATION. REFER TO
M101. PROVIDE NEW CONTROL POSSIBLE. – 12"X18" OA UP TO GOOSENECK VALVES, ACCESORIES, AND THERMOSTAT. 9x28 RA— REROUTE HWS AROUND NEW DUCT DROP IF NECESSARY. COORDINATE WITH EXACT LOCATION OF NEW UNIT AND METALS SHOP EXISTING PIPING AND EQUIPMENT. -30x14 SA

(118)

LEVEL 01 - MECHANICAL

SHEET NOTES: ROUTE EXPOSED DUCTWORK AND PIPING AS HIGH AS POSSIBLE IN SPACE, ABOVE HANGING LIGHT

SENSORS.

TO ABOVE CEILING.

FINISHED CEILINGS.

ALL THERMOSTATS AND CO2

PROVIDE WIRE MOLD FOR ALL

PROVIDE CONDUIT FOR ALL CABLING ABOVE FINISHED CEILINGS AND FOR ALL CABLING IN ROOMS WITHOUT

. ALL EXPOSED ROUND DUCT SHALL BE GALVANIZED DOUBLE WALL

SPIRAL DUCT. ALL EXPOSED

RECTANGULAR DUCT SHALL BE WRAPPED SINGLE WALL DUCT WITH LAMINATED ALUMINUM JACKETING.

REFER TO SPECIFICATIONS FOR DESCRIPTION OF DUCTWORK TYPES.

ROUTE NEW RETURN DUCTWORK THROUGH EXISTING OPENING. ENLARGE AS NECESSARY AND SEAL AROUND DUCTWORK AIRTIGHT. FIXTURES. WHERE EXISTING INSULATION IS REMOVED FOR DEMOLITION. REINSULATE ANY EXISTING PIPING TO REMAIN PER NEW PIPING INSULATION SCHEDULE.

UNIT HANGING FROM STRUCTURE AND LOCATED ABOVE LOFT. 12"X12" EA UP TO EXISTING EXHAUST FAN ON ROOF. GC TO REMOVE AND REINSTALL PROVIDE PROTECTIVE CAGES FOR DROP CEILING AS NECESSARY FOR NEW WORK. COORDINATE EXACT DIFFUSER/GRILLE LOCATION IN IN ROOMS WITH FINISHED CEILINGS CEILING GRID WITH E.C. AND REFER TO DETAIL 3/M400 AND SURFACE MOUNTED CABLING FROM THERMOSTATS AND CO2 SENSORS 5/M400.

KEYNOTES: #



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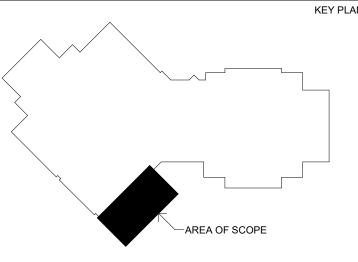
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LEVEL 01 -

SCALE 1/8" = 1'-0"

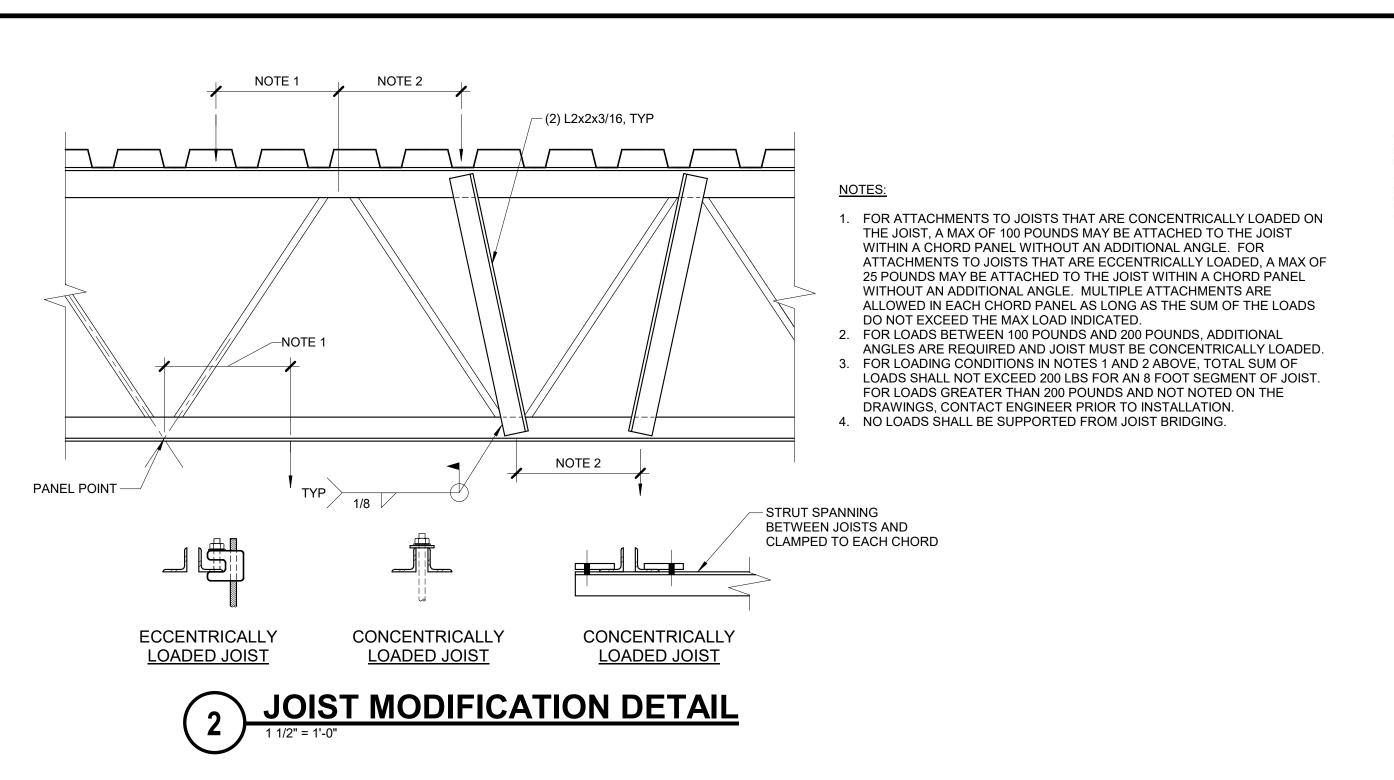
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REF. SCALE IN INCHES PROJECT #21002885.11 SHEET NUMBER

M201



- ANGLE 'B' -

ANGLE 'B'

NONE

L4x4x1/4

L4x4x1/4

STEEL OPTION (FOR EA 4" OF MASONRY)*

L3 1/2x3 1/2x1/4

L4x3 1/2x5/16 (LLV) L5x3 1/2x5/16 (LLV)

L6 1/2x3 1/2x3/8 (LLV)

1. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION ON NEW

ROOF OPENING DETAIL

1. PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION.

MANNER SIMILAR TO THE IDENTIFIED LOCATIONS. LINTELS OCCURRING IN EXISTING BEARING WALLS ARE TO BE SIZED ACCORDING TO SIMILAR CONDITIONS AND SPANS IN THE NEW CONSTRUCTION. LINTELS ARE NOT REQUIRED OVER OPENINGS 12" WIDE OR

*ALL ANGLES THAT ARE BACK-TO-BACK SHALL BE WELDED TOP AND BOTTOM 3" @ 12"

5. TEMPORARY SHORING OF MASONRY LINTELS MUST BE PROVIDED UNTIL MASONRY HAS

6. ALL STEEL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED,

4. ALL LINTELS SHALL HAVE A MINIMUM OF 8" END BEARING AND DO NOT REQUIRE

LINTEL GENERAL NOTES

2. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A

3. LINTELS IN NON-BEARING MASONRY CAN BE SIZED PER THE FOLLOWING:

ANGLE 'A'

L4x4x1/4

L4x4x5/16

L4x4x3/8

L6x4x3/8 (LLV

LESS AND AT LEAST 1 COURSE BELOW THE TOP OF WALL.

BEARING PLATES, UNLESS OTHERWISE NOTED.

REACHED 75% OF DESIGN STRENGTH.

UNLESS OTHERWISE NOTED.

UP TO 1'-0"

1'-1" TO 4'-6"

4'-7" TO 6'-0"

6'-1" TO 8'-0"

8'-1" TO 10'-0"

SPAN, L

1'-0" < L< 4'-0"

4'-0" < L< 6'-0"

6'-0" < L< 8'-0"

8'-0" < L< 10'-0"

OC MINIMUM.

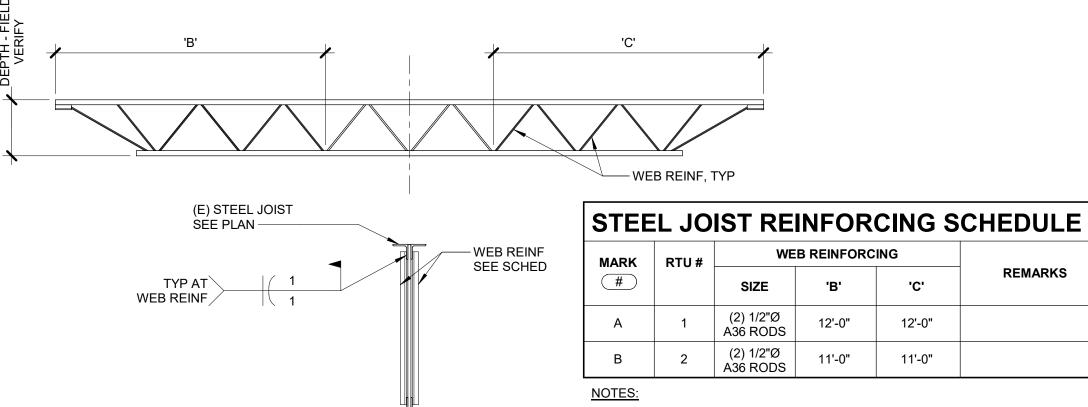
– ANGLE 'A' ——

- WELD ENDS OF ANGLES TO ROOF FRAMING, TYP - COPE

VERTICAL OR HORIZONTAL

AS REQUIRED

- IT IS ACCEPTABLE TO USE 1/4" PLATE WELDED TO EXISTING



1. REMOVE AND REINSTALL JOIST BRIDGING AS NECESSARY TO INSTALL REINF

- MEMBERS. 2. JOIST REINF IS DUE TO NEW ROOF EQUIPMENT. PRIOR TO PLACING EQUIPMENT OR BUILDING TALLER STRUCTURE, JOIST REINF MUST BE INSTALLED.
- 3. JOIST SHALL BE SHORED. 4. SPLICE CHORD REINF SEGMENTS TOGETHER TO DEVELOP FULL CAPACITY OF MEMBER. SPLICE DETAIL BY STEEL FABRICATOR.

JOIST REINFORCING DETAIL NO SCALE

STRUCTURAL SHEET NOTES:

ENGINEER.

- ONLY STRUCTURAL MEMBERS APPLICABLE TO REINFORCEMENT OF JOISTS DUE TO RTUS ARE SHOWN HEREIN. MATERIALS FOR NEW WORK:
- A. STRUCTURAL STEEL ANGLES AND RODS SHALL CONFORM TO ASTM A36. B. ELECTRODES FOR ARC WELDING SHALL CONFORM TO AWS 5.1, E70XX. CUTS. HOLES, OPENINGS, ETC., REQUIRED IN STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS. BURNING OF HOLES AND CUTS IN THE FIELD SHALL NOT BE ALLOWED, EXCEPT BY WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER. NO HOLES SHALL BE CUT IN STRUCTURAL STEEL BY OTHER TRADES UNLESS SHOWN ON STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
- **EXISTING CONDITIONS:** A. EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM

EXISTING DRAWINGS DATED AUGUST 23, 1976 AND OCTOBER 15,1976 BY

- ORPUT ASSOCIATES, INC. B. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE. CONTRACTOR TO VERIFY EXISTING INFORMATION, DIMENSIONS AND SIZES AS REQUIRED TO COMPLETE THEIR WORK. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE SEOR SO PROPER CLARIFICATION MAY BE MADE. MODIFICATION OF CONSTRUCTION DETAILS SHALL NOT BE MADE
- WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE STRUCTURAL ENGINEER ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE
- DRAWINGS. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE STRUCTURAL ENGINEER SHALL NOT BEGIN UNTIL THIS IS COMPLETE. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE STRUCTURAL
- ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS IN RELATION TO THE STRUCTURAL PLAN AND DETAIL AND SHOWN FOR DUCTS, PIPE, INSERTS, AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE
- CONTRACTOR AT THE JOBSITE PRIOR TO CONSTRUCTION, START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION
- AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF NEW WORK. . DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL SO CONSTRUCT THE WORK SO IT WILL CONFORM TO THE
- ELECTRICAL DESIGN. . ANY EXISTING MECHANICAL, ELECTRICAL, ARCHITECTURAL, ETC, ITEMS ATTACHED TO OR HANGING FROM EXISTING STRUCTURAL FRAMING WHICH REQUIRES REINFORCEMENT SHALL BE PROPERLY SHORED, REMOVED FROM STRUCTURAL ELEMENTS, THEN REATTACHED AFTER REINFORCEMENT WORK IS COMPLETE.
- 2. STRUCTURAL FRAMING MEMBERS SHALL NOT BE CUT OR REMOVED. MODIFICATION OF STRUCTURAL FRAMING IS ONLY ACCEPTABLE AS SHOWN IN DETAILS 2 AND 3 OF THIS SHEET. 13. FOR ADDITIONAL MEP ITEMS BEING ATTACHED TO EXISTING JOIST AS WORK

CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL AND

DONE FOR THIS PROJECT SEE DETAIL 2/M202. 14. FOR LINTELS IN NON LOAD BEARING WALLS SEE DETAIL 5/M202. 15. ANGLE FRAMING FOR CURB SUPPORT SHALL BE PROVIDED PER 4/M202 AND ARCHITECTURAL DRAWINGS. GC TO COORDINATE.

MECHANICAL SHEET NOTES:

ROUTE TCC CABLING FROM BELOW, SEAL ALL PENETRATIONS WEATHER AND AIR TIGHT. PAINT ALL EXPOSED CONDUIT WITH EXTERIOR RATED PAINT, COLOR SELECTION BY OWNER/ARCHITECT

(EYNOTES: #

MAINTAIN A 12' OR GREATER CLEARANCE BETWEEN ROOF EDGE AND ROOFTOP UNIT. **ROUTE CONDENSATE TO NEAREST** ROOF DRAIN. ROOF DRAIN LOCATIONS ARE APPROXIMATE, FIELD VERIFY, REFER TO DETAIL

4/M400 FOR CONDENSATE PIPING



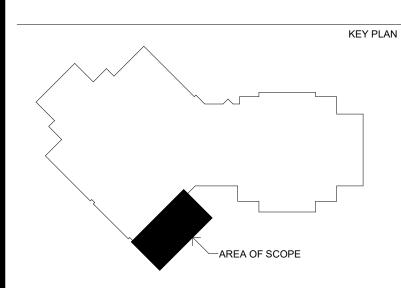
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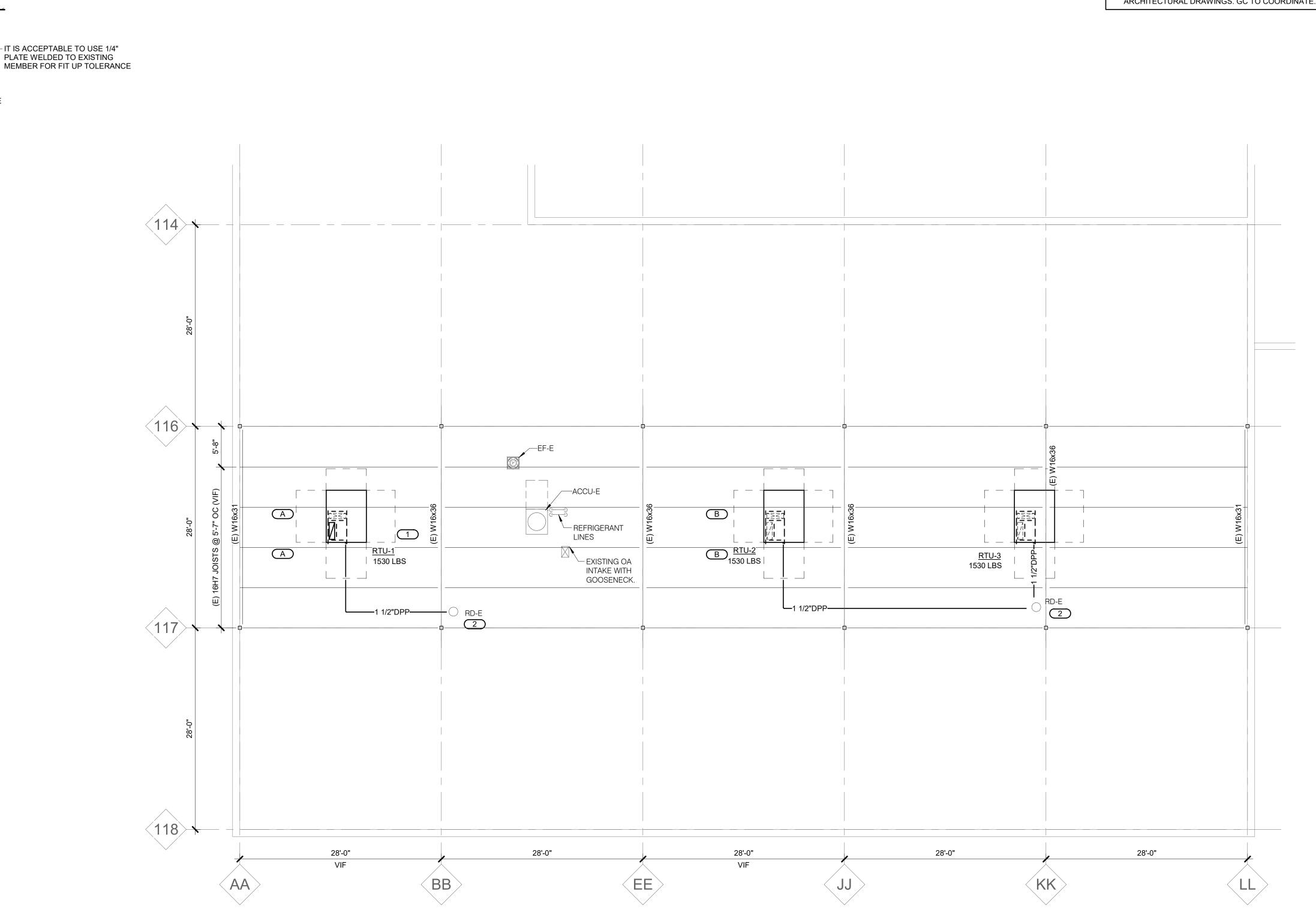
ROOF -

BRAPIE

SCALE

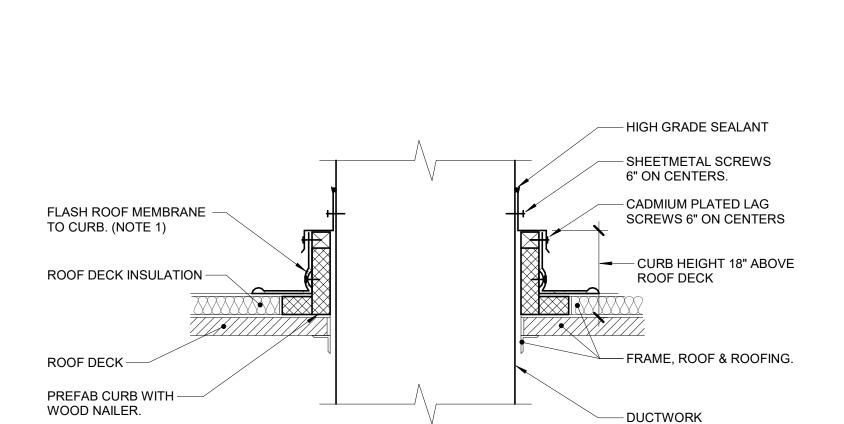
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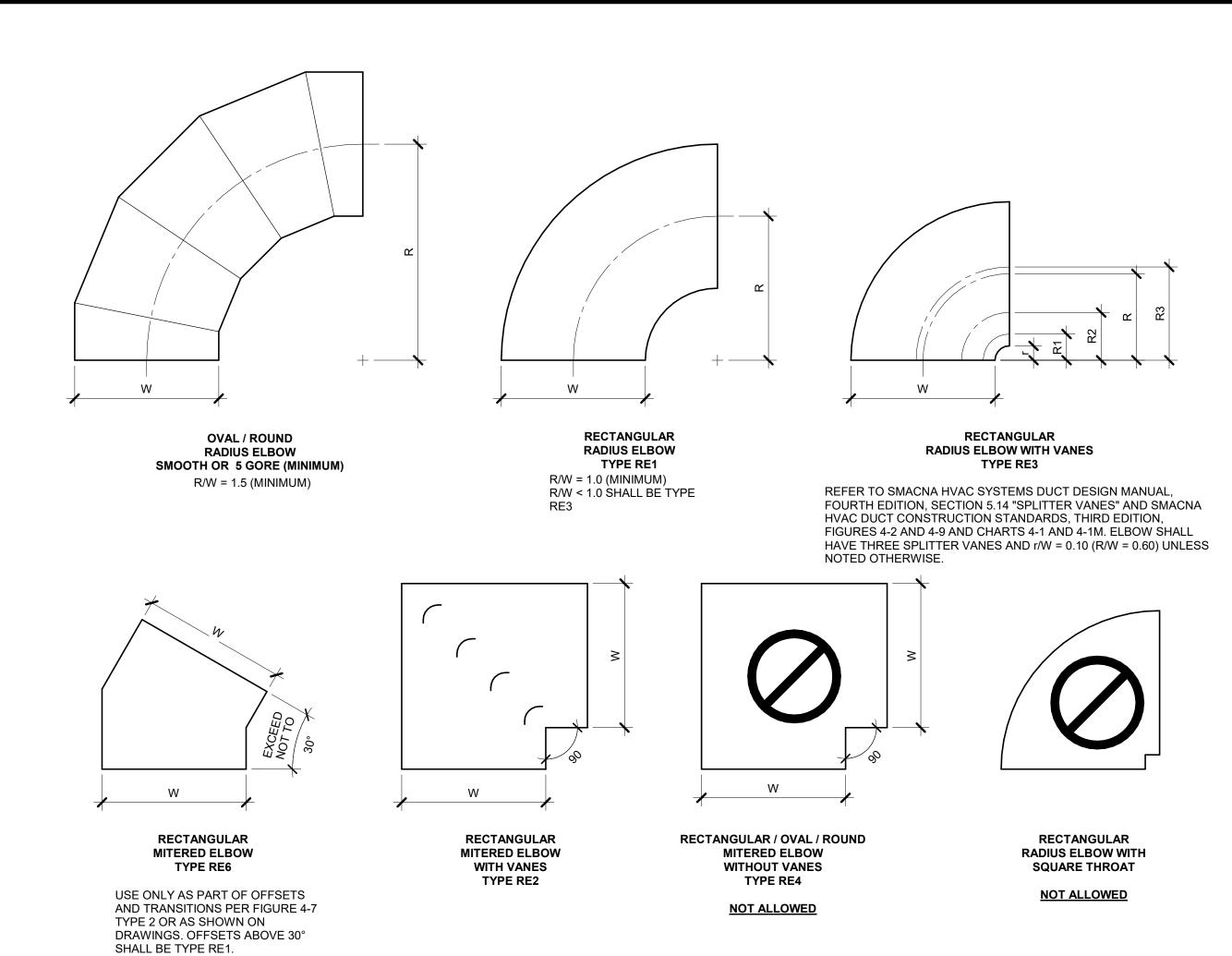
PROJECT #21002885.11

M202



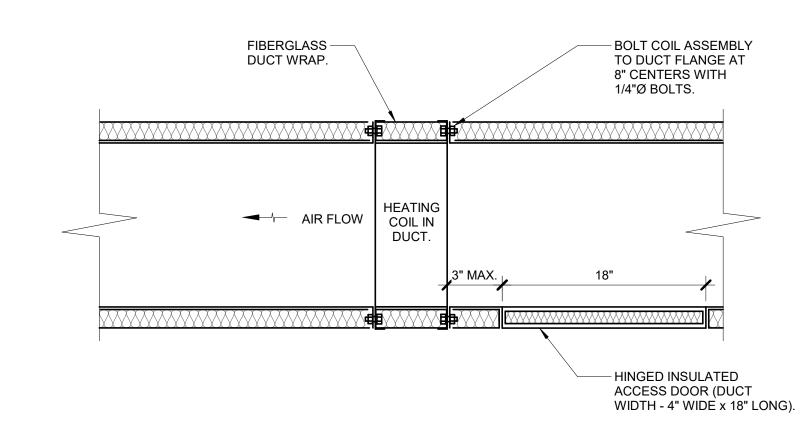
DUCT ROOF PENETRATION (MEMBRANE ROOF) NO SCALE

1. ALL ROOF FLASHING SHALL BE PER ROOF MANUFACTURER'S RECOMMENDATIONS.



2 ELBOW CONSTRUCTION NO SCALE

- . BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT.
- . REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 3. DEFAULT ELBOW SHALL BE TYPE "RE1". 4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.

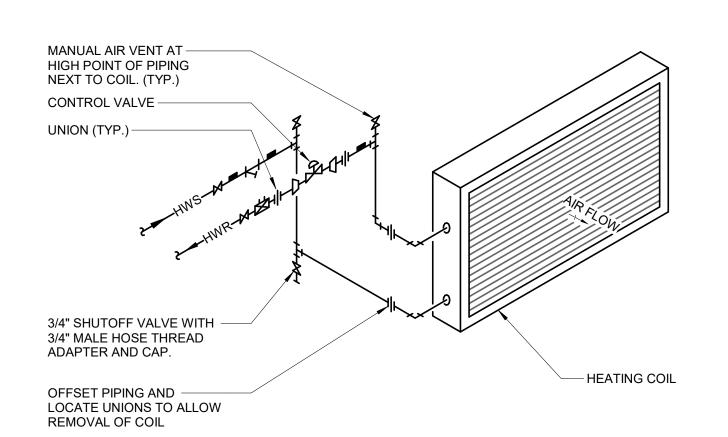


COIL - IN DUCT HEATING - WRAPPED NO SCALE

- 1. THIS DETAIL APPLIES TO ALL HEATING COILS INSTALLED IN DUCTS. ACCESS DOORS
- AND FLANGED CONNECTIONS MUST BE PROVIDED AT ALL COILS UNLESS SPECIFICALLY NOTED OTHERWISE.
- 2. PROVIDE FLANGED CONNECTION ON BOTH SIDES OF COILS. ACCESS DOORS ARE ONLY REQUIRED UPSTREAM OF COILS. 3. PROVIDE 42" STRAIGHT DUCT UPSTREAM AND 24" DOWNSTREAM OF HEATING COIL.

— CLEANOUT PLUG (TYP.) FULL SIZE CONDENSATE ——— DRAIN, CONNECT TO DRAIN PAN AS RECOMMENDED BY MANUFACTURER. ROUTE TO WITHIN TEN FEET OF ROOF DRAIN (IF ROOFTOP UNIT), OR TO FLOOR DRAIN IF UNIT IS LOCATED INSIDE. RTU-1, RTU-2, RTU-3 H = 3''H/2 = 1.5" H/2 = 2"

CONDENSATE TRAP DETAIL (DRAW-THROUGH) NO SCALE



COIL - HOT WATER PIPING DIAGRAM W/2-WAY VALVE NO SCALE

1. SEE SPECIFICATION SECTION 23 21 00 - HYDRONIC PIPING FOR BALANCE VALVE SIZING REQUIREMENTS.





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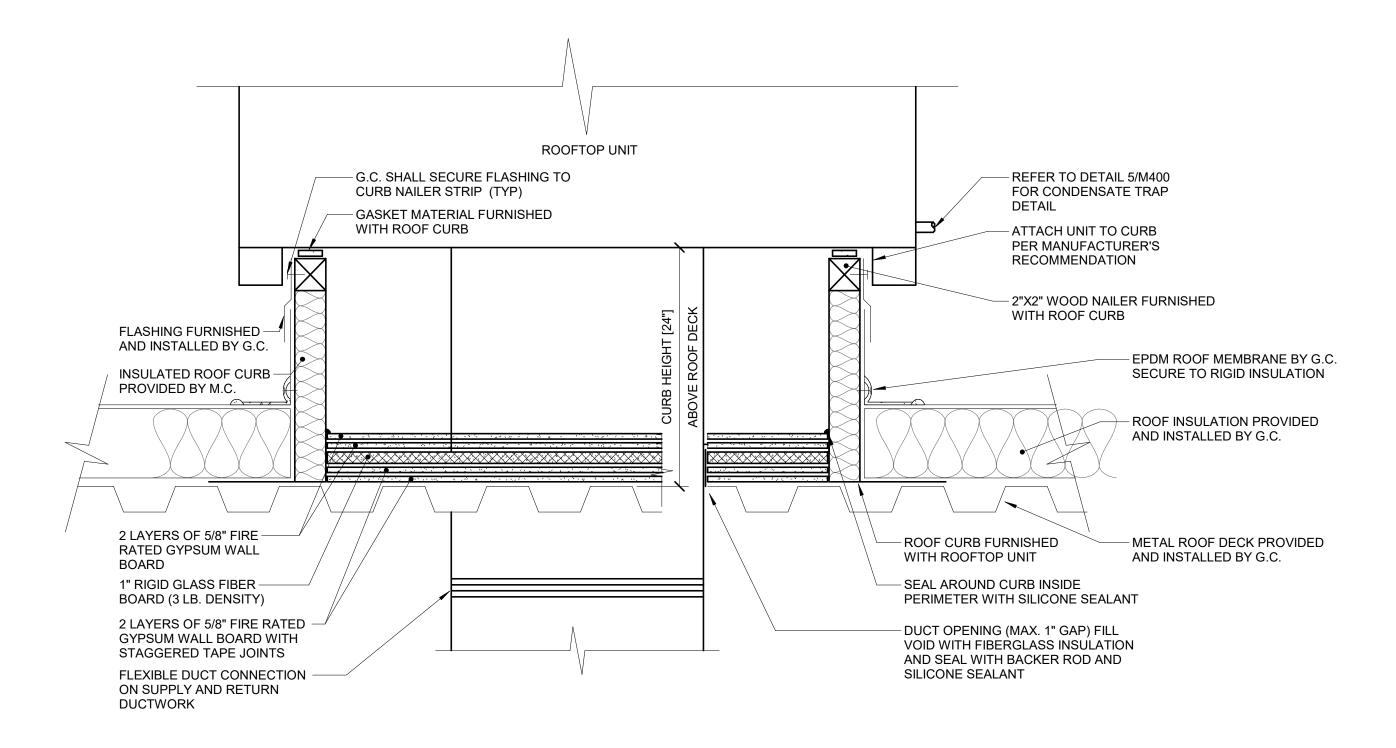
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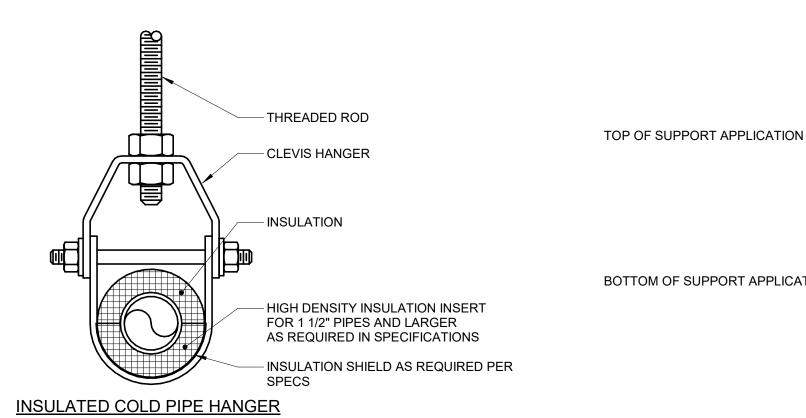
> SHEET TITLE **MECHANICAL**

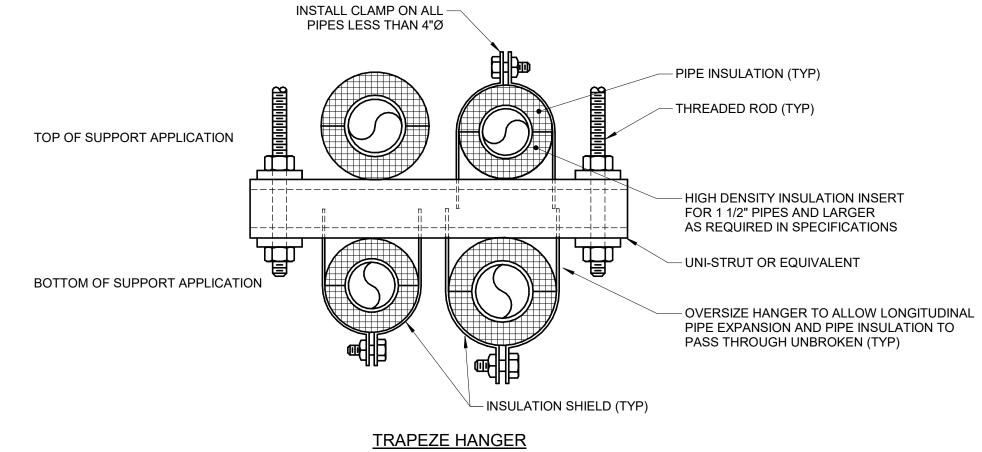
BRAPIE

12" = 1'-0"

M400





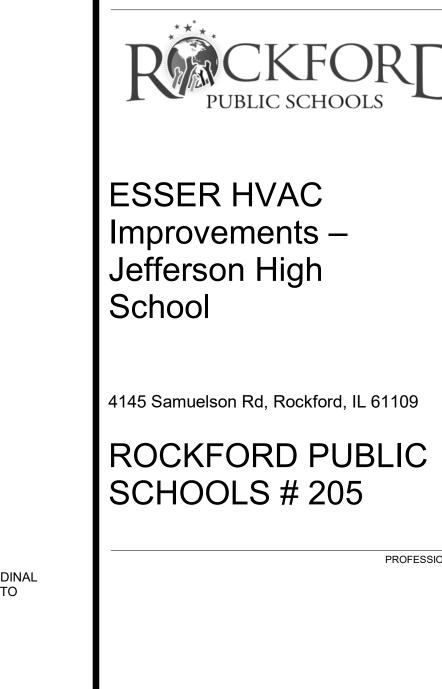


NO SCALE

- 1. ALL ROOF FLASHING SHALL BE PER ROOF
- MANUFACTURER'S RECOMMENDATIONS. 2. ROOF CURB SHALL BE INSTALLED PER ROOF CURB MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE EXTENDED CURB AS REQUIRED TO MAINTAIN 12" CLEARANCE ABOVE INSULATION.



1. REFER TO SPECIFICATION SECTION 23 05 29-HVAC & SECTION 23 07 19-HVAC.

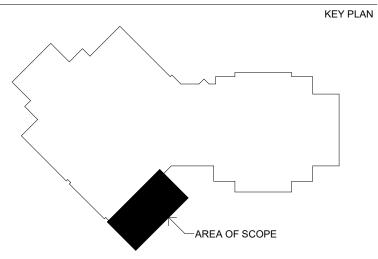


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MECHANICAL

SCALE

12" = 1'-0" SHEET NUMBER

M401

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MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED. IF SET POINT CANNOT BE MAINTAINED BY OA DAMPER CONTROL.

MODULATE OA DAMPER AS REQUIRED UNTIL SET POINT IS REACHED.

SUPPLY FAN FAULT (AIRFLOW, CURRENT OR VFD)

SUPPLY FAN AND EXHAUST FAN SHALL STOP.

HEATING AND COOLING SHALL BE DISABLED.

EXHAUST FAN FAULT (AIRFLOW, CURRENT OR VFD)

SEND AN ALARM TO THE CONTROLLER INTERFACE [FMCS] FOR THE FOLLOWING:

DIRTY FILTERS (WHEN FILTER PRESSURE DROP EXCEEDS 0.6" W.C. (ADJ.)

THE COMPRESSORS SHALL BE ENABLED AND MFR SHALL MODULATE COMPRESSOR CAPACITY AS REQUIRED TO MAINTAIN SET POINT.

IF SET POINT CANNOT BE MAINTAINED BY OA DAMPER CONTROL, MODULATE DX HEATING COIL AND HOT WATER CONTROL VALVE AS REQUIRED TO MAINTAIN SET POINT.

IF DISCHARGE AIR TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT AS MEASURED BY TEMPERATURE SENSOR DOWNSTREAM OF HEATING COIL.

IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ) BELOW SETPOINT. MFR SHALL MODULATE COMPRESSORS OFF.

WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW SETPOINT, THE FOLLOWING SHALL OCCUR IN SEQUENCE:

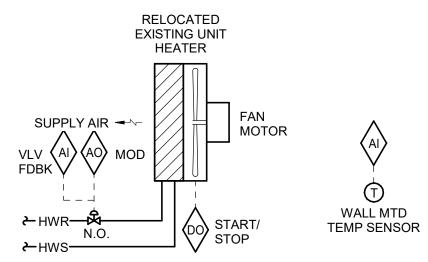
OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL FULLY CLOSE. THE RETURN AIR DAMPER SHALL FULLY OPEN.

OUTSIDE AIR AND RELIEF AIR DAMPER SHALL REMAIN CLOSED. RETURN AIR DAMPER SHALL BE 100% OPEN

OUTSIDE AIR AND RELIEF AIR DAMPER SHALL REMAIN CLOSED. RETURN AIR DAMPER SHALL BE 100% OPEN.

WHENEVER RTU IS SHUTDOWN THE RTU CONTROLLER SHALL COMMAND THE FOLLOWING TO OCCUR:

PACKAGED ROOFTOP UNIT CONTROL SINGLE-ZONE VAV WITH DCV - RTU-1, RTU-2, RTU-3



SEQUENCE OF OPERATION:

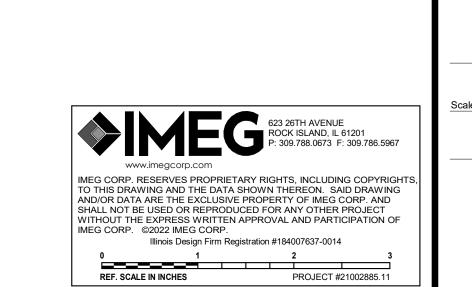
WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 40°F (ADJ.), TEMPERATURE SENSOR SHALL MODULATE THE CONTROL VALVE AND CYCLE THE UNIT FAN TOGETHER TO MAINTAIN A SPACE TEMPERATURE OF 68°F (ADJ.).

WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 40°F (ADJ.), TEMPERATURE SENSOR SHALL MODULATE THE CONTROL VALVE TO MAINTAIN A

SPACE TEMPERATURE OF 68°F (ADJ.) AND THE UNIT FAN SHALL RUN CONTINUOUSLY. IN LOCATIONS WITH MULTIPLE UNIT HEATERS, STAGE THE UNIT HEATERS ON/OFF BY SETTING INDIVIDUAL TEMPERATURE SENSORS 2°F APART.

SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF SPACE TEMPERATURE FALLS 10°F (ADJ.) BELOW SETPOINT.

(2) UNIT HEATER CONTROL - HYDRONIC
NO SCALE



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> **MECHANICAL DIAGRAMS**

SCALE 12" = 1'-0"

PACKAGED ROOFTOP UNIT SCHEDULE - AIR COOLED HEAT PUMP

NOTES:
1.UNIT DOES NOT HAVE SEPERATE EXHAUST FAN.
2.TOTAL OPERATING WEIGHT INCLUDES UNIT, CURB, ACCESSORIES AND UNIT MOUNTED POWER EXHAUST. DUCT MOUNTED ACCESSORIES AND EQUIPMENT ARE NOT INCLUDED. CONTRACTOR IS RESPONSIBLE FOR ALL CHANGES REQUIRED DUE TO ROOFTOP UNIT HEAVIER THAN THE BASIS OF DESIGN AT NO ADDITIONAL COST.

3.PROVIDE SHAFT GROUNDING IF REQUIRED IN THE MOTOR SPECIFICATION 23 05 13.

4.LAT LISTED IS AT LEAVING SIDE OF COIL 5.REFER TO CONTROL DRAWINGS FOR DESCRIPTION OF CONTROL TYPE.

6.STAGES: DIG = DIGITAL SCROLLS, VFD = INVERTER, # = NUMBER OF COMPRESSOR STAGES. 7. PROVIDED WITH FIELD POWERED CONVENIENCE OUTLET.

8. PROVIDED WITH HOT WATER COIL SHIPPED LOOSE, INSTALLED IN DUCTWORK DOWNSTREAM OF UNIT, REFER TO COIL SCHEDULE. 9. PROVIDED WITH DISCHARGE AIR TEMPERATURE SENSOR, SHIPPED LOOSE, TO BE FIELD INSTALLED IN DUCTWORK DOWNSTREAM OF HOT WATER COIL.

						SUPPLY	FAN (NOTE 3))							UNIT ELECT	RICAL DATA									COOLIN	G COIL - DX					HEATING	COIL - DX				1
																DISCO	NNECT(S)	CONTROLLE	R STARTER(S)	NS															ı
TAG ARE	ĒA /ED	NOMINALTONS	MINIMUM OUTSIDE AIR (CFM)	NO. OF FANS	CFM TOTAL	EXT S.P. IN W.C.	æ & &	ВНР ЕАСН	МНР ЕАСН	NO. OF POWER CONNECTIONS	VOLTAGE	PHASES	FLA	MCA	MOCP	BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE B)	SCCR	NO. OF AUXILIARY CONNECTIO	EAT DB °F	EAT WB °F	LAT DB °F (NOTE 4)	LAT WB °F (NOTE 4)	SENSIBLE MBH	TOTAL MBH	AMB TEMP °F	STAGES (NOTE 6)	EAT DB °F	LAT DB °F (NOTE 4)	TOTAL MBH	AMB TEMP °F	SEER	FILTER TYPE	DISCHARGE DIRECTION
RTU-1 RM 4	142	3	400	1 1	1400	1.0	2003	0.6	4	1 1	460	3	10 A	13 A	15 A	MFR	NF	MFR	ECM	5,000 A	1	80.0	66.4	58.2	58.1	33	36.4	95	INVERTER	65	82	25.7	30	15.3	MERV 13	DOWN
RTU-2 RM-4	151	3	400	1	1200	1.0	2003	0.3	4	1	460	3	10 A	13 A	15 A	MFR	NF	MFR	ECM	5,000 A	1	80.0	66.4	57.7	57.6	30	35.6	95	INVERTER	65	84.6	25.7	30	15.3	MERV 13	DOWN
RTU-3 RM-45	52.1	3	400	1	1400	1.0	2003	0.6	4	1	460	3	10 A	13 A	15 A	MFR	NF	MFR	ECM	5,000 A	1	80.0	66.4	58.2	58.1	33	36.4	95	INVERTER	65	82	25.7	30	15.3	MERV 13	DOWN

0.5" 0.5" 1" 1" APPLY INSULATION ONLY WITHIN 10' OF EXTERIOR PENETRATION ON COMPRESSOR INTAKES, VACUUM DISCHARGES, VENT/RELIEF LINES, ETC.

PAC	KAGED	ROOFTO		SCHED		R COOL	ED HEAT	F PUMP -	CONT.		
TAG NAME	CONTROL TYPE (NOTE	CURB TYPE (NOTE G)	LENGTH	WIDTH	НЕІGHT	UNIT WEIGHT	CURB WEIGHT	(TOTAL) OPERATING	MANUFACTURER	MODEL	NOTES
RTU-1	MFR	MFR	67	87	40.8	1248	282	1530	DAIKIN APPLIED	DPS-003	
RTU-2	MFR	MFR	67	87	40.8	1248	282	1530	DAIKIN APPLIED	DPS-003	
RTU-3	MFR	MFR	67	87	40.8	1248	282	1530	DAIKIN APPLIED	DPS-003	

COIL	SCHED	ULE	- WA	TER														
	ROVIDED BY MFF		FTOP UN	IIT WITH (CONTROL	_ VALVES.	COIL AND '	VALVES TO B	BE SHIPPE	ED LOOSE F	FOR FIEL	_D INSTALL.						
	WAY CONTROL	VALVE TO		TROLLED AT	BY PACK				TH DISCHA	ARGE AIR S	SENSOR	SHIPPED LOOS		ALLED DOWNS		OIL. REFER TO RTU S	SCHEDULE AND CONTR	ROL DIAGRAMS.
TAG NAME	AREA SERVED						OFTOP CO TOTAL MBH	A.P.D. IN.	TH DISCHA	ARGE AIR S	SENSOR :						SCHEDULE AND CONTR	ROL DIAGRAMS.
TAG NAME			E	AT	L	AT	TOTAL	A.P.D. IN.				SHIPPED LOOS	M	AX. DIMENSIO	NS	WEIGHT		
TAG	AREA SERVED	CFM	DB °F	AT WB °F	L/ DB °F	AT WB °F	TOTAL MBH	A.P.D. IN. W.C.	EWT °F	LWT °F	GPM	W.P.D. FT. HEAD	M. LENGTH	AX. DIMENSIOI WIDTH	NS HEIGHT	WEIGHT OPERATING	MANUFACTURER	NOTES

AIR T	ERMINAL	SCHEDULE							
		RMINE PROPER BORDER TY NECK SIZE. ALL BRANCH DU				CK SIZE UNLESS	NOTED OTHERWISE.		
TAG NAME	FACE SIZE (IN.) (NOTE 2)	TYPE	BORDER (NOTE 1)	MATERIAL	FINISH	VOLUME DAMPER REQUIRED	MANUFACTURER	MODEL	NOTES
RG-1	INLET + 2	DOUBLE DEFLECTION	1 1/4"	ALUMINUM	WHITE	NO	TITUS	S8F	DIRECT DUCT MOUNTED RETURN GRILLE
RG-2	24x24	PERFORATED FACE	LAY-IN	ALUMINUM	WHITE	NO	TITUS	PAR	DUCTED RETURN
SD-2	24x24	PANEL FACE	LAY-IN	ALUMINUM	WHITE	NO	TITUS	OMNI	FLUSH FACE PANEL
SR-1	INLET + 1 1/2	DOUBLE DEFLECTION	1"	ALUMINUM	WHITE	YES	TITUS	S301FL	DIRECT DUCT MOUNTED SUPPLY REGISTER

PIPE INSULATION SCHEDULE (HVAC)

HWR - HEATING WATER RETURN

MISC RELIEF VENTS, INTAKES, AND DISCHARGES

HWS - HEATING WATER SUPPLY

1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS. VALUES LISTED BELOW ARE BASED ON ASHRAE / IECC REQUIREMENTS. 2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC.

> A (GlsFbr), C (CelGla), E (Plyiso), F (Phenol) A (GlsFbr), C (CelGla), E (Plyiso), F (Phenol)

A (GlsFbr), B (Elasto), E (Plyiso), F (Phenol)

3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.

4. TYPE E IS NOT ALLOWED IN RETURN AIR PLENUMS, UNLESS LISTED AND LABELED AS 25/50 RATED PER ASTM E84/UL723

5. TYPE G 4" SHALL BE INSTALLED IN TWO (2) 2" LAYERS WITH STAGGERED SEAMS. 6. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C, D, OR E INSULATION. SEE SPEC. FOR MORE DETAILS. 7. DIRECT BUIRED PIPING SHALL ONLY USE TYPE C OR TYPE E. REDUCTION IN THICKNESS FOR DIRECT BURED PIPING IS ALLOWED PER ASHRÁE / IECC AS APPLICABLE.

1.5"

INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE **INSULATION TYPE** PIPE SYSTEM < 1" 1" TO < 1.5" | 1.5" TO < 4" | 4" TO < 8" | ≥ 8" 23 PIPING - COOLING A (GISFbr), B (Elasto), C (CelGla), E (Plyiso), F (Phenol) 0.5" 1" 1" 1" APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.) DPP - DRAIN - PIPING 23 PIPING - HEATING

NF = NON-FUSED	
C. CONTROLLER STAF	RTER TYPE:
V = FULL VOLTAGE	
WYE = WYE-DELTA	
SS = SOLID STATE (SC	
MS = MANUAL STARTE /FD = VARIABLE FREC	
	EQUENCY DRIVE WITH BYPASS
/FD/D - VANIABLE FN	EQUENCT DRIVE WITH BTFA33
D. FAN RPM SHALL NO	OT EXCEED 110% OF SCHEDULED VALUE, WIT
THE SCHEDULED WH	EEL TYPE. SUBSTITUTION OF BI OR BIA FANS
FOR FC IS ACCEPTAB	LE IF EFFICIENCY IS NOT LOWER.
E. NO EQUIPMENT SH	ALL BE SELECTED ABOVE 90% OF MOTOR NA
PLATE RATING.	
. MUST BE WITHIN +/	- 10% OF SCHEDULED RPM.
3. CURB TYPE:	
	RB BY MANUFACTURER
GC = BY GENERAL CO	NTRACTOR
SAC = SOUND ATTENU	JATOR CURB
THE SCHEDULED WHIFOR FC IS ACCEPTAB E. NO EQUIPMENT SH. PLATE RATING. F. MUST BE WITHIN +/- G. CURB TYPE: MFR = STANDARD CUI GC = BY GENERAL CO	EEL TYPE. SUBSTITUTION OF BI OR BIA FAI LE IF EFFICIENCY IS NOT LOWER. ALL BE SELECTED ABOVE 90% OF MOTOR - 10% OF SCHEDULED RPM. RB BY MANUFACTURER NTRACTOR

SCHEDULE GENERAL NOTES:

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND

MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY

MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY

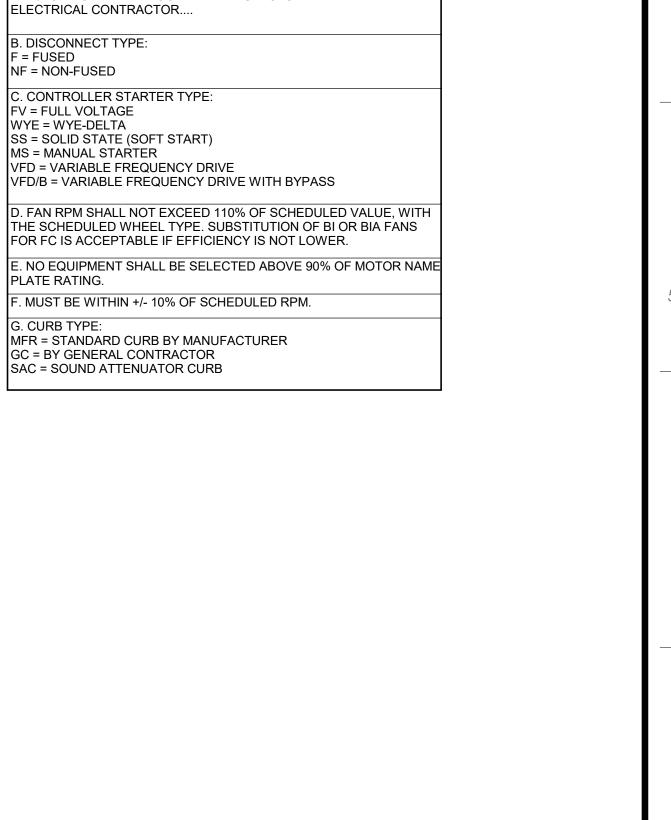
INSTALLED BY:

MFR = MANUFACTURER

B. DISCONNECT TYPE:

ELECTRICAL CONTRACTOR.

EC = ELECTRICAL CONTRACTOR.



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ESSER HVAC Improvements – Jefferson High School

4145 Samuelson Rd, Rockford, IL 61109

ROCKFORD PUBLIC SCHOOLS # 205

PROFESSIONAL SEAL



KEY PLAN

AGENCY APPROVAL

REVISIONS

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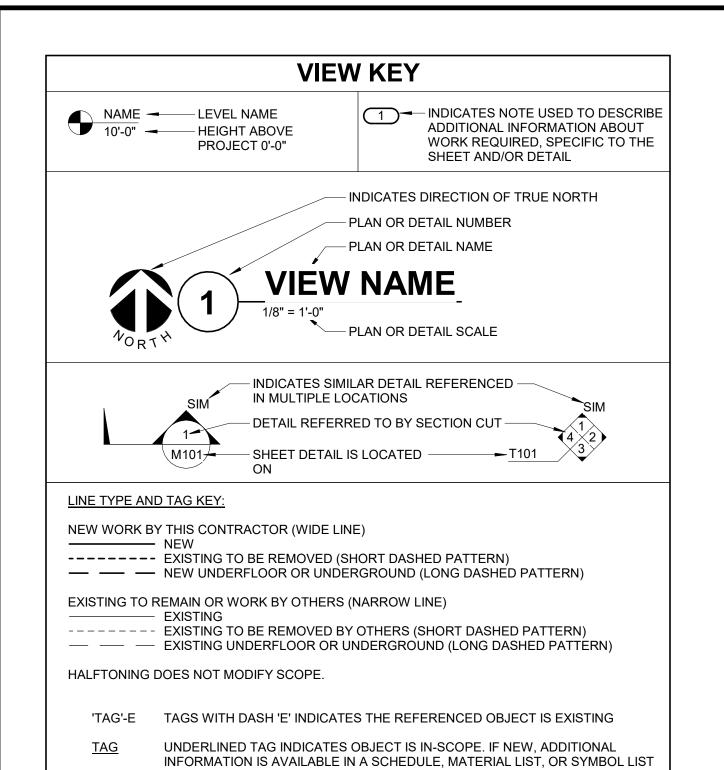
Construction Documents November 03, 2022 21002885.11 ZACMAN

> **MECHANICAL** SCHEDULES

SHEET NUMBER

M600

SCALE



CONTRACTOR ABBREVIATION KEY					
ABBR:	DESCRIPTION:				
C.M.	CONSTRUCTION MANAGER				
E.C.	ELECTRICAL CONTRACTOR				
G.C.	GENERAL CONTRACTOR				
M.C.	MECHANICAL CONTRACTOR				
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR				

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

CONTACT PERSONS:					
DESCRIPTION:	PERSON:				
PROJECT MANAGER	BRANDON PIERSON				
MECHANICAL	ZACH MANARY				
ELECTRICAL	GAURAV SHARMA				
·					

	ELECTRICAL SHEET INDEX
E000	ELECTRICAL COVERSHEET
E101	LEVEL 01 DEMOLITION - ELECTRICAL
E102	ROOF DEMOLITION - ELECTRICAL
E201	LEVEL 01 - ELECTRICAL
E202	ROOF - ELECTRICAL
GRAND TOTAL: 5	

FIRE / SMOKE BARE	RIER DESIGNATIONS
THE LINE TYPES SHOWN ARE FOR THE CONVENSHALL VERIFY RATINGS WITH THE LATEST SET OF MATERIALS REQUIRED TO COMPLY WITH THOSE ALL [FLOOR, FLOOR CEILING, AND ROOF CEILING HOUR FIRE WALLS, UNLESS NOTED OTHERWISE FROM THE ARCHITECTURAL PLANS DATED 09/12	RATINGS WHETHER SHOWN OR NOT. 6] ASSEMBLIES SHALL BE DESIGNATED AS 1, 2 ON THE PLANS. RATINGS WERE ACQUIRED
1 HOUR FIRE WALL	
2 HOUR FIRE WALL	

	ELEC	TRICAL	SYMBOL LIST
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
E	<u>ECONN</u>	26 05 33	ELECTRICAL CONNECTION
	PANEL '###'	26 24 16	PANELBOARD - SURFACE MOUNT
w₩	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE 125V
СМ	<u>FA-161</u>	28 31 00	FIRE ALARM ADDRESSABLE CONTROL MODULE

	ELECTRICAL ABBREVIATION KEY					
ABBR:	DESCRIPTION:					
С	CONDUIT					
TYP	TYPICAL					
UNO	UNLESS NOTED OTHERWISE					

ELECTRICAL RENOVATION NOTES:

- THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, AND SYSTEMS. 1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF, VERIFY EXISTING CONDITIONS AND
- REPORT ANY CONFLICTS BEFORE PROCEEDING. 2. NOT ALL EXISTING EQUIPMENT, LUMINAIRES, AND CONDUIT ARE SHOWN. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS WITH NEW WORK BEFORE STARTING WORK.

SHALL NOTIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO THEIR AREA OF WORK.

- 3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR CABLE TRAY, BUSWAY AND CONDUITS BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING 4. EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF THEIR WORK AND
- 5. THE CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH 6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO
- WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

ELECTR	ICAL EXISTING/DEMOLITION SYMBOL LIST
SYMBOL:	DESCRIPTION:
E E	ELECTRICAL CONNECTION
	JUNCTION BOX
	PANELBOARD - SURFACE MOUNT
4	DISCONNECT SWITCH
	TRANSFORMER

ELECTRICAL GENERAL NOTES:

 ROOF WARRANTY NOTE: CONTRACTOR TO VERIFY WITH EXISTING ROOFING MANUFACTURER THE REQUIREMENTS TO MAINTAIN EXISTING FULL ROOF WARRANTY PRIOR TO THE COMMENCEMENT OF ANY

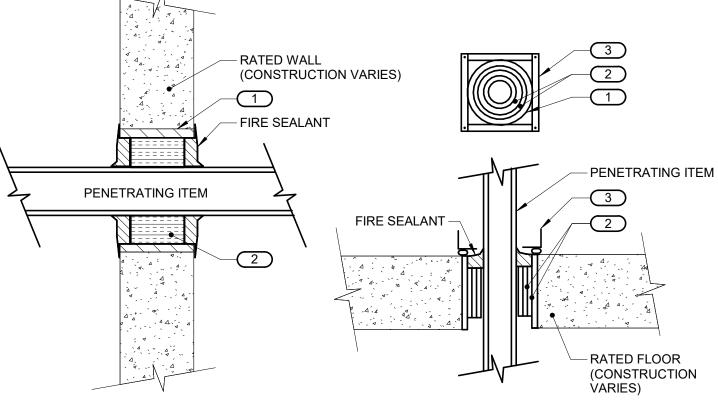
ELECTRICAL INSTALLATION NOTES:

- 1. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION. 2. CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH
- 3. ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO 26 05 03 FOR ADDITIONAL INFORMATION
- AND REQUIREMENTS SPECIFIC TO FIRESTOPPING. 4. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES, SPRINKLER, AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. SMOKE DETECTORS AND OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE. 5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR
- SEALED INTO OPENINGS. 6. ALL WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY STANDARDS. CONTRACTOR SHALL FURNISH TO THE ARCHITECT/ENGINEER CERTIFICATES QUALIFYING EACH WELDER, PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUIRE QUALIFYING DEMONSTRATION, AT THE CONTRACTOR'S EXPENSE, OF
- ANY WELDERS ASSIGNED TO THE JOB. 7. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE
- IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND 8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY

AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING

MOUNTED DEVICES, OTHER THAN SPRINKLERS. 9. ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

CONDUIT INSTALLATION SCHEDULE		
THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CON APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. TO CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION 26 05 33 FOR ADDITIONAL INFORMATION.	HE INSTALLATION THIS SCHEDULE	N OF RMC
INSTALLATION TYPE	RMC	EMT
FEEDERS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, MOTOR CONTROL CENTERS, ETC.		х
BRANCH CIRCUITS: LIGHTING, RECEPTACLES, CONTROLS, ETC.		х
MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS, AIR HANDLING UNITS, ETC.		х
FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC. (INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)		х
CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)		х
FINISHED SPACES / CONCEALED		х
WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS, INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)	х	
ELEVATED CONCRETE SLABS (ABOVE GRADE)	х	
INTERIOR LOCATIONS: CONCEALED		х
INTERIOR LOCATIONS: EXPOSED		х
INTERIOR LOCATIONS: EXISTING WALLS AND EXPOSED INSTALLATION (FINISHED SPACES)		х

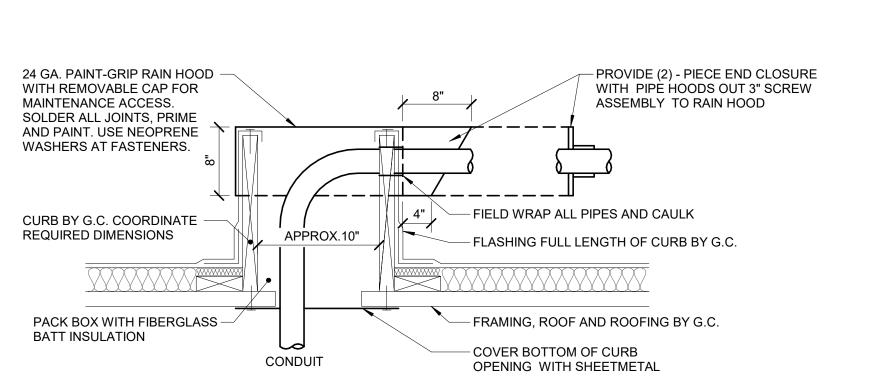


FIRE BARRIER PENETRATION

1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.

KEYNOTES:

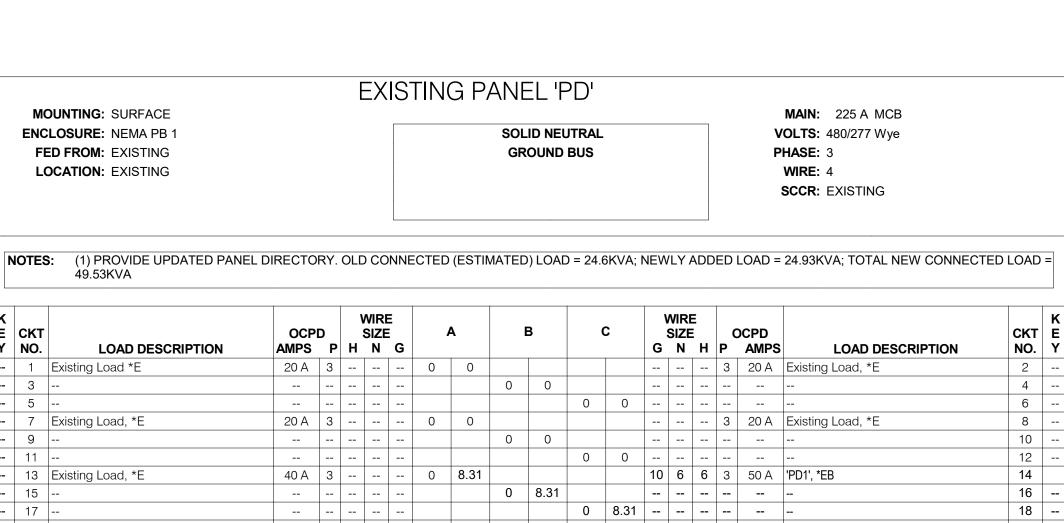
- 1. SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR, OR SMOOTH CORE DRILL. EACH CONTRACTOR FURNISHES SLEEVE TO G.C.. COORDINATES SLEEVE LOCATIONS AND DEBURS SLEEVE. G.C. BUILDS SLEEVE INTO WALL OR FLOOR ALLOWING NO GAP AROUND SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW
- ANNULAR SPACE REQUIRED BY THE SELECTED FIRE STOP SYSTEM. . INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
- 3. WATER-TIGHT WELDED 1"x1" 20 GAUGE MINIMUM GALVANIZED SHEET METAL ANGLE FRAME, BY CONTRACTOR IN EQUIPMENT ROOMS FOR WATER STOP. PLACE A BEAD OF WATERPROOF SEALANT BETWEEN FLOOR AND BOTTOM OF ANGLE FRAME. SECURE TO FLOOR WITH MASONRY ANCHORS IN CORNERS AND ON 12" MAXIMUM CENTERS. MULTIPLE PENETRATING ITEMS MAY BE ENCLOSED IN ONE FRAME.



\ ROOF PENETRATION WITH HOOD

INSTALLATION.

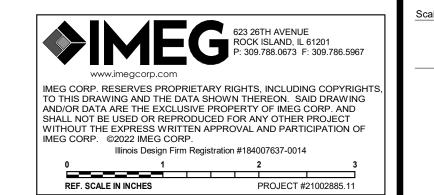
1. VERIFY FINAL REQUIREMENTS WITH GENERAL CONTRACTOR (G.C.) PRIOR TO



	Total Load:	8.31 kVA	8.31 kV	A 8.31 kVA						
	Total Amps:	30.00	30.00	30.00						
		LC	DAD SUMI	MARY						
LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND F	ACTOR	ESTIMATED DE	MAND	TOTALS*				
HVAC	24.93 kVA	100.00	0%	24.93 kVA						
					T	OTAL CONNECTED LOAD:	24.93 kVA			
					T	OTAL ESTIMATED DEMAND LOAD:	24.93 kVA			
					T	OTAL CONNECTED AMPS:	29.99 A			
					T	OTAL ESTIMATED DEMAND AMPS:	30 A			
*TOTAL DEMAND CALCS SUBTRACT A	NY REDUNDANT LOAD	AND THE SI	MALLER C	F ANY NONCOIN	ICIDENT H	IVAC LOADS. THIS CALC IS DONE AT	EACH PANEL.			
CIRCUIT KEY NOTES: *E = EXISTING REMAI	NING LOADS, *EB = EX	(ISTING BREA	AKER, NE	W WIRING						

MOUNTING: SURFACE ENCLOSURE: NEMA PB 1 FED FROM: EXISTING LOCATION: EXISTING NOTES: (1) PROVIDE UPDATED PANEL DIRECTORY. OLD CON 19.5KVA					CONNE	СТЕП) (ESTIN	GRO	OUND			EWLY	ADD	MAIN: 225 A MLO VOLTS: 120/208 Wye PHASE: 3 WIRE: 4 SCCR: EXISTING DDED LOAD = 1.5KVA; TOTAL NEW CONNECTED LOAD =					
	CKT NO.	LOAD DESCRIPTION	OCPD AMPS		WII SIZ H N	ZE		A	E	3		C	S	IRE IZE N F		OCPD AMPS	LOAD DESCRIP	CK	
_		LOAD DESCRIPTION					0	0			-				-				_
+	1	Existing Load, *E	20 A	-	-		U	0			-					20 A	Existing Load, *E	2	
+	3 5	Existing Load, *E RTU-2, Auxiliary Conne., Roof, *EB	20 A		2 1	 2 12			0	0	0.5	0	-				Existing Load, *E	4	_
+		Existing Load, *E		_							0.5	U					Existing Load, *E	6	-
+	7	9	20 A	•			0	0		0						20 A	,	8	
	9	Existing Load, *E	20 A	•	-				0	U	0	0				20 A	Existing Load, *E	10	
+	11	Existing Load, *E	20 A	•	-						0	U			+-		Existing Load, *E	12	_
	13	Existing Load, *E	20 A				0	0		0.5				 12 1:			RTU-1, Auxiliary Conne.,	Roof, *EB 16	_
+	15	Existing Load, *E SPARE	20 A	•					0	0.5		0.5		12 1: 12 1:					
+	17	SPARE	20 A	•							0	0.5					RTU-3, Auxiliary Conne., Existing Load, *E		
+	19 21	SPARE	20 A 20 A	•			0	0	0	0						20 A 20 A	Existing Load, *E	20	_
+	23	SPARE	20 A	-					U	U	0	0	-			20 A	Existing Load, "E	24	_
+	25 25	SPACE	20 A	•			0	0			0	U					SPACE	26	
+	27	Existing Load, *E	20 A				U	0	0	0						20 A	Existing Load, *E	28	_
+	29	SPACE		•					U	0	0	0	-				SPACE	30	_
	دع	OI / IOL				Load:	0.00	⊥ DkVA	0.50	<u>۱</u>	+ -	kVA			+-		OI AOL		
						mps:		.00	4.8			97			\dashv				
				10	iai A	uiiha.	0					<u> </u>							
<u> </u>	ח כו	ASSIFICATION	CON	NEC	TED	LOAD	DE	L(MAND F	DAD SU			ED DE	MANIF						
)WE		AUGII IUATIUN	CON		kVA			100.00		IX ES		5 kVA					TOTALS*		
	<u> </u>			1.5	IV V /			100.00	0 /0		1.			T	ΤΔ	CONNE	ECTED LOAD:	1.50 kVA	
																	ATED DEMAND LOAD:	1.5 kVA	
														_			ECTED AMPS:	4.16 A	
																	ATED DEMAND AMPS:	4.10 A	
							1										STED DEMAND AMPS:	14 / H	

									P	ANE	EL '	PD1	1'											
	MC	OUNTING: SURFACE																	MAIN: 50 A MLO					
ENCLOSURE: NEMA PB 1							SOLID NEUTRAL											VOLTS : 480/277 Wye						
FED FROM: 50A/3P@'PD'									GR	OUND	BUS				PHASE: 3									
LOCATION: METAL SHOP 448														WIRE: 4										
																			SCCR: 14.00kA					
N	OTES	3 :																						
K	СКТ		ОСР			WIR SIZI			Α		3		c		VIRE			CPD		CK	I (T			
E Y	NO.	LOAD DESCRIPTION	AMPS		н				^	'	•	,	•			Н		AMPS	LOAD DESCRI					
	1	HVAC, RTU-1, ROOF	15 A	3	12	12	12	2.77	2.77					12	12	12	3	15 A	HVAC, RTU-2, ROOF	2				
	3									2.77	2.77									4				
	5											2.77	2.77							6				
	7	HVAC, RTU-3, ROOF	15 A	3	12	12	12	2.77	0								1	20 A	SPARE	8				
	9									2.77	0						1	20 A	SPARE	10				
	11											2.77	0				1	20 A	SPARE	12				
	13	SPARE	20 A	1				0	0										SPACE	14				
		SPACE								0	0								SPACE	16				
	1/	SPACE				<u> </u>	<u> </u>			_		0	0						SPACE	18	3 -			
							oad:		1 kVA	8.31			kVA											
					Tota	I An	nps:	30	0.00	30	.00	30	0.00											
									L	OAD SI	JMMA	RY												
OA	D CL	ASSIFICATION	CO	NNE	ECTI	ED L	.OAI	D DEI	MAND	FACTO	R ES	STIMAT	ED DE	MAN	ID				TOTALS*					
łVΑ	.C			24	1.93	kVA			100.0	0%		24.	93 kVA	١										
																			ECTED LOAD:	24.93 kVA				
																			ATED DEMAND LOAD:	24.93 kVA				
																			ECTED AMPS:	29.99 A				
																			ATED DEMAND AMPS:	30 A				
_		*TOTAL DEMAND CALCS SUBTRAC	CT ANY RE	DUI	NDA	NT L	.OAI	D AND	THE S	MALLE	R OF A	ANY NC	DNCOI	NCID	ENT	HV	AC L	OADS.	THIS CALC IS DONE AT	EACH PANEL.				
	CIRCI	UIT KEY NOTES:																						





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504 North Church Street • Rockford, Illinois 61103 815-963-9392 • www.sgadesign.com **KEY PLAN**

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REVISIONS

SHEET INFORMATION **Construction Documents** November 03, 2022 21002885.11 **RAJMAK** MATSNY GAUSHA

Checked

SHEET TITLE **ELECTRICAL** COVERSHEET

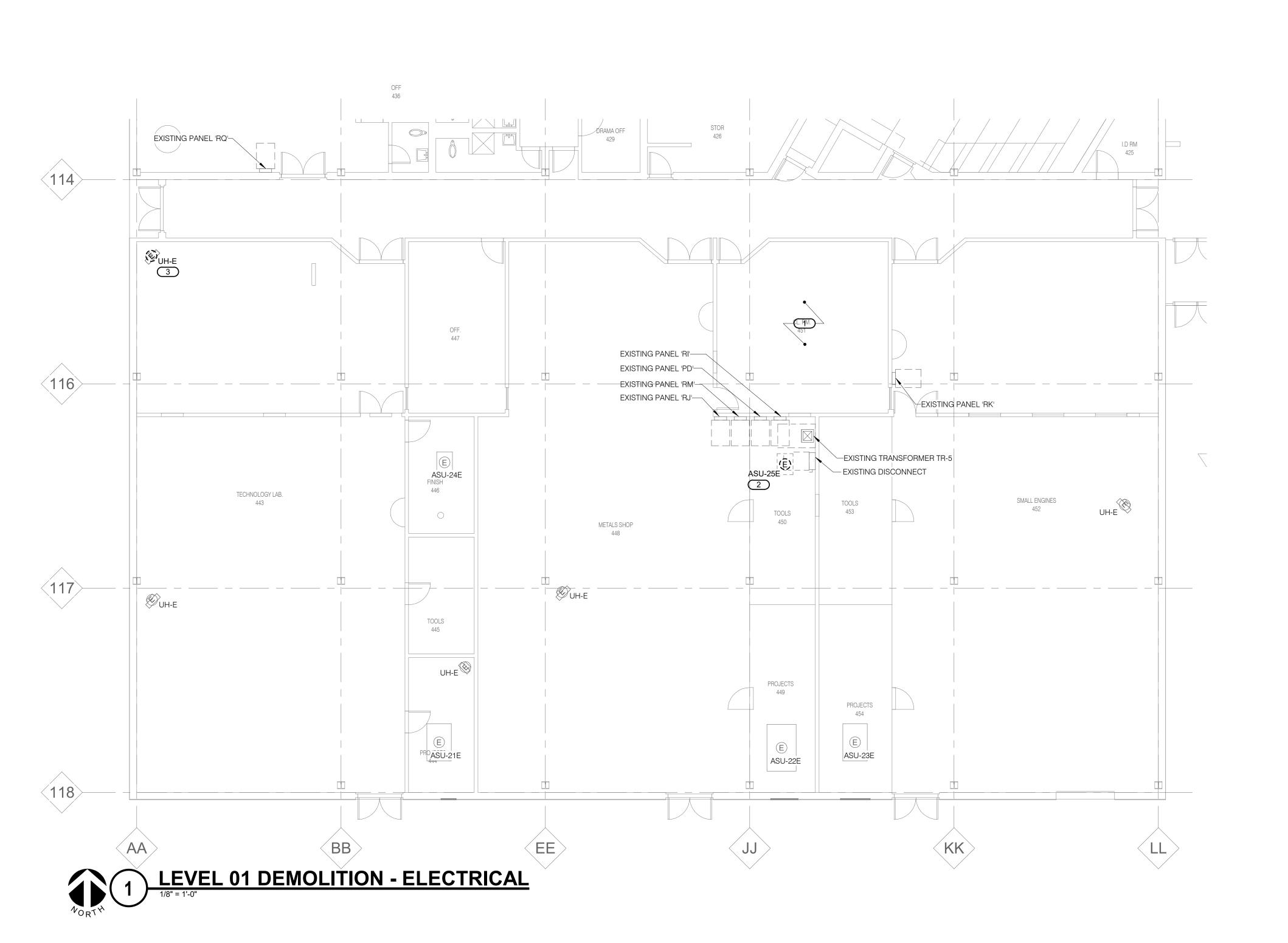
As indicated SHEET NUMBER

E CKT

- 19 SPARE

E000

SCALE



KEYNOTES: #

DISCONNECT AND RETAIN EXISTING CEILING MOUNTED ELECTRICAL DEVICES (LIGHT FIXTURES, SMOKE DETECTORS, OCCUPANCY SENSORS, SPEAKERS, ETC.) AS NEEDED FOR CEILING REMOVAL DUE TO NEW DUCT AND PIPING WORK. REINSTALL AND RECONNECT EXISTING DEVICES AFTER COMPLETION OF NEW CEILING WORK. FIELD COORDINATE THE FINAL SCOPE REQUIREMENTS WITH THE CONTRACTOR. DISCONNECT POWER FROM EXISTING MECHANICAL UNIT. REMOVE ALL ASSOCIATED ELECTRICAL INFRASTRUCTURE (DISCONNECT, STARTER, BACKBOXES ETC.). REMOVE ASSOCIATED WIRING & CONDUIT BACK TO SERVING PANEL AND MARK THE BREAKER AS "SPARE". MAINTAIN CONTINUITY OF POWER TO ALL EXISTING REMAIN DEVICES CONNECTED TO THIS CIRCUIT. FIELD VERIFY THE REQUIREMENTS. DISCONNECT POWER FROM EXISTING MECHANICAL UNIT AND ASSOCIATED DISCONNECT TO REUSE AT NEW LOCATION

PER NEW PLANS. RETAIN EXISTING BRANCH CIRCUIT AND PREPARE IT TO SERVE THE REUSED EQUIPMENT AT NEW LOCATION.





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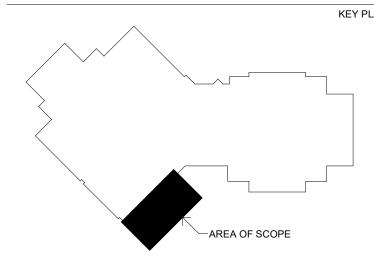
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No. Date Revision / Issue

SHEET INFORMATION

Construction Documents

November 03, 2022

Number 21002885.11

Num RAJMAK

Racked MATSNY

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SHEET TITLE

LEVEL 01

DEMOLITION

ELECTRICAL

Scale:

623 26TH AVENUE
ROCK ISLAND, IL 61201
P: 309.788.0673 F: 309.786.5967

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E101

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SHEET NUMBER

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REF. SCALE IN INCHES PROJECT #21002885.11

KK ROOF DEMOLITION - ELECTRICAL

KEYNOTES:

1. DISCONNECT POWER FROM EXISTING MECHANICAL UNIT. REMOVE ALL ASSOCIATED ELECTRICAL INFRASTRUCTURE (DISCONNECT, STARTER, BACKBOXES ETC.). REMOVE ASSOCIATED WIRING & CONDUIT BACK TO SERVING PANEL AND MARK THE BREAKER AS "SPARE". MAINTAIN CONTINUITY OF POWER TO ALL EXISTING REMAIN DEVICES CONNECTED TO THIS CIRCUIT. FIELD VERIFY THE REQUIREMENTS.





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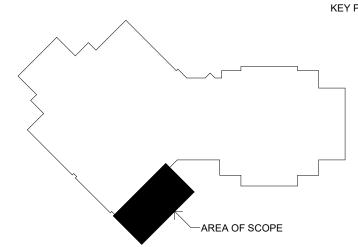
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Te November 03, 2022

Number 21002885.11

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SHEET TITLE ROOF DEMOLITION -ELECTRICAL

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 SHEET NUMBER

E102

1/8" = 1'-0"

SMALL ENGINES UH-E

KEYNOTES: #

1. REUSE EXISTING DISCONNECT AT RELOCATED MECHANICAL UNIT. EXTEND EXISTING MECHANICAL UNIT CIRCUIT RETAINED DURING DEMOLITION WORK IN THIS AREA. PROVIDE NEW WIRING AND CONDUIT (MATCH WITH EXISTING WIRE SIZE AND TYPE) AS REQUIRED.





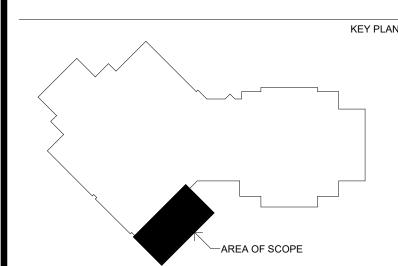
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Droved GAUSHA

SHEET TITLE

LEVEL 01
ELECTRICAL

Scale:

SHTS,

E201

SCALE

1/8" = 1'-0"

SHEET NUMBER

PROJECTS 449

ASU-22E

YEXISTING PANEL 'RK'

EXISTING TRANSFORMER TR-5

EXISTING DISCONNECT

EXISTING PANEL 'RQ'—

TECHNOLOGY LAB.

WUH-E

118

TOOLS

UH-E ₩

EXISTING PANEL 'RI'——EXISTING PANEL 'PD'—

EXISTING PANEL 'RM'-

METALS SHOP

EXISTING PANEL 'RJ'

KEYNOTES: #

I. DISCONNECT AND/OR CONTROLLER/STARTER PROVIDED BY OTHERS AND WIRED BY E.C.
2. COORDINATE CONNECTIONS TO MOTOR CONTROLLER FOR UNIT SHUTDOWN. MOUNT ADDRESSABLE RELAY INSIDE THE UNIT AND WITHIN 3'-0" OF CONTROLLER. CONNECT TO NEAREST AVAILABLE EXISTING FIRE ALARM CONTROL CIRCUIT WIRING. PROVIDE NEW WIRING AS RECOMMENDED BY THE FIRE ALARM MANUFACTURER.





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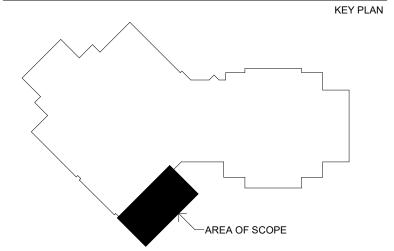
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Construction Documents RAJMAK

SHEET TITLE
ROOF ELECTRICAL

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SCALE

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