

SUNNYSIDE ELEMENTARY HVAC & ELECTRICAL UPGRADES

10203 MELVIN B. ALSBROOKS AVE, MCKENNEY, VA 23872

DINWIDDIE COUNTY PUBLIC SCHOOLS

RRMM ARCHITECTS, PC ARCHITECTURE / PLANNING / INTERIORS

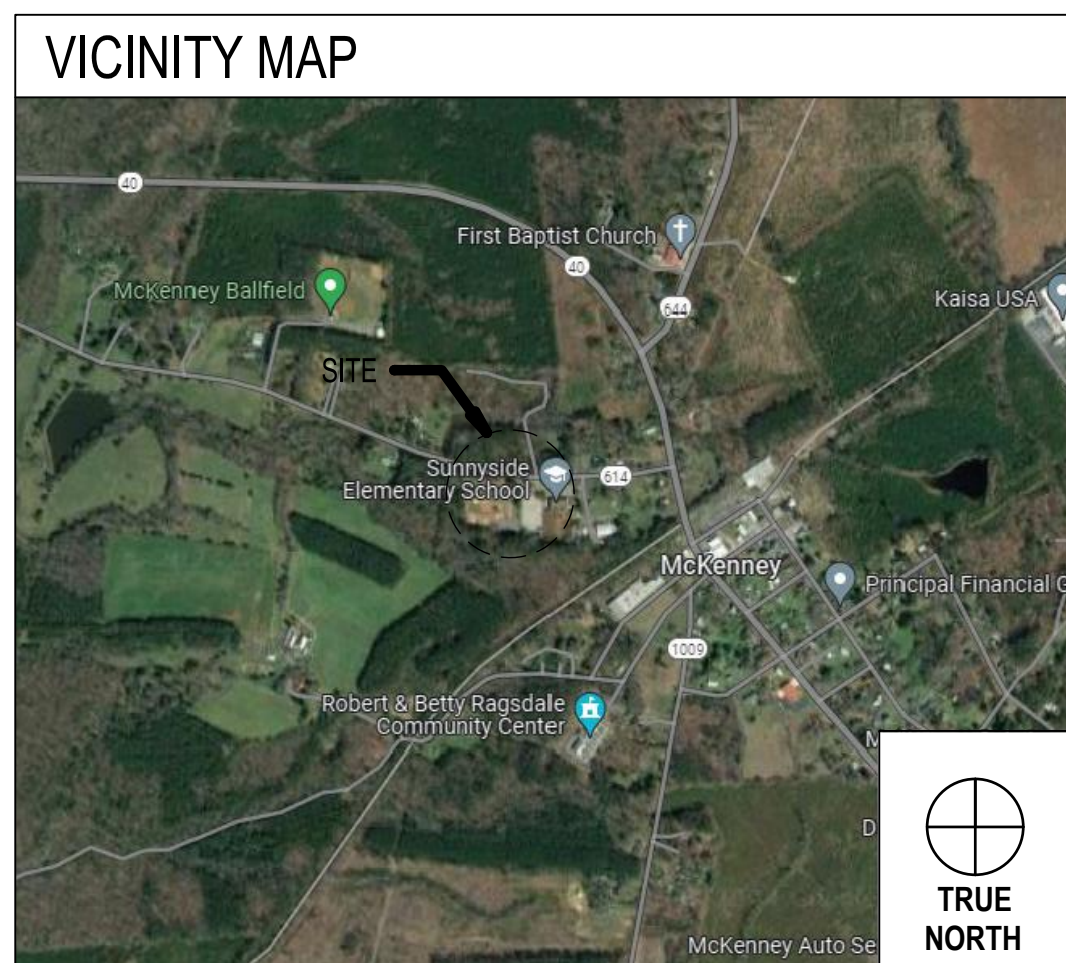
2900 South Quincy Street, Suite 710
Arlington, VA 22206
(703) 998-0101

1317 Executive Boulevard, Suite 200
Chesapeake, VA 23320
(757) 622-2828

115 South 15th Street, Suite 502
Richmond, VA 23219
(804) 277-8987

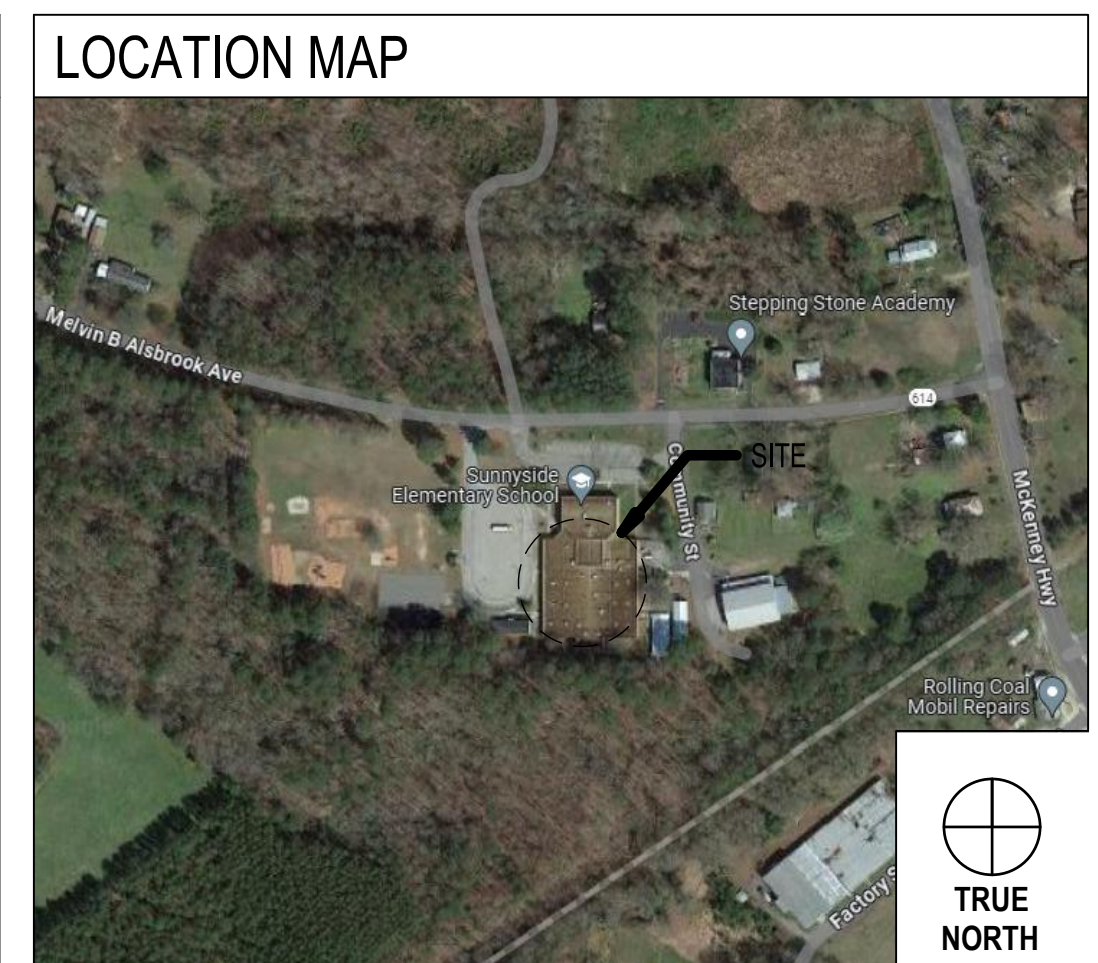
28 Church Avenue SW
Roanoke, VA 24011
(540) 344-1212

3700 Koppers Street, Suite 300
Baltimore, MD 21227
(410) 234-8444



CONSULTANTS	
CIVIL ENGINEER N/A	Dunbar Engineering N/A
MEP ENGINEERING 22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VIRGINIA 23666 P: (804) 469-4190 F: (804) 469-4197	Thompson Consulting Engineers 22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VIRGINIA 23666 P: (804) 469-4190 F: (804) 469-4197

OWNER
DINWIDDIE COUNTY PUBLIC SCHOOLS P.O. BOX 7, 14016 BOYDTON PLANK ROAD DINWIDDIE, VA 23841 P: (804) 469-4190 F: (804) 469-4197



SHEET INDEX	
SHEET NUMBER	SHEET TITLE
G-001	TITLE SHEET

ARCHITECTURAL DEMO	
AD-101	REFLECTED CEILING PLAN - DEMOLITION

ARCHITECTURAL	
A-001	ARCHITECTURAL GENERAL INFORMATION
A-101	REFLECTED CEILING PLAN - NEW WORK

MECHANICAL	
M-001	GENERAL NOTES, LEGEND, ABBREVIATIONS AND DIAGRAMS
M-002	MECHANICAL SCHEDULES
M-003	VENTILATION CALCULATIONS
MD-101	AREA A FLOOR PLAN - MECHANICAL - DEMOLITION
MD-102	ROOF PLAN - MECHANICAL - DEMOLITION
M-101	AREA A FLOOR PLAN - MECHANICAL - NEW WORK
M-102	ROOF PLAN - MECHANICAL - NEW WORK
M-201	MECHANICAL DETAILS
M-202	FRAMING CLAMP SYSTEM DETAILS
M-301	AUTOMATIC TEMPERATURE CONTROLS

ELECTRICAL	
E-001	ELECTRICAL LEGEND, NOTES, AND ABBREVIATIONS
ED-101	AREA A FLOOR PLAN - ELECTRICAL - DEMOLITION
ED-102	ROOF PLAN - ELECTRICAL - DEMOLITION
E-101	AREA A FLOOR PLAN - ELECTRICAL - NEW WORK
E-102	AREA B FLOOR PLAN - ELECTRICAL - NEW WORK
E-103	ROOF PLAN - ELECTRICAL - NEW WORK
E-201	PANELBOARD SCHEDULES AND POWER RISER DIAGRAM

PROJECT SUMMARY

PROJECT SCOPE IS GENERALLY DESCRIBED AS THE REMOVAL/REPLACEMENT OF MECHANICAL EQUIPMENT SERVICING THE GYMNASIUM, REMOVAL/REPLACEMENT OF CORRIDOR CEILING AND ACOUSTICAL CEILING TILE AND INSTALLATION OF ELECTRICAL PANELS AND INFRASTRUCTURE (I.E. CONDUIT) FOR FUTURE ELECTRICAL CONNECTION TO ROOFTOP MECHANICAL EQUIPMENT AS NOTED WITHIN THE CONSTRUCTION DOCUMENTS FOR SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES.

BUILDING CODE DESIGN SUPPORTING DATA

- APPLICABLE CODES**
- VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) 2021
 - VIRGINIA CONSTRUCTION CODE (VCC) 2021 - VUSBC PART 1
 - VIRGINIA EXISTING BUILDING CODE (VEBC) 2021 LEVEL 2-VUSBC PART 2
 - VIRGINIA STATEWIDE FIRE PREVENTION CODE (VSFPC) 2021
 - NATIONAL FIRE ALARM AND SIGNALING CODE - NFPA 72, 2022
 - STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS - NFPA 241, 2022
 - AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN, SEPTEMBER 15, 2010
 - VIRGINIA PLUMBING CODE, 2021
 - VIRGINIA MECHANICAL CODE, 2021
 - NATIONAL ELECTRICAL CODE-NFPA 70, 2023

EXISTING BUILDING CLASSIFICATION (PER VEBC)
THE EXISTING BUILDING WAS CONSTRUCTED IN 1981.

BUILDING AREAS
FLOOR BUILDING AREA: 37,416

BUILDING OCCUPANCY AND CONSTRUCTION TYPE
EXISTING BUILDING USE CLASSIFICATION: GROUP "E" EDUCATIONAL.
PROPOSED BUILDING USE CLASSIFICATION PER VCC 302.1: GROUP "E" EDUCATIONAL.

PER VCC 303.1.3 ASSEMBLY AREAS THAT ARE ACCESSORY TO GROUP E ARE NOT CONSIDERED SEPARATE OCCUPANCIES.

PER VCC 602.1 CONSTRUCTION TYPE: TYPE IIC, NON-COMBUSTIBLE UNPROTECTED, UNSPRINKLED, WITH FIRE ALARM.

IBC CHAPTER 6 ALTERATIONS
SECTION 602.1 - THIS PROJECT IS CLASSIFIED AS A LEVEL 1 ALTERATION SINCE THE ALTERATIONS INCLUDE THE REMOVAL AND REPLACEMENT OF EXISTING MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES USING NEW MATERIALS, ELEMENTS, EQUIPMENT OR FIXTURES THAT SERVE THE SAME PURPOSE

IBC SECTION 503 ALTERATIONS
SECTION 503.1 THE ALTERATIONS PROPOSED IN THIS PROJECT DO NOT MAKE THE EXISTING BUILDING LESS COMPLIANT WITH THE INTERNATIONAL BUILDING CODE PRIOR TO THE ALTERATION.

IBC SECTION 601 TYPES OF CONSTRUCTION
TABLE 601 THE NEW WORK PROPOSED IN THIS PROJECT IS COMPLIANT WITH THE EXISTING TYPE IIC CONSTRUCTION TYPE.

IBC SECTION 803.13 INTERIOR FINISHES
GROUP E
CORRIDORS: CLASS B
ROOMS AND ENCLOSED SPACES: CLASS C

IBC SECTION 1004 OCCUPANT LOAD
THE OCCUPANT LOAD OF THE EXISTING SCHOOL HAS NOT CHANGED DUE TO THE PROPOSED SCOPE OF THIS PROJECT.

AREA ALLOWANCE PER OCCUPANT (PER VCC TABLE 1004.1.1)
1. ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOMS 300 SF GROSS
2. ASSEMBLY, UNCONCENTRATED TABLES AND CHAIRS 15 SF NET
3. ASSEMBLY, CONCENTRATED 7 SF NET
4. BUSINESS AREAS 100 SF GROSS
5. EDUCATIONAL CLASSROOMS 20 SF NET

IBC SECTION 1005 MEANS OF EGRESS SIZING
THE MINIMUM EGRESS WIDTH HAS NOT CHANGED DUE TO THE SCOPE OF THIS PROJECT.

IBC SECTION 1006 NUMBER OF EXITS AND EXIT DOORWAYS
THE NUMBER OF EXITS HAS NOT CHANGED DUE TO THE SCOPE OF THIS PROJECT. THE COMMON PATH OF TRAVEL HAS NOT CHANGED DUE TO THE SCOPE OF THIS PROJECT.

BUILDING CODE DESIGN SUPPORTING DATA CONT.

IBC SECTION 2902 MINIMUM PLUMBING FACILITIES
THE NUMBER OF PLUMBING FIXTURES HAS NOT CHANGED DUE TO THE SCOPE OF THIS PROJECT.

DISCLOSURE STATEMENTS

ASBESTOS DISCLOSURE STATEMENT
BUILDING WAS CONSTRUCTED BEFORE JANUARY 1, 1985 - NO HAZARDOUS/ ASBESTOS CONTAINING BUILDING MATERIALS (ACBM) SHALL BE USED ON THIS PROJECT.

ACBM IS SUSPECTED TO HAVE BEEN USED IN THE ORIGINAL CONSTRUCTION OF THE BUILDING, BASED ON WORK. IT IS NOT ANTICIPATED THAT ACBMS WILL BE DISTURBED AS A PART OF THIS WORK. REFERENCE A REINSPECTION REPORT DATED JANUARY 22, 2020 INCLUDED IN THE PROJECT MANUAL.

IF ANY ADDITIONAL SUSPECTED ACBM MATERIALS ARE DISCOVERED BY THE CONTRACTOR, THE CONTRACTOR SHALL NOTIFY ARCHITECT/ OWNER IMMEDIATELY. THE ABATEMENT / REMOVAL OF HAZARDOUS AND/ OR ASBESTOS CONTAINING MATERIALS WILL BE HANDLED UNDER A SEPERATE CONTRACT BY THE OWNER. THE ASBESTOS ABATEMENT CONTRACTOR SHALL MARK UP THE AS-BUILT DRAWINGS RESULTING FROM ITS WORK TO INCLUDE AREAS WHERE ASBESTOS WAS ABATED, AREAS WHERE ASBESTOS WAS ENCAPSULATED, AND AREAS WHERE ACBM EXIST BUT WERE LEFT IN PLACE. THE ACBM THAT IS TO REMAIN AND THE NEW NON ASBESTOS-CONTAINING MATERIAL SHALL BE LABELED ACCORDINGLY. THE GENERAL CONTRACTOR SHALL REVIEW AND CERTIFY THE LOCATIONS WHERE ACBM WAS ABATED, AREAS WHERE ACBM WAS ENCAPSULATED AND AREAS WHERE ACBM WAS LEFT IN PLACE AS MARKED ON THE AS-BUILT DRAWINGS AND WILL PROVIDE THE DRAWINGS TO THE ARCHITECT.

LEAD DISCLOSURE STATEMENT
BUILDING WAS CONSTRUCTED BEFORE JANUARY 1, 1985 - NO HAZARDOUS/ LEAD CONTAINING BUILDING MATERIALS (LCBM) SHALL BE USED ON THIS PROJECT.

NO SUSPECTED LCBM ARE KNOWN TO HAVE BEEN USED IN EXISTING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ARCHITECT/ OWNER IMMEDIATELY IF ANY SUSPECTED LCBM MATERIALS ARE DISCOVERED. WHERE SUCH ACTIONS ARE REQUIRED, THE ABATEMENT / REMOVAL OF HAZARDOUS AND/ OR LEAD CONTAINING MATERIALS WILL BE HANDLED UNDER A SEPERATE CONTRACT BY THE OWNER. THE LEAD ABATEMENT CONTRACTOR SHALL MARK UP THE AS-BUILT DRAWINGS RESULTING FROM ITS WORK TO INCLUDE AREAS WHERE LEAD WAS ABATED, AREAS WHERE LEAD WAS ENCAPSULATED, AND AREAS WHERE LCBM EXIST BUT WERE LEFT IN PLACE. THE LCBM THAT IS TO REMAIN AND THE NEW NON LEAD-CONTAINING MATERIAL SHALL BE LABELED ACCORDINGLY. THE GENERAL CONTRACTOR SHALL REVIEW AND CERTIFY THE LOCATIONS WHERE LCBM WAS ABATED, AREAS WHERE LCBM WAS ENCAPSULATED AND AREAS WHERE LCBM WAS LEFT IN PLACE AS MARKED ON THE AS-BUILT DRAWINGS AND WILL PROVIDE THE DRAWINGS TO THE ARCHITECT.

DIG NOTICE
CONTACT MISS UTILITY AT 811, 1-800-552-7001, OR HTTP://WWW.MISSUTILITYOFVIRGINIA.COM NO LESS THAN 72 HOURS PRIOR TO EXCAVATION AND DO NOT DISTURB THE SOIL UNTIL DIG TICKET HAS BEEN PROCESSED

RECORD DRAWINGS
EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO SUBMISSION OF BID AND COMMENCEMENT OF WORK TO COORDINATE AND MAKE ANY NECESSARY ADJUSTMENTS.

THIS WORK INCLUDES (BUT IS NOT LIMITED TO) THE FOLLOWING RESTRICTIONS AND REQUIREMENTS:

ALTHOUGH THE WORK IS TO BE PERFORMED DURING THE SUMMER MONTHS, THE BUILDING & SITE WILL REMAIN OPEN, OPERATIONAL & ACCESSIBLE TO THE PUBLIC & STAFF DURING REGULAR BUSINESS HOURS THROUGH THE COURSE OF CONSTRUCTION WORK. ALL MAIN PUBLIC AREAS & MEANS OF EGRESS PATHWAYS MUST REMAIN CLEAR AND ACCESSIBLE AT ALL TIMES.

REFER TO THE CONSTRUCTION DOCUMENTS FOR ADDITIONAL RESTRICTIONS AND REQUIREMENTS. UNLESS OTHERWISE NOTED, ALL WORK INDICATED IN THE CONTRACT DOCUMENTS ARE TO BE INCLUDED IN THE BASE BID.

PARTIAL OWNER OCCUPANCY: OWNER WILL OCCUPY THE PREMISES DURING ENTIRE CONSTRUCTION PERIOD, WITH THE EXCEPTION OF AREAS UNDER CONSTRUCTION. COOPERATE WITH OWNER DURING CONSTRUCTION OPERATIONS TO MINIMIZE CONFLICTS AND FACILITATE OWNER USAGE. PERFORM THE WORK SO AS NOT TO INTERFERE WITH OWNER'S OPERATIONS. MAINTAIN EXISTING EXITS.

COORDINATION WITH OCCUPANTS

1. MAINTAIN ACCESS TO EXISTING WALKWAYS, CORRIDORS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT WALKWAYS, CORRIDORS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT WRITTEN PERMISSION FROM OWNER AND AUTHORITIES HAVING JURISDICTION.

2. PROVIDE NOT LESS THAN SEVENTY-TWO (72) HOURS' NOTICE TO OWNER OF ACTIVITIES THAT WILL AFFECT OWNER'S OPERATIONS, INCLUDING BUT NOT LIMITED TO, BUILDING SYSTEMS (HVAC, PLUMBING, ELECTRICITY AND IT SYSTEMS), OWNER LIMITED OCCUPANCY OF COMPLETED AREAS OF CONSTRUCTION:

3. THE OWNER RESERVES THE RIGHT TO OCCUPY AND TO PLACE AND INSTALL EQUIPMENT IN COMPLETED PORTIONS OF THE WORK, PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK, PROVIDED SUCH OCCUPANCY DOES NOT INTERFERE WITH COMPLETION OF THE WORK. SUCH PLACEMENT OF EQUIPMENT AND LIMITED OCCUPANCY SHALL NOT CONSTITUTE ACCEPTANCE OF THE TOTAL WORK.

A. ARCHITECT WILL PREPARE A CERTIFICATE OF SUBSTANTIAL COMPLETION FOR EACH PHASE OF THE WORK TO BE OCCUPIED PRIOR TO OWNER ACCEPTANCE OF THE COMPLETED WORK.

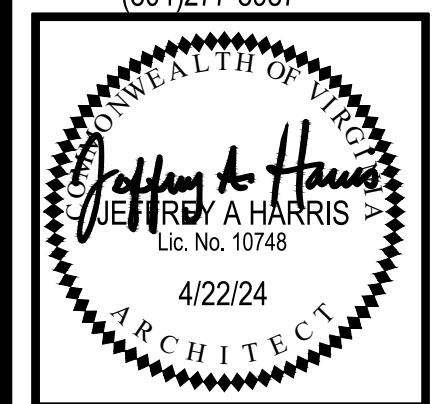
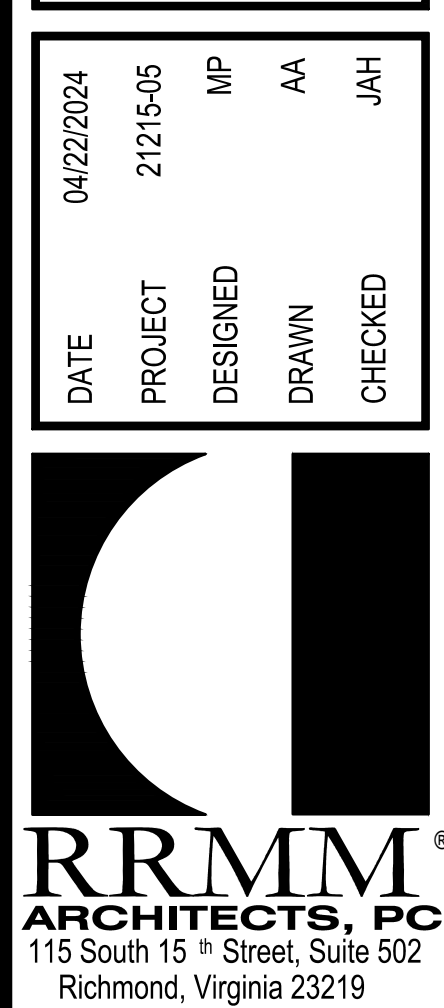
B. OBTAIN A CERTIFICATE OF OCCUPANCY FROM AUTHORITIES HAVING JURISDICTION BEFORE LIMITED OWNER OCCUPANCY.

C. BEFORE LIMITED OWNER OCCUPANCY, SPRINKLER, FIRE ALARM, MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE FULLY OPERATIONAL, AND REQUIRED TESTS AND INSPECTIONS SHALL BE SUCCESSFULLY PERFORMED AND APPROVED BY THE AUTHORITIES HAVING JURISDICTION. ON OCCUPANCY, OWNER WILL OPERATE AND MAINTAIN THE FIRE ALARM, MECHANICAL AND ELECTRICAL SYSTEMS SERVING OCCUPIED PORTIONS OF WORK.

4. UPON OCCUPANCY, OWNER WILL ASSUME RESPONSIBILITY FOR MAINTENANCE AND CUSTODIAL SERVICE FOR OCCUPIED PORTIONS OF WORK.

MARK	DATE	BY	DESCRIPTION

DATE	PROJECT	DESIGNED	DRAWN	CHECKED
04/22/2024	21215-05	MP	AA	JAH



DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY HVAC & ELECTRICAL UPGRADES
10203 MELVIN B. ALSBROOKS AVE, MCKENNEY, VA 23872

TITLE SHEET

PROJECT
DRAWING

SHEET
G-001

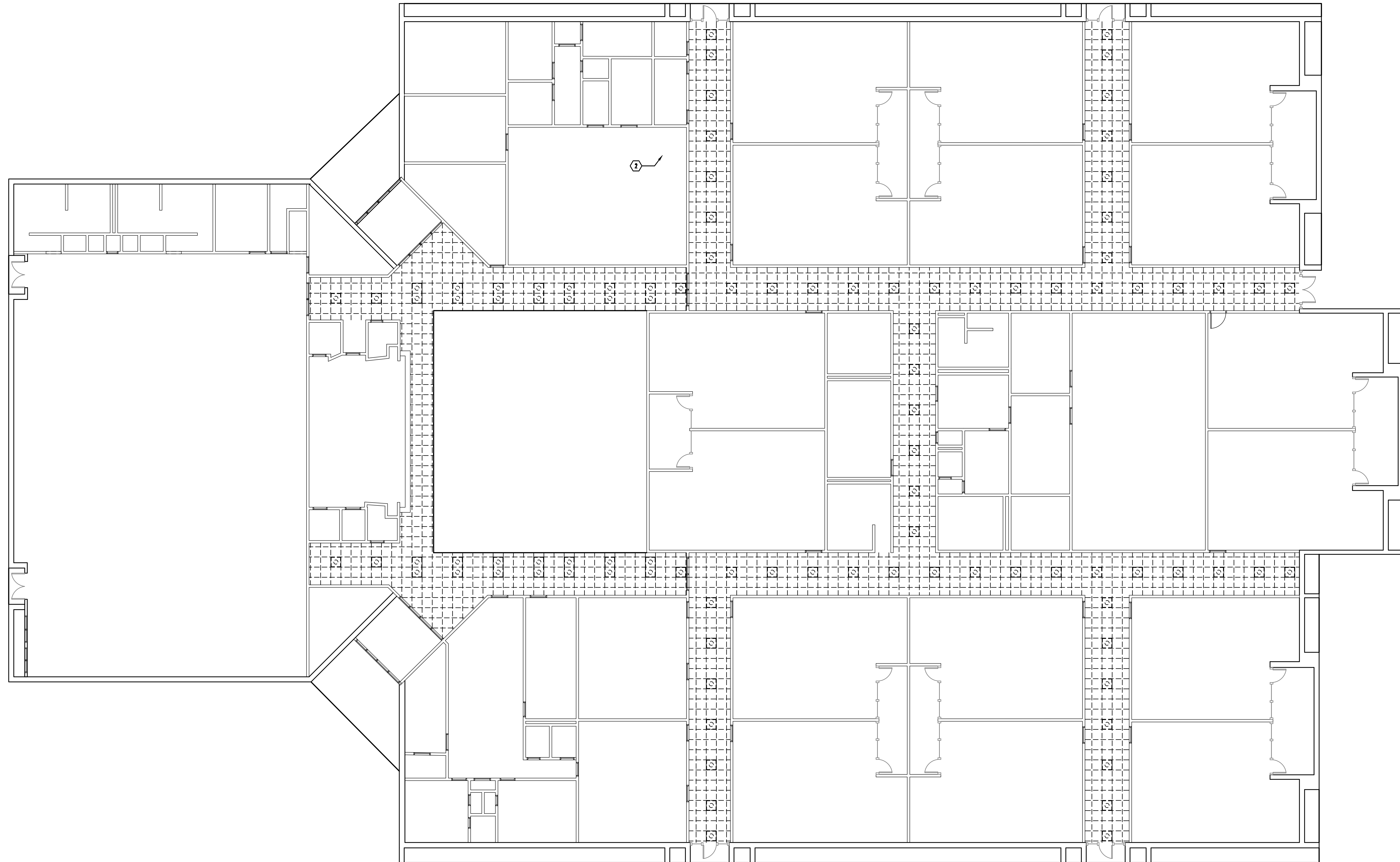
GENERAL DEMOLITION NOTES

1. PROVIDE FLOOR-TO-CEILING TEMPORARY DUST PARTITIONS TO CONTAIN DUST FROM DEMOLITION OPERATIONS FROM THE REMAINDER OF THE BUILDING. PARTITION SHALL BE CONSTRUCTED OF PLASTIC SHEETING W/ LAPPED & TAPED JOINTS FOR DUST PROTECTION.
2. COORDINATE DEMOLITION WORK W/ NEW WORK NOTES TO ENSURE PROPER REMOVAL OF ITEMS.
3. REFER TO SPECIFICATION SECTION 024119 SELECTIVE DEMOLITION FOR FURTHER INFORMATION ON REMOVAL & DISPOSAL.
4. ANY DIMENSIONS SHOWN FOR EXISTING CONSTRUCTION ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS.
5. ALL DEMOLITION WORK NOTED ON THESE DRAWINGS INVOLVES THE REMOVAL OF EXISTING CONSTRUCTION UNDER THE BASE CONTRACT, & SHALL BE COORDINATED W/ CORRESPONDING NEW WORK FLOOR PLANS & DETAILS. REMOVE EXISTING CONSTRUCTION AS INDICATED FOR FINISH CONSTRUCTION & NEW WORK TO CONFORM TO DETAILS.
6. DETAILS OF EXISTING CONDITIONS: ACTUAL FIELD CONDITIONS WHICH ARE CONCEALED BY EXISTING CONSTRUCTION MAY VARY SOMEWHAT FROM THOSE INDICATED IN DRAWINGS. ALL WORK THAT RELATES TO, OR IS IN ANY WAY AFFECTED BY, EXISTING CONDITIONS WHICH VARY FROM THOSE INDICATED SHALL BE MODIFIED AS REQUIRED BY FIELD CONDITIONS & MEASUREMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE PROCEEDING W/ AFFECTED ASPECTS OF CONSTRUCTION OR DEMOLITION.
7. PORTIONS OR ELEMENTS OF CEILING SCHEDULED TO BE REMOVED SHALL BE DONE SO TO PREVENT DAMAGE TO ADJACENT CONSTRUCTION TO REMAIN.
8. ITEMS IDENTIFIED TO BE SALVAGED ("REMOVE & DELIVER TO OWNER") SHALL BE CAREFULLY REMOVED & DELIVERED TO A STORAGE AREA DESIGNATED BY THE OWNER FOR THIS PURPOSE. ITEMS OWNER CHOOSES TO RETAIN SHALL BE RELOCATED FROM THE STORAGE AREA BY OWNER (NIC). ALL OTHER ITEMS SHALL BE SUBSEQUENTLY REMOVED & DISPOSED OF BY CONTRACTOR WHEN AUTHORIZED BY OWNER.
9. EXISTING LOOSE FURNITURE, EQUIPMENT, SUPPLIES, & PERSONAL BELONGINGS LOCATED IN SPACES TO BE RENOVATED SHALL BE REMOVED & RELOCATED BY OWNER (NIC).
10. PREPARE CEILINGS FOR NEW FINISHES AS SCHEDULED, IN ACCORDANCE W/ MANUF RECOMMENDATIONS FOR SURFACES SHALL BE SCRAPPED, CLEANED, & REPAIRED AS REQ'D TO PROVIDE A CLEAN MONOLITHIC SURFACE READY TO RECEIVE FINISHES.
11. CONTRACTOR SHALL FIELD VERIFY & COORDINATE ALL CEILING MOUNTED ITEMS WITH THE NEW ARCHITECTURAL, MECHANICAL & ELECTRICAL REFLECTED CEILING PLAN DRAWINGS.
12. REFER TO MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL ABOVE CEILING WORK THAT MAY BE REQUIRED. ALL EXISTING MATERIALS TO REMAIN WHICH ARE DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTORS OPERATIONS ARE TO BE PATCHED & REPAIRED TO MATCH EXISTING, AT NO ADDITIONAL COST TO THE OWNER.
13. REMOVE ALL EXISTING CEILING MOUNTED DEVICES IN THIS AREA. STOW WIRING/CABLING ABOVE CEILING FOR REUSE & IDENTIFY. MARK AREA FOR DEVICE TO BE REINSTALLED. ONCE THE RENOVATION OF THE CEILINGS HAVE BEEN COMPLETED, CLEAN AND REINSTALL DEVICES & RECONNECT TO PREVIOUS STOWED CABLES.

KEY NOTES - DEMOLITION

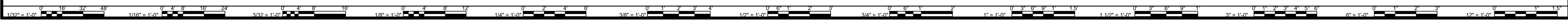
APPLIES TO AD SHEETS

- 1 REMOVE CEILING SYSTEM AND ASSOCIATED SUBSTRUCTURE COMPLETE. COORDINATE W/ MECH, ELEC DEMOLITION DWGS
- 2 REMOVE AND STORE ALL EXISTING-TO-REMAIN CEILING MOUNTED EQUIPMENT (I.E. LIGHT FIXTURES, HVAC DIFFUSERS, RETURN GRILLES, ETC.) FOR RE-INSTALLATION IN NEW CEILING GRID SYSTEM SHOWN ON SHEET A-101.



REFLECTED CEILING DEMOLITION PLAN

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



3/27/2024 2:22:55 PM BIM 360://121215-01 Dinwiddie County Public Schools/1215-00-01 DCPSS Southside ES - ARCH.rvt

DESCRIPTION	
BY	
MARK	DATE
REVISIONS	

DATE	04/22/2024	PROJECT	21215-05	MP	AA	JAH
DESIGNED		DRAWN		CHECKED		

RRMM ARCHITECTS, PC
 115 South 15th Street, Suite 502
 Richmond, Virginia 23219
 (804)277-8987

Jeffrey A. Harris
 Lic. No. 10748
 4/22/24
 ARCHITECT

**DINWIDDIE COUNTY PUBLIC SCHOOLS
 SUNNYSIDE ELEMENTARY HVAC & ELECTRICAL UPGRADES**
 10203 MELVIN B. ALSBROOKS AVE, MCKENNY, VA 23072

REFLECTED CEILING PLAN - DEMOLITION

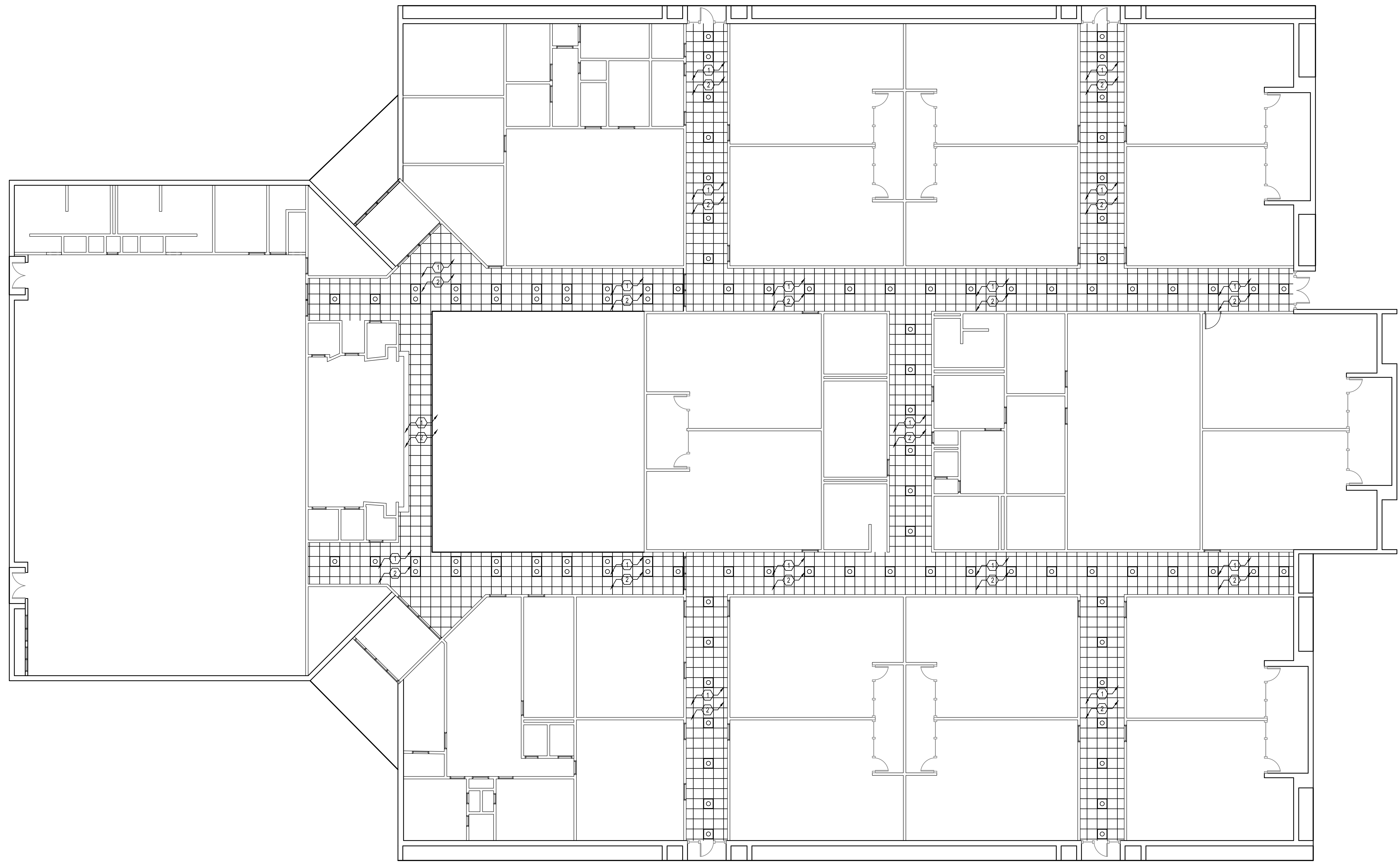
SHEET
AD-101

GENERAL NOTES

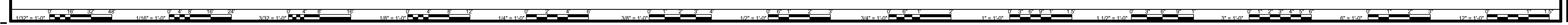
1. THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES. EXAMINE ALL PLUMBING, MECHANICAL, AND ELECTRICAL DOCUMENTS. MUCH OF THE INFORMATION IS NOT REPEATED OR SHOWN IN THE ARCHITECTURAL DOCUMENTS.
2. THE GENERAL CONTRACTOR SHALL VERIFY LOCATIONS AND EXTENT OF INSERTS, ANCHORS, PENETRATIONS, ETC. REQUIRED BY PLUMBING, MECHANICAL AND ELECTRICAL TRADES.
3. EXISTING CONSTRUCTION SHOWN HALFTONE FOR CLARITY-TYP UON.
4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES OR DETERMINATION OF DIMENSIONAL ADJUSTMENTS.
5. PENETRATIONS THROUGH FIRE RATED CONDITIONS SHALL BE CONSTRUCTED AND SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE FIRE RATED ASSEMBLY. PIPES, CONDUITS, DUCTS, STRUCTURAL MEMBERS, OR OTHER CONSTRUCTION SHALL BE FIRESTOPPED. FIRESTOPPING SHALL BE PERFORMED USING MATERIALS COMPLYING WITH THE BUILDING CODES AND STANDARDS APPLICABLE TO THIS PRODUCT AS INTERPRETED BY THE BUILDING OFFICIAL(S) HAVING JURISDICTION.
6. ALL MODIFICATIONS TO THE EXISTING ONE-HOUR CORRIDOR PARTITIONS SHALL MAINTAIN A ONE HOUR RATING. THE TOP OF THE PARTITIONS MUST BE SEALED TO THE STRUCTURE ABOVE TO MAINTAIN THE ONE HOUR RATING.
7. PROTECT AND MAINTAIN INTEGRITY OF ALL INSTALLED EQUIPMENT AND ROOF SYSTEMS DURING THE ENTIRE DURATION OF CONSTRUCTION.

KEY NOTES - NEW WORK

- 1 NEW CEILING SYSTEM AS SCHEDULED, COORDINATE W/ MECH, ELEC, PLUMB DWGS.
- 2 REINSTALL ALL EXISTING-TO-REMAIN CEILING MOUNTED EQUIPMENT (I.E. LIGHT FIXTURES, HVAC DIFFUSERS, RETURN GRILLES, ETC.) IN NEW CEILING GRID SYSTEM.



REFLECTED CEILING - NEW WORK PLAN
SCALE: 1/8" = 1'-0"



3/27/2024 2:19:20 PM BIM 360://21215-01 Dinwiddie County Public Schools/21215-00-01 DCPSS Southside ES_ARCH.rvt

MARK	DATE	BY	DESCRIPTION

DATE	04/22/2024	PROJECT	21215-05	MP	AA	JAH
DESIGNED		DRAWN				
CHECKED						

RRMM ARCHITECTS, PC
115 South 15th Street, Suite 502
Richmond, Virginia 23219
(804)277-8987

Jeffrey A. Harris
Lic. No. 10748
4/22/24
ARCHITECT

DINWIDDIE COUNTY PUBLIC SCHOOLS
SOUTHSIDE ELEMENTARY SCHOOL RENOVATION
10305 BOYDTON PLANK RD, DINWIDDIE, VA 23041

REFLECTED CEILING PLAN - NEW WORK

SHEET
A-101

GENERAL DEMOLITION NOTES

- WHERE EQUIPMENT IS INDICATED TO BE REMOVED, IT SHALL MEAN COMPLETE REMOVAL OF EQUIPMENT, INCLUDING CURBS, SUPPORTS, BRACKETS, CONTROLS AND INCIDENTAL ITEMS CONNECTED OR FASTENED TO EQUIPMENT. OWNER MAINTAINS THE OWNERSHIP OF ALL ITEMS TAGGED OR IDENTIFIED.
- WHERE PIPING IS INDICATED TO BE REMOVED, IT SHALL MEAN COMPLETE REMOVAL OF PIPING, INCLUDING VALVES, FITTINGS, INSULATION, SUPPORTS, HANGERS, BRACKETS, CONTROLS AND INCIDENTAL ITEMS CONNECTED OR FASTENED TO THE PIPING. PIPING IS DIAGRAMMATIC AND INDICATES THE GENERAL EXTENT OF WORK. NO ATTEMPT IS MADE TO SHOW EVERY ELL, TEE, OFFSET, FITTING AND VALVE. REMOVE PIPING AS INDICATED AND SPECIFIED.
- WHERE DUCTWORK IS INDICATED TO BE REMOVED, IT SHALL MEAN COMPLETE REMOVAL OF DUCTWORK, INCLUDING FITTINGS, INSULATION, SUPPORTS, BRACKETS, CONTROLS AND INCIDENTAL ITEMS CONNECTED OR FASTENED TO THE DUCTWORK. DUCTWORK IS DIAGRAMMATIC AND INDICATES THE GENERAL EXTENT OF WORK. NO ATTEMPT IS MADE TO SHOW EVERY ELL, TEE, OFFSET AND FITTING. REMOVE DUCTWORK AS INDICATED AND SPECIFIED.
- CONTRACTOR SHALL RECLAIM AND DISPOSE OF ALL REFRIGERANT IN ACCORDANCE WITH ALL STATE AND LOCAL CODES PRIOR TO REMOVING THE EXISTING UNIT.

GENERAL NOTES

- CONTRACTOR SHALL VISIT JOB SITE TO DETERMINE EXTENT OF WORK INVOLVED PRIOR TO BIDDING THE PROJECT.
- THE MECHANICAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
- COORDINATE LOCATION OF ALL DUCTWORK, SUPPLY AND RETURN DEVICES, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED EQUIPMENT WITH OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE BUILDING.
- ALL PIPING, VALVES, DUCTWORK, ETC., SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- PIPING ARRANGEMENTS ARE DIAGRAMMATIC.
- PIPING PASSING THROUGH WATERPROOF MEMBRANES SHALL BE MADE WATERTIGHT.
- ARRANGE PIPING AND DUCTWORK PARTICULARLY ABOVE CEILING AS REQUIRED TO CLEAR STRUCTURE, CONDUIT, LIGHTS, ETC., ALLOWING SPACE FOR HANGERS, INSULATION, ETC.
- DUCT DIMENSIONS MAY BE MODIFIED AS APPROVED BY ENGINEER.
- DUCT SIZES SHOWN ARE INSIDE FREE AREA DIMENSIONS.
- MAINTAIN PROPER CLEARANCES PER ELECTRICAL CODE ON ALL EQUIPMENT. COORDINATE WITH ALL TRADES TO ENSURE CLEARANCES ARE NOT OBSTRUCTED.
- INSTALL ALL WALL MOUNTED NON-ADJUSTABLE SENSORS AT 5'-0" FROM FINISHED FLOOR TO TOP OF SENSOR. ADJUSTABLE DEVICE SHALL BE INSTALLED 4'-0" ABOVE FINISHED FLOOR.
- ALL ROUND BRANCH DUCTS TO DIFFUSERS SHALL MATCH NECK SIZES SHOWN ON SCHEDULE, UNLESS OTHERWISE NOTED.
- ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE SIZED TO HAVE A MINIMUM FREE AREA OF 70% AND MEET PERFORMANCE CRITERIA SCHEDULED.
- CONTRACTOR SHALL ONLY USE DESIGNATED AREAS WITHIN THE EQUIPMENT FOR PENETRATIONS OF ELECTRICAL CONDUITS AND CONTROL CONDUITS. THESE PENETRATIONS MUST BE WEATHERTIGHT. IF A CONTRACTOR PENETRATES ANY AREAS IN THE EQUIPMENT THAT IS NOT DESIGNATED BY THE MANUFACTURER FOR PENETRATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS TO THE EQUIPMENT, TO INSURE IT IS WEATHERTIGHT. IF EQUIPMENT CAN NOT BE MADE WEATHER TIGHT THE CONTRACTOR SHALL BE REQUIRED TO REPLACE EQUIPMENT AT THEIR OWN EXPENSE.

ABBREVIATIONS

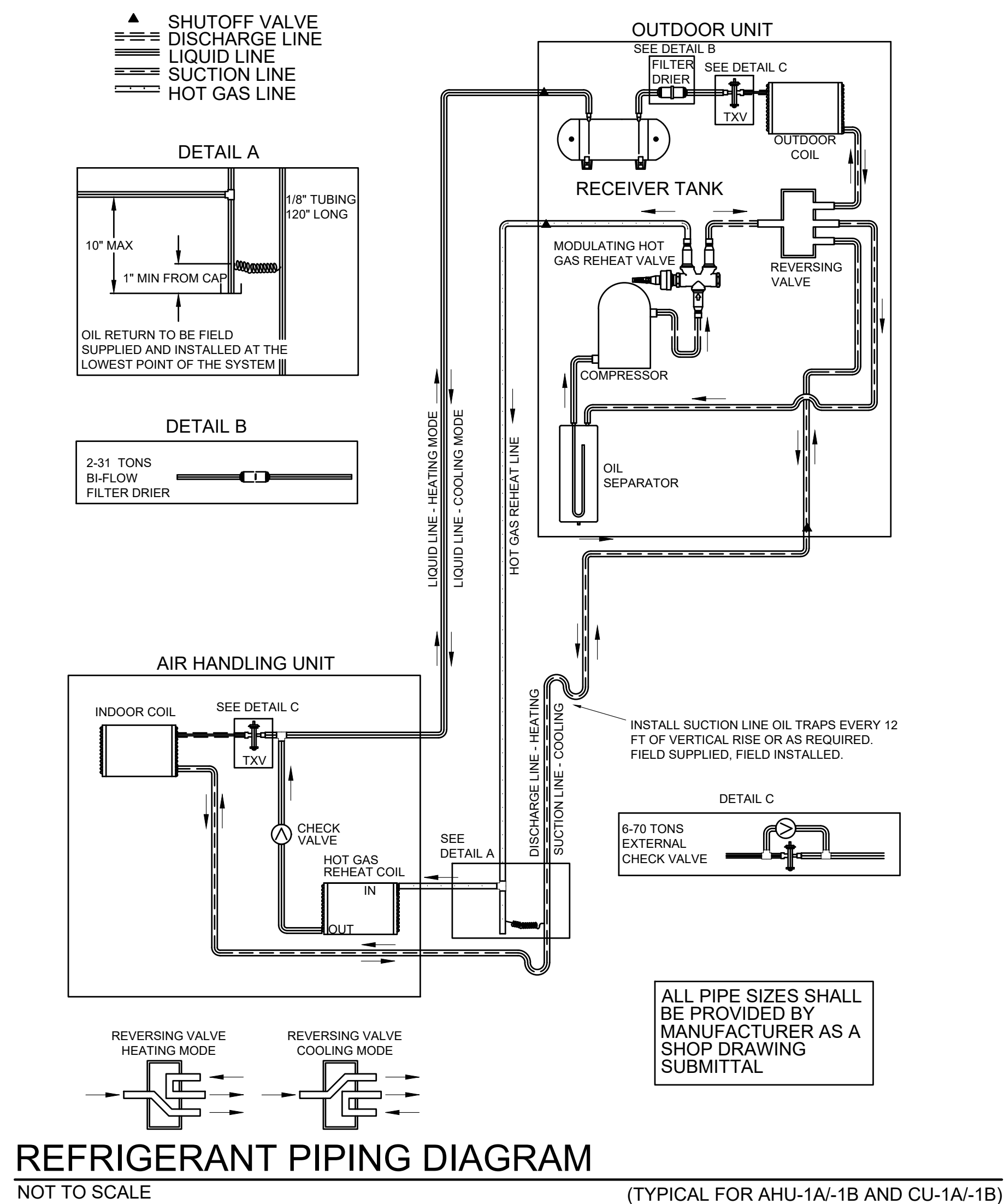
Ø	DIAMETER
AHU-x	AIR HANDLING UNIT DESIGNATION
AMPS	AMPERES
APPROX	APPROXIMATE
AUX	AUXILIARY
BAS	BUILDING AUTOMATION SYSTEM
CFM	CUBIC FEET PER MINUTE
COMP	COMPRESSOR
COP	CLEANOUT PLUG
CU-x	CONDENSING UNIT DESIGNATION
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EMER	EMERGENCY
ESP	EXTERNAL STATIC PRESSURE
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FLA	FULL LOAD AMPS
HP	HORSEPOWER
IN	INCH/INCHES
kA	KILO AMPS
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MIN	MINIMUM
MOC	MAXIMUM OVER CURRENT PROTECTION
NC	NOISE CRITERIA
NO	NUMBER
OA	OUTSIDE AIR
ΔP	PRESSURE DIFFERENTIAL
PH	PHASE
QTY	QUANTITY
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU-x	ROOFTOP UNIT DESIGNATION
SCCR	SHORT CIRCUIT CURRENT RATING
SCR	SILICON CONTROLLED RECTIFIER
SEER	SEASONAL ENERGY EFFICIENCY RATING
SENS	SENSIBLE
SF	SQUARE FEET
TYP	TYPICAL
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THROUGH ROOF
WB	WET BULB
WG	WATER GAUGE

LEGEND

CD	CONTROL DAMPER	90° DUCT ELBOW - TURNED DOWN - SUPPLY
SD	SMOKE DETECTOR LOCATION	CLEANOUT PLUG
XXX	BALANCE EXISTING AIR TERMINAL TO CFM INDICATED	ROUND DUCT
XXX	DIFFUSER, REGISTER, AND GRILLE, CFM AS INDICATED	DIRECTION OF AIRFLOW
CFM	HUMIDITY SENSOR	POINT OF CONNECTION FOR NEW WORK
⊕	THERMOSTAT OR TEMPERATURE SENSOR, CONTROLLING UNIT AS INDICATED	REMOVE EXISTING TO THIS POINT
⊕XX	SENSOR WITH GUARD	DEMOLITION NOTE
⊕XX	SUPPLY AIR DEVICE WITH FLEXIBLE DUCT	(X"/X") EXISTING SIZES AS INDICATED
⊕XX	SUPPLY AIR DEVICE	1 NEW WORK NOTE
1	90° DUCT ELBOW - TURNED DOWN	ENLARGED PLAN: NUMBER "1" SEE SHEET MXXX
1	DUCT ELBOW WITH TURNING VANES	SECTION: LETTER "A" SEE SHEET MXXX
1	DUCT SECTION - RETURN/EXHAUST	EXISTING TO REMAIN
1	DUCT SECTION - SUPPLY	NEW WORK
1	DUCTWORK TURNING DOWN	EXISTING TO BE REMOVED
1	90° DUCT ELBOW - TURNED UP	PIPE DOWN
1	90° DUCT ELBOW - TURNED DOWN	PIPE UP
1	SIDEWALL GRILLE OR REGISTER	PIPE DOWN
1	ROOF MOUNTED EXHAUST FAN	PIPE UP
1	ROOF MOUNTED INTAKE HOOD	DRAIN PIPING
1	ROOF MOUNTED EXHAUST OR RELIEF HOOD	NEW PIPING
1	SUPPLY AIR DEVICE	PIPING TO BE REMOVED
1	RETURN AIR DEVICE	REFRIGERANT LIQUID PIPING
1	SUPPLY AIR DEVICE	REFRIGERANT SUCTION PIPING
1	NEW DUCT	DIRECTION OF PITCH FOR PIPING OR DUCTWORK
1	90° DUCT ELBOW - TURNED DOWN - RETURN	

TEMPORARY CONDITIONING NOTES

- THE CONTRACTOR SHALL PROVIDE CONDITIONED AIR IN THE MAIN OFFICE (AREAS SERVED BY RTU-23), LIBRARY (AREAS SERVED BY RTU-12 AND RTU-15) AND GYMNASIUM (AREA SERVED BY EXISTING AHU-1/OU-1), FOR THE DURATION OF ALL SERVICE INTERRUPTIONS LONGER THAN ONE DAY. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE WITH THE OWNER PRIOR TO ANY SERVICE INTERRUPTIONS. PORTABLE ROLLING UNITS ARE ACCEPTABLE.
 - MAINTAIN OCCUPIED SPACE TEMPERATURE OF 71°F MINIMUM AND 76°F MAXIMUM.
 - MAINTAIN OCCUPIED SPACE RELATIVE HUMIDITY OF 60% MAXIMUM.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ELECTRICAL POWER REQUIREMENTS OF TEMPORARY UNITS WITH THE BUILDING'S ELECTRICAL SYSTEMS AND SHALL BE RESPONSIBLE FOR EMPTYING UNITS' CONDENSATE CONTAINERS AS OFTEN AS REQUIRED TO PREVENT UNIT FAILURE AND OVERFLOW.



THOMPSON Consulting Engineers
 21 ENTERPRISE PARKWAY
 HAMILTON VA 23060
 3815 LANTANA ROAD
 VA BEACH VA 23512
 TELEPHONE (757) 940-4100
 PROJECT NUMBER: 202411

DESCRIPTION
BY
MARK
DATE
REVISIONS

DATE	04/22/2024
PROJECT	21215-02
DESIGNED	BDC
DRAWN	SLS
CHECKED	KDA

RRMM ARCHITECTS, PC
 115 South 15th Street, Suite 202
 Richmond, Virginia 23219
 (804) 277-8987

COMMONWEALTH OF VIRGINIA
 KEVIN D. ALLEN
 Lic. No. 023349
 04.22.2024

PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
 SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
 DRAWING: GENERAL NOTES, LEGEND, ABBREVIATIONS, AND DIAGRAMS

SHEET
M-001

SPLIT SYSTEM HEAT PUMP SCHEDULE - GYMNASIUM

UNIT NO.	INDOOR UNIT															OUTDOOR UNIT										REMARKS																	
	SUPPLY FAN					DX COOLING COIL DATA				REVERSE CYCLE HEATING DATA						ELECTRIC HEATING DATA (AUX/EMERGENCY)			HOT GAS REHEAT DATA			ELECTRICAL			SELECTION BASED ON "AAON"		UNIT WEIGHT (LBS.)	EAT		NO. OF COMP.	SELECTION BASED ON "AAON"			ELECTRICAL			OPERATING WEIGHT (LBS.)						
	CFM	OA CFM	ESP (IN.)	HP	RPM	OUTLET SOUND POWER (dBA)	TOTAL (MBH)	SENS (MBH)	EAT		LAT		TOTAL (MBH)	EAT		LAT		EAT DB (F°)	LAT DB (F°)	TOTAL KW	HEATER QTY	EAT DB (F°)	LAT DB (F°)	CAPACITY (MBH)	FLA		MCA	MOCP	V	PH	FLA	MCA	MOCP	V	PH	FLA	MCA	MOCP	V	PH	WEIGHT (LBS.)		
AHU-1A	3300	1000	1.25	1@4	1576	81	173.2	103.8	82.5	70.0	52.6	52.4	107.0	50.4	44.1	79.5	56.8	79.5/50.4	99.5/90.6	21.0/42.0	4/8	52.6	72.0	69.5	125	156	175	208	3	V3-DRB-8-0-162C-3H4	865	CU-1A	95.0	78.0	2	CFA-016-C-A-8-DJ00L	55	61	80	208	3	1328	① THRU ⑩
AHU-1B	6850	2000	1.50	2@4	1713	86	364.5	215.7	82.4	69.9	51.8	51.6	226.5	50.7	44.3	81.0	57.4	81.0/50.7	100.8/80.4	42.0/63.0	8/12	51.8	72.0	146.0	192	196	225	208	3	V3-ERB-8-0-162C-3MS	1294	CU-1B	95.0	78.0	4	CFA-031-D-A-8-GJ00L	124	131	150	208	3	2416	① THRU ⑩

REMARKS:

<p>① REFER TO SPECIFICATION SECTION 230500 FOR ADDITIONAL REQUIREMENTS.</p> <p>② ELECTRICAL DISCONNECTS FOR AIR HANDLING UNIT AND CONDENSING UNITS PROVIDED BY DIV 26.</p> <p>③ PROVIDE WITH STAINLESS STEEL DRAIN PAN AND CONDENSATE OVERFLOW PROTECTION SWITCH.</p> <p>④ UNIT SHALL BE CONFIGURED FOR R-410A REFRIGERANT.</p>	<p>⑤ PROVIDE WITH FACTORY-INSTALLED HAIL GUARDS TO PROTECT CONDENSER COILS.</p> <p>⑥ PROVIDE WITH PHASE FAILURE MONITOR AND BROWNOUT PROTECTION.</p> <p>⑦ REFER TO SEQUENCES OF OPERATION ON M300 SERIES DRAWINGS FOR ALL REQUIRED CONTROL POINTS.</p>	<p>⑧ DX COOLING COIL PERFORMANCE DATA BASED ON GROSS COIL CAPACITY. COIL ENTERING AIR TEMPERATURES BASED ON 95°F DB/78°F WB AMBIENT AND 77°F DB/66°F WB RETURN AIR TEMPERATURES.</p> <p>⑨ PROVIDE WITH SCR-CONTROLLED, FULLY MODULATING AUXILIARY ELECTRIC HEAT TO SUPPLEMENT HEAT PUMP OPERATION. PROVIDE WITH EMERGENCY ELECTRIC HEATING COIL FOR PARTIAL HEAT IN EVENT OF COMPRESSOR FAILURE.</p>	<p>⑩ PROVIDE WITH FULLY MODULATING HOT GAS REHEAT COIL.</p> <p>⑪ PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION SECTION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE UNIT MANUFACTURER.</p> <p>⑫ PROVIDE WITH MERV-13 FILTERS.</p>	<p>⑬ HEATING DATA BASED ON 10°F DB/9°F WB AMBIENT AND 68°F DB/54°F WB RETURN AIR TEMPERATURES.</p> <p>⑭ PROVIDE WITH 65KA SCCR.</p> <p>⑮ PROVIDE WITH VARIABLE CAPACITY COMPRESSORS ON LEAD REFRIGERATION CIRCUIT.</p> <p>⑯ PROVIDE UNIT WITH MIXING BOX WITH INTEGRAL OA AND RA CONTROL DAMPERS.</p>
---	--	--	--	---

THOMPSON
Consulting Engineers

21 ENTERPRISE PARKWAY
 HAMPTON VA 23066
 800.441.4420
 757.546.1422
 PROJECT NUMBER: 202411

DESCRIPTION	
BY	
MARK DATE	
REVISIONS	

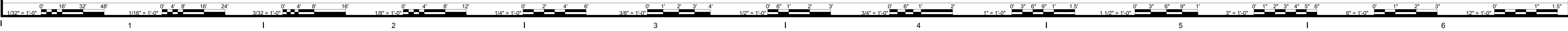
DATE	04/22/2024	BDC	SLS	KDA
PROJECT	21215-02	DESIGNED	DRAWN	CHECKED

RRMM ARCHITECTS PC
 115 South 15th Street, Suite 202
 Richmond, Virginia 23219
 (804)277-8987

KEVIN D. ALLEN
 Lic. No. 023349
 04.22.2024

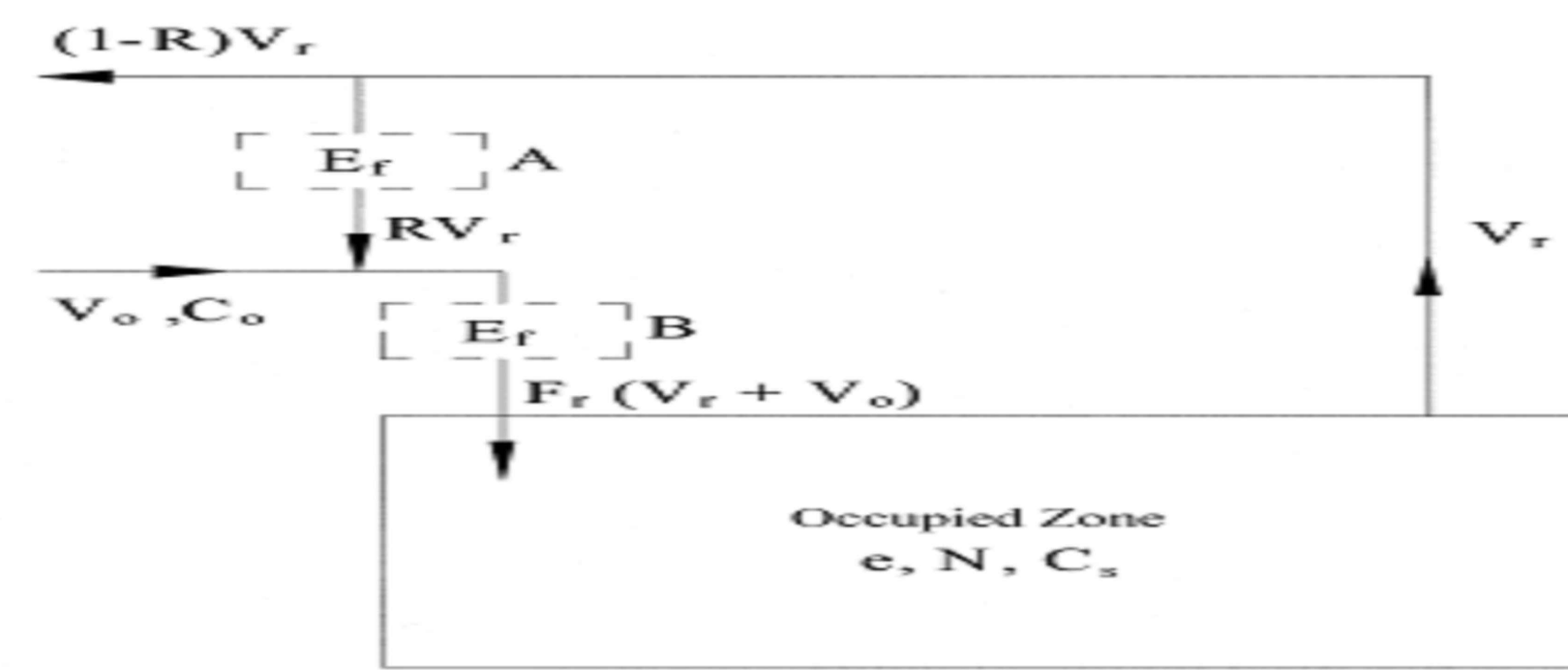
PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
 SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
 MECHANICAL SCHEDULES
 DRAWING

SHEET
M-002



Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
PE Office	Educational Facilities	Office Space	140.0	1.0	5.0	0.06	5	8	0.8	17
Gym	Educational Facilities	Spectator Areas	4,830.0	275.0	7.5	0.06	2063	290	0.8	2940
			4,970.0	276.0						2957
										OA required per VRP

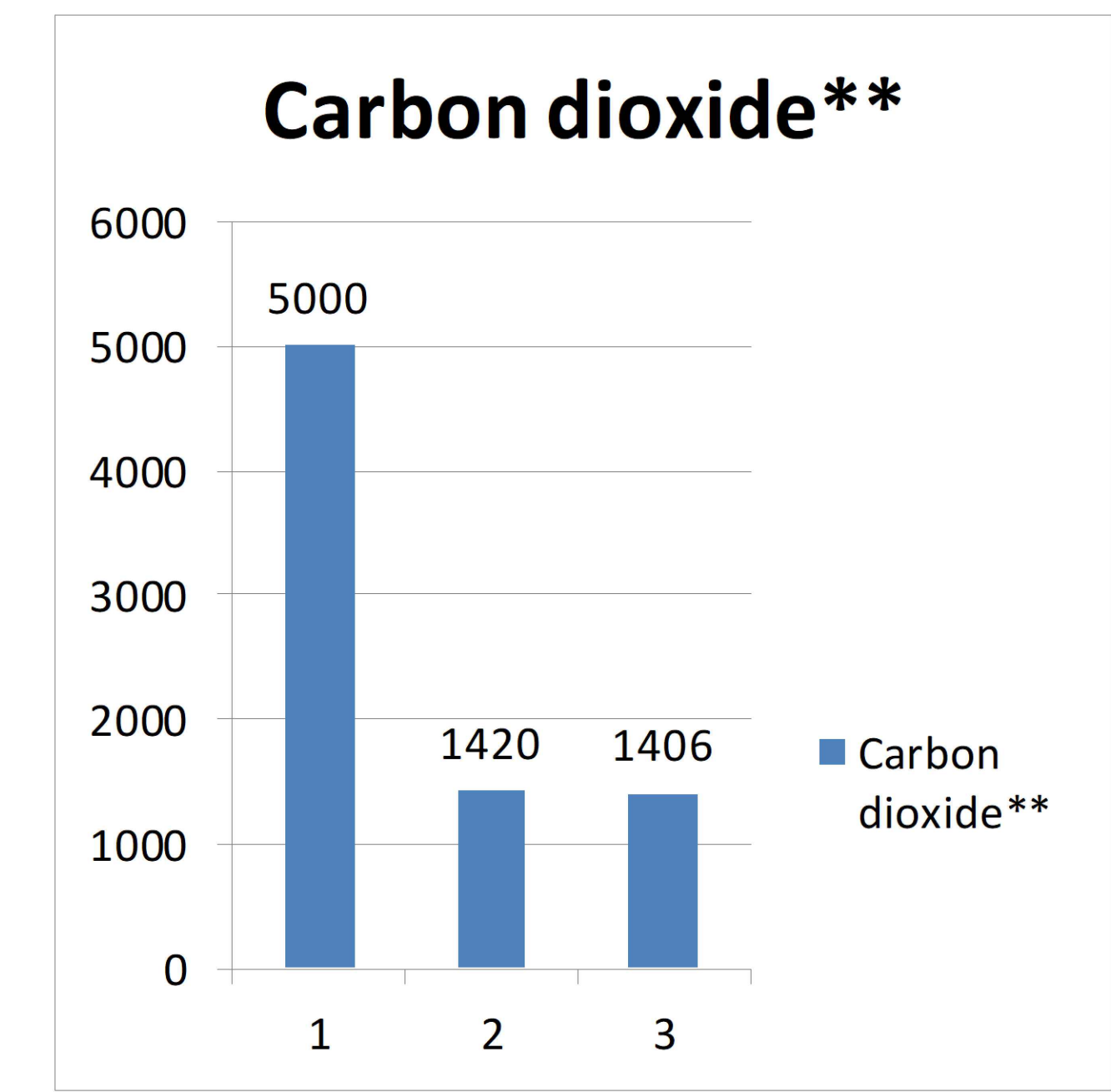
Zone Height (feet)	28.0
Desired Outside Air (Vo) IAQP	3,000
Supply Air (Vs)	10,000
Return Air (Vr)	7000
Recirc. Flow Factor (R)	0.70
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



Air Changes Per Hour	4.3	VRP OA CFM per person	10.7
Outside Air Per VRP	2957 CFM	IAQ OA CFM per person	10.9
Outside Air Per IAQ	3000 CFM		
Outside Air Savings	-43 CFM	Winter Heating Savings	
OA Summer Drybulb	95.0	OA Winter Design DB (F)	15
OA Summer Wetbulb	78.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F)	53.0	MBH Saved Winter	-3.7
Coil Leaving Air Wetbulb (F)	53.0	KW Saved Winter	-1.1
OA MBH Saved Summer*	-3.8		
OA Tons Saved Summer*	-0.3		

*OA = Outside Air
 ***OSHA, NIOSH & WHO most conservative values used
<http://www.cdc.gov/niosh/npg/npgsyn-a.html>

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	1.114E-02	0.00258	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00203	0.00064	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.02676	0.01179	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00253	0.00059	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00026	0.00009	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	1420	1406	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00003	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00083	0.00022	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00009	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00535	0.00124	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00080	0.00020	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00053	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH CO2 Limit
 2 = CO2 Level at Ventilation Rate OA Flow Rate
 3 = CO2 Level at IAQ Procedure OA Flow Rate

Building materials and furnishings assumed to have no VOCs and off-gassing is complete. Is IAQ acceptable at reduced outside air levels? **Yes**

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove CO2 is not a contaminant of concern when using air purification to control the other contaminants of concern, as found on submarines.

GYMNASIUM VENTILATION CALCULATION

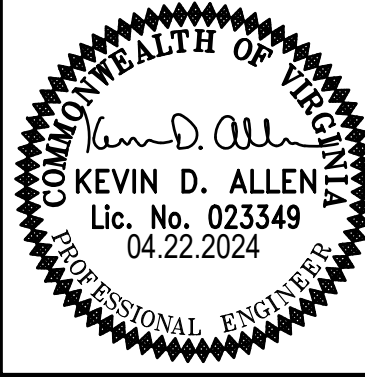
(TYP. AHU-1A AND -1B)

NOTE: OUTSIDE AIR FLOW RATES AS SCHEDULED ARE GENERALLY CALCULATED VIA THE ASHRAE VENTILATION RATE PROCEDURE (VRP). ANY VENTILATION EXCEEDING THE VRP REQUIREMENT IS DUE TO A POSITIVE SPACE PRESSURE REQUIREMENT. WHERE EXISTING ELECTRICAL CAPACITY OR ADAPTER CURB SIZE REQUIREMENTS LIMITED THE AMOUNT OF OUTSIDE AIR POSSIBLE, VENTILATION RATES ARE IN COMPLIANCE WITH THE INDOOR AIR QUALITY (IAQ) PROCEDURE, WHILE MAINTAINING COMFORTABLE SPACE TEMPERATURE AND HUMIDITY LEVELS IN COMPLIANCE WITH ASHRAE 90.1.



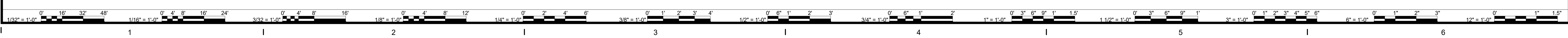
DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DESCRIPTION
04/22/2024	21215-02	BDC	SLS	KDA	

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DESCRIPTION
04/22/2024	21215-02	BDC	SLS	KDA	



PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
 SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
 DRAWING: VENTILATION CALCULATIONS

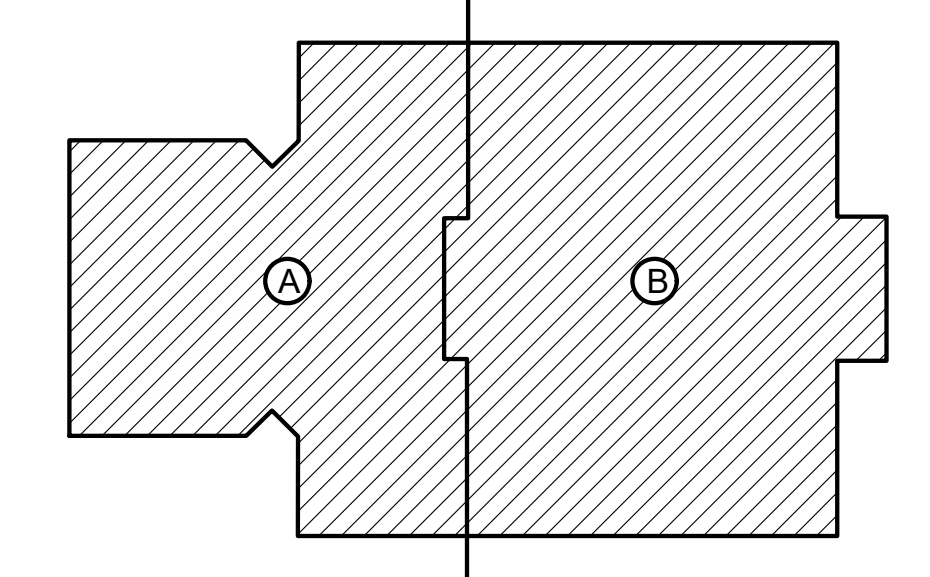
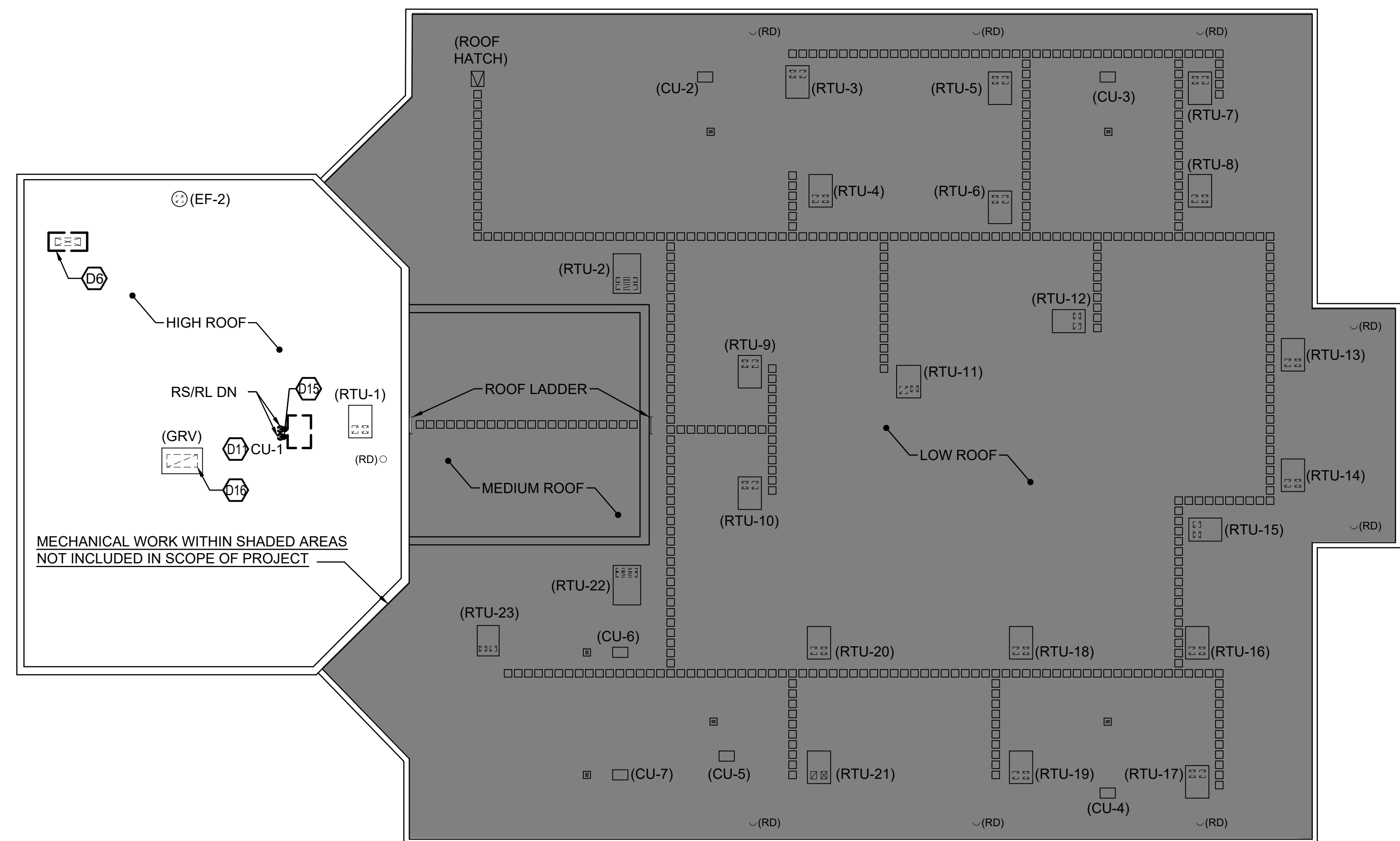
SHEET
M-003



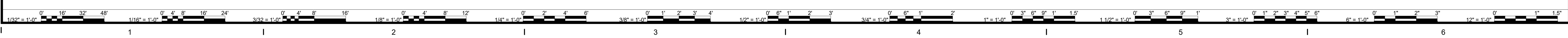
ROOFING NOTE: CONTRACTOR SHALL UTILIZE ALL EXISTING WALKING PADS TO PROTECT ROOF FROM FOOT TRAFFIC AND TOOLS AS BEST AS POSSIBLE. ANY ROOF OPENINGS FROM PITCH POCKETS, CONDUIT, REFRIGERANT PIPING BEING REMOVED SHALL BE FULLY CLOSED UP AND PATCHED FOR WATERTIGHTNESS. CONTRACTOR SHALL LAY SHEETS OF PLYWOOD ON ROOF SURFACE AROUND ROOFTOP UNITS TO FURTHER PROTECT SURFACE DURING UNIT REPLACEMENT. PLYWOOD SHEETING SHALL BE SECURED TO ROOF SURFACE IN ORDER TO MITIGATE WIND LIFTING.

DEMOLITION NOTES	
NO.	DESCRIPTION
D6	DISCONNECT AND REMOVE ROOF-MOUNTED INTAKE HOOD AND CAP ROOF CURB. REFER TO "ROOF CURB CAPPING DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
D11	DISCONNECT AND REMOVE ROOF-MOUNTED CONDENSING UNIT COMPLETE.
D15	DISCONNECT AND REMOVE REFRIGERANT PIPING COMPLETE.
D16	DISCONNECT AND REMOVE EXISTING BACKDRAFT DAMPER FROM 72"X30" GRAVITY RELIEF VENT.

NOTE: EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.



ROOF PLAN - MECHANICAL - DEMOLITION
SCALE: 1/16" = 1'-0"

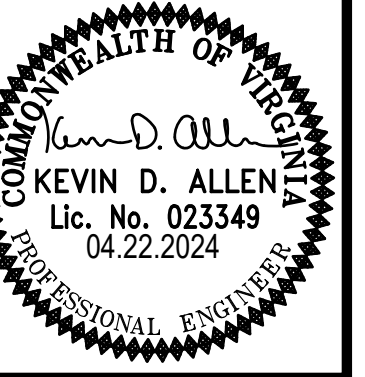


THOMPSON
Consulting Engineers
21 ENTERPRISE PARKWAY
SUITE 200
VALENTIA, VA 23060
TELEPHONE (757) 946-4443
PROJECT NUMBER: 202411

MARK	DATE	BY	DESCRIPTION

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	SLS	KDA
04/22/2024	21215-02	BDC	SLS	KDA		

RRMM
ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804) 277-8987



PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: ROOF PLAN - MECHANICAL - DEMOLITION

SHEET
MD-102

CEILING REPLACEMENT NOTE: CONTRACTOR SHALL COORDINATE ALL WORK WITH EXISTING CEILING CONDITIONS AND REMOVE ACOUSTIC CEILING TILES AND ACCESSORIES AS NECESSARY TO FACILITATE INSTALLATION OF NEW DUCTWORK AND DIFFUSERS. EXISTING CEILING GRID SHALL REMAIN IN PLACE THROUGHOUT DURATION OF CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REINSTALL ALL CEILING TILES AND ANY OTHER ACCESSORIES TEMPORARILY REMOVED DURING CONSTRUCTION.

NEW WORK NOTES	
NO.	DESCRIPTION
3	PROVIDE NEW DUCTWORK, INSULATION, HANGERS, AND ACCESSORIES TO POINT INDICATED.
6	PROVIDE NEW WALL-MOUNTED COMBINATION TEMPERATURE AND HUMIDITY SENSOR AND CONTROL WIRING COMPLETE. PROVIDE RACEWAY WHERE CONTROL WIRING CANNOT BE ROUTED DOWN IN WALL CAVITY.
11	REFER TO "REFRIGERANT PIPING THROUGH ROOF DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
12	PROVIDE NEW CONDENSATE DRAIN PIPING, INSULATION, AND HANGERS/SUPPORTS TO POINT INDICATED.
13	PROVIDE NEW 13'-0" W X 6'-0" H X 2' D RETURN PLENUM AND MOUNT TO MEZZANINE WALL.
14	PROVIDE 42" X 30" RETURN DUCTWORK BETWEEN RETURN OPENING OF MIXING BOX AND RETURN PLENUM.
15	PROVIDE 46"/26" SUPPLY DUCTWORK OFF OPENING OF UNIT AND TRANSITION TO 30"/24" IN VERTICAL RISE.
16	PROVIDE 46"/26" SUPPLY DUCTWORK OFF OPENING OF UNIT AND TRANSITION TO 24"/16" IN VERTICAL RISE.
18	PROVIDE NEW SPLIT-SYSTEM AIR HANDLING UNIT AND MOUNT ON NEW 6" CONCRETE PAD. REFER TO "CONCRETE HOUSEKEEPING PAD DETAIL" ON M-301 FOR ADDITIONAL INFORMATION. PROVIDE 6" X 4" X 1/4" NEOPRENE PADS UNDER EACH CORNER OF AIR HANDLING UNIT.
19	PROVIDE NEW 72" X 60" RETURN AIR LOUVER IN OPENING OF GYMNASIUM WALL. LOUVER SHALL BE GREENHECK "ESD-635X" OR EQUAL, AND AMCA-540 RATED FOR "BASIC LEVEL D" DEBRIS IMPACT.
20	PROVIDE 42"/30" DUCTWORK FROM OUTSIDE AIR OPENING IN MIXING BOX AND TRANSITION TO 40"/40" IN VERTICAL RISE UP. ROUTE DUCTWORK UP THROUGH ROOF.
21	PROVIDE 42"/30" DUCTWORK FROM OUTSIDE AIR OPENING IN MIXING BOX AND TRANSITION TO 26"/26" IN VERTICAL RISE UP. ROUTE DUCTWORK UP THROUGH ROOF.
23	REFRIGERANT PIPING SHOWN AS ONE LINE PER CONDENSING UNIT FOR CLARITY. ACTUAL QUANTITY IS FIVE REFRIGERANT PIPES PER CONDENSING UNIT.
29	PROVIDE NEW 24V CONTROL DAMPER AND WALL-MOUNTED BUILDING PRESSURE SENSOR.
37	WALL-MOUNTED CONTROL PANEL FOR AIR HANDLING UNIT. PROVIDE 3'-0" CLEARANCE IN FRONT OF PANEL.
39	PROVIDE JOIST GRIP TUBE FRAMING CLAMP SYSTEM AS MANUFACTURED BY "CHICAGO CLAMP CO" AND INSTALL IN EACH JOIST BAY SUPPORTING NEW CONDENSING UNITS. REFER TO "FRAMING CLAMP SYSTEM DETAILS" ON DRAWING M-203 FOR ADDITIONAL INFORMATION.
40	SMOKE DETECTOR, FURNISHED BY DIVISION 26 CONTRACTOR, INSTALLED IN THE DUCT BY DIVISION 23 CONTRACTOR, AND CONNECTED TO THE FIRE ALARM SYSTEM BY DIVISION 26 CONTRACTOR.

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
SUITE 1000
VALENTIA, VA 23060
TELEPHONE: (757) 994-4810
PROJECT NUMBER: 202101

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DATE	BY	REVISIONS
04/22/2024	21215-02	BDC	SLS	KDA			

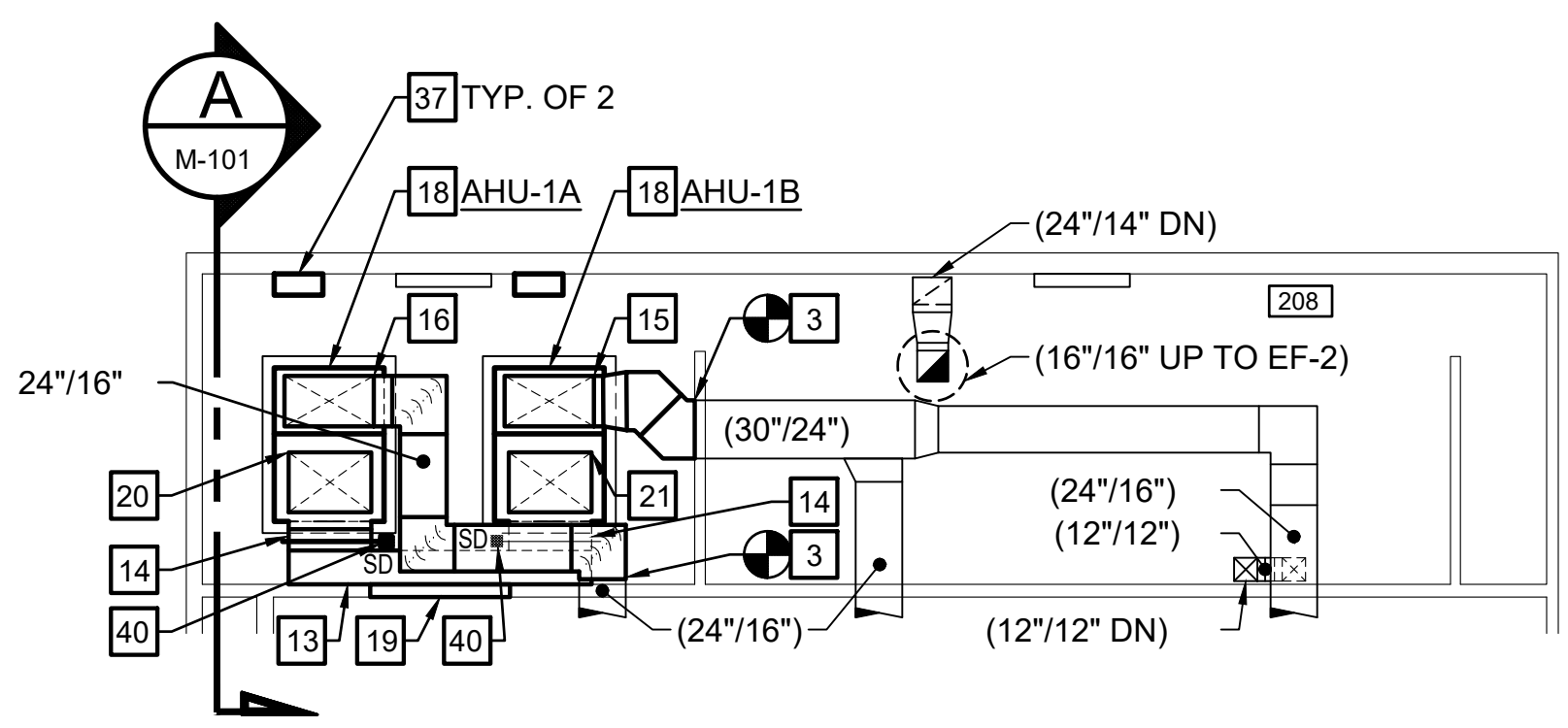
DATE	PROJECT	DESIGNED	DRAWN	CHECKED
04/22/2024	21215-02	BDC	SLS	KDA

RRMM
ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804) 277-8987

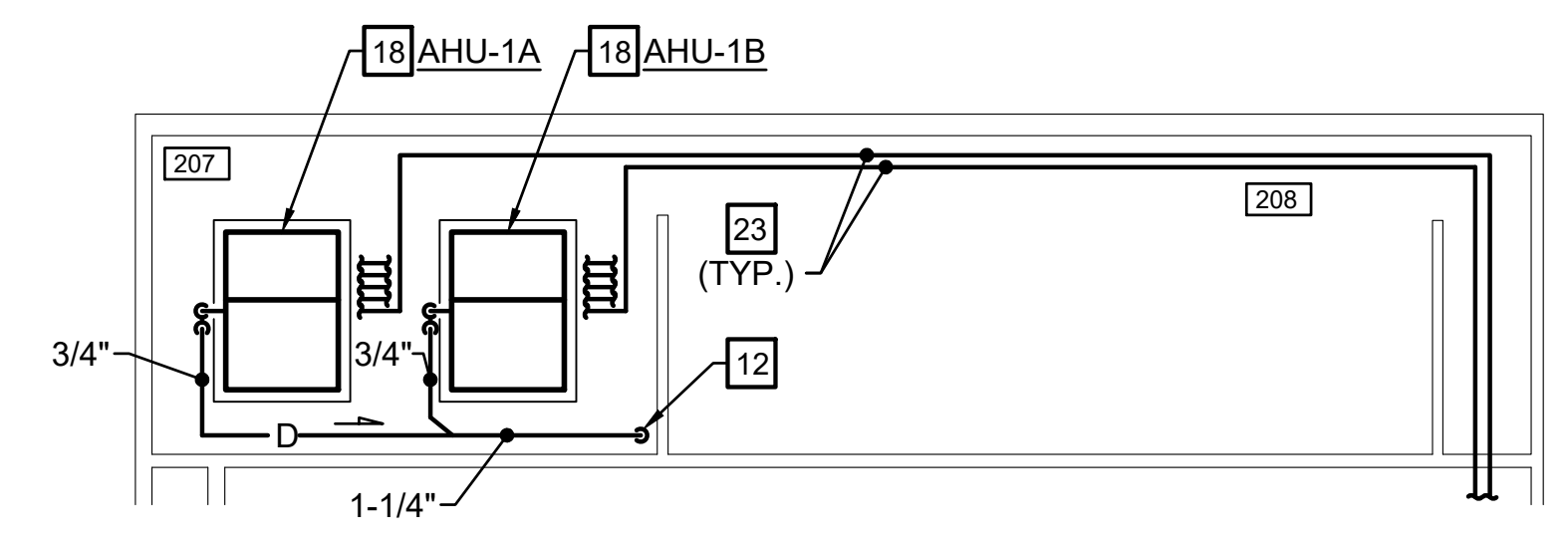


PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: AREA A FLOOR PLAN - MECHANICAL - NEW WORK

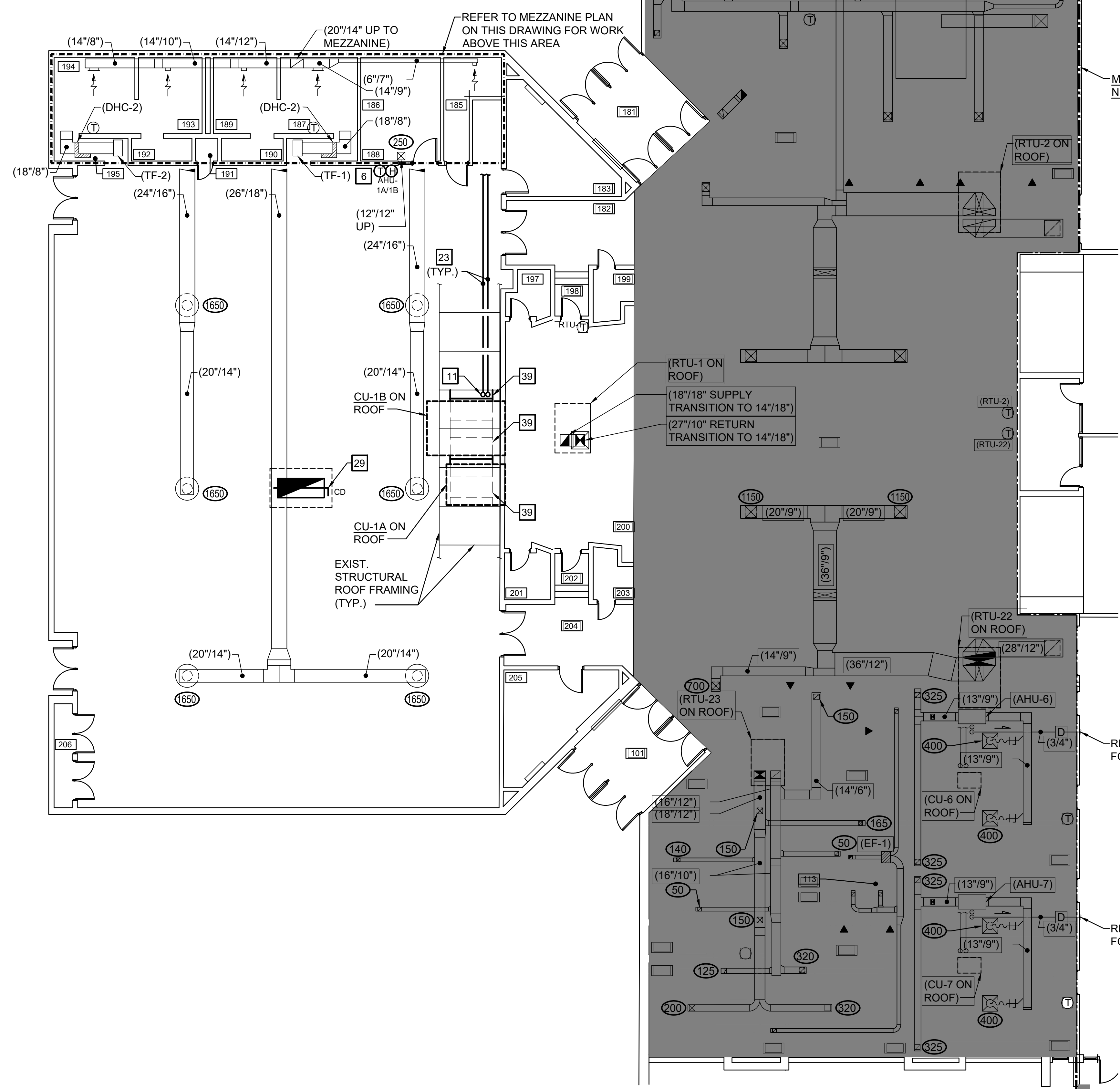
SHEET
M-101



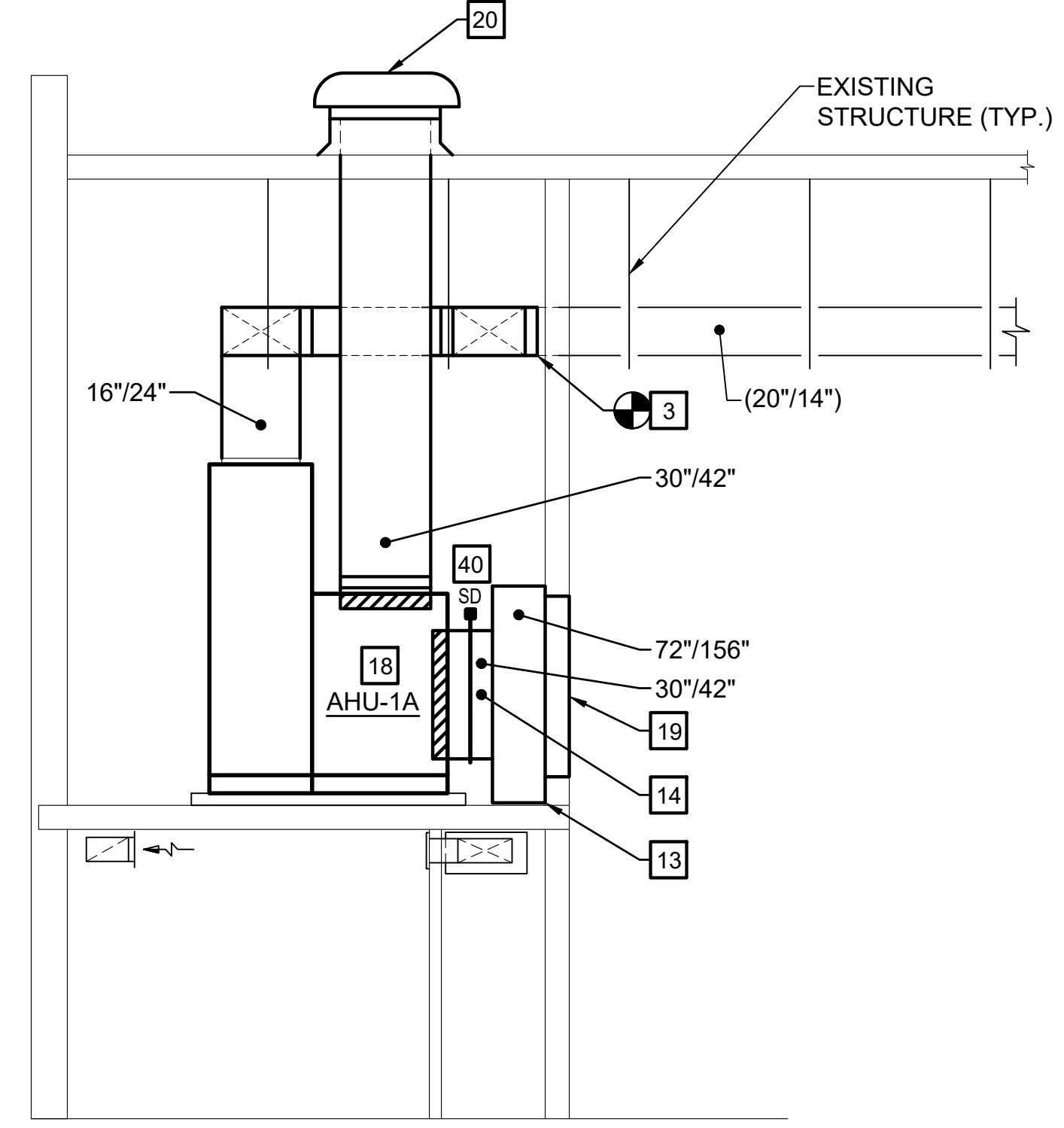
GYMNASIUM SECOND FLOOR PLAN - NEW WORK
SCALE: 1/8" = 1'-0"



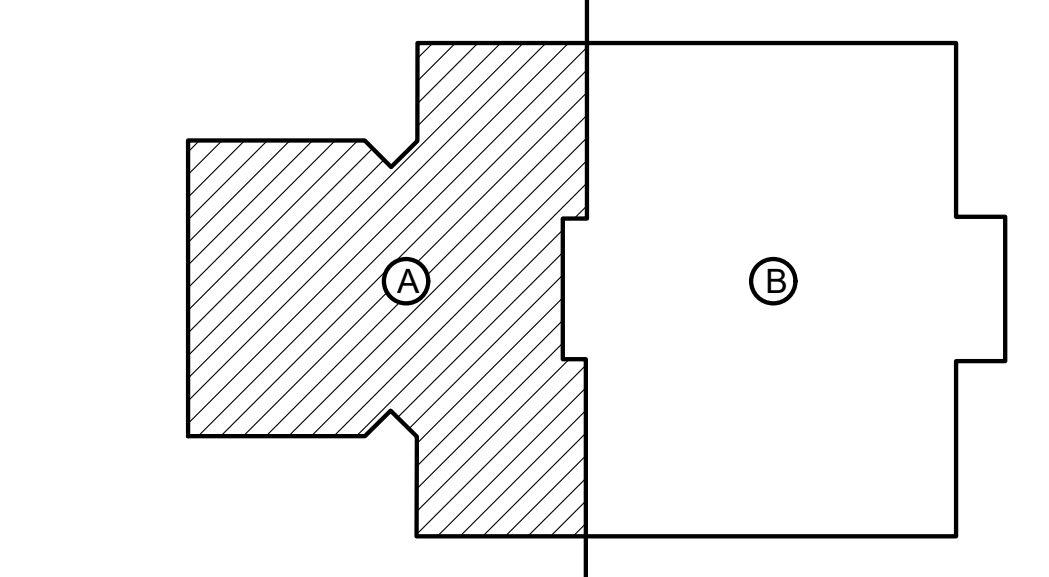
GYMNASIUM SECOND FLOOR PLAN - NEW WORK - PIPING
SCALE: 1/8" = 1'-0"



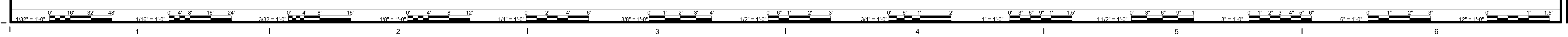
AREA A FLOOR PLAN - MECHANICAL - NEW WORK
SCALE: 1/8" = 1'-0"

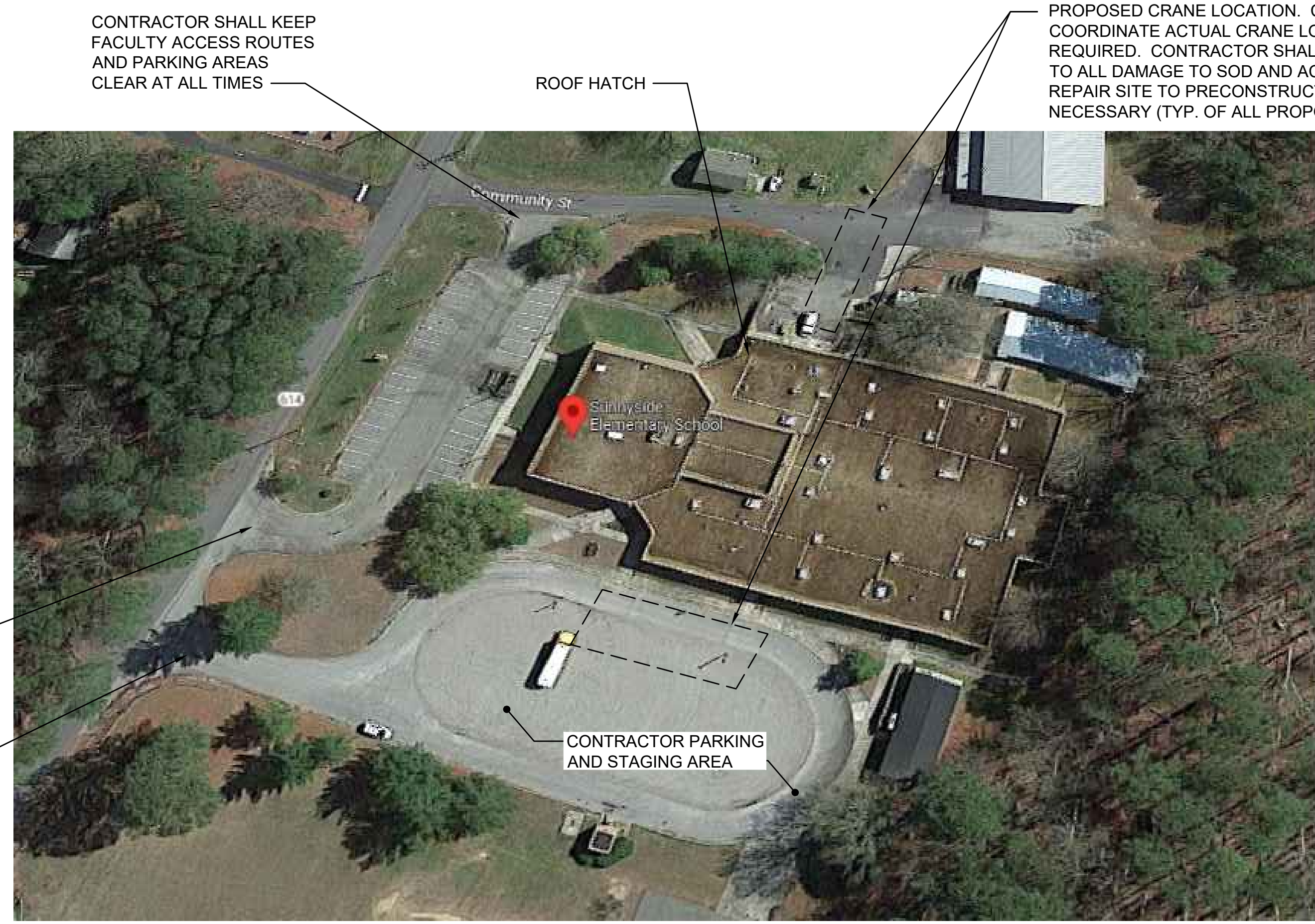


SECTION A
SCALE: 1/4" = 1'-0"



KEY PLAN
NOT TO SCALE



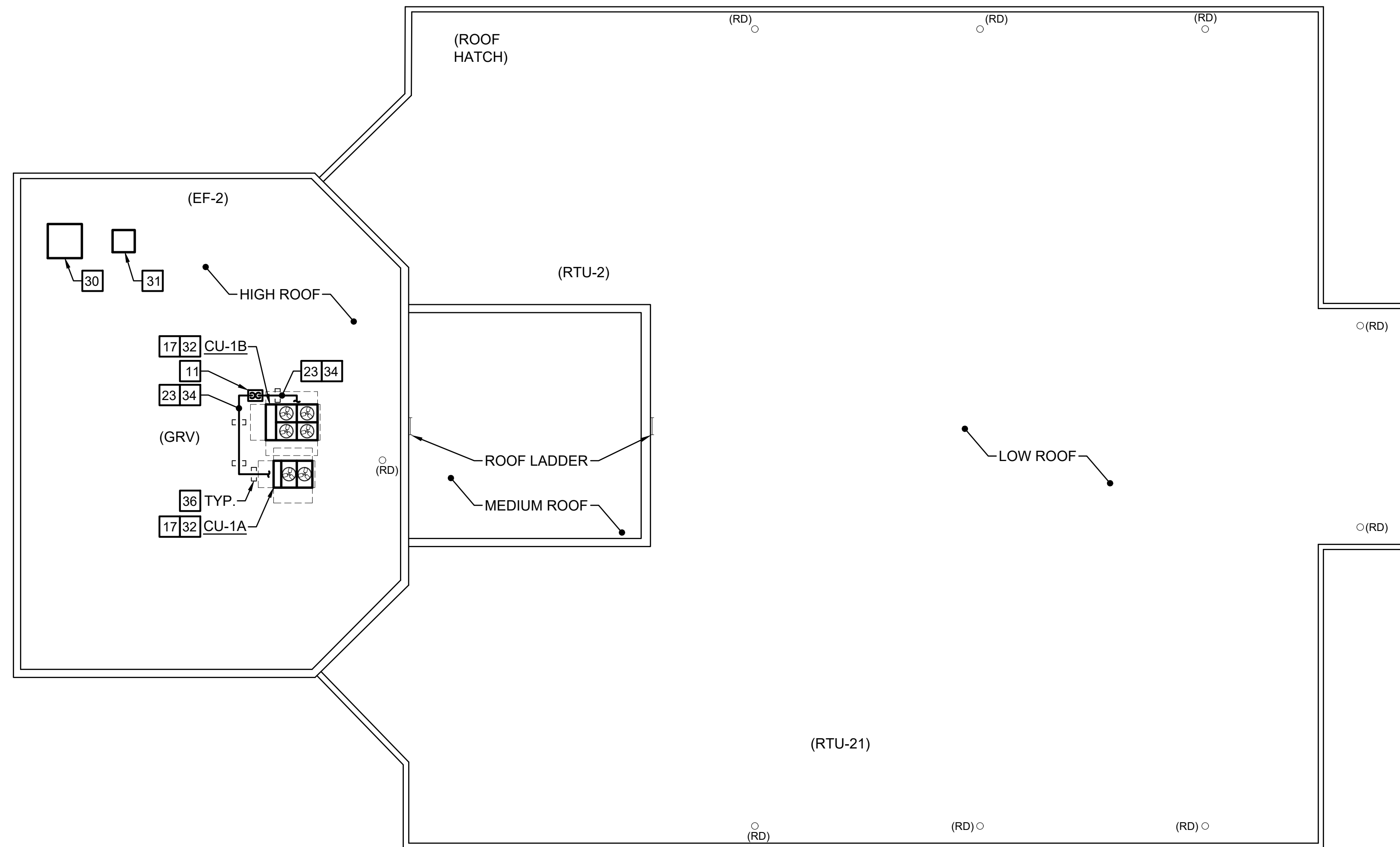


GENERAL SITE PLAN
NO SCALE

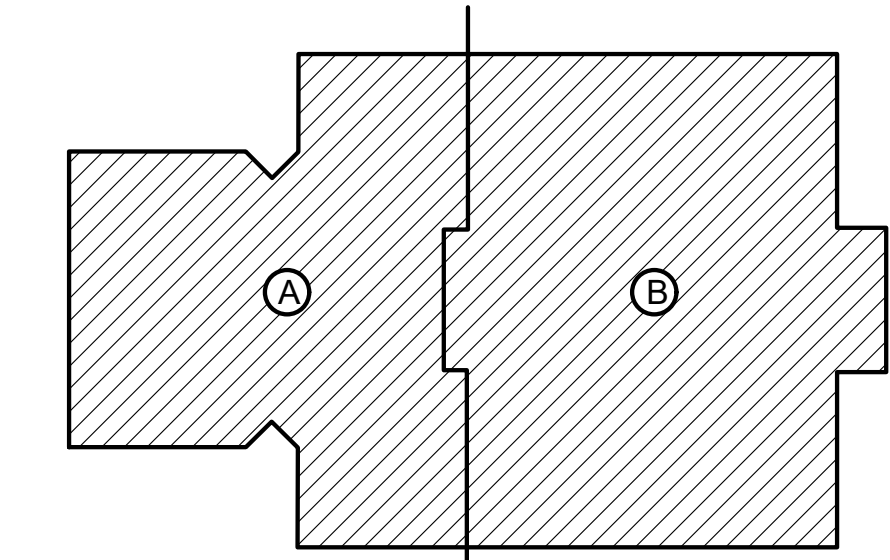
ROOFING NOTE: CONTRACTOR SHALL UTILIZE ALL EXISTING WALKING PADS TO PROTECT ROOF FROM FOOT TRAFFIC AND TOOLS AS BEST AS POSSIBLE. ANY ROOF OPENINGS FROM PITCH POCKETS, CONDUIT, REFRIGERANT PIPING BEING REMOVED SHALL BE FULLY CLOSED UP AND PATCHED FOR WATERTIGHTNESS. CONTRACTOR SHALL LAY SHEETS OF PLYWOOD ON ROOF SURFACE AROUND ROOFTOP UNITS TO FURTHER PROTECT SURFACE DURING UNIT REPLACEMENT. PLYWOOD SHEETING SHALL BE SECURED TO ROOF SURFACE IN ORDER TO MITIGATE WIND LIFTING.

NEW WORK NOTES <input type="checkbox"/>	
NO.	DESCRIPTION
11	REFER TO "REFRIGERANT PIPING THROUGH ROOF DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
17	MAINTAIN ALL INDICATED SERVICE CLEARANCES AT ALL TIMES.
23	REFRIGERANT PIPING SHOWN AS ONE LINE PER CONDENSING UNIT FOR CLARITY. ACTUAL QUANTITY IS FIVE REFRIGERANT PIPES PER CONDENSING UNIT.
30	PROVIDE NEW 40" X 40" ROOF MOUNTED INTAKE HOOD, GREENHECK MODEL "FGI-40X40" OR EQUAL. MOUNT ON NEW 14" ROOF CURB. REFER TO "ROOF CURB DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
31	PROVIDE NEW 26" X 26" ROOF MOUNTED INTAKE HOOD, GREENHECK MODEL "FGI-26X26" OR EQUAL. MOUNT ON NEW 14" ROOF CURB. REFER TO "ROOF CURB DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
32	REFER TO "CONDENSING UNIT MOUNTING DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.
34	ALL REFRIGERANT PIPING EXPOSED TO WEATHER SHALL BE INSULATED AND ALUMINUM JACKETED IN ACCORDANCE WITH 230700.
36	REFER TO "ROOF MOUNTED PIPE SUPPORT DETAIL" ON M-201 FOR ADDITIONAL INFORMATION.

NOTE: ROOF WALKING PADS NOT SHOWN ON THIS DRAWING FOR CLARITY. REFER TO ROOF DEMOLITION PLAN ON MD-103 FOR LOCATION AND ROUTING.



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



KEY PLAN
NOT TO SCALE

THOMPSON
Consulting Engineers
21 ENTERPRISE PARKWAY
HAMPTON, VA 23060
VA BRANCH OFFICE
3815 LANTANA ROAD
VA BEACH, VA 23506
TELEPHONE: (757) 946-4143
PROJECT NUMBER: 202101

MARK	DATE	REVISIONS

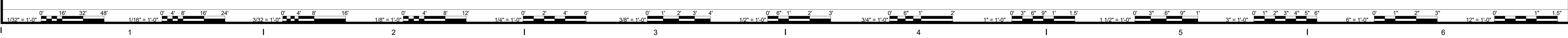
DATE	PROJECT	DESIGNED	DRAWN	CHECKED	BDC	SLS	KDA
04/22/2024	21215-02						

RRMM
ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804) 277-8987

COMMONWEALTH OF VIRGINIA
Professional Seal
KEVIN D. ALLEN
Lic. No. 023349
04.22.2024

PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: ROOF PLAN - MECHANICAL - NEW WORK

SHEET
M-102



NEW WORK NOTES:

1 PROVIDE "GLOBAL PLASMA SOLUTIONS" MODEL "GPS-IMOD" BIPOLAR IONIZATION GENERATOR FOR RTU-XX. IMOD SHALL BE MOUNTED UPSTREAM OF THE COOLING COIL AT THE TOP OF THE FINNED SURFACE AREA OF THE COIL. REFER TO FIGURE 1 FOR EXAMPLE. PROVIDE SUFFICIENT QUANTITY OF 6" IMOD SECTIONS TO MATCH THE WIDTH OF THE COOLING COIL. VERIFY THAT ALL MODULAR SECTIONS OF THE IMOD ARE ATTACHED SNUGLY TOGETHER IN ACCORDANCE WITH FIGURE 2.

2 PROVIDE "GLOBAL PLASMA SOLUTIONS" 15 WATT POWER SUPPLY WITH MULTI-VOLTAGE INPUT FOR EACH ROOFTOP UNIT. WIRE POWER SUPPLY TO IMOD UTILIZING 6'-0" FLEXIBLE POWER CABLE PROVIDED WITH IMOD. MOUNT POWER SUPPLY ON INSIDE OF ROOFTOP UNIT CABINET AND CONNECT TO UNIT POWER.

(THIS SHEET ONLY)

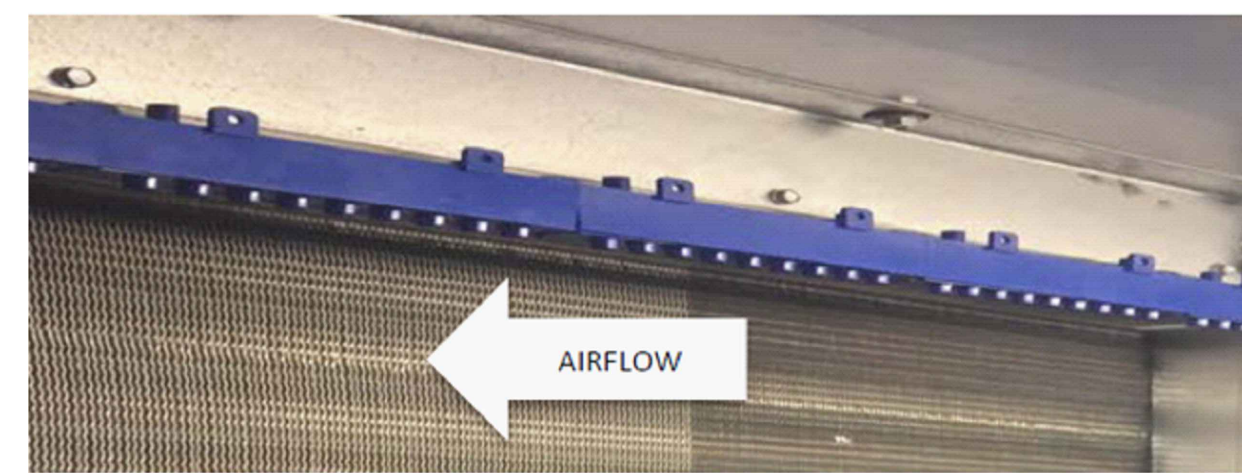


FIGURE 1: BI DEVICE MOUNTING LOCATION

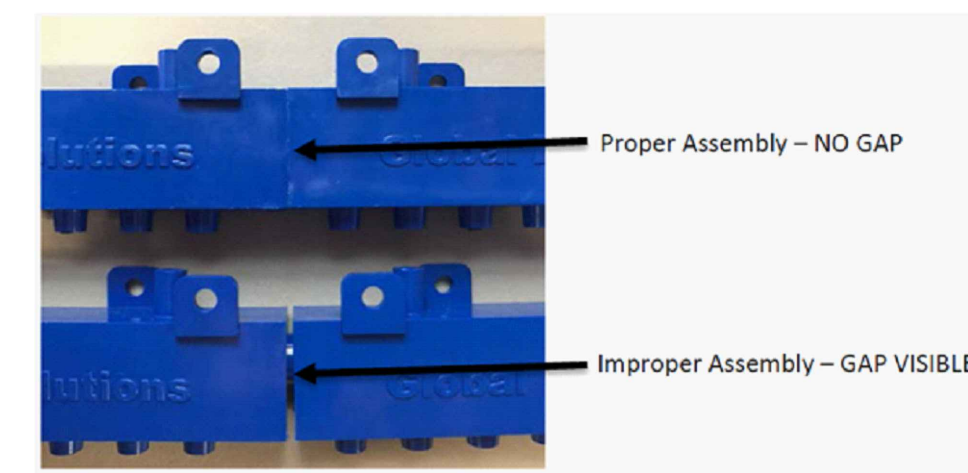
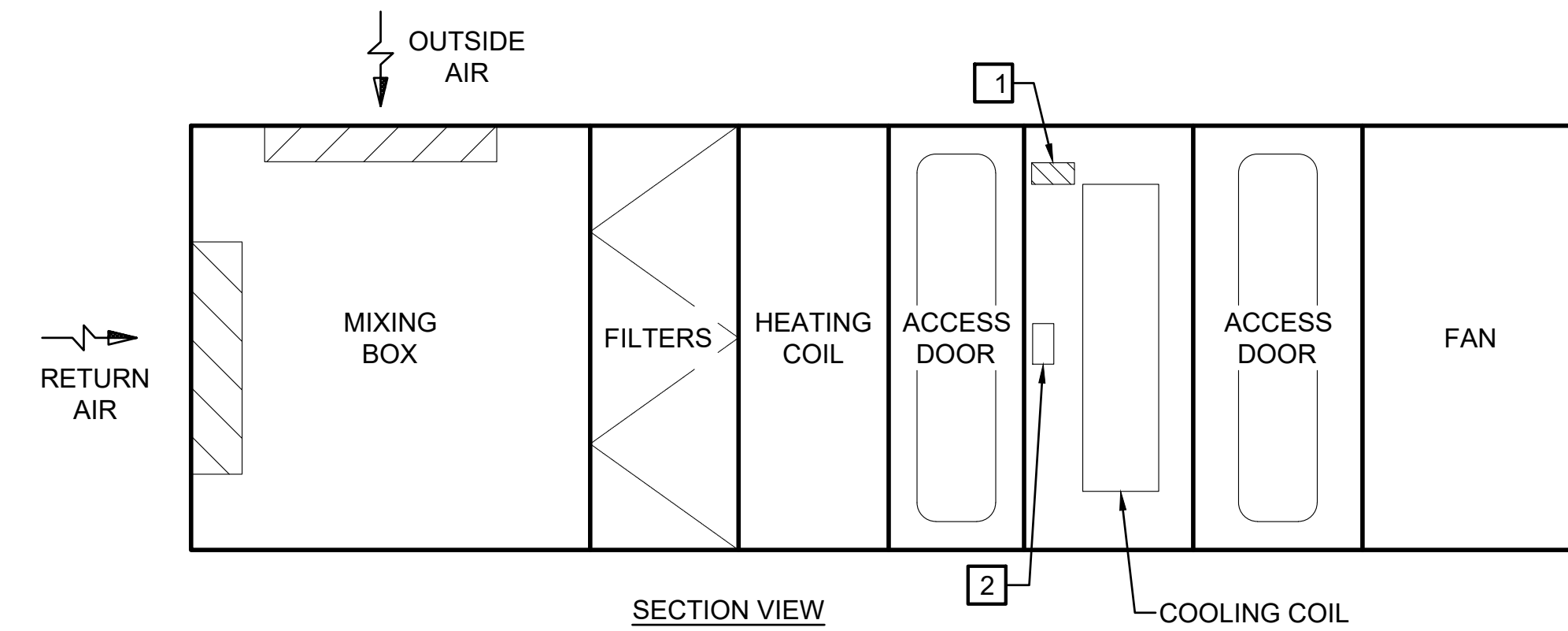
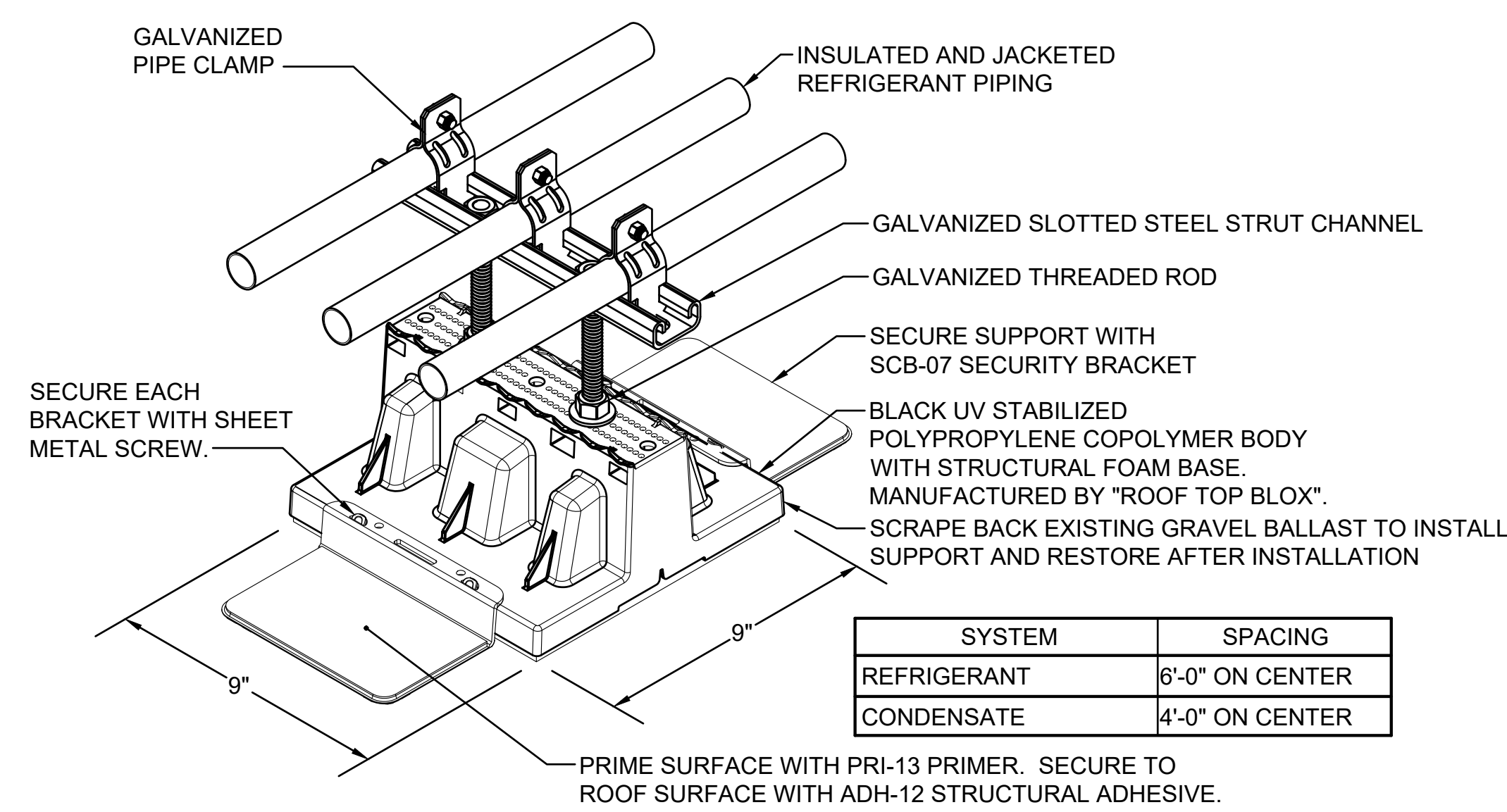


FIGURE 2: BI DEVICE MODULE ASSEMBLY



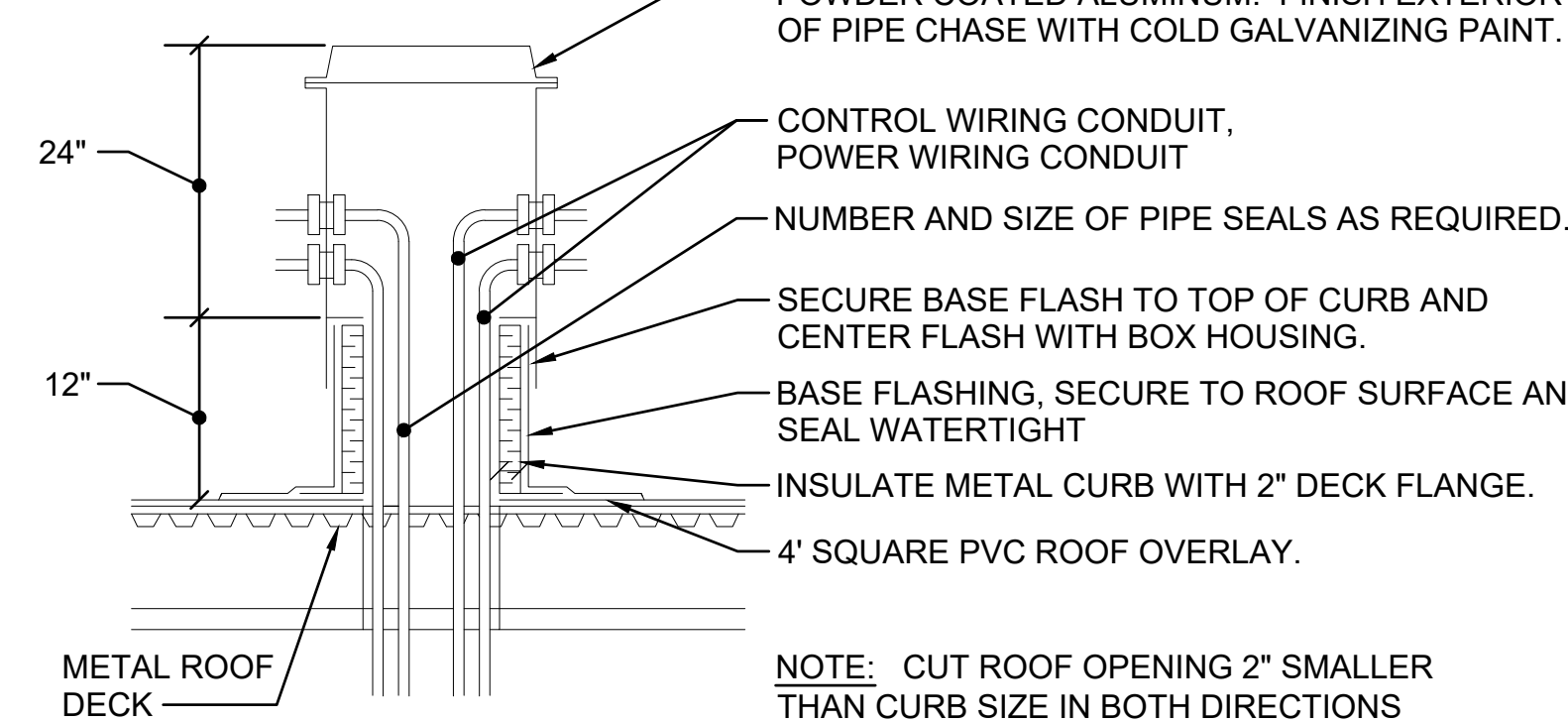
ROOFTOP UNIT BIPOLAR IONIZATION INSTALLATION DIAGRAM

NOT TO SCALE (TYPICAL FOR ALL RTUS, AHU-1A, -1B, AND AHU-2 THRU -7)



SYSTEM	SPACING
REFRIGERANT	6'-0" ON CENTER
CONDENSATE	4'-0" ON CENTER

NOTE: PIPE CHASE HOUSING AS MANUFACTURED BY ALTA PRODUCTS LLC. COORDINATE WITH MECHANICAL PLANS FOR LOCATIONS.



REFRIGERANT PIPING AND POWER THROUGH ROOF DETAIL

NOT TO SCALE (TYP. CU-1A AND -1B)

- 1 DOWEL PAD INTO EXISTING FLOOR IN FOUR CORNERS.
- 2 3000# CONCRETE WITH #4 REBAR 12" x 12". FRAME CORNERS WITH 1-1/2" ANGLE TO MATCH EXISTING HOUSE KEEPING PADS. BROOM FINISH.
- 3 REMOVE FORMING, GROUT VOIDS.

CONCRETE HOUSEKEEPING PAD DETAIL

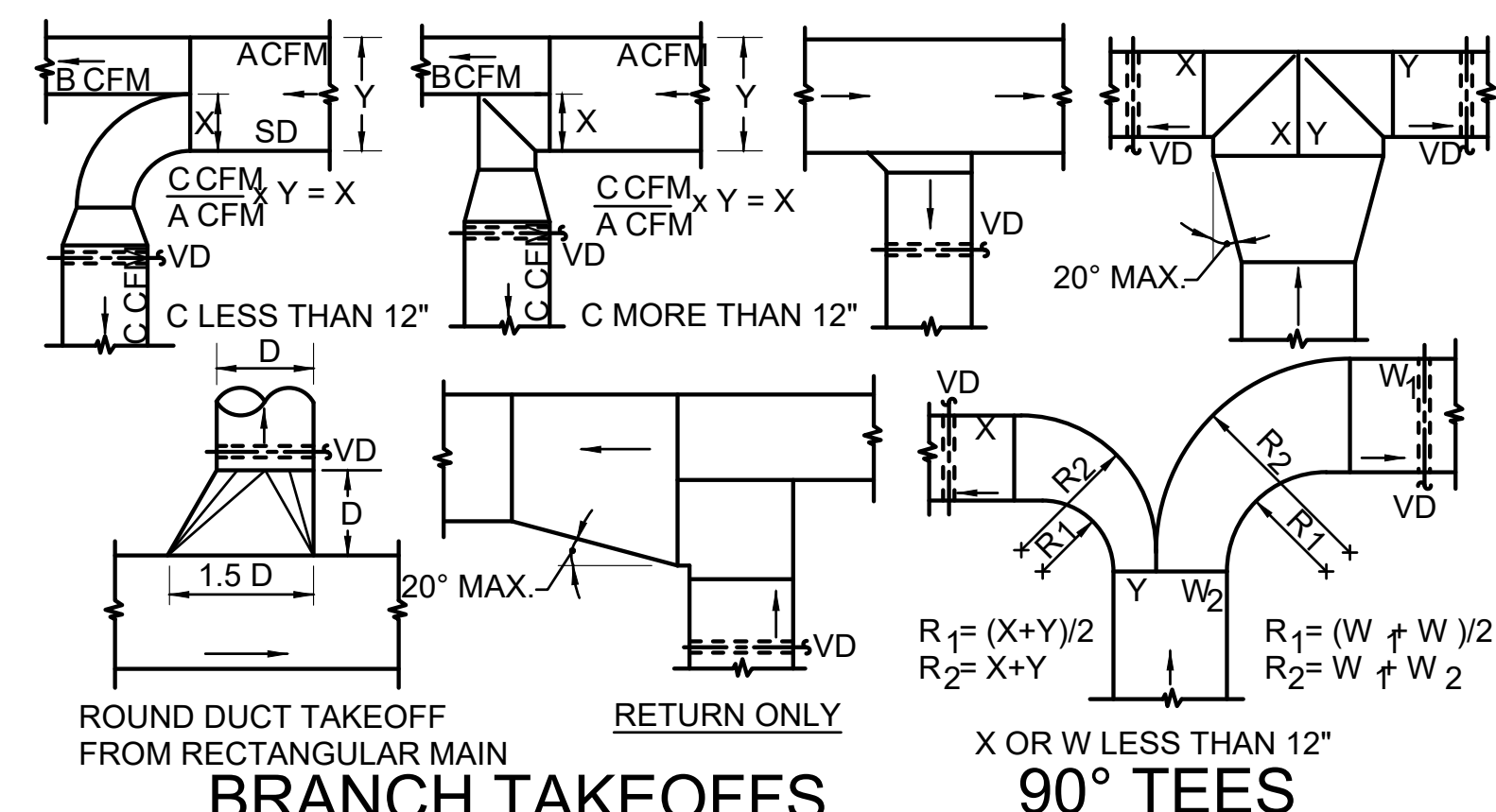
NOT TO SCALE

DUCTWORK CONSTRUCTION REQUIREMENTS			
SYSTEM	PRESSURE CLASS	SEAL CLASS	LEAKAGE CLASS
SUPPLY AIR	+2.5" WG	CLASS A	RECTANGULAR - 4 ROUND - 2
RETURN AIR	-1.0" WG	CLASS A	RECTANGULAR - 8 ROUND - 4

NOTE:
 1. CONSTRUCT ALL DUCTWORK IN ACCORDANCE WITH "SMACNA" HVAC DUCT CONSTRUCTION STANDARDS.
 2. PROVIDE VOLUME DAMPERS FOR EACH BRANCH DUCT SERVING SUPPLY, RETURN OR EXHAUST AIR TERMINAL.
 3. ALL RECTANGULAR AND MITERED ELBOWS SHALL BE PROVIDED WITH TURNING VANES.
 4. REFER TO SMACNA HVAC DUCT LEAKAGE MANUAL FIGURE 5-1 FOR LEAKAGE RATES.

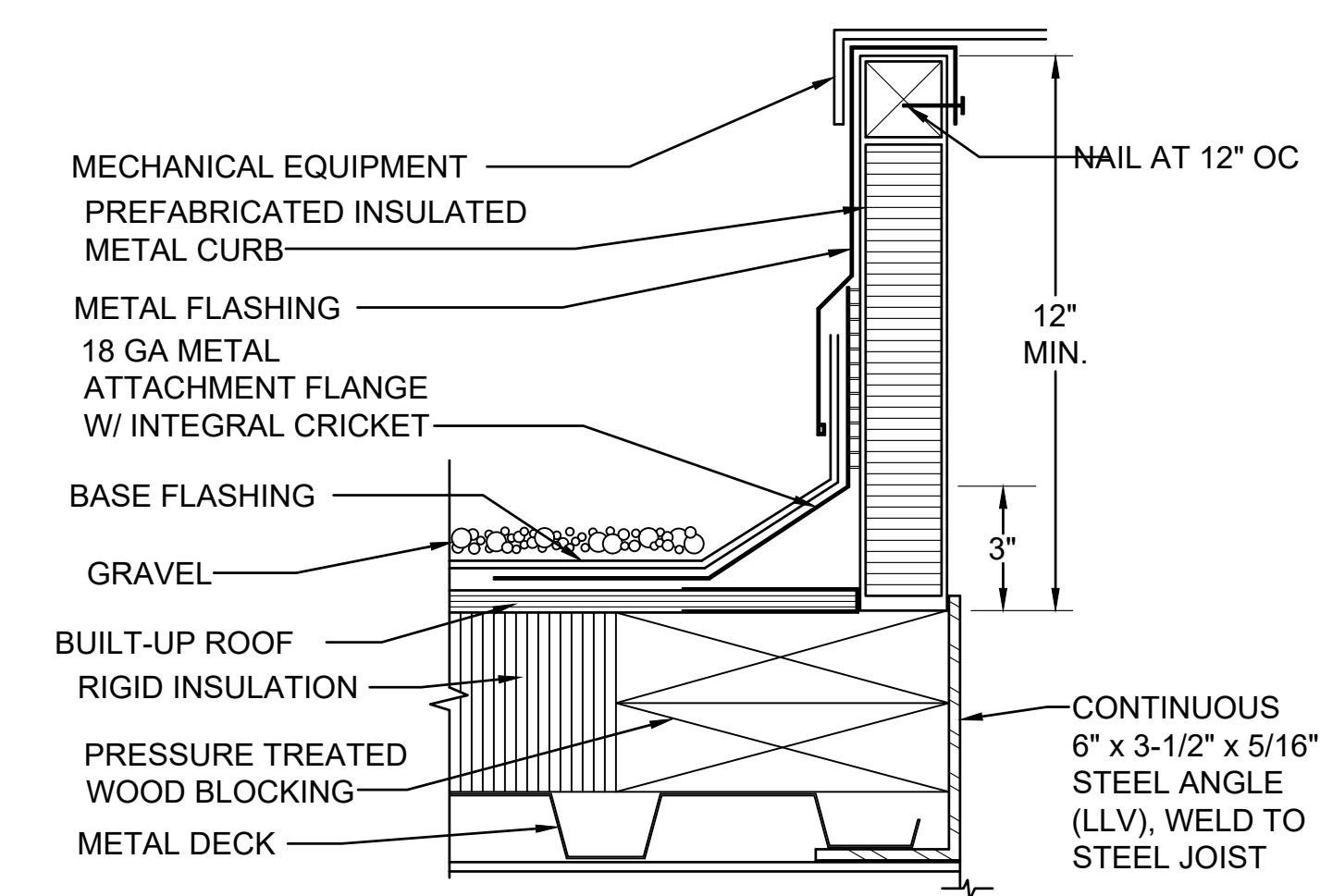
ROOF MOUNTED PIPE SUPPORT DETAIL

NOT TO SCALE



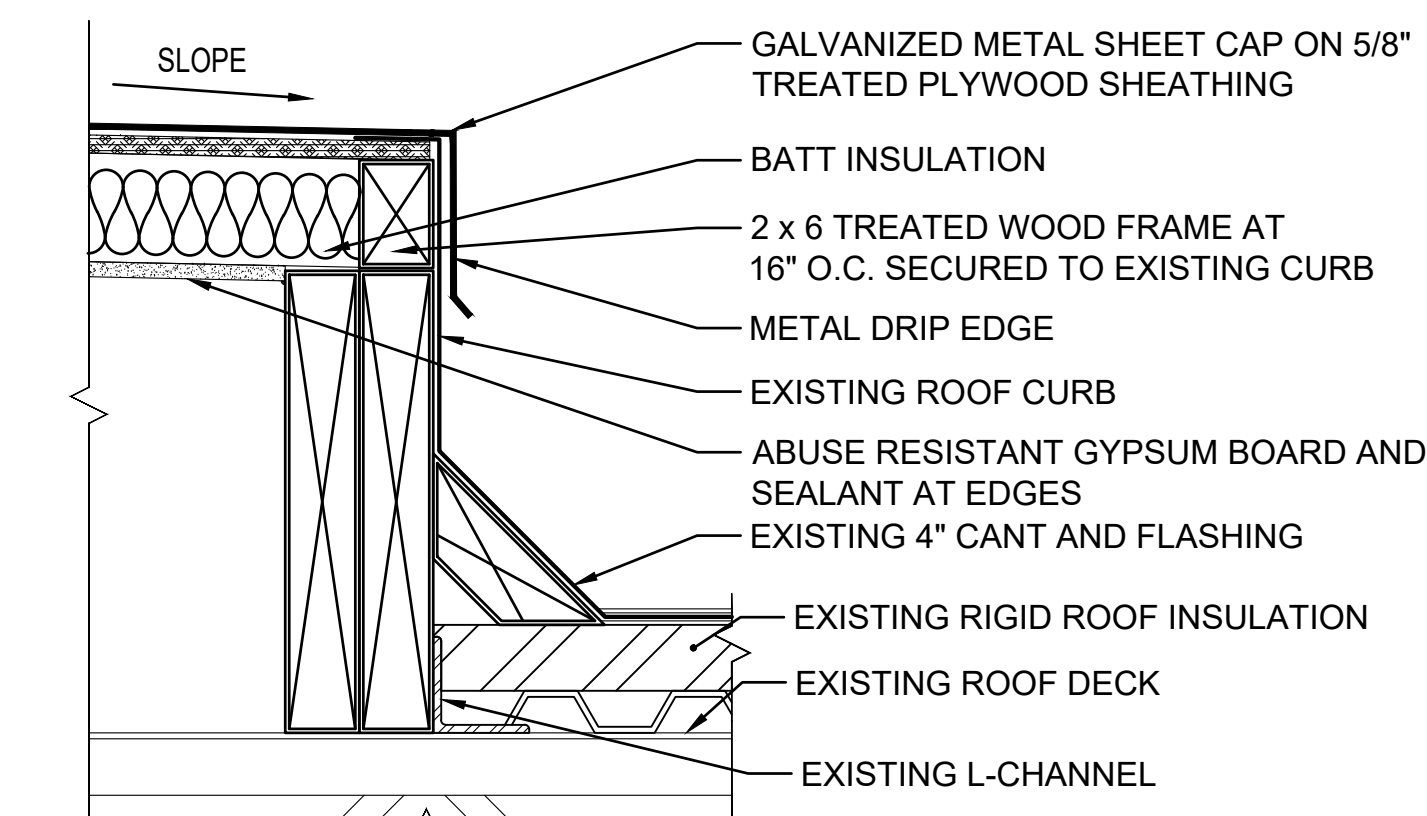
LOW VELOCITY SINGLE WALL RECTANGULAR DUCTWORK DETAILS

NOT TO SCALE REFER TO DUCTWORK CONSTRUCTION REQUIREMENTS



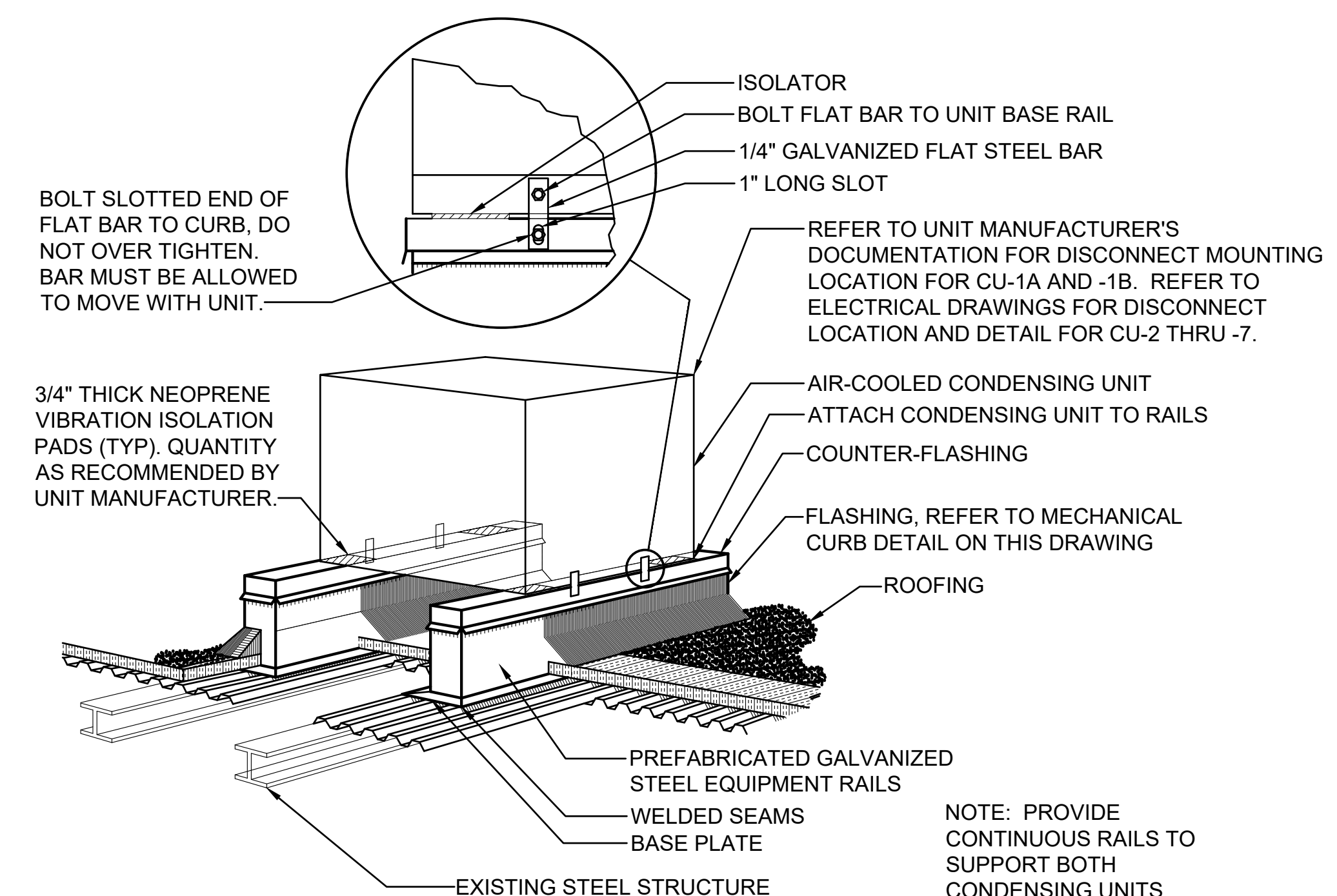
MECHANICAL CURB DETAIL

NOT TO SCALE



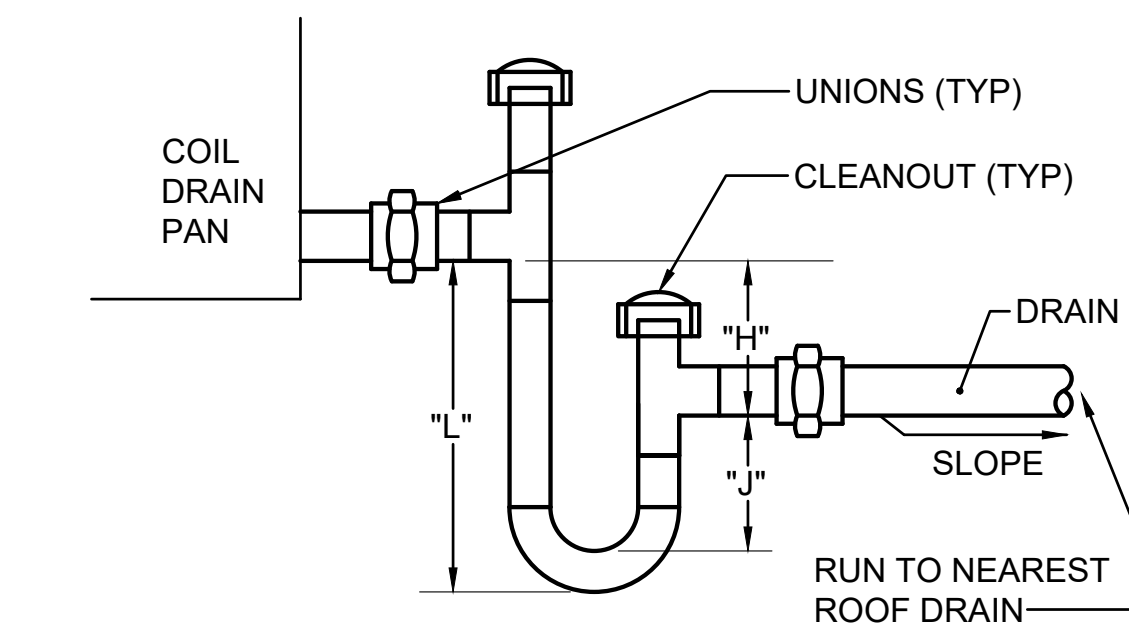
ROOF CURB CAPPING DETAIL

NOT TO SCALE



ROOF MOUNTED CONDENSING UNIT SUPPORT DETAIL

NOT TO SCALE



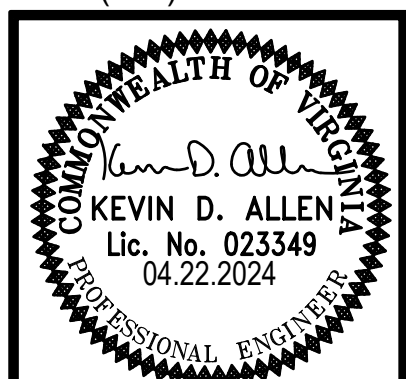
- NOTES:
 1. "H" = (1" FOR EACH 1" OF MAXIMUM NEGATIVE STATIC PRESSURE) + 1".
 2. "J" = HALF OF H.
 3. "L" = H + J + PIPE DIAMETER + INSULATION.
 4. SIZE TRAP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

COIL CONDENSATE TRAP DETAIL

NOT TO SCALE (NEGATIVE PRESSURE)

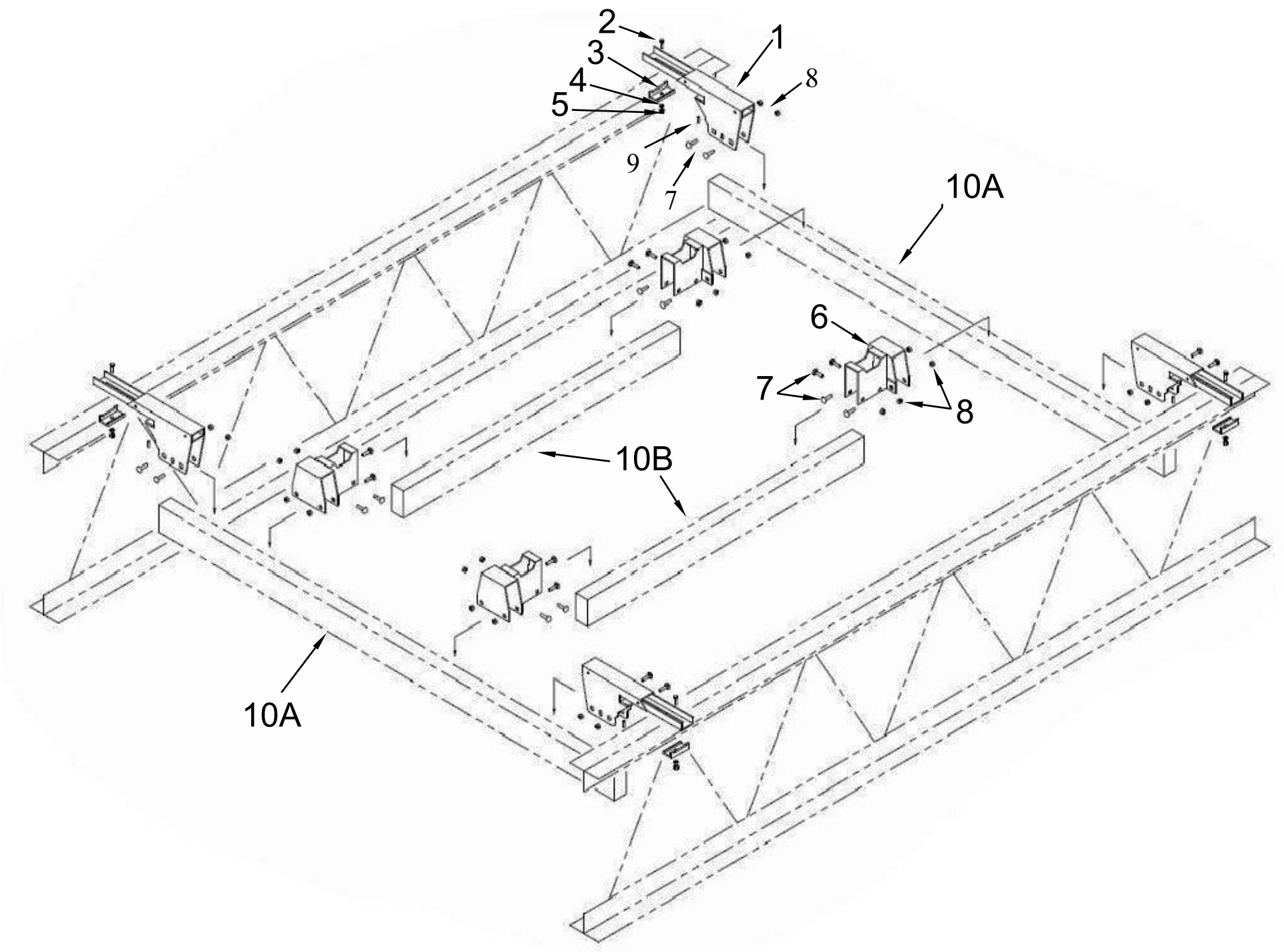
DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DATE	BY	REVISIONS
04/22/2024	21215-02	BDC	SLS	KDA			

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DATE	BY	REVISIONS
04/22/2024	21215-02	BDC	SLS	KDA			



JOIST GRIP FRAMING CLAMP SYSTEM INSTALLATION GUIDE (FOR USE WITH JOISTS AND CORRUGATED ROOFS)

JAW CLAMP CAPACITY	1000 LBS ALLOWABLE LOAD
T-BRACKET CAPACITY	1000 LBS ALLOWABLE LOAD
STRUCTURAL GRADE TUBING CAPACITY FOR 9' SPAN	2000 LBS UNIFORM LOAD



WARNING:

ANY MODIFICATION TO OR ADDITIONAL LOADING OF A JOIST MUST BE REVIEWED BY A STRUCTURAL ENGINEER. EACH SYSTEM APPLICATION MUST BE SELECTED UNDER THE SUPERVISION OF A STRUCTURAL ENGINEER. FRAMING CLAMP SYSTEMS DO NOT INCREASE THE LOAD CAPACITY OF ANY STRUCTURE.

ITEM	QTY	DESCRIPTION
1	4	JAW CLAMP
2	4	1/2" X 2" CARRIAGE BOLT
3	4	RETAINER HEEL CLIP
4	4	1/2" LOCK WASHER
5	4	1/2" HEX NUT
6	4	T-BRACKET CLAMP
7	24	1/2" X 3" BOLT GRADE 5
8	24	1/2" LOCKNUT
9	4	3/8" SELF LOCKING HEX BOLT
10A	2	TUBE - MAIN
10B	2	TUBE - CROSS

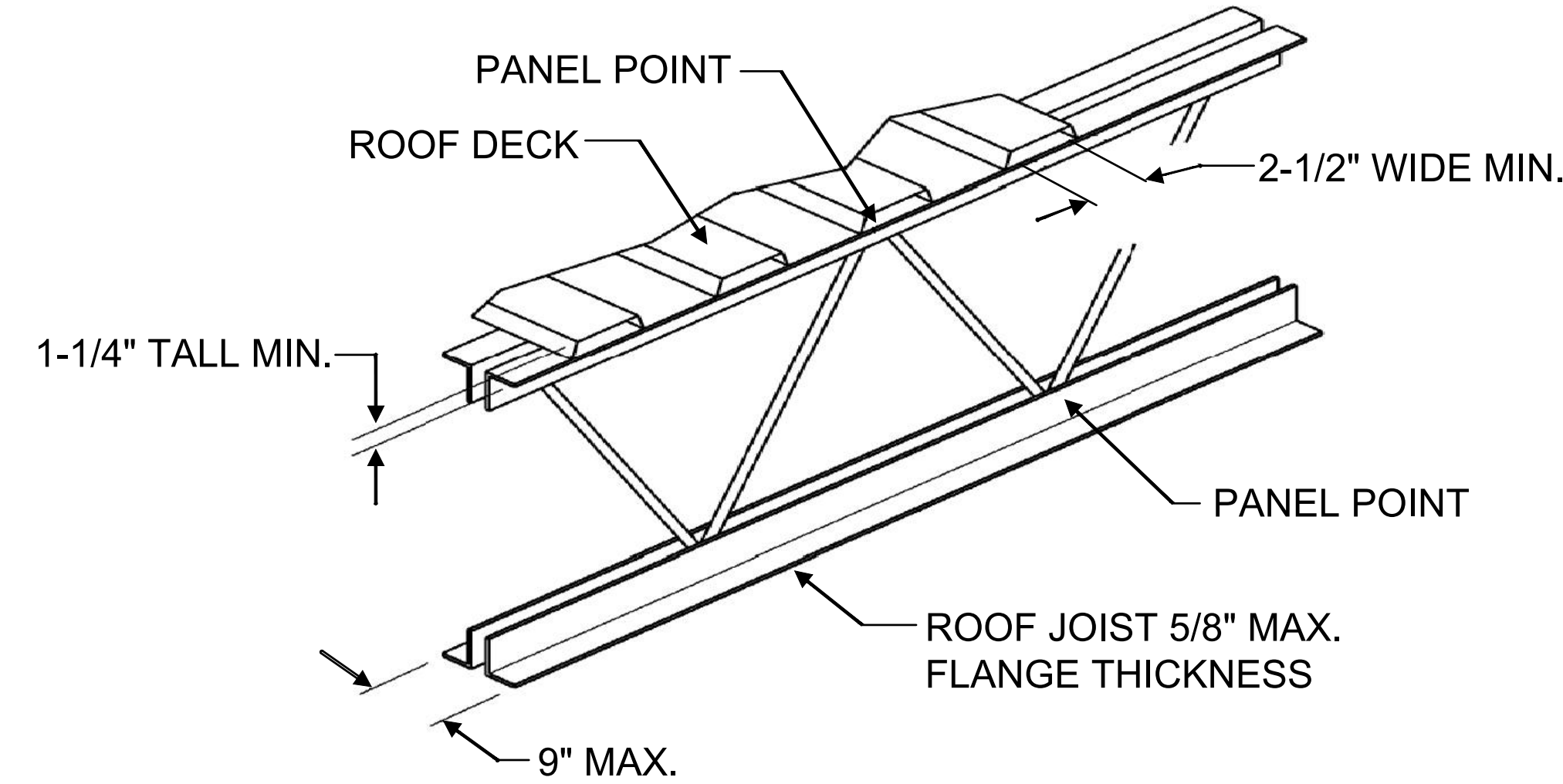
JOIST GRIP FRAMING CLAMP SYSTEM INSTALLATION GUIDE (CONTINUED)

FIRST STEPS:

CHECK WITH A STRUCTURAL ENGINEER FOR ADDITIONAL JOIST LOADING OR RELOCATION OF EXISTING LOADS

CHECK THE ROOF DECK POCKET AND JOISTS FOR CLAMP CLEARANCE:

1-1/4" MIN. HEIGHT, 2-1/2" MIN. WIDTH, 9" MAX. CHORD WIDTH, 5/8" MAX. JOIST FLANGE THICKNESS

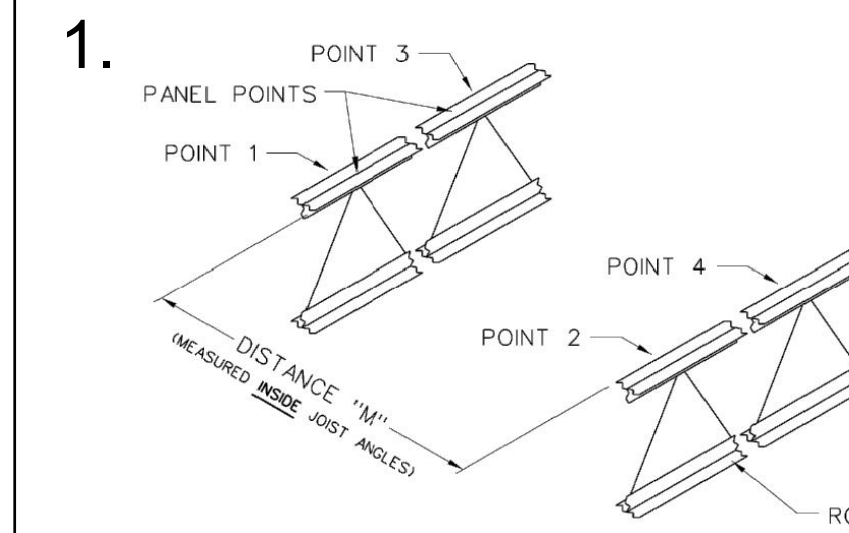


CHECK THAT THE AREA IS CLEAR FOR THE JOIST GRIP FRAMING CLAMP SYSTEM. EXAMPLE: ENSURE AREA IS FREE FROM PIPING, DUCTWORK, ELECTRICAL DEVICES, ETC.

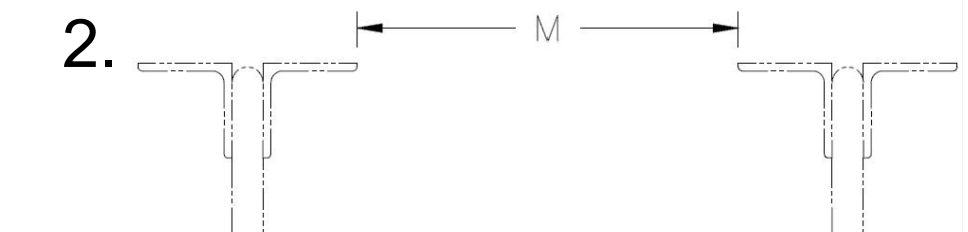
WARNING:

USE ONLY TUBING THAT IS HSS 4" X 2" X 1/8", A500, GRADE B OR BETTER. USE ONLY HARDWARE SUPPLIED WITH JOIST GRIP FRAMING CLAMP SYSTEM KIT. 1/2" X 3" CARRIAGE BOLTS SUPPLIED ARE GRADE 5 AND DYED YELLOW FOR EASY IDENTIFICATION. ALWAYS INSTALL THE SQUARE HEAD OF CARRIAGE BOLT INTO SQUARE SLOT. THE USE OF TUBING OR CARRIAGE BOLTS LESS THAN THE SPECIFIED GRADES WILL DRASTICALLY REDUCE CAPACITY OF FRAMING CLAMP SYSTEM.

JOIST GRIP FRAMING CLAMP SYSTEM INSTALLATION GUIDE (CONTINUED)

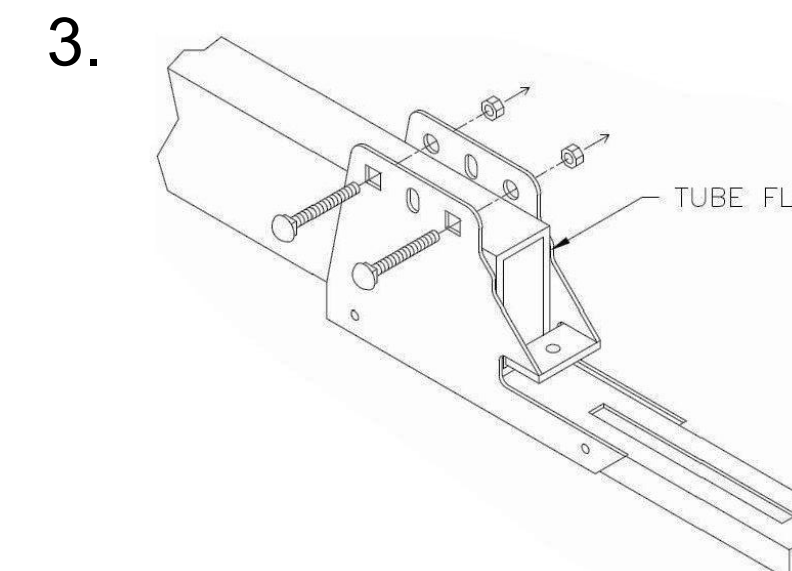


IDENTIFY FOUR POINTS IN ROOF DECK POCKETS ON TWO PARALLEL BAR JOISTS THAT FORM A RECTANGLE. CHECK WITH STRUCTURAL ENGINEER TO DETERMINE IF JAW CLAMPS MUST BE OVER PANEL POINTS. PANEL POINTS - WHERE DIAGONAL TRUSS MEMBERS ARE ATTACHED TO TOP OR BOTTOM ANGLES (CHORD).

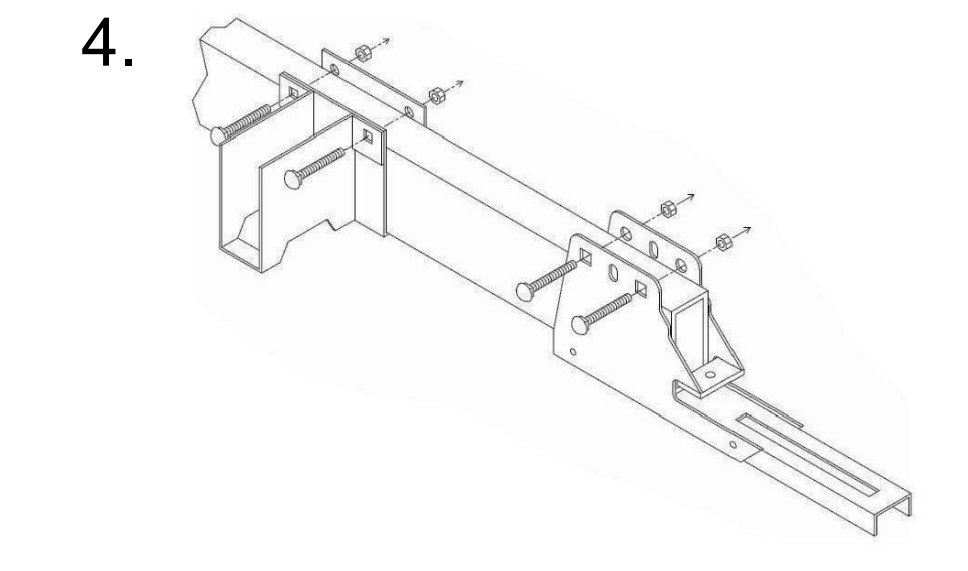


MEASURE THE DISTANCE "M" INSIDE JOIST ANGLES AS SHOWN. TAKE MEASUREMENT "M" AND SUBTRACT 1/2". CUT MAIN TUBES TO THIS LENGTH.

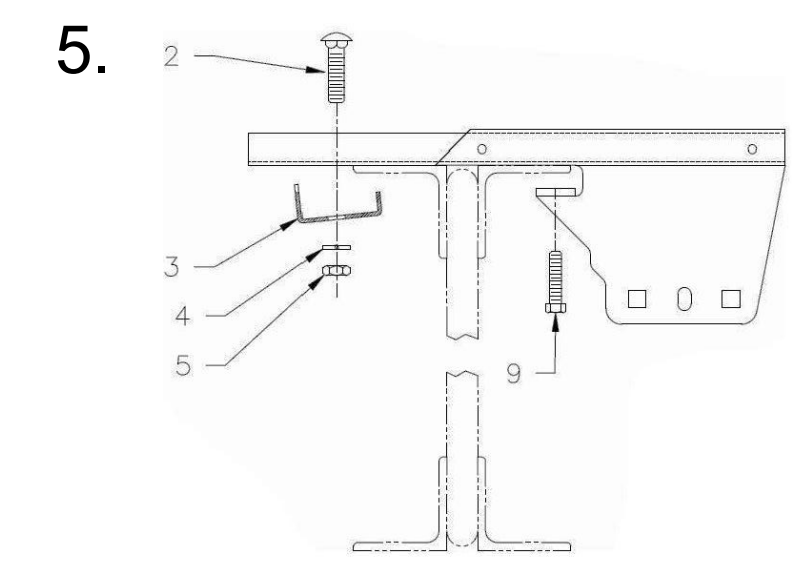
M-1/2" = LENGTH OF MAIN TUBES



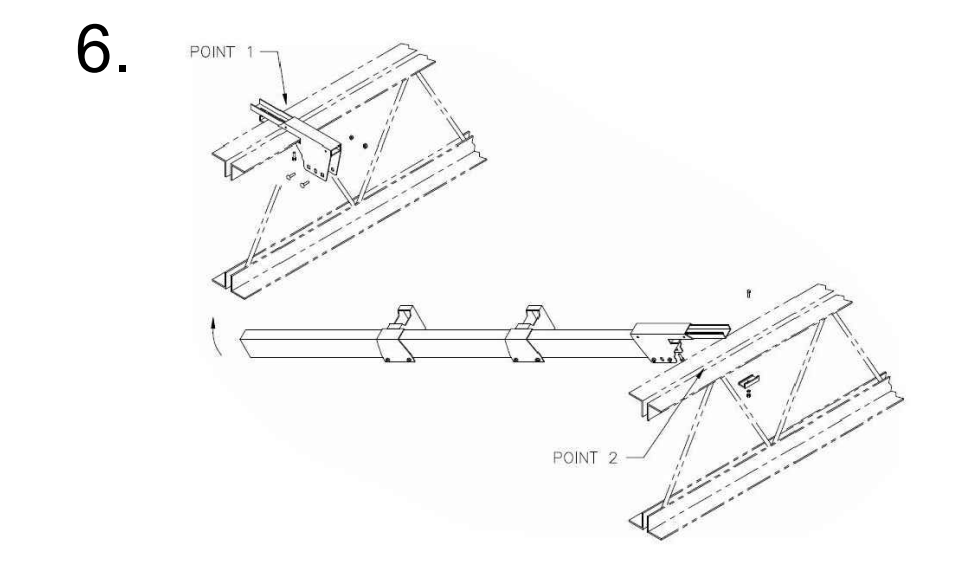
INSERT MAIN TUBE (10A) INTO JAW CLAMP (1) SO THAT TUBING IS FLUSH WITH THE NOTED FLUSH POINT AS SHOWN ABOVE AND IN STEP 7. SECURE BOLTS (7) WITH LOCKNUTS (8) AND TIGHTEN.



PLACE T-BRACKET CLAMP (6) OVER MAIN TUBE (10A), WITH T-BRACKET WING FACING THE APPROPRIATE DIRECTION. INSERT BOLTS AND SECURE WITH LOCKNUTS TO PREVENT SLIDING DURING INSTALLATION. REPEAT PROCESS FOR EACH DESIRED CROSS MEMBER.

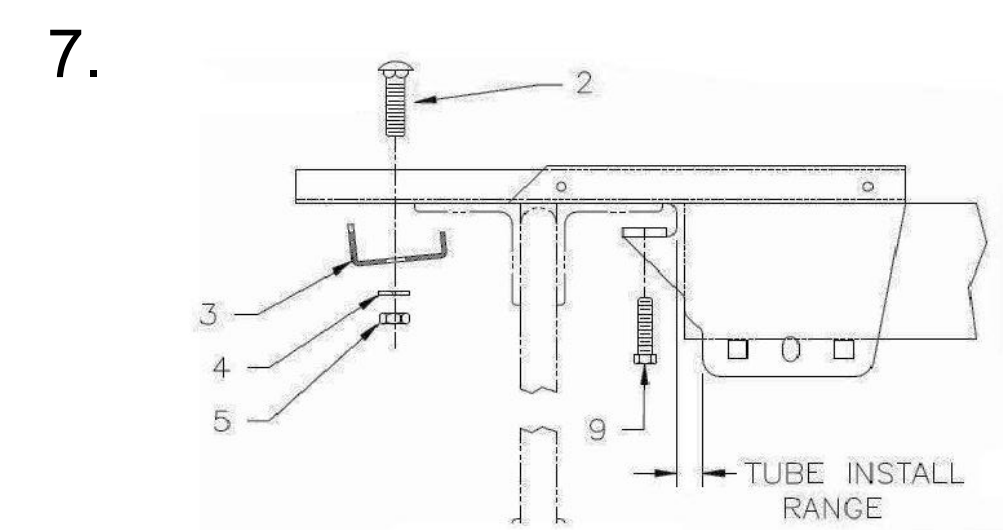


SLIDE SINGLE JAW CLAMP INTO THE DECK OPENING OVER THE JOIST AT POINT 1 AND CENTER IN POCKET. ATTACH WITH THE HEEL CLIP (3) AND TIGHTEN. MAKE SURE TO SET THE JAW CLAMP SO THAT THE SELF LOCKING BOLT (9) WILL BITE DOWN SQUARELY ON THE JOIST FLANGE AS SHOWN. DO NOT TIGHTEN THE SELF LOCKING BOLT UNTIL THE JAW CLAMP IS IN POSITION.

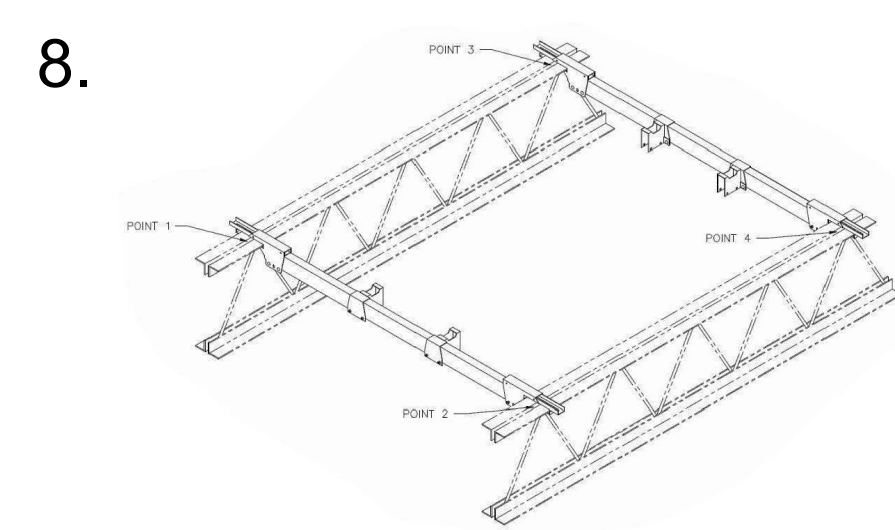


SLIDE THE JAW CLAMP ATTACHED TO THE MAIN TUBE INTO THE DECK OPENING ABOVE POINT 2. THEN, SUPPORTING THE TUBE, FOLLOW THE CORRUGATION ACROSS AND ATTACH THE OTHER END OF THE TUBE TO THE JAW CLAMP AT POINT 1. TUBING SHOULD BE FULLY INSERTED INTO THE JAW CLAMP AND SET WITHIN THE SPECIFIED RANGE NOTED IN STEP 7. **NOTE:** IT MAY BE NECESSARY TO INSTALL BOTH JAW CLAMPS SEPARATELY AND THEN INSERT THE TUBE.

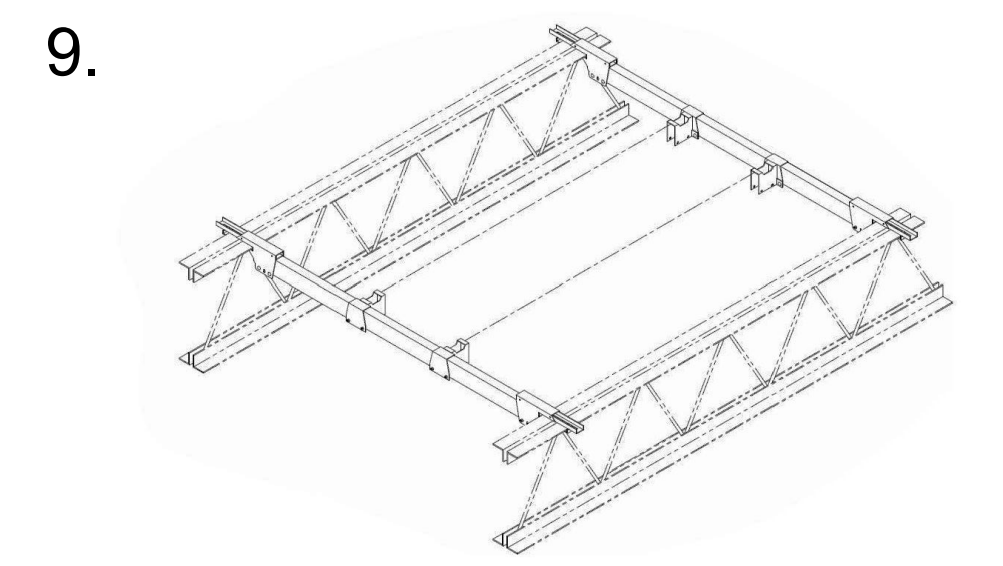
JOIST GRIP FRAMING CLAMP SYSTEM INSTALLATION GUIDE (CONTINUED)



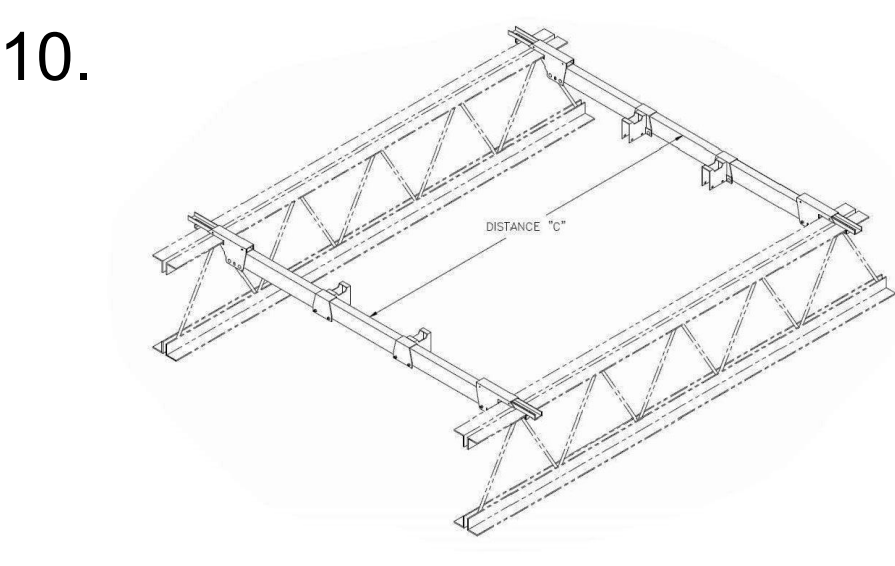
WHEN COMPLETELY INSTALLED, EACH JAW CLAMP SHOULD BE ATTACHED TO THE JOIST WITH THE HEEL CLIP (3) AS WELL AS THE SELF LOCKING BOLT (9). THE MAIN TUBE (10A) SHOULD BE SET WITHIN THE SPECIFIED RANGE AS SHOWN ABOVE. **NOTE:** BE SURE TO CLEAR THE EDGE WHEN ATTACHING BOLTS AND HEEL CLIP TO A COLD FORMED JOIST.



REPEAT STEPS 3-7 FOR SECOND MAIN TUBE IN ROOF DECK OPENING ABOVE POINT 3 AND POINT 4. MAKE SURE MAIN TUBES AND JAW CLAMPS ARE ALIGNED AND TIGHT.

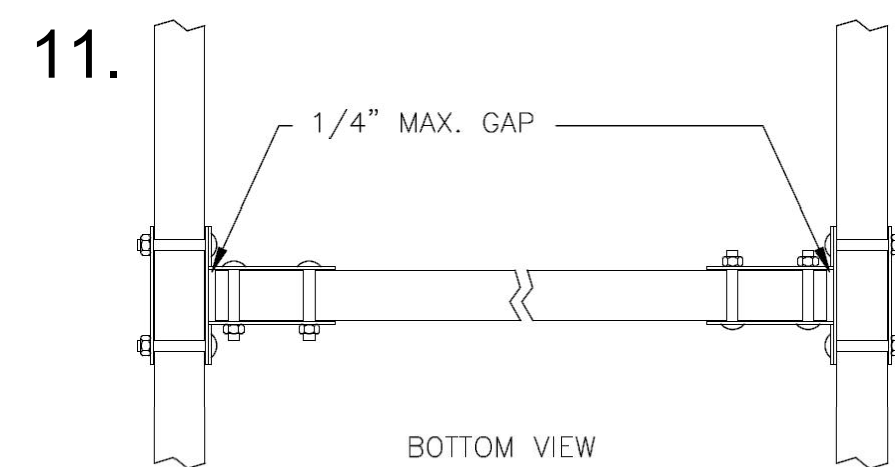


IDENTIFY FOUR POINTS THAT FORM A RECTANGLE ON THE MAIN TUBES. THIS IS WHERE T-BRACKETS WILL BE INSTALLED. SLIDE T-BRACKETS TO THESE POINTS. BE SURE T-BRACKET WINGS ARE DIRECTLY ACROSS FROM EACH OTHER. TIGHTEN BOLTS.

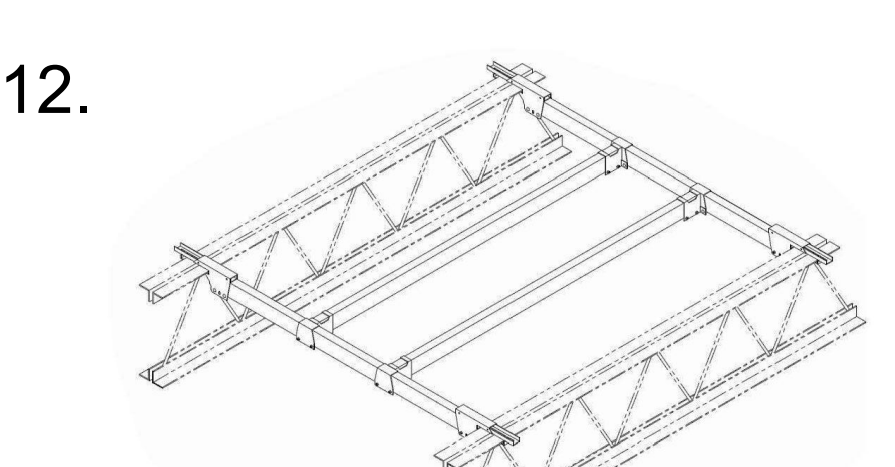


MEASURE THE DISTANCE "C" BETWEEN THE TWO MAIN TUBES. SUBTRACT 1/2" FROM MEASUREMENT "C". CUT CROSS TUBES TO LENGTH.

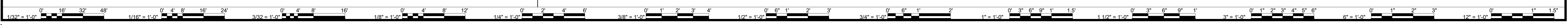
DISTANCE C - 1/2" = CROSS TUBE LENGTH



INSERT CROSS TUBE (10B) INTO WINGS OF T-BRACKETS AS SHOWN. BE SURE TUBE IS WITHIN 1/4" OF THE BACK OF THE T-BRACKETS. SECURE WITH BOLTS AND LOCKNUTS. REPEAT FOR SECOND CROSS TUBE. BE SURE TO CHECK AND TIGHTEN ALL SYSTEM HARDWARE.



ASSEMBLY IS NOW COMPLETE



THOMPSON
Consulting Engineers
21 ENTERPRISE PARKWAY
SUITE 1000
VALEACH, VA 22180
TELEPHONE: (757) 994-4415
PROJECT NUMBER: 200211

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DATE	BY	REVISIONS
04/22/2024	21215-02	BDC	SLS	KDA			

RRMM
ARCHITECTS, P.C.
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804) 277-8987

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
04.22.2024

PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: FRAMING CLAMP SYSTEM DETAILS

SHEET
M-202

LARGE SPLIT SYSTEM UNIT SEQUENCE OF OPERATION

(TYP. FOR AHU/CU-1A AND -1B)

- A. THE BAS SHALL COMMAND THE UNIT INTO OCCUPIED/UNOCCUPIED MODE AND MONITOR ALL POINTS OF CONTROL DESCRIBED HEREIN. THE UNIT'S CONTROLLER SHALL START AND STOP THE SUPPLY FAN, CONTROL THE OUTSIDE AIR DAMPER, CONTROL THE RETURN AIR DAMPER, MODULATE THE COMPRESSORS FOR DIRECT EXPANSION COOLING AND HEATING, MODULATE THE ELECTRIC HEAT, AND MODULATE THE CONDENSER REHEAT COIL VALVE.
- B. MORNING WARMUP: THE UNIT MOUNTED CONTROLLER SHALL DETERMINE MORNING WARMUP TIME BASED ON INITIAL OCCUPANCY COMMAND FROM THE BUILDING OCCUPANCY SCHEDULE. IF THE RETURN AIR TEMPERATURE IS BELOW THE MORNING WARMUP TEMPERATURE SETPOINT OF 70°F (ADJ.), THE WARMUP MODE SHALL BE INITIATED HEATING SHALL BE ENABLED AND MODULATED UNTIL THE SPACE TEMPERATURE REACHES 71°F (ADJ.) AND THE DDC DISABLES THE WARMUP MODE. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING WARM-UP MODE.
- C. MORNING COOLDOWN: THE UNIT MOUNTED CONTROLLER SHALL DETERMINE MORNING COOLDOWN TIME BASED ON INITIAL OCCUPANCY COMMAND FROM THE BUILDING OCCUPANCY SCHEDULE. IF THE RETURN AIR TEMPERATURE IS ABOVE THE MORNING COOLDOWN TEMPERATURE SETPOINT OF 76°F (ADJ.), THE COOLDOWN MODE SHALL BE ENABLED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE REACHES 74°F (ADJ.), THE DX COOLING SHALL BE DISABLED AND THE DDC SHALL DISABLE THE COOLDOWN MODE. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING COOLDOWN MODE.
- D. OCCUPIED:
 - 1. WHEN THE ROOFTOP UNIT IS INDEXED TO THE OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN. ONCE THE SUPPLY AIR FAN OPERATION HAS BEEN ESTABLISHED AS SENSED BY ITS RESPECTIVE PROOF OF FLOW SWITCH, THE UNIT MOUNTED CONTROLLER SHALL OPEN THE OUTSIDE AIR DAMPER TO ITS MINIMUM POSITION, AND PROPORTIONALLY CLOSE THE RETURN AIR DAMPER.
 - 2. COOLING: ON A RISE ABOVE THE PROGRAMMED SPACE COOLING TEMPERATURE SET POINT OF 74°F (ADJ.), THE UNIT SHALL BEGIN TO STAGE THE COMPRESSOR ON TO MAINTAIN THE COOLING SUPPLY AIR TEMPERATURE OF 55°F (ADJ.). ON A FALL BELOW THE PROGRAMMED SPACE TEMPERATURE SET POINT, THE REVERSE SHALL OCCUR.
 - 3. DX AND SUPPLEMENTAL ELECTRIC HEATING: ON A FALL BELOW THE SPACE HEATING TEMPERATURE SETPOINT OF 70°F (ADJ.), THE UNIT MOUNTED CONTROLLER SHALL ENABLE AND MODULATE THE COMPRESSOR TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A CONTINUED FALL BELOW THE PROGRAMMED SPACE TEMPERATURE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL ENABLE AND MODULATE THE ELECTRIC HEATING COIL TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A RISE ABOVE THE PROGRAMMED SPACE HEATING TEMPERATURE SETPOINT, THE REVERSE SHALL OCCUR.
- E. UNOCCUPIED:
 - 1. WHEN THE ROOFTOP UNIT IS INDEXED TO THE UNOCCUPIED MODE, THE OUTSIDE AIR DAMPER SHALL MODULATE FULLY CLOSED, THE RETURN AIR DAMPER SHALL MODULATE FULLY OPEN AND THE SUPPLY AIR FAN SHALL BE DISABLED.
 - 2. COOLING: ON A RISE ABOVE THE PROGRAMMED HIGH LIMIT SPACE TEMPERATURE SET POINT OF 80°F (ADJ.), THE SUPPLY AIR FAN SHALL BE ENABLED. AFTER THE SUPPLY AIR FAN OPERATION IS ESTABLISHED BY ITS RESPECTIVE CURRENT SENSING RELAY, THE DX COOLING SHALL BE ENABLED TO MAINTAIN THE HIGH LIMIT SPACE TEMPERATURE SET POINT. ON A FALL BELOW THE UNOCCUPIED HIGH LIMIT SPACE TEMPERATURE SET POINT, DX COOLING SHALL BE DISABLED AND THE SUPPLY AIR FAN SHALL BE DISABLED.
- F. SINGLE ZONE VARIABLE AIR VOLUME: IN THE COOLING MODE ONLY, THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY BETWEEN A SPECIFIED MINIMUM AND MAXIMUM SPEED. THE UNIT CONTROLLER SHALL MODULATE THE SUPPLY FAN BETWEEN THE MINIMUM AND MAXIMUM BASED ON HOW NEAR OR FAR THE SPACE TEMPERATURE IS AWAY FROM SETPOINT. THE AIRFLOW MONITORING STATION SHALL MODULATE THE OUTSIDE AIR DAMPER TO MAINTAIN THE MINIMUM VENTILATION RATE AT ALL TIMES.
- G. BUILDING PRESSURIZATION: ON A RISE IN SPACE PRESSURE ABOVE THE SPACE PRESSURE SETPOINT (INITIALLY +0.05" WC, FIELD-ESTABLISHED DURING TAB), THE BAS SHALL MODULATE THE 2-POSITION RELIEF DAMPER FULLY OPEN. ON A FALL IN SPACE PRESSURE, THE REVERSE SHALL OCCUR.
- H. COMBUSTION DETECTION: ON DETECTION OF PRODUCTS OF COMBUSTION, THE DUCT SMOKE DETECTOR SHALL STOP THE UNIT SUPPLY FAN. THE SMOKE DETECTOR SHALL BE WIRED DIRECTLY TO THE UNIT MOUNTED CONTROLLER AND TRIGGER AN EMERGENCY SHUTDOWN, SENDING AN ALARM TO THE OWNER'S WORKSTATION.

POINT NAME	HARDWARE POINTS				SOFTWARE POINTS				TREND	ALARM	SHOW ON GRAPHIC
	AI	AO	BI	BO	AV	BV					
BAS ENABLE/DISABLE COMMAND					X	X	X	X			X
OCCUPIED/UNOCCUPIED MODE							X	X			X
OUTSIDE AIR TEMP (1)	X								X	X	X
OUTSIDE AIR DAMPER POSITION					X				X	X	X
OUTSIDE AIR FLOW RATE	X								X		X
FILTER STATUS			X						X		X
BIPOLAR IONIZATION ENABLE			X						X		X
CONDENSATE SWITCH			X						X	X	X
COMPRESSOR STATUS (2)			X						X	X	X
TOTAL COOLING CAPACITY (%)					X				X	X	X
CONDENSER FAN STATUS			X						X	X	X
MODULATING REHEAT VALVE	X								X	X	X
HEATING STATUS			X		X				X	X	X
ELECTRIC HEAT SCR	X								X		X
SUPPLY FAN AIRFLOW SWITCH			X						X		X
SUPPLY FAN SPEED		X							X		X
SUPPLY FAN START/STOP			X								X
SUPPLY FAN STATUS						X			X	X	X
DISCHARGE AIR TEMP	X								X	X	X
BIPOLAR IONIZATION STATUS			X						X	X	X
SPACE TEMPERATURE	X								X	X	X
SPACE TEMP. SETPOINT		X			X				X	X	X
SPACE HUMIDITY SET POINT					X				X	X	X
SMOKE DETECTOR			X						X	X	X
RETURN AIR TEMP.	X								X	X	X
RECIRC AIR DAMPER POSITION					X				X	X	X
RELIEF AIR DAMPER POSITION						X			X	X	X
SPACE PRESSURE	X										X
SPACE PRESSURE SETPOINT					X						X

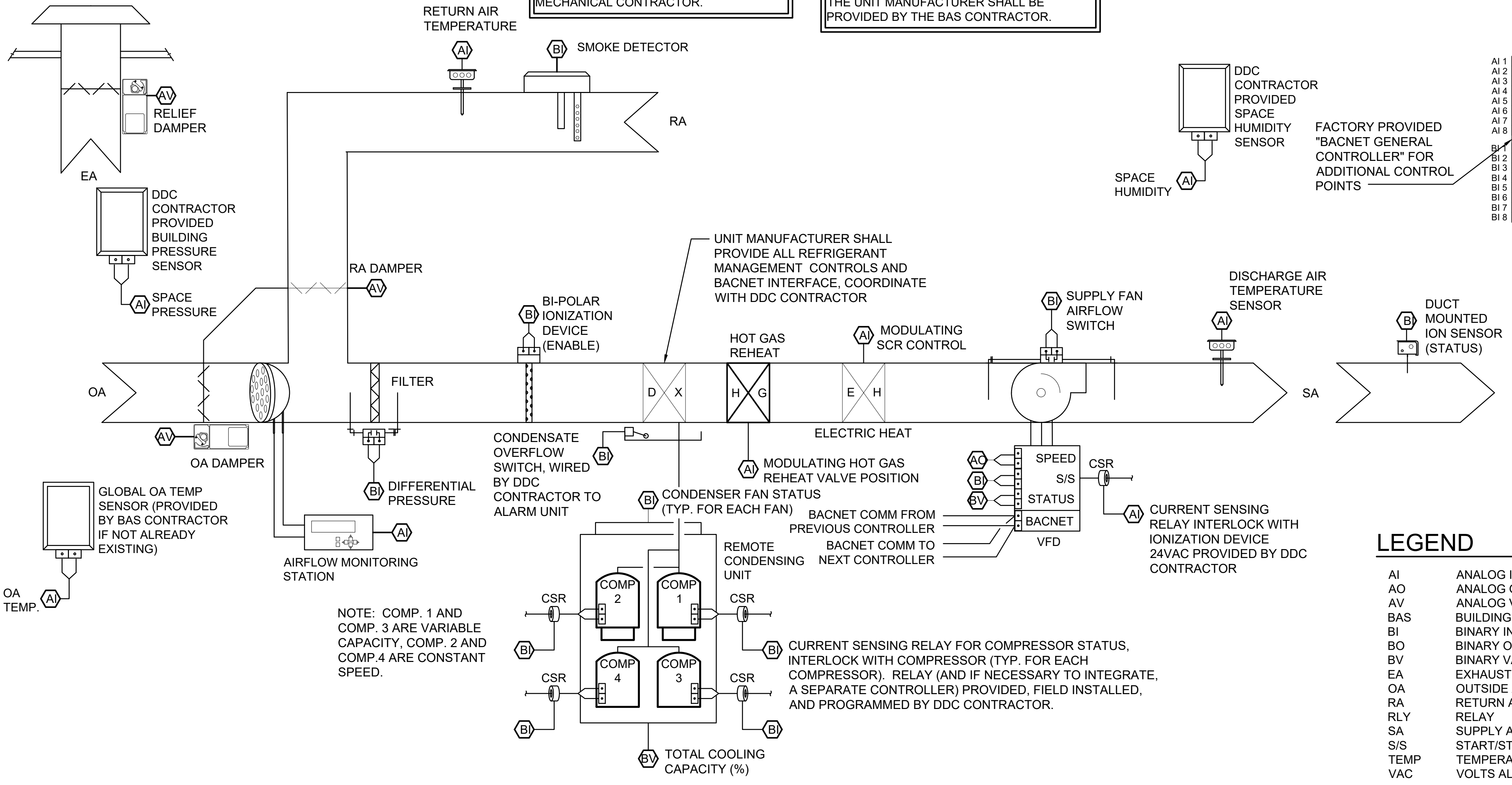
- ① OUTSIDE AIR TEMPERATURE FOR ECONOMIZER FUNCTION SHALL BE OBTAINED FROM EXISTING GLOBAL OUTSIDE AIR TEMPERATURE SENSOR.
- ② FIELD INSTALLED AND PROGRAMMED CT'S BY DDC CONTRACTOR IF FACTORY-PROVIDED COMPRESSOR STATUS POINTS ARE NOT AVAILABLE.
- ③ PROVIDE SECONDARY DATA PAGE IN GRAPHICAL USER INTERFACE CONTAINING ALL POINTS NOT LISTED ABOVE, BUT AVAILABLE THROUGH THE UNIT'S BACNET INTERFACE.

LARGE SPLIT SYSTEM UNIT POINTS LIST

(TYP. FOR AHU/CU-1A AND -1B)

NOTE: REFER TO ELECTRICAL DRAWINGS FOR DUCT MOUNTED SMOKE DETECTOR INSTALLATION INSTRUCTIONS. DETECTOR SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.

NOTE: BAS CONTRACTOR AND MECHANICAL CONTRACTOR SHALL COORDINATE ALL POINTS AND SEQUENCES PRIOR TO BIDDING. ANY POINTS NOT FACTORY-AVAILABLE FROM THE UNIT MANUFACTURER SHALL BE PROVIDED BY THE BAS CONTRACTOR.



LARGE SPLIT SYSTEM UNIT CONTROL DIAGRAM

NOT TO SCALE

(TYP. FOR AHU/CU-1A AND -1B)



DATE	PROJECT	DESIGNED	BDC	SLS	KDA
04/22/2024	21215-02				

DATE	PROJECT	DESIGNED	BDC	SLS	KDA
04/22/2024	21215-02				



DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
AUTOMATIC TEMPERATURE CONTROLS

SHEET
M-301

ELECTRICAL LEGEND:

- ① NEW WORK NOTE INDICATOR.
- ① DEMOLITION NOTE INDICATOR.
- GFI/ WP 20A, 120V WEATHER RESISTANT DUPLEX RECEPTACLE WITH METAL WEATHERPROOF WHILE-IN-USE COVERPLATE.
- ⓔ ELECTRICAL CONNECTION TO EQUIPMENT.
- ⓐ JUNCTION BOX - SIZE AS REQUIRED.
- S_M MOTOR RATED SNAP SWITCH.
- S_{2M} TWO POLE MOTOR RATED SNAP SWITCH.
- _{3P 60 3R} DISCONNECT SWITCH, 240V, U.O.N.; 3P = NUMBER OF POLES, 60 = SWITCH RATING, 40 = FUSE RATING, 3R = PROVIDE IN NEMA 3R STEEL ENCLOSURE.
- ▨ PANELBOARD, 208Y/120 VOLT.
- /— BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO TICK MARKS INDICATES 2 #10 CONDUCTORS & 1 #10 GND., IN 3/4" CONDUIT, U.O.N. TICK MARKS, WHEN SHOWN, INDICATE NUMBER OF CONDUCTORS IF OTHER THAN THREE: (7) INDICATES GROUNDING CONDUCTOR. SEE NOTES ON DRAWINGS FOR CONDUCTOR SIZES LARGER THAN #10.
- CONDUIT RUN CONCEALED ABOVE CEILING.
- LMA-14,16,18 → HOMERUNS TO PANEL. PANEL AND CIRCUIT DESIGNATIONS AS INDICATED.
- EXISTING DISCONNECT SWITCH.
- Ⓢ FIRE ALARM SYSTEM DUCT SMOKE DETECTOR WITH SAMPLING TUBES AND REMOTE TEST STATION. PROVIDE CONDUCTORS AND CONNECT TO MECHANICAL EQUIPMENT FOR UNIT SHUT-DOWN. COORDINATE REQUIREMENTS WITH BAS SUB-CONTRACTOR.

ABBREVIATIONS:

- A AMPERE
- AHU AIR HANDLING UNIT
- FACP FIRE ALARM CONTROL PANEL
- GFI GROUND FAULT INTERRUPTER
- GND GROUND
- GRS GALVANIZED RIGID STEEL
- KAIC KILO-AMPERE INTERRUPTING CAPACITY
- MCB MAIN CIRCUIT BREAKER
- NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- NO., # NUMBER
- P POLE OR PUMP
- RTU ROOFTOP UNIT
- SPD SURGE PROTECTIVE DEVICE
- U.O.N. UNLESS OTHERWISE NOTED
- V VOLT
- WP WEATHERPROOF
- XFMR TRANSFORMER
- Y WYE

GENERAL DEMOLITION NOTES

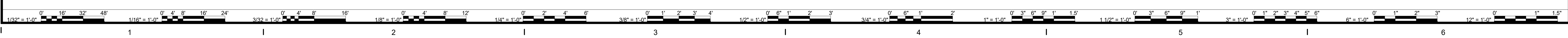
1. PERFORM ALL REQUIRED DEMOLITION TO COMPLY WITH THE SCOPE AND INTENT OF THE PROJECT. REMOVE ALL WIRING ASSOCIATED WITH THE REQUIRED DEMOLITION BACK TO POINT OF ORIGIN OR LAST DEVICE TO REMAIN.
2. VERIFY ALL CIRCUITS SAVED DURING DEMOLITION FOR REUSE AS TO WIRE SIZE AND POINT OF ORIGIN.
3. EXERCISE CARE IN REMOVING MATERIAL AND EQUIPMENT DURING DEMOLITION. REPAIR ALL DAMAGE TO EXISTING SURFACES OR EXISTING EQUIPMENT TO REMAIN TO THE SATISFACTION OF THE ARCHITECT AND OWNER AT NO ADDITIONAL COST TO THE OWNER.
4. PROVIDE THE OWNER WITH FIRST RIGHT OF REFUSAL FOR ALL ELECTRICAL EQUIPMENT BEING REMOVED AS A PART OF THIS CONTRACT AND NOT SCHEDULED FOR REINSTALLATION. ALL ELECTRICAL EQUIPMENT NOT TURNED OVER TO THE OWNER SHALL BECOME THE PROPERTY OF THE ELECTRICAL CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
5. DURING THE REMOVAL OF THE EXISTING CEILING TILES, SUPPORT ALL EXISTING AUXILIARY SYSTEMS CABLES (DATA, SPEAKER, TELEPHONE, CCTV, ETC.) FROM STRUCTURE ABOVE EXISTING CEILING. ADJUST ROUTING OF THESE CABLES TO ACCOMMODATE THE INSTALLATION OF NEW HVAC SYSTEM EQUIPMENT, DUCTWORK AND PIPING. RE-VERIFY THE WORKING CONDITION OF THESE CABLES AND REPLACE ALL CABLES FOUND DEFECTIVE AFTER REINSTALLATION, WHICH WERE WORKING PRIOR TO REMOVAL WITH CABLES TO MATCH EXISTING AT NO ADDITIONAL COST TO THE OWNER.
6. PATCH ALL OPENINGS IN WALLS AND ROOF CAUSED BY REMOVAL OF EQUIPMENT AND CONDUIT WITH SIMILAR MATERIALS AND FINISH TO MATCH ADJACENT SURFACES.
7. IN AREAS WHERE NO OTHER TRADES ARE INVOLVED, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF EXISTING CEILING TILES AS REQUIRED TO INSTALL NEW BRANCH CIRCUITRY. REINSTALL EXISTING CEILING TILES AFTER COMPLETION OF WORK. REPLACE ALL CEILING TILES DAMAGED DURING THIS PROJECT WITH NEW TILES TO MATCH EXISTING TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
8. PROVIDE ALL ELECTRICAL DEMOLITION WORK NECESSARY TO INSTALL NEW WORK. REROUTE AND RECONNECT TO ALL CIRCUITS THAT ARE REQUIRED TO REMAIN IN USE BUT INTERFERES WITH NEW CONSTRUCTION.
9. CONDUITS MAY BE ABANDONED IN WALLS, ABOVE CEILING AND BELOW SLABS ONLY. REMOVE ALL WIRING FROM ABANDONED CONDUITS. DISCONNECT CONDUCTORS FROM ALL POWER SOURCES AND PROVIDE BLANK COVERPLATES ON ALL ABANDONED OUTLET BOXES.
10. EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.
11. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY NEW WORK.
12. ANY POWER OUTAGE THAT WILL AFFECT THE EXISTING MAIN DISTRIBUTION SWITCHBOARD (MDS) AND POWER TO THE WHOLE BUILDING SHALL BE COORDINATED IN ADVANCE WITH OWNER AND PLANT SERVICES/ELECTRIC SHOP.

GENERAL FIRE ALARM NOTES:

1. IF THERE WILL BE A POWER OUTAGE A GENERATOR WILL NEED TO BE PROVIDED TO SUPPORT THE ALARM SYSTEMS AND TELEPHONE EQUIPMENT. COORDINATE IN ADVANCE WITH OWNER AND PLANT SERVICES/ELECTRIC SHOP AND IT TECHNOLOGY.
2. ALL FIRE ALARM WORK (WIRING DEVICES AND CONNECTING DEVICES) SHALL BE PERFORMED BY CERTIFIED HONEYWELL MANUFACTURER. THE FACP IS FIRE-LITE #MS-10UD. DOCUMENTATION OF CERTIFICATION BY COMPANY AND INSTALLER SHALL BE PROVIDED.
3. PRIOR TO THE PROJECT STARTING GENERAL CONTRACTOR FOREMAN AND ASSISTANT FOREMAN NAMES AND TELEPHONE NUMBERS SHOULD BE PROVIDED TO OWNERS FIRE ALARM REPRESENTATIVE SO THAT ALARM CODES CAN BE CREATED AND THE ABILITY OF PLACING THE ALARM SYSTEMS ON TEST
4. NO T-TAPPING SHALL BE USED ON THE FIRE ALARM SYSTEM
5. IF ANY MODIFICATIONS OR DEVICE REMOVAL/REINSTALLATIONS ARE NEEDED A CITY PERMIT MUST BE PULLED FOR THE FIRE ALARM SYSTEM.
6. HARD AND ELECTRONIC COPIES OF AS-BUILT DRAWINGS SHALL BE PROVIDED SHOWING CABLE PATH, ZONE NUMBER FOR ANY NEW DEVICES, LOCATION OF DEVICES, ETC.
7. PROVIDE FIRE ALARM DEVICES, CABLING AND ACCESSORIES THAT ARE COMPATIBLE WITH THE EXISTING FIRE-LITE #MS10UD FIRE ALARM PANEL. FACP IS LOCATED IN THE MAIN OFFICE. ALL NEW FIRE ALARM CABLING SHALL BE RED IN COLOR AND PLENUM RATED. PROVIDE PLENUM RATED TIE WRAPS TO SUPPORT CABLES ABOVE CEILING.
8. FIRE ALARM SYSTEM DUCT SMOKE DETECTORS, SAMPLING TUBES AND NEMA 3R DUCT DETECTOR HOUSINGS FURNISHED BY THE ELECTRICAL CONTRACTOR INSTALLED BY MECHANICAL CONTRACTOR AND CONNECTED TO THE FIRE ALARM SYSTEM BY ELECTRICAL CONTRACTOR. CEILING MOUNTED REMOTE TEST STATIONS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
9. PROVIDE FIRE ALARM SYSTEM DUCT SMOKE DETECTOR WITH SAMPLING TUBES. PROVIDE CONDUCTORS AND CONNECT TO MECHANICAL EQUIPMENT FOR UNIT SHUT-DOWN. COORDINATE REQUIREMENTS WITH BAS SUB-CONTRACTOR. PROVIDE DUCT SMOKE DETECTOR REMOTE INDICATING LIGHT / TEST SWITCH. INSTALL IN SURFACE METAL OUTLET BOX +7'-0" A.F.F. PROVIDE BAKELITE NAMEPLATE FOR SWITCH WITH EQUIPMENT DESIGNATION. PROVIDE CONDUCTORS BETWEEN SWITCH AND DUCT SMOKE DETECTOR AS DIRECTED BY THE FIRE ALARM SYSTEM MANUFACTURER.
10. PROVIDE ALL NECESSARY PROGRAMMING TO THE FACP AS REQUIRED TO REMOVE EXISTING SMOKE DUCT DETECTOR AND PROGRAMMING NECESSARY TO ADD NEW SMOKE DUCT DETECTORS.

GENERAL NEW WORK NOTES:

1. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS INCLUDING EXACT POINT OF ELECTRICAL CONNECTION. MAKE ADJUSTMENTS TO CONDUIT ROUTING, PLACEMENT OF DISCONNECTS AND STARTERS AS REQUIRED.
2. PROVIDE NEW TYPED PANEL INDEXES FOR ALL PANELS WHERE CHANGES BROUGHT ON BY THIS PROJECT OCCUR.
3. IN AREAS WHERE NO OTHER TRADES ARE INVOLVED, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF EXISTING CEILING TILES AS REQUIRED TO INSTALL NEW CIRCUITRY. REINSTALL EXISTING CEILING TILES AFTER COMPLETION OF WORK. REPLACE ANY AND ALL CEILING TILES DAMAGED DURING THIS PROJECT WITH NEW TILES TO MATCH EXISTING TO THE SATISFACTION OF THE ARCHITECT AND OWNER.
4. EXERCISE CARE IN REMOVING MATERIAL AND EQUIPMENT DURING DEMOLITION. REPAIR ANY DAMAGE TO EXISTING SURFACES OR EXISTING EQUIPMENT TO REMAIN TO THE SATISFACTION OF THE ARCHITECT AND OWNER AT NO COST TO THE OWNER.
5. ALL MATERIAL REMOVED DURING DEMOLITION (AND NOT CALLED OUT TO BE REINSTALLED) SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE, UNLESS OTHERWISE NOTED. THE OWNER RESERVES THE RIGHT TO SALVAGE ANY OR ALL EXISTING MATERIAL AND/OR EQUIPMENT NOT SCHEDULED TO BE REINSTALLED.
6. VERIFY ALL CIRCUITS SAVED DURING DEMOLITION AS TO WIRE SIZE AND POINT OF ORIGIN.
7. ALL CONDUIT ON ROOF SHALL BE GALVANIZED RIGID STEEL (GRS), U.O.N.



PROJECT DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS

DESCRIPTION
BY
MARK DATE
REVISIONS

DATE	04/22/2024	DESIGNED	KGD	DRAWN	RAB	CHECKED	KC
------	------------	----------	-----	-------	-----	---------	----

RRMM ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804)277-8987

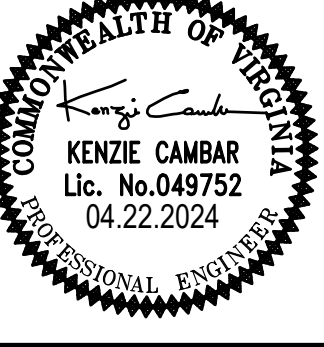
KENZIE CAMBAR
Lic. No. 049752
04.22.2024

SHEET
E-001



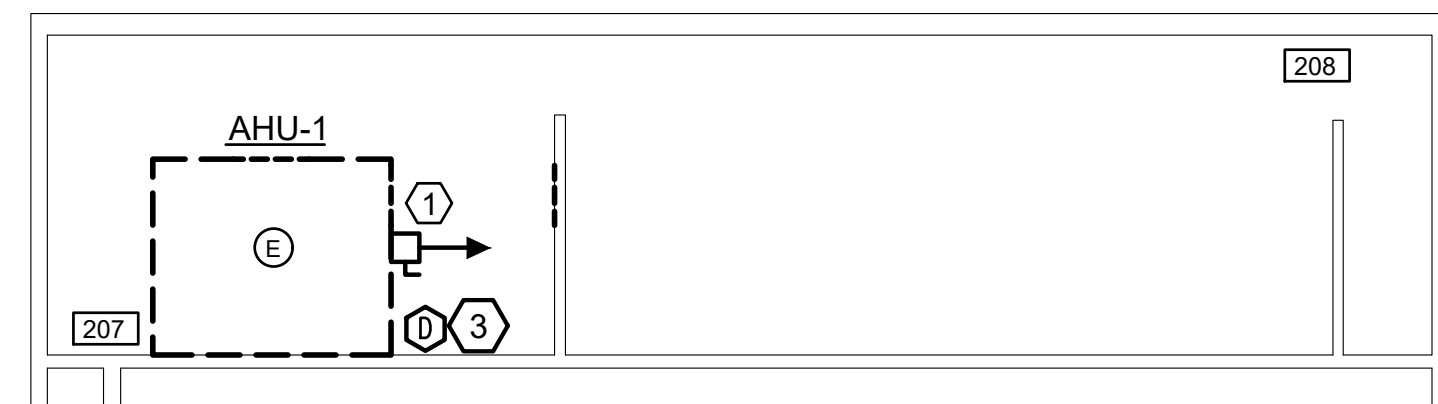
	DESCRIPTION
	BY
	MARK DATE
	REVISIONS

DATE	04/22/2024	DESIGNED	KGD	DRAWN	RAB	CHECKED	KC
------	------------	----------	-----	-------	-----	---------	----

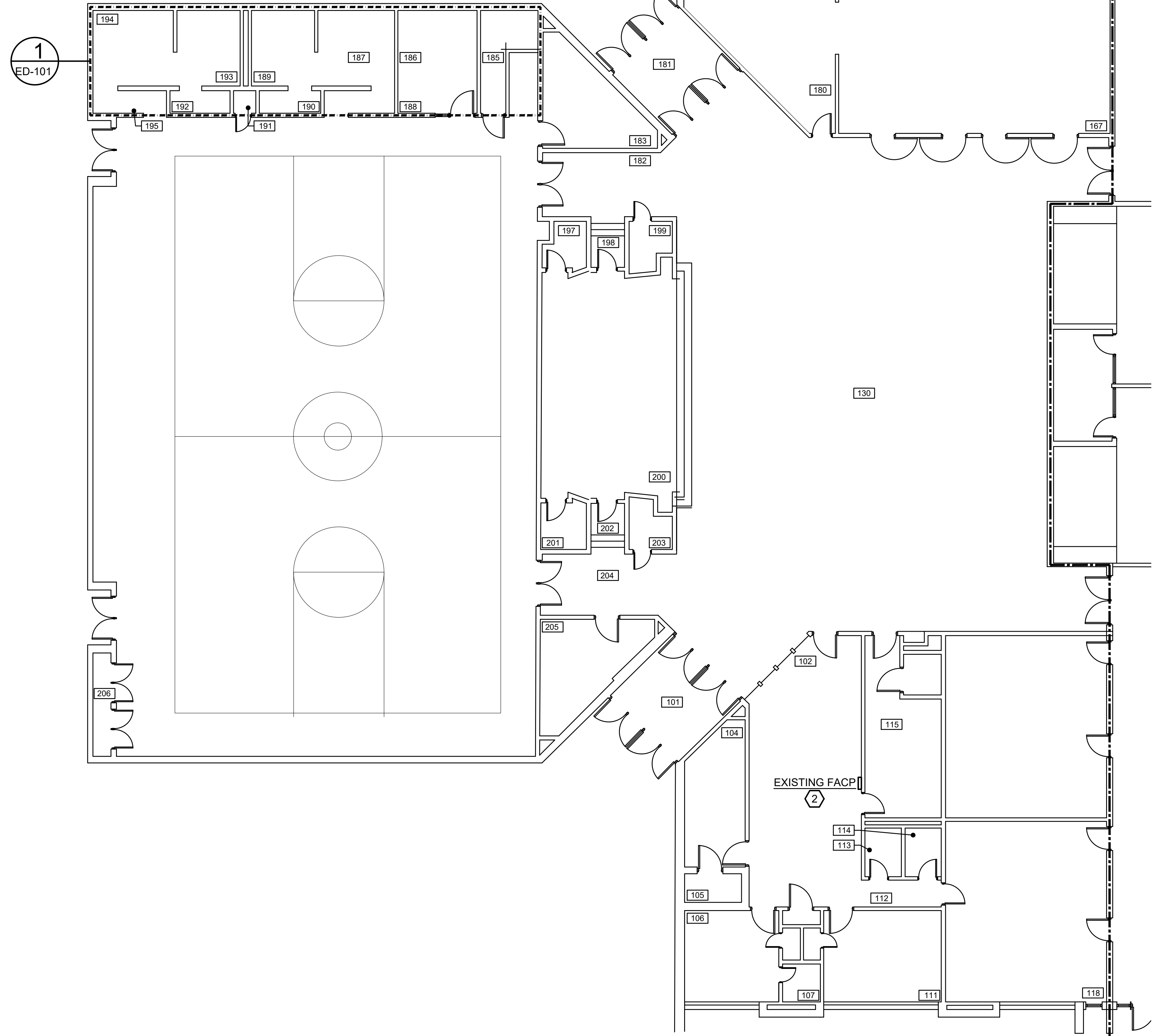


PROJECT DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS

SHEET
E-001



1 GYMNASIUM MEZZANINE PLAN - DEMOLITION
ED-101 SCALE: 1/8" = 1'-0"



T
EXISTING DOMINION
ENERGY PAD MOUNTED
TRANSFORMER

2 EXISTING
KWHR

2 EXISTING "MDS"
2 EXISTING PANEL "LA-1"

MATCHLINE
SEE SHEET ED-102

EXISTING FACP
2

MATCHLINE
SEE SHEET ED-102

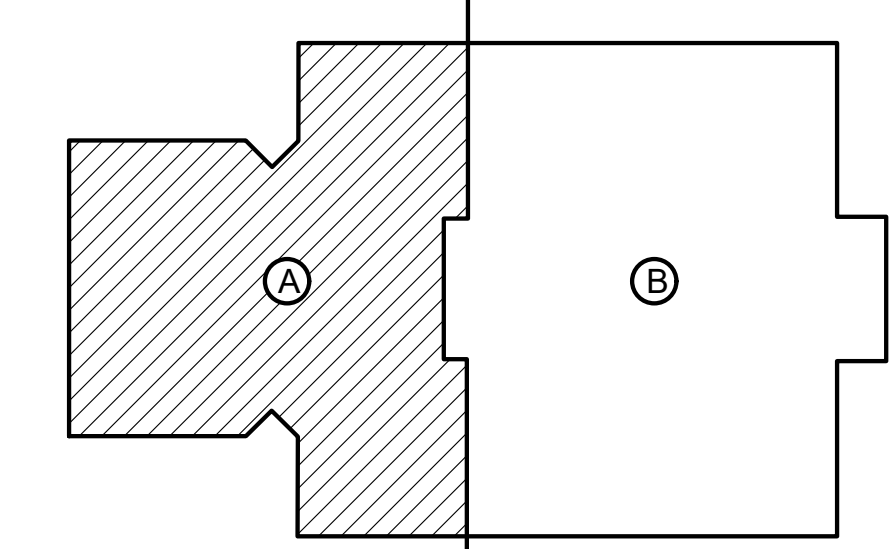
DEMOLITION NOTES (THIS DRAWING ONLY)

- 1 DISCONNECT ELECTRICAL CONNECTION TO AIR HANDLER AND REMOVE DISCONNECT SWITCHES. REMOVE CONDUCTORS BACK TO POINT OF ORIGIN AND LABEL CIRCUIT BREAKERS "SPARE". ABANDON CONCEALED CONDUIT IN PLACE.
- 2 EXISTING TO REMAIN.
- 3 REMOVE FIRE ALARM DUCT SMOKE DETECTOR, DETECTOR BOX, AND SAMPLING TUBES. REMOVE FIRE ALARM CABLE BACK TO FIRE ALARM CONTROL PANEL.

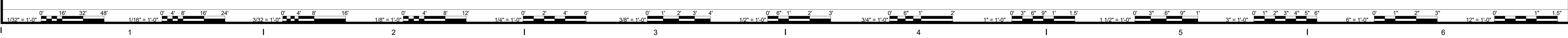
AREA A FLOOR PLAN - ELECTRICAL - DEMOLITION
SCALE: 1/8" = 1'-0"

CEILING REPLACEMENT NOTE: CONTRACTOR SHALL COORDINATE ALL WORK WITH EXISTING CEILING CONDITIONS AND REMOVE ACOUSTIC CEILING TILES AND ACCESSORIES AS NECESSARY TO FACILITATE INSTALLATION OF NEW DUCTWORK AND DIFFUSERS. EXISTING CEILING GRID SHALL REMAIN IN PLACE THROUGHOUT DURATION OF CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REINSTALL ALL CEILING TILES AND ANY OTHER ACCESSORIES TEMPORARILY REMOVED DURING CONSTRUCTION.

NOTE: EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.



KEY PLAN
NOT TO SCALE



THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
SUITE 100
VALEACH, VA 23060
TELEPHONE: (757) 946-4143
PROJECT NUMBER: 202411

MARK	DATE	REVISIONS	BY	DESCRIPTION

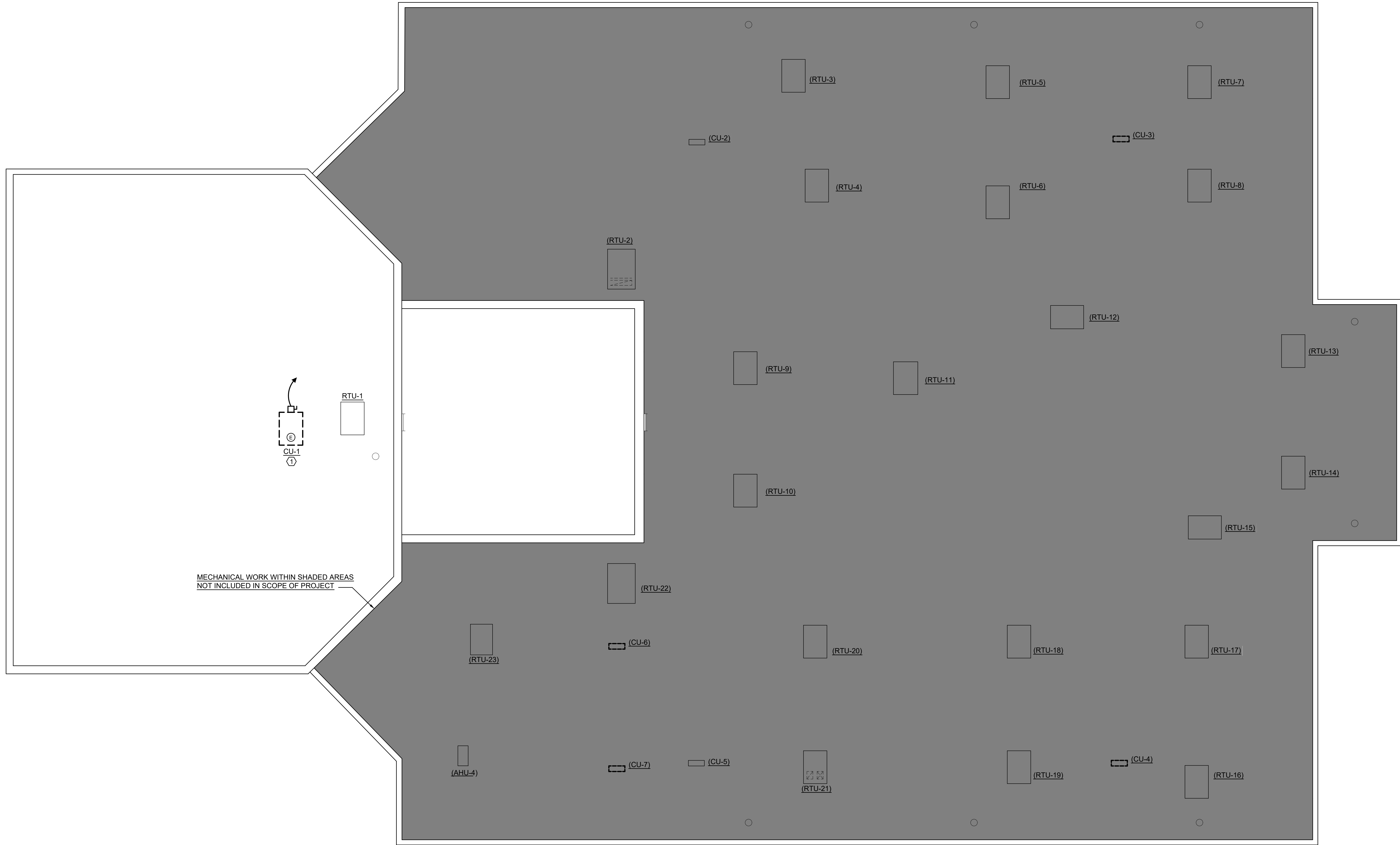
DATE	PROJECT	DESIGNED	DRAWN	CHECKED	KGD	RAB	KC
04/22/2024	21215-02						

RRMM
ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804)277-8987

REGISTERED PROFESSIONAL ENGINEER
KENZIE CAMBAR
Lic. No. 049752
04.22.2024

PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: AREA A FLOOR PLAN - ELECTRICAL - DEMOLITION

SHEET
ED-101



ROOF PLAN - ELECTRICAL - DEMOLITION

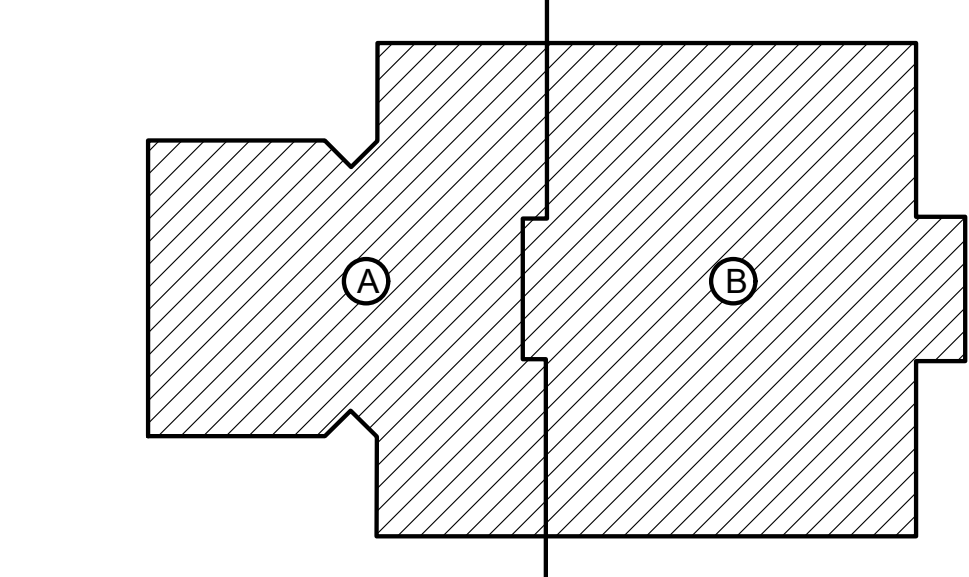
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES (THIS DRAWING ONLY)

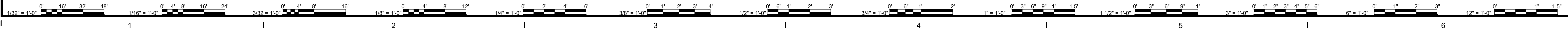
- 1 DISCONNECT ROOFTOP AIR CONDITIONING AND REMOVE DISCONNECT SWITCH. REMOVE CONDUCTORS BACK TO POINT OF ORIGIN AND LABEL CIRCUIT BREAKER "SPARE". ABANDON CONCEALED CONDUIT IN PLACE.
- 2 CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE THE IMPACT COST TO REMOVE CONDUCTORS BACK TO UNKNOWN POINT OF ORIGIN. THIS COST SHALL BE FACTOR INTO BID PROCESS.

CEILING REPLACEMENT NOTE: CONTRACTOR SHALL COORDINATE ALL WORK WITH EXISTING CEILING CONDITIONS AND REMOVE ACOUSTIC CEILING TILES AND ACCESSORIES AS NECESSARY TO FACILITATE INSTALLATION OF NEW DUCTWORK AND DIFFUSERS. EXISTING CEILING GRID SHALL REMAIN IN PLACE THROUGHOUT DURATION OF CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REINSTALL ALL CEILING TILES AND ANY OTHER ACCESSORIES TEMPORARILY REMOVED DURING CONSTRUCTION.

NOTE: EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.

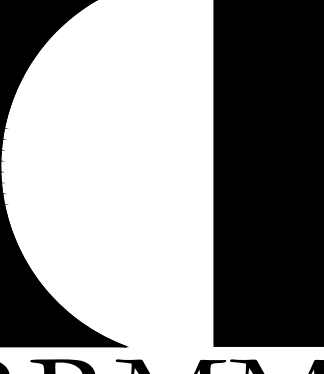


KEY PLAN
NOT TO SCALE

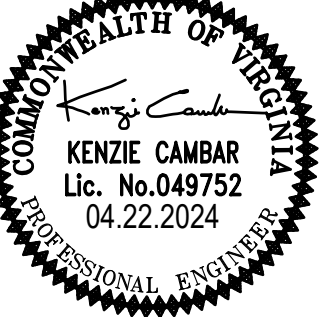


MARK	DATE	REVISIONS

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	KGD	RAB	KC
04/22/2024	21215-02						



RRMM ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804)277-8987



PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: ROOF PLAN - ELECTRICAL - DEMOLITION

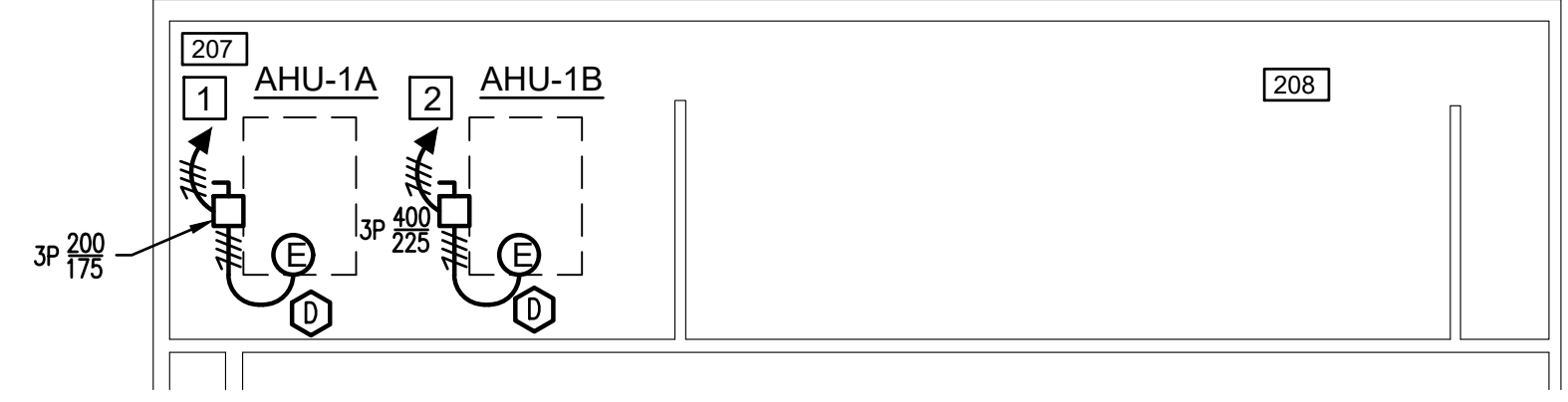
MARK	DATE	REVISIONS

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	KGD	RAB	KC
04/22/2024	21215-02						

RRMM
ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804)277-8987

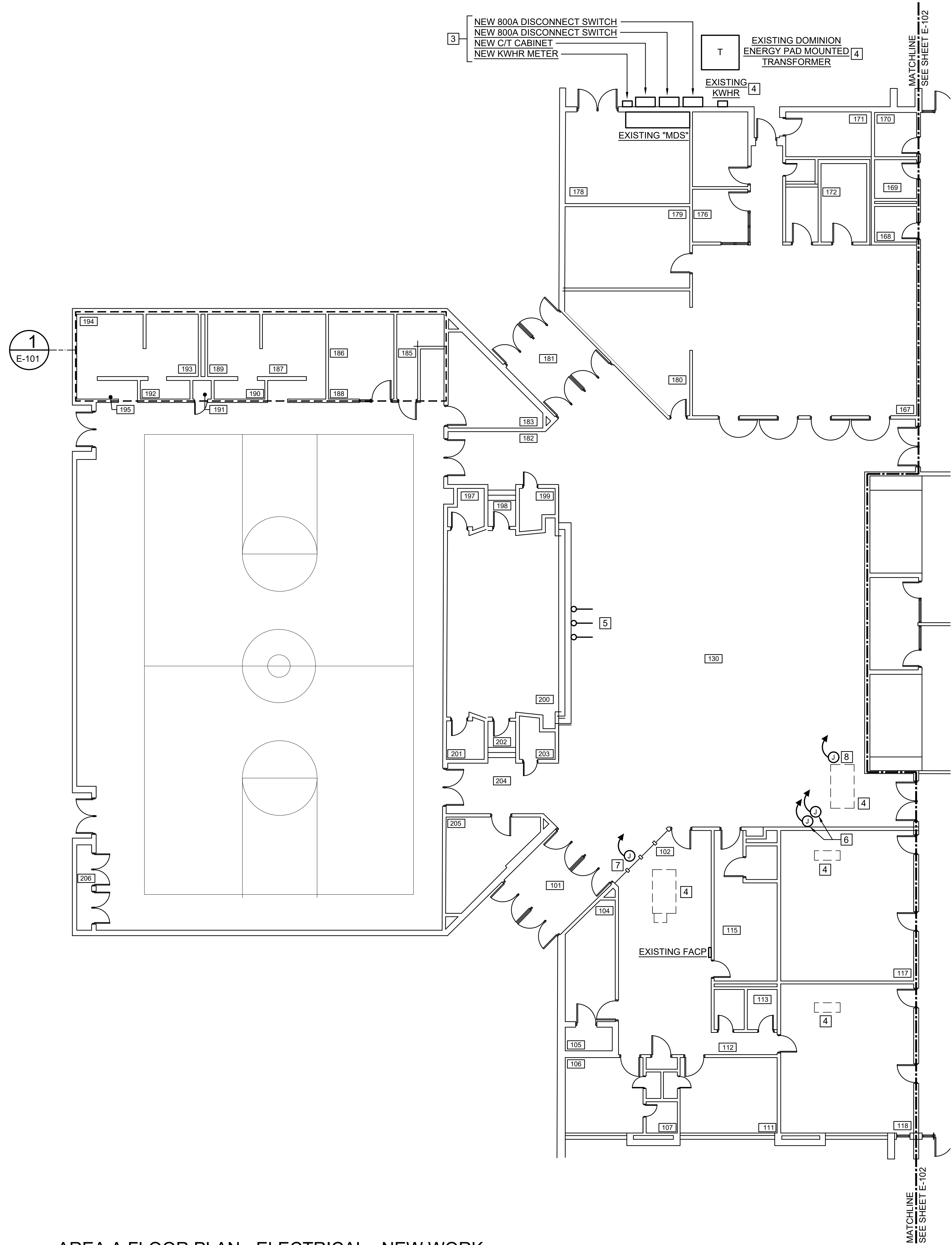


PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: AREA A FLOOR PLAN - ELECTRICAL - NEW WORK



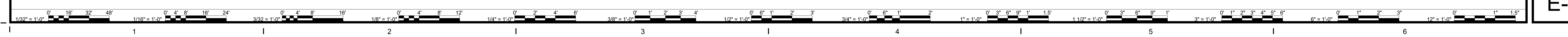
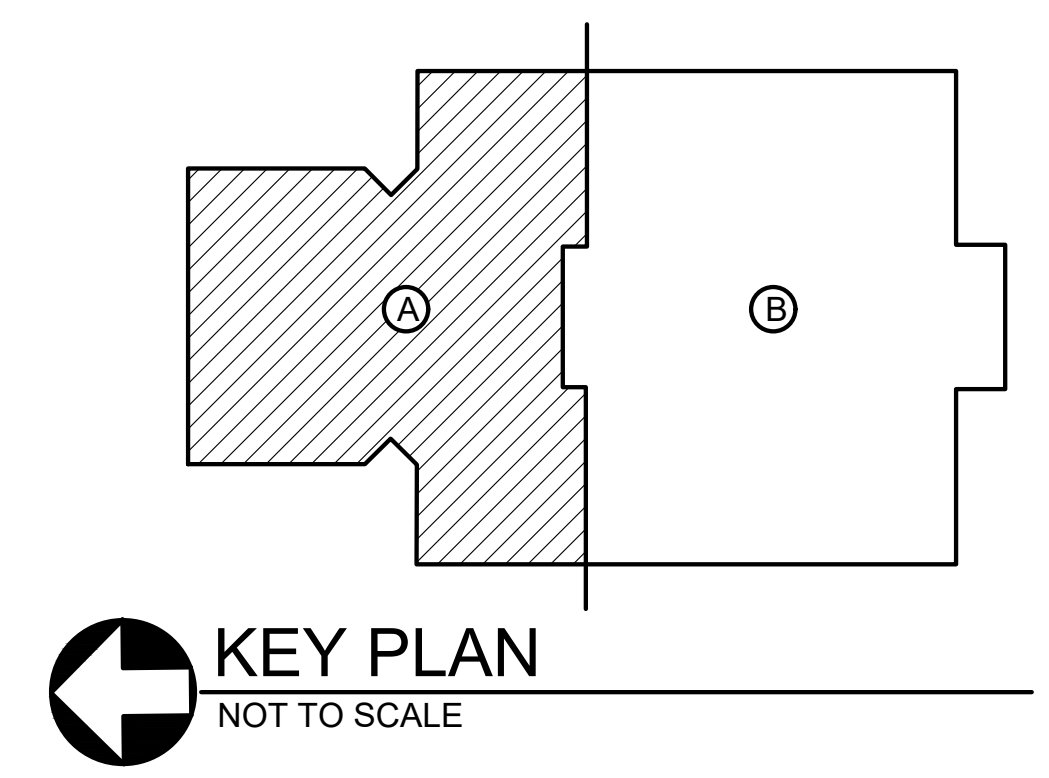
1 GYMNASIUM SECOND FLOOR PLAN - NEW WORK
E-101 SCALE: 1/8" = 1'-0"

- NEW WORK NOTES:** (THIS DRAWING ONLY)
- 1 PROVIDE 3 #2/0 AND 1 #6 GND IN 1-1/4" CONDUIT AND CONNECT TO SPARE 175A-3P CIRCUIT BREAKER IN EXISTING "MDS"
 - 2 PROVIDE 3-250 KCMIL AND 1 #4 GND, IN 2-1/2" CONDUIT AND CONNECT TO SPARE 250A-3P CIRCUIT BREAKER IN EXISTING "MDS"
 - 3 SEE POWER RISER DIAGRAM FOR ADDITIONAL INFORMATION.
 - 4 EXISTING TO REMAIN, SHOWN FOR REFERENCE ONLY.
 - 5 EXTEND CONDUITS THROUGH ROOF PENETRATION TO DESIGNATED PANELBOARD. SHOWN ON SHEET E103.
 - 6 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 1/2" CONDUIT WITH PULLWIRE ABOVE CORRIDOR CEILING TO PANELBOARD "LMB".
 - 7 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 1-1/4" CONDUIT WITH PULLWIRE ABOVE CORRIDOR CEILING TO PANELBOARD "LMB".
 - 8 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 2" CONDUIT WITH PULLWIRE ABOVE CORRIDOR CEILING TO PANELBOARD "LMB".



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

CEILING REPLACEMENT NOTE: CONTRACTOR SHALL COORDINATE ALL WORK WITH EXISTING CEILING CONDITIONS AND REMOVE ACOUSTIC CEILING TILES AND ACCESSORIES AS NECESSARY TO FACILITATE INSTALLATION OF NEW DUCTWORK AND DIFFUSERS. EXISTING CEILING GRID SHALL REMAIN IN PLACE THROUGHOUT DURATION OF CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REINSTALL ALL CEILING TILES AND ANY OTHER ACCESSORIES TEMPORARILY REMOVED DURING CONSTRUCTION.



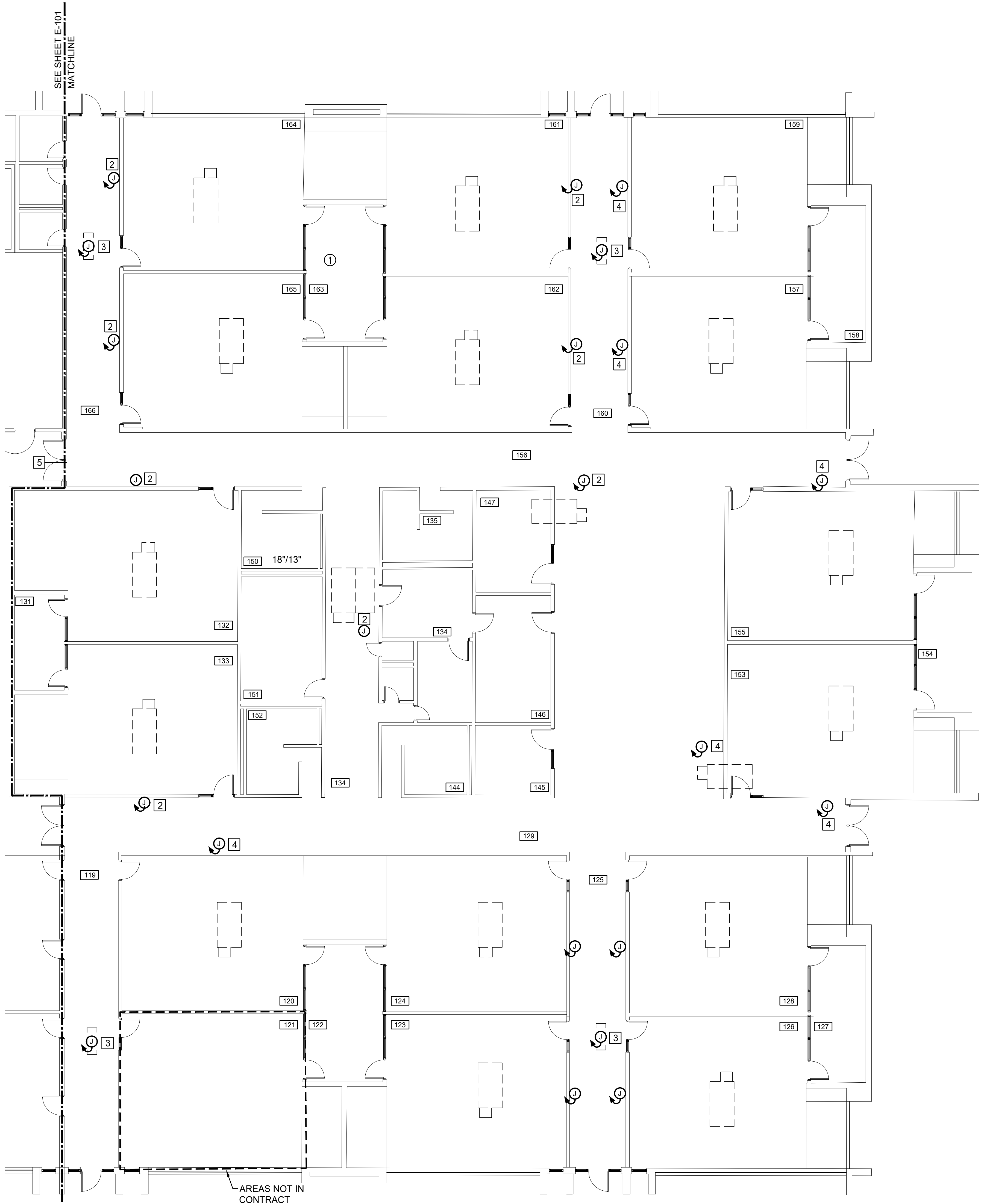
MARK	DATE	REVISIONS	BY	DESCRIPTION

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	DATE	BY	REVISIONS
04/22/2024	21215-02	KGD	RAB	KC			

RRMM ARCHITECTS, PC
115 South 15th Street, Suite 202
Richmond, Virginia 23219
(804)277-8987



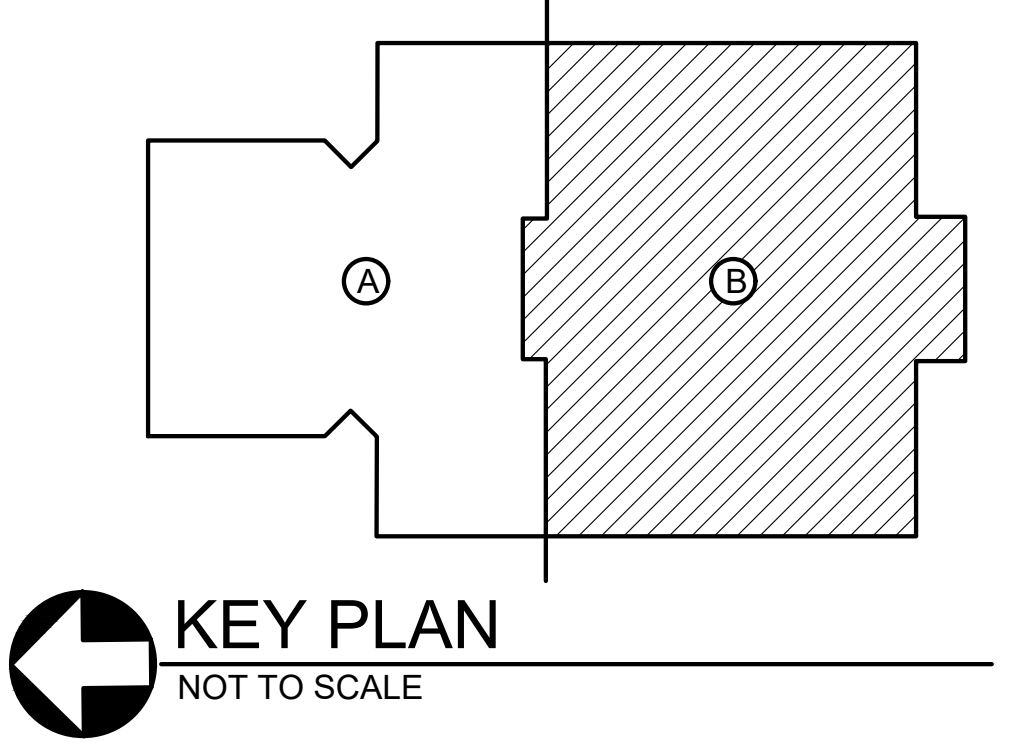
PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: AREA B FLOOR PLAN - ELECTRICAL - NEW WORK



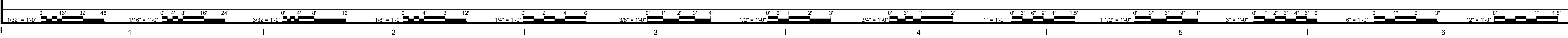
NEW WORK NOTES: (THIS DRAWING ONLY)

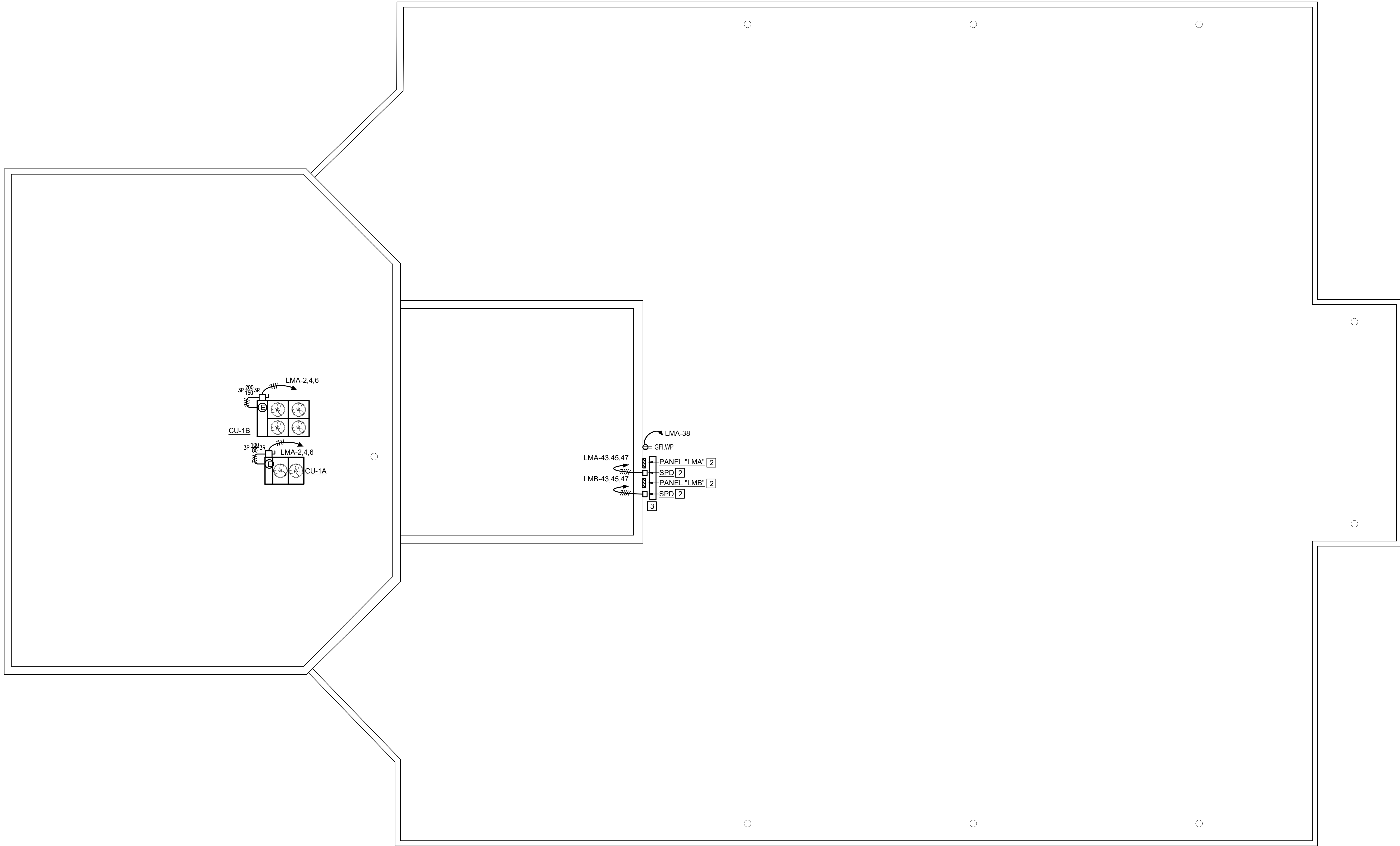
- 1 ALL EXISTING MECHANICAL EQUIPMENT TO REMAIN.
- 2 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 1-1/4" CONDUIT WITH PULLWIRE ABOVE THE CORRIDOR CEILING TO PANELBOARD "LMA".
- 3 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 1/2" CONDUIT WITH PULLWIRE ABOVE THE CORRIDOR CEILING TO PANELBOARD "LMB".
- 4 PROVIDE JUNCTION BOX SIZED PER N.E.C. ABOVE CEILING IN CORRIDOR. ABOVE CEILING IN CORRIDOR. PROVIDE ONE 1-1/4" CONDUIT WITH PULLWIRE ABOVE THE CORRIDOR CEILING TO PANELBOARD "LMB".

CEILING REPLACEMENT NOTE: CONTRACTOR SHALL COORDINATE ALL WORK WITH EXISTING CEILING CONDITIONS AND REMOVE ACOUSTIC CEILING TILES AND ACCESSORIES AS NECESSARY TO FACILITATE INSTALLATION OF NEW DUCTWORK AND DIFFUSERS. EXISTING CEILING GRID SHALL REMAIN IN PLACE THROUGHOUT DURATION OF CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REINSTALL ALL CEILING TILES AND ANY OTHER ACCESSORIES TEMPORARILY REMOVED DURING CONSTRUCTION.



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





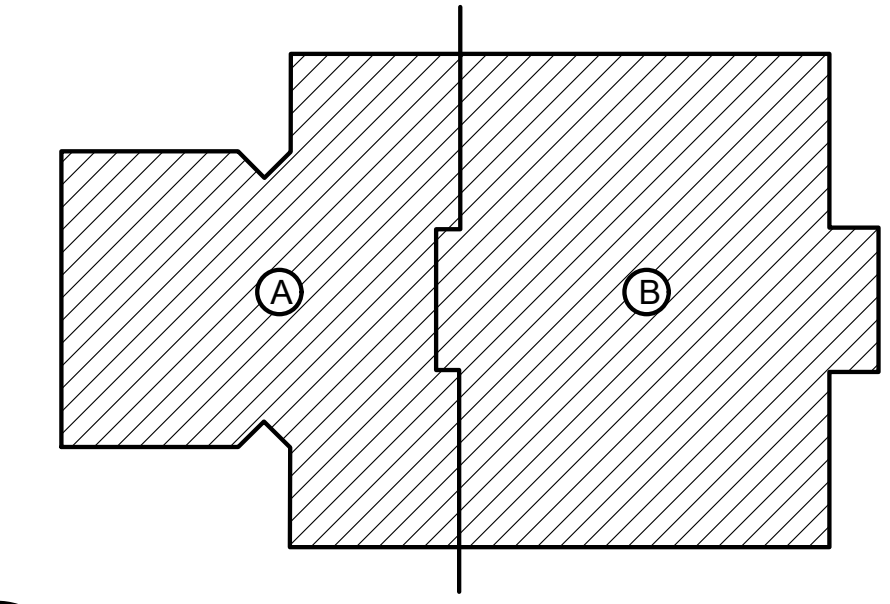
ROOF PLAN - ELECTRICAL - NEW WORK

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

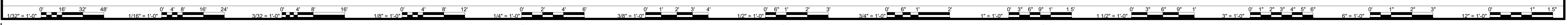
NEW WORK NOTES:

- 1 INSTALL WP, GFI RECEPTACLE ON NON-REMOVABLE PANEL ON EQUIPMENT. COORDINATE EXACT LOCATION WITH SUPPLIER OF EQUIPMENT.
- 2 SEE PANELBOARD SCHEDULES AND POWER RISER DIAGRAM ON DRAWING E-301 FOR ADDITIONAL INFORMATION.
- 3 REFER TO SHEET E-201 AND THROUGH THE ROOF DETAIL ON M-201.

(THIS DRAWING ONLY)



KEY PLAN
NOT TO SCALE



MARK	DATE	BY	DESCRIPTION

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	KGD	RAB	KC
04/22/2024	21215-02						



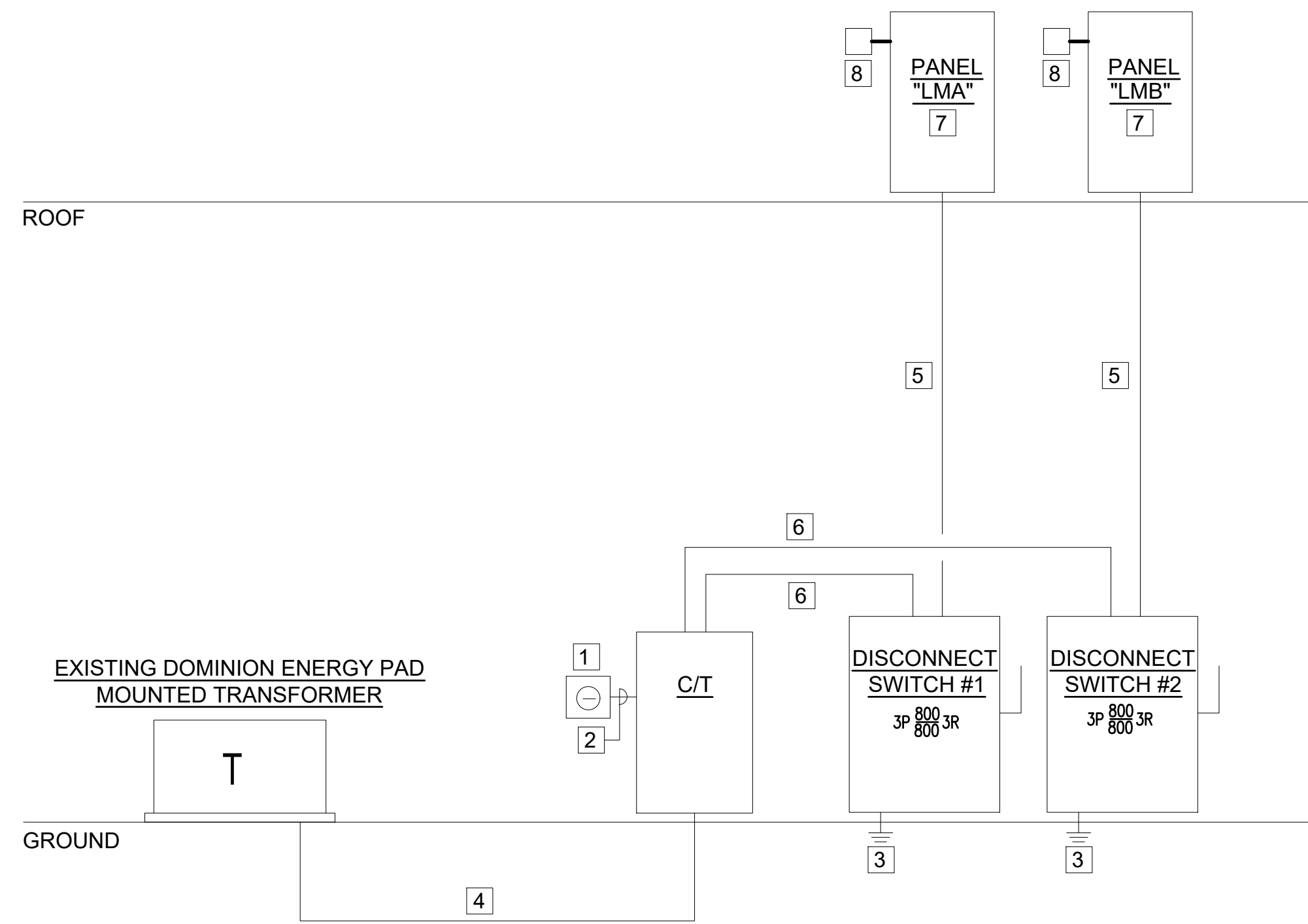
PROJECT: DINWIDDIE COUNTY PUBLIC SCHOOLS
SUNNYSIDE ELEMENTARY SCHOOL - HVAC & ELECTRICAL UPGRADES
DRAWING: ROOF PLAN - ELECTRICAL - NEW WORK

PANEL "LMA" 800 AMP 208Y/120V, 3Ø, 4W, M.C.B., SURFACE MTD.													
LOAD SERVED	LOAD (AMPS)			CKT. BKR. WIRE NO. K/AC/ TRIP SIZE	PHASE	CKT. NO.	WIRE SIZE	CKT. BKR. WIRE NO. K/AC/ TRIP SIZE	LOAD (AMPS)			LOAD SERVED	
	A	B	C						A	B	C		
RTU-1	49			22 70 2	1	2	2	22 80 55				CU-1A	
		49			3	4					55		
			49		5	6							
FUTURE RTU-5	49			70 2	7	8	2/0	150 124				CU-1B	
		49			9	10				124			
			49		11	12							
FUTURE RTU-7	49			70 2	13	14	2	70 49				FUTURE RTU-4	
		49			15	16				49			
			49		17	18					49		
FUTURE RTU-9	49			70 2	19	20	2	70 49				FUTURE RTU-6	
		49			21	22				49			
			49		23	24					49		
FUTURE RTU-11	49			70 2	25	26	2	70 49				FUTURE RTU-8	
		49			27	28				49			
			49		29	30					49		
FUTURE RTU-12	70			100 1/0	31	32	2	70 49				FUTURE RTU-10	
		70			33	34				49			
			70		35	36					49		
SPD	49			70 2	37	38	10	20 1.5				RECEPTACLES	
		49			39	40	10	20 1.5				RECEPTACLES	
			49		41	42	-	-				SPACE	
	1			30 10	43	44	-	-				SPACE	
		1			45	46	-	-				SPACE	
			1		47	48	-	-				SPACE	

NOTE 1. PROVIDE NEMA 3R TYPE VENTED PANELBOARD ENCLOSURE.

PANEL "LMB" 800 AMP 208Y/120V, 3Ø, 4W, M.C.B., SURFACE MTD.													
LOAD SERVED	LOAD (AMPS)			CKT. BKR. WIRE NO. K/AC/ TRIP SIZE	PHASE	CKT. NO.	WIRE SIZE	CKT. BKR. WIRE NO. K/AC/ TRIP SIZE	LOAD (AMPS)			LOAD SERVED	
	A	B	C						A	B	C		
RTU-13	49			22 70 2	1	2	2	22 70 49				FUTURE RTU-14	
		49			3	4					49		
			49		5	6							
FUTURE RTU-17	49			70 2	7	8	2	70 49				FUTURE RTU-16	
		49			9	10				49			
			49		11	12					49		
FUTURE RTU-19	49			70 2	13	14	2	70 49				FUTURE RTU-18	
		49			15	16				49			
			49		17	18					49		
FUTURE RTU-23	49			70 2	19	20	2	70 49				FUTURE RTU-20	
		49			21	22				49			
			49		23	24					49		
FUTURE CU-2	70			90 1	25	26	250	200 164				FUTURE RTU-22	
		70			27	28				164			
			70		29	30					164		
FUTURE CU-3	15.7			30 10	31	32	10	30 15.7				FUTURE CU-5	
		15.7			33	34				15.7			
			15.7		35	36	10	30			20		
FUTURE CU-4	15.7			30 10	37	38	10	30 20				FUTURE CU-6	
		15.7			39	40	10	30 20					
			15.7		41	42					20		
SPD	1			30 10	43	44	-	-				SPACE	
		1			45	46	-	-				SPACE	
			1		47	48	-	-				SPACE	

NOTE 1. PROVIDE NEMA 3R TYPE VENTED PANELBOARD ENCLOSURE.



ELECTRICAL POWER RISER DIAGRAM

NOT TO SCALE

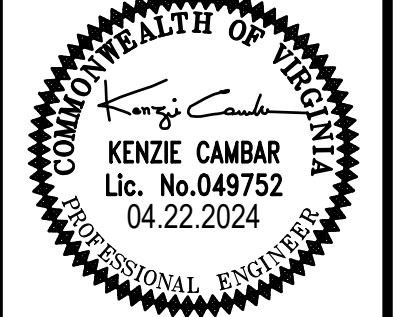
POWER RISER DIAGRAM NOTES: (THIS DRAWING ONLY)

- 1 KILOWATT HOUR METER BASE (KWHR); FURNISHED BY DOMINION ENERGY, INSTALLED BY ELECTRICAL CONTRACTOR AS DIRECTED BY DOMINION ENERGY.
- 2 PROVIDE 1-1/4" CONDUIT WITH PULLWIRE, FOR USE BY DOMINION ENERGY.
- 3 PROVIDE #3/0 COPPER GROUNDING ELECTRODE CONDUCTOR TO BUILDING STEEL, 3/4" X 10'-0" COPPER GROUND ROD, METAL WATER PIPE AND CONNECT TO EXISTING BUILDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 250.
- 4 PROVIDE THREE (3) 4" PVC CONDUITS, 24" BELOW FINISHED GRADE. TERMINATE CONDUITS AT DOMINION ENERGY PAD MOUNTED TRANSFORMER AS DIRECTED BY DOMINION ENERGY. PROVIDE PULL WIRE IN EACH CONDUIT. SERVICE ENTRANCE CONDUCTORS WILL BE PROVIDED BY DOMINION ENERGY.
- 5 PROVIDE (2) 4" CONDUITS WITH 4-750 KCMIL AND 1 #2/0 GND. IN EACH. RACK ALL CONDUITS TOGETHER. SUPPORT CONDUITS WITH DURA BLOK SUPPORTS IN ACCORDANCE WITH NEC 310.15(B)(3)(c).
- 6 PROVIDE (2) 4" CONDUITS WITH 4-600 KCMIL IN EACH.
- 7 SEE PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION.
- 8 PROVIDE SURGE PROTECTIVE DEVICE "SPD" IN NEMA 3R SURFACE ENCLOSURE IN ACCORDANCE WITH SPECIFICATION SECTION 264313. PROVIDE 4 #10 AND 1 #10 GROUND, IN 3/4" CONDUIT AND CONNECT TO CIRCUIT BREAKER IN ACCORDANCE WITH PANELBOARD SCHEDULE



DESCRIPTION	BY	MARK DATE	REVISIONS

DATE	PROJECT	DESIGNED	DRAWN	CHECKED	KGD	RAB	KC
04/22/2024	21215-02						



PROJECT DINWIDDIE COUNTY PUBLIC SCHOOLS
 SUNNYSIDE ELEMENTARY SCHOOL - HVAC &
 ELECTRICAL UPGRADES
 DRAWING PANELBOARD SCHEDULES AND POWER RISER DIAGRAM

SHEET
E-201

