HVAC SYSTEM REPLACEMENT

MENCHVILLE HIGH SCHOOL

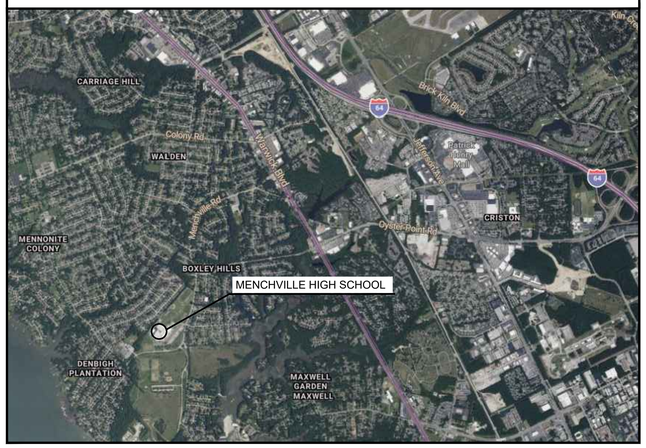
NEWPORT NEWS PUBLIC SCHOOLS

BID ITEM NO. 003-0-2026/SB
STATE PROJECT NO. 117-122-00-102
THOMPSON CONSULTING ENGINEERS PROJECT NO. 23-065

NEWPORT NEWS PUBLIC SCHOOLS
Communities Committed to Learning

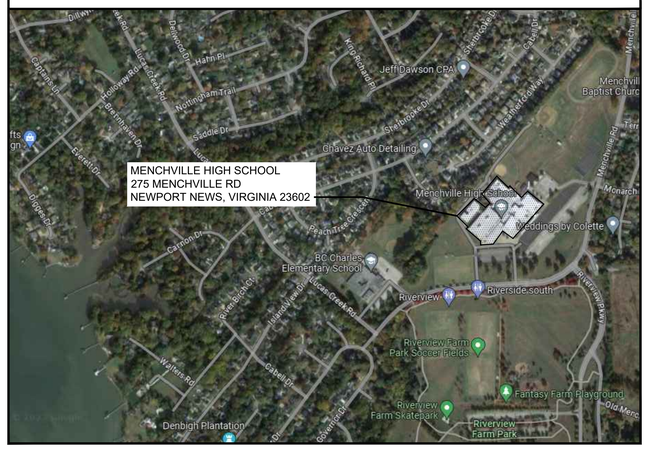
AREA MAP

PLAN NORTH



VICINITY MAP

PLAN NORTH



BUILDING CODE SUMMARY

- CURRENT BUILDING CODE: VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2021 EDITION.
- CURRENT BUILDING CODE: VIRGINIA REHABILITATION CODE 2021 EDITION.
- TOTAL GROSS FLOOR AREA: 255,746 SF.
- USE GROUP CLASSIFICATION: EDUCATION GROUP E.
- CONSTRUCTION TYPE: TYPE 2B

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CP102	PARTIAL CEILING FLOOR PLANS - AREA 'B' - DEMOLITION AND NEW WORK
CP103	PARTIAL CEILING FLOOR PLANS - AREA 'C' - DEMOLITION AND NEW WORK
CP104	PARTIAL CEILING FLOOR PLANS - AREA 'D' - DEMOLITION AND NEW WORK
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MD105	MECHANICAL FIRST FLOOR PLAN – AREA 'E' - DEMOLITION
MD106	MECHANICAL FIRST FLOOR PLAN – AREA 'F' - DEMOLITION
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DRAWING INDEX

SHEET NO.	DRAWING TITLES
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MD111	MECHANICAL ROOF PLAN – AREA 'A' – DEMOLITION
MD112	MECHANICAL ROOF PLAN – AREA 'B' – DEMOLITION
MD113	MECHANICAL ROOF PLAN – AREA 'C' – DEMOLITION
MD114	MECHANICAL ROOF PLAN – AREA 'D' – DEMOLITION
MD115	MECHANICAL ROOF PLAN – AREA 'E' – DEMOLITION
MD116	MECHANICAL ROOF PLAN – AREA 'F' – DEMOLITION
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MD207	MECHANICAL FIRST FLOOR PLAN – AREA 'G' - PIPING - DEMOLITION AND NEW WORK
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DRAWING INDEX

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ED104	ELECTRICAL FIRST FLOOR PLAN - AREA 'D' - DEMOLITION
ED105	ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - DEMOLITION
ED106	ELECTRICAL FIRST FLOOR PLAN - AREA 'F' - DEMOLITION
ED107	ELECTRICAL FIRST FLOOR PLAN - AREA 'G' - DEMOLITION
ED108	ELECTRICAL FIRST FLOOR PLAN - AREA 'H' - DEMOLITION
ED109	ELECTRICAL SECOND FLOOR PLAN - AREA 'J' - DEMOLITION
ED110	ELECTRICAL SECOND FLOOR PLAN - AREA 'K' - DEMOLITION
ED111	ELECTRICAL ROOF PLAN - AREA 'A' - DEMOLITION
ED112	ELECTRICAL ROOF PLAN - AREA 'B' - DEMOLITION
ED113	ELECTRICAL ROOF PLAN - AREA 'C' - DEMOLITION
ED114	ELECTRICAL ROOF PLAN - AREA 'D' - DEMOLITION
ED115	ELECTRICAL ROOF PLAN - AREA 'E' - DEMOLITION
ED116	ELECTRICAL ROOF PLAN - AREA 'F' - DEMOLITION
ED117	ELECTRICAL ROOF PLAN - AREA 'J' - DEMOLITION
E-101	ELECTRICAL FIRST FLOOR PLAN - AREA 'A' - NEW WORK
E-102	ELECTRICAL FIRST FLOOR PLAN - AREA 'B' - NEW WORK
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E-105	ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - NEW WORK
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E-112	ELECTRICAL ROOF PLAN - AREA 'B' - NEW WORK
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E-114	ELECTRICAL ROOF PLAN - AREA 'D' - NEW WORK
E-115	ELECTRICAL ROOF PLAN - AREA 'E' - NEW WORK
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E-301	PANELBOARD SCHEDULES
E-401	PARTIAL ELECTRICAL PLAN - DEMOLITION & NEW WORK

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
12 ENTERPRISE PARKWAY, SUITE 320, HAMPTON, VA 23666
3809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-4415
GLEN ALLEN, VA 23060
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
TITLE SHEET

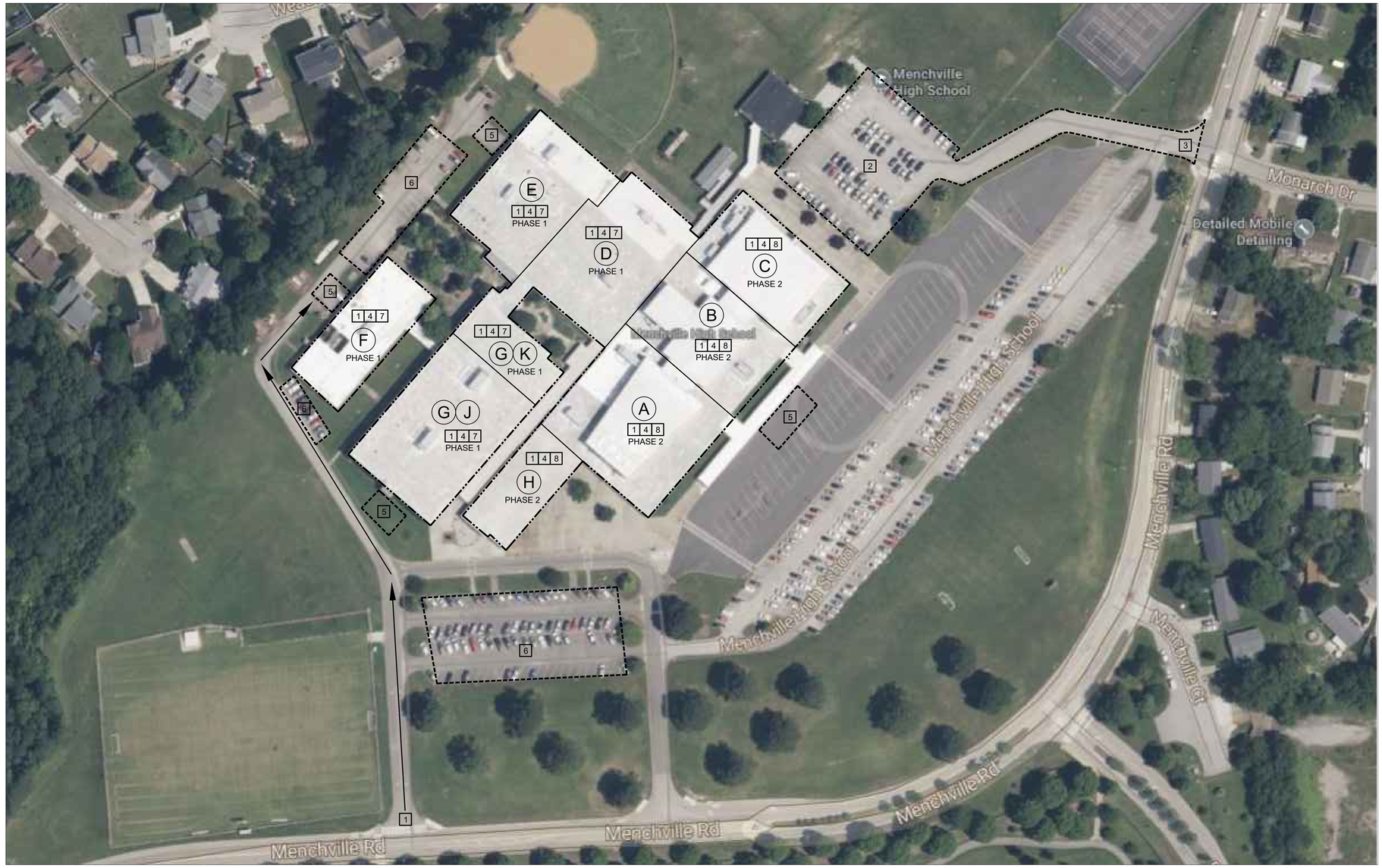
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO. 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

T-001

DATE: 09/08/2025



GENERAL SITE PLAN

NOT TO SCALE

SITE PLAN NOTES (THIS SHEET ONLY) ☐	
NO.	DESCRIPTION
1	CONTRACTOR SHALL BE GRANTED ACCESS TO THE LIMITS OF CONSTRUCTION MONDAY THROUGH FRIDAY 7:00 AM TO 4:00 PM DURING THE CONSTRUCTION PERIOD. ACCESS TO THE BUILDING AFTER NORMAL WORKING HOURS SHALL BE ALLOWED WITH OWNER'S (NNPS) PRIOR APPROVAL AND COORDINATION.
2	STAFF PARKING, NO CONTRACTOR PARKING PERMITTED OUTSIDE DESIGNATED AREA.
3	KEEP DRIVEWAYS AND ENTRANCES SERVING THE PREMISES CLEAR AND AVAILABLE TO THE OWNER, THE OWNER'S EMPLOYEES, TEACHERS AND STAFF AND EMERGENCY VEHICLES AT ALL TIMES.
4	REFER TO THE PROJECT MANUAL SPECIFICATION SECTION 018000 "CODE OF CONDUCT" FOR ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS WHILE WORKING ON SCHOOL PREMISES. REFER TO OTHER PROJECT MANUAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.
5	RECOMMENDED CRANE LOCATION. CONTRACTOR SHALL COORDINATE ACTUAL CRANE LOCATION WITH WORK REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ALL DAMAGE TO SOD, ACCESS ROAD, AND SITE. REPAIR DAMAGE TO PRE-CONSTRUCTION CONDITIONS.
6	CONTRACTOR SHALL USE AREA AS INDICATED FOR PARKING AND/OR STAGING OF EQUIPMENT/MATERIALS. ALL MATERIAL STORED ONSITE SHALL BE SECURED IN CONTRACTORS LOCKED CONSTRUCTION TRAILER. ALL OTHER PARKING AREAS SHALL NOT BE USED WITHOUT OWNER'S PRIOR APPROVAL.
7	WORK IN THIS AREA TO BE DONE DURING PHASE 1.
8	WORK IN THIS AREA TO BE DONE DURING PHASE 2.

GENERAL CONSTRUCTION NOTES:

1. 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 AND MEASUREMENTS. REPORT DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH AFFECTED ASPECTS OF CONSTRUCTION OR DEMOLITION.
2. REMOVE, SALVAGE AND SAVE FOR REINSTALLATION ALL EXISTING ELECTRICAL LIGHTING FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SECURITY SYSTEM DEVICES, IT DEVICES, GRILLES, REGISTERS, DIFFUSERS AND ALL OTHER CEILING MOUNTED DEVICES (EXCEPT FOR THOSE SHOWN AS NEW) ATTACHED TO OR INSTALLED IN EXISTING SUSPENDED CEILINGS. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO DETERMINE THE NUMBER AND LOCATION OF THE EXISTING ELECTRICAL LIGHT FIXTURES, EXIT LIGHTS, FIRE ALARM DEVICES, SECURITY SYSTEM DEVICES, IT DEVICES, GRILLES, REGISTERS, AND ALL OTHER CEILING-MOUNTED DEVICES TO BE REMOVED, SALVAGED AND REINSTALLED.
3. EXISTING FLOORING PROTECTION NOTES:
   a. THE CONTRACTOR SHALL PROTECT ALL EXISTING FLOORING SURFACES FROM DAMAGE DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL COVER ALL EXISTING FLOORS WITH 45 MIL THICK HEAVY-DUTY ROLLED CARDBOARD TEMPORARY FLOOR PROTECTION (RAM BOARD BRAND, OR APPROVED EQUAL) WITH ADJACENT SECTIONS OF CARDBOARD TAPED TO EACH OTHER WITH PAINTER'S TAPE OR NON-RESIDUE TAPE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH OWNER REGARDING THE LOCATION OF FURNITURE TO BE MOVED. CONTRACTOR SHALL MOVE AND PROTECT FURNITURE WITH 6-MIL POLYETHYLENE SHEETING AS REQUIRED FOR CONSTRUCTION AND RETURN ALL ITEMS TO THEIR ORIGINAL LOCATIONS UPON COMPLETION.

PHASING PLAN

1. CONSTRUCTION OF THIS PROJECT SHALL OCCUR ACROSS TWO PHASES OVER TWO SUMMERS. THE GENERAL MECHANICAL AND ELECTRICAL WORK TO BE PERFORMED IN EACH PHASE IS AS FOLLOWS (SEE SITE PLAN NOTES 7 AND 8 THIS SHEET FOR PHASE AREAS:

   A. DEMOLITION:

   - REMOVAL OF EXISTING ROOFTOP UNITS, AIR HANDLING UNITS AND ASSOCIATED DUCTWORK AS INDICATED ON FLOOR PLAN DEMOLITION DRAWINGS
   - REMOVAL OF SPLIT SYSTEM INDOOR UNITS AND OUTDOOR CONDENSING UNITS
   - REMOVAL OF ALL REFRIGERANT PIPING
   - REMOVAL OF ALL CONDENSATE DRAIN PIPING UNLESS OTHERWISE NOTED
   - REMOVAL OF DUCTWORK ASSOCIATED WITH EXHAUST FANS AS INDICATED ON FLOOR PLAN DEMOLITION DRAWINGS
   - REMOVAL OF EXISTING CONTROLLERS ASSOCIATED WITH VAV TERMINAL UNITS
   - REMOVAL OF ALL WIRING, CONDUIT, AND ELECTRICAL DEVICES AS INDICATED ON THE ELECTRICAL DEMOLITION DRAWINGS
   - TEMPORARY REMOVAL OF CEILING TILES AND CEILING GRID AS NECESSARY TO FACILITATE MECHANICAL AND ELECTRICAL DEMOLITION AND NEW WORK
   - ALL DUCT CLEANING IN ACCORDANCE WITH NOTES ON M-001 AND IN ACCORDANCE WITH SPECIFICATION SECTION 230885

   B. NEW WORK:

   - INSTALLATION OF NEW VARIABLE AIR VOLUME (VAV) ROOFTOP AIR HANDLING UNITS, CONSTANT VOLUME (CV) ROOFTOP UNITS AND SPLIT SYSTEM AIR HANDLING UNITS
   - DEMOLITION AND NEW WORK RELATED TO ROOFTOP UNIT'S STRUCTURAL SUPPORTS.
   - INSTALLATION OF NEW DUCTWORK CONNECTING EXISTING DUCT SYSTEM TO NEW ROOFTOP UNITS OR AIR HANDLING UNITS
   - INSTALLATION OF NEW DUCTLESS SPLIT-SYSTEM AIR CONDITIONING UNITS
   - INSTALLATION OF NEW VAV TERMINAL UNIT CONTROLLERS
   - INSTALLATION OF NEW WIRING, CONDUIT, AND ELECTRICAL DEVICES AS INDICATED ON THE ELECTRICAL NEW WORK DRAWINGS
   - RE-INSTALLATION OF CEILING TILES AND GRID RETAINED DURING DEMOLITION

2. ALL DEMOLITION AND NEW WORK AS LISTED ABOVE SHALL BE PERFORMED IN ONE PHASE AREA PRIOR TO PROCEEDING TO THE NEXT PHASE AREA. PHASE AREAS ARE INDICATED ON THE GENERAL SITE PLAN ABOVE.
3. UPON THE COMPLETION OF DEMOLITION AND NEW WORK IN EACH PHASE AREA, THE CONTRACTOR SHALL FULLY TEST AND BALANCE (TAB) THE COMPLETED SYSTEM IN THAT PHASE AREA PER SPECIFICATION 230593 PRIOR TO STARTING WORK IN THE NEXT PHASE AREA. TAB REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. UPON APPROVAL, THE PHASE AREA SHALL BE THOROUGHLY CLEANED IN ACCORDANCE WITH SPECIFICATION 017400 IN PREPARATION FOR OWNER AND OCCUPANT RE-OCCUPANCY.
7. CONTRACTOR SHALL INCLUDE TESTING AND BALANCING FOR ALL NEWLY INSTALLED EQUIPMENT AT THE END OF EACH PHASE TO ENSURE ALL SYSTEMS ARE IN WORKING ORDER IN THEIR BID. TAB CONTRACTOR AND CONTROLS CONTRACTOR SHALL VERIFY SYSTEMS ARE WORKING PROPERLY.
8. UPON COMPLETION OF THE FINAL PHASE AREA, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF THE COMMISSIONING AGENT FOR COMMISSIONING OF THE ENTIRE MECHANICAL SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 230800.
9. UPON COMPLETION OF COMMISSIONING, CONTRACTOR SHALL PROVIDE ALL AS-BUILT DRAWINGS, O&M MANUALS, AND OTHER CLOSEOUT DOCUMENTS TO OWNER IN ACCORDANCE WITH SPECIFICATION 017839.

EXISTING ROOF WARRANTY

NOTE: ROOFING MEMBRANE IS STILL UNDER WARRANTY, "WARRANTY COMPANY: TREMCO, INC. & NUMBER: 275100924". ALL ROOF WORK REQUIRED BY THIS PROJECT SHALL BE PERFORMED IN SUCH A MANNER THAT THE WARRANTY IS MAINTAINED. CONTRACTOR SHALL COORDINATE ALL WARRANTY REQUIREMENTS WITH OWNER & MANUFACTURER PRIOR TO PERFORMING ANY WORK ON ROOF. PLEASE CONTACT SHELTON CLOUGH, P.E. (757) 617-7663 SCLOUGH@TREMCOINC.COM OR STEPHEN LAMM, CDT (757) 619-4495 SLAMM@TREMCOINC.COM FOR PRICING AND REQUIREMENTS.

ASBESTOS DISCLOSURE STATEMENT

AN ASBESTOS INSPECTION WAS PERFORMED AND ASBESTOS-CONTAINING MATERIALS WERE FOUND GENERALLY IN THE CMU BLOCK SEALER. THE ASBESTOS SURVEY/INSPECTION REPORT IS AVAILABLE TO THE CONTRACTOR(S) FOR THEIR INFORMATION. THE ASBESTOS-CONTAINING MATERIALS SHALL BE REMOVED PRIOR TO ANY OTHER WORK BEING PERFORMED IN THE AREAS AFFECTED. THE ASBESTOS MANAGEMENT PLAN IS INCLUDED IN THE DOCUMENTS. THE ASBESTOS ABATEMENT CONTRACTOR SHALL MARK UP THE ASBESTOS MANAGEMENT PLAN TO SHOW THE "AS BUILT" CONDITIONS RESULTING FROM ITS WORK TO INCLUDE AREAS WHERE ASBESTOS WAS ABATED, AREAS WHERE ASBESTOS WAS ENCAPSULATED AND AREAS WHERE ASBESTOS CONTAINING MATERIALS EXIST BUT WERE LEFT IN PLACE. CONTACT NEWPORT NEWS PUBLIC SCHOOL SYSTEM UPON DISCOVERY OF ADDITIONAL AREAS CONTAINING ASBESTOS MATERIAL. ASBESTOS ABATEMENT SHALL BE HANDLED BY NEWPORT NEWS PUBLIC SCHOOL SYSTEM. PLEASE ALLOW A MINIMUM OF 3 DAYS TO COMPLETE ASBESTOS ABATEMENT.

LEAD PAINT PROVISION

NNPS'S UNDERSTANDING OF LEAD PAINT ISSUES WHICH MAY ARISE DURING THE PROJECT IS THAT PROPERLY TRAINED CONTRACTORS AND SUBCONTRACTORS SHOULD BE ABLE TO SAFELY PERFORM WORK EVEN IF LEAD PAINT MAY BE PRESENT AT SOME LOCATIONS. NNPS WILL PROVIDE TESTING FOR LEAD BASED PAINT USING AN X-RAY FLUORESCENCE (XRF) SPECTRUM ANALYZER. THE CONTRACTOR AND ITS SUB-CONTRACTORS SHALL CONDUCT ANY FURTHER TESTING NECESSARY TO BE IN COMPLIANCE WITH THE OSHA LEAD IN CONSTRUCTION STANDARD CONSISTENT WITH 29 CFR 1926.62. IT IS NOT CURRENTLY ANTICIPATED THAT THE WORK WILL REQUIRE APPLICATION OF THE EPA RENOVATE REPAIR AND PAINT (RRP) RULE FOR PRE-1978 CHILD OCCUPIED FACILITIES. HOWEVER, IF, FOLLOWING COMPLETION OF DESIGN, IT IS DETERMINED THAT THE SCOPE OF WORK AT ANY OF THE SITES WILL RESULT IN APPLICATION OF THE RRP RULE, THE CONTRACTOR AND ITS SUBCONTRACTORS WILL PROMPTLY COMPLY WITH THE REQUIREMENTS OF RRP WHERE SUCH REQUIREMENTS ARE APPLICABLE. NO PROHIBITED WORK PRACTICES, AS DEFINED IN RRP, WILL BE USED WHEN DISTURBING ANY PAINTED SURFACE WITH DETECTABLE LEAD USING AN XRF SPECTRUM ANALYZER AND THE OSHA LEAD IN CONSTRUCTION STANDARD SHALL APPLY. NNPS AND THE CONTRACTOR SHALL AGREE THAT THERE IS NO PRESENT BELIEF THAT THERE WILL BE A NEED TO ABATE LEAD PAINT DURING THE PROJECT. IF LEAD ABATEMENT BECOMES A REQUIREMENT, NNPS AND THE CONTRACTOR SHALL DETERMINE THE APPROPRIATE COURSE OF ACTION WHICH MAY INCLUDE ABATEMENT OR REMOVAL OF AN AREA FROM THE SCOPE OF SERVICES.

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
12 ENTERPRISE PARKWAY, SUITE 320, HAMPTON, VA 23666
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
GLEN ALLEN, VA 23060
TELEPHONE: (757) 599-6415
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
GENERAL SITE PLAN

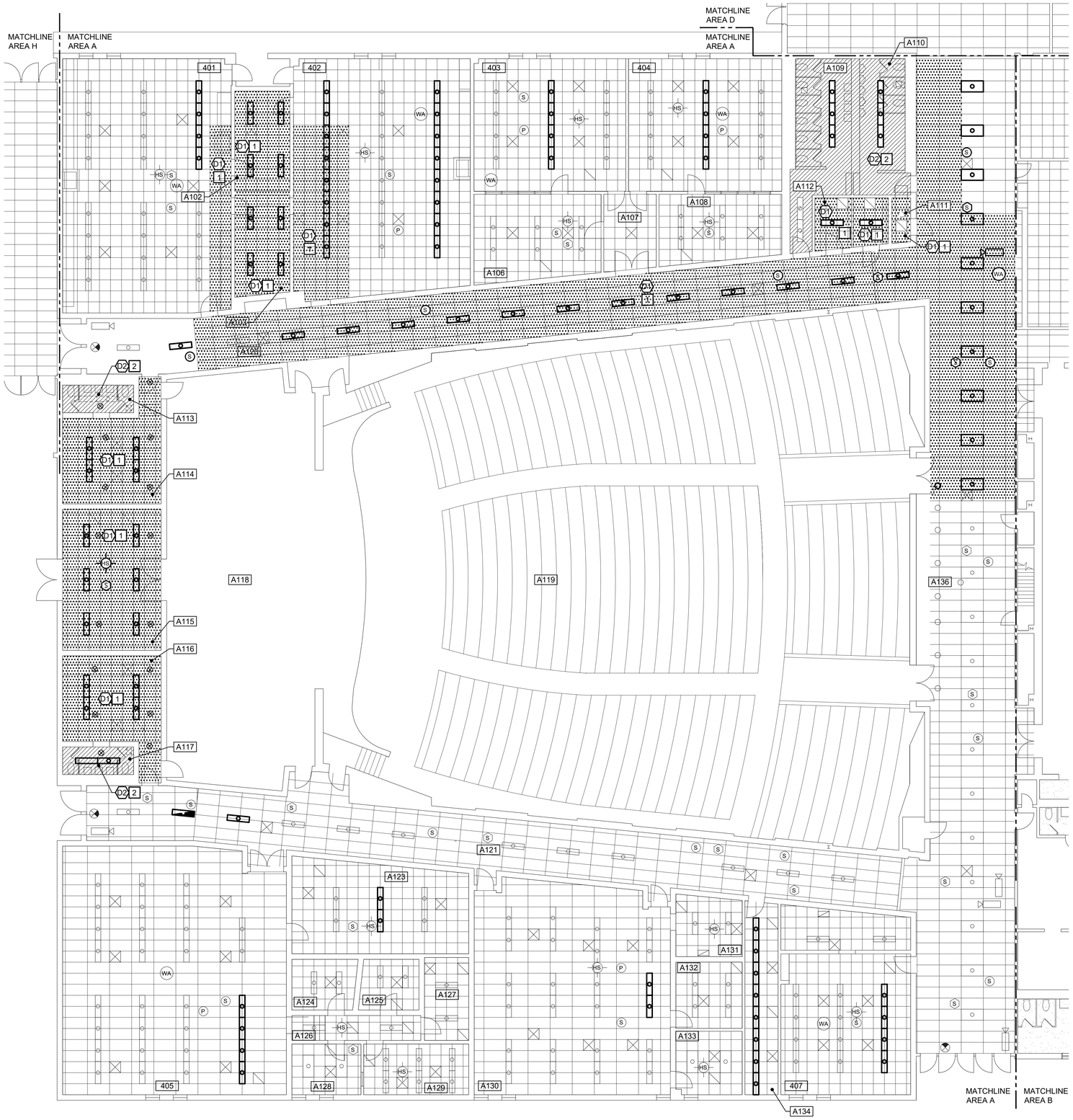
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

G-001

DATE: 09/08/2025



PARTIAL CEILING FLOOR PLANS - AREA 'A' - DEMOLITION AND NEW WORK

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

GENERAL DEMOLITION AND NEW WORK NOTES: (DRAWING CP101 THRU CP110 ONLY)

1. THE CONTRACTOR SHALL FIELD VERIFY ALL REFLECTED CEILING GRID ELEVATIONS, ORIENTATIONS, AND POSITIONS. REFLECTED CEILING PLAN MAY VARY FROM THAT SHOWN ON THIS DRAWING.
2. CONTRACTOR SHALL COORDINATE EXACT QUANTITY AND LOCATION OF CEILING TILES, GRID, AND ELECTRICAL FIXTURES TO BE REMOVED WITH DEMOLITION AND NEW WORK. CEILING REMOVAL MAY NOT BE NECESSARY IF CONTRACTOR CAN PERFORM WORK WITHOUT REMOVING TILES AND GRID.

LEGEND: (DRAWING CP101 THRU CP110 ONLY)

- CEILING GRID AND 48" x 24" / 24" x 24" ACOUSTIC CEILING TILE TO REMAIN.
- EXTENT OF CEILING GRID AND ACOUSTIC CEILING TILE REMOVAL (DEMOLITION). EXTENT OF NEW CEILING GRID AND ACOUSTIC TILE REINSTALLATION AT SAME HEIGHT AS EXISTING HEIGHT (NEW WORK).
- EXTENT OF CEILING GRID AND ACOUSTICAL CEILING TILE REMOVAL (DEMOLITION).
- EXTENT OF PLASTER CEILING AND BULKHEAD REMOVAL (DEMOLITION). EXTENT OF NEW DRYWALL CEILING AT SAME HEIGHT AS EXISTING (NEW WORK).
- DRYWALL CEILING TO REMAIN.
- EXTENT OF AREA WITH NO CEILING, STRUCTURE IS EXPOSED
- 2' x 4' RECESSED LIGHT FIXTURES TO BE REMOVED AND REINSTALLED.
- 2' x 4' RECESSED LIGHT FIXTURES TO REMAIN.
- 1' x 4' SURFACE MOUNTED LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- 1' X 4' SURFACE MOUNTED LIGHT FIXTURE TO REMAIN.
- 2' x 2' RECESSED LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- 2' X 2' RECESSED LIGHT FIXTURE TO REMAIN.
- LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED EXIT SIGN TO REMAIN.
- EXISTING CEILING MOUNTED OCCUPANCY SENSOR TO REMAIN.
- EXISTING CEILING MOUNTED OCCUPANCY SENSOR TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED SPEAKER TO REMAIN.
- EXISTING CEILING MOUNTED SPEAKER TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED WIRELESS ACCESS TO REMAIN.
- EXISTING CEILING MOUNTED WIRELESS ACCESS TO BE REMOVED AND REINSTALLED.
- EXISTING FIRE ALARM SYSTEM SMOKE DETECTOR TO REMAIN.
- EXISTING FIRE ALARM SYSTEM SMOKE DETECTOR TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE TO REMAIN.
- EXISTING CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED CCTV CAMERA TO REMAIN.
- EXISTING CEILING MOUNTED CCTV CAMERA TO BE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED PROJECTOR TOBE REMOVED AND REINSTALLED.
- EXISTING CEILING MOUNTED PROJECTOR TO REMAIN.
- SUPPLY AIR DIFFUSER.
- RETURN AIR GRILLE.

DEMOLITION NOTES

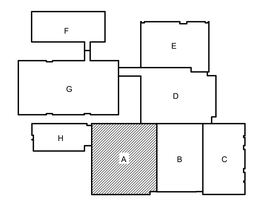
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES

NO.	
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.

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.

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

SCALE: 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
PARTIAL CEILING FLOOR PLANS - AREA 'A' - DEMOLITION AND NEW WORK

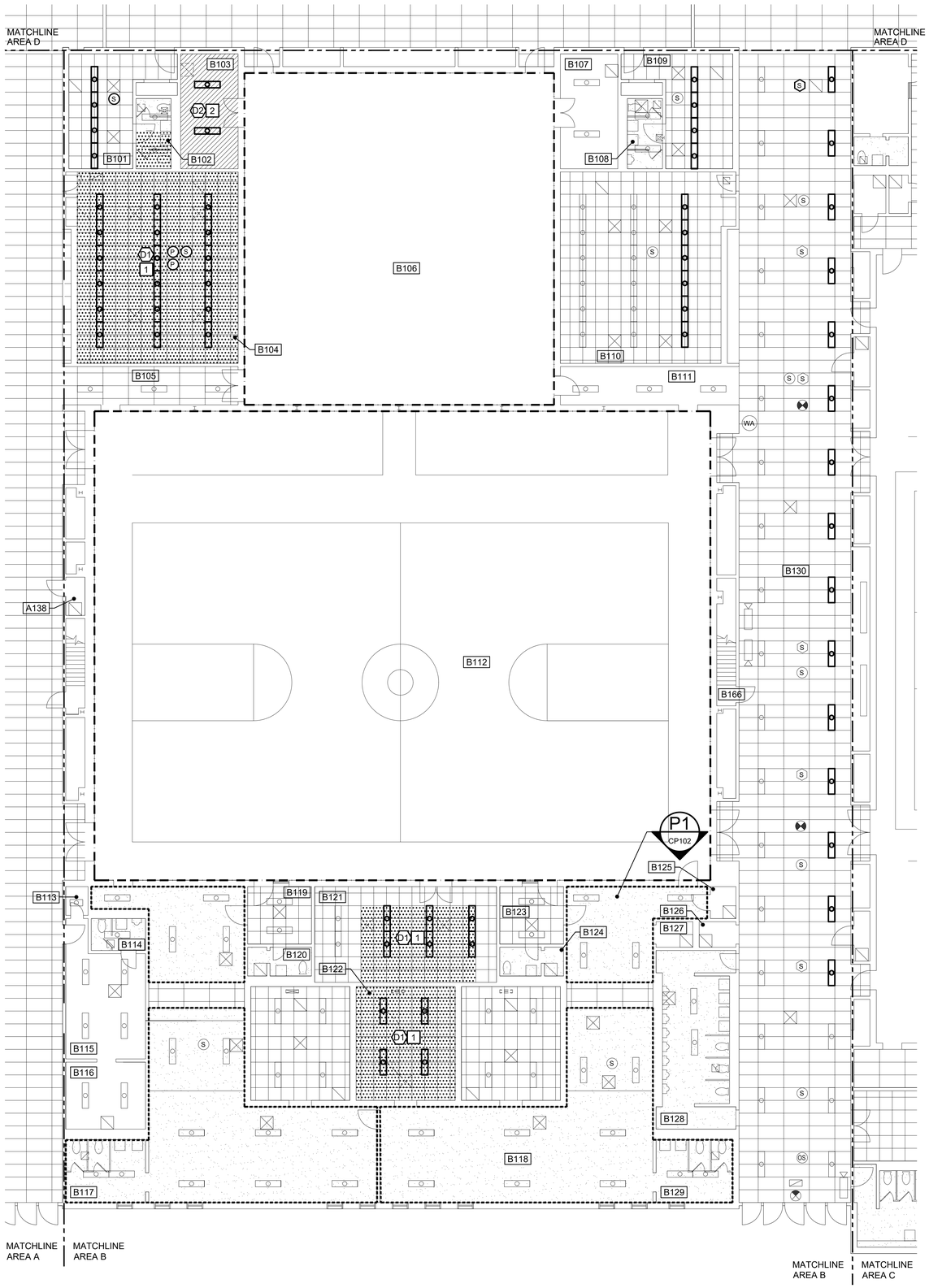
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP101

DATE: 09/08/2025

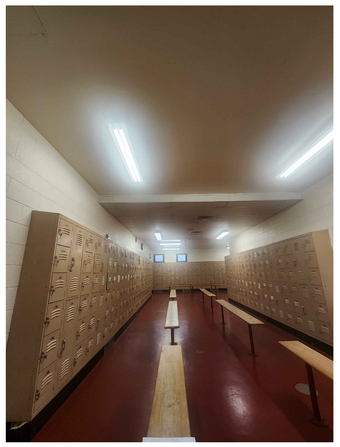


PARTIAL CEILING FLOOR PLANS - AREA 'B' - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.

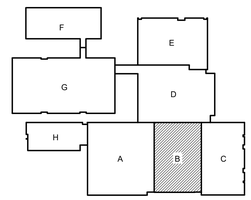


P1 CP102 ROOM B118 PHOTO

NOT TO SCALE

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
12 ENTERPRISE PARKWAY
3525 COX ROAD
2809-S, LYNNHAVEN ROAD
TELEPHONE: (757) 599-4415
HAMPTON, VA 23666
GLEN ALLEN, VA 23060
VA BEACH, VA 23452
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

PARTIAL CEILING FLOOR PLANS - AREA 'B' - DEMOLITION AND NEW WORK

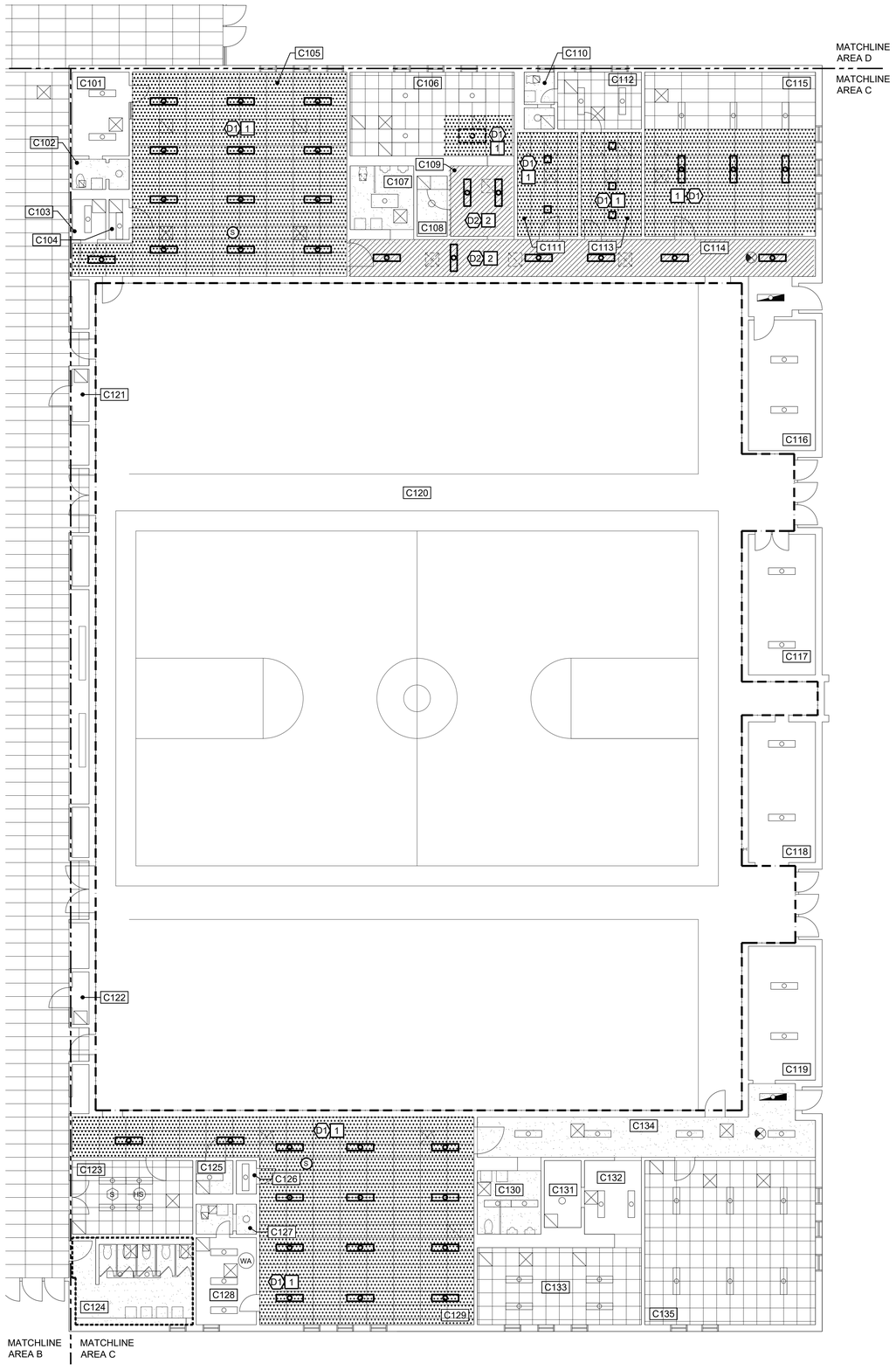
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP102

DATE: 09/08/2025



PARTIAL CEILING FLOOR PLANS - AREA 'C' - DEMOLITION AND NEW WORK

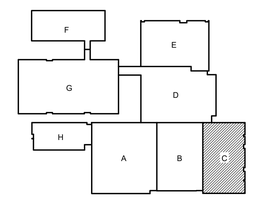
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
PARTIAL CEILING FLOOR PLANS - AREA 'C' - DEMOLITION AND NEW WORK

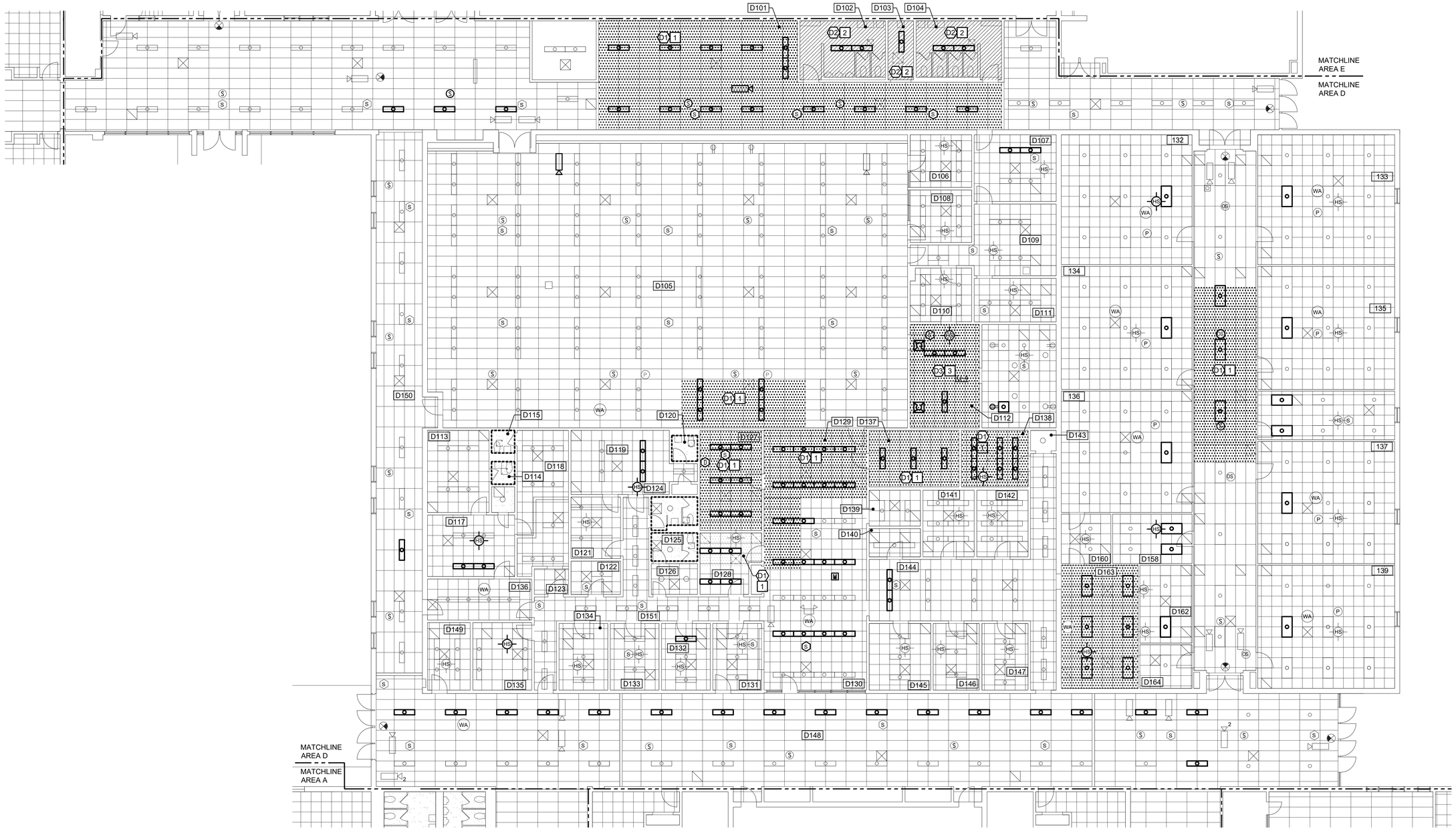
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP103

DATE: 09/08/2025



PARTIAL CEILING FLOOR PLANS - AREA 'D' - DEMOLITION AND NEW WORK

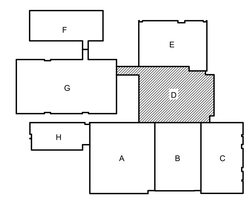
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.
3	PROVIDE NEW CEILING GRID, TRIM, AND TILE IN THIS AREA.

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)965-6435 (757)599-6415 PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
PARTIAL CEILING FLOOR PLANS - AREA 'D' - DEMOLITION AND NEW WORK

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP104

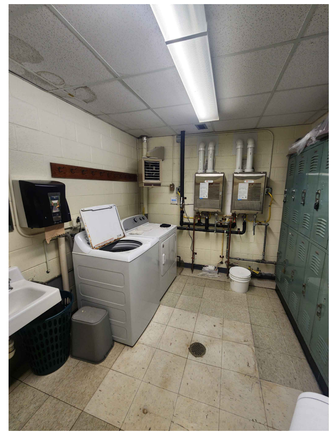
DATE: 09/08/2025

PARTIAL CEILING FLOOR PLANS - AREA 'E' - DEMOLITION AND NEW WORK

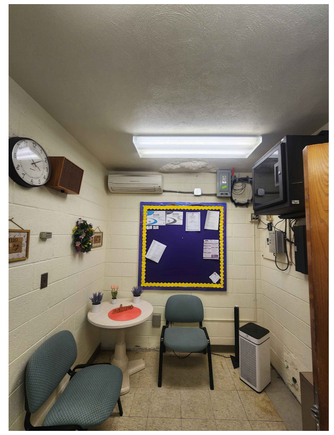
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES □	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.



P2 CP105 ROOM E104 PHOTO
NOT TO SCALE



P3 CP105 ROOM E110 PHOTO
NOT TO SCALE

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

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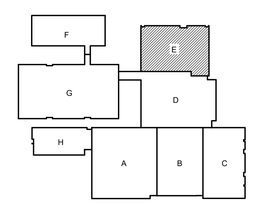


KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
SCALE
5' 0 5' 10' 15' 20'
FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 OLDS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
PARTIAL CEILING FLOOR PLANS - AREA 'E' - DEMOLITION AND NEW WORK

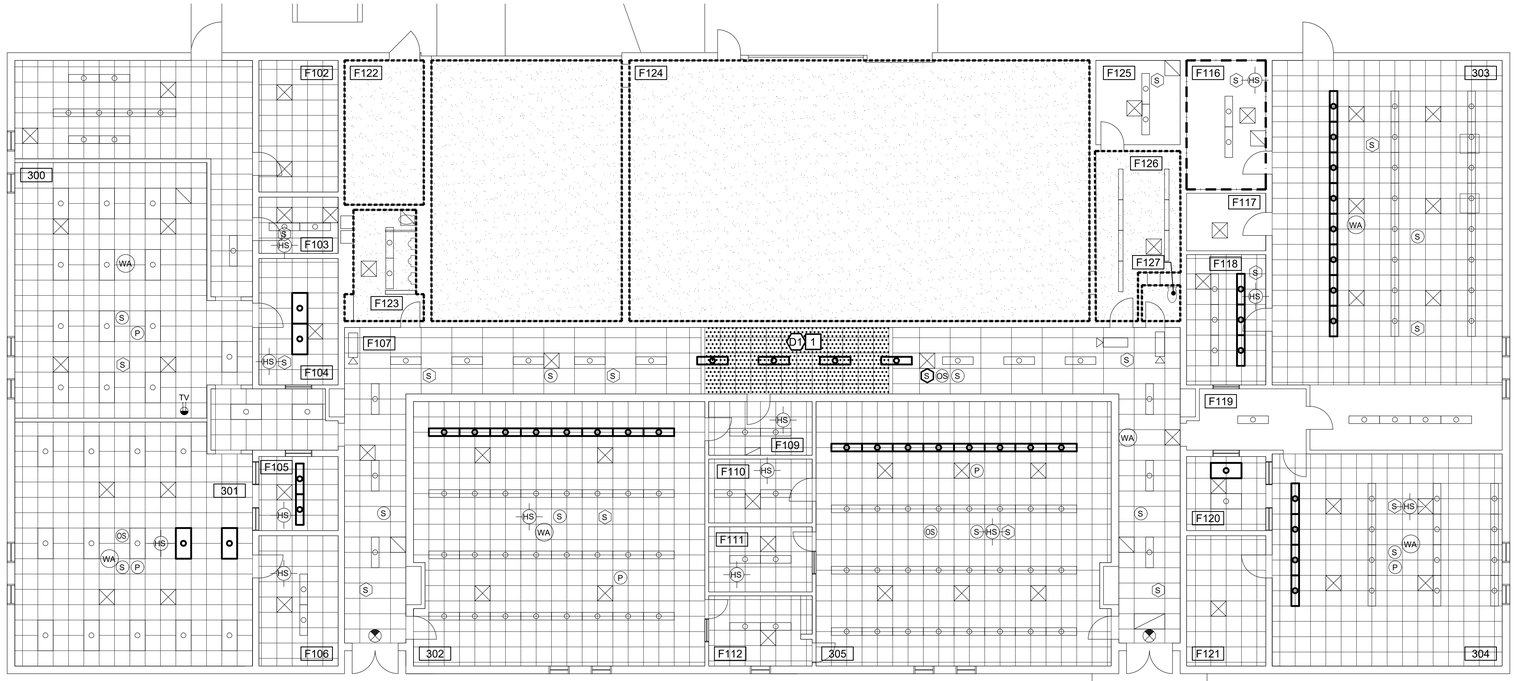
REVISIONS

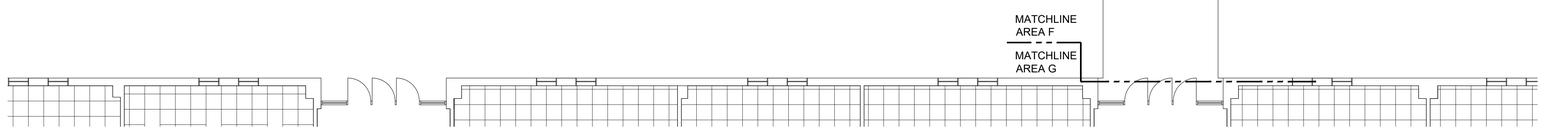
MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP105

DATE: 09/08/2025





PARTIAL CEILING FLOOR PLANS - AREA 'F' - DEMOLITION AND NEW WORK

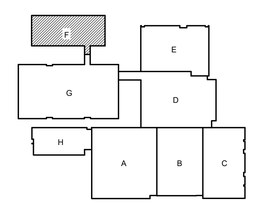
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.

ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

PARTIAL CEILING FLOOR PLANS - AREA 'F' - DEMOLITION AND NEW WORK

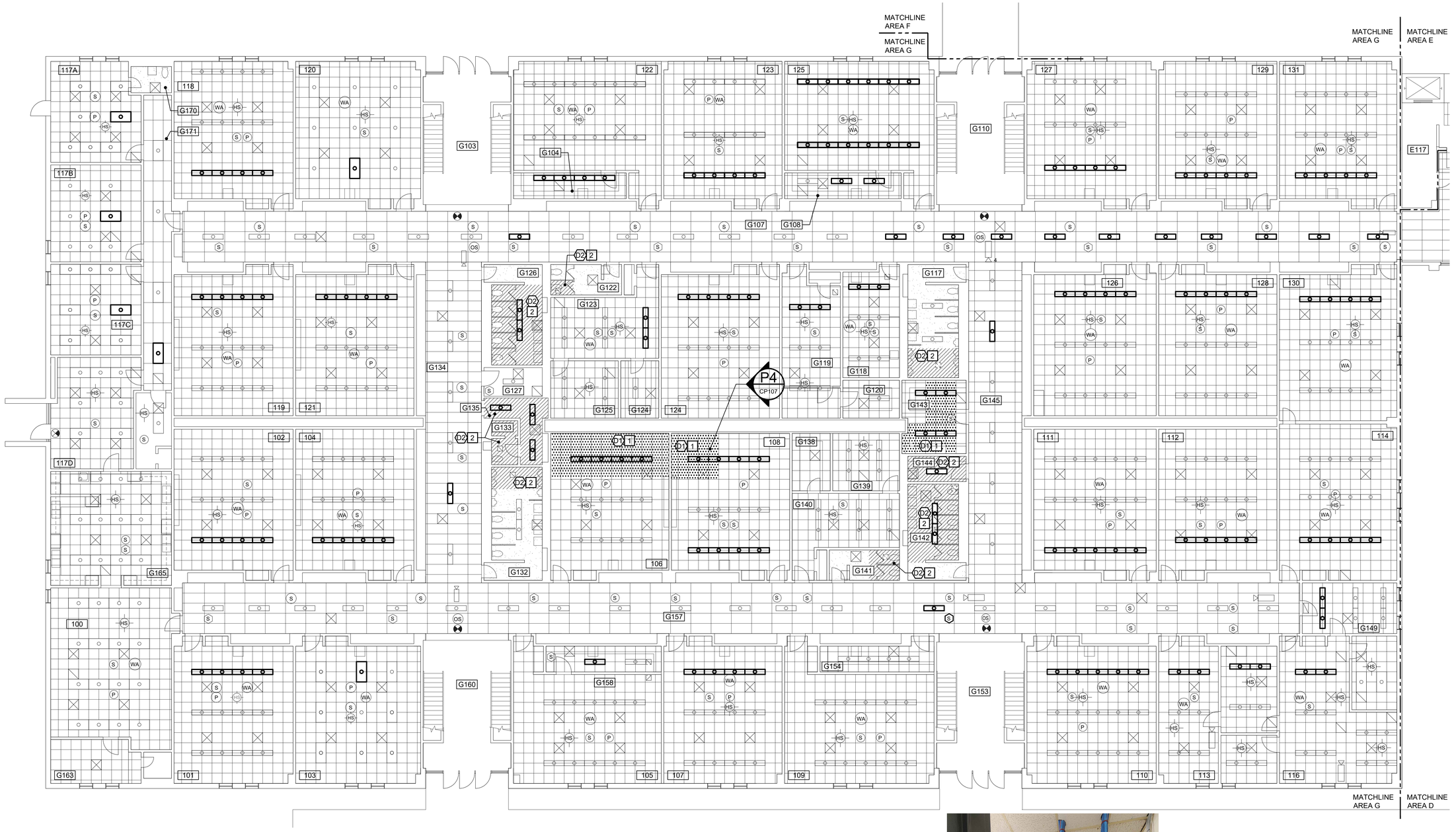
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

CP106

DATE: 09/08/2025



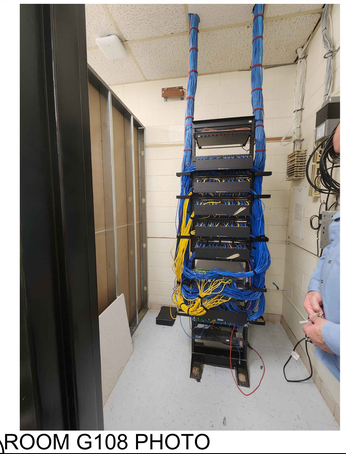
PARTIAL CEILING FLOOR PLANS - AREA 'G' - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.
D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.

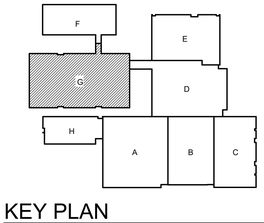
ALTERNATE BID #1: WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.



P4 CP107 ROOM G108 PHOTO

NOT TO SCALE

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, STE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757) 599-6435 (757) 599-6435 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

PARTIAL CEILING FLOOR PLANS - AREA 'G' - DEMOLITION AND NEW WORK

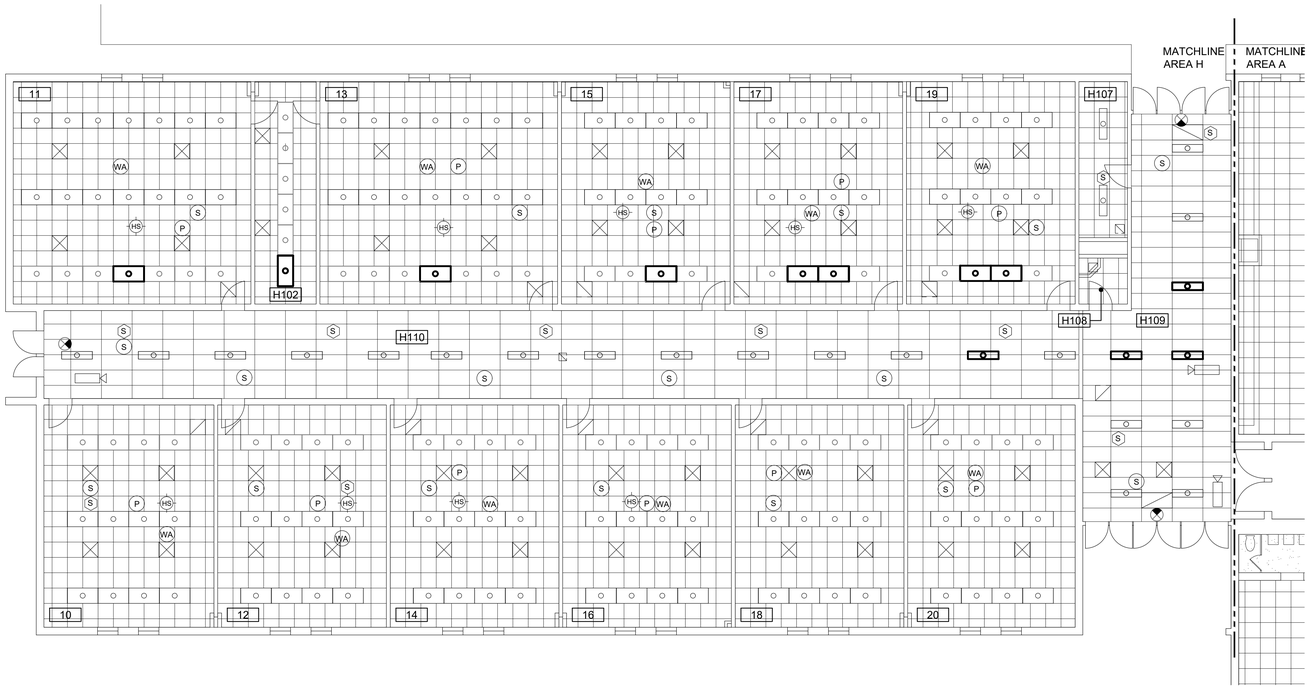
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

CP107

DATE: 09/08/2025



PARTIAL CEILING FLOOR PLANS - AREA 'H' - DEMOLITION AND NEW WORK

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

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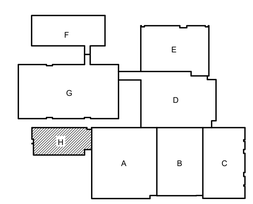
NOTE: EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.



KEY PLAN

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5' 0 5' 10' 15' 20'

SCALE FEET

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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

PARTIAL CEILING FLOOR PLANS - AREA 'H' - DEMOLITION AND NEW WORK

REVISIONS

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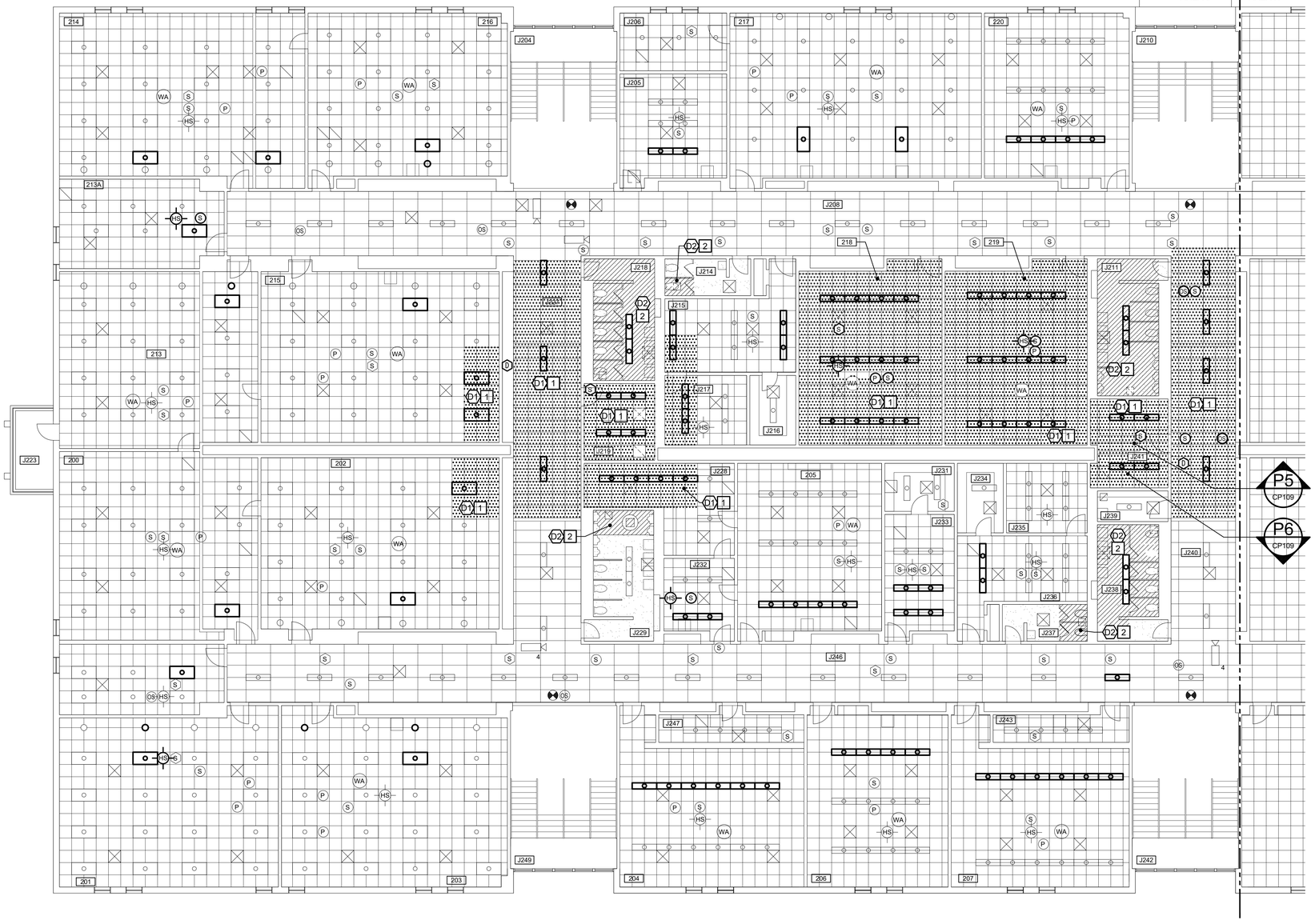

PARTIAL CEILING FLOOR PLANS - AREA 'J' - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
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D2	CAREFULLY REMOVE PLASTER OR DRYWALL CEILING AS SHOWN. SEE LEGEND ON SHEET CP101 THIS SHEET FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES	
NO.	DESCRIPTION
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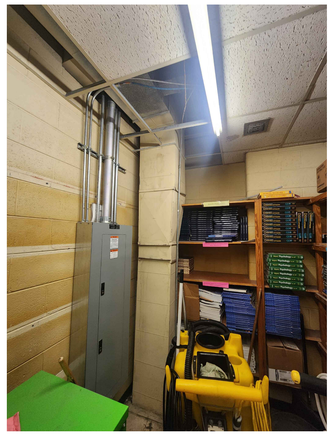
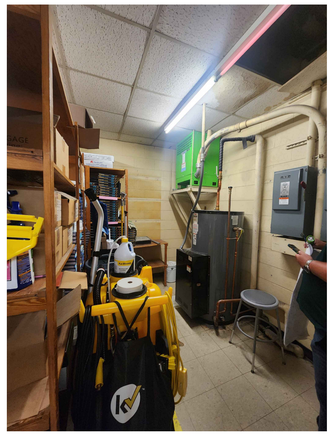
2	PROVIDE NEW DRYWALL CEILING IN THIS AREA AND RESTORE TO PRE-CONSTRUCTION CONDITIONS.



P5 CP109 ROOM J241 PHOTO
NOT TO SCALE



P6 CP109 ROOM J241 PHOTO
NOT TO SCALE

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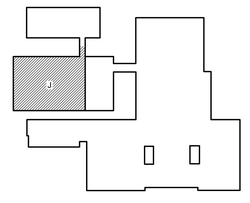

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NEWPORT NEWS, VIRGINIA

PARTIAL CEILING FLOOR PLANS - AREA 'J' - DEMOLITION AND NEW WORK

REVISIONS

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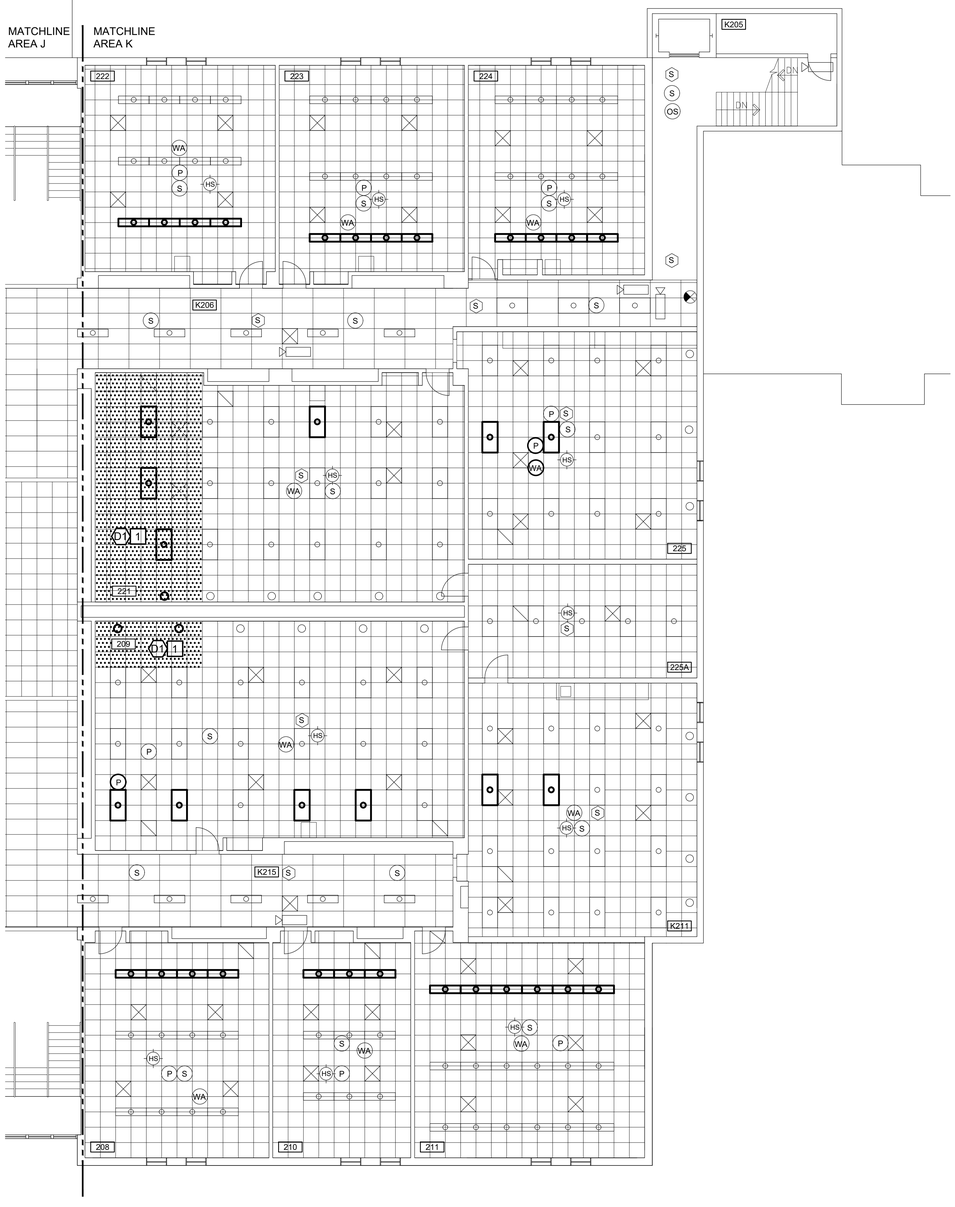

PARTIAL CEILING FLOOR PLANS - AREA 'K' - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D1	CAREFULLY REMOVE LIMITED PORTIONS OF CEILING GRID, TRIM, AND CEILING TILES AS REQUIRED FOR REMOVAL OF MECHANICAL PIPING AND EQUIPMENT. PROVIDE ADDITIONAL GRID SUPPORTS WHERE DEMOLITION OCCURS TO AVOID SAGGING OF CEILING GRID TO REMAIN. SEE LEGEND ON SHEET CP101 FOR OTHER ITEMS TO BE REMOVED AND REPLACED.

NEW WORK NOTES	
NO.	DESCRIPTION
1	AFTER INSTALLATION OF NEW WORK, REINSTALL CEILING TILES, TRIM, GRID AND LIGHT FIXTURES AND OTHER ITEMS SHOWN IN THE LEGEND ON SHEET CP101 RETAINED FROM DEMOLITION. CEILING GRID AND LIGHT FIXTURES SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. USE CEILING TILES SALVAGED OR PROVIDE NEW ACOUSTICAL TILES TO REPLACE DAMAGED, CRACKED, BROKEN, OR WATER STAINED TILES IN ACCORDANCE WITH THE SPECIFICATIONS.

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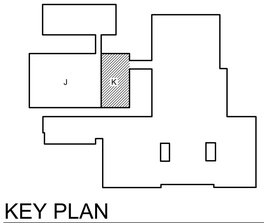
NOTE: EXISTING CONDITIONS ILLUSTRATED HAVE BEEN DETERMINED FROM ORIGINAL CONSTRUCTION DOCUMENTS AND LIMITED NON-INVASIVE FIELD INVESTIGATION. THE CONTRACTOR SHALL INVESTIGATE FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK, COORDINATE AND MAKE ADJUSTMENTS AS NECESSARY.



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PARTIAL CEILING FLOOR PLANS - AREA 'K' - DEMOLITION AND NEW WORK

REVISIONS

MARK	DESCRIPTION	DATE

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DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

CP110

DATE: 09/08/2025

GENERAL STRUCTURAL NOTES:

1. COORDINATE AND VERIFY ALL DIMENSIONS WITH THE DRAWINGS OF ALL OTHER DISCIPLINES PRIOR TO STARTING CONSTRUCTION.
2. THE CONTRACTOR MUST COORDINATE AND VERIFY THE REQUIREMENTS OF ALL OTHER TRADES AS TO SLEEVES, CHASES, ANCHORS, INSERTS, HANGERS, HOLES, AND ANY ADDITIONAL ITEMS TO BE PLACED IN THE STRUCTURAL WORK.
3. THE CONTRACTOR MUST BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, SEQUENCES, REGULATIONS, AND SAFETY MEASURES AS IT RELATES TO THIS PROJECT.
4. PROVIDE ALL TEMPORARY SHORING, GUYING AND BRACING AS REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK HAS BEEN COMPLETED. THE DESIGN OF SHORING, GUYING AND BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. EQUIPMENT WEIGHTS, OPENINGS, AND LOCATIONS INDICATED ON THE STRUCTURAL DRAWINGS ARE INDICATED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR MUST VERIFY AND COORDINATE THE SIZES, WEIGHTS, AND LOCATIONS OF ALL EQUIPMENT AND OPENINGS. REPORT ANY DISCREPANCIES TO THE ENGINEER.
6. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REGARDING EXISTING UTILITIES BEFORE PROCEEDING WITH THE WORK. ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
7. THE REFERENCE DATUM (ELEVATION = 0'-0") FOR ELEVATIONS SHOWN ON THESE DRAWINGS MUST BE FINISHED FLOOR ELEVATION WHICH PREDOMINATES ON THE FIRST FLOOR.
8. WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT MUST APPLY TO ALL LIKE AND SIMILAR CONDITIONS.
9. UNDER NO CIRCUMSTANCES MUST THE CONTRACT DRAWINGS BE REPRODUCED, IN PART OR IN WHOLE, AND USED AS SHOP DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
10. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, THE SPECIFICATIONS AND THE GENERAL STRUCTURAL NOTES, THE STRICTEST PROVISION MUST GOVERN.
11. PRODUCTS AND MANUFACTURERS SPECIFICALLY IDENTIFIED IN THE DRAWINGS ARE REQUIRED TO COMPLY WITH THE DESIGN. BEFORE SUBMITTING SUBSTITUTIONS, CONFIRM LOAD CAPACITY BASED ON RELIABLE TESTING DATA OR CALCULATIONS PUBLISHED BY AN INDEPENDENT THIRD PARTY. THE ENGINEER OF RECORD MUST EVALUATE AND GIVE WRITTEN APPROVAL FOR SUBSTITUTIONS PRIOR TO INSTALLATION. INSTALL ALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
12. IN ACCORDANCE WITH THE VUSBC, SPECIAL INSPECTIONS WILL BE REQUIRED FOR THIS PROJECT UNDER THE "HAMPTON ROADS REGIONAL SPECIAL INSPECTION GUIDELINES AND PROCEDURES". SPECIAL INSPECTIONS MUST BE PERFORMED IN ACCORDANCE WITH THE "SCHEDULE OF SPECIAL INSPECTIONS". THE CONTRACTOR MUST NOTIFY THE SPECIAL INSPECTOR AT LEAST 24 HOURS IN ADVANCE FOR WORK THAT WILL REQUIRE INSPECTION OR TESTING.
13. PHASE OR SEQUENCE THE WORK WITHIN THE EXISTING BUILDING IN SUCH A MANNER AS TO NOT COMPROMISE THE INTEGRITY OR STABILITY OF THE STRUCTURE. PROVIDE THE NECESSARY SHORING, BRACING, AND SAFEGUARDS TO PROTECT THE EXISTING STRUCTURE.

DESIGN CODES AND GOVERNING STANDARDS:

1. 2021 EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
2. 2021 EDITION OF THE VIRGINIA CONSTRUCTION CODE (VCC).
3. 2022 EDITION OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS/STRUCTURAL ENGINEERS INSTITUTE (ASCE/SEI): ASCE/SEI 7-22, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".
4. 2016 EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC): ANSI/AISC 360-16, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
5. 2018 EDITION OF THE AMERICAN WELDING SOCIETY (AWS), D1.1/D1.1M-18 "STRUCTURAL WELDING CODE – STEEL", AND D1.4/D1.4M-18 "STRUCTURAL WELDING CODE – REINFORCING STEEL".

DESIGN LOADS:

THE FOLLOWING LOADS IN ADDITION TO THE DEAD LOADS OF THE PERMANENT CONSTRUCTION BUILDING MATERIALS WERE USED:

LIVE LOAD:
- MINIMUM ROOF LOAD : 20 PSF
- RTU CATWALK LIVE LOAD : 60 PSF

SNOW LOAD:
- GROUND SNOW LOAD, P_g : 37 PSF
- SNOW EXPOSURE FACTOR, C_e : 1.0 (PARTIALLY EXPOSED)
- SNOW LOAD IMPORTANCE FACTOR, I_s : 1.0
- THERMAL FACTOR, C_t : 1.0 (HEATED)
- FLAT-ROOF SNOW LOAD, P_f : 26 PSF

WIND DESIGN CRITERIA:
- ULTIMATE DESIGN WIND SPEED, V_{ult} (3 SECOND GUST) : 119 MPH
- NOMINAL DESIGN WIND SPEED, V_{asd} : 93 MPH
- RISK CATEGORY : II
- WIND EXPOSURE : C
- INTERNAL PRESSURE COEFFICIENT : ±0.18

SEISMIC DESIGN CRITERIA:
- RISK CATEGORY : II
- SEISMIC IMPORTANCE FACTOR, I_e : 1.0
- MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
  - SHORT PERIODS, S_s : 0.12 g
  - 1-SECOND PERIOD, S_1 : 0.04 g
- SITE CLASS : D
- DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:
  - SHORT PERIODS, S_{DS} : 0.10 g
  - 1-SECOND PERIOD, S_{D1} : 0.06 g
- SEISMIC DESIGN CATEGORY : A

STRUCTURAL STEEL NOTES:

1. ALL STRUCTURAL STEEL MUST BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
   A. W-SHAPES : ASTM A992 GRADE 50
   B. MISCELLANEOUS SHAPES, ANGLES, PLATES AND BARS : ASTM A36
   C. PIPE : ASTM A53, GRADE B.
   D. HSS SHAPES : ASTM A500 GRADE B
   E. BOLTS : ASTM F3125
   F. NUTS : ASTM A563
   G. WASHERS : F436
   H. ANCHOR RODS : ASTM F1554, GRADE AS INDICATED
   I. WELDING ELECTRODES : E70XX
2. DESIGN, FABRICATION, ERECTION AND ALL OTHER STRUCTURAL STEEL WORK MUST CONFORM TO THE SIXTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
3. ALL FIELD BOLTED SHEAR CONNECTIONS MUST BE BEARING TYPE CONNECTIONS (THREADS INCLUDED IN THE SHEAR PLANE) WITH A MINIMUM OF (2)-3/4 INCH DIAMETER ASTM F3125 HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.
4. ALL WELDING MUST BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE – STEEL". WELD ELECTRODES MUST BE E70XX.
5. HIGH STRENGTH BOLTS MUST BE TIGHTENED TO THE "SNUG TIGHT" CONDITION, UNLESS OTHERWISE NOTED.
6. ALL NEW STRUCTURAL STEEL LOCATED OUTSIDE THE CLIMATE CONDITIONED BUILDING ENVELOPE OR EXPOSED TO WEATHER, INCLUDING STRUCTURAL STEEL SUPPORTS FOR ROOF-MOUNTED EQUIPMENT AND STRUCTURAL STEEL LINTELS IN EXTERIOR WALLS, MUST BE HOT-DIPPED GALVANIZED, IN ACCORDANCE WITH ASTM A123. GALVANIZE AFTER FABRICATION WHERE PRACTICAL. REPAIR DAMAGED GALVANIZED COATING USING ASTM A780 ZINC-RICH PAINT.
7. SCRAPE CLEAN AND REPAINT ALL EXISTING STEEL EXPOSED TO WEATHER.

STRUCTURAL STEEL NOTES (CONTINUED):

8. ALL BEARING PLATES MUST BE GROUTED BELOW WITH NON-SHRINK, NON-METALLIC GROUT IN ACCORDANCE WITH ASTM C1107 SPECIFICATIONS.
9. THE TYPICAL STEEL FRAME PLANS AND DETAILS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPLICABLE TO MECHANICAL UNITS. THE TYPICAL DETAILS REQUIRE COORDINATION BY THE MECHANICAL CONTRACTOR TO SUIT THE REQUIREMENTS OF THE UNITS PROVIDED. THE MECHANICAL CONTRACTOR MUST BE RESPONSIBLE FOR MODIFICATIONS OF THESE DETAILS AS REQUIRED TO SUIT THE EQUIPMENT PROVIDED AT NO ADDITIONAL COST.
10. STEEL FRAMING MUST HAVE A GALVANIZED COATING ON ALL COMPONENTS INCLUDING THE HARDWARE.
11. ISOLATION MANUFACTURER TO SEAL AND STAMP SELECTIONS.
12. PRIOR TO SUBMISSION OF STRUCTURAL STEEL SHOP DRAWINGS THE MECHANICAL CONTRACTOR MUST BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS OF THE STEEL FRAMES WITH THE STEEL CONTRACTOR. THE MECHANICAL CONTRACTOR COORDINATION MUST INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
    A. COORDINATE THE DIMENSIONS OF THE STEEL FRAMES WITH EACH SPECIFIC PIECE OF EQUIPMENT AND THE APPROVED EQUIPMENT SUBMITTALS.
    B. COORDINATE THE LOCATION AND QUANTITY OF STEEL FRAME CROSS MEMBERS WITH THE APPROVED HVAC EQUIPMENT AND INSULATION SUBMITTALS.
    C. COORDINATE THE LOCATION, TYPE, QUANTITY, AND ATTACHMENT REQUIREMENTS FOR ISOLATORS WITH THE ISOLATOR MANUFACTURER AND APPROVED SPRING ISOLATOR SUBMITTALS.

STRUCTURAL STEEL FRAMING SPECIFICATIONS:

SECTION 051200

PART 1 – GENERAL

1.1 SUMMARY
- A. SECTION INCLUDES:
  1. STRUCTURAL STEEL.

1.2 PREINSTALLATION MEETINGS
- A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA:
  1. STRUCTURAL-STEEL MATERIALS.
  2. HIGH-STRENGTH, BOLT-NUT-WASHER ASSEMBLIES.
  3. GALVANIZED-STEEL PRIMER.
  4. GALVANIZED REPAIR PAINT.
- B. SHOP DRAWINGS: SHOW FABRICATION OF STRUCTURAL-STEEL COMPONENTS. CONTRACTOR MUST NOT FABRICATE STEEL UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

1.4 INFORMATIONAL SUBMITTALS
- A. WELDING CERTIFICATES.

1.5 QUALITY ASSURANCE
- A. WELDING QUALIFICATIONS: QUALIFY PROCEDURES AND PERSONNEL IN ACCORDANCE WITH AWS D1.1/D1.1M.
- B. STRUCTURAL STEEL: FABRICATE AND ASSEMBLE IN SHOP TO GREATEST EXTENT POSSIBLE. FABRICATE IN ACCORDANCE WITH ANSI/AISC 303 AND TO ANSI/AISC 360.

1.6 GALVANIZING
- A. HOT-DIP GALVANIZED FINISH: APPLY ZINC COATING BY THE HOT-DIP PROCESS TO STRUCTURAL STEEL IN ACCORDANCE WITH ASTM A123/A123M.
  1. FILL VENT AND DRAIN HOLES THAT ARE EXPOSED IN THE FINISHED WORK UNLESS THEY FUNCTION AS WEEP HOLES, BY PLUGGING WITH ZINC SOLDER AND FILING OFF SMOOTH.

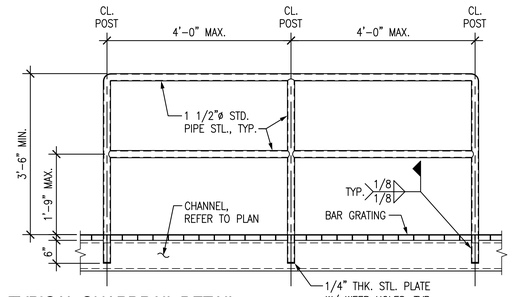
PART 2 – EXECUTION

2.1 ERECTION
- A. SET STRUCTURAL STEEL ACCURATELY IN LOCATIONS AND TO ELEVATIONS INDICATED AND IN ACCORDANCE WITH ANSI/AISC 303 AND ANSI/AISC 360.
- B. MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN ANSI/AISC 303.

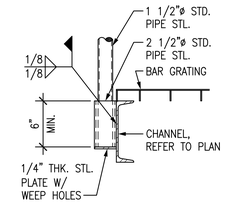
2.2 FIELD CONNECTIONS
- A. HIGH-STRENGTH BOLTS: INSTALL HIGH-STRENGTH BOLTS IN ACCORDANCE WITH RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" FOR BOLT AND JOINT TYPE SPECIFIED.
  1. JOINT TYPE: SNUG TIGHTENED.
- B. WELD CONNECTIONS: COMPLY WITH AWS D1.1/D1.1M FOR TOLERANCES, APPEARANCES, WELDING PROCEDURE SPECIFICATIONS, WELD QUALITY, AND METHODS USED IN CORRECTING WELDING WORK.
  1. COMPLY WITH ANSI/AISC 303 AND ANSI/AISC 360 FOR BEARING, ALIGNMENT, ADEQUACY OF TEMPORARY CONNECTIONS, AND REMOVAL OF PAINT ON SURFACES ADJACENT TO FIELD WELDS.

2.3 FIELD QUALITY CONTROL
- A. SPECIAL INSPECTIONS: OWNER WILL ENGAGE A SPECIAL INSPECTOR TO PERFORM THE FOLLOWING SPECIAL INSPECTIONS:
  1. VERIFY STRUCTURAL-STEEL MATERIALS AND INSPECT STEEL FRAME JOINT DETAILS.
  2. VERIFY WELD MATERIALS AND INSPECT WELDS.
  3. VERIFY CONNECTION MATERIALS AND INSPECT HIGH-STRENGTH BOLTED CONNECTIONS.

END OF SECTION 051200



TYPICAL GUARDRAIL DETAIL
NOT TO SCALE



TYPICAL REMOVABLE RAILING DETAIL
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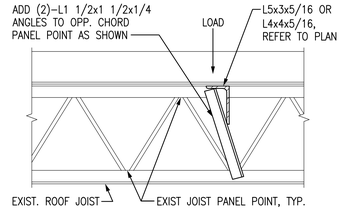
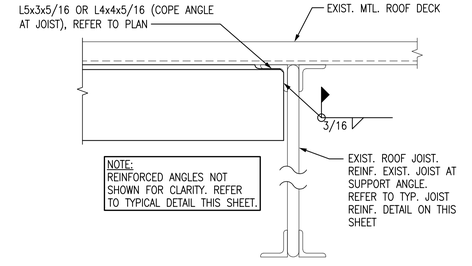


TYPICAL JOIST REINFORCING DETAIL
NOT TO SCALE



TYPICAL DECK SUPPORT ANGLE CONNECTION DETAIL
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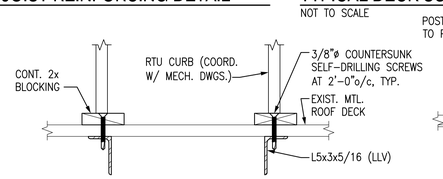
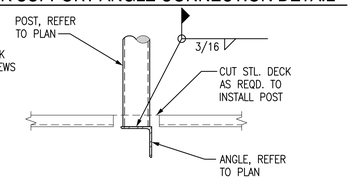


INSULATED PANEL



TYPICAL POST BEARING ON ANGLE DETAIL
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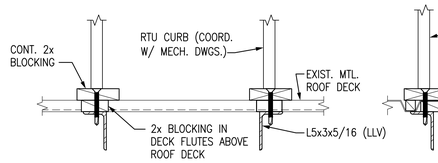
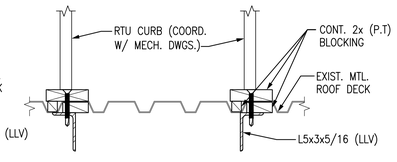
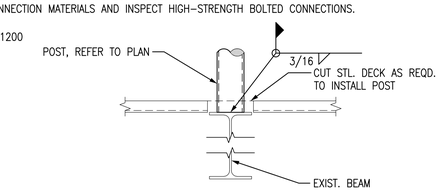


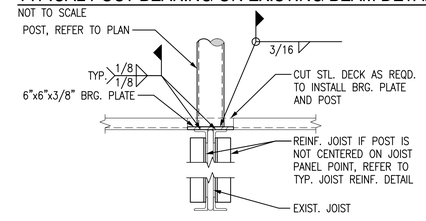
METAL DECK



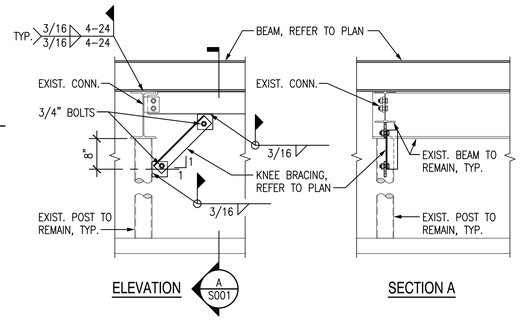
TYPICAL DECK SUPPORT DETAILS
NOT TO SCALE



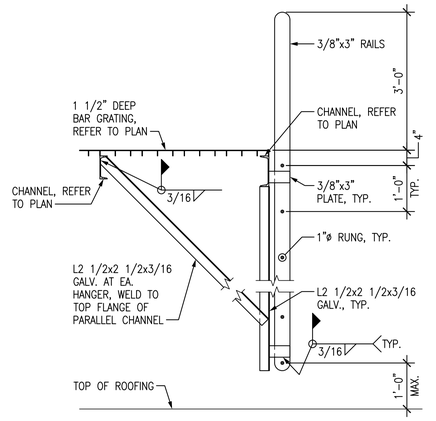
TYPICAL POST BEARING ON EXISTING BEAM DETAIL
NOT TO SCALE



TYPICAL POST BEARING ON EXISTING JOIST DETAIL
NOT TO SCALE



TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM AT SHORT DIRECTION
NOT TO SCALE



TYPICAL PLATFORM LADDER DETAIL
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Lic. No. 050521
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PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, 4323 COX ROAD, 2809 S. LYNNHAVEN ROAD
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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

GENERAL NOTES AND TYPICAL DETAILS

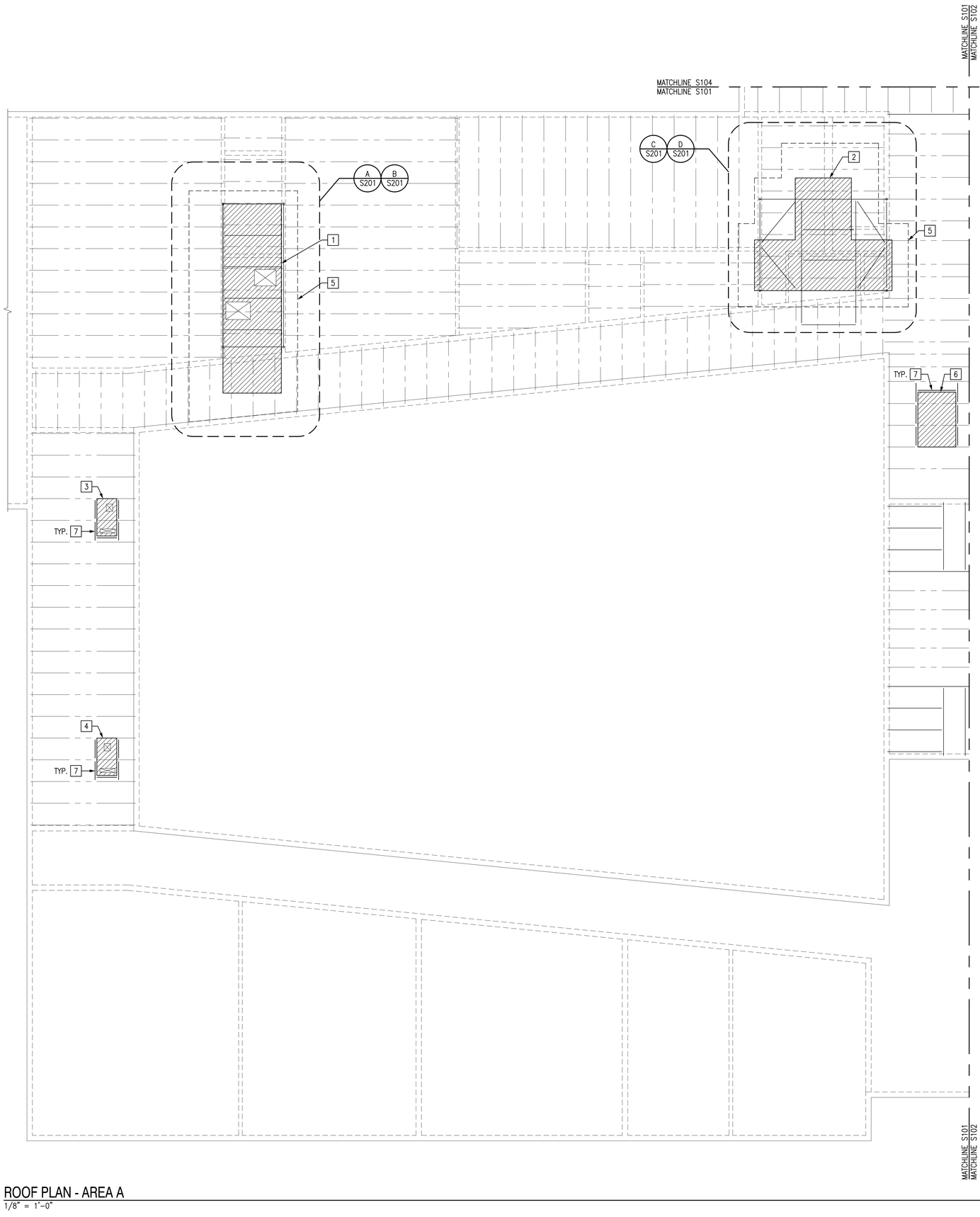
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S001

DATE: 09/08/2025

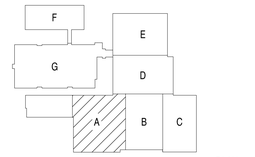


ROOF FRAMING PLAN KEY NOTES:

1. RTU-1, WEIGHT = 15,200 LBS, EXISTING LOCATION.
2. RTU-2, WEIGHT = 18,200 LBS, EXISTING LOCATION.
3. RTU-18, WEIGHT = 1,000 LBS, EXISTING LOCATION.
4. RTU-19, WEIGHT = 1,000 LBS, EXISTING LOCATION.
5. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S201.
6. CU-4, WEIGHT = 2,400 LBS, NEW LOCATION.
7. DECK SUPPORT ANGLE, REFER TO TYPICAL DETAIL ON SHEET S001.

ROOF PLAN - AREA A

1/8" = 1'-0"



KEY PLAN
NOT TO SCALE

NOTE:
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GRAPHIC SCALE:
1/8" = 1'-0" 10' 5' 0' 10' 20'

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22 ENTERPRISE PARKWAY
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ROOF PLAN - AREA A

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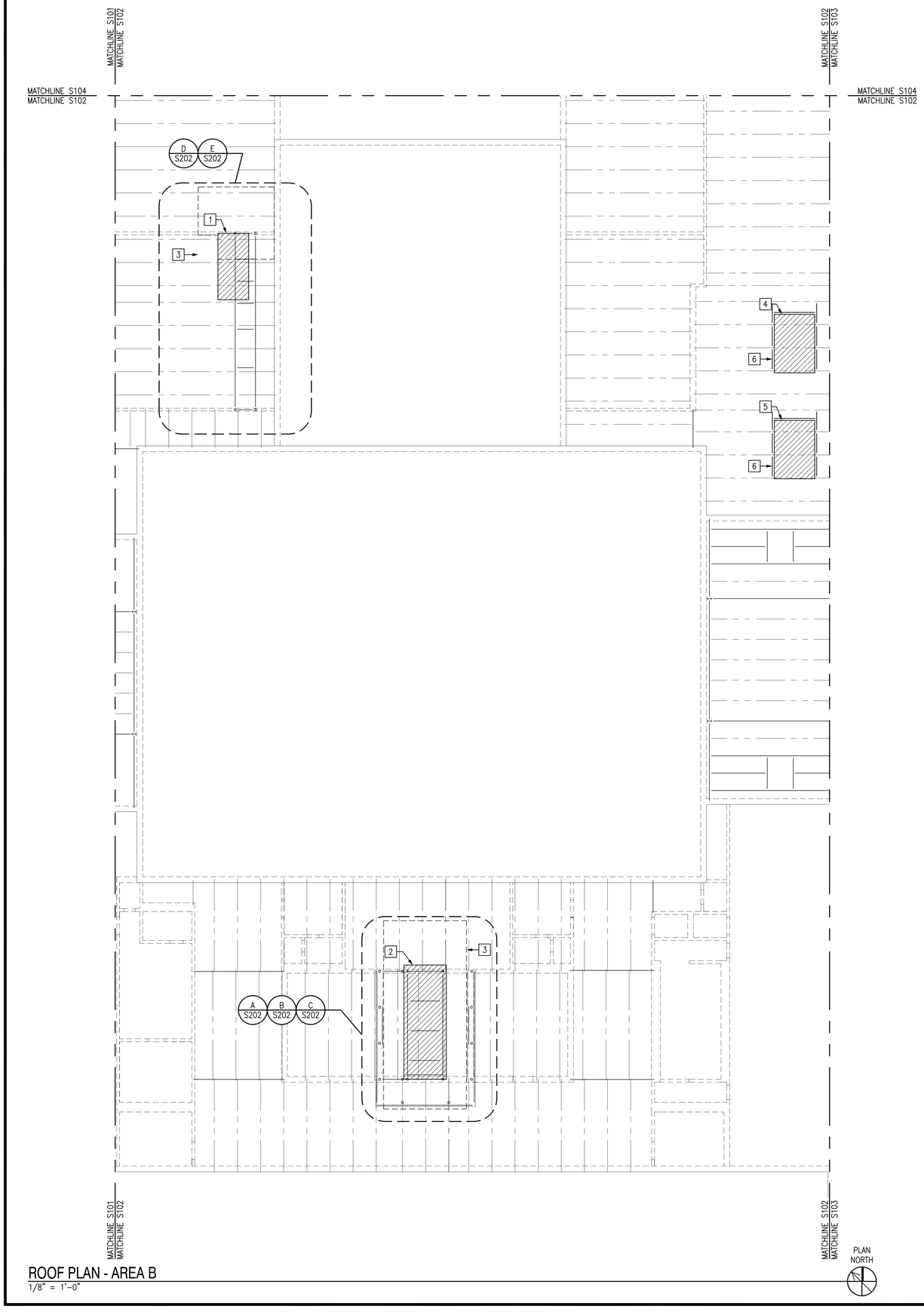
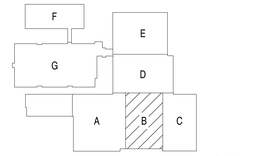


ROOF PLAN - AREA B

1/8" = 1'-0"

ROOF FRAMING PLAN KEY NOTES:

1. RTU-3, WEIGHT = 2,600 LBS, EXISTING LOCATION.
2. RTU-5, WEIGHT = 7,700 LBS, EXISTING LOCATION.
3. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S202.
4. CU-7, WEIGHT = 1,450 LBS, NEW LOCATION.
5. CU-7A, WEIGHT = 1,450 LBS, NEW LOCATION.
6. DECK SUPPORT ANGLE, REFER TO TYPICAL DETAIL ON SHEET S001.



KEY PLAN

NOT TO SCALE

PLAN NORTH

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GRAPHIC SCALE:

1/8" = 1'-0" 10' 5' 0' 10' 20'

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Lic. No. 050521
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THOMPSON
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22 ENTERPRISE PARKWAY
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ROOF PLAN - AREA B

REVISIONS

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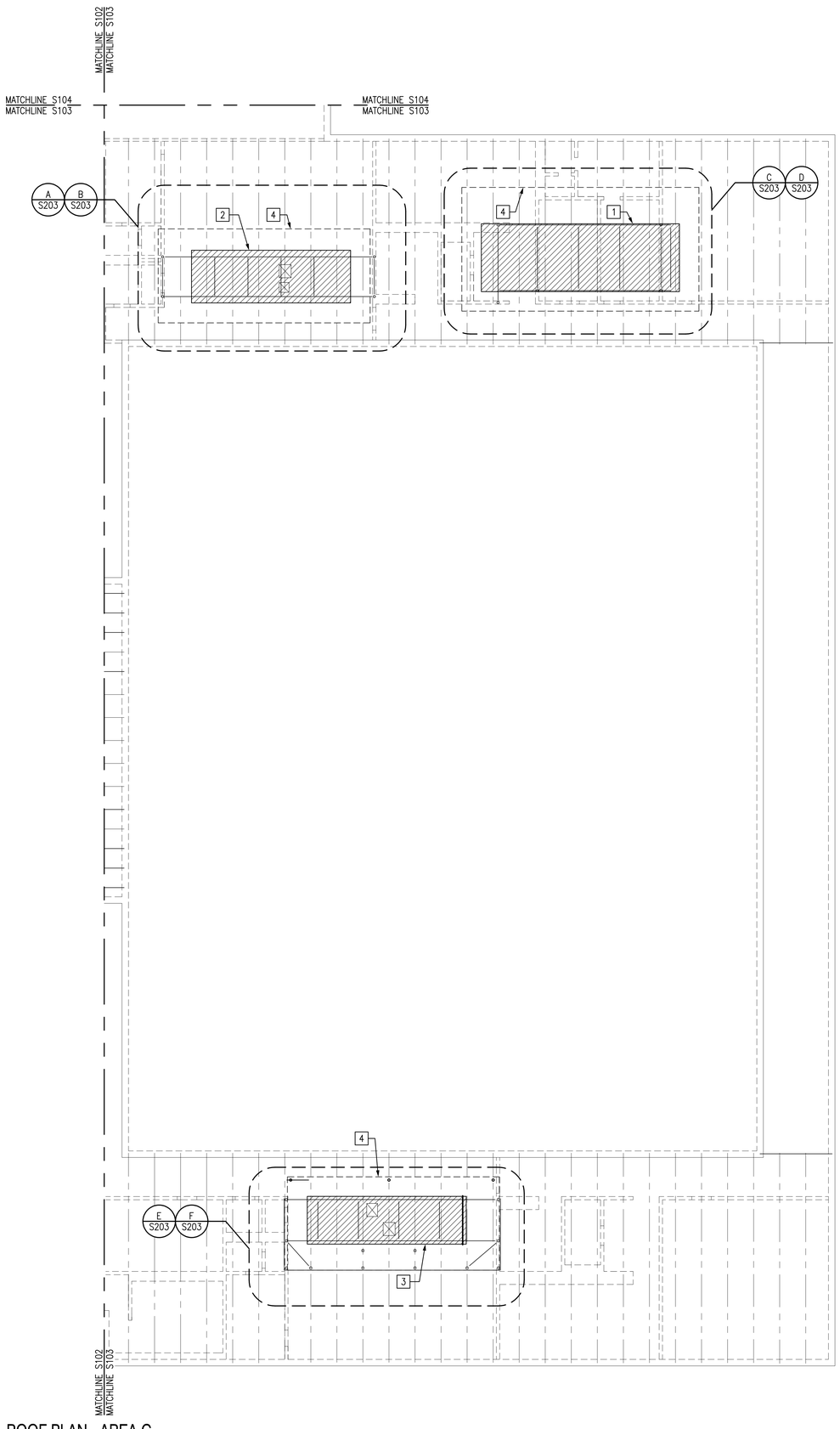


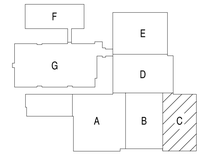
ROOF PLAN - AREA C

1/8" = 1'-0"

PLAN NORTH

ROOF FRAMING PLAN KEY NOTES:

1. RTU-6, WEIGHT = 15,300 LBS, EXISTING LOCATION.
2. RTU-8, WEIGHT = 6,800 LBS, EXISTING LOCATION.
3. RTU-9, WEIGHT = 6,500 LBS, EXISTING LOCATION.
4. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S203.



KEY PLAN

NOT TO SCALE

PLAN NORTH

NOTE:
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GRAPHIC SCALE:

1/8" = 1'-0" 10' 5' 0' 10' 20'

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ROOF PLAN - AREA C

REVISIONS

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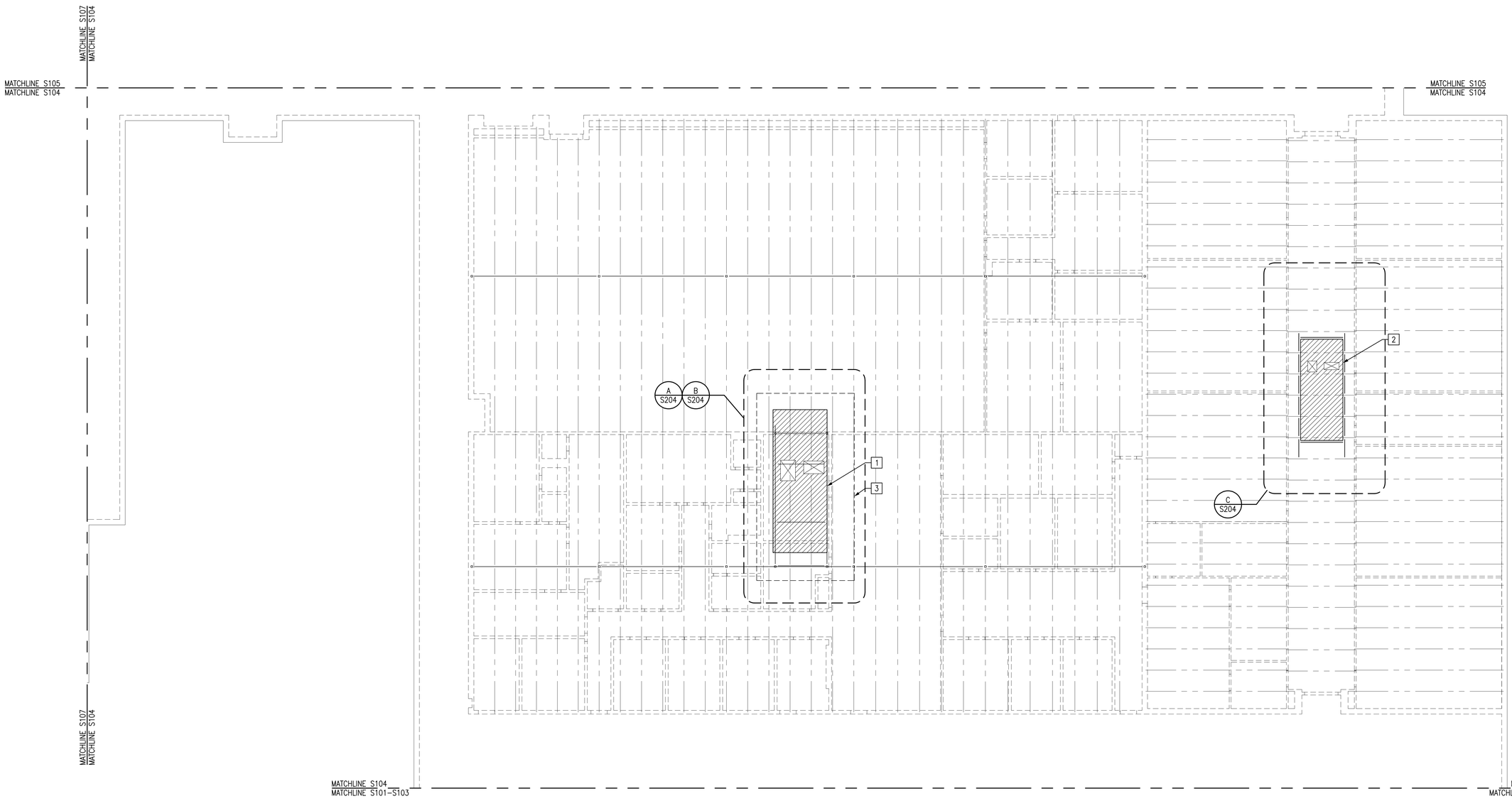
DATE: 09/08/2025



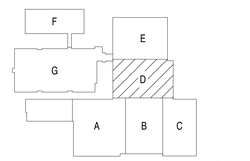
ROOF PLAN - AREA D

1/8" = 1'-0"

PLAN NORTH

ROOF FRAMING PLAN KEY NOTES:

1. RTU-10, WEIGHT = 12,750 LBS, EXISTING LOCATION.
2. RTU-11, WEIGHT = 8,600 LBS, EXISTING LOCATION.
3. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S204.



PLAN NORTH

KEY PLAN

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GRAPHIC SCALE:

1/8" = 1'-0" 10' 5' 0' 10' 20'

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ROOF PLAN - AREA D

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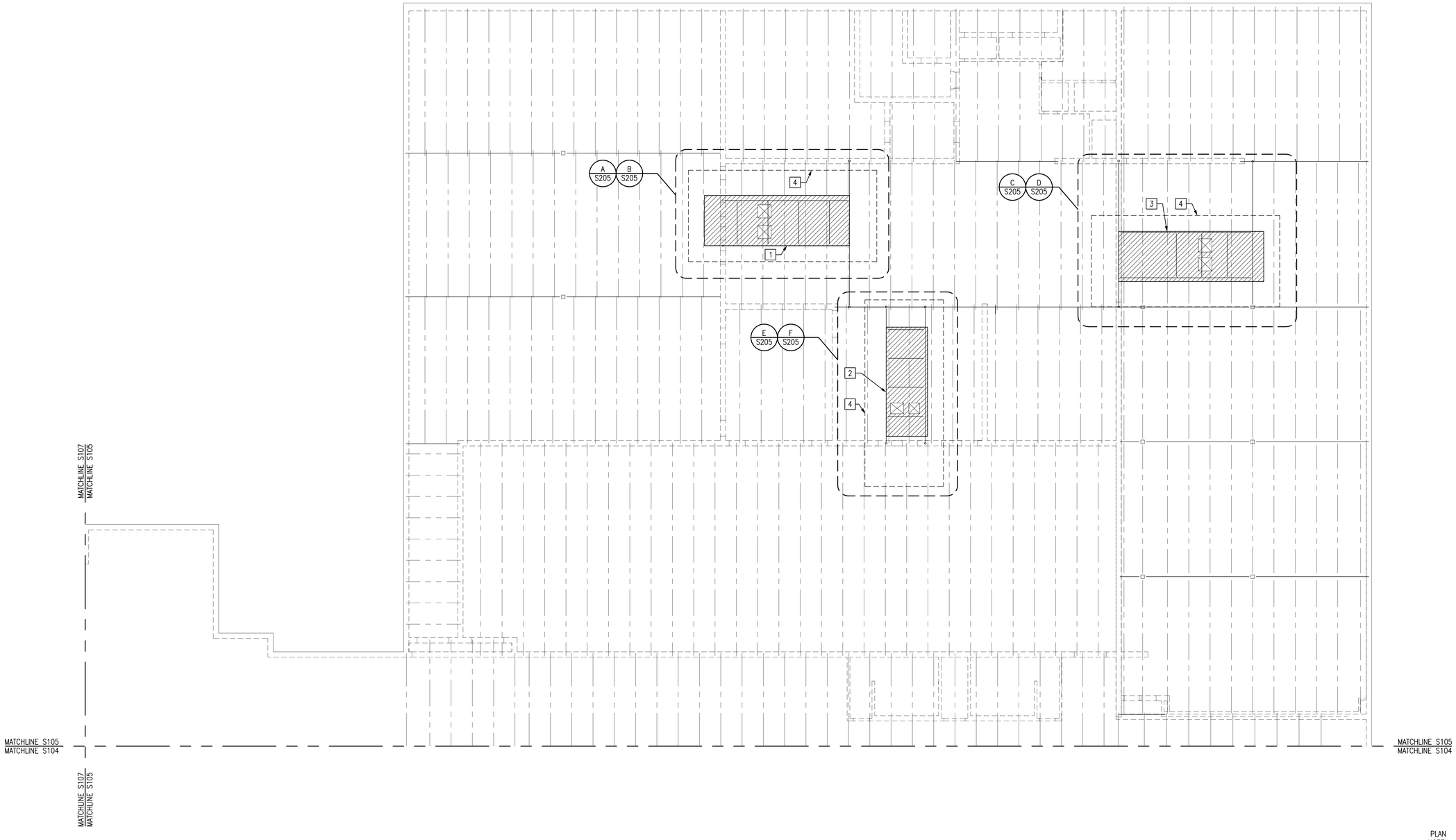


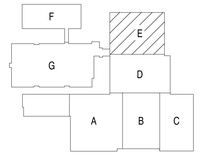
ROOF PLAN - AREA E

1/8" = 1'-0"

PLAN NORTH

ROOF FRAMING PLAN KEY NOTES:

1. RTU-12, WEIGHT = 12,350 LBS, EXISTING LOCATION.
2. RTU-13, WEIGHT = 9,400 LBS, EXISTING LOCATION.
3. RTU-14, WEIGHT = 12,450 LBS, EXISTING LOCATION.
4. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S205.



PLAN NORTH

KEY PLAN

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GRAPHIC SCALE:

1/8" = 1'-0" 10' 5' 0' 10' 20'

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THOMPSON
Consulting Engineers

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ROOF PLAN - AREA E

REVISIONS

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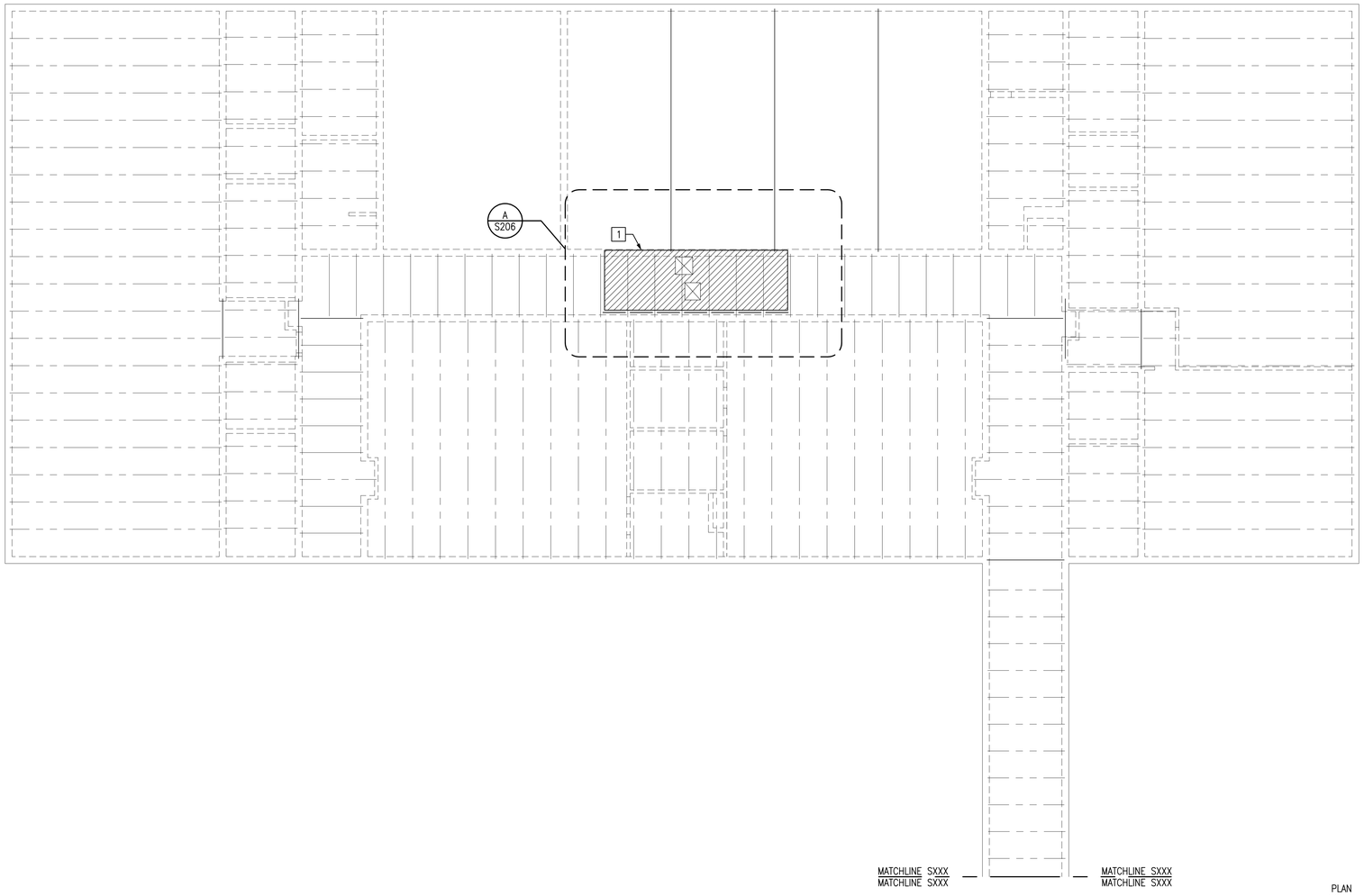
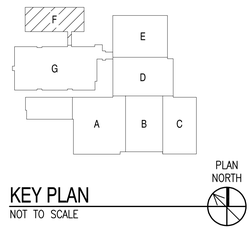


ROOF PLAN - AREA F
1/8" = 1'-0"

ROOF FRAMING PLAN KEY NOTES:
1 RTU-15, WEIGHT = 11,500 LBS, EXISTING LOCATION.



KEY PLAN
NOT TO SCALE

NOTE:
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GRAPHIC SCALE:
1/8" = 1'-0"
10' 5' 0' 10' 20'

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HAMPTON, VA 23666
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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ROOF PLAN - AREA F

REVISIONS

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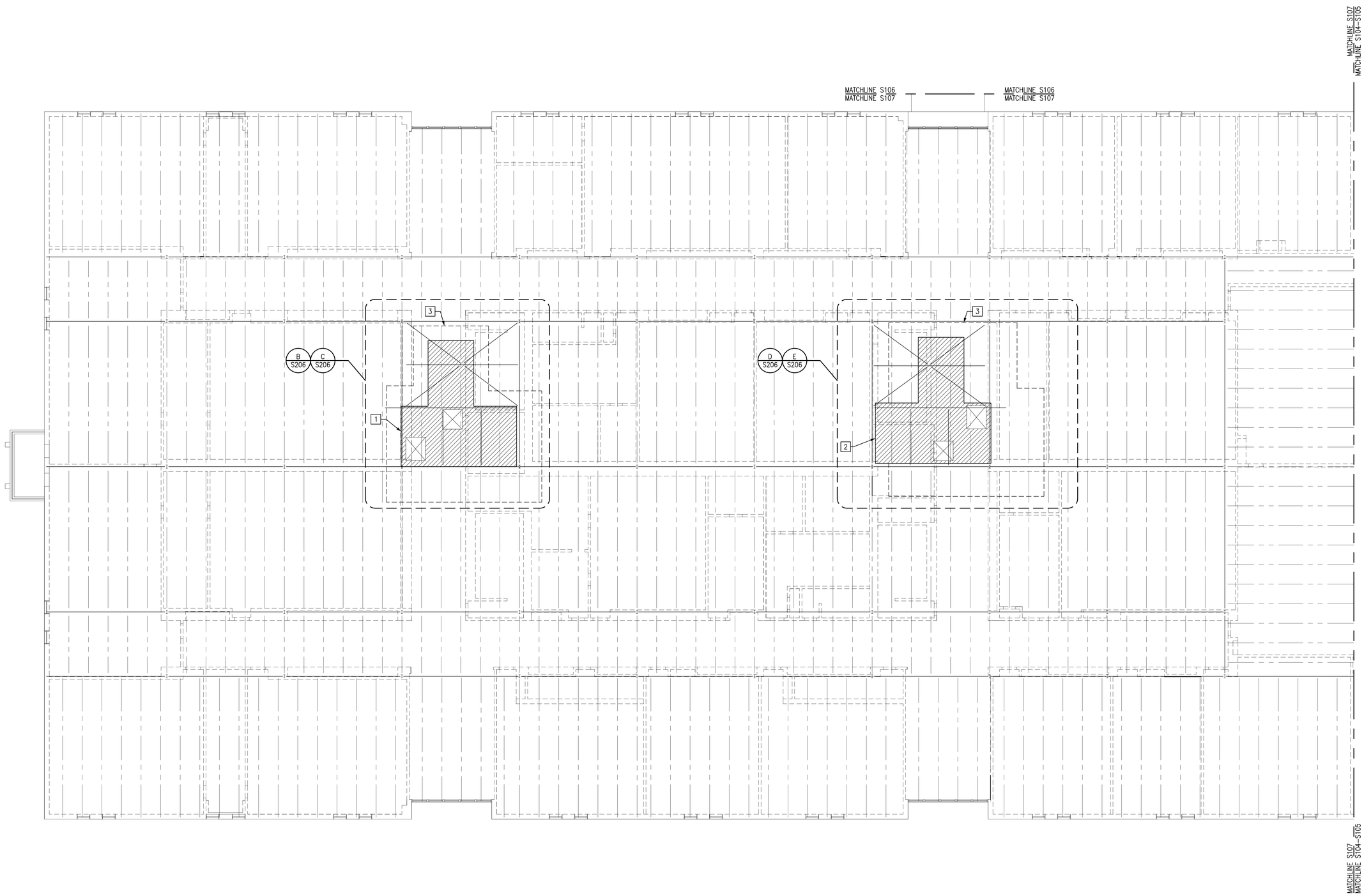
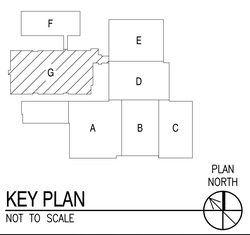


ROOF PLAN - AREA G

1/8" = 1'-0"

ROOF FRAMING PLAN KEY NOTES:

1. RTU-16, WEIGHT = 14,250 LBS, EXISTING LOCATION.
2. RTU-17, WEIGHT = 14,350 LBS, EXISTING LOCATION.
3. OUTLINE OF PLATFORM, REFER TO ENLARGED FRAMING PLANS ON SHEET S206.



KEY PLAN
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10' 5' 0' 10' 20'

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Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 COX ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-060

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ROOF PLAN - AREA G

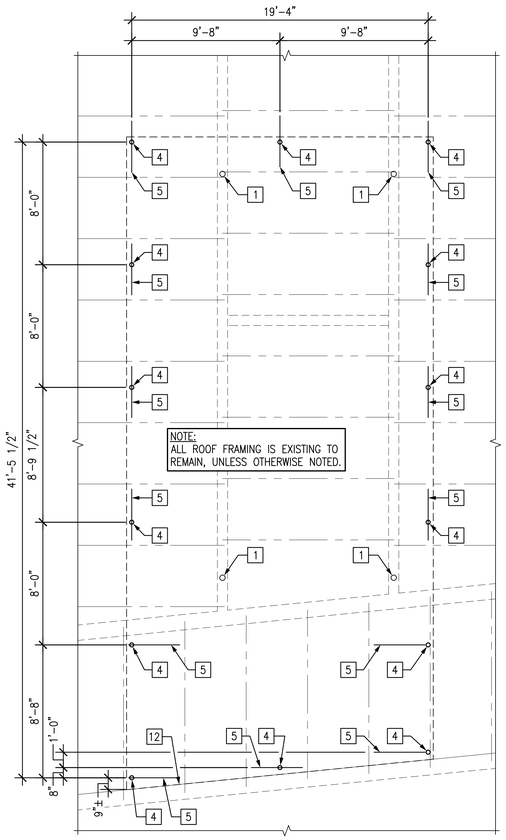
REVISIONS

MARK	DESCRIPTION	DATE

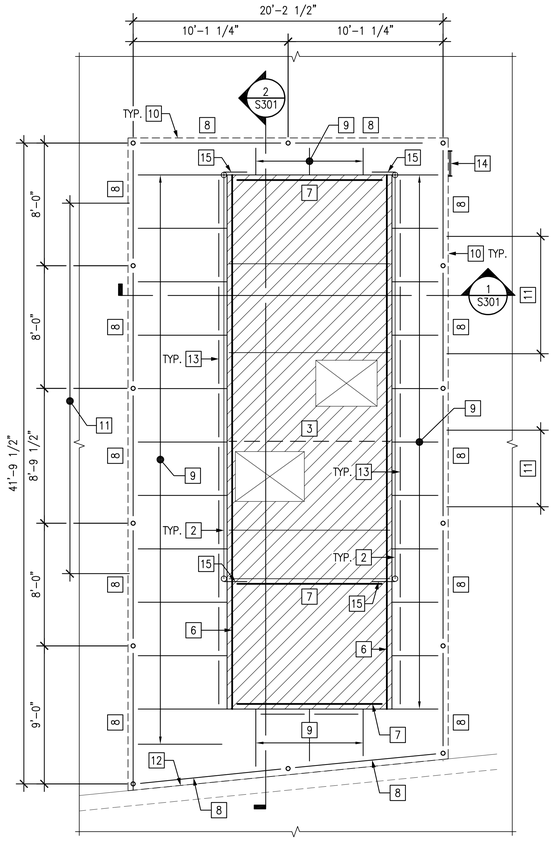
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S107

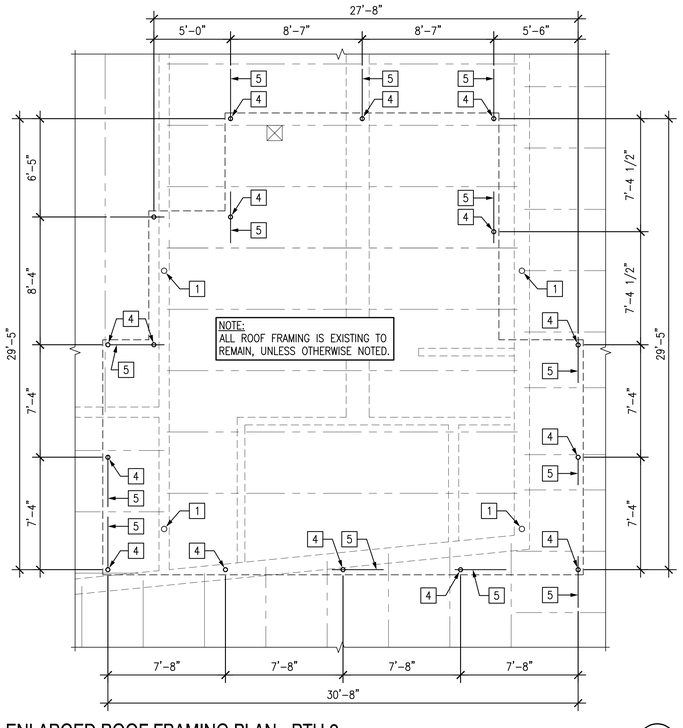
DATE: 09/08/2025



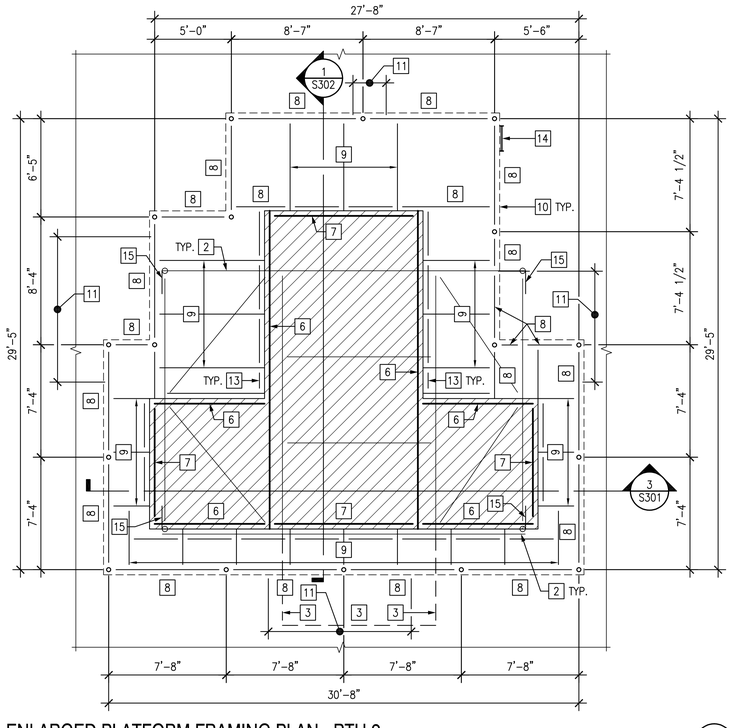
ENLARGED ROOF FRAMING PLAN - RTU 1
1/4" = 1'-0"
S101 A



ENLARGED PLATFORM FRAMING PLAN - RTU-1
1/4" = 1'-0"
S101 B



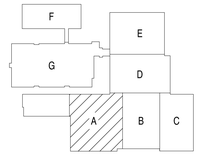
ENLARGED ROOF FRAMING PLAN - RTU 2
1/4" = 1'-0"
S101 C



ENLARGED PLATFORM FRAMING PLAN - RTU 2
1/4" = 1'-0"
S101 D

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. FACE OF EXTERIOR WALL.
13. C4x5.4.
14. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
15. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.



KEY PLAN
NOT TO SCALE

NOTE:
IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:
1/4" = 1'-0" 5' 0' 5' 10'

M D G STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2003
www.mdgeng.com

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DARIUSH SAHBAI
Lic. No. 050521
09-08-2025
PROFESSIONAL ENGINEER

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Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4325 COX ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

ENLARGED PLANS

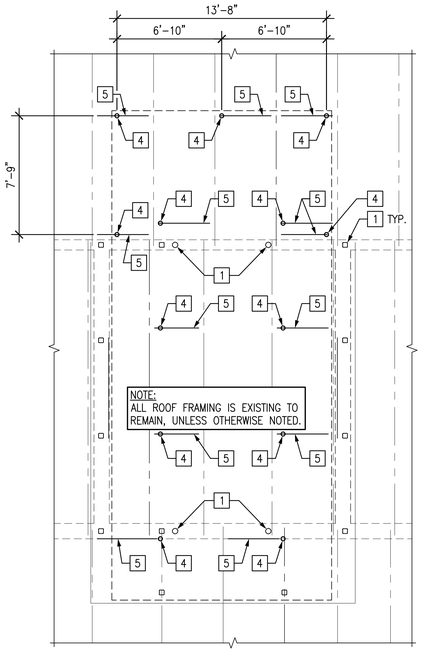
REVISIONS

MARK	DESCRIPTION	DATE

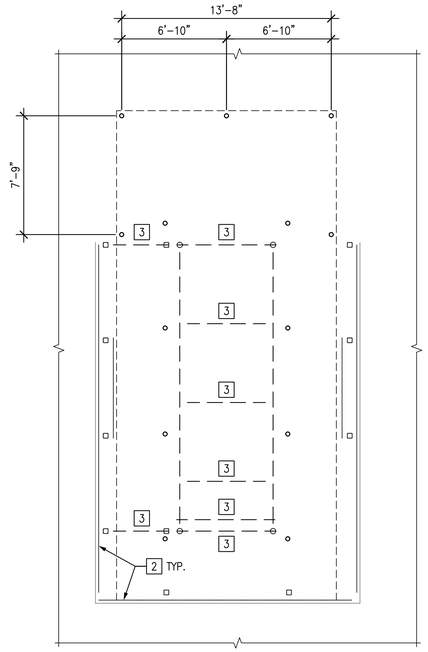
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S201

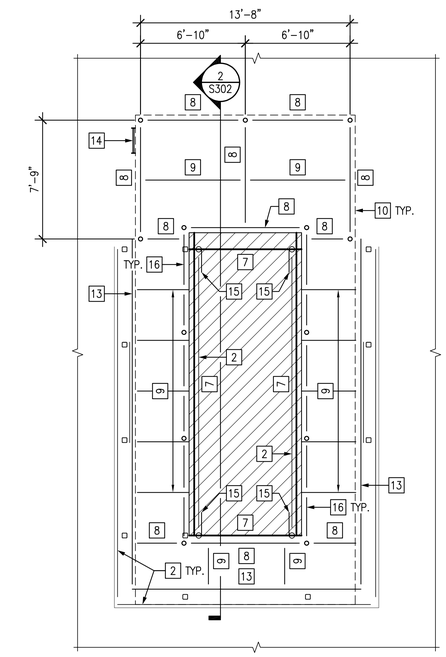
DATE: 09/08/2025



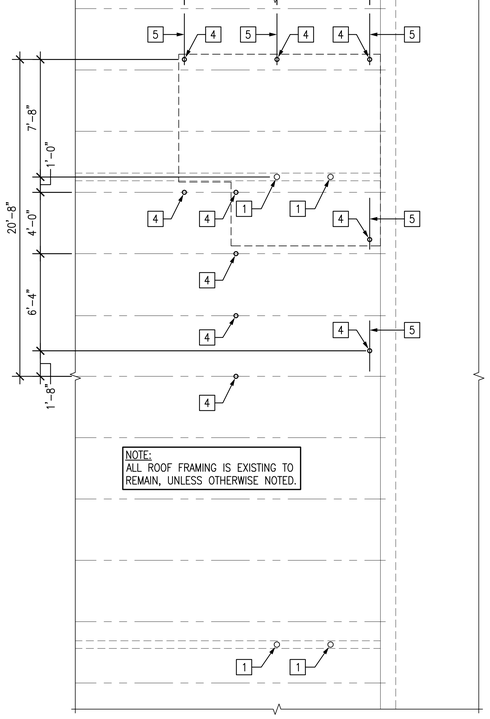
ENLARGED ROOF FRAMING PLAN - RTU 5 (A)
1/4" = 1'-0" S102



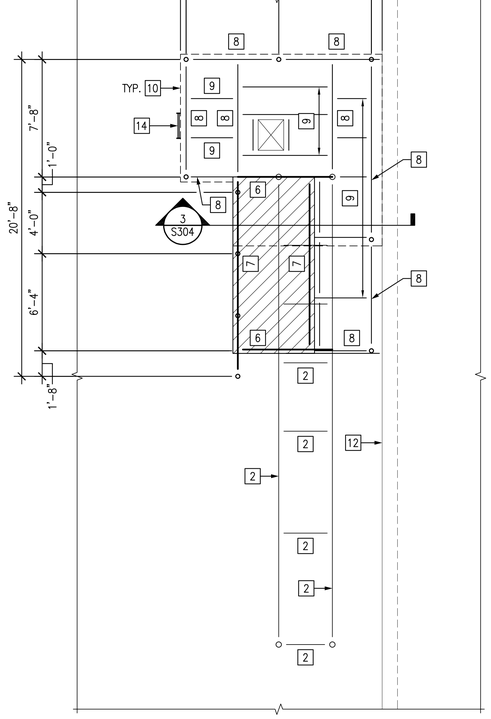
ENLARGED EXISTING PLATFORM DEMOLITION PLAN - RTU 5 (B)
1/4" = 1'-0" S102



ENLARGED PLATFORM FRAMING PLAN - RTU 5 (C)
1/4" = 1'-0" S102



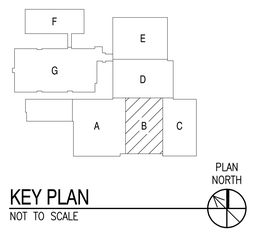
ENLARGED ROOF FRAMING PLAN - RTU 3 (D)
1/4" = 1'-0" S102



ENLARGED PLATFORM FRAMING PLAN - RTU 3 (E)
1/4" = 1'-0" S102

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. FACE OF EXTERIOR WALL.
13. L4x4x5/16 EDGE SUPPORT ANGLE.
14. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
15. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.
16. C4x5.4.



KEY PLAN
NOT TO SCALE

NOTE:
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GRAPHIC SCALE:
1/4" = 1'-0" 5' 0' 5' 10'

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Lic. No. 050521
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PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, 4323 COY ROAD, 2809-S LYNNHAVEN ROAD
HAMPTON, VA 23666, GLEN ALLEN, VA 23060, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ENLARGED PLANS

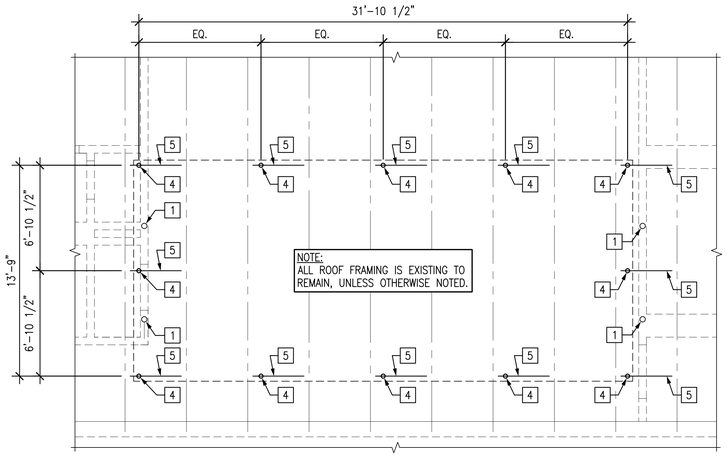
REVISIONS

MARK	DESCRIPTION	DATE

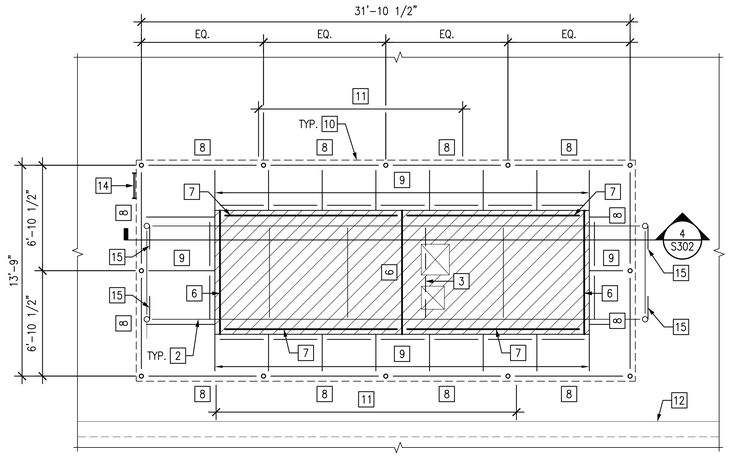
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S202

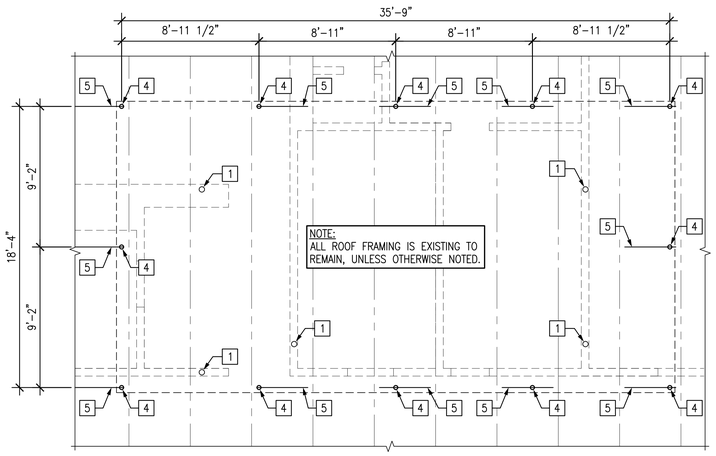
DATE: 09/08/2025



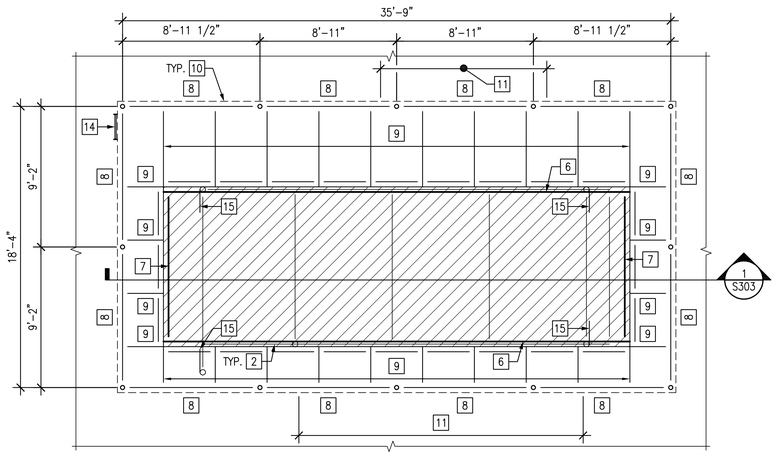
ENLARGED ROOF FRAMING PLAN - RTU 8 (A)
1/4" = 1'-0" S103



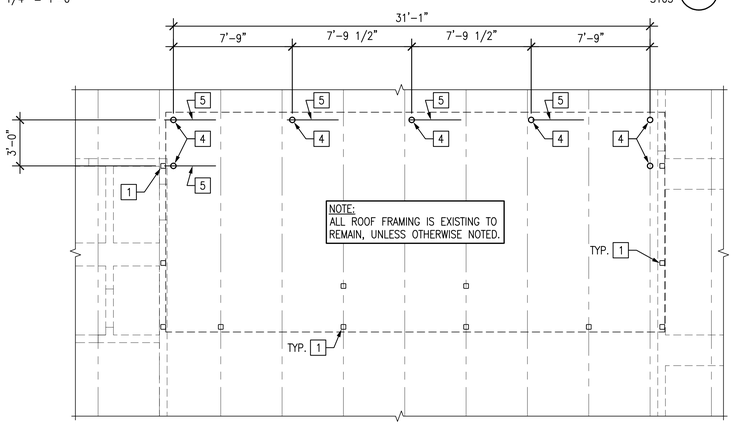
ENLARGED PLATFORM FRAMING PLAN - RTU 8 (B)
1/4" = 1'-0" S103



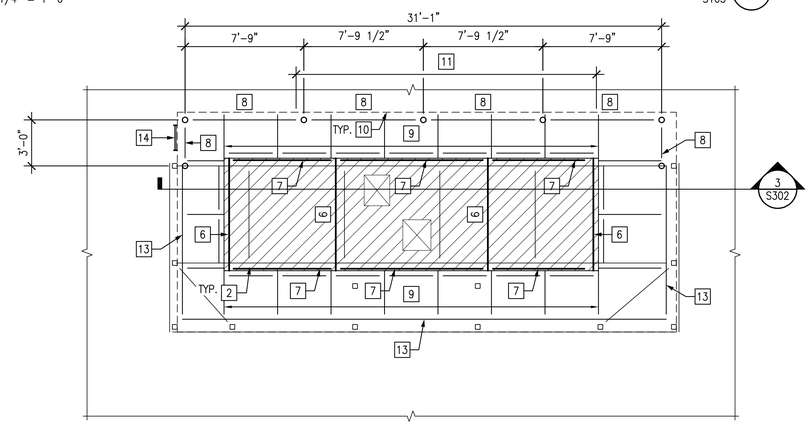
ENLARGED ROOF FRAMING PLAN - RTU 6 (C)
1/4" = 1'-0" S103



ENLARGED PLATFORM FRAMING PLAN - RTU 6 (D)
1/4" = 1'-0" S103



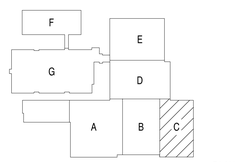
ENLARGED ROOF FRAMING PLAN - RTU 9 (E)
1/4" = 1'-0" S103



ENLARGED PLATFORM FRAMING PLAN - RTU 9 (F)
1/4" = 1'-0" S103

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. FACE OF EXTERIOR WALL.
13. L4x4x5/16 EDGE SUPPORT ANGLE.
14. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
15. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.



KEY PLAN
NOT TO SCALE

PLAN NORTH

NOTE:
IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:
1/4" = 1'-0" 5' 0' 5' 10'

MDG STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
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DARIUSH SAHRAI
Lic. No. 050521
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4320 COX ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ENLARGED PLANS

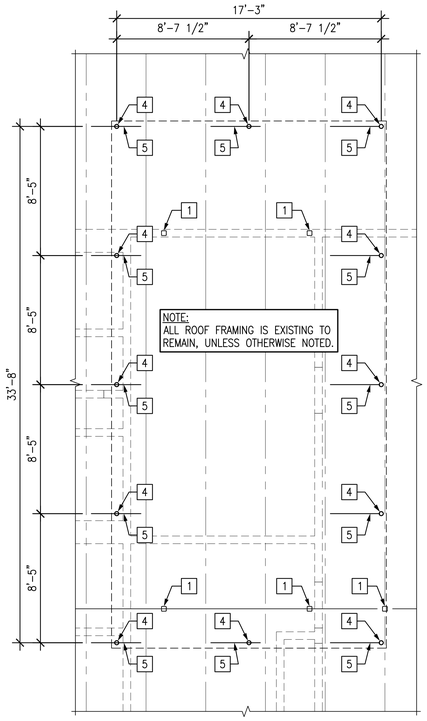
REVISIONS

MARK	DESCRIPTION	DATE

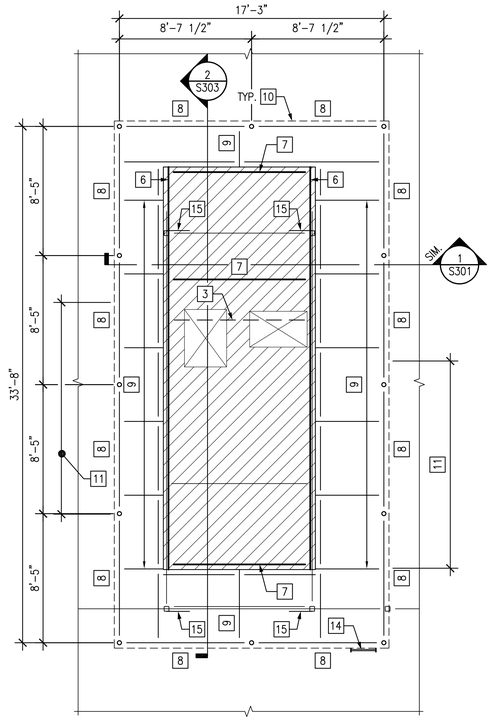
COMM. NO:	23-356
DESIGNED BY:	MF
DRAWN BY:	JAK
CHECKED BY:	MF

S203

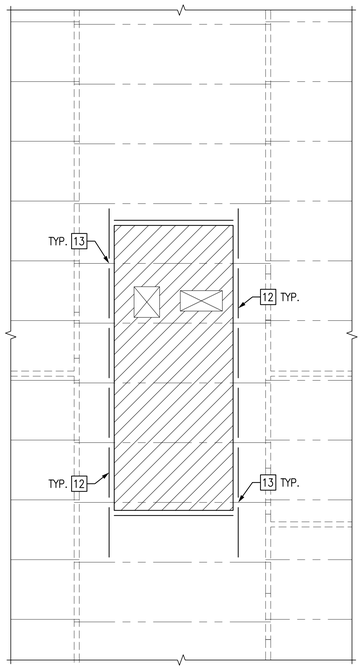
DATE: 09/08/2025



ENLARGED ROOF FRAMING PLAN - RTU 10 (A)
1/4" = 1'-0" S104



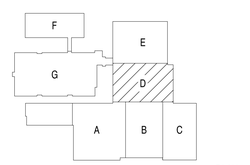
ENLARGED PLATFORM FRAMING PLAN - RTU 10 (B)
1/4" = 1'-0" S104



ENLARGED ROOF FRAMING PLAN - RTU 11 (C)
1/4" = 1'-0" S104

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. PROVIDE L5x3x5/16 (LLV) AROUND ALL FOUR SIDES OF MECHANICAL CURB AS REQUIRED.
13. REINFORCE EXISTING STEEL JOISTS WITH L2x2x1/4 AT L5x3x5/16 (LLV) LOCATIONS.
14. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
15. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.



KEY PLAN
NOT TO SCALE

NOTE:
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GRAPHIC SCALE:
1/4" = 1'-0" 5' 0' 5' 10'

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TELEPHONE: (757) 599-6433 PROJECT NUMBER: 23-065

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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

ENLARGED PLANS

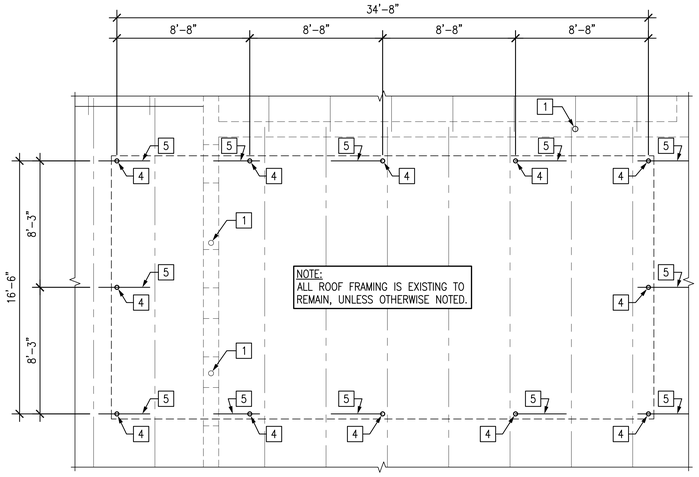
REVISIONS

MARK	DESCRIPTION	DATE

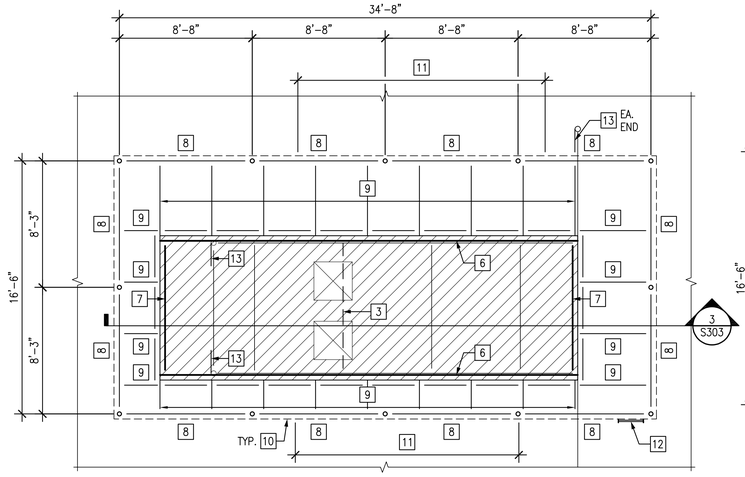
COMM. NO:	23-356
DESIGNED BY:	MF
DRAWN BY:	JAK
CHECKED BY:	MF

S204

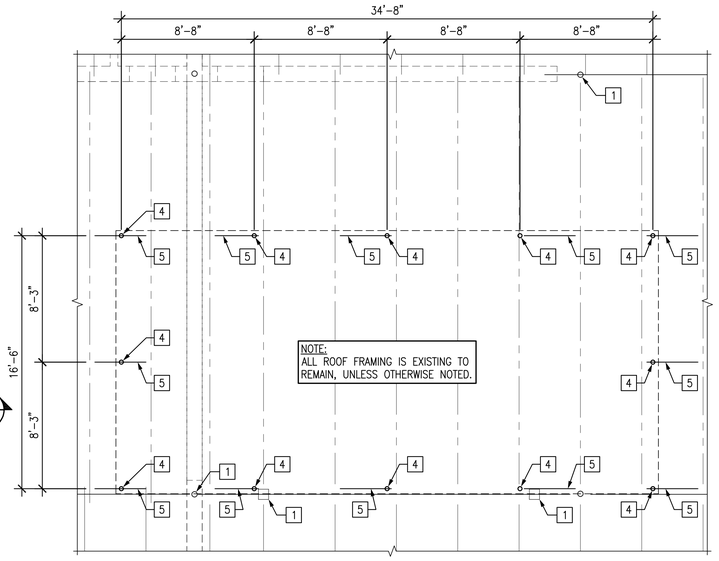
DATE: 09/08/2025



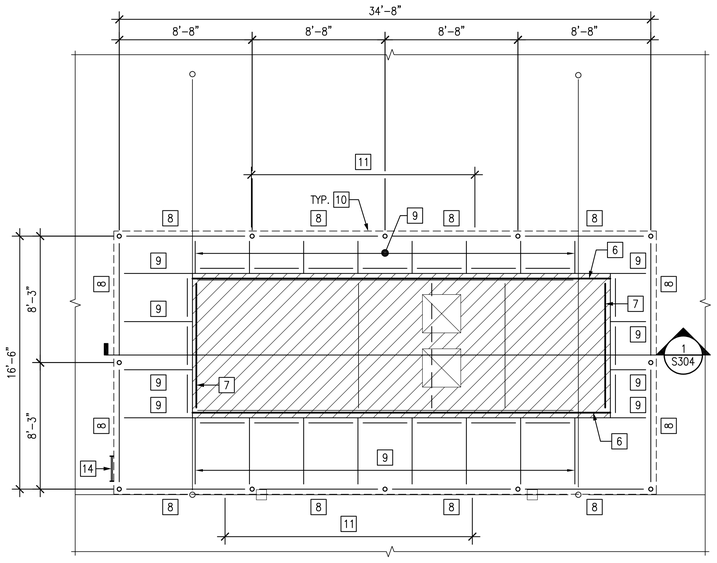
ENLARGED ROOF FRAMING PLAN - RTU 12
1/4" = 1'-0"
S105 (A)



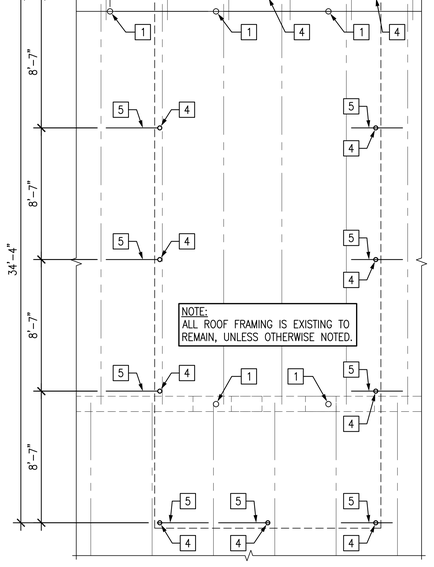
ENLARGED PLATFORM FRAMING PLAN - RTU 12
1/4" = 1'-0"
S105 (B)



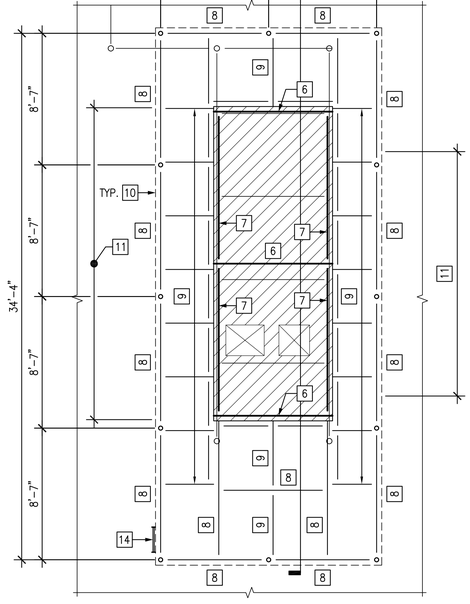
ENLARGED ROOF FRAMING PLAN - RTU 14
1/4" = 1'-0"
S105 (C)



ENLARGED PLATFORM FRAMING PLAN - RTU 14
1/4" = 1'-0"
S105 (D)



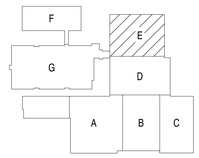
ENLARGED ROOF FRAMING PLAN- RTU 13
1/4" = 1'-0"
S105 (E)



ENLARGED PLATFORM FRAMING PLAN - RTU 13
1/4" = 1'-0"
S105 (F)

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
13. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.



KEY PLAN
NOT TO SCALE

NOTE:
IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:
1/4" = 1'-0"
5' 0' 5' 10'

COMMONWEALTH OF VIRGINIA
DARIUSH SAHRAI
Lic. No. 050521
09.08.2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, 4323 COX ROAD, 2809-S LYNNHAVEN ROAD
HAMPTON, VA 23666; GLEN ALLEN, VA 23060; VA BEACH, VA 23452
TELEPHONE: (757) 599-6433
PROJECT NUMBER: 23-060

MDG STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
www.mdg-eng.com

VIRGINIA

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS,

ENLARGED PLANS

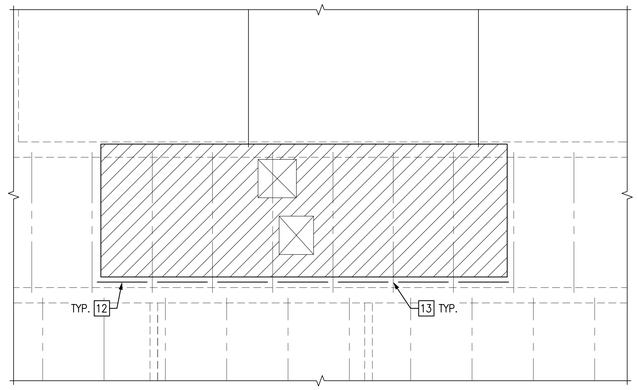
REVISIONS

MARK	DESCRIPTION	DATE

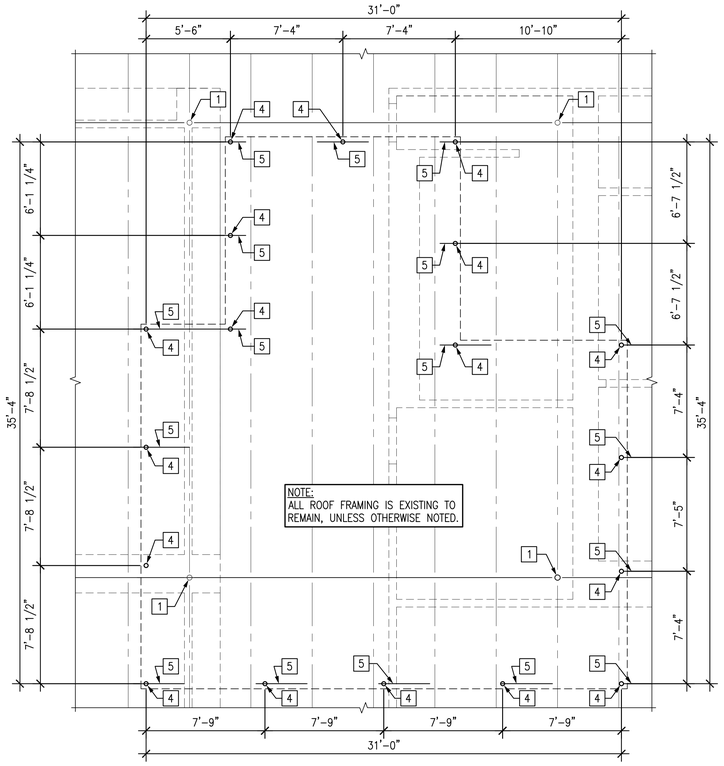
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S205

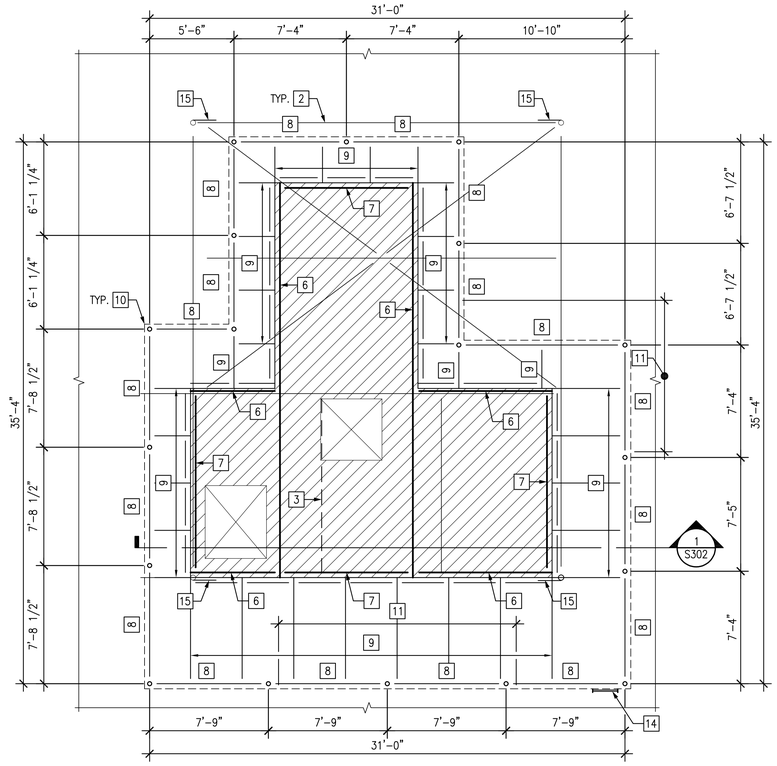
DATE: 09/08/2025



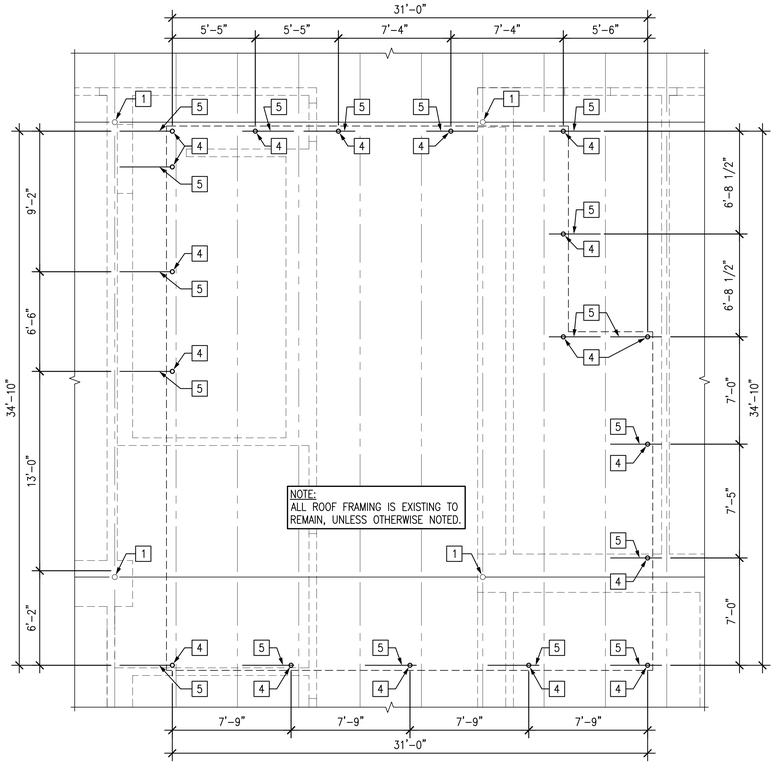
ENLARGED ROOF FRAMING PLAN - RTU 15
1/4" = 1'-0" S106 A



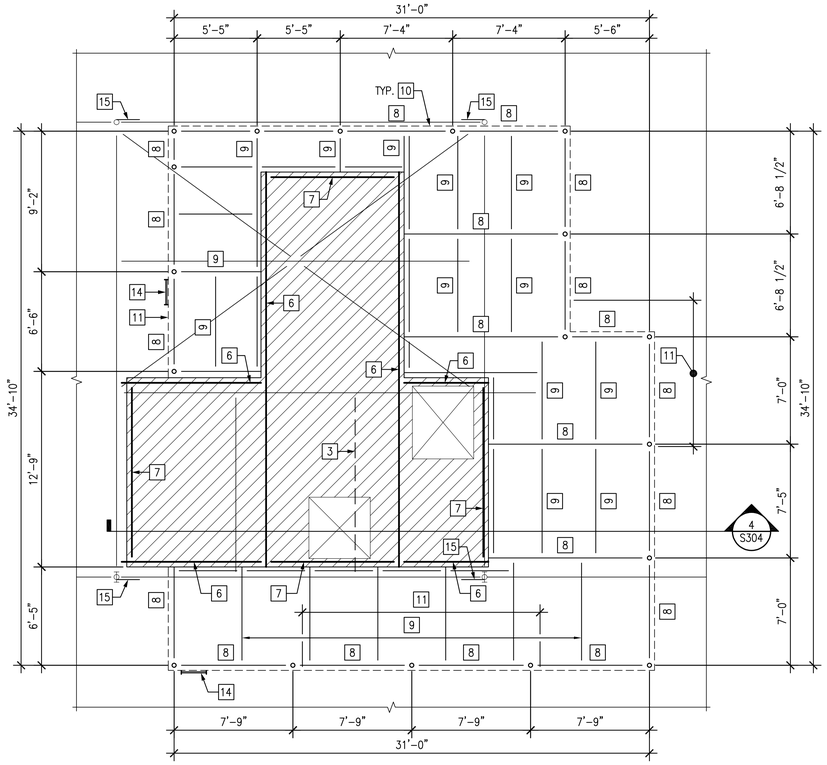
ENLARGED ROOF FRAMING PLAN - RTU 16
1/4" = 1'-0" S107 B



ENLARGED PLATFORM FRAMING PLAN - RTU 16
1/4" = 1'-0" S107 C



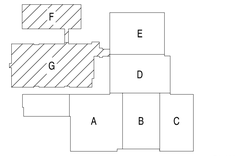
ENLARGED ROOF FRAMING PLAN - RTU 17
1/4" = 1'-0" S107 D



ENLARGED PLATFORM FRAMING PLAN - RTU 17
1/4" = 1'-0" S107 E

KEY NOTES:

1. EXISTING STEEL POST TO REMAIN.
2. EXISTING STEEL BEAM TO REMAIN.
3. DEMOLISH EXISTING STEEL BEAM.
4. 3"ø STANDARD PIPE POST. REFER TO TYPICAL POST BEARING DETAILS ON SHEET S001. CONTRACTOR SHALL PROVIDE PROPER FLASHING AND PATCHING AT ALL STEEL POST ROOF PENETRATIONS TO ENSURE WATERTIGHT CONDITION. ALL ROOFING REPAIRS MUST BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND MUST MAINTAIN THE EXISTING ROOF WARRANTY.
5. L4x4x5/16 BELOW POST.
6. W8x24 ABOVE EXISTING STEEL BEAM.
7. W8x24.
8. C8x11.5.
9. C6x8.2 AT 3'-6" ON CENTER, MAXIMUM.
10. PROVIDE GUARDRAILS/POSTS AT PERIMETER, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
11. REMOVABLE GUARDRAIL, REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
12. PROVIDE L5x3x5/16 (LLV) AROUND ALL FOUR SIDES OF MECHANICAL CURB AS REQUIRED.
13. REINFORCE EXISTING STEEL JOISTS WITH L2x2x1/4 AT L5x3x5/16 (LLV) LOCATIONS.
14. PLATFORM LADDER, REFER TO TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
15. L3x3x1/4 ATTACHED TO EXISTING POST AND EXISTING BEAM WITH 1/4"x6"x6" STEEL GUSSET PLATES. REFER TO TYPICAL BRACING DETAIL AT EXISTING POST TO BEAM CONNECTION DETAIL FOR ADDITIONAL INFORMATION.



PLAN NORTH

KEY PLAN
NOT TO SCALE

NOTE:
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GRAPHIC SCALE:
1/4" = 1'-0" 5' 0' 5' 10'

M D G
STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
www.mdg-eng.com

COMMONWEALTH OF VIRGINIA
DARIUSH SAHRAI
Lic. No. 050521
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 COX ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-060

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ENLARGED PLANS

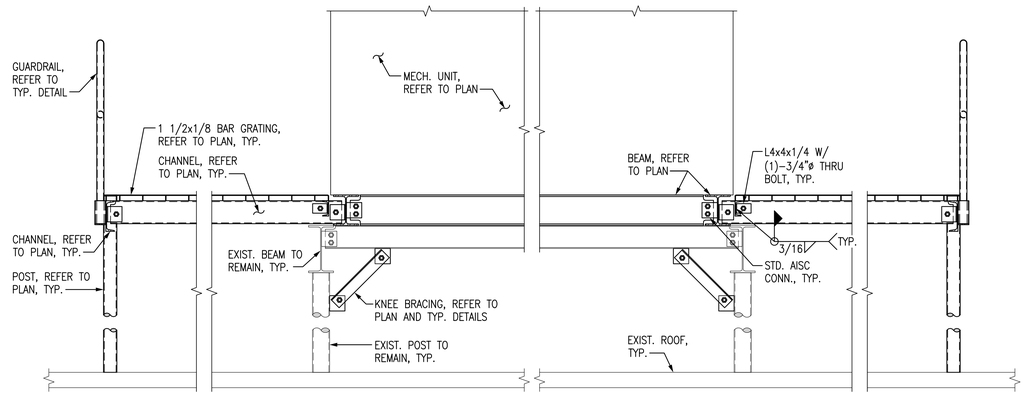
REVISIONS

MARK	DESCRIPTION	DATE

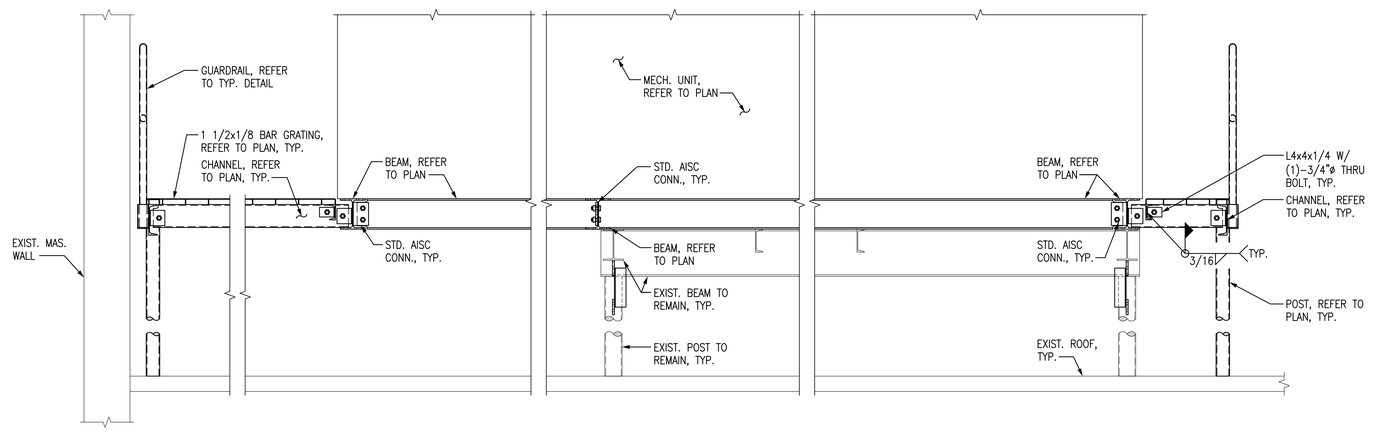
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S206

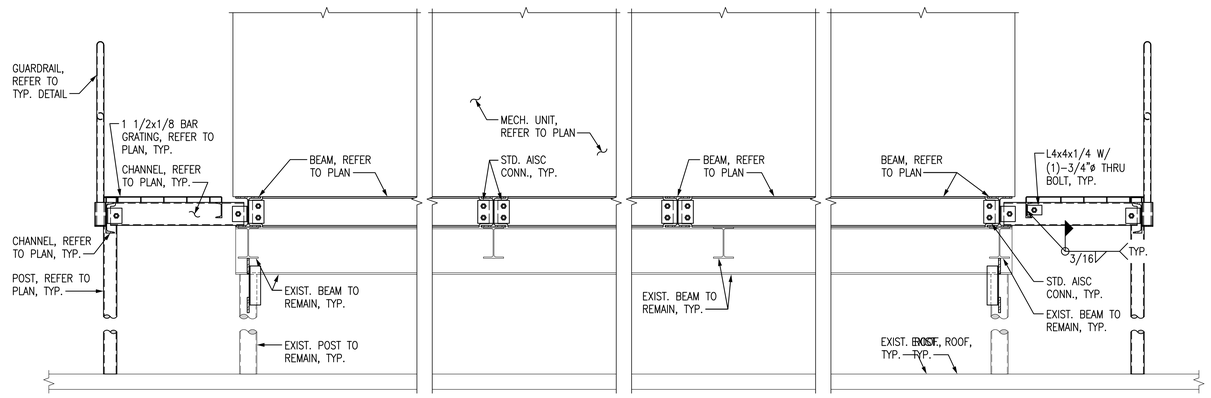
DATE: 09/08/2025



SECTION
3/4" = 1'-0"
S201 1



SECTION
3/4" = 1'-0"
S201 2



SECTION
3/4" = 1'-0"
S201 3

NOTE:
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GRAPHIC SCALE:
3/4" = 1'-0" 0 6" 1' 2' 3' 4' 5'

M D G
STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
www.mdgeng.com

COMMONWEALTH OF VIRGINIA
DARIUSH SAHRAI
Lic. No. 050521
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 CUSS ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
SECTIONS

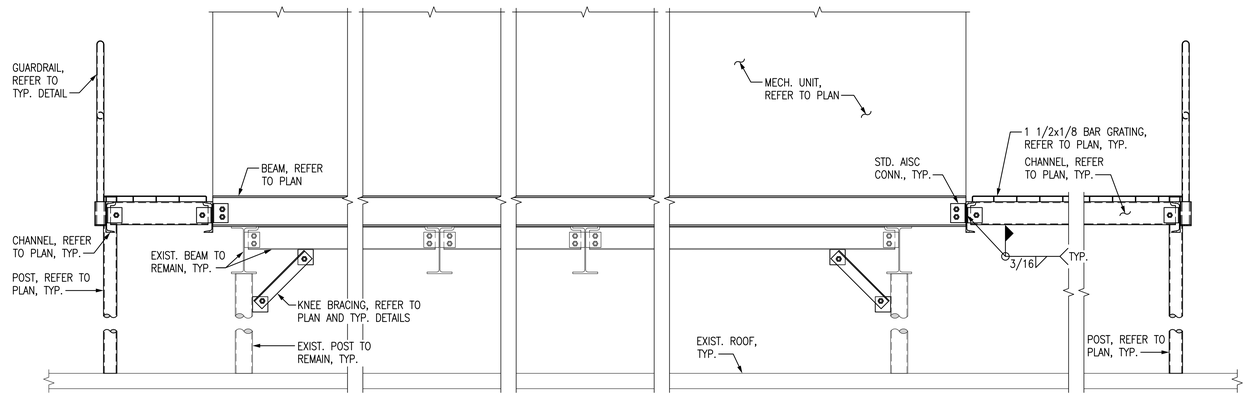
REVISIONS

MARK	DESCRIPTION	DATE

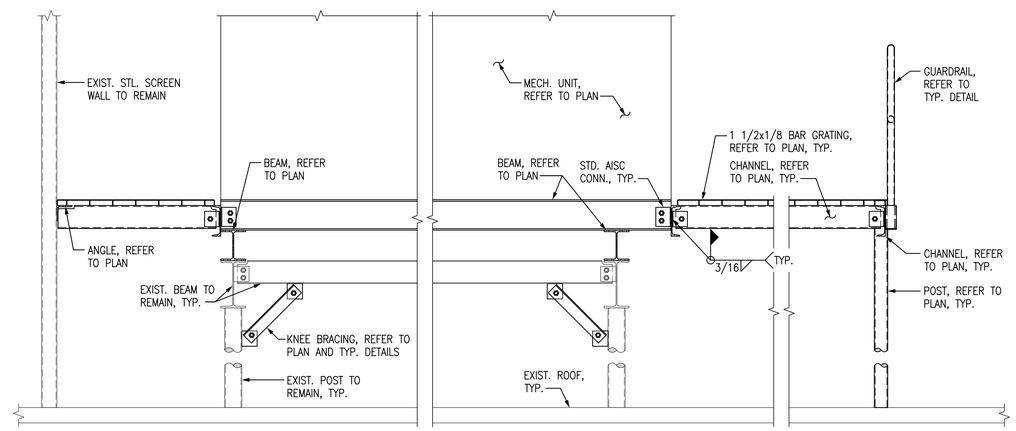
COMM. NO:	23-356
DESIGNED BY:	MF
DRAWN BY:	JAK
CHECKED BY:	MF

S301

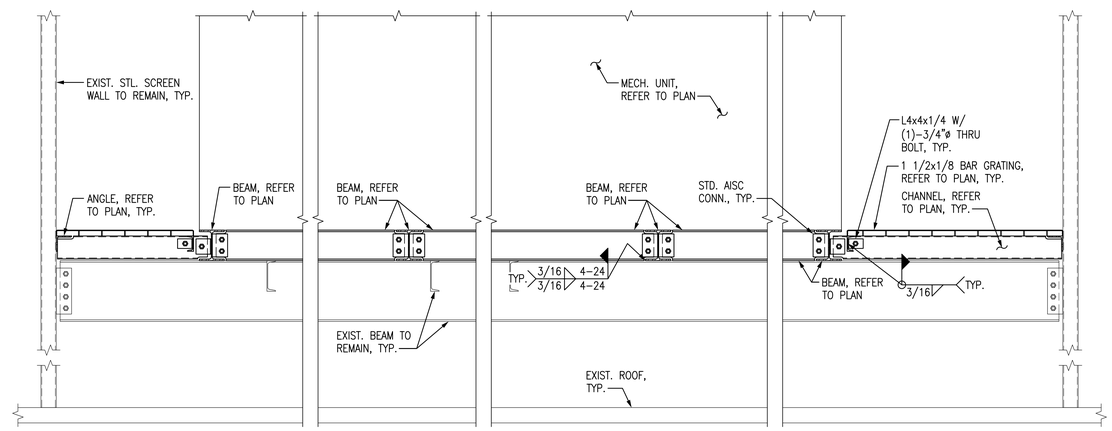
DATE: 09/08/2025



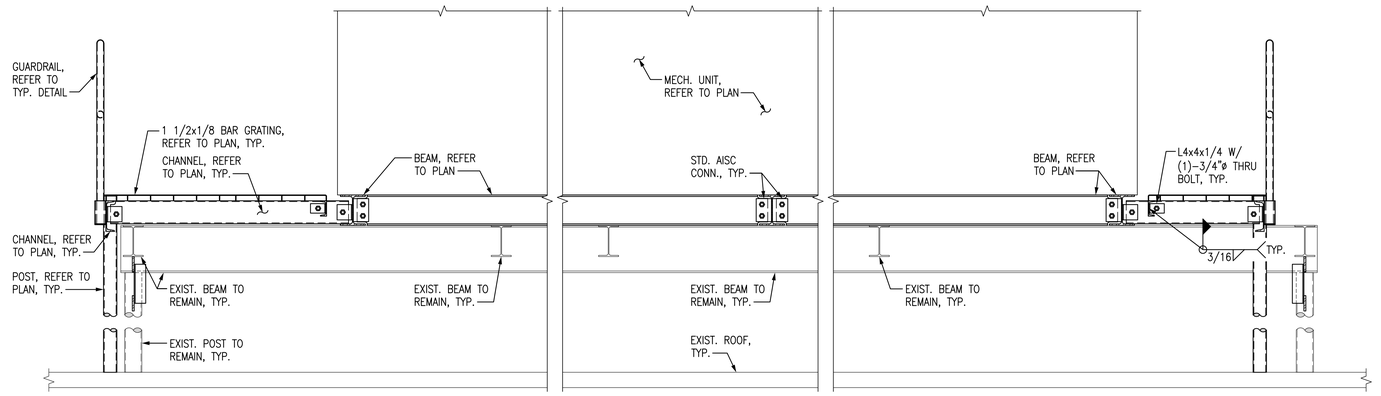
SECTION
3/4" = 1'-0"
S201 (1)



SECTION
3/4" = 1'-0"
S202 (2)



SECTION
3/4" = 1'-0"
S203 (3)



SECTION
3/4" = 1'-0"
S203 (4)

NOTE:
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GRAPHIC SCALE:
3/4" = 1'-0" 0 6" 1' 2' 3' 4' 5'

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STRUCTURAL ENGINEERS
192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
www.mdg-eng.com

COMMONWEALTH OF VIRGINIA
DARIUSH SAHRAI
Lic. No. 050521
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 CUSS ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-0693

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

SECTIONS

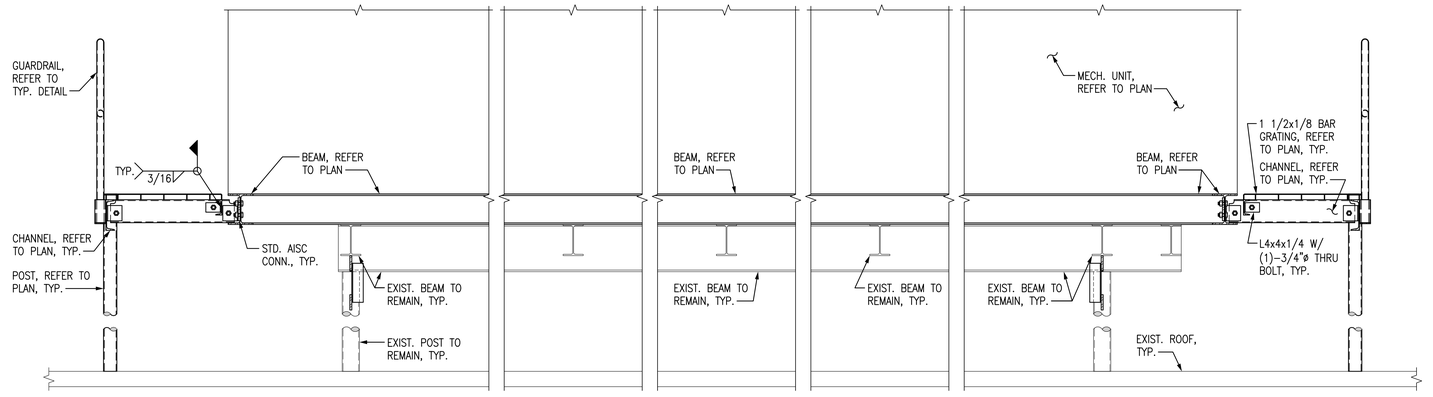
REVISIONS

MARK	DESCRIPTION	DATE

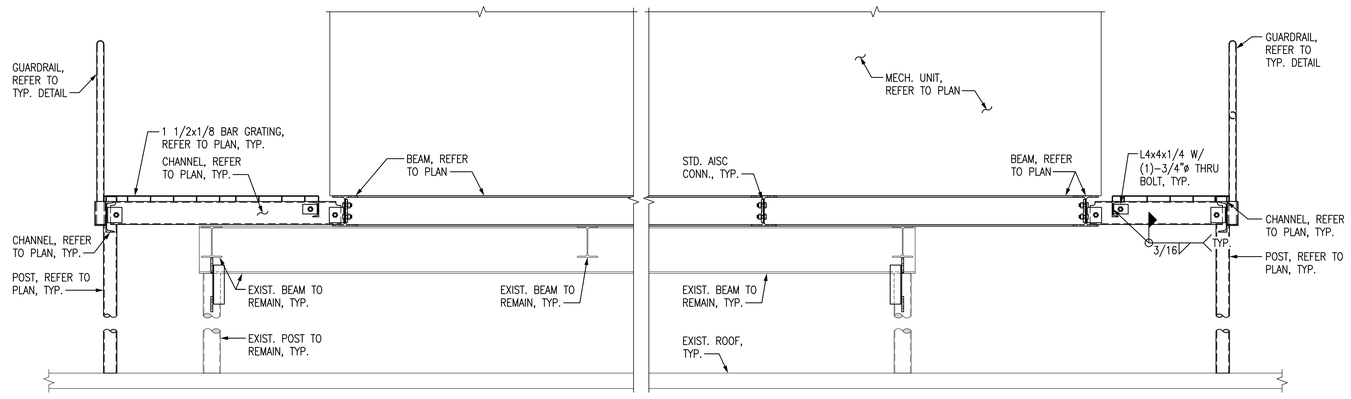
COMM. NO:	23-356
DESIGNED BY:	MF
DRAWN BY:	JAK
CHECKED BY:	MF

S302

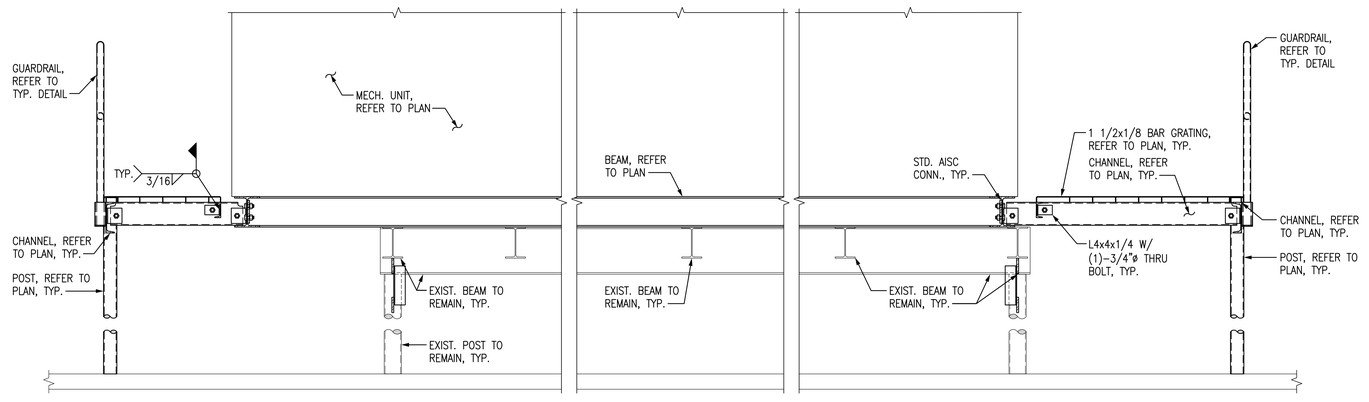
DATE: 09/08/2025



SECTION
3/4" = 1'-0"
S203 1



SECTION
3/4" = 1'-0"
S204 2



SECTION
3/4" = 1'-0"
S205 3

NOTE:
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GRAPHIC SCALE:
3/4" = 1'-0" 0 6" 1' 2' 3' 4' 5'

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PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 COX ROAD, GLEN ALLEN, VA 23060
2809-S LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
SECTIONS

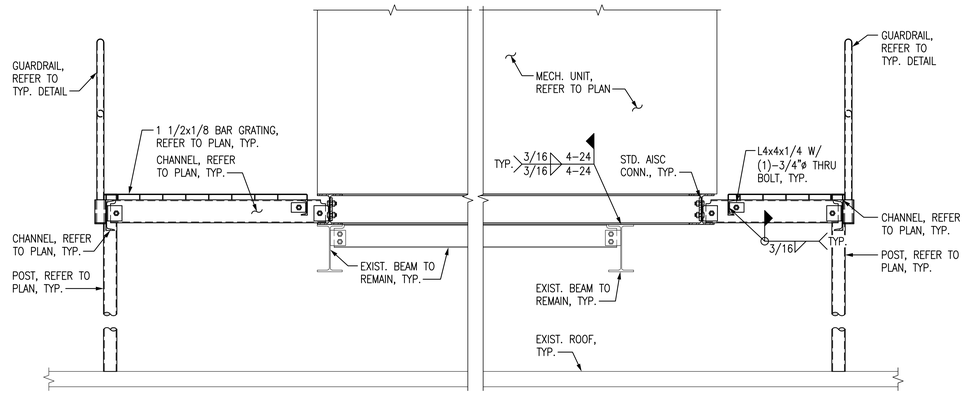
REVISIONS

MARK	DESCRIPTION	DATE

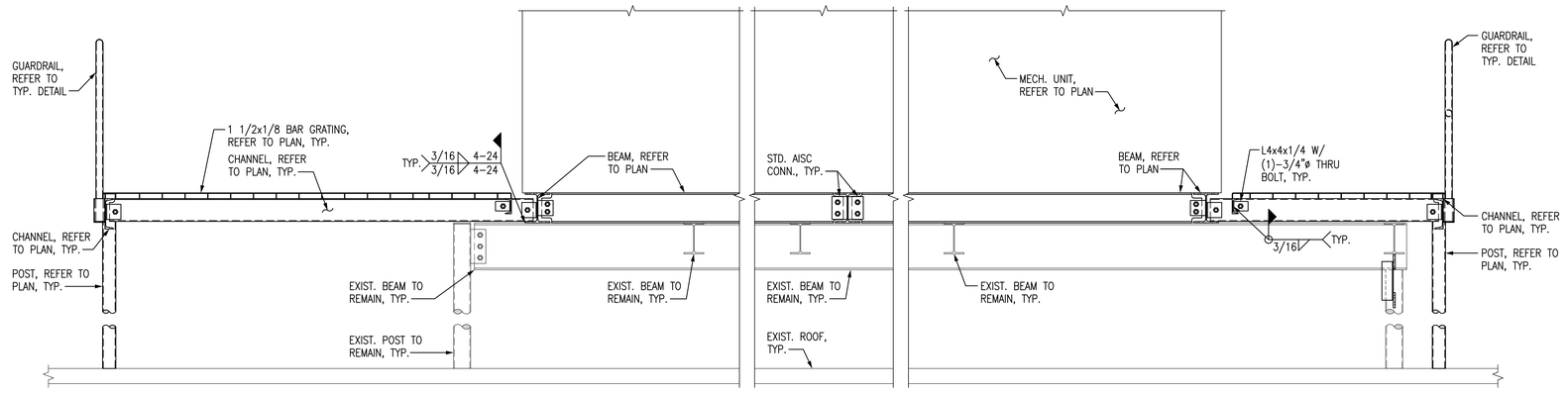
COMM. NO: 23-356
DESIGNED BY: MF
DRAWN BY: JAK
CHECKED BY: MF

S303

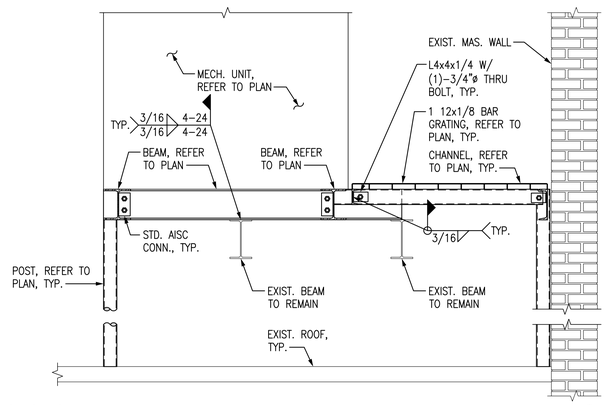
DATE: 09/08/2025



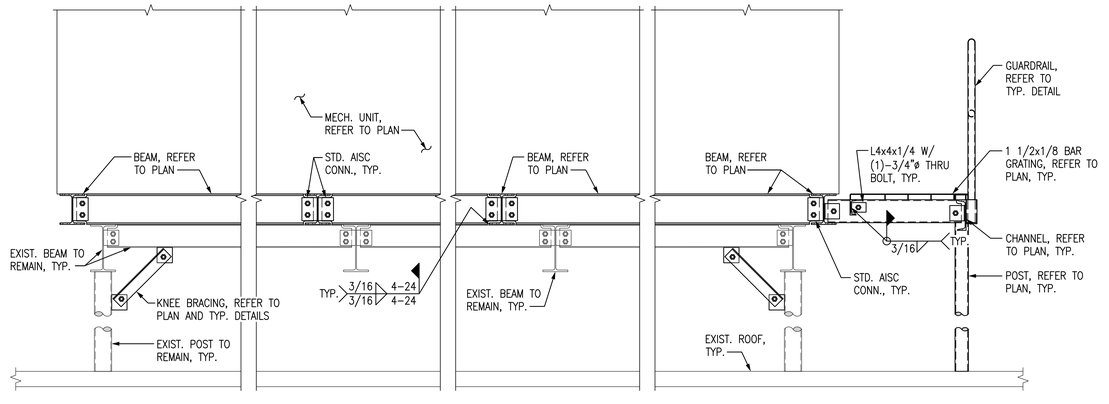
SECTION
3/4" = 1'-0"
S205 1



SECTION
3/4" = 1'-0"
S205 2



SECTION
3/4" = 1'-0"
S202 3



SECTION
3/4" = 1'-0"
S206 4

NOTE:
IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

GRAPHIC SCALE:
3/4" = 1'-0" 0 6" 1' 2' 3' 4' 5'

COMMONWEALTH OF VIRGINIA
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Consulting Engineers
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TELEPHONE: (757) 599-6433, PROJECT NUMBER: 23-065

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192 Ballard Court, Suite 102
Virginia Beach, Virginia 23462
Phone (757) 965-2000
Fax (757) 965-2001
www.mdgeng.com

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
SECTIONS

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-356
DESIGNED BY:	MF
DRAWN BY:	JAK
CHECKED BY:	MF

S304

DATE: 09/08/2025

GENERAL DEMOLITION NOTES

1. WHERE EQUIPMENT IS INDICATED TO BE REMOVED, IT SHALL MEAN COMPLETE REMOVAL OF EQUIPMENT, INCLUDING CURBS, SUPPORTS, GUYS, ANCHORS, BRACKETS, CONTROLS AND INCIDENTAL ITEMS CONNECTED OR FASTENED TO EQUIPMENT. OWNER MAINTAINS THE OWNERSHIP OF ALL ITEMS TAGGED OR IDENTIFIED.
2. 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.
3. 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.
4. REFER TO REFLECTED CEILING PLANS FOR DEMOLITION AND NEW WORK RELATED TO CEILINGS.
5. CONTRACTOR SHALL RECLAIM AND DISPOSE OF ALL REFRIGERANT IN ACCORDANCE WITH ALL STATE AND LOCAL CODES PRIOR TO REMOVING THE EXISTING UNIT.
6. ALL LEGACY CONTROLS, COMPONENTS, AND ACCESSORIES REMOVED OR REPLACED DURING THE COURSE OF WORK SHALL BE TURNED OVER TO THE OWNER FOR USE AS SPARE PARTS. THE CONTRACTOR SHALL ENSURE THESE ITEMS ARE LABELED, ORGANIZED, AND DELIVERED IN GOOD CONDITION.

GENERAL NOTES

1. CONTRACTOR SHALL VISIT JOB SITE TO DETERMINE EXTENT OF WORK INVOLVED PRIOR TO BIDDING THE PROJECT.
2. THE MECHANICAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
3. COORDINATE LOCATION OF ALL DUCTWORK, SUPPLY AND RETURN DEVICES, EXHAUST FANS, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED EQUIPMENT WITH REFLECTED PLANS, LIGHT FIXTURES, SPRINKLER SYSTEMS AND ACCESSORIES INSTALLED BY OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE BUILDING.
4. COORDINATE ALL OUTSIDE AIR LOUVERS, AIR INTAKES AND RELIEF OUTLETS, SIZE AND LOCATION, WITH ARCHITECTURAL DRAWINGS.
5. ALL PIPING, VALVES, DUCTWORK, ETC., SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
6. PIPING ARRANGEMENTS ARE DIAGRAMMATIC.
7. PIPING PASSING THROUGH WATERPROOF MEMBRANES SHALL BE MADE WATERTIGHT.
8. ARRANGE PIPING AND DUCTWORK PARTICULARLY ABOVE CEILING AS REQUIRED TO CLEAR STRUCTURE, CONDUIT, LIGHTS, ETC., ALLOWING SPACE FOR HANGERS, INSULATION, ETC.
9. SEAL AROUND AND MAKE AIRTIGHT ALL DUCTS AND PIPES PENETRATING INSULATED CEILINGS AND WALLS.
10. DUCT DIMENSIONS MAY BE MODIFIED AS APPROVED BY ENGINEER.
11. DUCT SIZES SHOWN ARE INSIDE FREE AREA DIMENSIONS.
12. ALL PENETRATIONS THROUGH FLOORS SHALL BE PROVIDED WITH SCHEDULE 40 STEEL PIPE SLEEVES IN ACCORDANCE WITH SPECIFICATIONS. SLEEVE SHALL EXTEND 1" ABOVE THE FLOOR SLAB, FILL ANNULAR VOID SPACE WITH FIRE-PROOFING MATERIAL AND CAULK WATERTIGHT.
13. FINAL LOCATION OF SPACE THERMOSTATS, HUMIDISTATS, AND SENSORS SHALL BE APPROVED BY OWNER.
14. 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.
15. ALL ROUND BRANCH DUCTS TO DIFFUSERS SHALL MATCH NECK SIZES SHOWN ON SCHEDULE, UNLESS OTHERWISE NOTED.
16. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE SIZED TO HAVE A MINIMUM FREE AREA OF 70% AND MEET PERFORMANCE CRITERIA SCHEDULED.
17. PROVIDE A CONTINUOUS RETURN AIR PATH FROM SPACE CEILING RETURN PLENUMS TO THEIR ASSOCIATED ROOFTOP UNIT OR AIR HANDLER, IN SPACES HAVING WALLS THAT ARE CONTINUOUS TO DECK, AND FOR WHICH NO TRANSFER DUCT HAS BEEN INDICATED, PROVIDE SLEEVED WALL OPENING WITH TRANSFER "L" DUCT SIZED AT 500 FPM.
18. 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 HIS OWN EXPENSE.
19. REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL WORK REQUIRED FOR INSTALLATION OF ROOF MOUNTED HVAC EQUIPMENT.

DUCT CLEANING NOTES

1. REFER TO SPECIFICATION SECTION 230885 FOR DUCT CLEANING DETAILS.
2. ALL MEDIUM AND LOW VELOCITY SUPPLY DUCTWORK DOWNSTREAM OF AIR HANDLING UNITS AND UPSTREAM AND DOWNSTREAM OF VARIABLE AIR VOLUME TERMINAL UNITS SHALL BE CLEANED.
3. ALL VARIABLE AIR TERMINAL UNITS' INTERNAL COMPONENTS IN THE AIR STREAM SHALL BE CLEANED.
4. ALL LOW VELOCITY SUPPLY DUCTWORK FROM AIR HANDLING UNITS TO SUPPLY AIR DIFFUSERS SHALL BE CLEANED.
5. ALL LOW VELOCITY RETURN DUCTWORK FROM RETURN GRILLES TO AIR HANDLING UNITS SHALL BE CLEANED.
6. ALL DIFFUSERS AND GRILLES SHALL BE CLEANED.
7. PROVIDE NEW DUCT ACCESS DOORS AS REQUIRED TO ACCOMPLISH THE DUCTWORK CLEANING.
8. DUCTWORK INTERNALLY LINED WITH FIBROUS GLASS INSULATION IS NOT INCLUDED IN THE DUCT CLEANING SCOPE AND IF FOUND SHALL BE REPORTED TO THE OWNER OR ENGINEER.
9. PROVIDE PERSONNEL LIFTS TO ACCESS DUCTWORK LOCATED IN THE GYMNASIUMS.
10. DUCTWORK LOCATED ABOVE THE AUDITORIUM CEILINGS THAT REQUIRES A LIFT TO ACCESS IS NOT INCLUDED IN THE DUCT CLEANING SCOPE.

PROJECT GENERAL NOTES

1. CONTRACTOR TO ENSURE THAT ROOF OPENINGS ARE SEALED WATERTIGHT TO PREVENT WATER INFILTRATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND REPLACEMENT OF WATER DAMAGED EQUIPMENT AND MATERIAL.
2. CONTRACTOR SHALL DRAIN DOWN THE ENTIRE HOT WATER SYSTEM AND AFTER ALL NEW PIPING IS INSTALLED, CONTRACTOR SHALL REFILL THE SYSTEM, FLUSH AND CLEAN FOR EACH PHASE. REFER TO PHASING ON DRAWING G-001.
3. CONTRACTOR SHALL CONTACT AND COORDINATE PROJECT REQUIREMENTS FOR CHEMICAL TREATMENT OF HYDRONIC SYSTEMS WITH THE OWNER'S CHEMICAL TREATMENT CONTRACTOR:

   MARILYN GASKINS
   CHEMTREAT INC
   (757) 478-7013
4. CONTRACTOR TO REMOVE AND REPLACE APPROXIMATELY 160 VICTAULIC CONNECTIONS IN THE MAIN PIPING HEADER OF THE 1ST AND 2ND FLOORS. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403. REFER TO PIPING DRAWINGS FOR PIPE SIZES AND LOCATION OF PIPING AND COUPLING FITTINGS.
5. CONTRACTOR TO REVIEW SPECIFICATIONS TO ENSURE ALL COMPONENTS AND REQUIREMENTS ARE CONSIDERED PRIOR TO BID SUBMITTAL.
6. CONTRACTOR SHALL PHOTOGRAPH AND VIDEO ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION AND PROVIDED TO THE OWNER.

ALTERNATE BID ITEMS:

THE FOLLOWING SCOPE ITEMS SHALL BE INCLUDED UNDER THE ALTERNATE BID #1 ITEM A PRICE ON THE BID FORM.

WORK INCLUDES REPLACEMENT OF ALL 2'X4' CEILING TILES WITH 2'X2' CEILING TILES (MODEL NUMBER USG #560) AND MODIFICATION TO EXISTING GRID TO ACCOMMODATE THE 2'X2' LAY-IN TILES. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING LIGHTING WHERE REQUIRED TO FACILITATE THE INSTALLATION OF THE NEW CEILING GRID. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE PROPER REMOVAL, STORAGE, AND REINSTALLATION OF LIGHTING IN COMPLIANCE WITH PROJECT REQUIREMENTS.

THE FOLLOWING SCOPE ITEMS SHALL BE INCLUDED UNDER THE ALTERNATE BID #2 ITEM B PRICE ON THE BID FORM.

WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

ABBREVIATIONS

%	PERCENT
ø	DIAMETER
AAV	AUTOMATIC AIR VENT
AFF	ABOVE FINISHED FLOOR
AHU-x	AIR HANDLING UNIT DESIGNATION
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
ADS	AIR/DIRT SEPARATOR
B-x	BOILER DESIGNATION
BTU/H	BRITISH THERMAL UNITS PER HOUR
BV	BALANCING VALVE
CAP	CAPACITY
CD	CONTROL DAMPER
CF	CHEMICAL FEEDER
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CO2	CARBON DIOXIDE
COP	COEFFICIENT OF PERFORMANCE
CU-x	CONDENSING UNIT DESIGNATION
(CUH-x)	CABINET UNIT HEATER DESIGNATION (EXISTING)
CV	CONSTANT VOLUME
CW	CHILLED WATER
CW	COLD WATER
D	CONDENSATE DRAIN
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DHC-x	DUCT HEATING COIL DESIGNATION
DN	DOWN
DX	DIRECT EXPANSION
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRONICALLY COMMUTATED
EER	ENERGY EFFICIENCY RATIO
EF-x	EXHAUST FAN DESIGNATION
EH	ELECTRIC HEATER
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FT	FEET
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GPM	GALLONS PER MINUTE
H	HEIGHT
H	HUMIDISTAT
HGRH	HOT GAS REHEAT
HP	HORSEPOWER
HR	HOUR
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ
IN	INCH/INCHES
IU-x	INDOOR (SPLIT SYSTEM A/C) UNIT DESIGNATION
kAIC	KILO AMPS INTERRUPTING CAPACITY
KW	KILOWATTS
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
NC	NOISE CRITERIA
NO	NUMBER
OA	OUTSIDE AIR
OC	ON CENTER
ODP	OPEN DRIP PROOF
OU-x	OUTDOOR (SPLIT SYSTEM A/C) UNIT DESIGNATION
OZ	OUNCES
ΔP	PRESSURE DIFFERENTIAL
P-x	PUMP DESIGNATION
PH	PHASE
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	PRESSURE TEST PORT
RA	RETURN AIR
RD	ROOF DRAIN
RG	REFRIGERANT GAS
RH	RELIEF HOOD
RH	ROOF HYDRANT
RL	REFRIGERANT LIQUID
RLA	RUN LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU-x	ROOFTOP UNIT DESIGNATION
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DETECTOR
SF	SQUARE FEET
SP	STATIC PRESSURE
SS-x	SPLIT SYSTEM COMPUTER ROOM UNIT DESIGNATION
(ST-X)	SOUND TRAP (EXISTING)
T	THERMOSTAT OR TEMPERATURE SENSOR
TYP	TYPICAL
UH-x	UNIT HEATER DESIGNATION (EXISTING)
V	VENT
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W	WIDTH
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

LEGEND

- BD BACKDRAFT DAMPER
- CD CONTROL DAMPER
- FD FIRE DAMPER
- VD VOLUME DAMPER
- M MOTOR OPERATED CONTROL DAMPER
- SD SMOKE DETECTOR LOCATION
- CO2 CARBON DIOXIDE DETECTOR
- CO2 CARBON DIOXIDE DETECTOR WITH PROTECTIVE GUARD
- XXX BALANCE EXISTING AIR TERMINAL TO CFM INDICATED
- A CFM DIFFUSER, REGISTER, AND GRILLE, CFM AS INDICATED
- H HUMIDISTAT OR HUMIDITY SENSOR
- M MOTOR
- T XX THERMOSTAT OR TEMPERATURE SENSOR, CONTROLLING UNIT AS INDICATED
- T XX SENSOR WITH GUARD
- T THERMOSTAT OR TEMPERATURE SENSOR
- AD DUCT ACCESS DOOR
- SUPPLY AIR DEVICE WITH FLEXIBLE DUCT
- SUPPLY AIR DEVICE
- LINEAR DIFFUSER WITH FLEXIBLE DUCT
- LINEAR DIFFUSER
- 90° DUCT ELBOW - TURNED DOWN
- DUCT ELBOW WITH TURNING VANES
- FLEXIBLE DUCT
- DUCT SECTION - RETURN/EXHAUST
- DUCT SECTION - SUPPLY
- SOUND ATTENUATOR
- DUCTWORK TURNING DOWN
- 90° DUCT ELBOW - TURNED UP
- RETURN OR EXHAUST AIR DEVICE
- 90° DUCT ELBOW - TURNED UP
- 90° DUCT ELBOW - TURNED DOWN
- SIDEWALL GRILLE OR REGISTER
- TRANSFER DUCT ABOVE CEILING, SIZE AS INDICATED
- TRANSFER GRILLE, SIZE AS INDICATED
- CEILING TRANSFER GRILLE
- DUCT TRANSITION
- SQUARE TO ROUND DUCT TRANSITION
- DUCT HEATING COIL
- ROOF MOUNTED EXHAUST FAN
- ROOF MOUNTED INTAKE HOOD
- ROOF MOUNTED EXHAUST OR RELIEF HOOD
- CEILING MOUNTED EXHAUST FAN
- SUPPLY AIR DEVICE
- RETURN AIR DEVICE
- SUPPLY AIR DEVICE

- NEW DUCT
- 90° DUCT ELBOW - TURNED DOWN - RETURN
- 90° DUCT ELBOW - TURNED DOWN - SUPPLY
- TRANSITION
- 90° DUCT ELBOW - TURNED UP - RETURN
- 90° DUCT ELBOW - TURNED UP - SUPPLY
- FLEXIBLE DUCT
- DRAW VAV AS PER PROJECT CEILING GRILLE AND TRANSFER DUCT
- VFD VARIABLE AIR VOLUME TERMINAL UNIT (EXISTING)
- VARIABLE FREQUENCY DRIVE PANEL
- COP CLEANOUT PLUG
- FLAT OVAL DUCT
- ø ROUND DUCT
- DIRECTION OF AIRFLOW
- POINT OF CONNECTION FOR NEW WORK
- REMOVE EXISTING TO THIS POINT
- D1 DEMOLITION NOTE
- (X"/X") EXISTING SIZES AS INDICATED
- 1 NEW WORK NOTE
- 1 / MXXX ENLARGED PLAN: NUMBER "1" SEE SHEET MXXX
- A / MXXX SECTION: LETTER "A" SEE SHEET MXXX
- EXISTING TO REMAIN
- NEW WORK
- EXISTING TO BE REMOVED
- AIR-TROL TANK FITTING
- MAV MANUAL AIR VENT
- BRAIDED FLEXIBLE CONNECTION
- PIPE CAP
- CO CLEAN OUT - OUTSIDE OF BLDG.
- FLANGE CONNECTION
- BRAIDED FLANGED FLEXIBLE CONNECTION
- INLINE PUMP
- JOINT CONNECTION (FLANGE)
- LIFT CHECK VALVE
- LUBRICATOR
- OIL FILTER
- ORIFICE
- PLUG
- PG PRESSURE GAUGE
- PG PRESSURE GAUGE WITH VALVE
- PT PRESSURE/TEMPERATURE TEST PORT
- RUBBER FLEXIBLE CONNECTION

- STRAINER
- STRAINER, Y-TYPE, WITH BLOWDOWN VALVE
- T THERMOMETER
- T THERMOMETER WITH SEPARABLE WELL
- THREADED UNION
- VB VACUUM BREAKER
- WCO WALL CLEAN OUT
- WHA (A) WATER HAMMER ARRESTER, SIZE "A"
- DIRECTION OF FLOW IN PIPE
- HEAT TRACE TAPE
- PIPE REDUCER
- A A PIPE SUPPORT
- PIPE DOWN
- PIPE TEE DOWN
- PIPE TEE UP
- PIPE UP
- PIPE BELOW GRADE OR HIDDEN
- CWR CHILLED WATER RETURN PIPING
- CWS CHILLED WATER SUPPLY PIPING
- CW DOMESTIC COLD WATER PIPING
- CR CONDENSER WATER RETURN PIPING
- CS CONDENSER WATER SUPPLY PIPING
- D DRAIN PIPING
- D DRAIN PIPING BELOW GRADE (D)
- EXISTING DOMESTIC COLD WATER PIPING TO REMAIN
- EXISTING PIPING TO REMAIN
- EXISTING PIPING BELOW OR HIDDEN
- HWR HOT WATER RETURN PIPING
- HWS HOT WATER SUPPLY PIPING
- PUMPED CONDENSATE PIPING
- PC NEW PIPING
- PIPING TO BE REMOVED
- RL REFRIGERANT LIQUID PIPING
- RG REFRIGERANT GAS PIPING
- RS REFRIGERANT SUCTION PIPING
- DIRECTION OF PITCH FOR PIPING OR DUCTWORK
- PIPE SLEEVE
- PT PT AUTOMATIC FLOW CONTROL VALVE
- TWO-WAY AUTOMATIC CONTROL VALVE
- TWO-WAY CONTROL VALVE
- M TWO POSITION CHANGE OVER VALVE
- M TWO POSITION CHANGE OVER VALVE
- THREE-WAY GATE VALVE
- M THREE-WAY FULL MODULATING TEMPERATURE CONTROL VALVE
- THREE-WAY AUTOMATIC CONTROL VALVE

- THREE-WAY CONTROL VALVE
- AAV AUTOMATIC AIR VENT
- MAV MANUAL AIR VENT
- BWV BACKWATER VALVE
- BALL VALVE
- BFP BACKFLOW PREVENTER
- DP DIFFERENTIAL PRESSURE SENSOR
- T TEMPERING-VALVE
- TEMPERATURE AND PRESSURE RELIEF VALVE
- VENTURI
- BV VENTURI BALANCING VALVE
- VENTURI / BALANCING VALVE
- FS BALL VALVE AND VENTURI FLOWSTATION
- BV VENTURI BALANCING VALVE
- FS VENTURI FLOWSTATION
- VENTURI FLOW STATION
- BUTTERFLY VALVE
- BV BALANCING VALVE
- CO CHAIN OPERATED GATE VALVE
- CHECK VALVE
- CHECK VALVE, HORIZONTAL SWING
- CIRCUIT SETTER
- DRAIN VALVE
- EXPANSION VALVE
- DDC FLOW METER
- EXISTING GAS COCK
- GAS PRESSURE REGULATOR
- GAS SHUT-OFF VALVE
- EXISTING GATE VALVE
- GATE VALVE
- GATE VALVE
- GLOBE VALVE
- HB HOSE BIBB
- GATE VALVE IN RISER
- BALL OR BUTTERFLY VALVE IN RISER
- LIFT CHECK VALVE
- NEEDLE VALVE
- PRESSURE RELIEF VALVE
- PRESSURE RELIEF AND PRESSURE REDUCING VALVE
- PRESSURE REDUCING VALVE
- SAFETY VALVE
- SAFETY RELIEF VALVE

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400 — HAMPTON, VA 23666
4329 OLDE ROAD, SUITE 200 — GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, SUITE 105 — VA BEACH, VA 23452
TELEPHONE: (757) 599-0435 — PROJECT NUMBER: 23-065

VIRGINIA

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS,

GENERAL NOTES, LEGEND AND ABBREVIATIONS

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

M-001

DATE: 09/08/2025

PACKAGED VARIABLE AIR VOLUME ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY SCHEDULE

UNIT NO.	AREA SERVED	SYSTEM TYPE	FAN PERFORMANCE DATA									ENERGY RECOVERY WHEEL PERFORMANCE DATA																				DX COIL PERFORMANCE DATA									
			SUPPLY					EXHAUST				SUPPLY AIR DATA									EXHAUST AIR DATA								MIXED AIR DATA				COOLING DATA							HEATING DATA			
													COOLING				HEATING					COOLING				HEATING				COOLING										
			TOTAL CFM	OA CFM	ESP (IN)	KW	RPM	TOTAL CFM	ESP (IN)	KW	RPM	OA CFM	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	MAX. CFM	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	TOTAL MBH	SENSIBLE MBH	HEAT REJECTION MBH	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	CAPACITY MBH	HEAT ABSORPTION MBH	EAT (°F)DB	LAT (°F)DB
RTU-2	AREA 'A' AUDITORIUM	SINGLE ZONE VAV	15,000	11,170	1.0	2@6.4	1950	12,940	0.5	2@2.9	1915	3,830	95.0	78.0	82.7	71.0	15.0	14.0	52.2	43.7	11,170	77.0	66.0	82.7	71.0	68.0	54.0	52.2	43.7	81.3	69.9	56.3	46.6	794	459	1000.0	81.3	69.8	53.5	53.1	465	203.2	56.3	85.0
RTU-5	AREA 'B' GIRLS LOCKERS	CONSTANT VOLUME	3,640	3,640	1.0	1@3.1	2730	3,564	0.5	1@1.5	1743	N/A	95.0	78.0	82.3	70.8	15.0	14.0	53.4	44.4	3,640	77.0	66.0	82.3	70.8	68.0	54.0	53.4	44.4	82.3	70.8	53.4	44.4	206	116	281.7	82.3	70.8	53.5	53.1	125	50.7	53.4	85.0
RTU-6	AREA 'C' MAIN GYM	SINGLE ZONE VAV	15,215	2,795	1.0	2@6.4	1946	13,194	0.5	2@3.1	1956	12,420	95.0	78.0	86.3	73.1	15.0	14.0	40.0	35.6	2,795	77.0	66.0	86.3	73.1	68.0	54.0	40.0	35.6	78.8	67.4	62.9	51.2	681	424	897.9	78.8	67.4	53.5	52.8	364	145.3	62.9	85.0
RTU-8	AREA 'C' LOCKER AREA 1	CONSTANT VOLUME	2,955	2,955	1.0	1@2.5	2530	2,929	0.5	1@1.2	1973	N/A	95.0	78.0	81.9	70.5	15.0	14.0	54.6	45.3	2,955	77.0	66.0	81.9	70.5	68.0	54.0	54.6	45.3	82.0	70.5	54.6	45.3	162	93	226.0	81.9	70.5	53.5	53.3	98	41.8	54.6	85.0
RTU-9	AREA 'C' LOCKER AREA 2	CONSTANT VOLUME	3,070	3,070	1.0	1@2.5	2564	3,037	0.5	1@1.3	2012	N/A	95.0	78.0	82.0	70.5	15.0	14.0	54.4	45.2	3,070	77.0	66.0	82.0	70.5	68.0	54.0	54.4	45.2	82.0	70.5	54.4	45.2	174	97	237.6	82.0	70.5	53.5	52.7	102	41.8	54.4	85.0
RTU-10	AREA 'D' ADMINISTRATION	MULTIZONE VAV	11,715	5,200	2.5	2@6.2	2376	10,046	1.0	2@2.3	1716	6,515	95.0	78.0	84.0	71.8	15.0	14.0	48.4	41.2	5,200	77.0	66.0	84.0	71.8	68.0	54.0	48.4	41.2	80.2	68.8	59.4	48.9	710	409	1069.1	80.2	68.8	48.5	48.5	324	203.4	59.4	85.0
RTU-11	AREA 'D' CLASSROOMS	MULTIZONE VAV	4,670	3,370	2.0	1@4.8	2557	3,905	1.0	1@1.9	1888	1,300	95.0	78.0	83.0	71.2	15.0	14.0	51.3	43.1	3,370	77.0	66.0	83.0	71.2	68.0	54.0	51.3	43.1	81.4	69.8	56.0	46.4	307	170	414.7	81.4	69.8	48.5	48.1	147	72.5	56.0	85.0
RTU-12	AREA 'E' CAFETERIA E112	SINGLE ZONE VAV	8,425	6,030	1.0	2@3.7	2361	7,186	0.5	2@1.4	1735	2,395	95.0	78.0	83.0	71.3	15.0	14.0	51.1	42.9	6,030	77.0	66.0	83.0	71.3	68.0	54.0	51.1	42.9	81.3	69.8	56.0	46.4	451	244	602.7	81.3	69.8	55.0	52.9	264	101.4	56.0	85.0
RTU-13	AREA 'E' CAFETERIA E114	SINGLE ZONE VAV	6,075	5,420	1.0	1@5.1	2227	5,060	0.5	1@2.0	1654	655	95.0	78.0	82.8	71.1	15.0	14.0	52.0	43.6	5,420	77.0	66.0	82.8	71.1	68.0	54.0	52.0	43.6	82.2	70.6	53.8	45.0	343	192	450.9	82.2	70.7	53.5	53.0	205	72.5	53.8	85.0
RTU-14	AREA 'E' CAFETERIA E116	SINGLE ZONE VAV	8,690	6,110	1.0	2@3.8	2385	7,680	0.5	2@1.6	1793	2,580	95.0	78.0	82.8	71.2	15.0	14.0	51.8	43.3	6,110	77.0	66.0	82.8	71.2	68.0	54.0	51.8	43.3	81.1	69.7	56.7	46.8	452	264	603.5	81.1	69.7	53.5	53.3	266	101.4	56.7	85.0
RTU-15	AREA 'F' CLASSROOMS	MULTIZONE VAV	7,960	3,800	2.5	2@4.3	2521	6,866	1.0	2@1.6	1797	4,160	95.0	78.0	83.7	71.7	15.0	14.0	49.2	41.6	3,800	77.0	66.0	83.7	71.7	68.0	54.0	49.2	41.6	80.2	68.9	59.1	48.5	488	279	672.0	80.2	68.9	48.4	48.4	223	122.3	59.1	85.0

REMARKS:

1. PROVIDE WITH UNIT MOUNTED VARIABLE FREQUENCY DRIVES FOR EACH SUPPLY AND EXHAUST FAN AND ENERGY WHEEL.
2. PROVIDE WITH CONDENSATE DRAIN OVERFLOW PROTECTION SWITCH, INTERLOCK WITH DDC SYSTEM TO DISABLE UNIT UPON ACTIVATION.
3. SELECTION BASED ON R-454B REFRIGERANT.
4. UNIT WEIGHT DOES NOT INCLUDE CURB.
5. PROVIDE UNITS WITH HAIL GUARDS.
6. PROVIDE WITH SINGLE POINT POWER CONNECTION AND 65KAIC SCCR.
7. PROVIDE WITH UNIT MOUNTED GFCI RECEPTACLE (NON-WIRED).
8. CONTROLLER SHALL BE CAPABLE OF COMMUNICATING AND INTEGRATING WITH A BACNET NETWORK.
9. MANUFACTURER FACTORY REPRESENTATIVE SHALL VERIFY EQUIPMENT DIMENSIONS PRIOR TO CONTRACTOR ORDERING EQUIPMENT. UNITS MUST FIT ON EXISTING AND MODIFIED STEEL FRAMING. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
10. MAX DISCHARGE TEMPERATURE FOR SUPPLEMENTARY HEATING SHALL BE 95°F DURING TYPICAL OPERATION.
11. DRIVE SYSTEM SHALL BE OPERATED BY A FRACTIONAL HORSEPOWER TEBC MOTOR (MAXIMUM 1 HP), VFD MICRO DRIVE, PULLEY AND V-BELT.
12. PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER. MECHANICAL CONTRACTOR SHALL WIRE THE POWER SUPPLY TO THE TRANSFORMER. THE ENGINEERED VENTILATION SYSTEM WILL PREVENT THE MAXIMUM CONCENTRATION OF CONTAMINANTS FROM EXCEEDING THAT OBTAINABLE BY THE RATE OF OUTDOOR AIR VENTILATION DETERMINED IN ACCORDANCE WITH SECTION 403.3 OF ASHRAE STANDARD 62.1-2018.

PACKAGED VARIABLE AIR VOLUME ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY SCHEDULE CONTINUED

SUPPLEMENTARY HOT WATER HEATING COIL PERFORMANCE										NO. OF COMPRESSORS	NO. OF CIRCUITS	MODULATING HOT GAS REHEAT COIL			ELECTRICAL REQUIREMENTS					UNIT WEIGHT (LBS.)	REFRIGERANT TYPE	APPROX. UNIT DIMENSIONS			SELECTION BASED ON "ANNEXAIR"	REMARKS
CFM	MIN. COIL FA (SF)	CAPACITY TOTAL (MBH)	EAT DB(°F)	LAT DB(°F)	APD (IN.)	GPM	EWT (°F)	LWT (°F)	WPD (FT.)			MBH TOTAL	EAT (°F)DB	LAT (°F)WB	FLA	MOCP	V	PH	HZ			L"	W"	H"		
15,000	16.7	474	56.3	85.0	0.07	39.0	160	130	2.6	4	2	273	53.5	70.0	149	175	460	3	60	14,300	R-454B	250	304	117	ERP-E-16-EW12	1 2 3 4 5 6 7 8 9 10 11 12
3,640	8.4	127	53.4	85.0	0.07	11.0	160	130	1.9	2	2	67	53.5	70.0	41	50	460	3	60	7,700	R-454B	293	88	84	ERP-E-03-EW-C	1 2 3 4 5 6 7 8 9 10 11 12
15,215	16.7	370	62.9	85.0	0.06	24.0	160	130	6.1	4	2	277	53.5	70.0	149	175	460	3	60	15,300	R-454B	365	125	117	ERP-E-16-EW03	1 2 3 4 5 6 7 8 9 10 11 12
2,955	9.0	99	54.6	85.0	0.04	9.0	160	130	3.3	1	1	54	53.5	70.0	33	50	460	3	60	6,800	R-454B	293	97	69	ERP-E-03-EW-C	1 2 3 4 5 6 7 8 9 10 11 12
3,070	9.0	104	54.4	85.0	0.04	9.0	160	130	3.9	2	2	56	53.5	70.0	39	50	460	3	60	6,500	R-454B	293	88	69	ERP-E-03-EW-C	1 2 3 4 5 6 7 8 9 10 11 12
11,715	12.1	330	59.4	85.0	0.08	24.0	160	130	2.8	4	2	NOT APPLICABLE			141	150	460	3	60	12,720	R-454B	315	119	99	ERP-E-12-EW-05	1 2 3 4 5 6 7 8 9 10 11 12
4,670	10.7	149	56.0	85.0	0.09	12.0	160	130	6.7	2	2	NOT APPLICABLE			59	80	460	3	60	8,600	R-454B	223	93	84	ERP-E-04-EW-03	1 2 3 4 5 6 7 8 9 10 11 12
8,425	16.7	269	56.0	85.0	0.08	22.0	160	130	5.6	2	2	140	55.0	70.0	95	125	460	3	60	12,330	R-454B	327	113	85	ERP-E-09-EW-05	1 2 3 4 5 6 7 8 9 10 11 12
6,075	13.1	209	53.8	85.0	0.11	18.0	160	130	4.0	2	2	111	53.5	70.0	74	100	460	3	60	9,400	R-454B	246	93	84	ERP-E-05-EW-C	1 2 3 4 5 6 7 8 9 10 11 12
8,690	16.7	271	56.7	85.0	0.09	22.0	160	130	5.7	2	2	158	53.5	70.0	96	125	460	3	60	12,430	R-454B	327	113	85	ERP-E-09-EW-05	1 2 3 4 5 6 7 8 9 10 11 12
7,960	8.0	227	59.1	85.0	0.08	17.0	160	130	4.7	2	2	NOT APPLICABLE			111	150	460	3	60	11,500	R-454B	213	104	96	ERP-E-07-EW-03	1 2 3 4 5 6 7 8 9 10 11 12

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT SCHEDULE

UNIT NO.	AREA SERVED	SYSTEM TYPE	SUPPLY FAN DATA					DX COIL PERFORMANCE DATA									SUPPLEMENTARY HOT WATER HEATING COIL PERFORMANCE								NO. OF COMPRESSORS	ELECTRICAL REQUIREMENTS					MODULATING HOT GAS REHEAT			UNIT WEIGHT (LBS.)	REFRIGERANT TYPE	APPROX. UNIT DIMENSIONS			SELECTION BASED ON "AAON"	REMARKS
								COOLING DATA						HEATING DATA																									
			TOTAL CFM	OA CFM	ESP (IN)	HP	RPM	TOTAL MBH	SENSIBLE MBH	HEAT REJECTION MBH	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	CAPACITY MBH	HEAT ABSORPTION MBH	EAT (°F)DB	LAT (°F)DB	CFM	MIN. COIL FA (SF)	CAPACITY TOTAL (MBH)	EAT DB(°F)	LAT DB(°F)	GPM	EWT (°F)	LWT (°F)	WPD (FT.)		FLA	MOCP	V	PH	HZ	MBH TOTAL	EAT (°F)DB	LAT (°F)WB			L"	W"	H"		
RTU-3	AREA 'B' EXERCISE ROOM	SINGLE ZONE VAV	3,050	1,010	1.0	2.0	1170	154.6	94.6	185.0	83.0	70.3	53.8	53.8	86.2	73.1	50.4	73.4	3,050	7.3	58.2	73.4	91.2	8.0	160.0	145.1	0.2	2	29	40	460	3	60	68.4	53.8	75.0	3,146	R-454B	137	64	56	RN-013-C-A-3	1 2 3 4 5 6 7

REMARKS:

1. PROVIDE WITH UNIT MOUNTED VARIABLE FREQUENCY DRIVES FOR SUPPLY FAN.
2. PROVIDE WITH CONDENSATE DRAIN OVERFLOW PROTECTION SWITCH, INTERLOCK WITH DDC SYSTEM TO DISABLE UNIT UPON ACTIVATION.
3. UNIT WEIGHT DOES NOT INCLUDE CURB.
4. PROVIDE WITH SINGLE POINT POWER CONNECTION AND 5KAIC SCCR.
5. PROVIDE WITH UNIT MOUNTED GFCI RECEPTACLE (NON-WIRED).
6. MANUFACTURER FACTORY REPRESENTATIVE SHALL VERIFY EQUIPMENT DIMENSIONS PRIOR TO CONTRACTOR ORDERING EQUIPMENT.
7. PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER. MECHANICAL CONTRACTOR SHALL WIRE THE POWER SUPPLY TO THE TRANSFORMER. THE ENGINEERED VENTILATION SYSTEM WILL PREVENT THE MAXIMUM CONCENTRATION OF CONTAMINANTS FROM EXCEEDING THAT OBTAINABLE BY THE RATE OF OUTDOOR AIR VENTILATION DETERMINED IN ACCORDANCE WITH SECTION 403.3 OF ASHRAE STANDARD 62.1-2018.

CONSTANT VOLUME ROOFTOP HEAT PUMP UNIT SCHEDULE

UNIT NO.	AREA SERVED	SYSTEM TYPE	CFM		COOLING CAPACITY					REVERSE CYCLE HEATING CAPACITY @15°F				MODULATING HGRH			ELECTRICAL			SELECTION BASED ON "AAON"	UNIT WEIGHT (LBS.)	REFRIGERANT TYPE	REMARKS
			TOTAL	MIN. OA	TOTAL MBH	SENS MBH	EAT		EER	MBH (MIN.)	EAT DB(°F)	KW	COP	MBH TOTAL	EAT (°F)DB	LAT (°F)WB	V	PH	MOCP				
							DB(°F)	WB(°F)															
RTU-18	AREA 'A' - DRESSING ROOM	CONSTANT VOLUME	600	100	25.6	16.5	95.0	78.0	12.5	23.0	55.3	4.15	2.76	13.2	54.3	75.0	230	1	30	RQ-002-1-0-FBAC	867	R-454B	1 2 3 4 5 6
RTU-19	AREA 'A' - DRESSING ROOM	CONSTANT VOLUME	600	100	25.6	16.5	95.0	78.0	12.5	23.0	55.3	4.15	2.76	13.2	54.3	75.0	230	1	30	RQ-002-1-0-FBAC	867	R-454B	1 2 3 4 5 6

REMARKS:

1. PROVIDE WITH CONDENSATE OVERFLOW PROTECTION SWITCH.
2. PROVIDE WITH TWO SPEED SCROLL COMPRESSORS.
3. PROVIDE WITH 14" ROOF CURB.
4. PROVIDE TEMPERATURE SENSOR.
5. PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER. MECHANICAL CONTRACTOR SHALL WIRE THE POWER SUPPLY TO THE TRANSFORMER. THE ENGINEERED VENTILATION SYSTEM WILL PREVENT THE MAXIMUM CONCENTRATION OF CONTAMINANTS FROM EXCEEDING THAT OBTAINABLE BY THE RATE OF OUTDOOR AIR VENTILATION DETERMINED IN ACCORDANCE WITH SECTION 403.3 OF ASHRAE STANDARD 62.1-2018.
6. PROVIDE UNIT WITH 10KAIC SCCR.

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SCHEDULES

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-002

DATE: 09/08/2025

PACKAGED HEAT PUMP UNIT WITH ENERGY RECOVERY SCHEDULE

UNIT NO.	FAN PERFORMANCE DATA								ENERGY RECOVERY WHEEL PERFORMANCE DATA																DX COOLING COIL PERFORMANCE								HOT WATER HEATING COIL PERFORMANCE									MODULATING HOT GAS REHEAT COIL			ELECTRICAL REQUIREMENTS					UNIT WEIGHT (LBS.)	REFRIGERANT TYPE	SELECTION BASED ON "AAON"	REMARKS
	SUPPLY				EXHAUST				SUPPLY AIR DATA								EXHAUST AIR DATA																																				
										COOLING				HEATING				COOLING				HEATING																															
	CFM	ESP (IN)	HP	RPM	CFM	ESP (IN)	HP	RPM	CFM	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	CFM	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	CFM	TOTAL MBH	SENSIBLE MBH	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	CFM	MIN. COIL FA (SF)	CAPACITY TOTAL (MBH)	EAT DB(°F)	LAT DB(°F)	APD (IN.)	GPM	EWT (°F)	LWT (°F)	WPD (FT.)	MBH TOTAL	EAT (°F)DB	LAT (°F)WB	FLA	MOCP	V	PH	HZ				
AHU-4	7750	1.5	(2) 5	1760	3875	0.5	(2) 4	2040	2922	95.0	78.0	79.9	68.6	15.0	14.0	58.4	47.9	7750	77.0	66.0	91.7	75.7	68.0	54.0	24.4	23.6	7750	429.1	212.2	78.1	67.0	52.6	52.3	7750	17.6	221.9	64.5	90.6	0.09	18.0	160.0	180.0	0.9	161.1	52.6	72.0	20	25	460	3	60	2480	R-454B	V3-ERB-3-0-462C	1 2 3 4 5 6 7
AHU-7	5760	1.5	(2) 2	1760	5760	0.5	(2) 4	2040	1580	95.0	78.0	78.9	67.9	15.0	14.0	61.8	49.9	5760	77.0	66.0	92.7	76.2	68.0	54.0	21.5	21.2	5760	288.2	155.0	77.5	66.5	52.5	52.3	5760	17.6	158.4	66.4	89.3	0.05	10.0	160.0	180.0	0-3	120.6	52.5	72.0	14	15	460	3	60	2480	R-454B	V3-ERB-3-0-462C	1 2 3 4 5 6 7
AHU-7A	5760	1.5	(2) 2	1760	5760	0.5	(2) 4	2040	1580	95.0	78.0	78.9	67.9	15.0	14.0	61.8	49.9	5760	77.0	66.0	92.7	76.2	68.0	54.0	21.5	21.2	5760	288.2	155.0	77.5	66.5	52.5	52.3	5760	17.6	158.4	66.4	89.3	0.05	10.0	160.0	180.0	0-3	120.6	52.5	72.0	14	15	460	3	60	2480	R-454B	V3-ERB-3-0-462C	1 2 3 4 5 6 7

REMARKS:
1. PROVIDE WITH CONDENSATE OVERFLOW PROTECTION SWITCH.
2. PROVIDE WITH FULLY MODULATING HOT GAS REHEAT COIL.
3. PROVIDE WITH DOOR HOLD OPEN LATCHES ON ALL ACCESS DOORS.
4. DX COOLING COIL PERFORMANCE DATA BASED ON GROSS COIL CAPACITY. ENTERING AIR TEMPERATURES BASED ON 95°F DB/78°WB AMBIENT CONDITIONS.
5. PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER. MECHANICAL CONTRACTOR SHALL WIRE THE POWER SUPPLY TO THE TRANSFORMER. THE ENGINEERED VENTILATION SYSTEM WILL PREVENT THE MAXIMUM CONCENTRATION OF CONTAMINANTS FROM EXCEEDING THAT OBTAINABLE BY THE RATE OF OUTDOOR AIR VENTILATION DETERMINED IN ACCORDANCE WITH SECTION 403.3 OF ASHRAE STANDARD 62.1-2018.
6. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.
7. PROVIDE WITH FULL PERIMETER ROOF CURB.

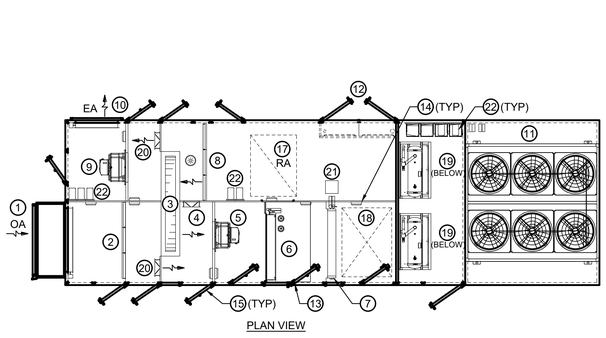
CONDENSING UNIT SCHEDULE

UNIT NO.	AMBIENT CONDITIONS (°F DB)	TOTAL CAPACITY	COMPRESSOR				CONDENSER FAN				ELECTRICAL				SERVING	WEIGHT	SELECTION BASED ON "AAON"	REMARKS
			NO.	RLA	V	PH	NO.	FLA. EA	V	PH	V	PH	FLA	MOCP				
CU-4	95.0	429.1	2	19.3/ 21.2	460	3	4	3.6	460	3	460	3	56	80	AHU-4 (AREA 'A' MEZZ., AUX GYM AREA 'B')	2,390	CFA-031-D-A-3	1 2
CU-7	95.0	288.2	2	16.0/ 14.0	460	3	2	3.6	460	3	460	3	37	50	AHU-7 (AREA 'B' MEZZ., MAIN GYM AREA 'C')	1,403	CFA-020-C-A-3	1 2
CU-7A	95.0	288.2	2	16.0/ 14.0	460	3	2	3.6	460	3	460	3	37	50	AHU-7A (AREA 'B' MEZZ., MAIN GYM AREA 'C')	1,403	CFA-020-C-A-3	1 2

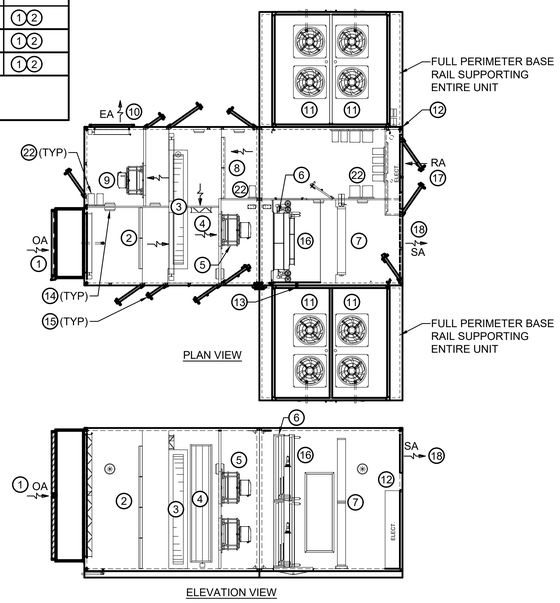
REMARKS:
1. PROVIDE WITH FACTORY-INSTALLED HAIL GUARDS TO PROTECT CONDENSER COILS.
2. PROVIDE UNIT WITH 5KAIC SCCR FOR CU-7 & 7A AND 65 KAIC SCCR FOR CU-4.

RTU/AHU COMPONENTS

1. OA HOOD WITH 4" LOUVER WITH DAMPER
2. 2" MERV 10 OA FILTERS
3. ENTHALPY WHEEL WITH GEARDRIVE WITH BYPASS DAMPER
4. MIXING DAMPERS
5. SUPPLY FAN SECTION WITH DIRECT DRIVE FANS
6. DX COIL
7. HOT WATER COIL
8. 2" MERV 10 RA FILTERS
9. EXHAUST FAN SECTION WITH DIRECT DRIVE FANS
10. EXHAUST DAMPER WITH 2" LOUVER
11. CONDENSER SECTION
12. ELECTRICAL/HIGH & LOW VOLTAGE CONTROLS COMPARTMENT
13. CONDENSATE DRAIN OUTLET
14. LED MARINE LIGHTS
15. INWARD/OUTWARD SWING HINGED ACCESS DOORS WITH HOLD OPEN DEVICES AS SHOWN
16. HOT GAS REHEAT COIL
17. RETURN OR EXHAUST AIR INLET
18. SUPPLY AIR OUTLET
19. COMPRESSORS
20. ECONOMIZER BYPASS DAMPERS
21. HOT WATER PIPING OPENING
22. VARIABLE FREQUENCY DRIVE(S)



RTU-1 CONFIGURATION
NOT TO SCALE



RTU-2 CONFIGURATION
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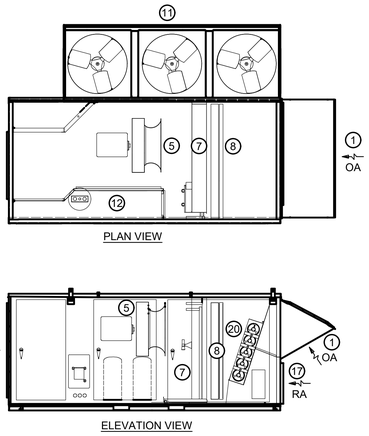

RTU-3 CONFIGURATION
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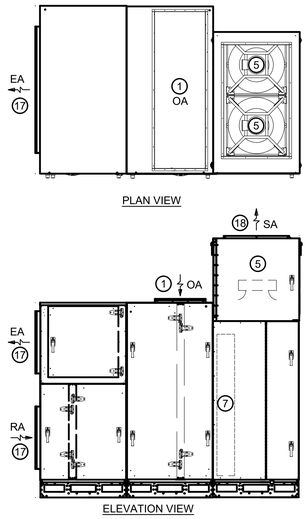
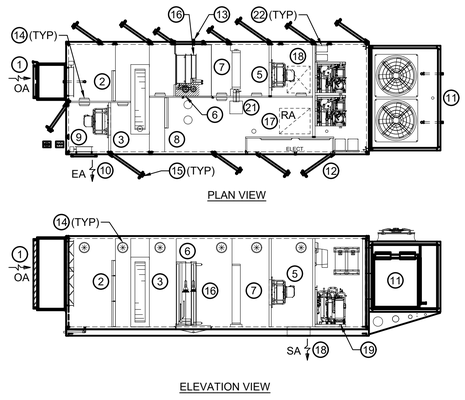


AHU-4, 7A & 7B CONFIGURATION
NOT TO SCALE



RTU-5 CONFIGURATION
NOT TO SCALE

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, STE 400, HAMPTON, VA 23666
2809 S. LYNNHAVEN ROAD, STE 105, VA BEACH, VA 23452
TEL (757) 596-6615
GLEN ALLEN, VA 23060
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL SCHEDULES AND COMPONENT DIAGRAMS

REVISIONS

MARK	DESCRIPTION	DATE

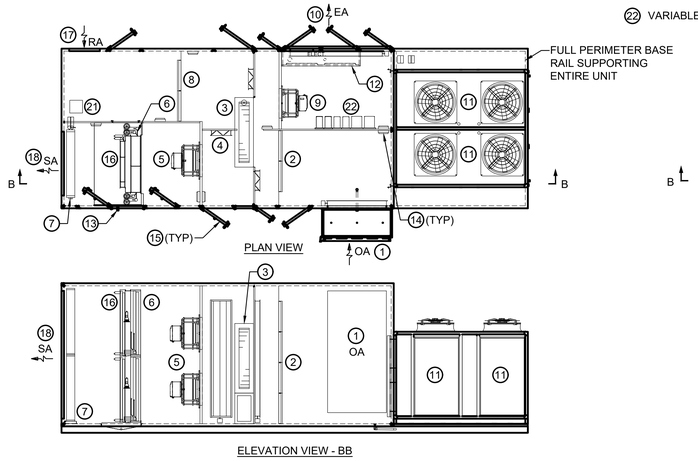
COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-003

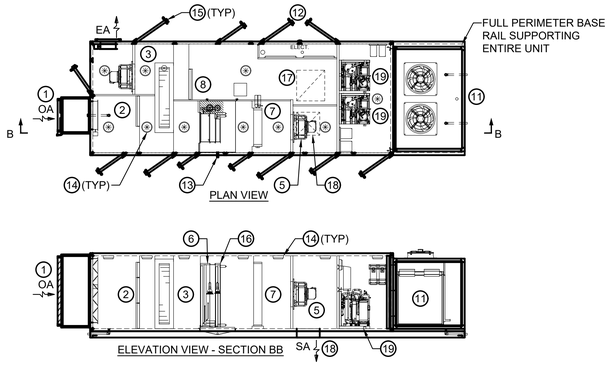
DATE: 09/08/2025

RTU COMPONENTS

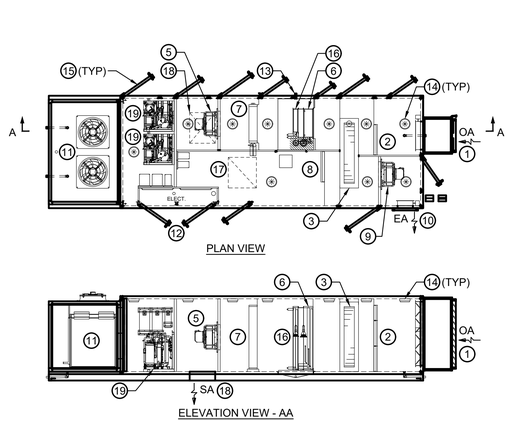
1. OA HOOD WITH 4" LOUVER WITH DAMPER
2. 2" MERV 10 OA FILTERS
3. ENTHALPY WHEEL WITH GEARDRIVE WITH BYPASS DAMPER
4. MIXING DAMPERS
5. SUPPLY FAN SECTION WITH DIRECT DRIVE FANS
6. DX COIL
7. HOT WATER COIL
8. 2" MERV 10 RA FILTERS
9. EXHAUST FAN SECTION WITH DIRECT DRIVE FANS
10. EXHAUST DAMPER WITH 2" LOUVER
11. CONDENSER SECTION
12. ELECTRICAL/HIGH & LOW VOLTAGE CONTROLS COMPARTMENT
13. CONDENSATE DRAIN OUTLET
14. LED MARINE LIGHTS
15. INWARD/OUTWARD SWING HINGED ACCESS DOORS WITH HOLD OPEN DEVICES AS SHOWN
16. HOT GAS REHEAT COIL
17. RETURN AIR INLET
18. SUPPLY AIR OUTLET
19. COMPRESSORS
20. ECONOMIZER BYPASS DAMPERS
21. HOT WATER PIPING OPENING
22. VARIABLE FREQUENCY DRIVE(S)



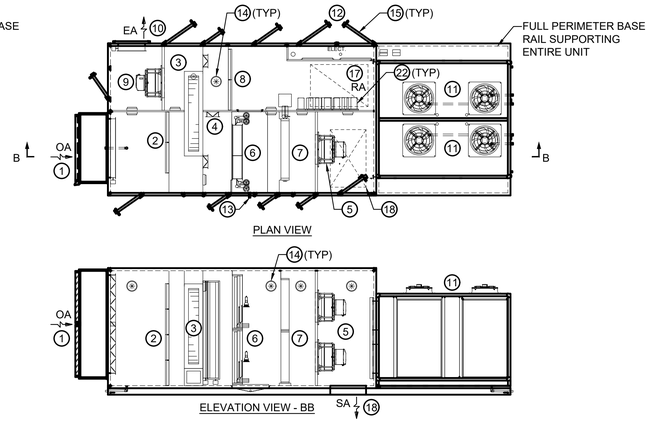
RTU-6 CONFIGURATION
NOT TO SCALE



RTU-8 CONFIGURATION
NOT TO SCALE



RTU-9 CONFIGURATION
NOT TO SCALE



RTU-10 CONFIGURATION
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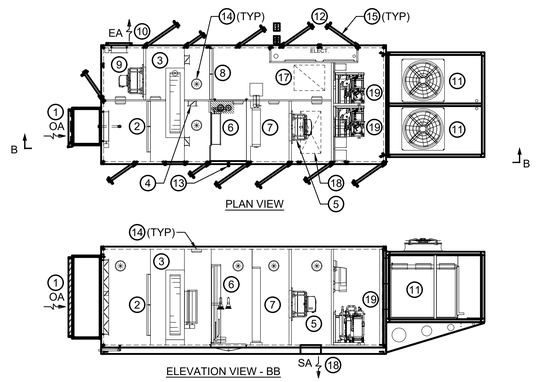
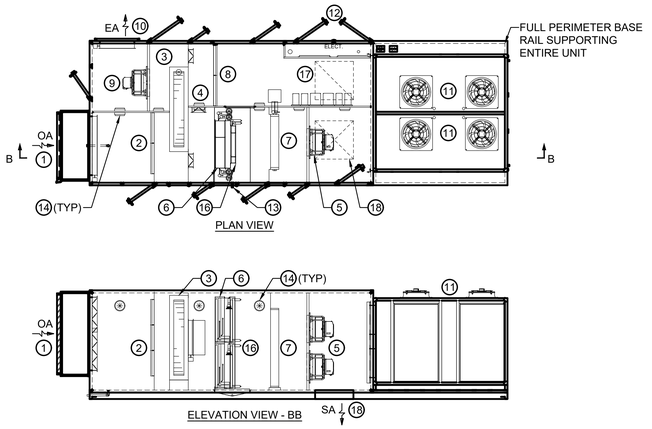
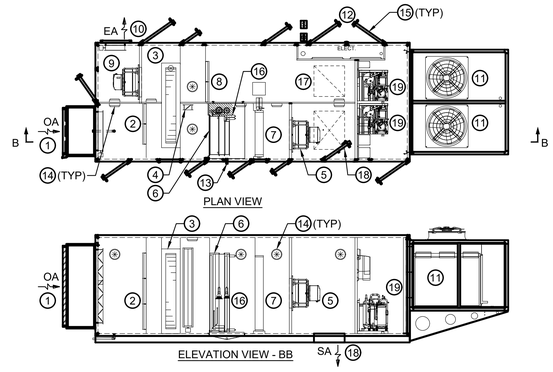


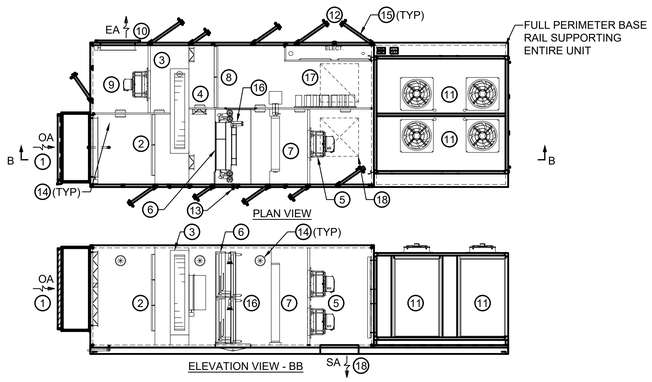
RTU-11 CONFIGURATION
NOT TO SCALE



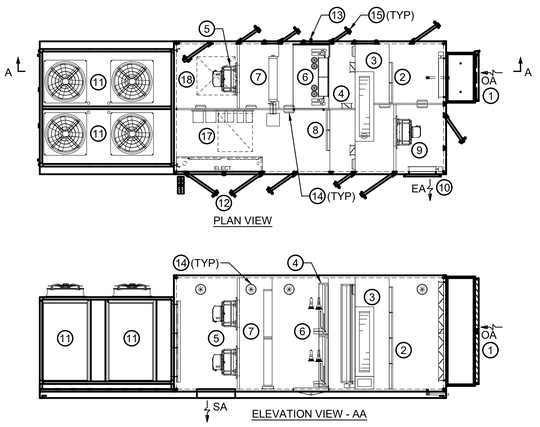
RTU-12 CONFIGURATION
NOT TO SCALE



RTU-13 CONFIGURATION
NOT TO SCALE



RTU-14 CONFIGURATION
NOT TO SCALE



RTU-15 CONFIGURATION
NOT TO SCALE

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
COMPONENT DIAGRAMS

REVISIONS

MARK	DESCRIPTION	DATE

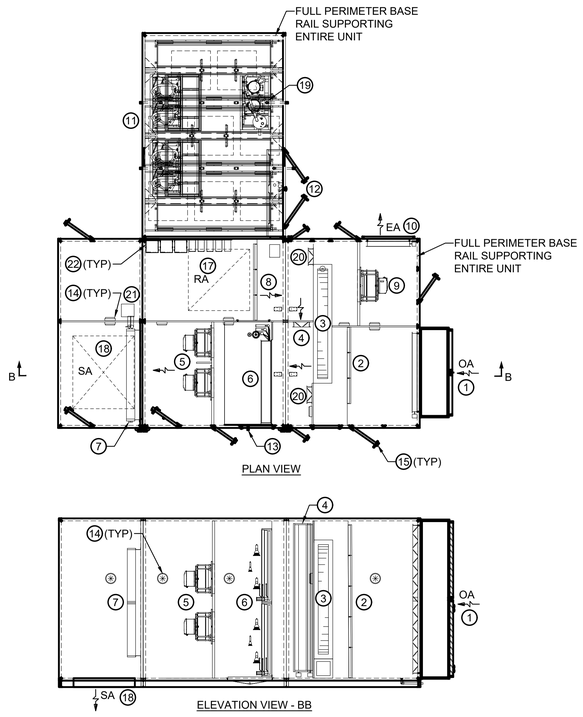
COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	SLS
CHECKED BY:	KDA

M-004

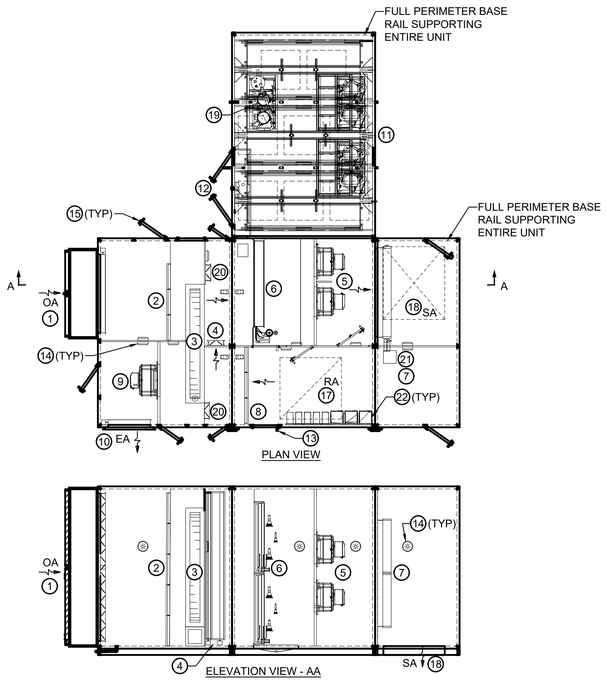
DATE: 09/08/2025

RTU COMPONENTS

1. OA HOOD WITH 4" LOUVER WITH DAMPER
2. 2" MERV 10 OA FILTERS
3. ENTHALPY WHEEL WITH GEARDRIVE WITH BYPASS DAMPER
4. MIXING DAMPERS
5. SUPPLY FAN SECTION WITH DIRECT DRIVE FANS
6. DX COIL
7. HOT WATER COIL
8. 2" MERV 10 RA FILTERS
9. EXHAUST FAN SECTION WITH DIRECT DRIVE FANS
10. EXHAUST DAMPER WITH 2" LOUVER
11. CONDENSER SECTION
12. ELECTRICAL/LOW VOLTAGE CONTROLS COMPARTMENT
13. CONDENSATE DRAIN OUTLET
14. LED MARINE LIGHTS
15. INWARD/OUTWARD SWING HINGED ACCESS DOORS WITH HOLD OPEN DEVICES AS SHOWN
16. HOT GAS REHEAT COIL
17. RETURN AIR INLET
18. SUPPLY AIR OUTLET
19. COMPRESSORS
20. ECONOMIZER BYPASS DAMPERS
21. HOT WATER PIPING OPENING
22. VARIABLE FREQUENCY DRIVE(S)



RTU-16 CONFIGURATION
NOT TO SCALE



RTU-17 CONFIGURATION
NOT TO SCALE

VARIABLE AIR VOLUME PACKAGED ROOFTOP UNIT WITH ENERGY RECOVERY SCHEDULE

UNIT NO.	AREA SERVED	SYSTEM TYPE	FAN PERFORMANCE DATA									ENERGY RECOVERY WHEEL PERFORMANCE DATA																DX COIL PERFORMANCE DATA					
			SUPPLY					EXHAUST				SUPPLY AIR DATA								EXHAUST AIR DATA								MIXED AIR DATA				COOLING DATA					
												OA CFM	COOLING				HEATING				MAX. CFM	COOLING				HEATING				COOLING		HEATING							
			TOTAL CFM	OA CFM	ESP (IN)	KW	RPM	TOTAL CFM	ESP (IN)	KW	RPM		EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB		EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB	TOTAL MBH	SENSIBLE MBH	HEAT REJECTION MBH	EAT (°F)DB	EAT (°F)WB	LAT (°F)DB	LAT (°F)WB
RTU-1	AREA 'A' & 'H'	MULTIZONE VAV	19,105	9,655	4.0	4@6.6	2890	16,695	1.0	3@2.7	1829	9,450	95.0	78.0	81.0	69.0	15.0	14.0	43.0	42.0	16,695	77.0	66.0	79.1	67.5	68.0	54.0	55.4	48.3	80.2	68.9	59.1	48.5	1128	635	1458.0	80.2	68.9	49.3	49.3
RTU-16	AREA 'J/K' CLASSROOMS	MULTIZONE VAV	24,565	13,240	2.5	4@6.6	2459	21,609	1.0	3@3.8	1637	11,325	95.0	78.0	81.0	69.0	15.0	14.0	43.0	42.0	21,609	77.0	66.0	81.0	69.0	68.0	54.0	43.0	42.0	80.4	69.1	58.7	47.9	1491	830	1929.0	80.4	69.1	49.0	49.0
RTU-17	AREA 'J/K' CLASSROOMS	MULTIZONE VAV	24,810	10,910	3.0	4@7.1	2529	21,831	1.0	3@3.7	1649	13,900	95.0	78.0	81.0	69.0	15.0	14.0	43.0	42.0	21,831	77.0	66.0	81.0	69.0	68.0	54.0	43.0	42.0	79.9	68.5	60.2	49.2	1494	827	1156.3	79.9	68.5	48.5	48.5

REMARKS:

1. PROVIDE WITH UNIT MOUNTED VARIABLE FREQUENCY DRIVES FOR EACH SUPPLY AND EXHAUST FAN AND ENERGY WHEEL.
2. PROVIDE WITH CONDENSATE DRAIN OVERFLOW PROTECTION SWITCH, INTERLOCK WITH DDC SYSTEM TO DISABLE UNIT UPON ACTIVATION.
3. SELECTION BASED ON R-454B REFRIGERANT.
4. UNIT WEIGHT DOES NOT INCLUDE CURB.
5. PROVIDE UNITS WITH HAIL GUARDS.
6. PROVIDE WITH SINGLE POINT POWER CONNECTION AND 5KAIC SCCR.
7. PROVIDE WITH UNIT MOUNTED GFCI RECEPTACLE (NON-WIRED).
8. MANUFACTURER FACTORY REPRESENTATIVE SHALL VERIFY EQUIPMENT DIMENSIONS PRIOR TO CONTRACTOR ORDERING EQUIPMENT. UNITS MUST FIT ON EXISTING AND MODIFIED STEEL FRAMING. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
9. MAX DISCHARGE TEMPERATURE FOR SUPPLEMENTARY HEATING SHALL BE 95°F DURING TYPICAL OPERATION.
10. PROVIDE WITH BIPOLAR IONIZATION AIR PURIFICATION SYSTEM. REFER TO SPECIFICATION 230500 2.9.B FOR REQUIREMENTS. A 24-VOLT STEP DOWN TRANSFORMER SHALL BE PROVIDED BY THE ROOFTOP UNIT MANUFACTURER. MECHANICAL CONTRACTOR SHALL WIRE THE POWER SUPPLY TO THE TRANSFORMER. THE ENGINEERED VENTILATION SYSTEM WILL PREVENT THE MAXIMUM CONCENTRATION OF CONTAMINANTS FROM EXCEEDING THAT OBTAINABLE BY THE RATE OF OUTDOOR AIR VENTILATION DETERMINED IN ACCORDANCE WITH SECTION 403.3 OF ASHRAE STANDARD 62.1-2018.
11. DRIVE SYSTEM SHALL BE OPERATED BY A FRACTIONAL HORSEPOWER TEBC MOTOR (MAXIMUM 1 HP), VFD MICRO DRIVE, PULLEY AND V-BELT.

VARIABLE AIR VOLUME PACKAGED ROOFTOP UNIT WITH ENERGY RECOVERY SCHEDULE CONTINUED

SUPPLEMENTARY HOT WATER HEATING COIL PERFORMANCE										NO. OF COMPRESSORS	NO. OF CIRCUITS	ELECTRICAL REQUIREMENTS					UNIT WEIGHT (LBS.)	APPROX. UNIT DIMENSIONS			SELECTION BASED ON "ANNEXAIR"	REMARKS
CFM	MIN. COIL FA (SF)	CAPACITY TOTAL (MBH)	EAT DB(°F)	LAT DB(°F)	APD (IN.)	GPM	EWT (°F)	LWT (°F)	WPD (FT.)			FLA	MOCP	V	PH	HZ		L"	W"	H"		
19,105	21.4	535	59.1	85.0	0.06	21.0	160	130	5.1	4	2	222	250	460	3	60	15,200	418	129	129	ERP-E-20-EW09	1 2 3 4 5 6 7 8 9 10 11
24,565	19.4	822	54.6	85.0	0.18	55.0	160	130	6.3	6	3	282	300	460	3	60	20,600	309	283	132	ERP-E-25-EW-12	1 2 3 4 5 6 7 8 9 10 11
24,810	19.4	762	57.1	85.0	0.14	51.0	160	130	6.0	6	3	285	300	460	3	60	20,600	309	283	132	ERP-E-25-EW-12	1 2 3 4 5 6 7 8 9 10 11

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HVAC SYSTEM REPLACEMENT
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COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: SLS
CHECKED BY: KDA

M-005

DATE: 09/08/2025

EXHAUST FAN SCHEDULE

UNIT NO.	TYPE	ARRANGEMENT	WHEEL	DRIVE	CFM	ESP (IN. WC)	FAN (RPM)	MAX. TIP SPEED	OUTLET VELOCITY FPM	MOTOR DATA HP	MOTOR DATA V	MOTOR DATA PH	CONTROL METHOD	MAX. SONES	SELECTION BASED ON "GREENHECK"	REMARKS
EF-1	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	320	0.25	996	2,837	276	1/6	120	1	DDC	3.8	G-095-VG	1 2 5
EF-2	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	1300	0.25	858	3,287	985	1/4	120	1	DDC	6.8	G-140-VG	1 2 5
EF-3	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	1325	0.25	869	3,329	1,004	1/4	120	1	DDC	6.9	G-140-VG	1 2 5
EF-4	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	1200	0.25	817	3,128	909	1/4	120	1	THERMOSTAT	6.4	G-140-VG	1 2 4 5
EF-5	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	260	0.25	1,020	2,904	371	1/10	120	1	DDC	3.9	G-090-VG	1 2 5
EF-6	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	425	0.375	1,364	3,882	607	1/10	120	1	DDC	6.0	G-090-VG	1 2 5
EF-7	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	790	0.375	950	3,248	849	1/4	120	1	DDC	6.0	G-120-VG	1 2 5
EF-8	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	875	0.375	1,018	3,480	984	1/4	120	1	DDC	6.7	G-120-VG	1 2 5
EF-9	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	325	0.25	1,000	2,848	280	1/6	120	1	DDC	3.9	G-095-VG	1 2 5
EF-10	POWER ROOF VENTILATOR	UPBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	7700	0.5	579	4,624	1,400	5.0	460	3	FAN SWITCH	13.9	CUE-300-VG	1 2 5
EF-11	POWER ROOF VENTILATOR	UPBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	650	0.25	1,310	3,729	560	1/6	120	1	FAN SWITCH	6.4	CUE-095-VG	1 2 5
EF-12	POWER ROOF VENTILATOR	UPBLAST	BACKWARD INCLINED CENTRIFUGAL	BELT	17,400	0.5	355	4,479	1,485	5.0	460	3	FAN SWITCH	14.4	CUBE-480	2 3 5
EF-13	POWER ROOF VENTILATOR	UPBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	1250	0.5	1,011	3,870	727	1/2	120	1	FAN SWITCH	8.5	CUE-140-VG	1 2 5
EF-14	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	265	0.25	1,025	2,917	379	1/10	120	1	DDC	4.0	G-090-VG	1 2 5
EF-15	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	675	0.25	1,340	3,814	582	1/6	120	1	DDC	6.7	G-095-VG	1 2 5
EF-16	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	320	0.25	996	2,837	276	1/6	120	1	DDC	3.8	G-095-VG	1 2 5
EF-17	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	320	0.25	996	2,837	276	1/6	120	1	DDC	3.8	G-095-VG	1 2 5
EF-18	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	2215	0.375	939	4,089	1,204	1.0	120	1	DDC	11.2	G-160-VG	1 2 5
EF-19	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	2730	0.375	1,083	4,716	1,484	1.0	120	1	DDC	13.6	G-160-VG	1 2 5
EF-20	POWER ROOF VENTILATOR	DOWNBLAST	BACKWARD INCLINED CENTRIFUGAL	DIRECT	170	0.25	1,298	2,761	436	1/15	120	1	DDC	2.8	G-070-VG	1 2 5

REMARKS:
1. PROVIDE WITH EC MOTOR.
2. PROVIDE WITH BACKDRAFT DAMPER AND DISCONNECT SWITCH.
3. KITCHEN EXHAUST HOOD FAN.
4. PROVIDE WITH LINE VOLTAGE THERMOSTAT.
5. INSTALL ON EXISTING ROOF CURB. PROVIDE ADAPTER CURB AS REQUIRED.

SPLIT SYSTEM COMPUTER ROOM UNIT SCHEDULE

UNIT NO.	EVAPORATOR SECTION (INDOOR UNIT) CFM	ESP (IN. WG)	NET CAPACITY E.A.T. DB(°F)	NET CAPACITY SENSIBLE	NET CAPACITY TOTAL	FAN HP	ELECTRICAL V	ELECTRICAL PH	ELECTRICAL MCA	ELECTRICAL MOCP	MODEL NO.	MODULATING HGRH MBH TOTAL	MODULATING HGRH EAT (°F)DB	MODULATING HGRH LAT (°F)DB	UNIT NO.	CONDENSING UNIT SECTION (OUTDOOR UNIT) EAT DB(°F)	ELECTRICAL V	ELECTRICAL PH	ELECTRICAL MCA	ELECTRICAL MOCP	MODEL NO.	REMARKS
SS-1	3,700	1.0	75.0	43.8	42.4	1/2	460	3	12.2	15	FCE-012S	26.1	52.9	70.0	OU-4	3	460	1	1.9	15	XP1-012S	1 2 3

REMARKS:
1. PROVIDE INDOOR UNIT WITH A 120 VOLT REMOTE CONDENSATE PUMP.
2. MOUNT INDOOR UNIT ON FLOOR.
3. SELECTIONS BASED ON "ABOVE AIR TECHNOLOGIES".

PUMP SCHEDULE

UNIT NO.	TYPE	SYSTEM	GPM	HEAD	EFFICIENCY	MOTOR DATA HP	MOTOR DATA RPM	MOTOR DATA V	MOTOR DATA PH	MOTOR DATA ENCLOSURE TYPE	SELECTION BASED ON "BELL &GOSSETT"	REMARKS
P-1	BASE MOUNTED END SUCTION	HOT WATER	784	80	79.7	25	1,674	460	3	ODP	SERIES E-1510-4EB	1 2 3
P-2	BASE MOUNTED END SUCTION	HOT WATER (STAND-BY)	784	80	79.7	25	1,674	460	3	ODP	SERIES E-1510-4EB	1 2 3
P-3	INLINE CENTRIFUGAL PUMP	BOILER (B-1)	196	15	75.9	1.5	1,150	460	3	ODP	SERIES E-80-4X4X7B	3 4
P-4	INLINE CENTRIFUGAL PUMP	BOILER (B-2)	196	15	75.9	1.5	1,150	460	3	ODP	SERIES E-80-4X4X7B	3 4
P-5	INLINE CENTRIFUGAL PUMP	BOILER (B-3)	196	15	75.9	1.5	1,150	460	3	ODP	SERIES E-80-4X4X7B	3 4
P-6	INLINE CENTRIFUGAL PUMP	BOILER (B-4)	196	15	75.9	1.5	1,150	460	3	ODP	SERIES E-80-4X4X7B	3 4

REMARKS:
1. PROVIDE MATCHED SUCTION DIFFUSER.
2. MINIMUM FLOW IS 134 GPM.
3. REFER TO SPECIFICATION 230900 FOR VARIABLE FREQUENCY SPEED DRIVES.
4. PUMPS SHALL BE PROVIDED AS PART OF THE BOILER PACKAGE.

BOILER SCHEDULE

UNIT NO.	DESCRIPTION	INPUT (MBH)	OUTPUT (MBH)	FUEL TYPE	GPM	NATURAL GAS PRESS. (WC)	LWT (°F)	INTAKE SIZE (INCHES)	EXHAUST SIZE (INCHES)	ELECTRICAL V	ELECTRICAL PH	SELECTION BASED ON "LOCHINVAR"	REMARKS
B-1	HIGH EFFICIENCY GAS FIRED WATER BOILER	2,500	2,400	NATURAL GAS	196	4"-13.5"	160	8	9	460	3	FB-2501	1 2
B-2	HIGH EFFICIENCY GAS FIRED WATER BOILER	2,500	2,400	NATURAL GAS	196	4"-13.5"	160	8	9	460	3	FB-2501	1 2
B-3	HIGH EFFICIENCY GAS FIRED WATER BOILER	2,500	2,400	NATURAL GAS	196	4"-13.5"	160	8	9	460	3	FB-2501	1 2
B-4	HIGH EFFICIENCY GAS FIRED WATER BOILER	2,500	2,400	NATURAL GAS	196	4"-13.5"	160	8	9	460	3	FB-2501	1 2

REMARKS:
1. PROVIDE WITH CONDENSATE NEUTRALIZATION KIT BY BOILER MANUFACTURER.
2. PROVIDE BOILER WITH 460V-208Y/120 VOLT STEP-DOWN TRANSFORMER TO POWER BOILER.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT NO.	INDOOR UNIT TOTAL CFM	COOLING EAT(°F) DB (°F)	COOLING EAT(°F) WB (°F)	COOLING TOTAL MBH	HEATING @ 17°F EAT(°F) DB (°F)	HEATING @ 17°F EAT(°F) WB (°F)	HEATING @ 17°F MBH	ELECTRICAL V	ELECTRICAL PH	ELECTRICAL FLA	SELECTION BASED ON "LG"	REFRIGERANT CHARGE (LBS)	ADDITIONAL REFRIGERANT CHARGE (OZ/FT)	APPROX. MAXIMUM REFRIGERANT CHARGE (OZ)	OUTDOOR UNIT NO.	OUTDOOR UNIT ELECTRICAL V	OUTDOOR UNIT ELECTRICAL PH	OUTDOOR UNIT ELECTRICAL MCA	OUTDOOR UNIT SELECTION BASED ON "LG"	REMARKS
IU-1	685	80.0	67.0	19.6	70.0	60.0	23.0	208	1	0.6	KNSAE181A	2.43	0.22	0	OU-1	208	1	15.0	KUSAE181A	1 2 3 4 5 6 7
IU-2	460	80.0	67.0	12.6	70.0	60.0	17.1	208	1	0.4	KNUAB091A	1.81	0.16	0	OU-2	208	1	12.0	KUSAB091A	1 2 3 4 5 6 7
IU-3	460	80.0	67.0	12.6	70.0	60.0	17.1	208	1	0.4	KNUAB091A	1.81	0.16	0	OU-3	208	1	12.0	KUSAB091A	1 2 3 4 5 6 7

REMARKS:
1. PROVIDE WITH WALL MOUNTED WIRED THERMOSTAT.
2. PROVIDE WITH CONDENSATE OVERFLOW SWITCH.
3. CFM INDICATED BASED ON HIGH FAN SPEED AND WET COIL.
4. PROVIDE WITH R-32 REFRIGERANT. PROVIDE LOCKING-TYPE TEMPER-RESISTANT CAPS ON REFRIGERANT ACCESS PORTS.
5. SELECTION SHALL COMPLY WITH ASHRAE "THERMAL GUIDELINES FOR DATA PROCESSING ENVIRONMENTS".
6. PROVIDE CONDENSATE PUMP, "RECTOR SEAL" MINI AQUA MODEL 83930 OR EQUAL.
7. PROVIDE INDOOR UNIT WITH 14/3 CONDUCTOR AND 3-POLE DISCONNECT SWITCH BY UNIT MANUFACTURER. INSTALLED BY DIVISION 26.

GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	NECK SIZE	DESCRIPTION	MATERIAL	FINISH	VOLUME DAMPER	SHAPE	MAXIMUM ΔP	MAXIMUM NC	SELECTION BASED ON "PRICE"	REMARKS
A	6"ø	LOUVERED FACE ADJUSTABLE CEILING DIFFUSER	STEEL	WHITE	NO	SQUARE	0.1"	25	SCDA	1 2
B	8"ø	LOUVERED FACE ADJUSTABLE CEILING DIFFUSER	STEEL	WHITE	NO	SQUARE	0.1"	25	SCDA	1 2
C	10"ø	LOUVERED FACE ADJUSTABLE CEILING DIFFUSER	STEEL	WHITE	NO	SQUARE	0.1"	25	SCDA	1 3
X	18" x 18"	CEILING RETURN OR EXHAUST GRILLE 45° DEFLECTION, 3/4" SPACING	STEEL	WHITE	NO	SQUARE	0.1"	25	530	1
Y	12" x 12"	CEILING RETURN OR EXHAUST GRILLE 45° DEFLECTION, 3/4" SPACING	STEEL	WHITE	NO	SQUARE	0.1"	25	530	1
Z	8" x 8"	CEILING RETURN OR EXHAUST GRILLE 45° DEFLECTION, 3/4" SPACING	STEEL	WHITE	NO	SQUARE	0.1"	25	530	1

REMARKS:
1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN FOR CEILING TYPES. FOR ACOUSTIC CEILING, PROVIDE WITH 24" x 24" PANEL SUITABLE FOR MOUNTING IN LAY-IN GRID. FOR GYPSUM BOARD CEILING, PROVIDE WITH SMALL FACE AND SURFACE MOUNT FRAME.
2. PROVIDE 3-CONE, 12" x 12" FACE MOUNTED IN 2' x 2' METAL PANEL.
3. PROVIDE 4-CONE, 24" x 24" FACE MOUNTED IN 2' x 2' METAL PANEL.

PLUMBING DRAIN AND EQUIPMENT SCHEDULE

ITEM	MANUFACTURER	MODEL NUMBER	REMARKS
ROOF HYDRANT (RH)	WOODFORD	SRM-MS	-
BACKFLOW PREVENTER #1 (BFP-1)	WILKINS	975XL	SERVES COLD WATER MAKE-UP TO MECHANICAL EQUIPMENT. ASSE 1013 CERTIFIED. ROUTE TO NEAREST FLOOR DRAIN IN MECHANICAL ROOM.

GAS DEMAND

USE	CF/HR
GAS FIRED BOILER	
BOILER #1 (B-1)	2417.5
BOILER #2 (B-2)	2417.5
BOILER #3 (B-3)	2417.5
BOILER #4 (B-4)	2417.5
TOTAL	9670

NOTE: SEE SHEET **M-302** FOR LOCATION OF EXISTING GAS METER AND SERVICE.

EXISTING GAS DEMAND

USE	CF/HR
GAS FIRED BOILER	
BOILER #1 (B-1)	3868
BOILER #2 (B-2)	3868
BOILER #3 (B-3)	3868
BOILER #4 (B-4)	3868
TOTAL	15472

NOTE: SEE SHEET **M-302** FOR LOCATION OF EXISTING GAS METER AND SERVICE.

COMMONWEALTH OF VIRGINIA
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PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
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TEL (757)896-2955 (757) 599-6435 PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL SCHEDULES

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-006

DATE: 09/08/2025

VARIABLE VOLUME TERMINAL UNIT SCHEDULE - FOR REFERENCE ONLY

UNIT NO.	AIR VALVE DATA				HOT WATER COIL DATA			MAX. NC	TRANE MODEL NO.	REMARKS
	CFM	MIN. CFM	INLET DAMPER	MAX. APD (IN WC)	CAP (BTU/H)	GPM	MAX WPD (FT.)			
1.1	880	390	9"ø	0.75	20.9	1.5	0.4	20	DESV-09	1
1.2	175	80	5"ø	0.75	4.7	1.0	0.6	15	DESV-05	1
1.3	720	390	8"ø	0.75	18.9	1.5	0.7	23	DESV-08	1
1.4	670	390	7"ø	0.75	18.9	1.5	0.7	19	DESV-07	1
1.5	620	390	7"ø	0.75	18.9	1.5	0.7	20	DESV-07	1
1.6	720	390	8"ø	0.75	18.9	1.5	0.7	23	DESV-08	1
1.7	960	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.8	940	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.9	940	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.10	940	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.11	940	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.12	950	390	9"ø	0.75	18.9	1.5	0.7	20	DESV-09	1
1.13	300	80	5"ø	0.75	4.7	1.0	0.6	22	DESV-05	1
1.14	410	80	6"ø	0.75	4.7	1.0	0.6	22	DESV-06	1
1.15	420	80	6"ø	0.75	4.7	1.0	0.6	22	DESV-06	1
1.16	1020	400	10"ø	0.75	18.8	1.5	0.6	23	DESV-10	1
1.17	940	400	9"ø	0.75	18.8	1.5	0.6	20	DESV-09	1
1.18	620	300	7"ø	0.75	15.1	1.0	0.4	23	DESV-07	1
1.19	620	300	7"ø	0.75	15.1	1.0	0.4	23	DESV-07	1
1.20	440	235	6"ø	0.75	11.9	1.0	0.3	23	DESV-06	1
1.21	290	75	6"ø	0.75	4.5	1.0	0.6	16	DESV-06	1
1.22	300	80	6"ø	0.75	4.7	1.0	0.6	16	DESV-06	1
1.23	1380	750	12"ø	0.75	34.7	2.0	0.9	22	DESV-12	1
1.24	900	750	10"ø	0.75	32.1	2.5	1.0	22	DESV-10	1
1.25	280	80	5"ø	0.75	4.7	1.0	0.6	22	DESV-05	1
1.26	290	80	6"ø	0.75	4.7	1.0	0.6	16	DESV-06	1
1.27	490	110	7"ø	0.75	6.2	1.0	0.8	20	DESV-07	1
1.28	700	390	9"ø	0.75	18.6	1.5	0.2	17	DESV-09	1
1.29	300	80	6"ø	0.75	4.7	1.0	0.6	16	DESV-06	1
10.1	700	170	8"ø	0.75	10.5	1.0	0.2	22	DESV-09	1
10.2	710	170	8"ø	0.75	10.5	1.0	0.2	22	DESV-09	1
10.3	430	430	6"ø	0.75	18.5	2.0	0.9	22	DESV-06	1
10.4	640	160	7"ø	0.75	7.3	1.0	0.8	24	DESV-07	1
10.5	640	160	7"ø	0.75	7.3	1.0	0.8	24	DESV-07	1
10.6	1280	300	9"ø	0.75	11.9	1.0	0.2	19	DESV-09	1
10.7	1280	300	9"ø	0.75	11.9	1.0	0.2	19	DESV-09	1
10.8	510	160	7"ø	0.75	7.6	1.0	0.11	22	DESV-07	1
10.9	520	160	7"ø	0.75	7.3	1.0	0.8	22	DESV-07	1
10.10	330	120	6"ø	0.75	4.7	1.0	0.6	18	DESV-06	1
10.11	200	80	5"ø	0.75	4.7	1.0	0.6	18	DESV-05	1
10.12	210	40	5"ø	0.75	3.2	1.0	0.6	18	DESV-05	1
10.13	425	425	6"ø	0.75	18.4	2.0	0.9	22	DESV-06	1
10.14	510	510	7"ø	0.75	22.8	2.0	1.2	22	DESV-07	1
10.15	240	60	5"ø	0.75	4.0	1.0	0.6	19	DESV-05	1
10.16	300	80	6"ø	0.75	4.7	1.0	0.6	16	DESV-06	1
10.17	780	780	8"ø	0.75	31.76	2.0	4.2	23	DESV-09	1
10.18	770	200	8"ø	0.75	12.3	1.0	0.4	23	DESV-08	1
10.19	385	80	6"ø	0.75	5.3	1.0	0.6	21	DESV-06	1
10.20	375	80	6"ø	0.75	4.7	1.0	0.6	20	DESV-06	1
10.21	200	80	5"ø	0.75	4.7	1.0	0.6	18	DESV-05	1
10.22	500	390	7"ø	0.75	18.9	1.5	0.7	22	DESV-07	1
10.23	200	80	5"ø	0.75	4.7	1.0	0.6	18	DESV-05	1
10.24	500	390	7"ø	0.75	18.9	1.5	0.7	22	DESV-07	1
10.25	375	60	6"ø	0.75	4.6	1.0	0.6	18	DESV-06	1
10.26	125	40	4"ø	0.75	3.2	1.0	0.6	19	DESV-04	1
10.27	250	60	5"ø	0.75	4.0	1.0	0.6	20	DESV-05	1
11.1	530	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1
11.2	560	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1
11.3	440	390	7"ø	0.75	18.9	1.5	0.7	19	DESV-07	1
11.4	560	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1
11.5	440	390	7"ø	0.75	4.7	1.0	0.6	19	DESV-00	1
11.6	240	80	5"ø	0.75	18.9	1.5	0.7	19	DESV-05	1
11.7	560	390	7"ø	0.75	5.1	1.0	0.6	23	DESV-07	1
11.8	100	100	4"ø	0.75	7.3	1.0	0.8	17	DESV-04	1

UNIT NO.	AIR VALVE DATA				HOT WATER COIL DATA			MAX. NC	TRANE MODEL NO.	REMARKS
	CFM	MIN. CFM	INLET DAMPER	MAX. APD (IN WC)	CAP (BTU/H)	GPM	MAX WPD (FT.)			
11.9	630	160	7"ø	0.75	7.3	1.0	0.8	24	DESV-07	1
11.1	700	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1
15.1	510	120	7"ø	0.75	6.5	1.0	0.8	22	DESV-07	1
15.2	250	60	5"ø	0.75	4.0	1.0	0.6	20	DESV-05	1
15.3	125	125	4"ø	0.75	5.6	1.0	0.6	19	DESV-04	1
15.4	720	390	8"ø	0.75	18.9	1.5	0.7	23	DESV-08	1
15.5	75	50	4"ø	0.75	3.2	1.0	0.6	13	DESV-04	1
15.6	925	410	10"ø	0.75	21.4	1.5	0.4	22	DESV-10	1
15.7	995	430	10"ø	0.75	21.9	1.5	0.4	22	DESV-10	1
15.8	330	100	6"ø	0.75	4.7	1.0	0.6	18	DESV-06	1
15.9	525	170	7"ø	0.75	7.5	1.0	0.8	19	DESV-07	1
15.10	900	260	9"ø	0.75	15.5	1.0	0.2	20	DESV-09	1
15.11	250	60	5"ø	0.75	4.0	1.0	0.6	20	DESV-06	1
15.12	170	60	5"ø	0.75	4.0	1.0	0.6	15	DESV-05	1
15.13	75	40	4"ø	0.75	3.2	1.0	0.6	13	DESV-05	1
15.14	795	430	9"ø	0.75	21.9	1.5	0.4	18	DESV-09	1
15.15	620	260	7"ø	0.75	7.1	1.0	0.4	20	DESV-07	1
15.16	445	150	6"ø	0.75	7.1	1.0	0.8	20	DESV-06	1
15.17	250	250	5"ø	0.75	12.3	1.0	0.8	20	DESV-05	1
16.1	740	390	8"ø	0.75	18.9	1.5	0.7	20	DESV-08	1 2
16.2	840	390	9"ø	0.75	18.9	1.5	0.7	19	DESV-09	1 2
16.3	200	70	5"ø	0.75	4.7	1.0	0.6	18	DESV-05	1 2
16.4	NOT USED									
16.5	580	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.6	700	390	8"ø	0.75	18.9	1.5	0.7	22	DESV-08	1 2
16.7	725	230	8"ø	0.75	9.1	1.0	0.7	23	DESV-09	1 2
16.8	325	140	6"ø	0.75	5.9	1.0	0.6	18	DESV-06	1 2
16.9	830	400	9"ø	0.75	21.2	1.5	0.4	19	DESV-09	1 2
16.10	440	390	6"ø	0.75	16.6	1.5	0.5	23	DESV-07	1 2
16.11	640	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.12	205	70	5"ø	0.75	4.4	1.0	0.8	18	DESV-05	1 2
16.13	505	150	7"ø	0.75	7.3	1.0	0.8	22	DESV-07	1 2
16.14	830	400	9"ø	0.75	21.2	1.5	0.4	19	DESV-09	1 2
16.15	725	230	9"ø	0.75	9.6	1.0	0.2	17	DESV-07	1 2
16.16	210	70	5"ø	0.75	4.4	1.0	0.8	18	DESV-05	1 2
16.17	620	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.18	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.19	520	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.20	1230	390	12"ø	0.75	18.9	1.5	0.7	20	DESV-12	1 2
16.21	1230	390	12"ø	0.75	23.	1.5	0.5	19	DESV-09	1 2
16.22	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-12	1 2
16.23	935	440	10"ø	0.75	22.1	1.5	0.4	22	DESV-10	1 2
16.24	600	390	9"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.25	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
16.26	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
16.27	620	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.28	725	230	8"ø	0.75	13.3	1.0	0.7	23	DESV-08	1 2
16.29	710	410	8"ø	0.75	19.3	1.5	0.7	23	DESV-08	1 2
16.30	1080	490	10"ø	0.75	22.4	2.0	1.2	23	DESV-10	1 2
16.31	440	390	6"ø	0.75	16.6	1.5	0.5	23	DESV-06	1 2
16.32	620	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.33	470	420	7"ø	0.75	18.2	1.5	0.4	20	DESV-07	1 2
16.34	710	420	8"ø	0.75	19.5	1.5	0.7	17	DESV-08	1 2
16.35	725	230	8"ø	0.75	13.3	1.0	0.4	23	DESV-08	1 2
16.36	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
16.37	620	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.38	460	225	6"ø	0.75	11.7	1.0	0.3	23	DESV-06	1 2
16.39	460	390	6"ø	0.75	16.6	1.5	0.5	23	DESV-06	1 2
16.40	190	80	5"ø	0.75	4.4	1.0	0.8	18	DESV-05	1 2
16.41	580	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
16.42	145	60	4"ø	0.75	4.0	1.0	0.6	20	DESV-04	1 2
16.43	760	390	8"ø	0.75	18.9	1.5	0.7	23	DESV-08	1 2
17.1	840	390	9"ø	0.75	18.9	1.5	0.7	19	DESV-09	1

UNIT NO.	AIR VALVE DATA				HOT WATER COIL DATA			MAX. NC	TRANE MODEL NO.	REMARKS
	CFM	MIN. CFM	INLET DAMPER	MAX. APD (IN WC)	CAP (BTU/H)	GPM	MAX WPD (FT.)			
17.2	840	390	9"ø	0.75	18.9	1.5	0.7	19	DESV-04	1 2
17.3	140	60	4"ø	0.75	4.0	1.0	0.6	20	DESV-04	1 2
17.4	580	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
17.5	720	390	8"ø	0.75	18.9	1.5	0.7	19	DESV-08	1 2
17.6	725	230	8"ø	0.75	13.3	1.0	0.4	23	DESV-08	1 2
17.7	320	150	6"ø	0.75	9.5	1.0	0.3	17	DESV-06	1 2
17.8	555	120	8"ø	0.75	6.2	1.0	0.8	19	DESV-08	1 2
17.9	635	215	7"ø	0.75	12.8	1.0	0.4	24	DESV-07	1 2
7.1	800	195	9"ø	0.75	13.3	1.0	0.2	19	DESV-09	1 2
7.1	900	390	10"ø	0.75	16.6	1.5	0.5	23	DESV-10	1 2
7.1	520	410	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.1	580	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.1	725	175	8"ø	0.75	7.5	1.0	0.8	23	DESV-08	1 2
7.1	540	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.1	1175	410	12"ø	0.75	20.2	1.5	0.5	23	DESV-12	1 2
7.1	1000	390	10"ø	0.75	18.9	1.5	0.7	22	DESV-10	1 2
7.1	640	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.1	1290	390	12"ø	0.75	18.9	1.5	0.7	22	DESV-12	1 2
7.2	500	300	7"ø	0.75	15.1	1.0	0.4	22	DESV-07	1 2
7.2	370	300	6"ø	0.75	14.7	1.5	0.5	20	DESV-06	1 2
7.2	360	300	6"ø	0.75	14.7	1.5	0.5	20	DESV-06	1 2
7.2	545	320	7"ø	0.75	17.1	1.5	0.7	22	DESV-07	1 2
7.2	75	40	4"ø	0.75	3.2	1.0	0.6	13	DESV-04	1 2
7.2	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
7.2	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.2	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
7.2	620	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.2	905	230	9"ø	0.75	10.3	1.5	0.5	20	DESV-09	1 2
7.3	690	410	8"ø	0.75	19.3	1.5	0.7	22	DESV-08	1 2
7.3	635	230	7"ø	0.75	13.3	1.0	0.4	24	DESV-07	1 2
7.3	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
7.3	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.3	260	100	5"ø	0.75	5.1	1.0	0.6	20	DESV-05	1 2
7.3	260	100	5"ø	0.75	5.1	1.0	0.6	20	DESV-05	1 2
7.3	690	410	8"ø	0.75	19.3	1.5	0.7	22	DESV-08	1 2
7.3	725	230	8"ø	0.75	13.3	1.0	0.4	23	DESV-08	1 2
7.3	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
7.3	640	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.4	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.4	400	390	6"ø	0.75	16.6	1.5	0.5	21	DESV-06	1 2
7.4	600	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.4	560	390	7"ø	0.75	18.9	1.5	0.7	23	DESV-07	1 2
7.4	240	60	5"ø	0.75	4.0	1.0	0.6	19	DESV-05	1 2

NOTES: 1) EWT = 180°F, LWT 160°F.

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)896-2973 FAX (757)896-2915
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

MECHANICAL SCHEDULES - FOR REFERENCE ONLY

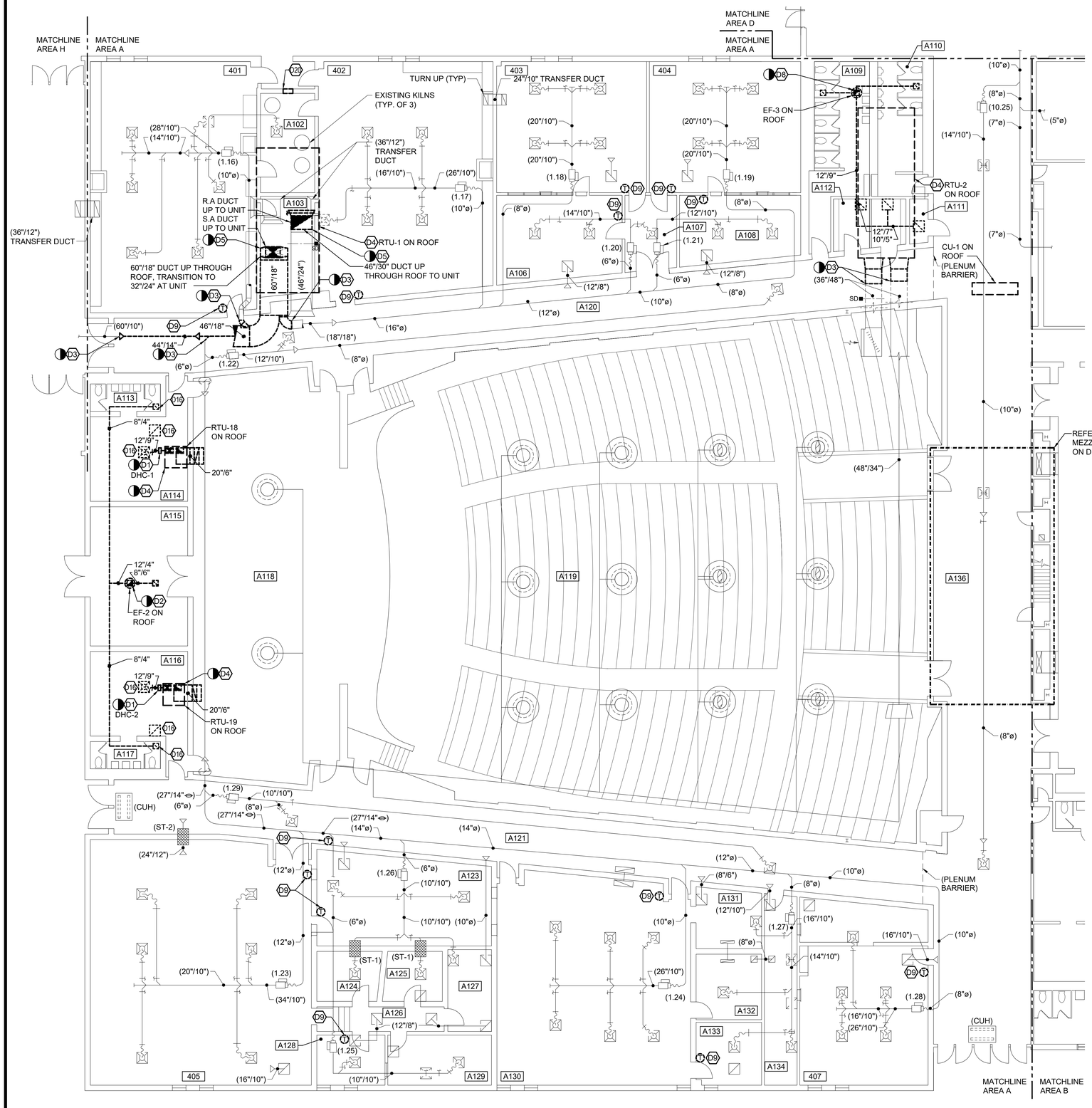
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWV
CHECKED BY: KDA

M-007

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'A' - DEMOLITION

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

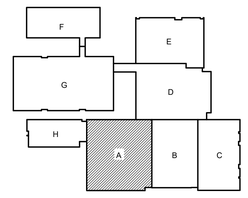
TYPICAL ALL VAV'S: (D28)

DEMOLITION NOTES	
NO.	DESCRIPTION
D1	DISCONNECT AND REMOVE DUCT MOUNTED HEATING COIL COMPLETE.
D2	DISCONNECT DUCTWORK TO POINT INDICATED AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE.
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOFCURB TO FACILITATE THE NEW WORK.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D16	REMOVE DIFFUSER/GRILLE COMPLETE.
D20	DISCONNECT AND REMOVE PROPELLER FAN WITH GRAVITY BACKDRAFT DAMPER COMPLETE.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, 420 GOV ROAD, 2809 S. LYNNHAVEN ROAD, 533 EPHONE: (757) 599-6435
HAMPTON, VA 23666, GLEN ALLEN, VA 23060, VA BEACH, VA 23452
PROJECT NUMBER: 25-043

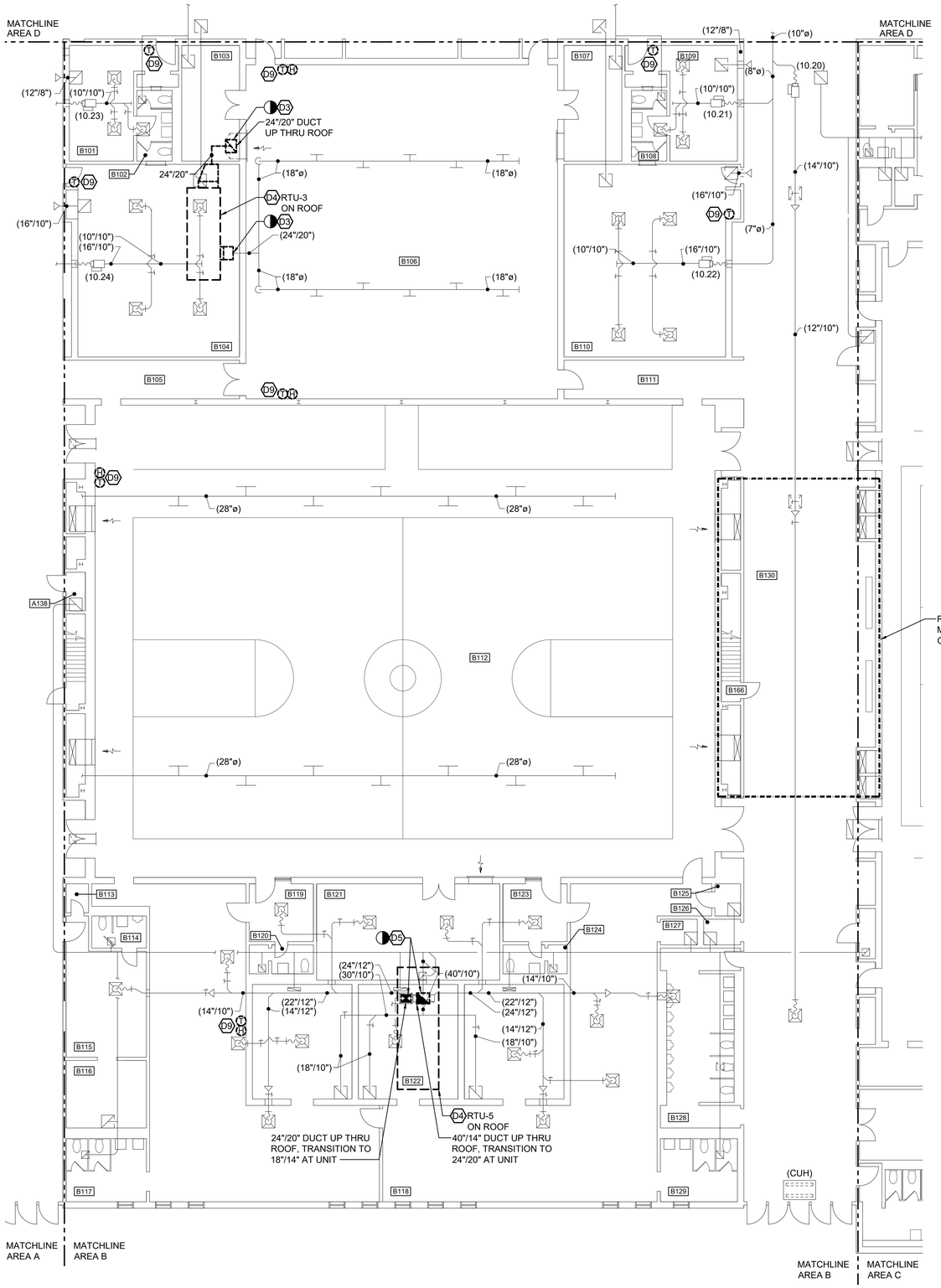
MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'A' - DEMOLITION

REVISIONS		
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD101

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'B' - DEMOLITION

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

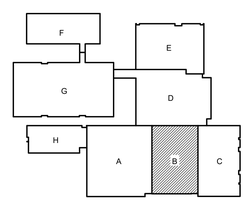
TYPICAL ALL VAV'S: 22

DEMOLITION NOTES	
NO.	DESCRIPTION
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'B' - DEMOLITION

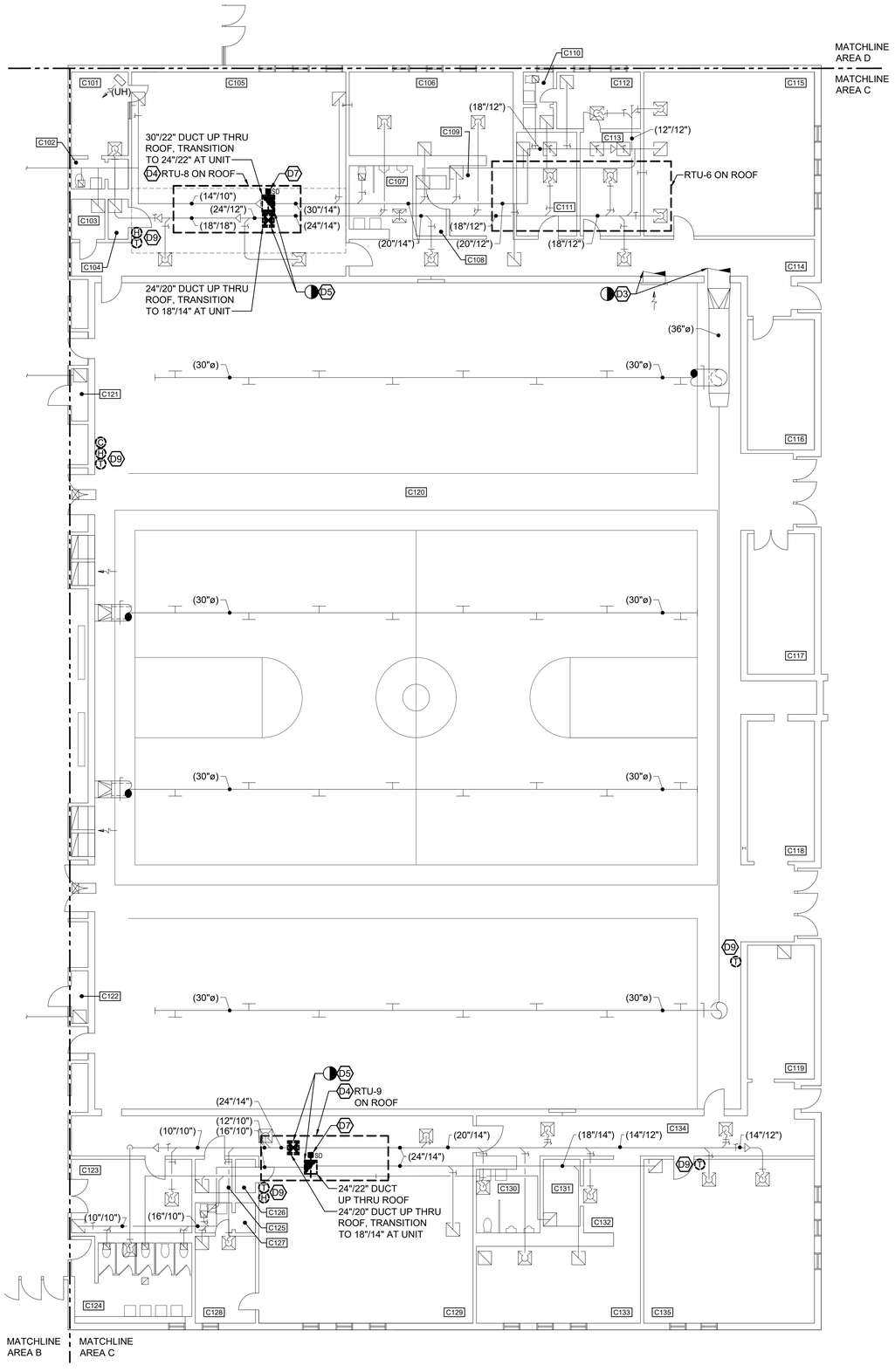
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD102

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA C' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOFCURB TO FACILITATE THE NEW WORK.
D7	DISCONNECT, REMOVE AND CLEAN DUCT MOUNTED SMOKE DETECTOR. STORE FOR REINSTALLATION AFTER DUCT CLEANING. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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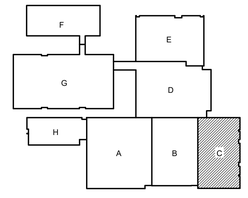


KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'C' - DEMOLITION

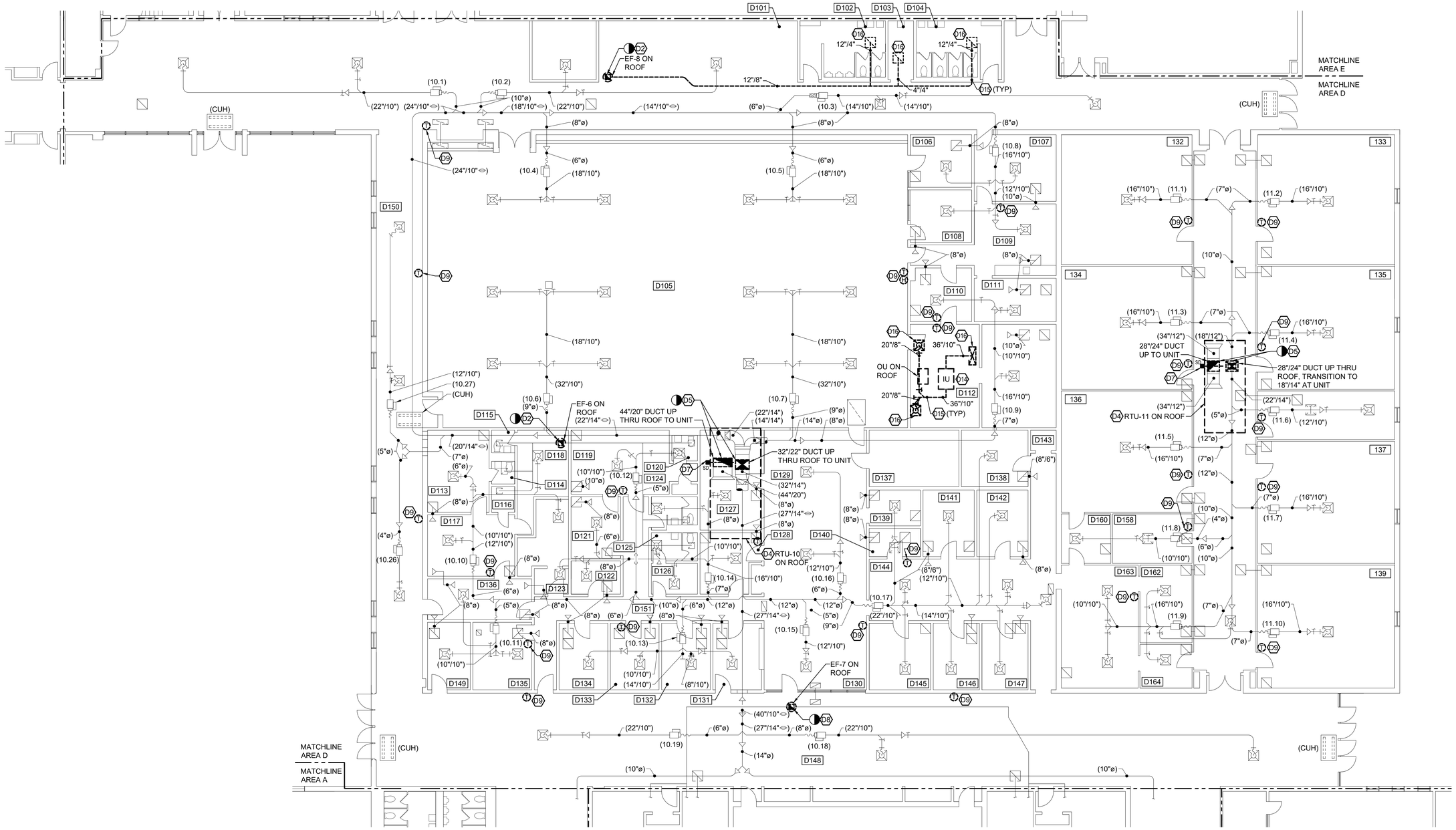
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD103

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'D' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

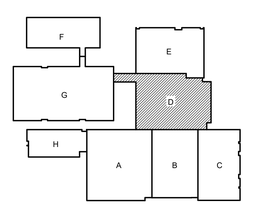
DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT DUCTWORK TO POINT INDICATED AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE.
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOFCURB TO FACILITATE THE NEW WORK.
D7	DISCONNECT, REMOVE AND CLEAN DUCT MOUNTED SMOKE DETECTOR. STORE FOR REINSTALLATION AFTER DUCT CLEANING. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.

DEMOLITION NOTES	
NO.	DESCRIPTION
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D14	DISCONNECT AND REMOVE INDOOR UNIT COMPLETE INCLUDING ALL ASSOCIATED SUPPORTS, CONDENSATE PUMP, PIPING , THERMOSTAT AND CONTROLS.
D15	REMOVE DUCTWORK COMPLETE INCLUDING HANGERS AND SUPPORTS.
D16	REMOVE DIFFUSER/GRILLE COMPLETE.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, 420 GUN ROAD, 2809 S. LYNNHAVEN ROAD, 533 EPHONE: (757) 599-6435
HAMPTON, VA 23666, GLEN ALLEN, VA 23060, VA BEACH, VA 23452
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'D' - DEMOLITION

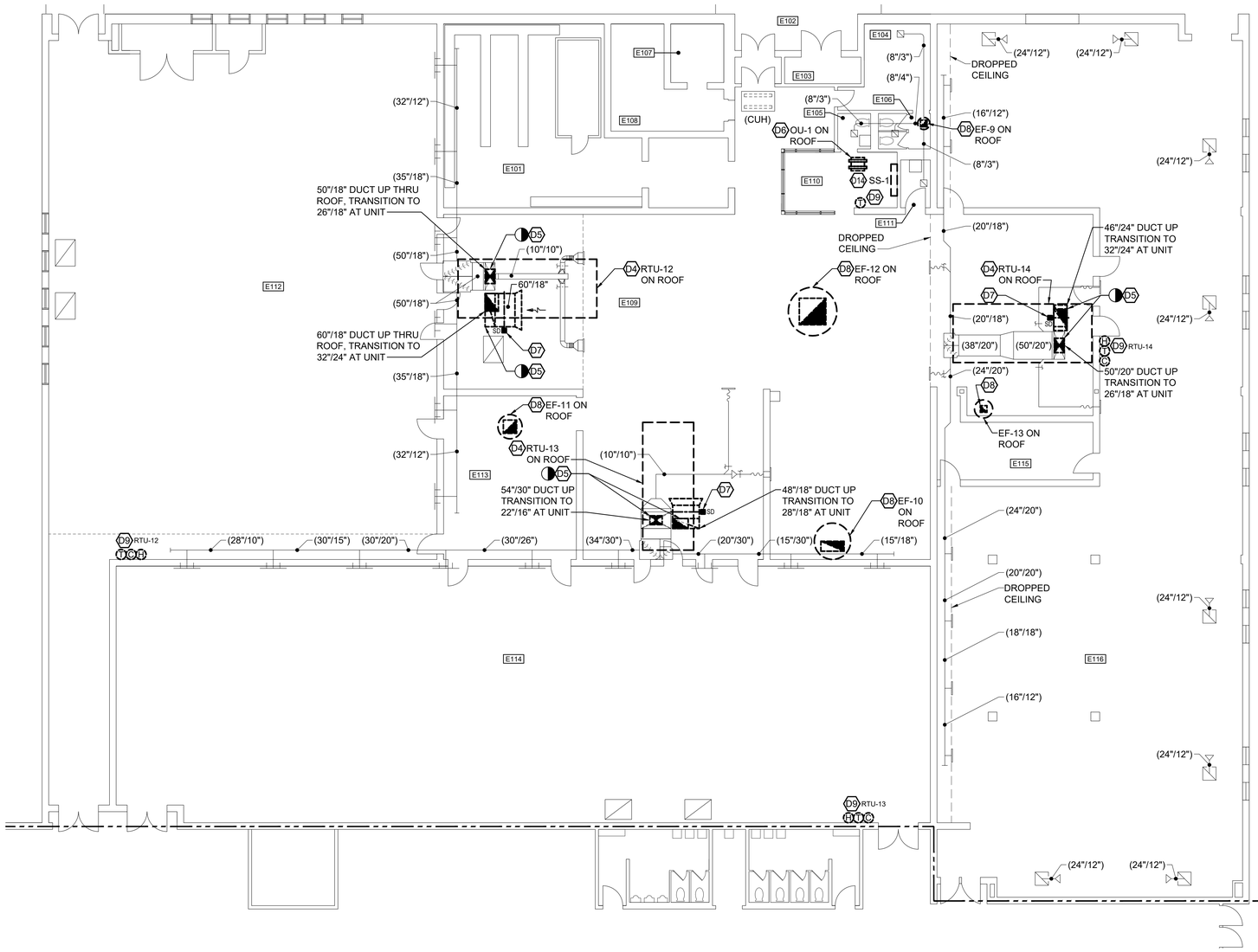
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD104

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'E' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D6	DISCONNECT AND REMOVE REMOTE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND SUPPORTS.
D7	DISCONNECT, REMOVE AND CLEAN DUCT MOUNTED SMOKE DETECTOR. STORE FOR REINSTALLATION AFTER DUCT CLEANING. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D14	DISCONNECT AND REMOVE INDOOR UNIT COMPLETE INCLUDING ALL ASSOCIATED SUPPORTS, CONDENSATE PUMP, PIPING , THERMOSTAT AND CONTROLS.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

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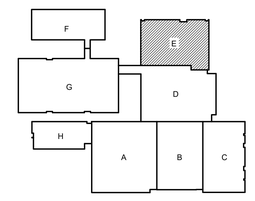


KEY PLAN

NOT TO SCALE

1/8" = 1'-0" SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, SUITE 420, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'E' - DEMOLITION

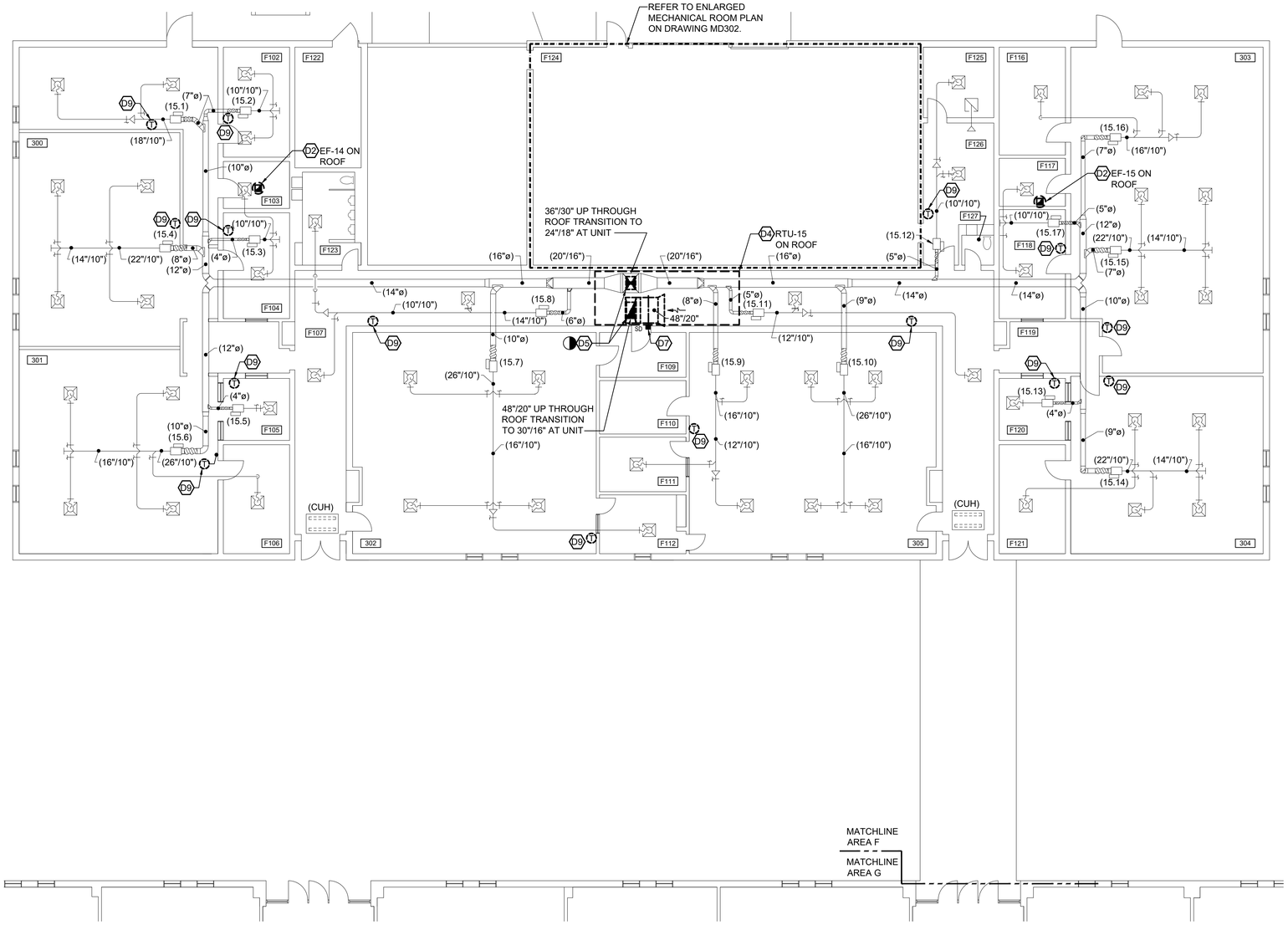
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD105

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'F' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT DUCTWORK TO POINT INDICATED AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D7	DISCONNECT, REMOVE AND CLEAN DUCT MOUNTED SMOKE DETECTOR. STORE FOR REINSTALLATION AFTER DUCT CLEANING. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

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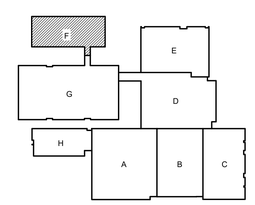


KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 420, HAMPTON, VA 23666
4329 OLDS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'F' - DEMOLITION

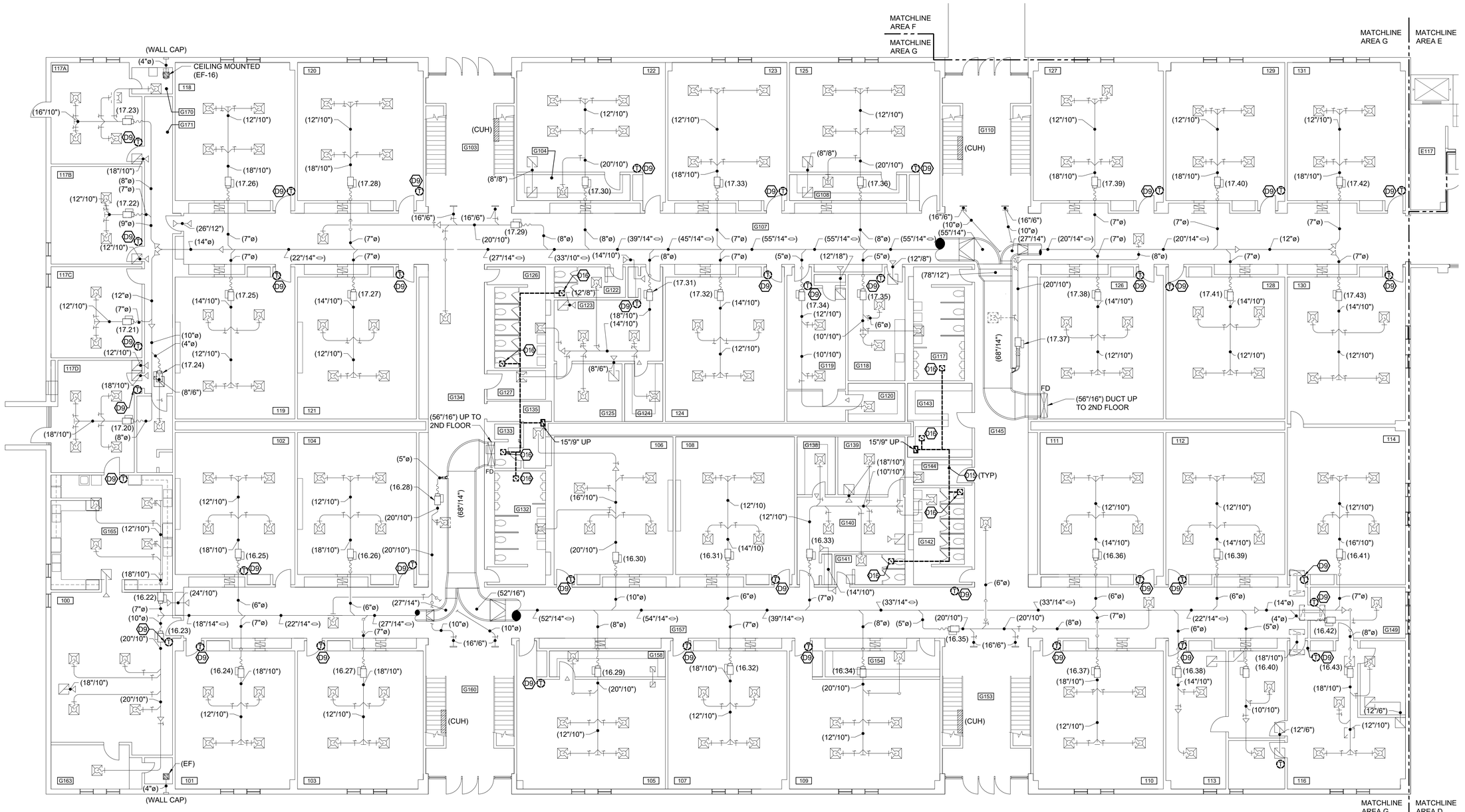
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD106

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'G' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D15	REMOVE DUCTWORK COMPLETE INCLUDING HANGERS AND SUPPORTS.
D16	REMOVE DIFFUSER/GRILLE COMPLETE.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

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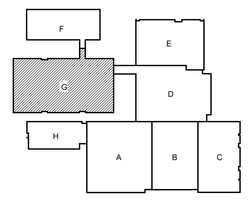


KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

SCALE: 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400
HAMPTON, VA 23666
4329 CUSTIS ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE: (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'G' - DEMOLITION

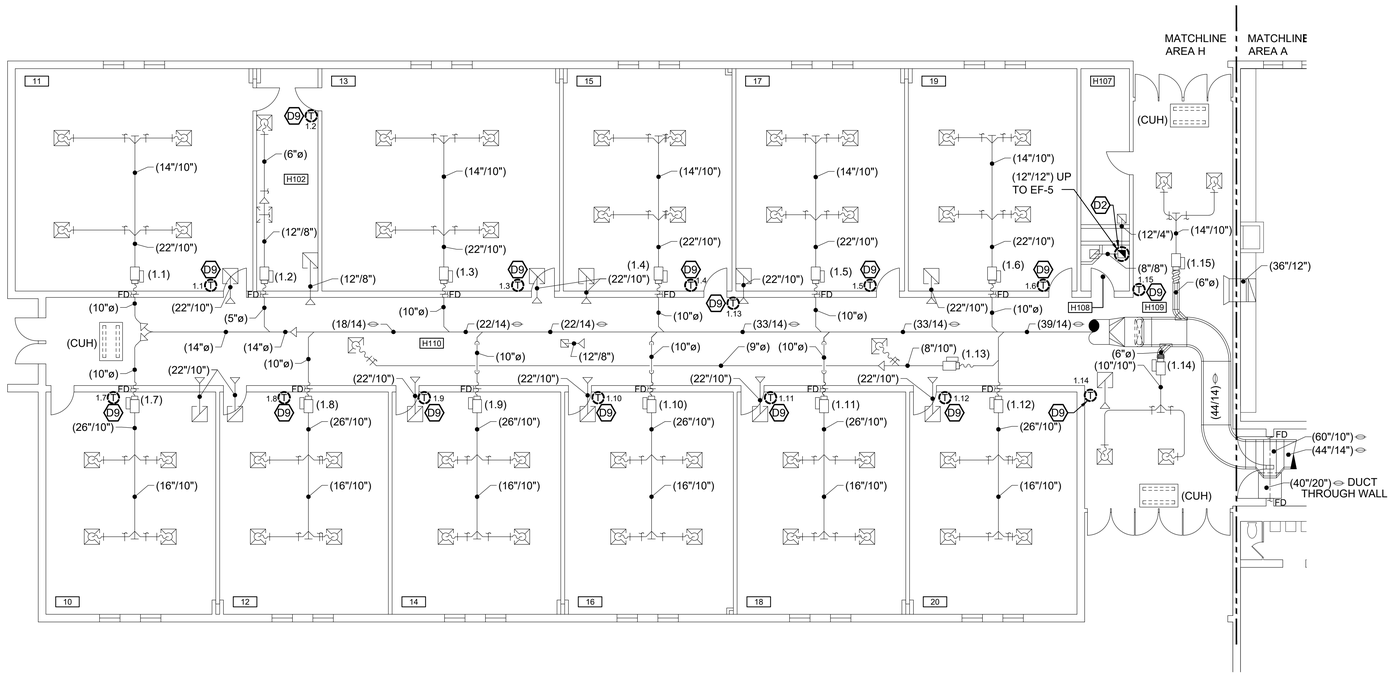
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD107

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'H' - DEMOLITION

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

TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT DUCTWORK TO POINT INDICATED AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

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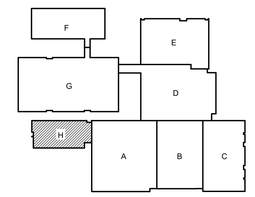


KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4525 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'H' - DEMOLITION

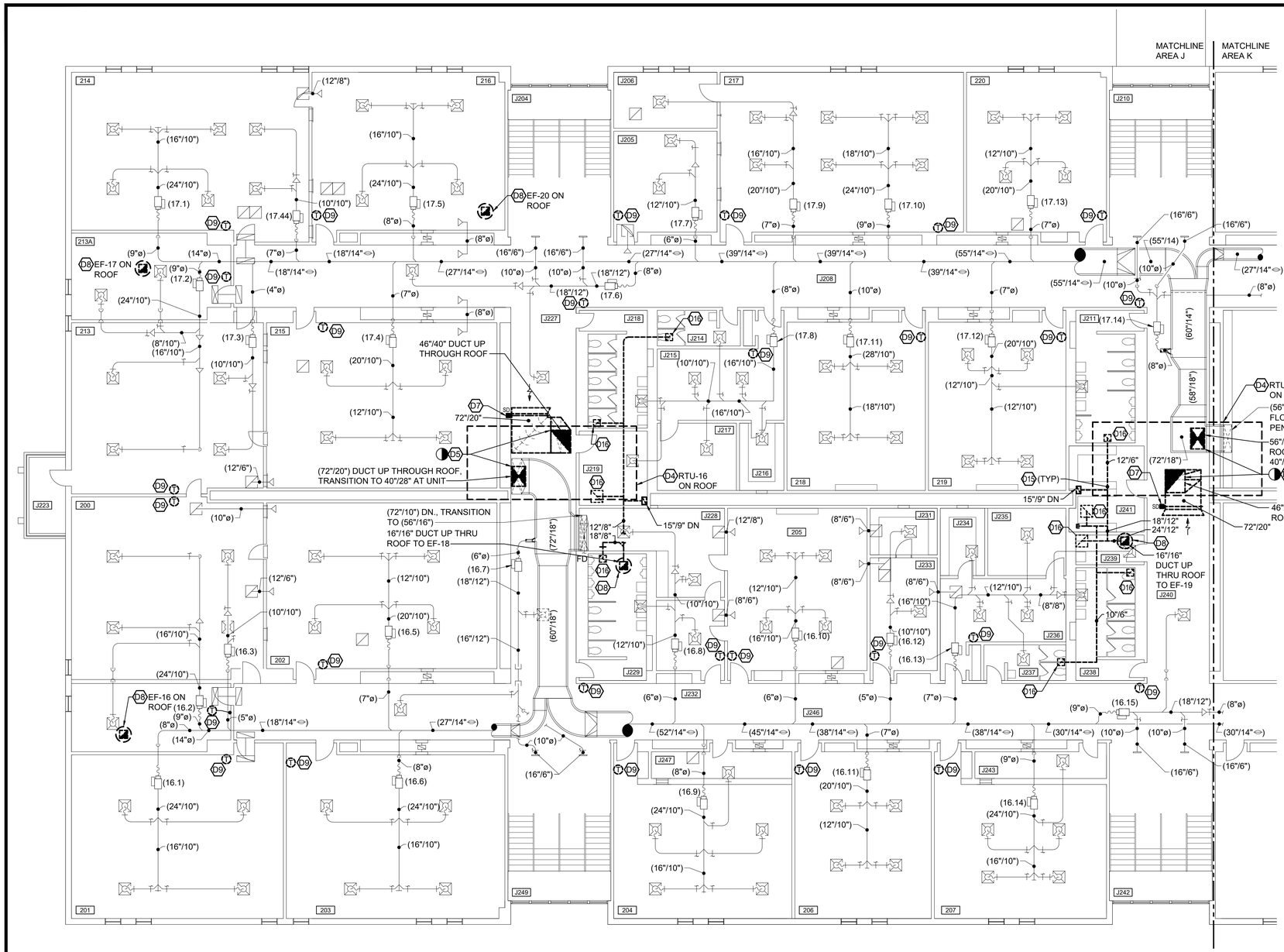
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD108

DATE: 09/08/2025



MECHANICAL SECOND FLOOR PLAN - AREA 'J' - DEMOLITION

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

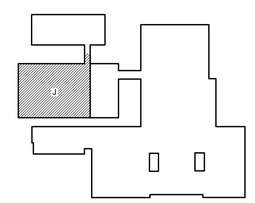
TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOFCURB TO FACILITATE THE NEW WORK.
D7	DISCONNECT, REMOVE AND CLEAN DUCT MOUNTED SMOKE DETECTOR. STORE FOR REINSTALLATION AFTER DUCT CLEANING. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D15	REMOVE DUCTWORK COMPLETE INCLUDING HANGERS AND SUPPORTS.
D16	REMOVE DIFFUSER/GRILLE COMPLETE.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435

PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'J' - DEMOLITION

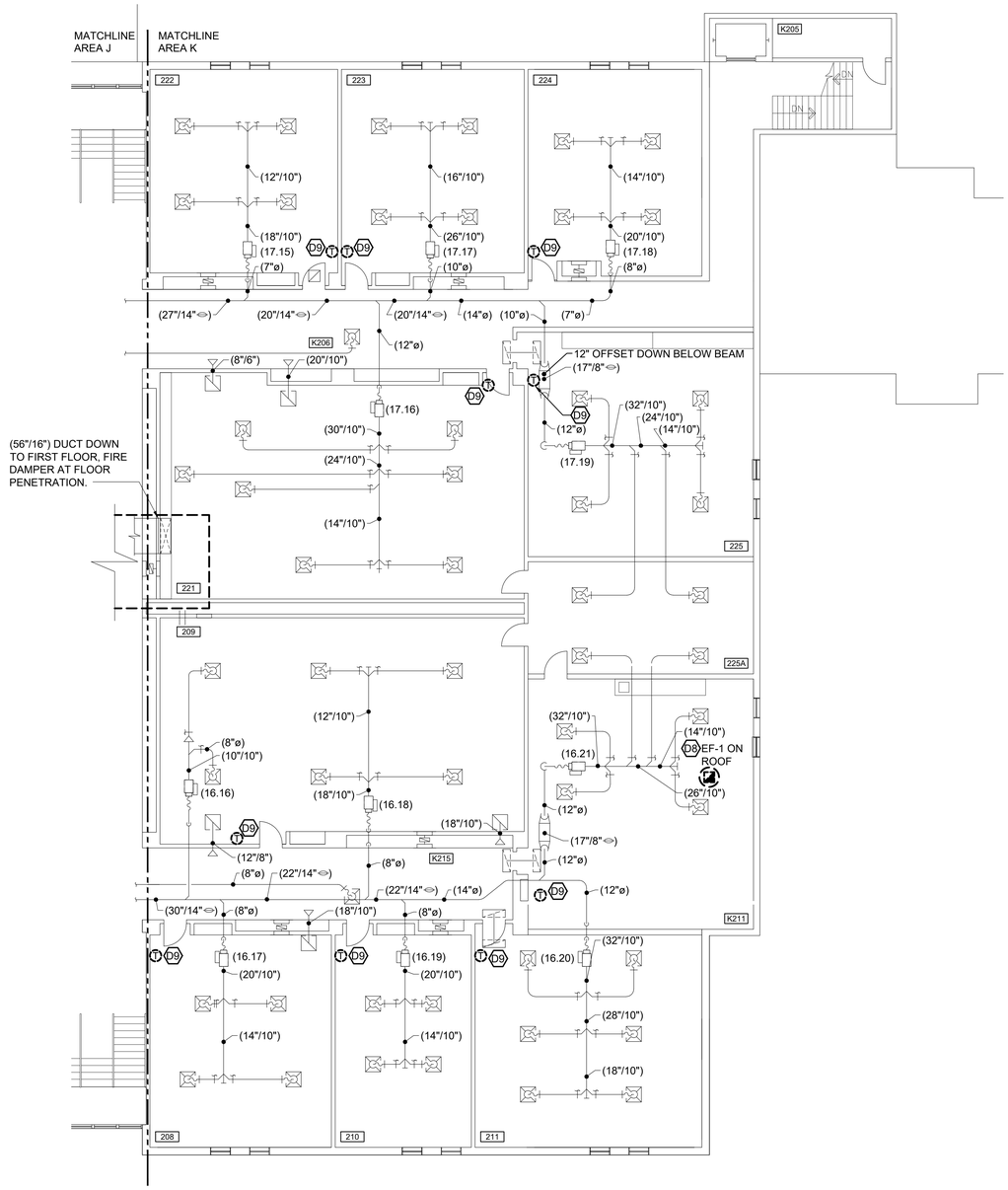
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD109

DATE: 09/08/2025



MECHANICAL SECOND FLOOR PLAN - AREA 'K' - DEMOLITION

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

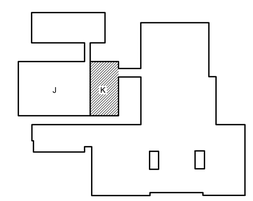
TYPICAL ALL VAV'S: D28

DEMOLITION NOTES	
NO.	DESCRIPTION
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D9	REMOVE WALL MOUNTED TEMPERATURE/HUMIDITIY SENSOR COMPLETE INCLUDING CONTROL WIRING.
D28	DISCONNECT AND REMOVE EXISTING VAV BOX CONTROLLER COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'K' - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD110

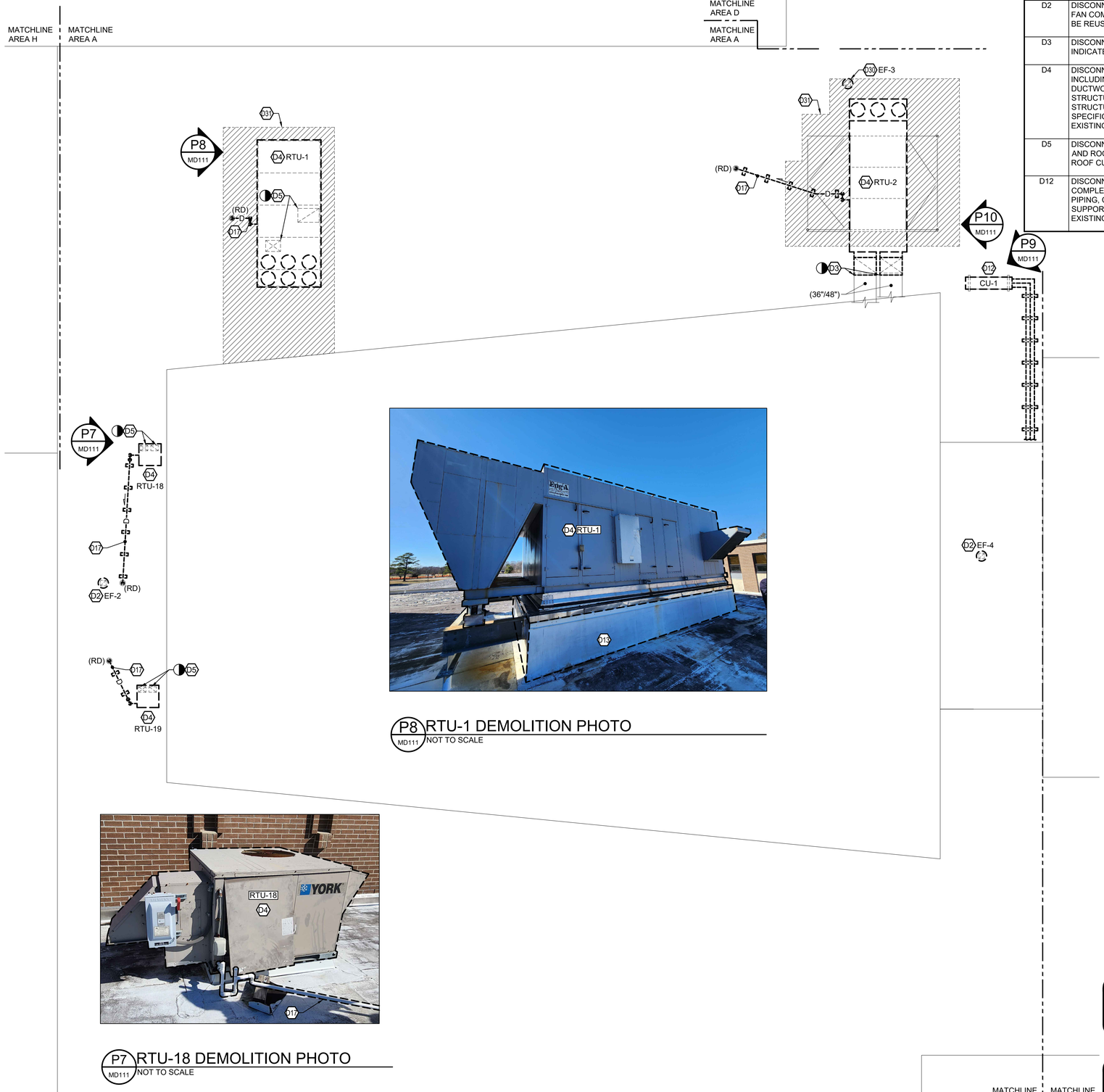
DATE: 09/08/2025

MATCHLINE AREA H

MATCHLINE AREA A

MATCHLINE AREA D

MATCHLINE AREA A



P8 MD111 RTU-1 DEMOLITION PHOTO
NOT TO SCALE

P7 MD111 RTU-18 DEMOLITION PHOTO
NOT TO SCALE

DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB EXISTING TO REMAIN AND BE REUSED IN NEW WORK.
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D12	DISCONNECT AND REMOVE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND REFRIGERANT PIPING SUPPORTS. CONDENSING SUPPORTS SHALL BE EXISTING TO REMAIN.

DEMOLITION NOTES	
NO.	DESCRIPTION
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.
D30	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB SHALL BE EXISTING TO REMAIN AND BE CAPPED. REFER TO "ROOF CURB CAPPING DETAIL" ON DRAWING M-401.
D31	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.

P9 MD111 CU-1 DEMOLITION PHOTO
NOT TO SCALE

P10 MD111 RTU-2 DEMOLITION PHOTO
NOT TO SCALE

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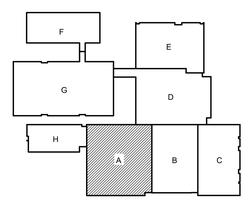
PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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.

MATCHLINE AREA A

MATCHLINE AREA B



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

MECHANICAL ROOF PLAN - AREA 'A' - DEMOLITION
SCALE: 1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'A' - DEMOLITION

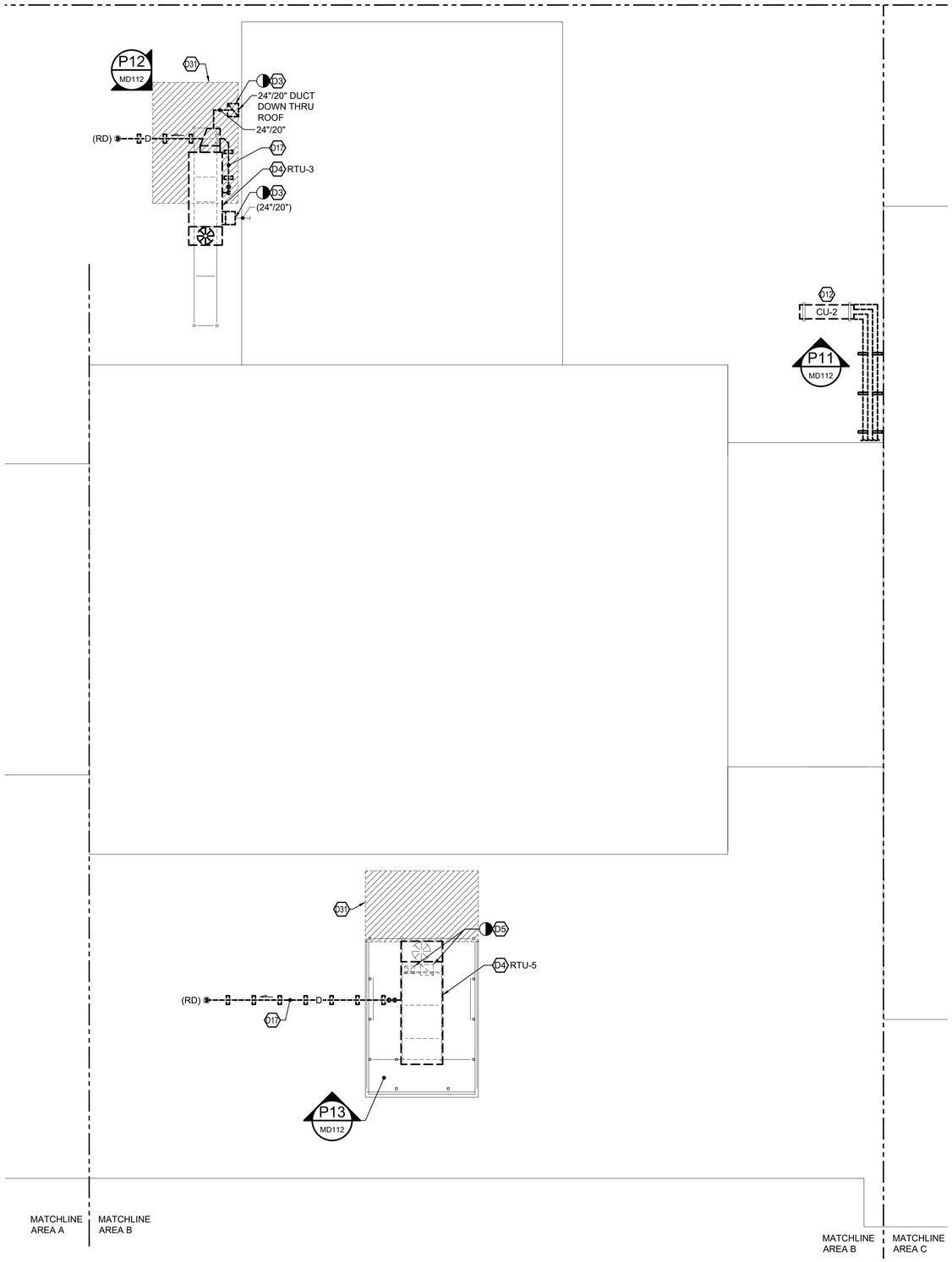
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

MD111

DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'B' – DEMOLITION

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

P11 CU-2 DEMOLITION PHOTO
MD112 NOT TO SCALE

P12 RTU-3 DEMOLITION PHOTO
MD112 NOT TO SCALE

P13 RTU-5 DEMOLITION PHOTO
MD112 NOT TO SCALE

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D12	DISCONNECT AND REMOVE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND REFRIGERANT PIPING SUPPORTS. CONDENSING SUPPORTS SHALL BE EXISTING TO REMAIN.
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.
D31	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

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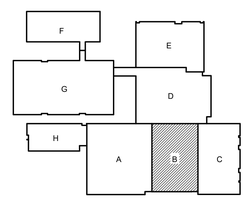


KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'B' - DEMOLITION

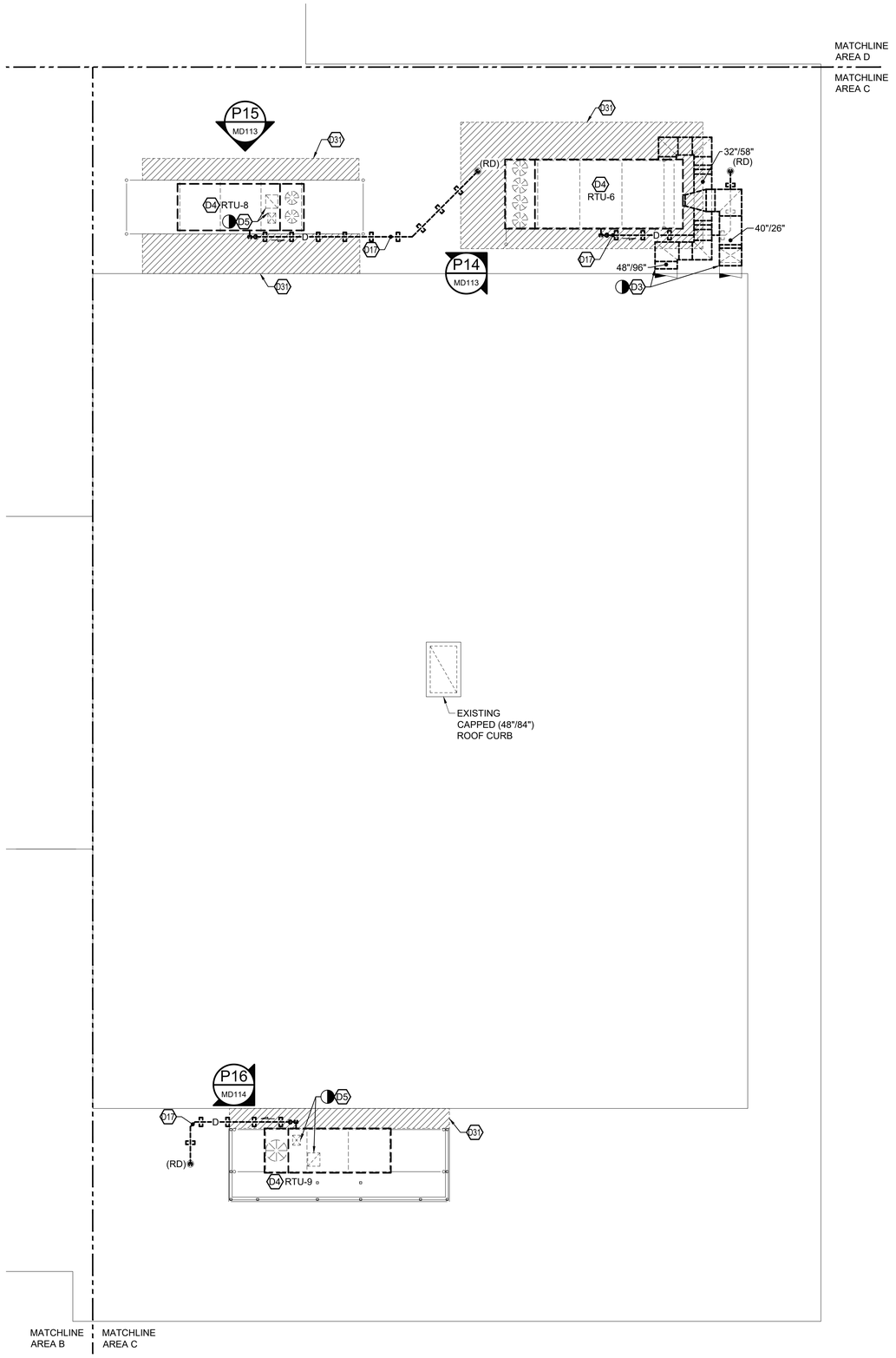
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

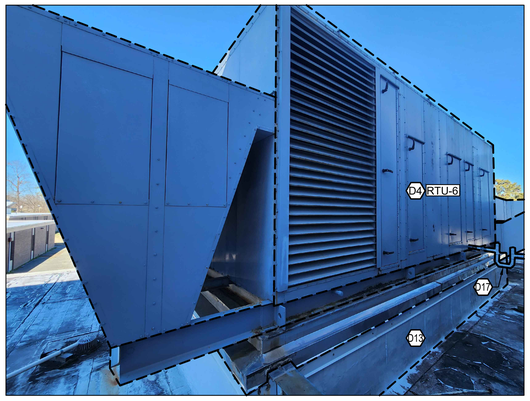
MD112

DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'C' – DEMOLITION

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

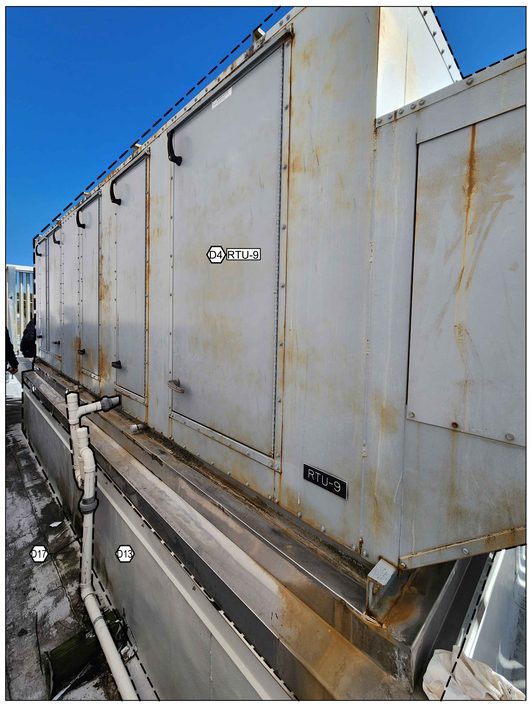


P14 MD113 RTU-6 DEMOLITION PHOTO

NOT TO SCALE

P15 MD113 RTU-8 DEMOLITION PHOTO

NOT TO SCALE



P16 MD113 RTU-9 DEMOLITION PHOTO

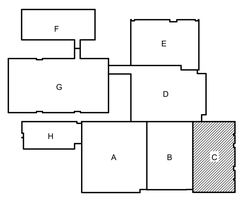
NOT TO SCALE

DEMOLITION NOTES	
NO.	DESCRIPTION
D3	DISCONNECT AND REMOVE DUCTWORK TO POINT INDICATED.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.
D31	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
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4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'C' - DEMOLITION

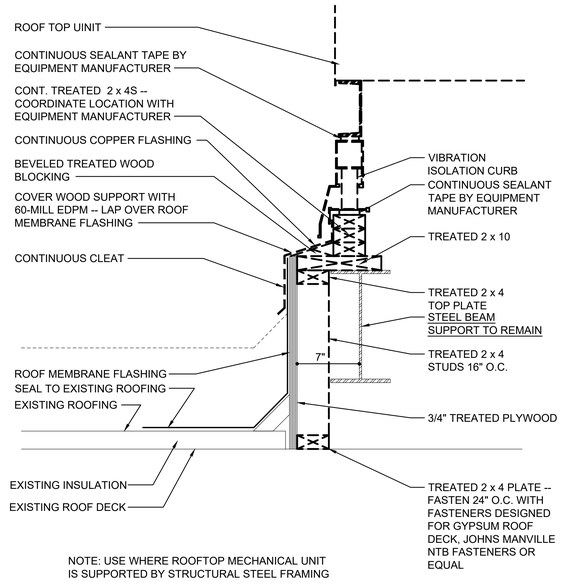
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

MD113

DATE: 09/08/2025



NOTE: USE WHERE ROOFTOP MECHANICAL UNIT IS SUPPORTED BY STRUCTURAL STEEL FRAMING AND VIBRATION ISOLATION CURB IS USED.

TYPICAL RTU WOOD CURB DETAIL - DEMOLITION

NOT TO SCALE

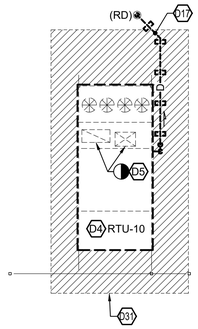
MATCHLINE AREA E

MATCHLINE AREA D

D2 EF-8

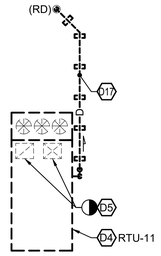
D2 EF-6

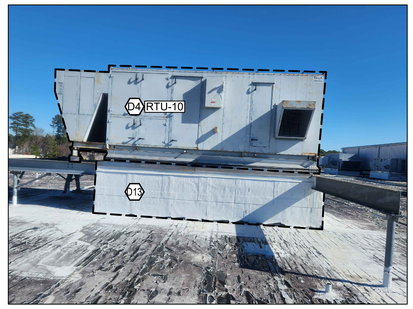
P17 MD114



D6 OU

P18 MD114





P17 MD114 RTU-10 DEMOLITION PHOTO

NOT TO SCALE

D2 EF-7

MATCHLINE AREA D

MATCHLINE AREA A

MECHANICAL ROOF PLAN – AREA 'D' – DEMOLITION

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

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D2	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB EXISTING TO REMAIN AND BE REUSED IN NEW WORK.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D6	DISCONNECT AND REMOVE REMOTE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND SUPPORTS.
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D31	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.

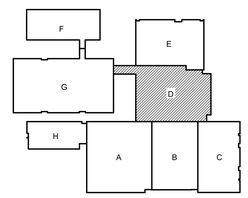
P18 MD114 RTU-11 DEMOLITION PHOTO

NOT TO SCALE

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'D' - DEMOLITION

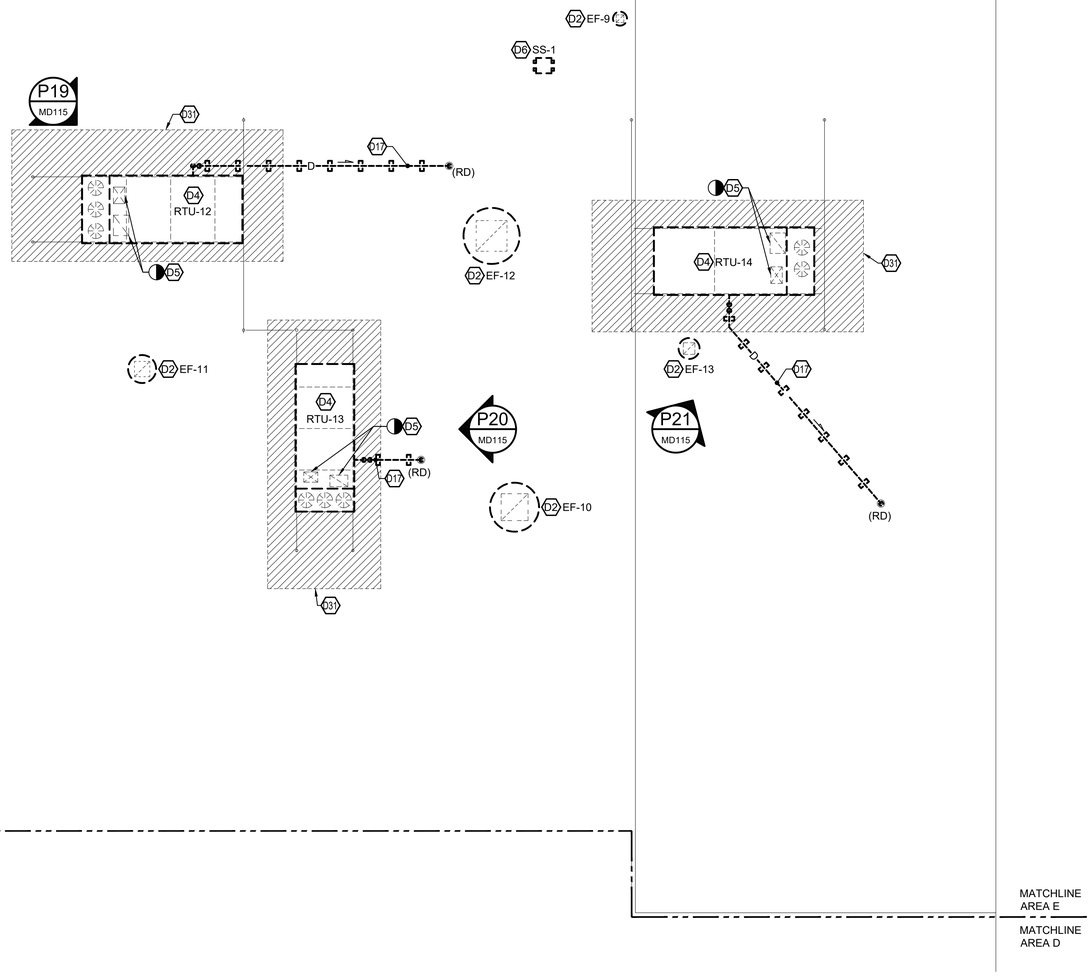
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD114

DATE: 09/08/2025

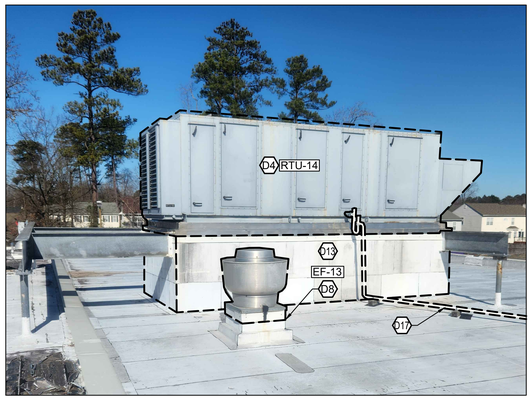


MECHANICAL ROOF PLAN – AREA 'E' – DEMOLITION

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB EXISTING TO REMAIN AND BE REUSED IN NEW WORK.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D6	DISCONNECT AND REMOVE REMOTE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND SUPPORTS.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.

DEMOLITION NOTES	
NO.	DESCRIPTION
D2	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.



P21 MD115 RTU-14 DEMOLITION PHOTO
NOT TO SCALE

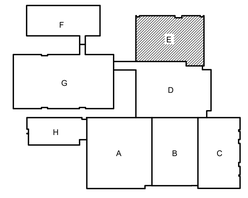
P19 MD115 RTU-12 DEMOLITION PHOTO
NOT TO SCALE

P20 MD115 RTU-13 DEMOLITION PHOTO
NOT TO SCALE

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'E' - DEMOLITION

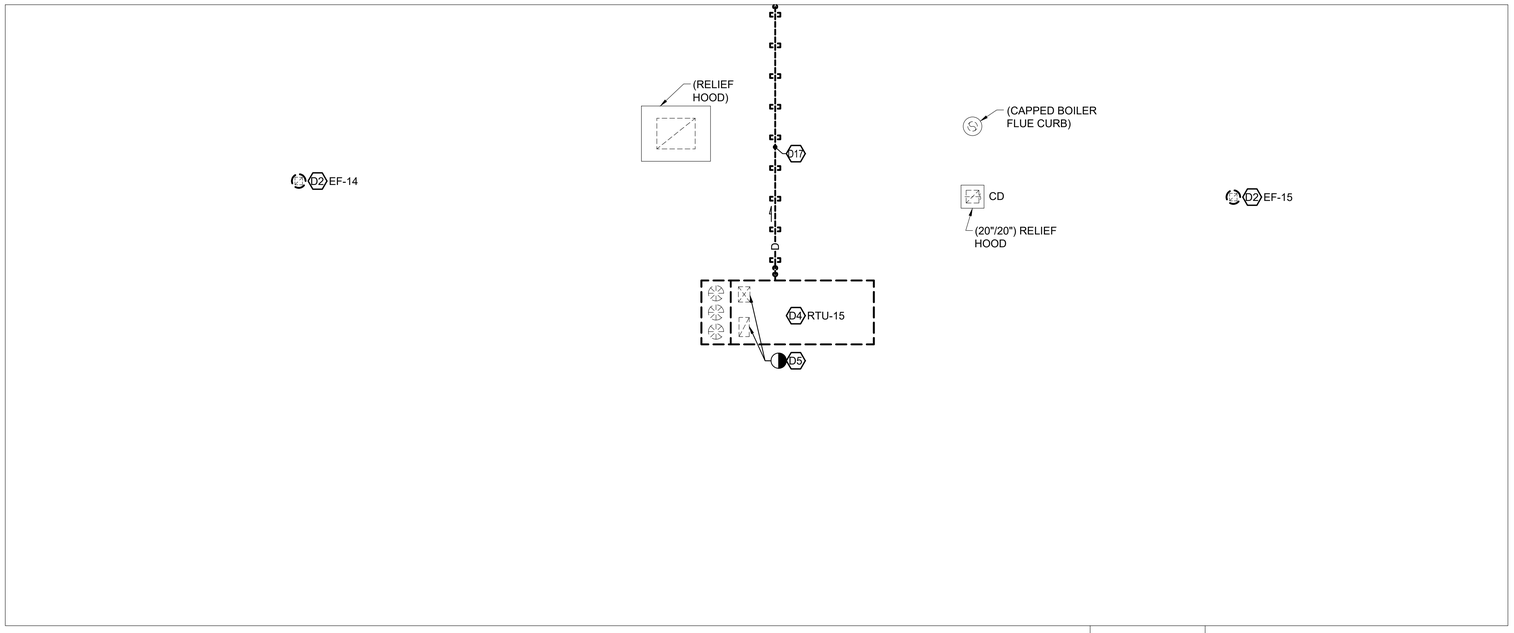
REVISIONS

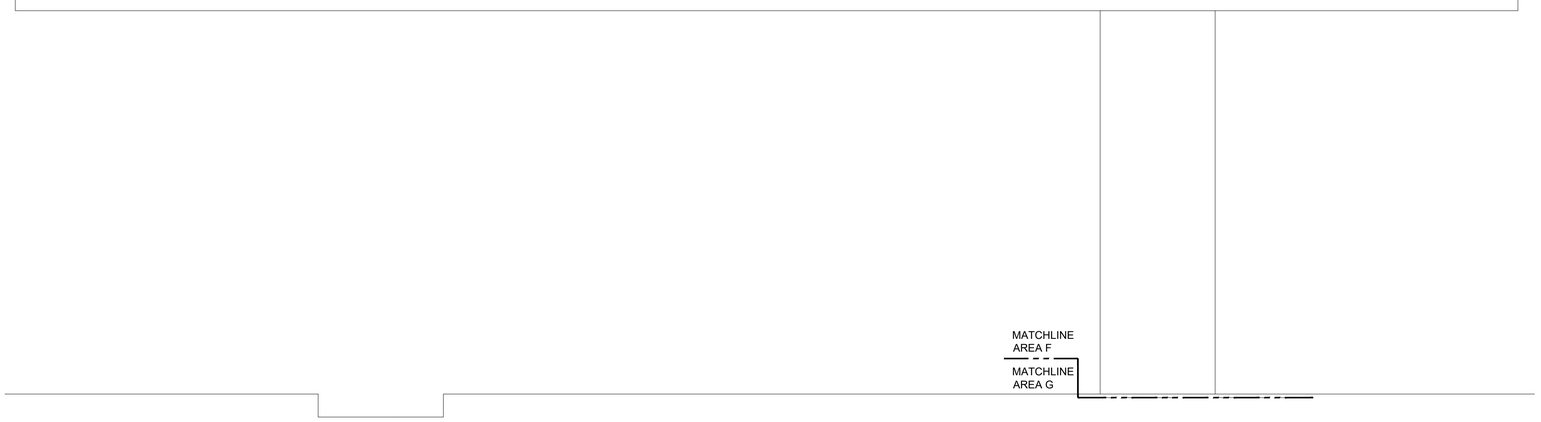
MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

MD115

DATE: 09/08/2025





MECHANICAL ROOF PLAN – AREA 'F' – DEMOLITION

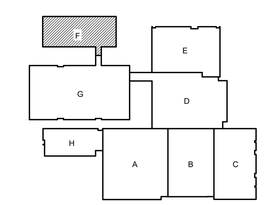
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D2	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB EXISTING TO REMAIN AND BE REUSED IN NEW WORK.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'F' - DEMOLITION

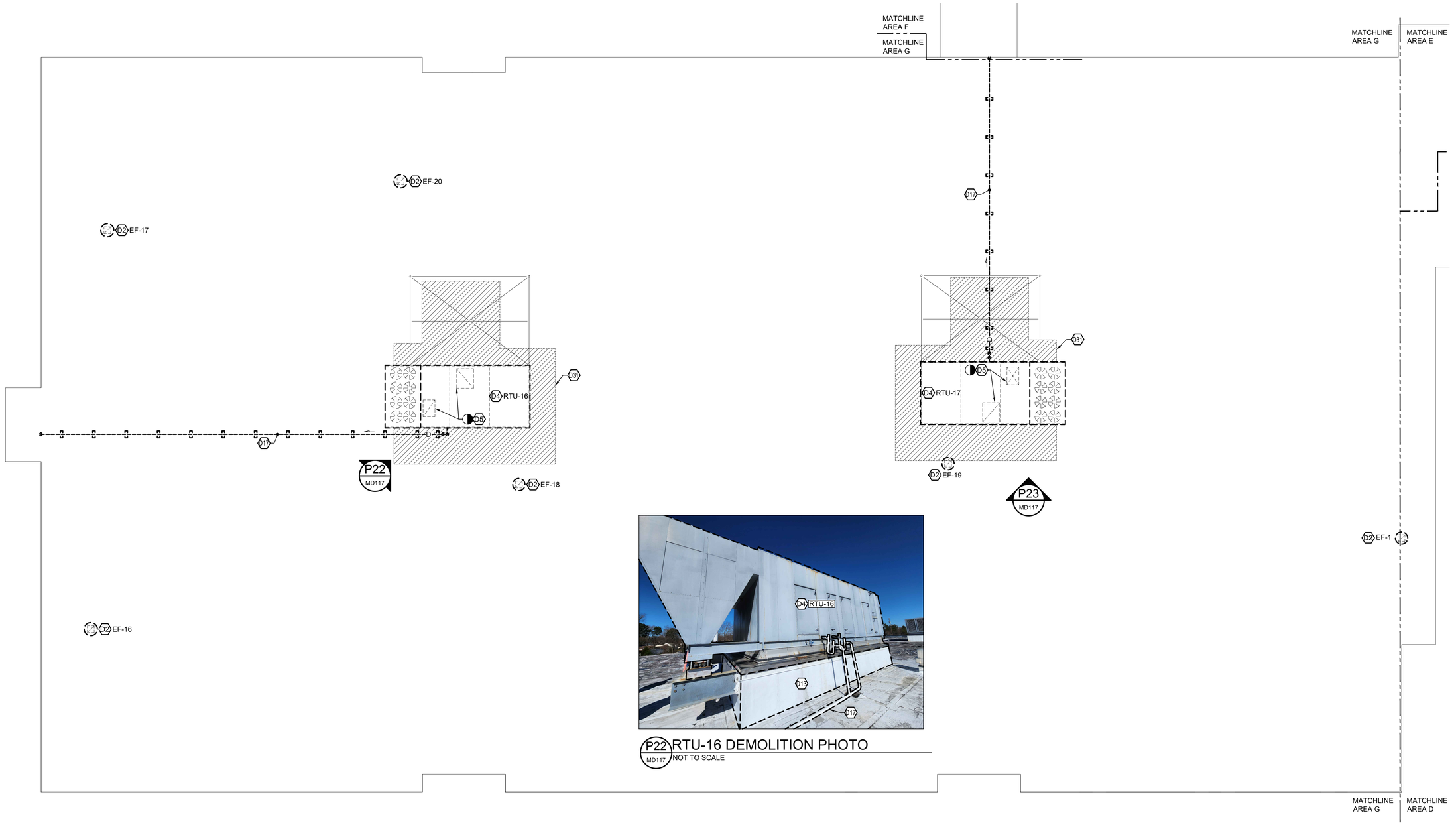
REVISIONS

MARK	DESCRIPTION	DATE

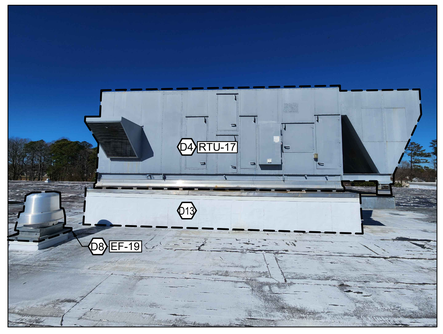
COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

MD116

DATE: 09/08/2025



P22 MD117 RTU-16 DEMOLITION PHOTO
NOT TO SCALE



P23 MD117 RTU-17 DEMOLITION PHOTO
NOT TO SCALE

MECHANICAL ROOF PLAN – AREA 'J' – DEMOLITION

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

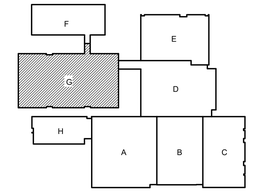
DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D2	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE. ROOF CURB EXISTING TO REMAIN AND BE REUSED IN NEW WORK.
D4	DISCONNECT AND REMOVE ROOFTOP UNIT COMPLETE INCLUDING ALL CONTROLS. REMOVE SUFFICIENT DUCTWORK TO FACILITATE THE REMOVAL OF THE UNIT. STRUCTURAL STEEL EXISTING TO REMAIN. REFER TO STRUCTURAL DRAWINGS AND PAINTING SPECIFICATIONS FOR REQUIREMENTS PERTAINING TO EXISTING STEEL.
D5	DISCONNECT DUCTWORK BETWEEN ROOFTOP UNIT AND ROOF CURB. RETAIN SUFFICIENT DUCTWORK AT ROOF CURB TO FACILITATE THE NEW WORK.
D8	DISCONNECT AND REMOVE ROOF MOUNTED EXHAUST FAN. ROOF CURB EXISTING TO REMAIN.
D13	CONTRACTOR SHALL CAREFULLY REMOVE FABRICATED ROOF CURB AND RIGID INSULATION ON ALL SIDES OF ROOFTOP UNITS FOR ACCESS. PATCH ROOF USING OWNERS ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D31	CONTRACTOR SHALL REMOVE SUFFICIENT PORTIONS OF ROOFING AS REQUIRED FOR THE INSTALLATION OF THE NEW ROOFTOP UNITS AND PLATFORMS. CONTRACTOR SHALL PATCH OPENING WITH METAL DECKING, ROOF INSULATION AND MATCH EXISTING ROOFING MATERIALS IN COLOR, TEXTURE AND STYLE.

DUCT CLEANING NOTE: ALL EXISTING-TO-REMAIN DUCTWORK AND DIFFUSERS SHALL BE CLEANED IN ACCORDANCE WITH DUCT CLEANING NOTE ON M-001, AND SPECIFICATION SECTION 230885 PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"
SCALE 5' 0 5' 10' 15' 20'
FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VA 23666
4325 GUN ROAD GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'J' - DEMOLITION

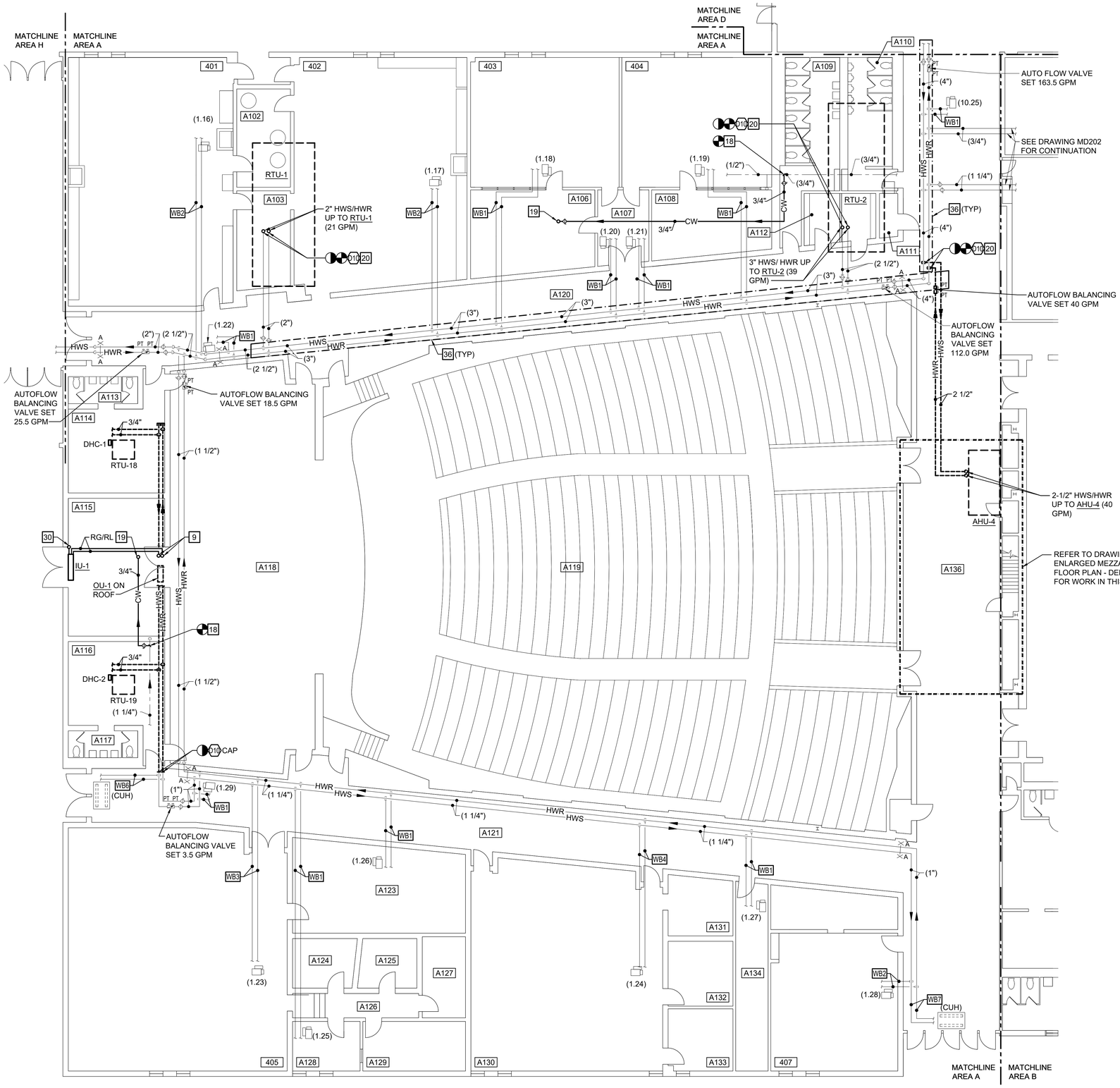
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

MD117

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'A' - PIPING - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.

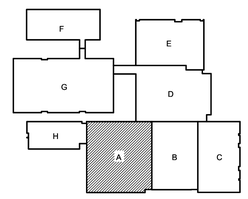
NEW WORK NOTES	
NO.	DESCRIPTION
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.
30	ROUTE CONDENSATE DRAIN PIPING UP TO ROOF AND TO CLOSEST ROOF DRAIN.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)
WB3	3/4" HWS/HWR (EXISTING 2.0 GPM)
WB4	3/4" HWS/HWR (EXISTING 2.5 GPM)
WB6	1" HWS/HWR (EXISTING 3.5 GPM)
WB7	1" HWS/HWR (EXISTING 5.0 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

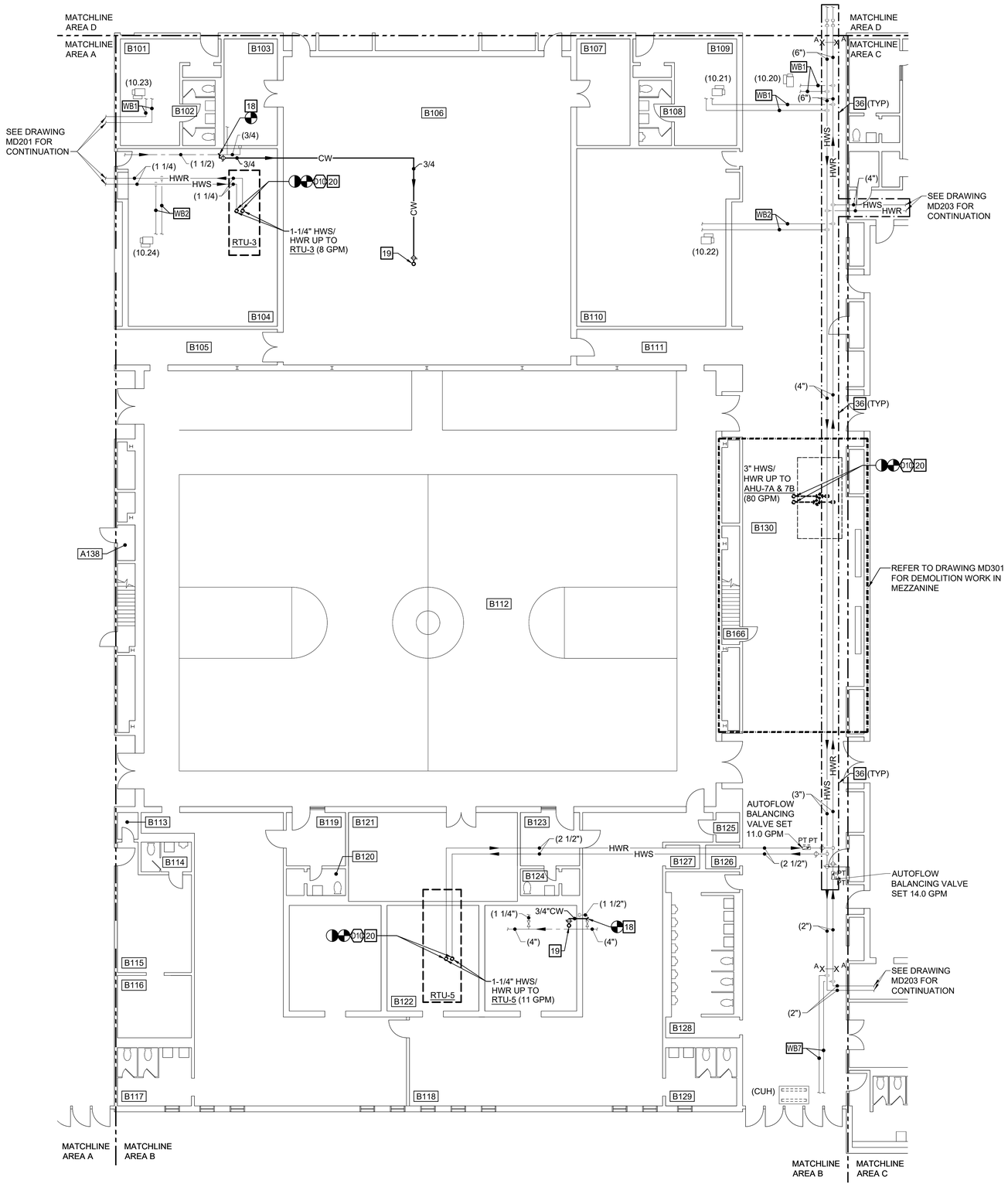
MECHANICAL FIRST FLOOR PLAN - AREA 'A' - PIPING - DEMOLITION AND NEW WORK

REVISIONS		
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD201

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'B' - PIPING - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.

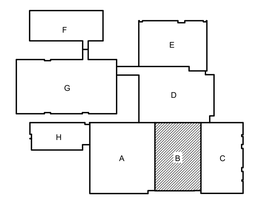
NEW WORK NOTES	
NO.	DESCRIPTION
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)
WB7	1" HWS/HWR (EXISTING 5.0 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

SCALE: 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
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09-08-2025
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TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'A' - PIPING - DEMOLITION AND NEW WORK

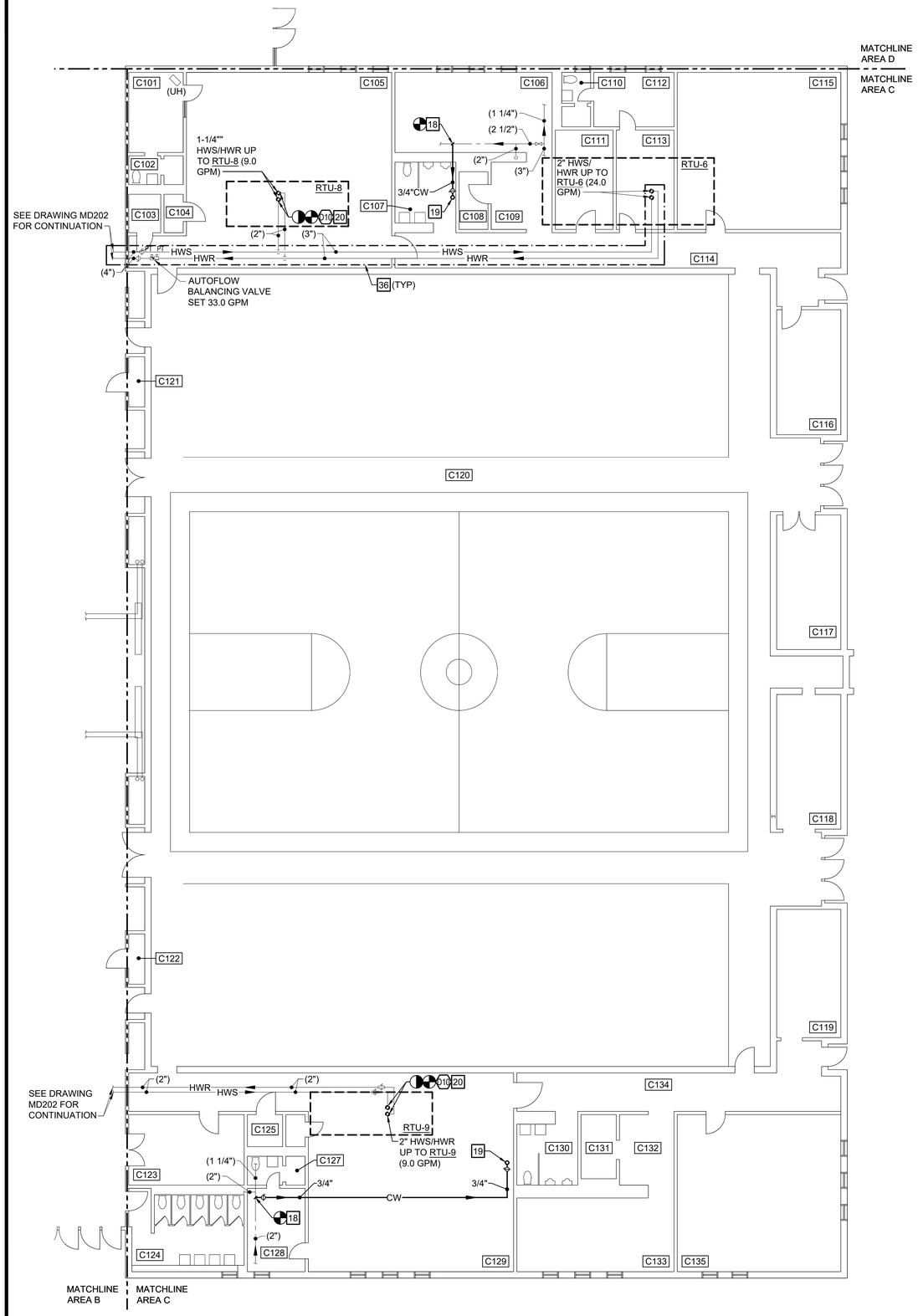
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD202

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'C' - PIPING - DEMOLITION AND NEW WORK

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

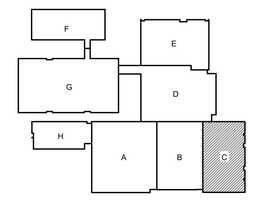
DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.

NEW WORK NOTES	
NO.	DESCRIPTION
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
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4329 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (TIDEWAY): (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'C' - PIPING - DEMOLITION AND NEW WORK

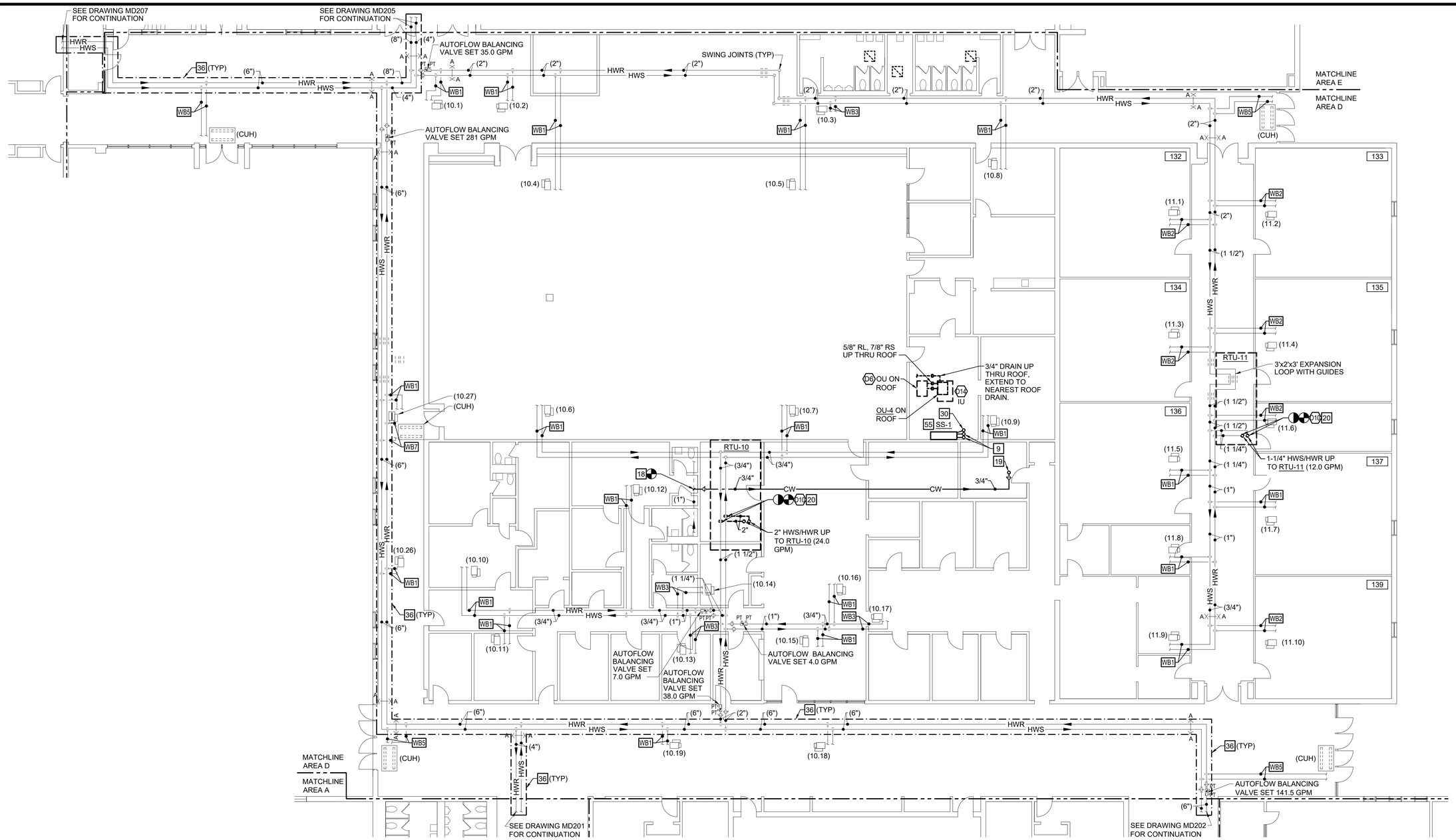
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD203

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'D' - PIPING - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D6	DISCONNECT AND REMOVE REMOTE CONDENSING UNIT COMPLETE INCLUDING ALL ASSOCIATED REFRIGERANT PIPING, CONTROLS AND SUPPORTS.
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.
D14	DISCONNECT AND REMOVE INDOOR UNIT COMPLETE INCLUDING ALL ASSOCIATED SUPPORTS, THERMOSTAT AND CONTROLS.

NEW WORK NOTES	
NO.	DESCRIPTION
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.
30	ROUTE CONDENSATE DRAIN PIPING UP TO ROOF AND TO CLOSEST ROOF DRAIN.

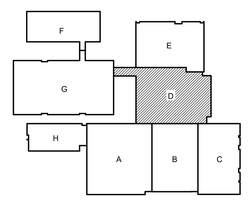
NEW WORK NOTES	
NO.	DESCRIPTION
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.
55	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT UNIT ON THE FLOOR PER MANUFACTURER'S RECOMMENDATIONS.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)
WB3	3/4" HWS/HWR (EXISTING 2.0 GPM)
WB5	1" HWS/HWR (EXISTING 3.0 GPM)
WB7	1" HWS/HWR (EXISTING 5.0 GPM)

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VA 23666
4329 OLIN ROAD GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'D' - PIPING - DEMOLITION AND NEW WORK

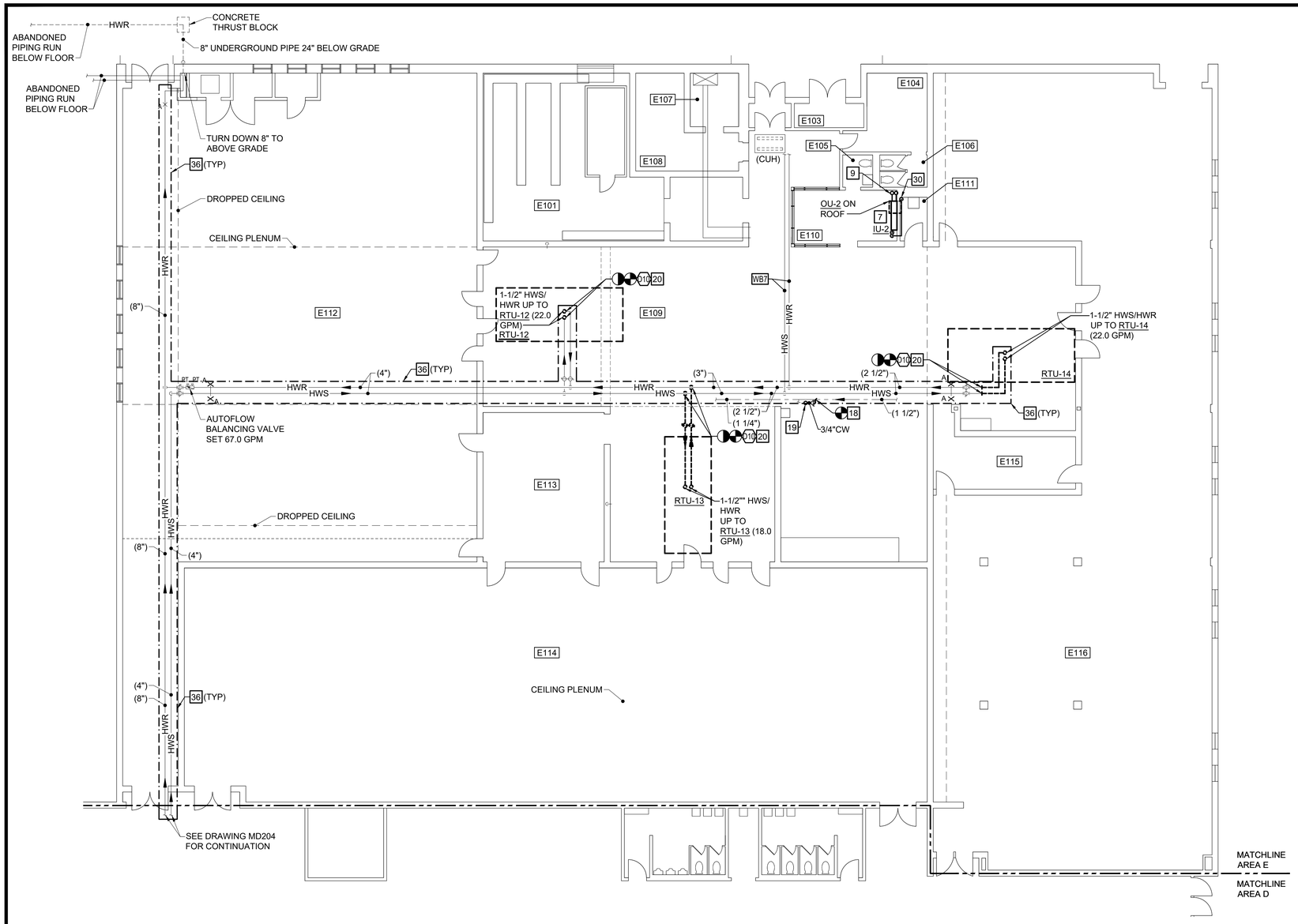
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD204

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'E' - PIPING - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.

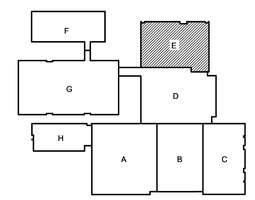
NEW WORK NOTES	
NO.	DESCRIPTION
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.
30	ROUTE CONDENSATE DRAIN PIPING UP TO ROOF AND TO CLOSEST ROOF DRAIN.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB7	1" HWS/HWR (EXISTING 5.0 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 CUSH ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

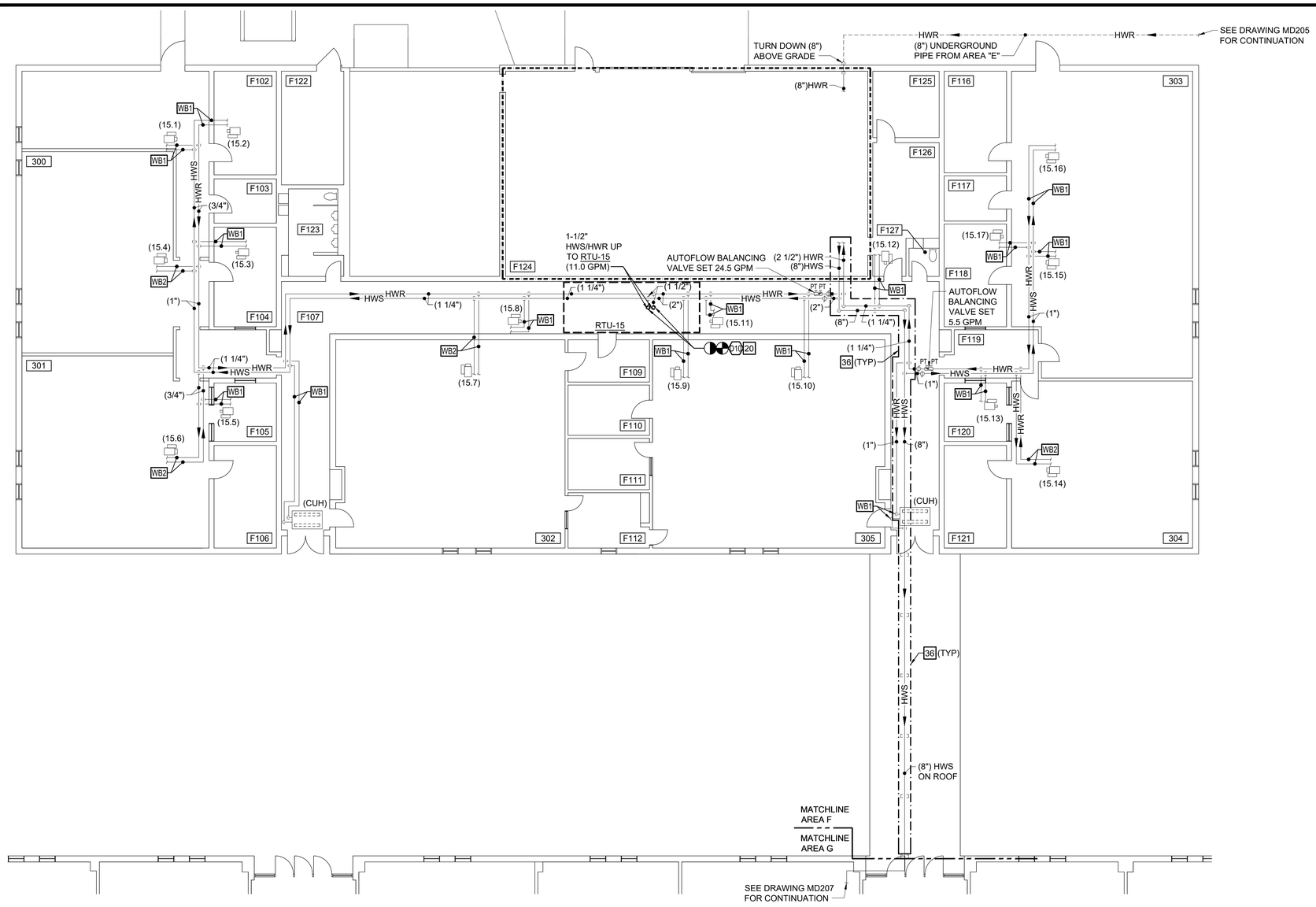
MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'E' - PIPING - DEMOLITION AND NEW WORK

REVISIONS		
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD205

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'F' - PIPING - DEMOLITION AND NEW WORK

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

DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.

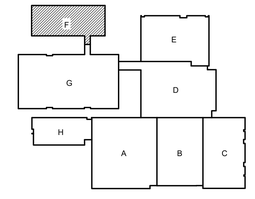
NEW WORK NOTES	
NO.	DESCRIPTION
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-403.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)896-4415, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'F' - PIPING - DEMOLITION AND NEW WORK

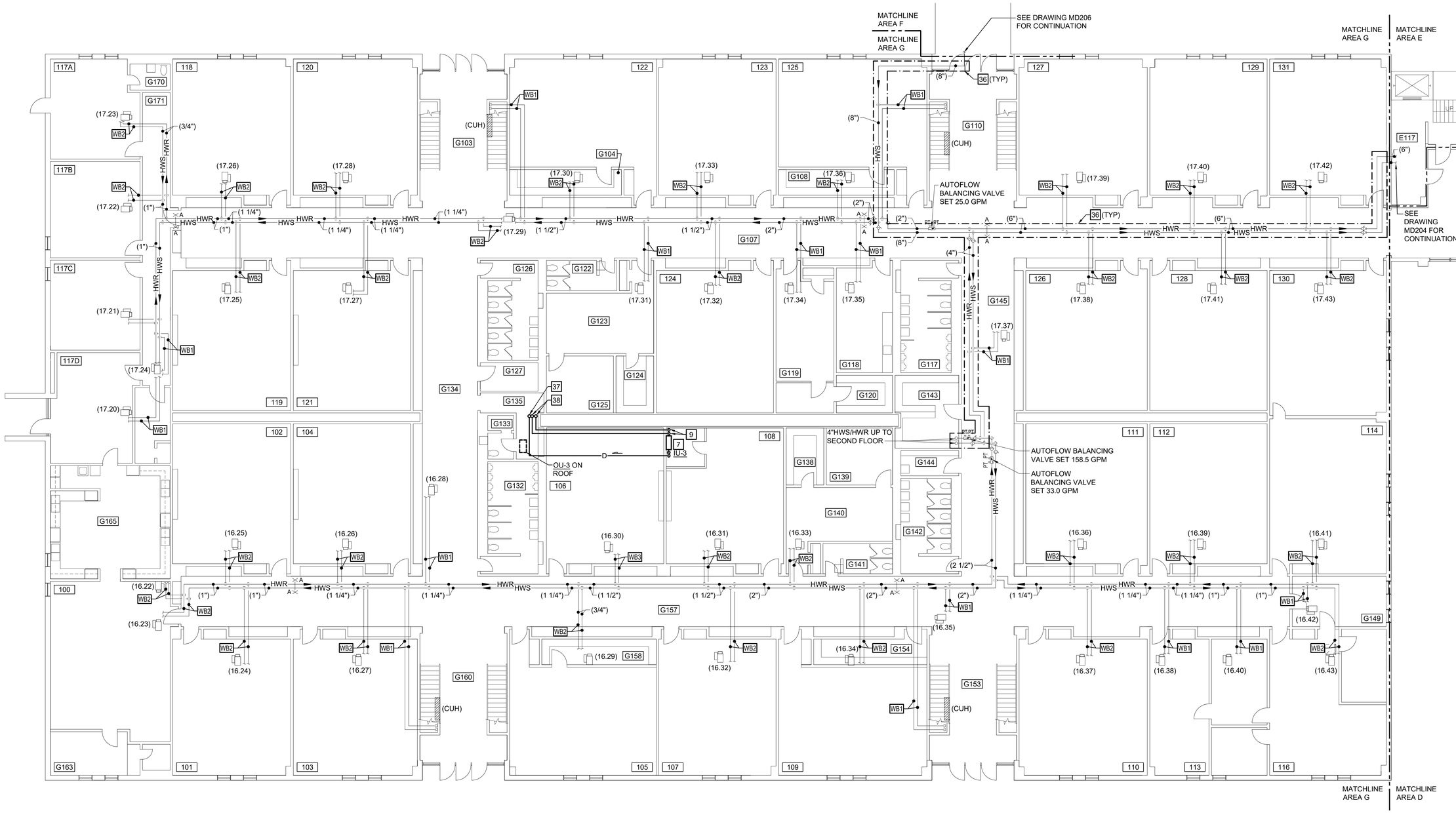
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD206

DATE: 09/08/2025



MECHANICAL FIRST FLOOR PLAN - AREA 'G' - PIPING - DEMOLITION AND NEW WORK

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

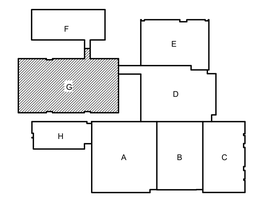
NEW WORK NOTES	
NO.	DESCRIPTION
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.
37	ROUTE CONDENSATE UP THROUGH SECOND FLOOR TO ROOF.
38	ROUTE PIPING UP THROUGH SECOND FLOOR AND TO THE OUTDOOR UNIT OF ROOF.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)
WB3	3/4" HWS/HWR (EXISTING 2.0 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (TIDEWATER): (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'G' - PIPING - DEMOLITION AND NEW WORK

REVISIONS

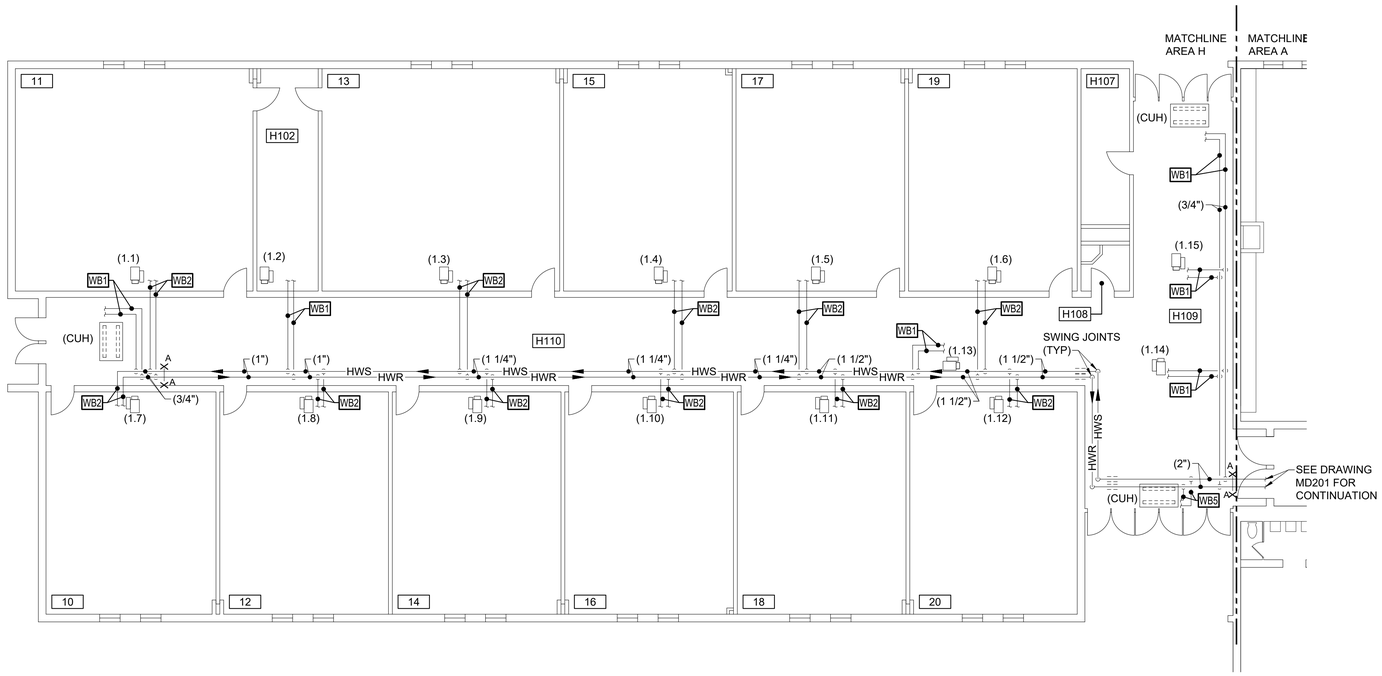
MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD207

DATE: 09/08/2025

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)
WB5	1" HWS/HWR (EXISTING 3.0 GPM)



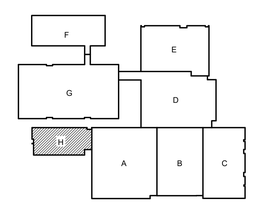
MECHANICAL FIRST FLOOR PLAN - AREA 'H' - PIPING - DEMOLITION AND NEW WORK

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

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'H' - PIPING - DEMOLITION AND NEW WORK

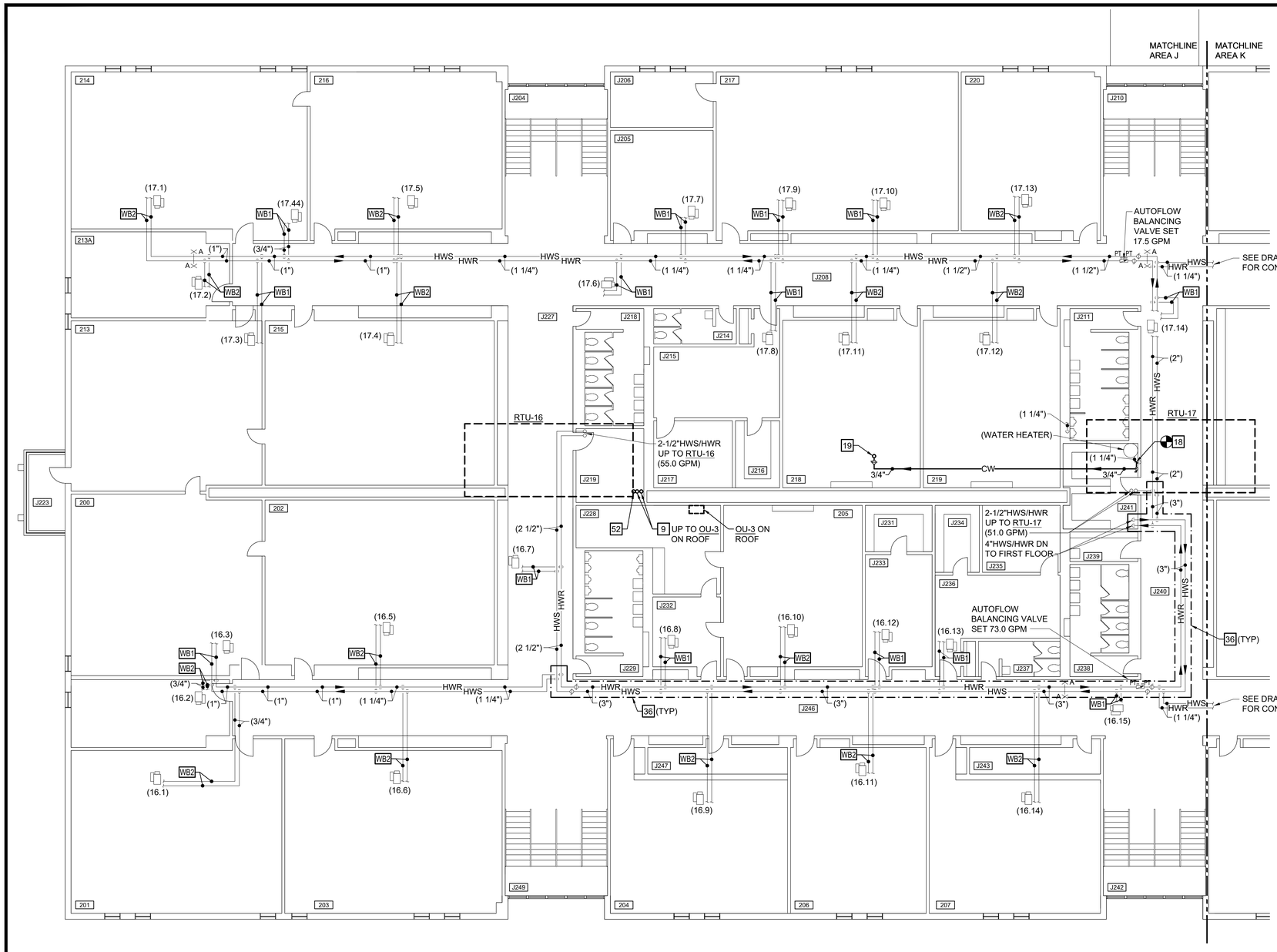
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

MD208

DATE: 09/08/2025



MECHANICAL SECOND FLOOR PLAN - AREA 'J' - PIPING - DEMOLITION AND NEW WORK

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

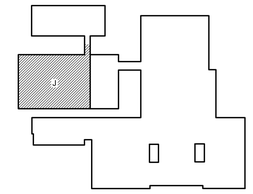
NEW WORK NOTES	
NO.	DESCRIPTION
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
36	CONTRACTOR SHALL REMOVE AND REPLACE VICTAULIC CONNECTIONS ALONG THE MAIN CORRIDOR HWS/HWR PIPING SYSTEM. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403.
52	ROUTE CONDENSATE DRAIN PIPING TO ROOF.

WATER BALANCE NOTES	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0" SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'J' - PIPING - DEMOLITION AND NEW WORK

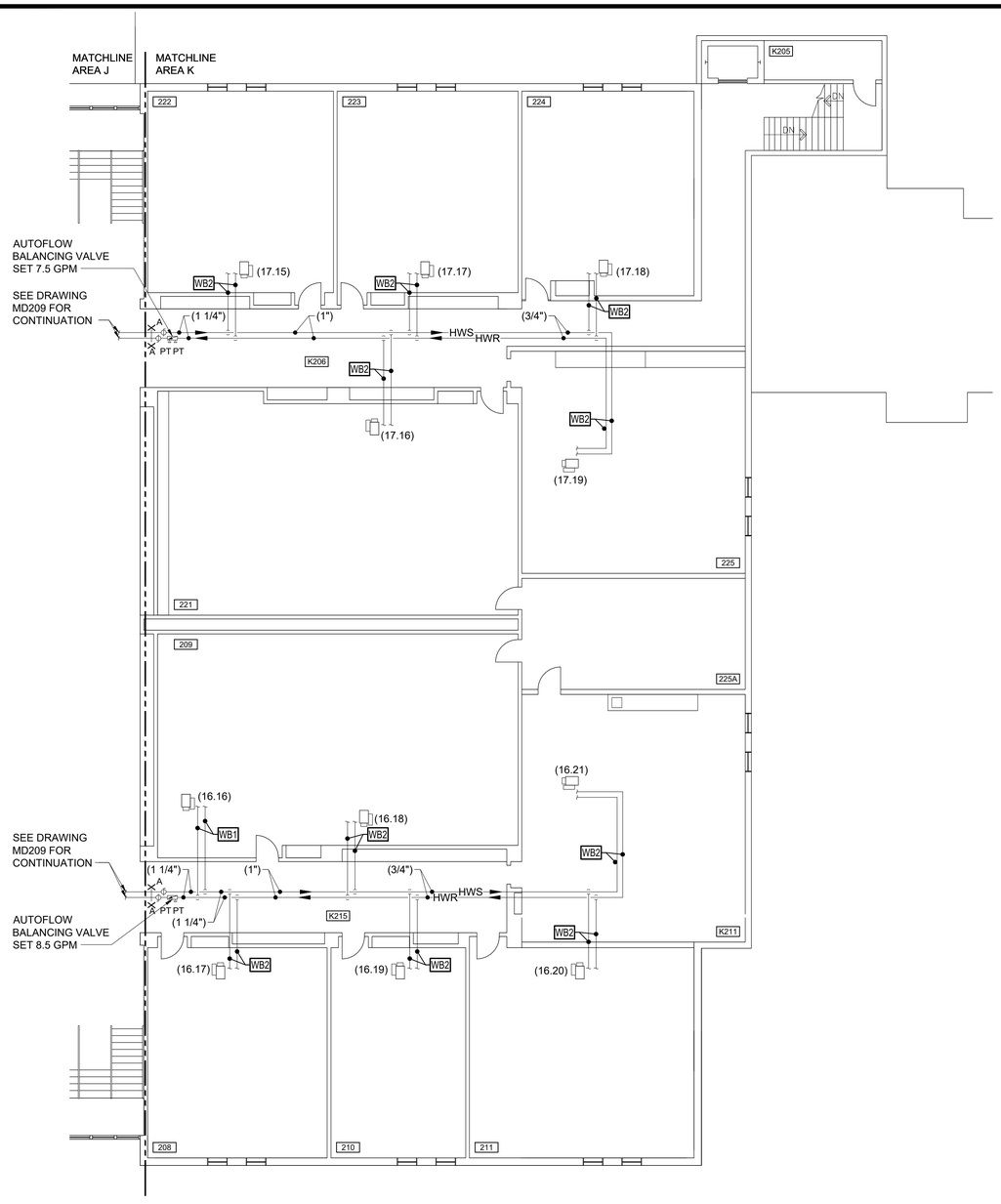
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD209

DATE: 09/08/2025



MECHANICAL SECOND FLOOR PLAN - AREA 'K' - PIPING - DEMOLITION AND NEW WORK

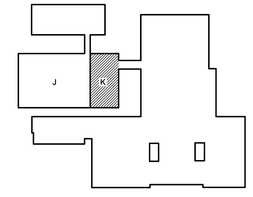
SCALE: 1/8" = 1'-0"

WATER BALANCE NOTES ☐	
NO.	DESCRIPTION
WB1	3/4" HWS/HWR (EXISTING 1.0 GPM)
WB2	3/4" HWS/HWR (EXISTING 1.5 GPM)

ALTERNATE BID #2: WORK INCLUDES REPLACEMENT OF ALL VICTAULIC FITTINGS WITH WELDED CONNECTIONS.

PHASING NOTE: WORK IN THIS AREA SHALL BE PHASED IN ACCORDANCE WITH DRAWING G-001. REFER TO NOTES ON DRAWING G-001 FOR ALL PHASING REQUIREMENTS PERTAINING TO MECHANICAL DEMOLITION AND NEW WORK.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
HAMPTON, VA 23666
4325 CUSTIS ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'K' - PIPING - DEMOLITION AND NEW WORK

REVISIONS

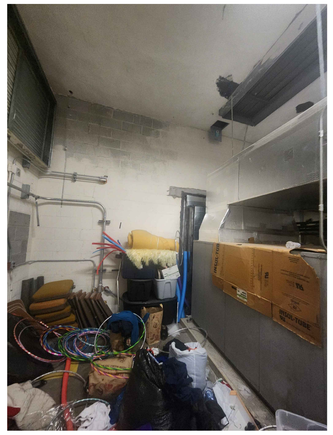
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

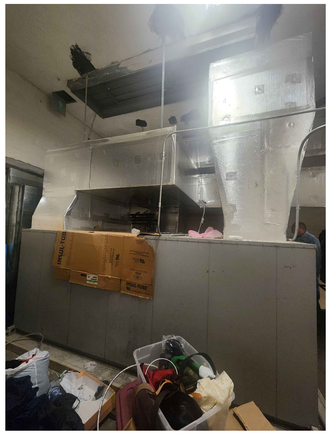
MD210

DATE: 09/08/2025

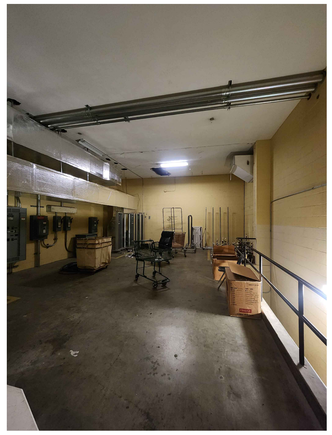
DEMOLITION NOTES	
NO.	DESCRIPTION
D2	DISCONNECT DUCTWORK TO POINT INDICATED AND REMOVE ROOF MOUNTED EXHAUST FAN COMPLETE.
D7	DISCONNECT AND REMOVE DUCT MOUNTED SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.
D18	REMOVE PLENUM BACK TO LOUVER COMPLETE.
D19	DISCONNECT AND REMOVE DUCTWORK COMPLETE INCLUDING HANGERS AND SUPPORTS COMPLETE TO POINT INDICATED.



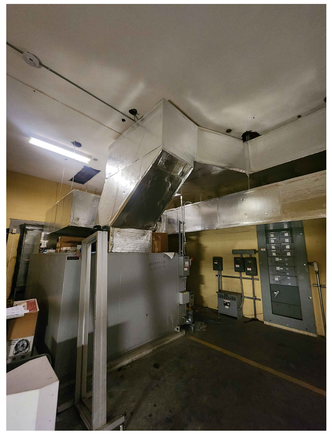
P24 MD301 MEZZANINE AREA 'A' PHOTO
NOT TO SCALE



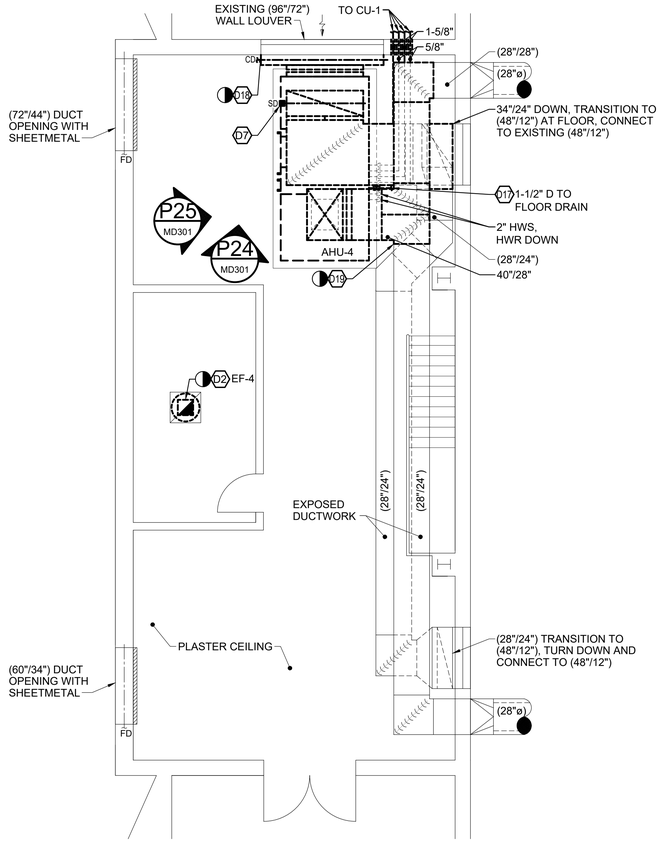
P25 MD301 MEZZANINE AREA 'A' PHOTO
NOT TO SCALE



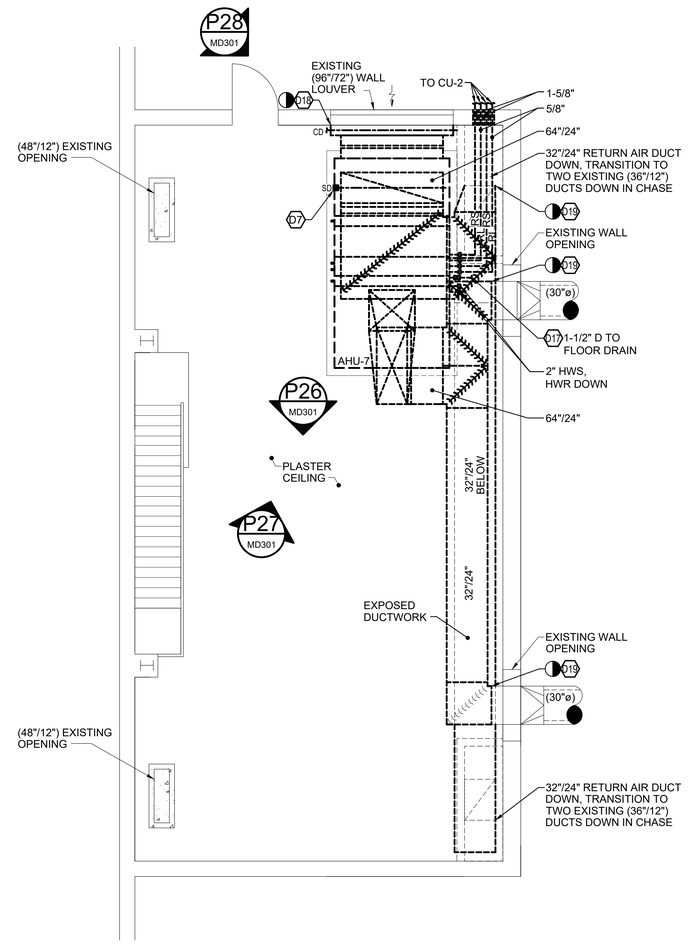
P26 MD301 MEZZANINE AREA 'B' PHOTO
NOT TO SCALE



P27 MD301 MEZZANINE AREA 'B' PHOTO
NOT TO SCALE



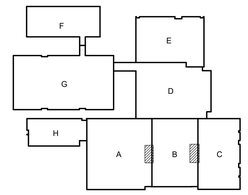
ENLARGED MEZZANINE PLAN - AREA 'A' - DEMOLITION
SCALE: 1/4" = 1'-0"



ENLARGED MEZZANINE PLAN - AREA 'B' - DEMOLITION
SCALE: 1/4" = 1'-0"

P28 MD301 MEZZANINE AREA 'B' PHOTO
NOT TO SCALE

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

1/4" = 1'-0"
SCALE
2' 0 2' 4' 6' 8' 10'
FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ENLARGED MEZZANINE PLANS - AREAS 'A' AND 'B' - DEMOLITION

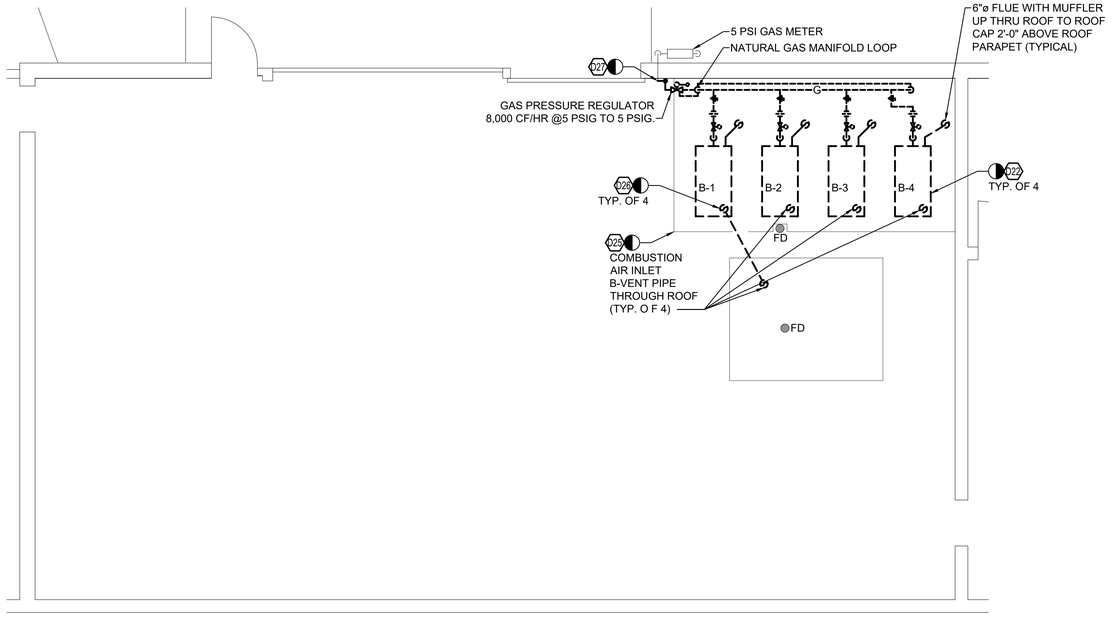
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD301

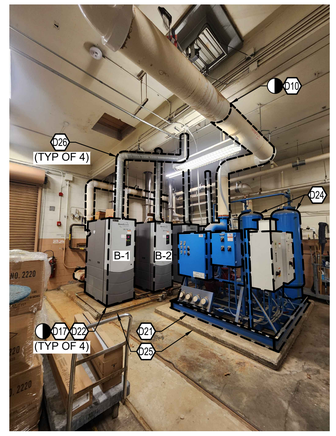
DATE: 09/08/2025



ENLARGED MECHANICAL ROOM - GAS PIPING, BOILER FLUE AND INTAKE PIPING- DEMOLITION

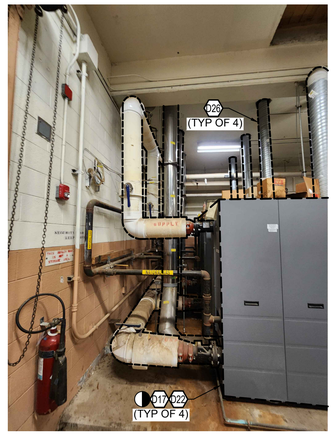
SCALE: 1/4" = 1'-0"

DEMOLITION NOTES	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED.
D17	REMOVE CONDENSATE DRAIN PIPING COMPLETE.
D21	DISCONNECT AND REMOVE PUMP PACKAGE COMPLETE INCLUDING VFDS, AIR SEPARATOR, EXPANSION TANK, AND PIPING TO POINT INDICATED.
D22	DISCONNECT AND REMOVE BOILER AND CONTROL WIRING COMPLETE.
D23	REMOVE CHEMICAL FEED TANK COMPLETE.
D24	REMOVE EXPANSION TANKS COMPLETE.
D25	CONCRETE PAD EXISTING TO REMAIN.
D26	REMOVE BOILER COMBUSTION AIR INLET PIPE B-VENT COMPLETE. ROOF CURB EXISTING TO REMAIN.
D27	DISCONNECT AND REMOVE GAS PIPING TO BOILER, LEAVE SUFFICIENT LENGTH OF PIPE AFTER PENETRATION TO ALLOW RECONNECTION TO NEW PIPING. TEMPORARILY CAP GAS PIPING.
D29	DISCONNECT AND REMOVE AIR/DIRT SEPARATOR COMPLETE.



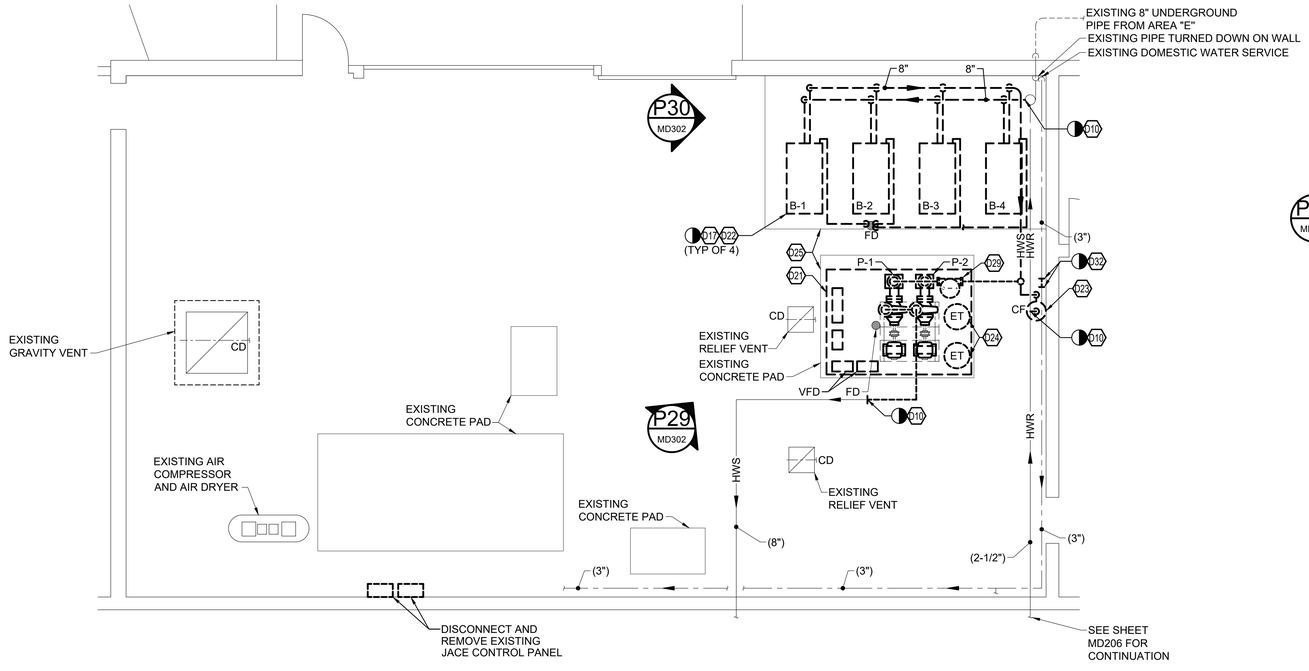
P29 MD302 MECHANICAL ROOM PHOTO

NOT TO SCALE



P30 MD302 MECHANICAL ROOM PHOTO

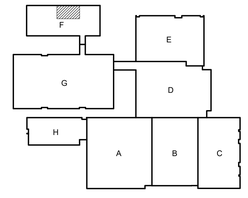
NOT TO SCALE



ENLARGED MECHANICAL ROOM - DEMOLITION

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

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

1/4" = 1'-0" SCALE 2' 0 2' 4' 6' 8' 10' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ENLARGED MECHANICAL ROOM - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

MD302

DATE: 09/08/2025

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT ABOVE DOOR WITH BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
16	PROVIDE NEW 40" VENT-A-KILN SYSTEM MODEL "1544" WITH FAN, 5" FLEXIBLE EXHAUST DUCTWORK, OVERHEAD COUNTER-WEIGHT PULLEY SYSTEM, PLATE, CONTROLLER AND SWINGING WALL BRACKET ASSEMBLY FOR STAINLESS STEEL HOOD. ROUTE 5" FLEX TO 6" ROUND DUCT TO EXTERIOR WALL WITH SURFACE MOUNTED LOUVER WITH BIRDSCREEN.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.
58	REFER TO "ADAPTER CURB DETAIL" ON DRAWING M-402.
59	PROVIDE NEW WALL MOUNTED THERMOSTAT AND CONTROL WIRING.

MECHANICAL FIRST FLOOR PLAN - AREA 'A' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.

40 TYPICAL ALL VAV'S

KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, #203 GUN ROAD, 2809 S. LYNNHAVEN ROAD, TEL (757)599-6435 — HAMPTON, VA 23666; GLEN ALLEN, VA 23060; VA BEACH, VA 23452; PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'A' - NEW WORK

REVISIONS

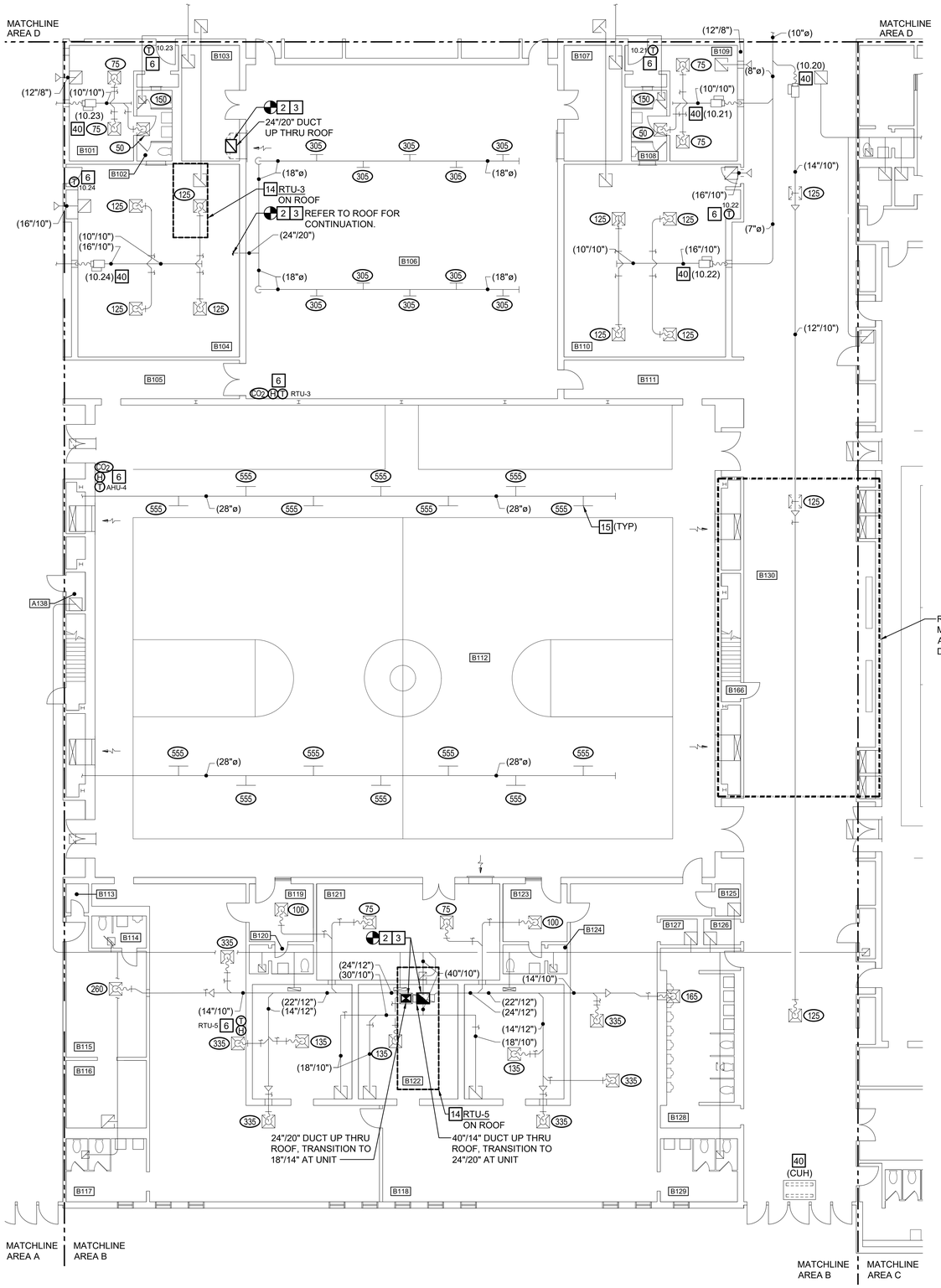
MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-101

DATE: 09/08/2025

NEW WORK NOTES ☐	
NO.	DESCRIPTION
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.

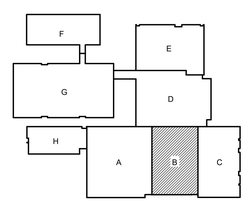


MECHANICAL FIRST FLOOR PLAN - AREA 'B' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.

40 TYPICAL ALL VAV'S



KEY PLAN

NOT TO SCALE

1/8" = 1'-0" SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'B' - NEW WORK

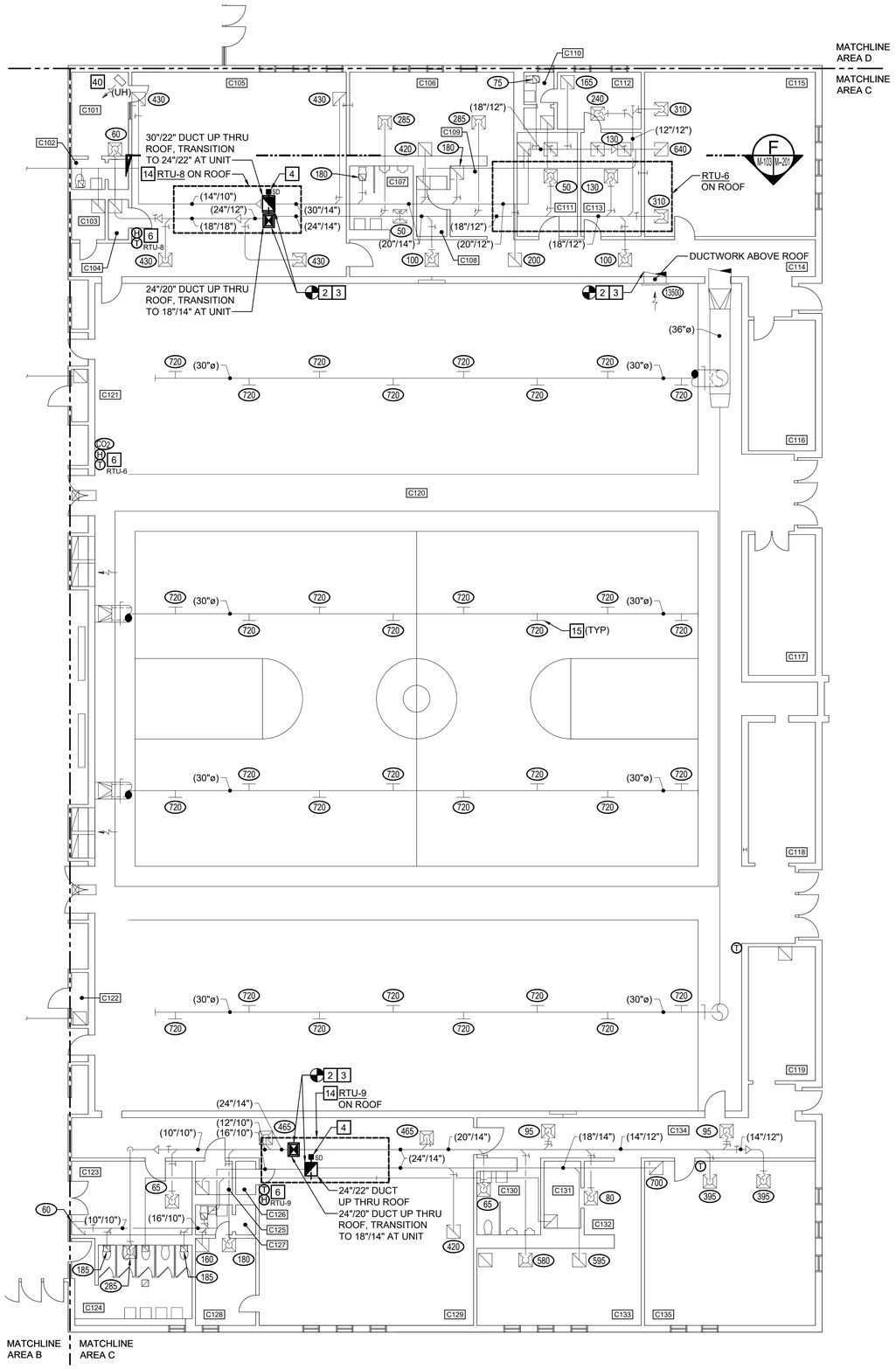
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-102

DATE: 09/08/2025



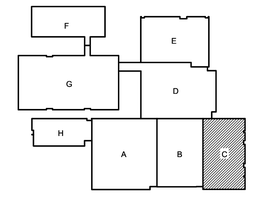
MECHANICAL FIRST FLOOR PLAN - AREA 'C' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.

40 TYPICAL ALL VAV'S

NEW WORK NOTES ☐	
NO.	DESCRIPTION
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
4	REINSTALL DUCT DETECTOR SAVED FROM DEMOLITION. SMOKE DETECTOR SHALL BE INTERLOCKED WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SYSTEM SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO DIVISION 26 FOR FURTHER INFORMATION.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 CUSH ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL FIRST FLOOR PLAN - AREA 'C' - NEW WORK

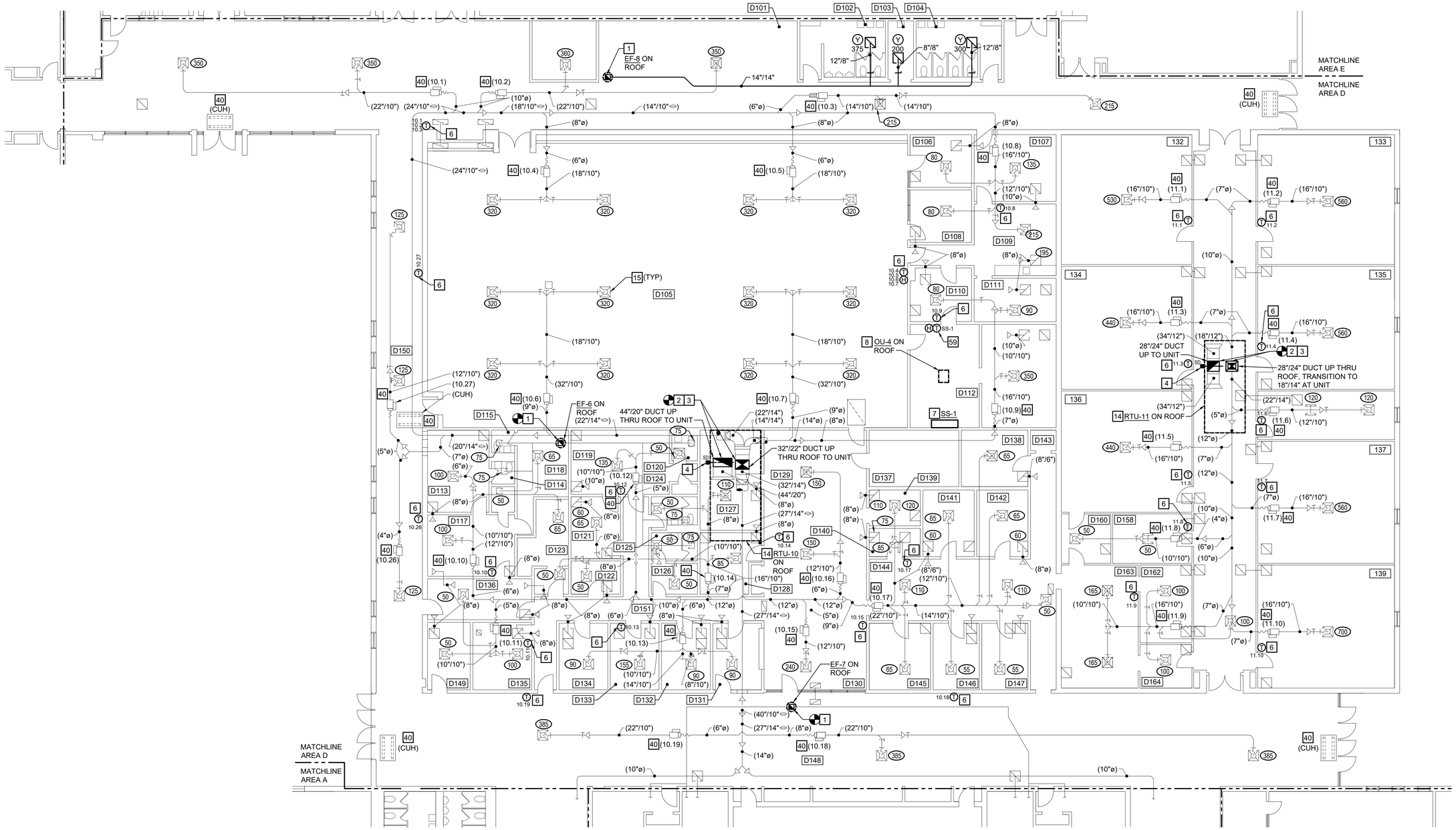
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-103

DATE: 09/08/2025



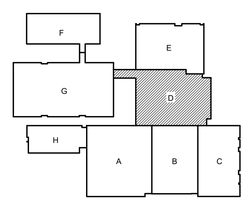
MECHANICAL FIRST FLOOR PLAN - AREA 'D' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.
40 TYPICAL ALL VAV'S

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
4	REINSTALL DUCT DETECTOR SAVED FROM DEMOLITION. SMOKE DETECTOR SHALL BE INTERLOCKED WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SYSTEM SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO DIVISION 26 FOR FURTHER INFORMATION.
6	PROVIDE NEW TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT ABOVE DOOR WITH BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.
59	PROVIDE NEW WALL MOUNTED THERMOSTAT AND CONTROL WIRING.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, STE 400 HAMPTON, VA 23666
4329 GUN ROAD GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD VA BEACH, VA 23452
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'D' - NEW WORK

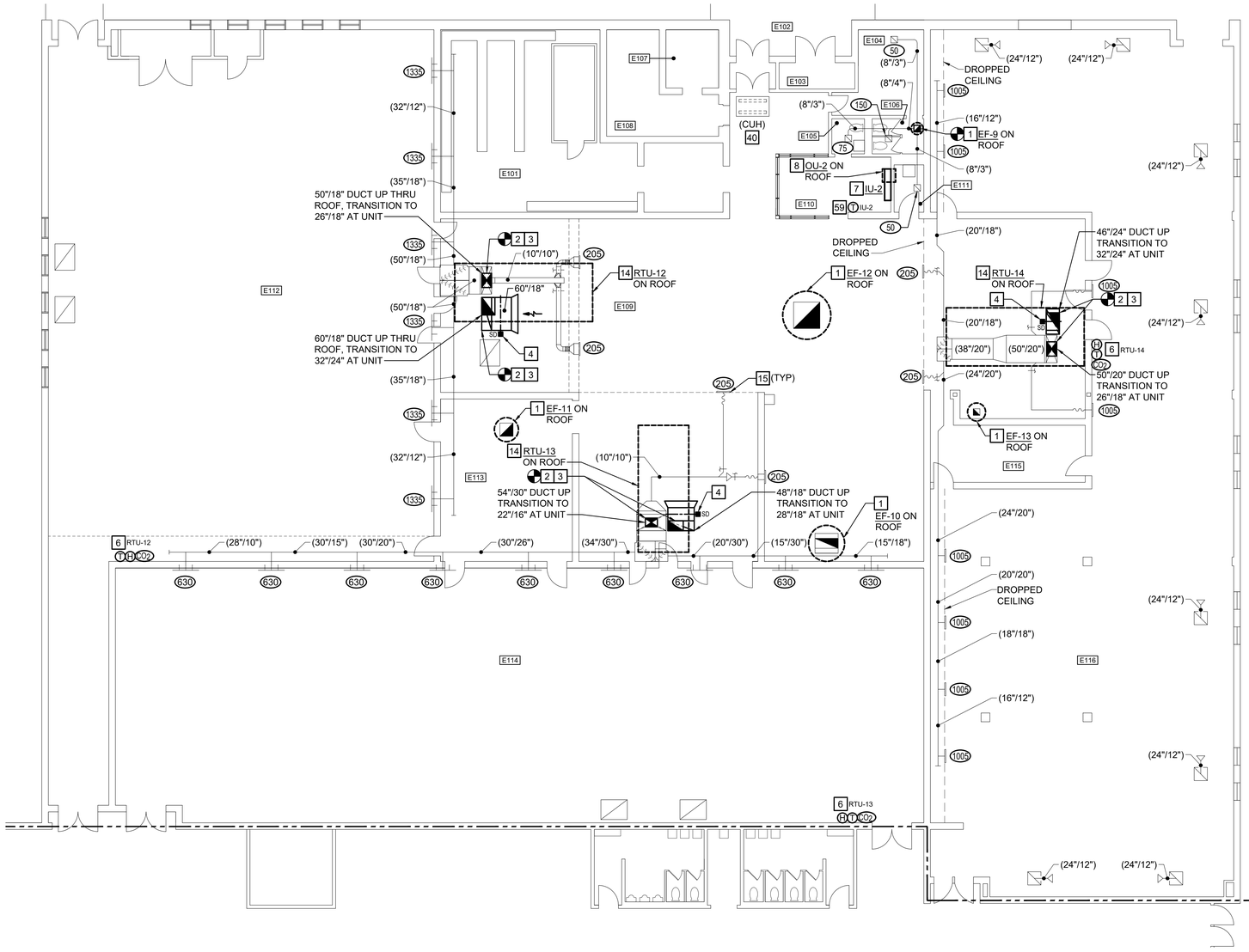
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-104

DATE: 09/08/2025

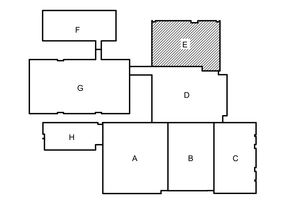


MECHANICAL FIRST FLOOR PLAN - AREA 'E' - NEW WORK

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

15 (XX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.
40 TYPICAL ALL VAV'S

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
4	REINSTALL DUCT DETECTOR SAVED FROM DEMOLITION. SMOKE DETECTOR SHALL BE INTERLOCKED WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SYSTEM SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO DIVISION 26 FOR FURTHER INFORMATION.
6	PROVIDE NEW TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.
59	PROVIDE NEW WALL MOUNTED THERMOSTAT AND CONTROL WIRING.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'E' - NEW WORK

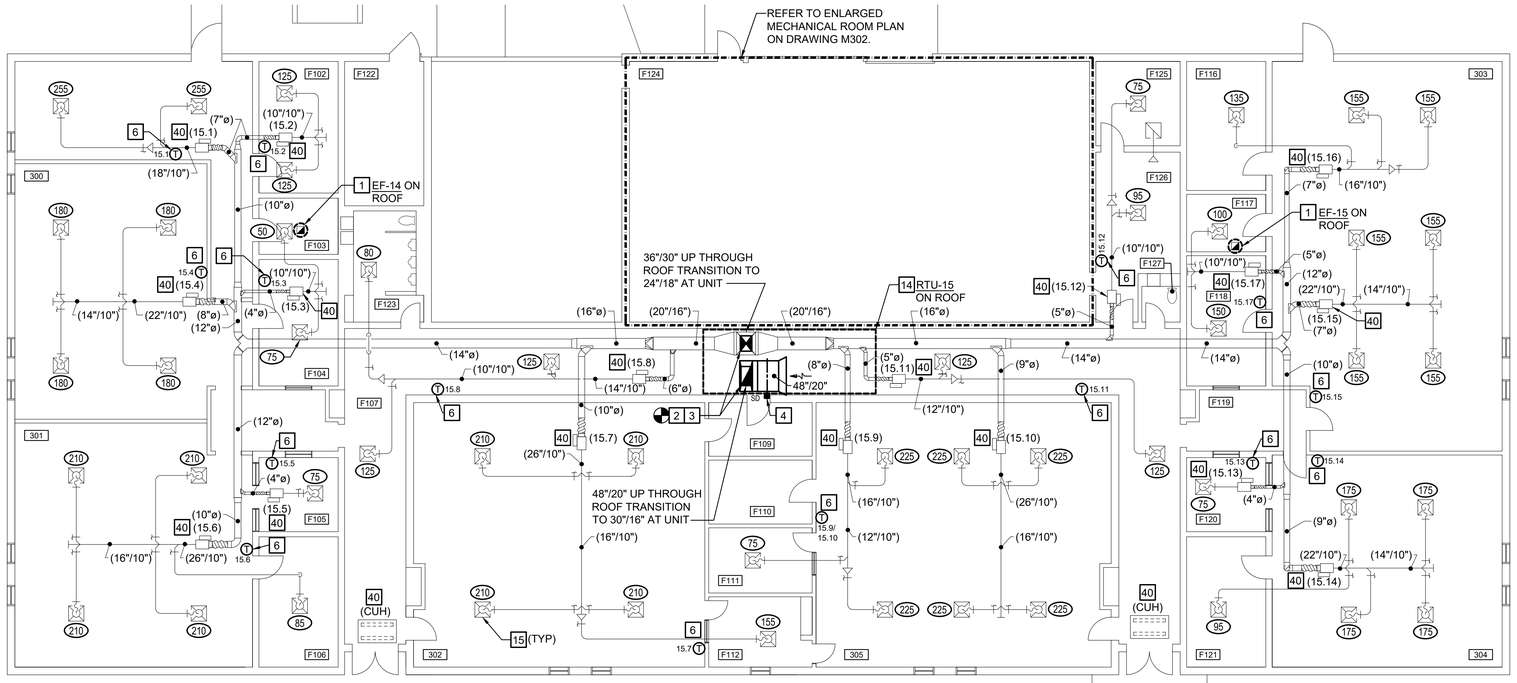
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-105

DATE: 09/08/2025

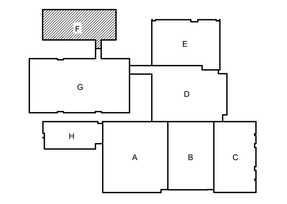


MECHANICAL FIRST FLOOR PLAN - AREA 'F' - NEW WORK

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

15 XXX BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.
40 TYPICAL ALL VAV'S

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
4	REINSTALL DUCT DETECTOR SAVED FROM DEMOLITION. SMOKE DETECTOR SHALL BE INTERLOCKED WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SYSTEM SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO DIVISION 26 FOR FURTHER INFORMATION.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)896-2415 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'F' - NEW WORK

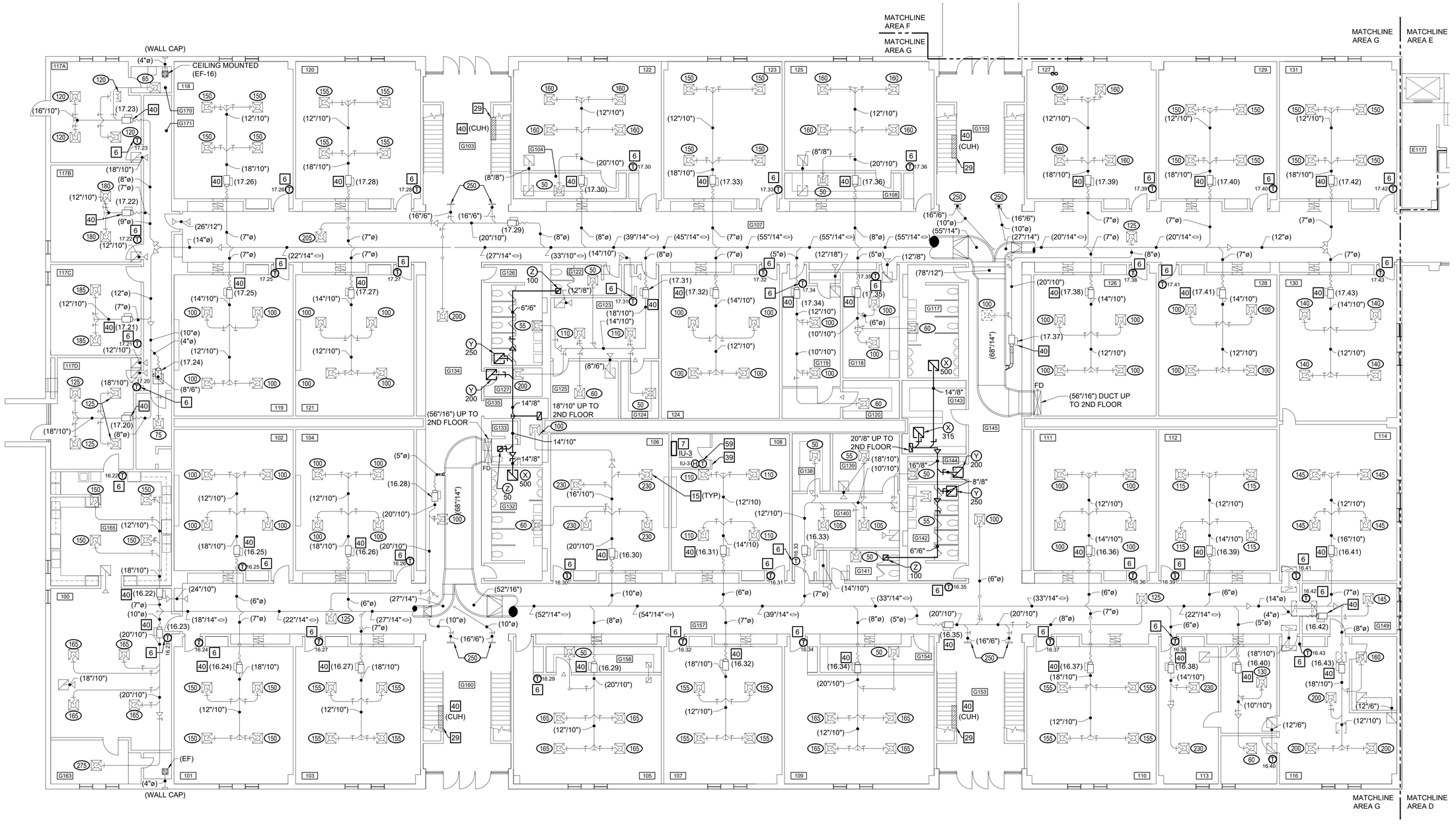
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-106

DATE: 09/08/2025



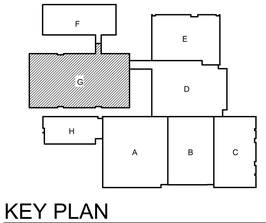
MECHANICAL FIRST FLOOR PLAN - AREA 'G' - NEW WORK

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

NEW WORK NOTES	
NO.	DESCRIPTION
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
7	PROVIDE SPLIT SYSTEM INDOOR UNIT, CONDENSATE PUMP, SUPPORTS AND PIPING COMPLETE. MOUNT ABOVE DOOR WITH BOTTOM OF UNIT AT APPROXIMATELY 7'-4" AFF MINIMUM.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
29	CONTRACTOR SHALL TEMPORARILY REMOVE ALL WALL-MOUNTED CABINET UNIT HEATERS TO BE PROPERLY RE-MOUNTED. CONTRACTOR SHALL PROVIDE ALL MANUFACTURER'S MOUNTING BRACKETS, ANCHORS, SCREWS, BOLTS, OR OTHER HARDWARE AS REQUIRED TO SECURELY FASTEN EQUIPMENT TO WALL.
39	CONTRACTOR SHALL EXTEND TOP OF WALL TO CEILING TO CREATE AN ENCLOSED SPACE FOR THE RACKS.

NEW WORK NOTES	
NO.	DESCRIPTION
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.
59	PROVIDE NEW WALL MOUNTED THERMOSTAT AND CONTROL WIRING.

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.
40 TYPICAL ALL VAV'S



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, #220 GUN ROAD, 2809 S. LYNNHAVEN ROAD, 533.1FRONG (757) 599-6433
HAMPTON, VA 23666, GLEN ALLEN, VA 23060, VA BEACH, VA 23452
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'G' - NEW WORK

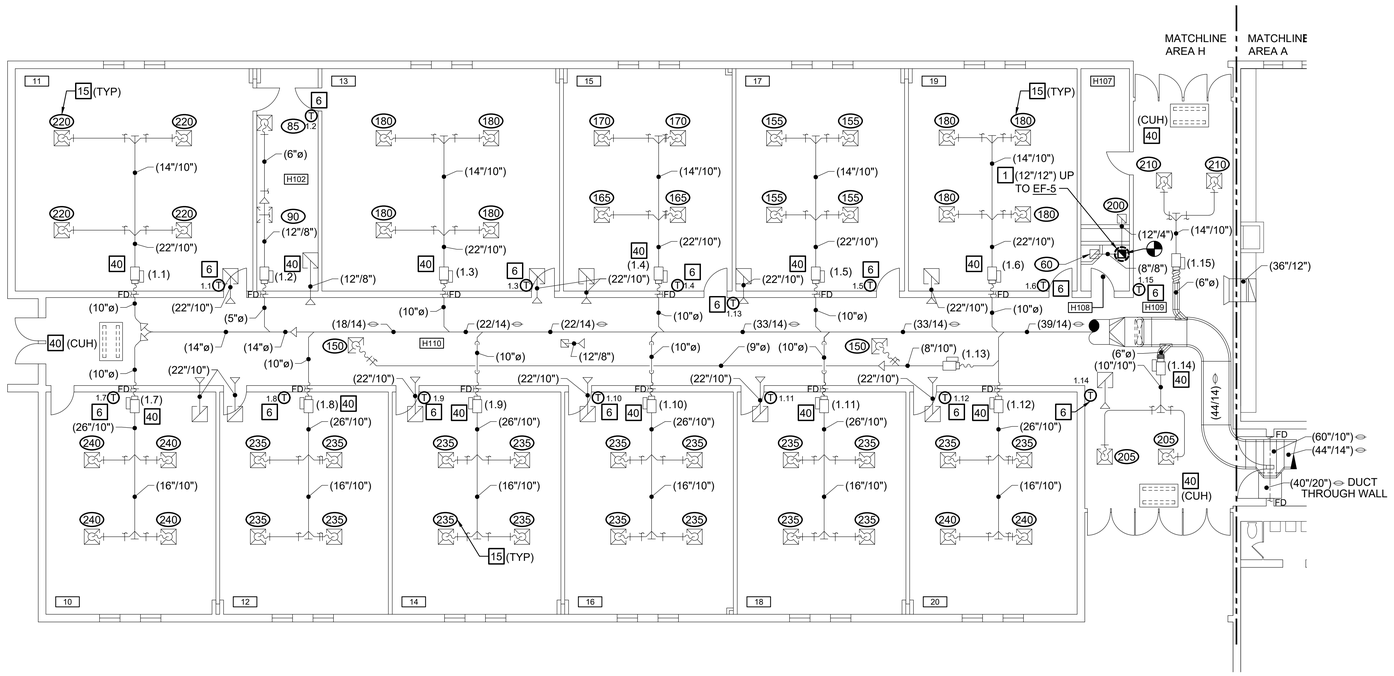
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-107

DATE: 09/08/2025

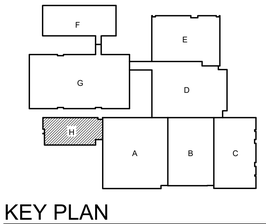


MECHANICAL FIRST FLOOR PLAN - AREA 'H' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.
40 TYPICAL ALL VAV'S

NEW WORK NOTES	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, STE 400, HAMPTON, VA 23666
4329 COX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL FIRST FLOOR PLAN - AREA 'H' - NEW WORK

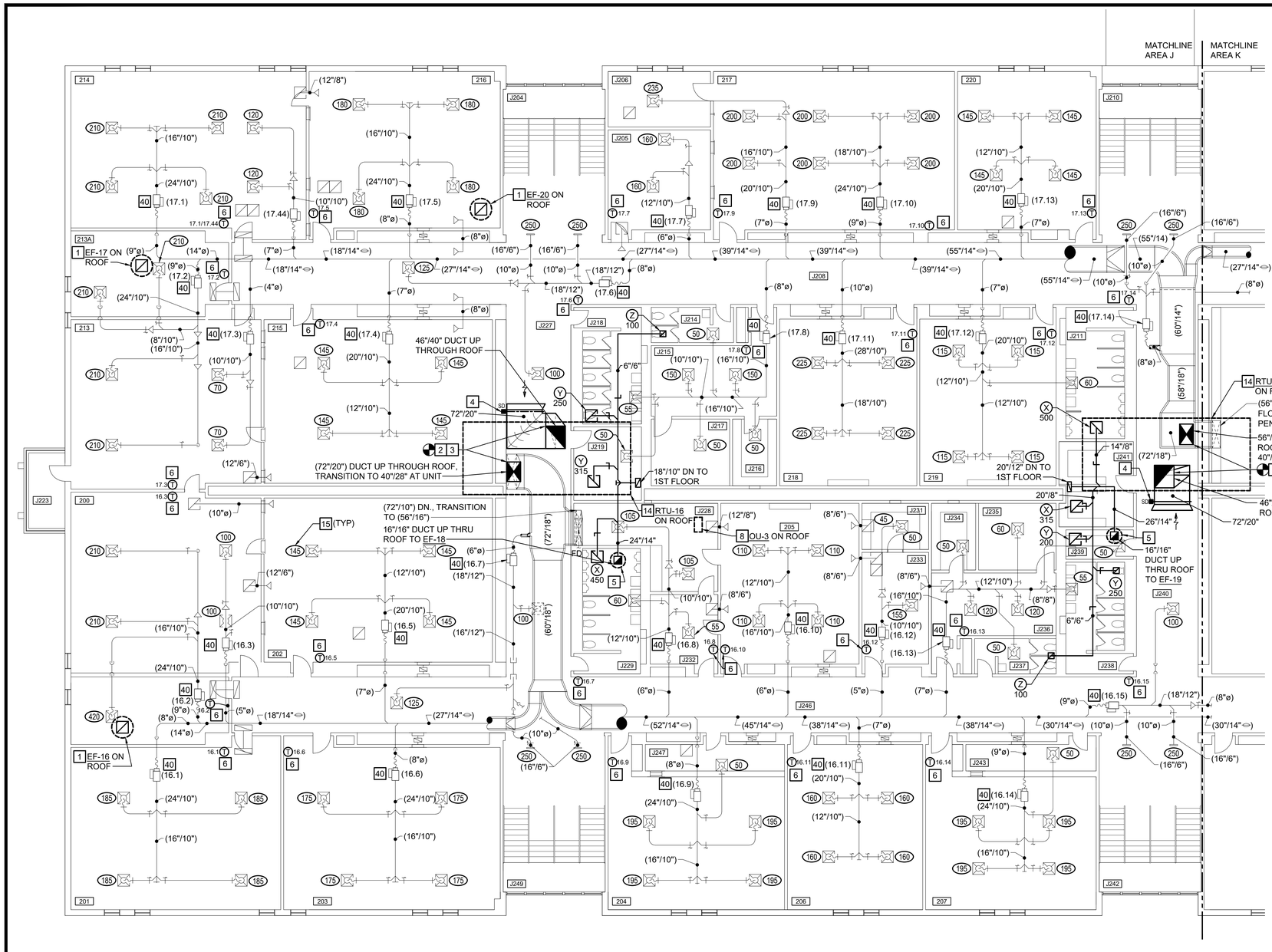
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-108

DATE: 09/08/2025



NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
4	REINSTALL DUCT DETECTOR SAVED FROM DEMOLITION. SMOKE DETECTOR SHALL BE INTERLOCKED WITH FIRE ALARM SYSTEM IN ACCORDANCE WITH THE SYSTEM SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO DIVISION 26 FOR FURTHER INFORMATION.
5	PROVIDE DUCTWORK, HANGERS, AND SUPPORTS COMPLETE TO POINT INDICATED. PROVIDE NEW GRILLE AS SCHEDULED.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.

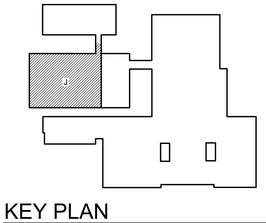
MECHANICAL SECOND FLOOR PLAN - AREA 'J' - NEW WORK

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

15 (XXX) BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.

40 TYPICAL ALL VAV'S

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'J' - NEW WORK

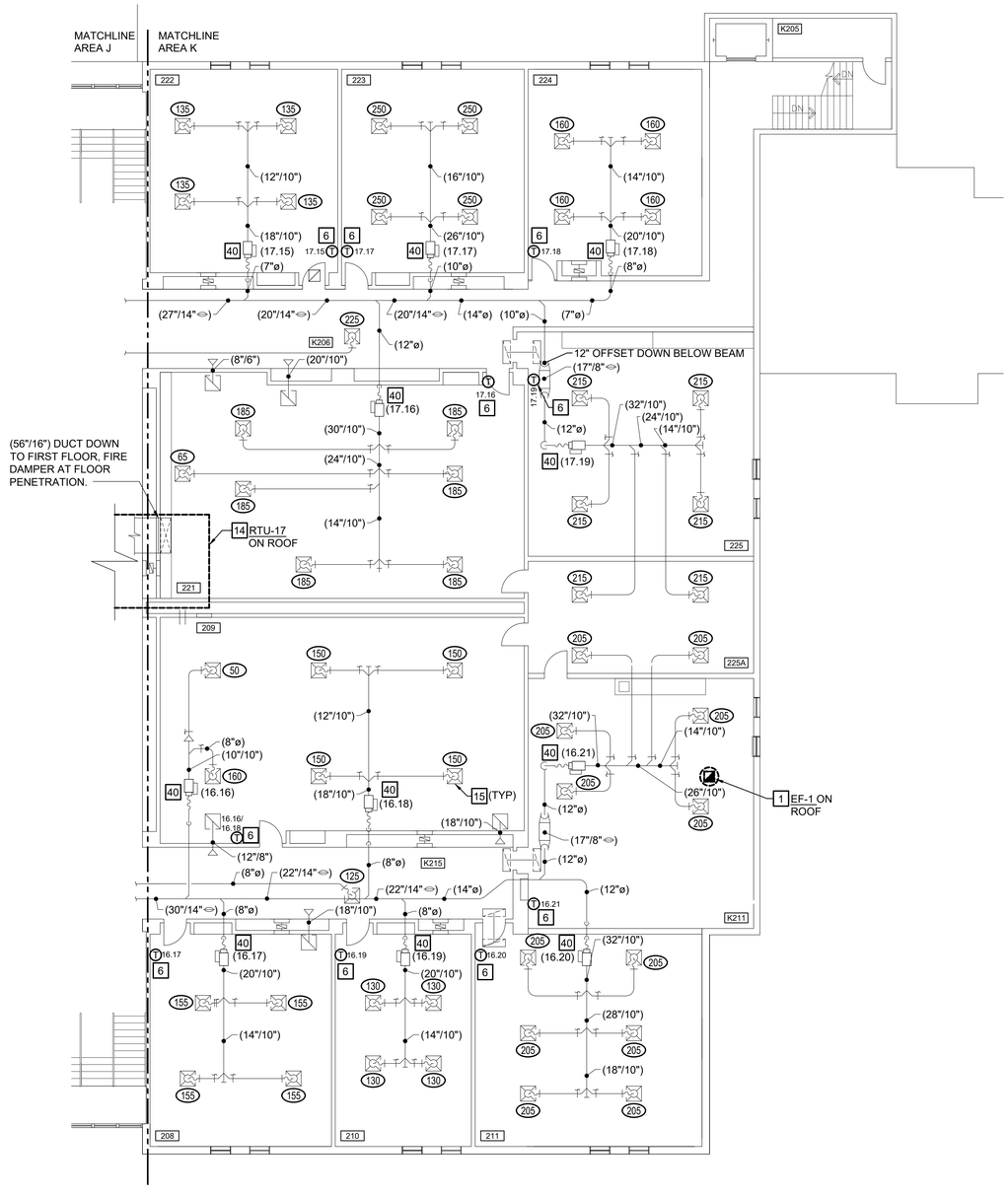
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-109

DATE: 09/08/2025



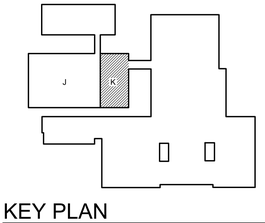
MECHANICAL SECOND FLOOR PLAN - AREA 'K' - NEW WORK

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

15 XXX BALANCE EXISTING AIR TERMINAL TO CFM INDICATED.

40 TYPICAL ALL VAV'S

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
6	PROVIDE NEW MONITORING TEMPERATURE/HUMIDITY SENSOR AND CONTROL WIRING.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
15	REBALANCE EXISTING DIFFUSER TO CFM INDICATED.
40	PROVIDE NEW HONEYWELL "STRYKER" CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM AND CONTROL VALVE ON ALL VAV TERMINAL UNITS AND CUH'S. REFER TO CONTROL DRAWING ON SHEET M-501. PROVIDE WITH NEW WALL MOUNTED THERMOSTAT.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0" SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 OTS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL SECOND FLOOR PLAN - AREA 'K' - NEW WORK

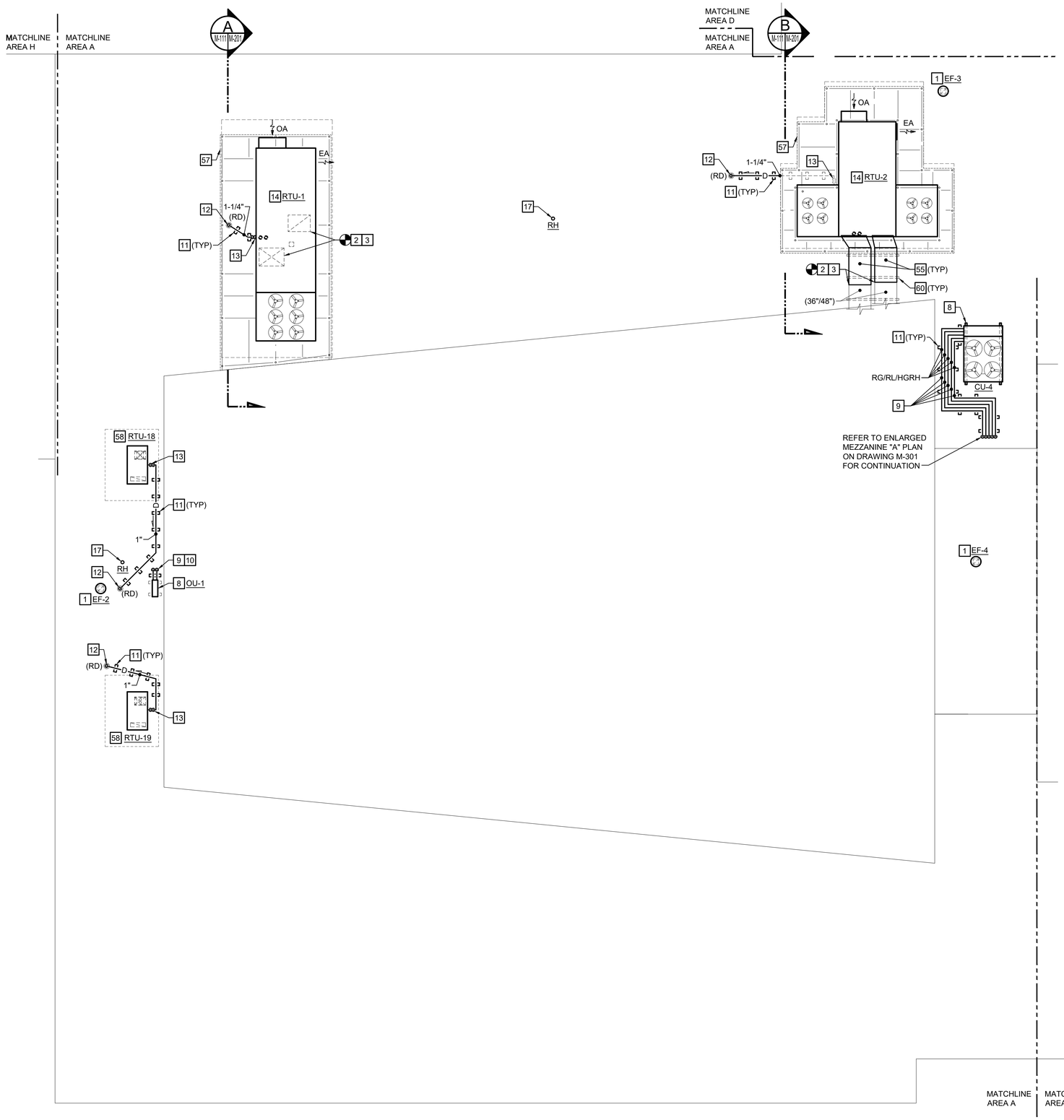
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-110

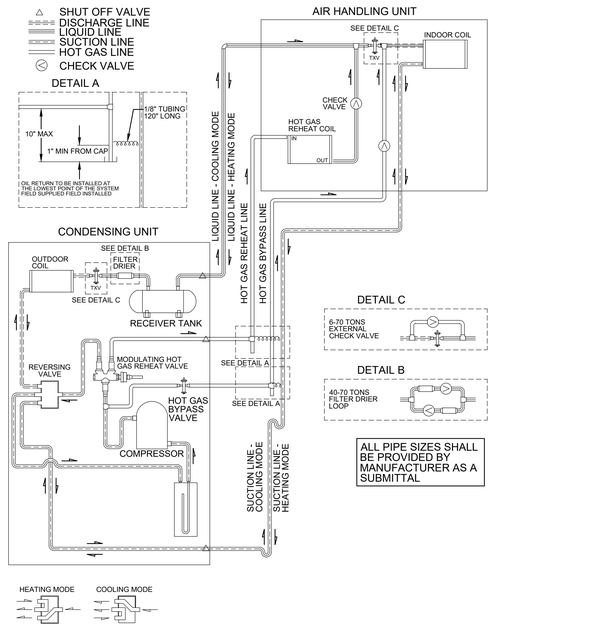
DATE: 09/08/2025



MECHANICAL ROOF PLAN - AREA 'A' - NEW WORK

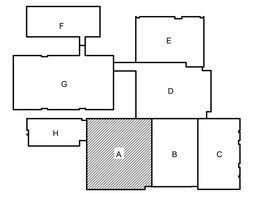
SCALE: 1/8" = 1'-0"

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10	PROVIDE REFRIGERANT PIPING DOWN THROUGH THE ROOF. REFER TO "REFRIGERANT PIPING AND POWER THRU ROOF DETAIL" ON DRAWING M-403.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
12	TURN DOWN INTO ROOF DRAIN.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS", PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
55	PROVIDE DOUBLEWALL DUCTWORK WITH 3" FIBERGLASS INSULATION ENCAPSULATED BETWEEN SOLID INNER WALL FOR ALL DUCTWORK INSTALLED OUTDOORS. REFER TO SPECIFICATION 230500 FOR DUCTWORK REQUIREMENTS. REFER TO SPECIFICATION 230700 FOR WEATHERPROOF COATING DETAILS.
57	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.
58	REFER TO "ADAPTER CURB DETAIL" ON DRAWING M-402.
60	REFER TO "TYPICAL ROOF MOUNTED DUCT SUPPORT DETAIL" ON DRAWING M-403.



AHU-4/CU-4 REFRIGERANT PIPING DIAGRAM

NOT TO SCALE



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200 | HAMPTON, VA 23666
4325 GUN ROAD | GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD | VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 | PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

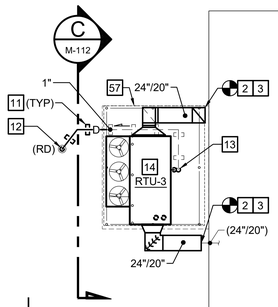
MECHANICAL ROOF PLAN - AREA 'A' - NEW WORK

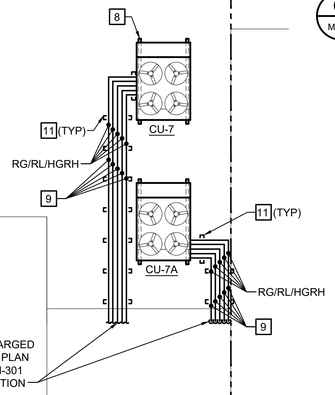
REVISIONS		
MARK	DESCRIPTION	DATE

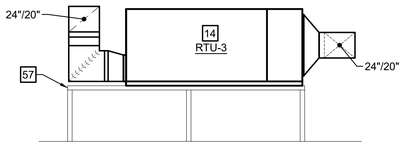
COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

M-111

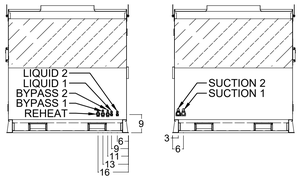
DATE: 09/08/2025



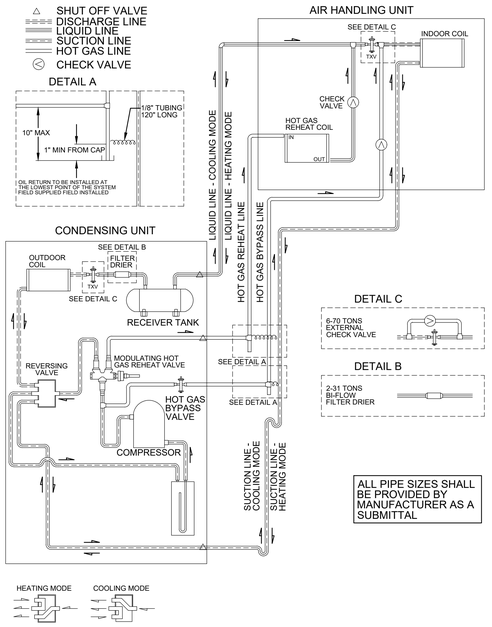




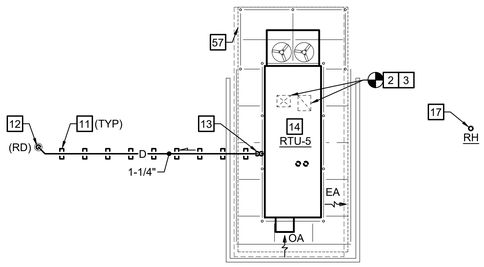
C M-112 SECTION C
SCALE: 1/4" = 1'-0"



AHU/CU-4, 7 AND 7A PIPING CONNECTION DETAIL
NOT TO SCALE



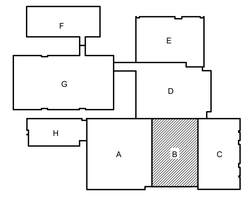
AHU-7/CU-7 AND AHU-7A/CU-7A REFRIGERANT PIPING DIAGRAM
NOT TO SCALE



MATCHLINE AREA A | MATCHLINE AREA B

MATCHLINE AREA B | MATCHLINE AREA C

MECHANICAL ROOF PLAN – AREA 'B' – NEW WORK



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
SCALE
5' 0 5' 10' 15' 20'
FEET

NEW WORK NOTES ☐	
NO.	DESCRIPTION
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
12	TURN DOWN INTO ROOF DRAIN.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
57	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'B' - NEW WORK

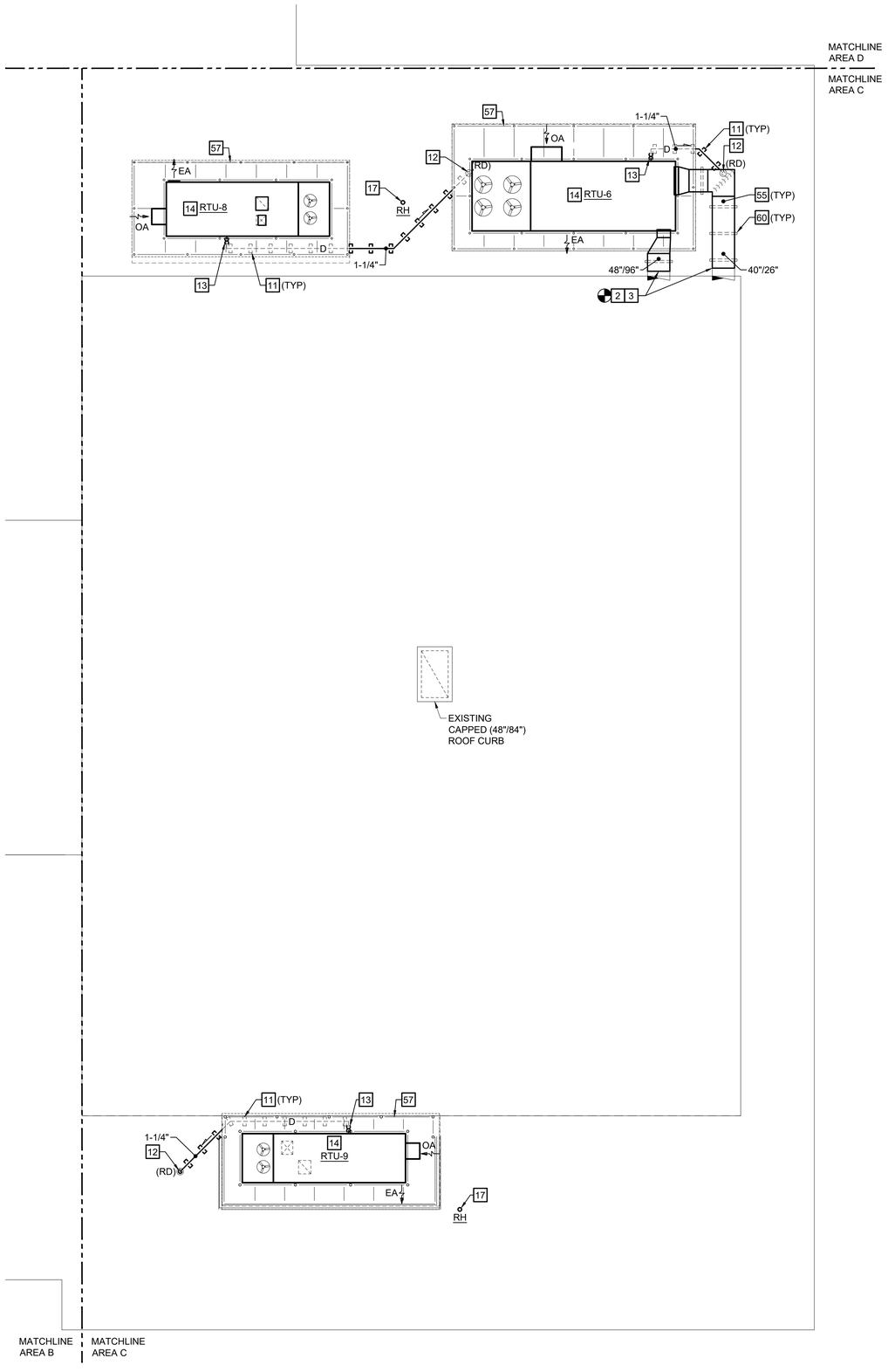
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-112

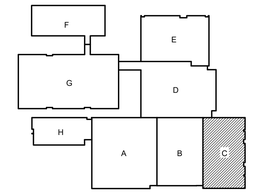
DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'C' – NEW WORK

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

NEW WORK NOTES ☐	
NO.	DESCRIPTION
2	MAKE CONNECTION TO EXISTING DUCTWORK AT POINT INDICATED. EXTEND DUCTWORK AS REQUIRED TO FACILITATE THE WORK.
3	MAKE DUCTWORK CONNECTION TO ROOFTOP UNIT USING FLEXIBLE CONNECTORS IN ACCORDANCE WITH SPECIFICATION 230100.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
12	TURN DOWN INTO ROOF DRAIN.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
55	PROVIDE DOUBLEWALL DUCTWORK WITH 3" FIBERGLASS INSULATION ENCAPSULATED BETWEEN SOLID INNER WALL FOR ALL DUCTWORK INSTALLED OUTDOORS. REFER TO SPECIFICATION 230500 FOR DUCTWORK REQUIREMENTS. REFER TO SPECIFICATION 230700 FOR WEATHERPROOF COATING DETAILS.
57	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.
60	REFER TO "TYPICAL ROOF MOUNTED DUCT SUPPORT DETAIL" ON DRAWING M-403.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

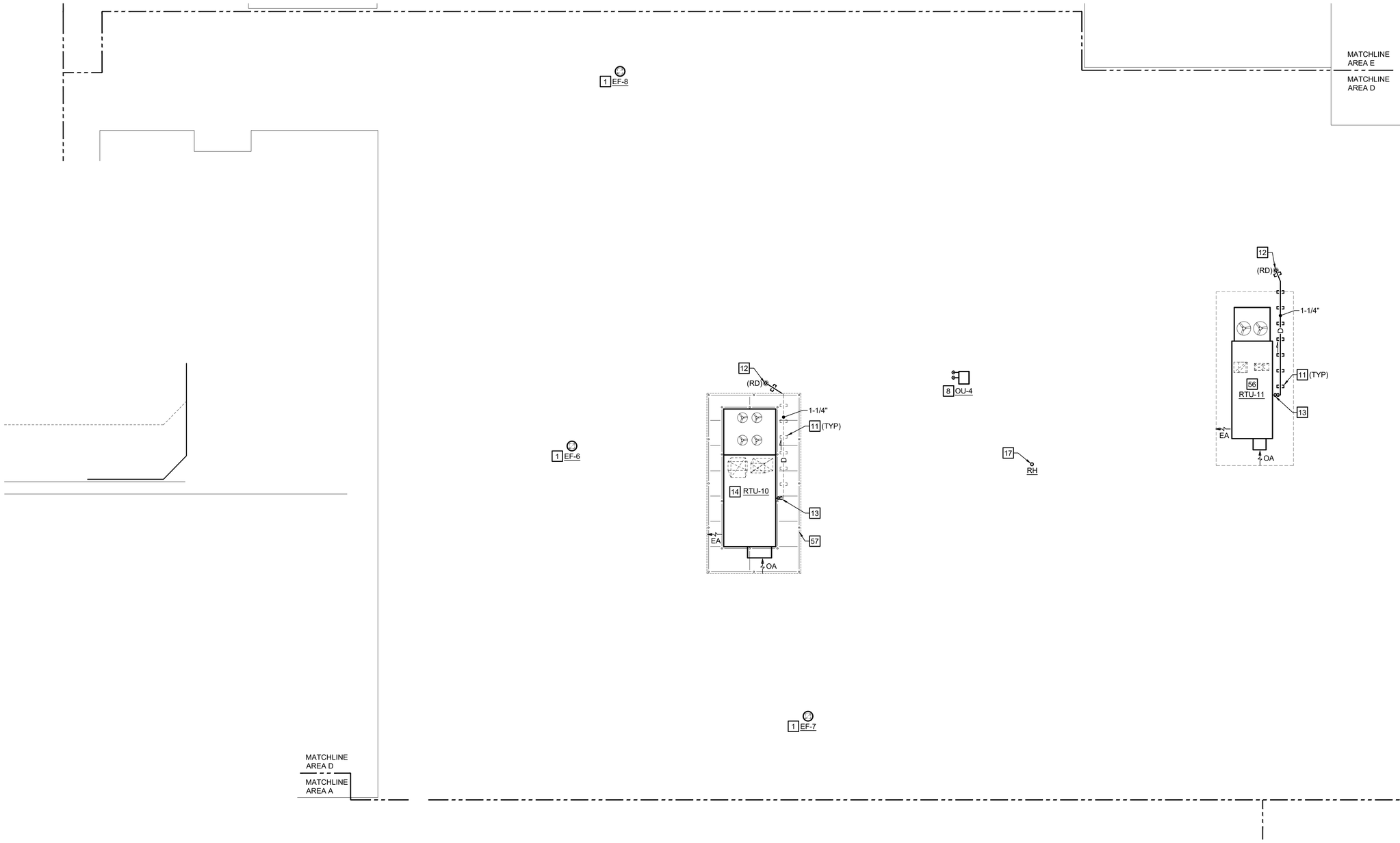
MECHANICAL ROOF PLAN - AREA 'C' - NEW WORK

REVISIONS		
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

M-113

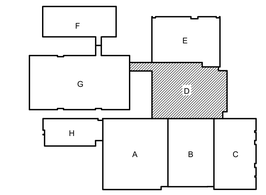
DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'D' – NEW WORK

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

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
12	TURN DOWN INTO ROOF DRAIN.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
56	REFER TO "ROOFTOP UNIT MOUNTING DETAIL" ON DRAWING M-402.
57	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'D' - NEW WORK

REVISIONS

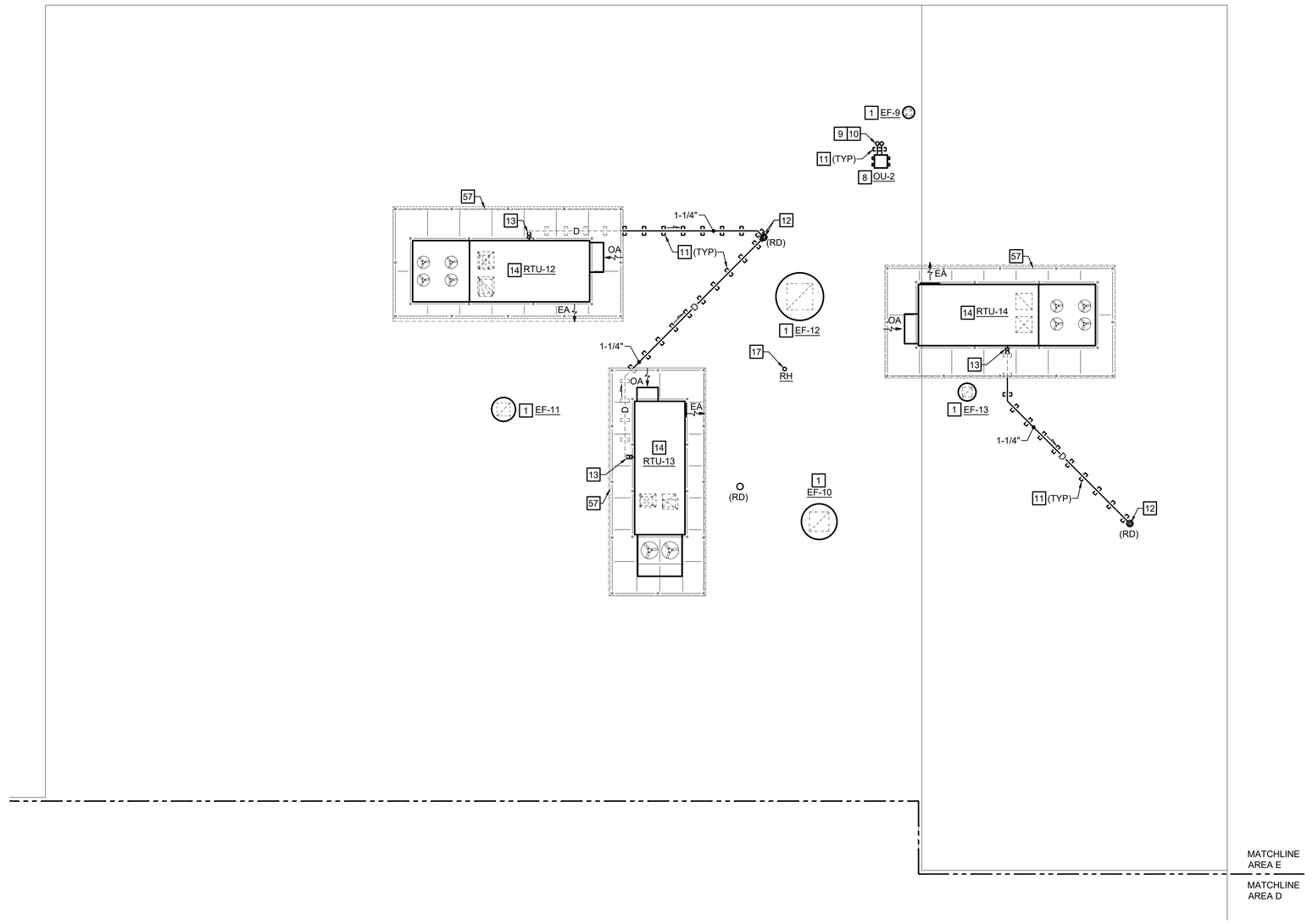
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-114

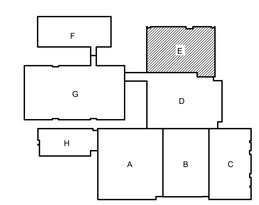
DATE: 09/08/2025

NEW WORK NOTES	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10	PROVIDE REFRIGERANT PIPING DOWN THROUGH THE ROOF. REFER TO "REFRIGERANT PIPING AND POWER THRU ROOF DETAIL" ON DRAWING M-403.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
12	TURN DOWN INTO ROOF DRAIN.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
57	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.



MECHANICAL ROOF PLAN – AREA 'E' – NEW WORK

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



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 CUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'E' - NEW WORK

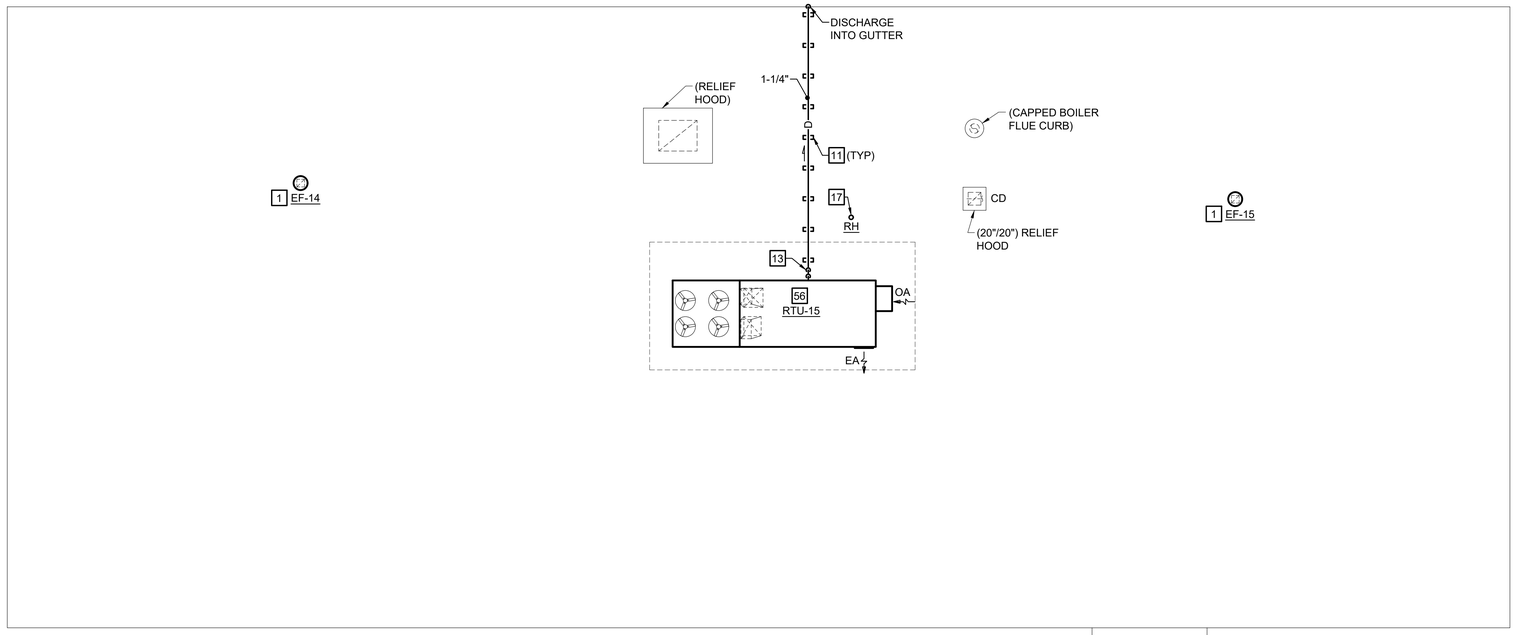
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

M-115

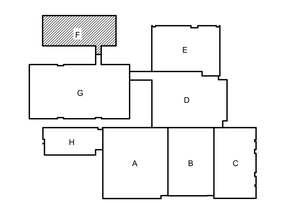
DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'F' – NEW WORK

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

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
56	REFER TO "ROOFTOP UNIT MOUNTING DETAIL" ON DRAWING M-402.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL ROOF PLAN - AREA 'F' - NEW WORK

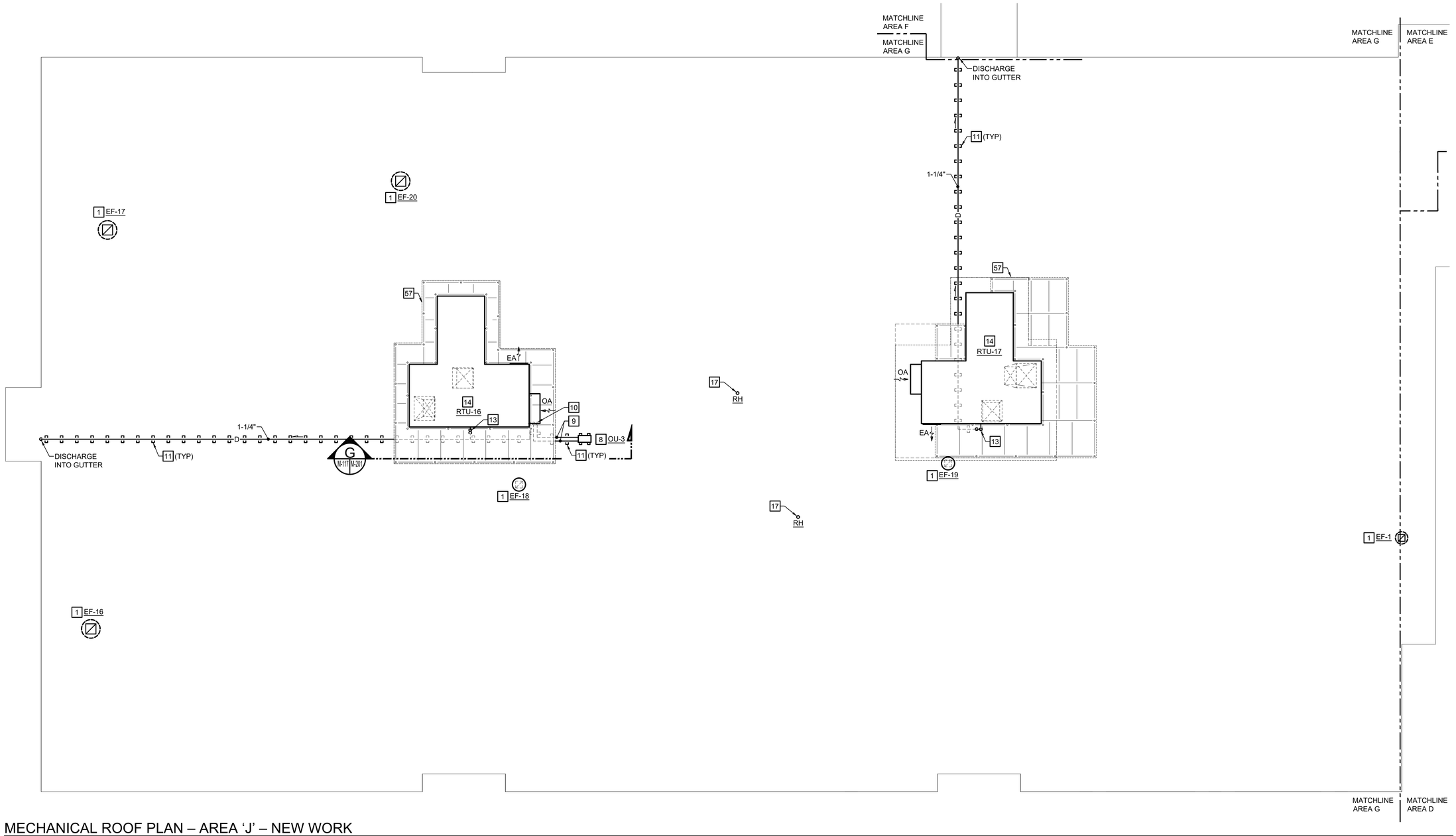
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

M-116

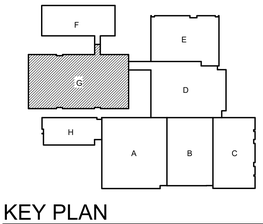
DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'J' – NEW WORK

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

NEW WORK NOTES ☐	
NO.	DESCRIPTION
1	REFER TO "ROOF EXHAUST FAN DETAIL" ON DRAWING M-401.
8	REFER TO "TYPICAL CONDENSING UNIT CURB DETAIL" ON DRAWING M-403.
9	PROVIDE RS/RL PIPING. SIZE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
10	PROVIDE REFRIGERANT PIPING DOWN THROUGH THE ROOF. REFER TO "REFRIGERANT PIPING AND POWER THRU ROOF DETAIL" ON DRAWING M-403.
11	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-403.
13	REFER TO "COIL CONDENSATE TRAP DETAIL" ON DRAWING M-401.
14	REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION DETAIL" ON DRAWING M-402.
17	PROVIDE WOODFORD MODEL "SRH-MS". PRIER MODEL P-RH4, OR MURDOCK MODEL M-3907 FREEZELESS ROOF HYDRANT AND TIE INTO 3/4" DOMESTIC COLD WATER LINE. CONTRACTOR TO SEAL ROOF PENETRATION WATERTIGHT.
52	REFER TO STRUCTURAL DRAWINGS FOR PLATFORM REQUIREMENTS.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'J' - NEW WORK

REVISIONS

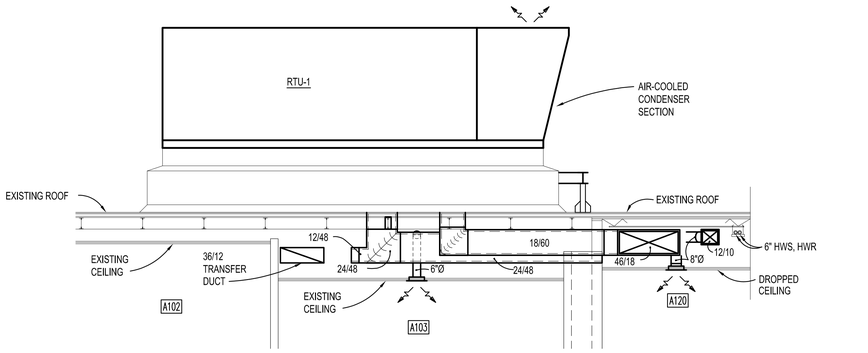
MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	TWW
CHECKED BY:	KDA

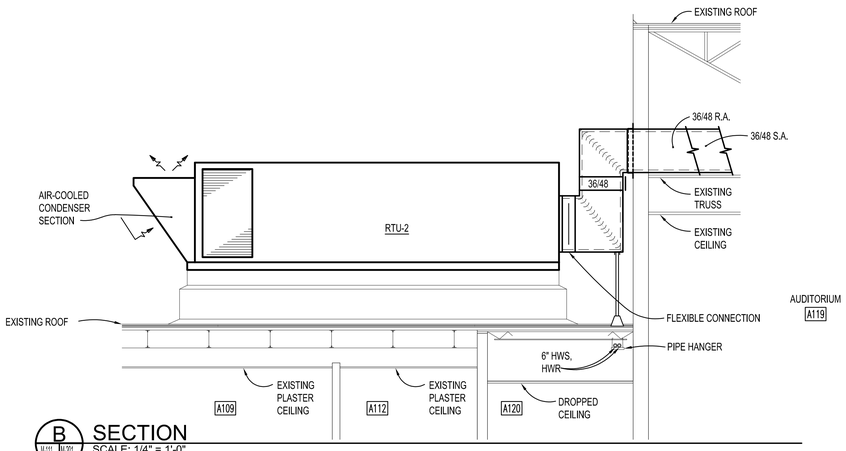
M-117

DATE: 09/08/2025

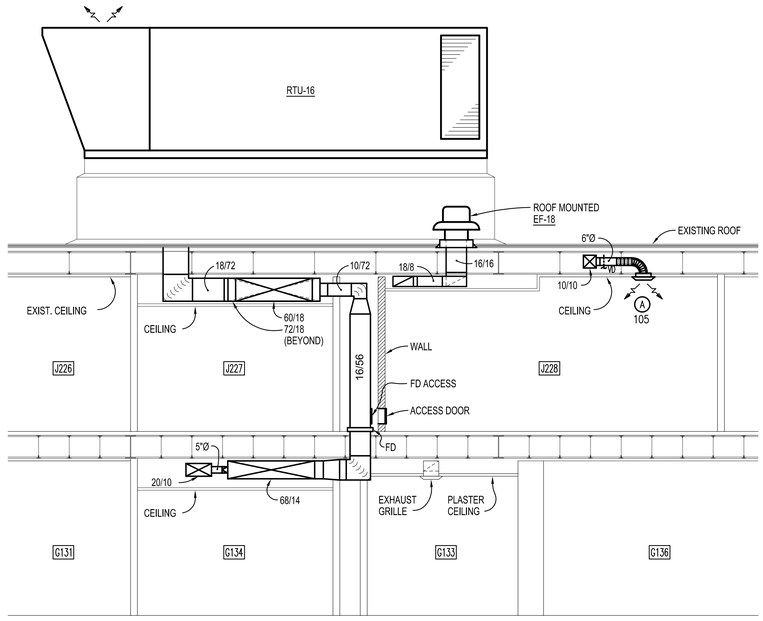
NOTE: THIS SHEET FOR REFERENCE ONLY SHOWING EXISTING CONDITIONS



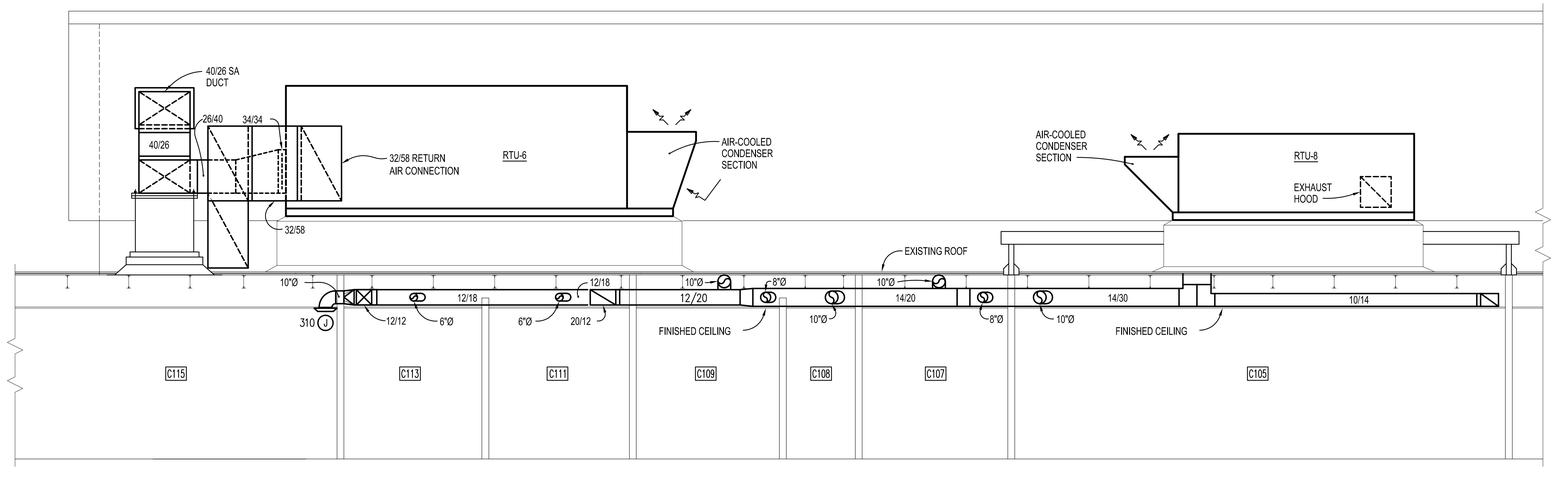
A SECTION
A/A11 A/A21
SCALE: 1/4" = 1'-0"



B SECTION
A/A11 A/A21
SCALE: 1/4" = 1'-0"



G SECTION
A/A17 A/A21
SCALE: 1/4" = 1'-0"



F SECTION
A/A13 A/A21
SCALE: 1/4" = 1'-0"

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6415, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
EXISTING MECHANICAL SECTIONS - FOR REFERENCE ONLY

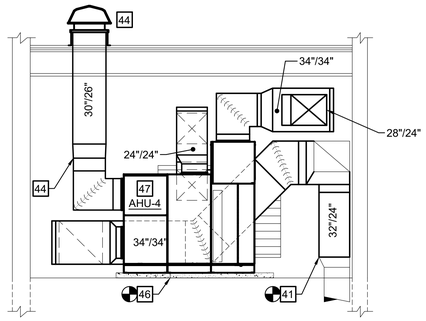
REVISIONS

MARK	DESCRIPTION	DATE

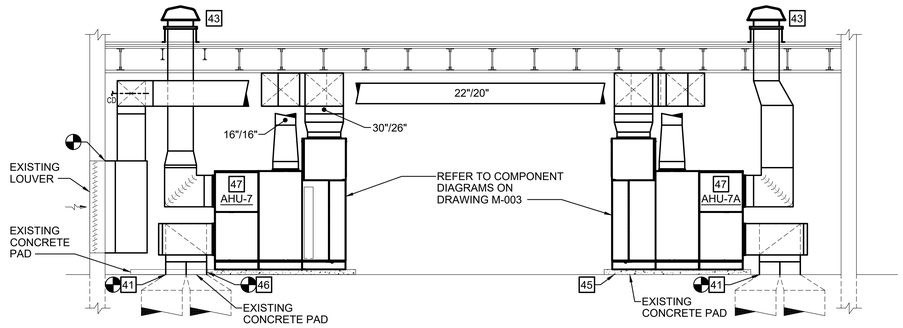
COMM. NO:	23-065
DESIGNED BY:	SDH
DRAWN BY:	JAR
CHECKED BY:	KDA

M-201

DATE: 09/08/2025

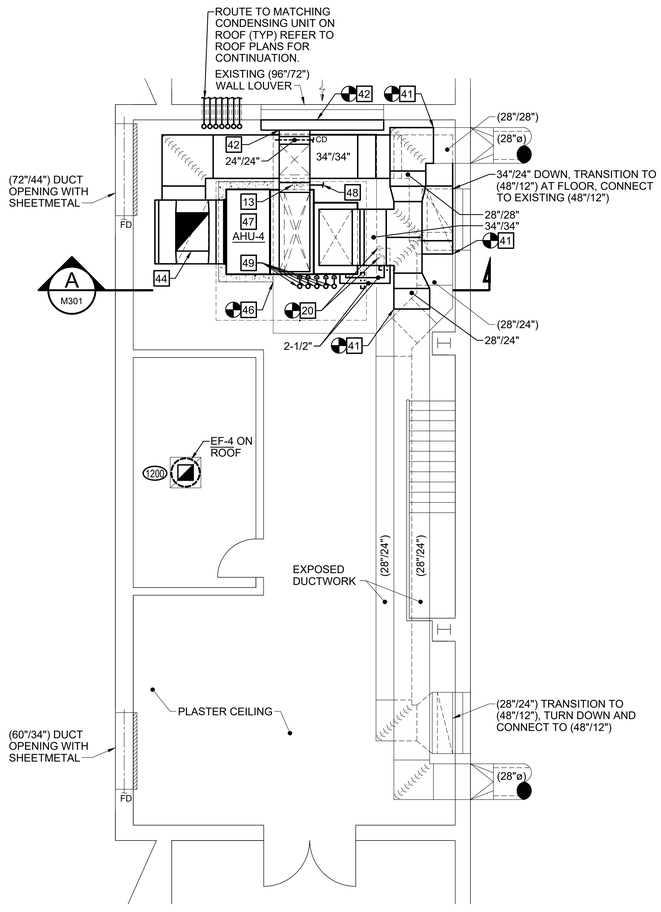


A M301 SECTION A
SCALE: 1/4" = 1'-0"

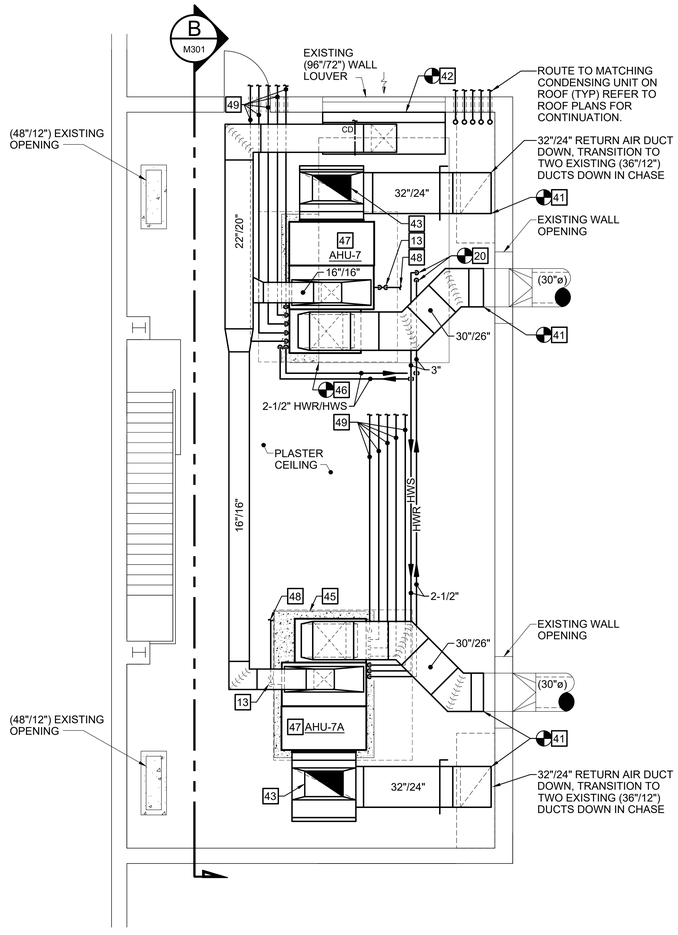


B M301 SECTION B
SCALE: 1/4" = 1'-0"

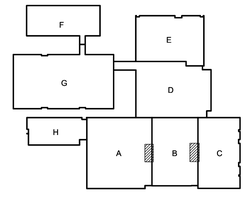
NEW WORK NOTES ☐	
NO.	DESCRIPTION
13	REFER TO CONDENSATE DRAIN TRAP DETAIL ON DRAWING M-401.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED. REFER TO "HOT WATER COIL PIPING DIAGRAM" ON DRAWING M-402.
41	PROVIDE DUCTWORK, HANGERS, AND SUPPORTS COMPLETE TO POINT INDICATED.
42	EXTEND INTAKE PLENUM AS REQUIRED TO FIT NEW DUCTWORK CONNECTION. SEAL ANY OPEN AREAS WATERTIGHT.
43	EXTEND EXHAUST DUCTWORK UP THROUGH ROOF TO GRAVITY RELIEF HOOD WITH BACKDRAFT DAMPER, GREENHECK MODEL "FGR-30x20".
44	EXTEND EXHAUST DUCTWORK UP THROUGH ROOF TO GRAVITY RELIEF HOOD WITH BACKDRAFT DAMPER, GREENHECK MODEL "FGR-26x30".
45	PROVIDE 4" HIGH REINFORCED CONCRETE PAD AND EXTEND 6" ON ALL SIDES. REFER TO SPECIFCATIONS FOR FURTHER INFORMATION.
46	EXTEND 4" EXISTING CONCRETE PAD AND EXTEND 6" ON ALL SIDES. REFER TO SPECIFCATIONS FOR FURTHER INFORMATION.
47	PROVIDE AND INSTALL SPLIT SYSTEM HEAT PUMP INDOOR UNIT, CONTROLS, AND ACCESSORIES COMPLETE. MOUNT UNIT ON CONCRETE PAD AND PROVIDE APPROPRIATE DUCT TRANSITIONS TO CONNECT TO EXISTING DUCTWORK.
48	ROUTE CONDENSATE DRAIN PIPING TO NEAREST FLOOR DRAIN.
49	PROVIDE AND INSTALL REFRIGERANT LIQUID AND GAS PIPING, ACCESSORIES, AND SUPPORTS COMPLETE BETWEEN INDOOR AND OUTDOOR UNITS.



ENLARGED MEZZANINE PLAN - AREA 'A' - NEW WORK
SCALE: 1/4" = 1'-0"



ENLARGED MEZZANINE PLAN - AREA 'B' - NEW WORK
SCALE: 1/4" = 1'-0"



KEY PLAN
NOT TO SCALE

1/4" = 1'-0"
2' 0 2' 4' 6' 8' 10'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ENLARGED MEZZANINE PLANS - AREAS 'A' AND 'B' - NEW WORK

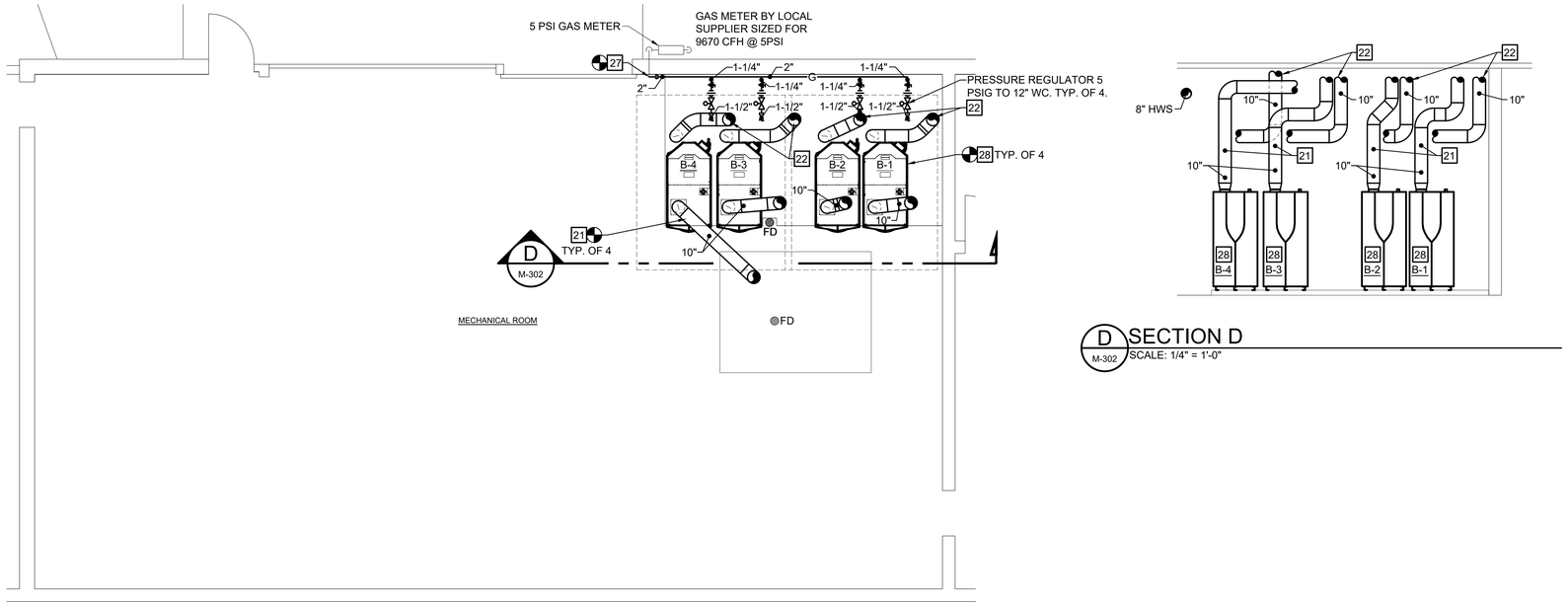
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

M-301

DATE: 09/08/2025



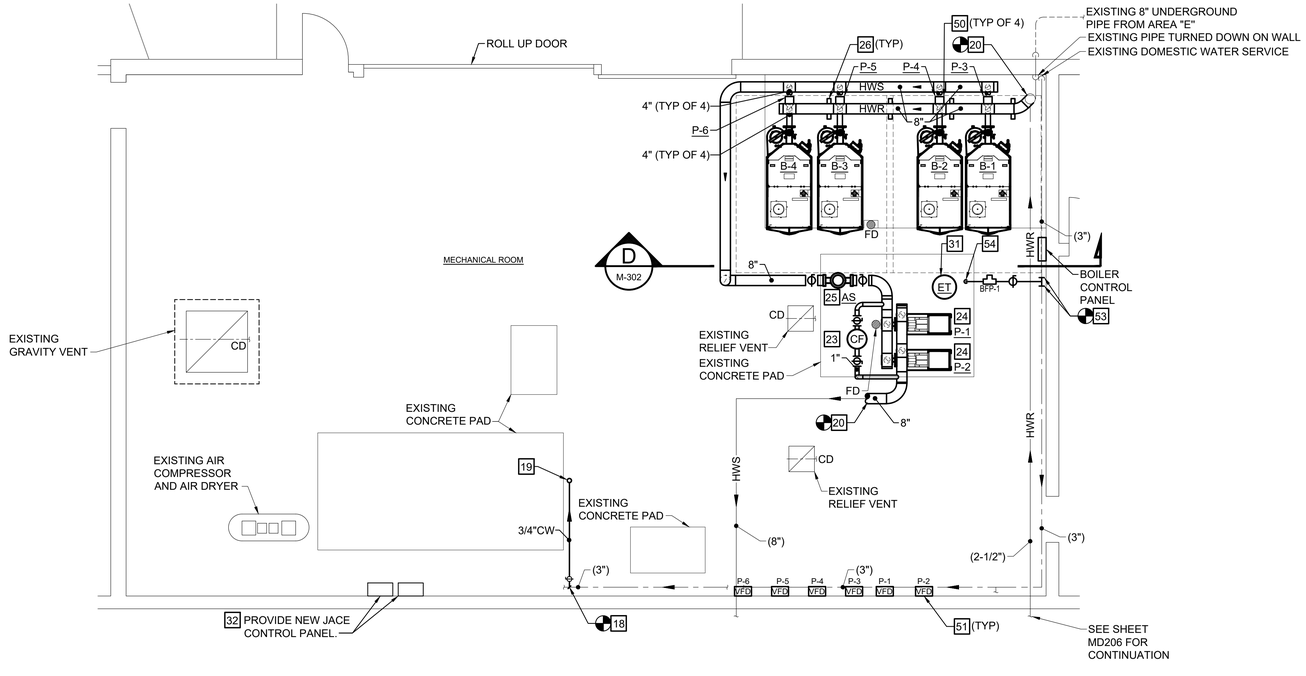
ENLARGED MECHANICAL ROOM - GAS PIPING, BOILER FLUE AND INTAKE PIPING - NEW WORK

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

D SECTION D

M-302

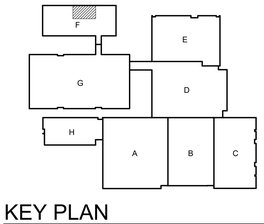
SCALE: 1/4" = 1'-0"



ENLARGED MECHANICAL ROOM - NEW WORK

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

NEW WORK NOTES ☐	
NO.	DESCRIPTION
18	PROVIDE NEW 3/4" COPPER DOMESTIC WATER PIPING, INSULATION AND SUPPORTS COMPLETE. CONNECT TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE UP TO ROOF HYDRANT.
19	3/4" DOMESTIC COLD WATER UP TO ROOF HYDRANT.
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED.
21	PROVIDE 10" BOILER EXHAUST VENT UP THROUGH EXISTING ROOF CURB OPENING PER MANUFACTURER'S INSTRUCTIONS. REFER TO "BOILER VENTING DETAIL" ON DRAWING M-401.
22	PROVIDE 8" COMBUSTION AIR INTAKE VENT UP THROUGH ROOF PER MANUFACTURER'S INSTRUCTIONS. REFER TO "BOILER VENTING DETAIL" ON DRAWING M-401.
23	PROVIDE 5-GALLON 20 MICRON NEPTUNE FILTER CHEMICAL SHOT FEEDER (MODEL - FTF-5DB) OMIT FUNNEL. MOUNT ON EXISTING CONCRETE PAD. CONNECT TO EXISTING PIPING.
24	PROVIDE PUMP, CONTROLS AND ACCESSORIES COMPLETE. MOUNT PUMPS ON EXISTING CONCRETE PAD. REFER TO "BASE MOUNTED END SUCTION PUMP PIPING DETAIL" ON DRAWING M-402. ANY REPAIRS TO EXISTING PAD SHALL BE DONE PRIOR TO SETTING NEW EQUIPMENT.
25	PROVIDE AIR/DIRT SEPARATOR SPIROTHERM, MODEL VDN800FA, OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. OBSERVE ALL SERVICE CLEARANCE REQUIREMENTS FOR REMOVABLE LOWER HEAD AND MEDIA.
26	REFER TO "PIPE SUPPORT DETAIL" ON DRAWING M-401.
27	CONNECT NEW GAS PIPING TO EXISTING LINE.
28	INSTALL NEW GAS BOILERS ON EXISTING CONCRETE PAD. ANY REPAIRS TO EXISTING PAD SHALL BE DONE PRIOR TO SETTING NEW EQUIPMENT.
31	PROVIDE 264 GALLON VOLUME ACCEPTANCE BLADDER EXPANSION TANK.
32	REFER TO SPECIFICATION 230900 FOR FURTHER INFORMATION.
50	PROVIDE PUMP, CONTROLS AND ACCESSORIES COMPLETE. REFER TO "IN-LINE VERTICAL PUMP DETAIL" ON DRAWING M-403.
51	PROVIDE VARIABLE FREQUENCY DRIVE, REFER TO SPECIFICATION SECTION 230500 AND 230900.
53	CONNECT NEW 1-1/4" COLD WATER MAKE-UP AT POINTS INDICATED. PROVIDE BFP-1 IN LINE TO SYSTEM CONNECTION.
54	1-1/4" COLD WATER DOWN.



KEY PLAN

NOT TO SCALE

1/4" = 1'-0"

2' 0 2' 4' 6' 8' 10'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
PC
22 ENTERPRISE PARKWAY
SUITE 400
HAMPTON, VA 23666
4329 OLEN ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
SUITE 105
VA BEACH, VA 23452
TEL (757)896-4435
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ENLARGED MEZZANINE PLANS - AREAS 'A' AND 'B' - NEW WORK

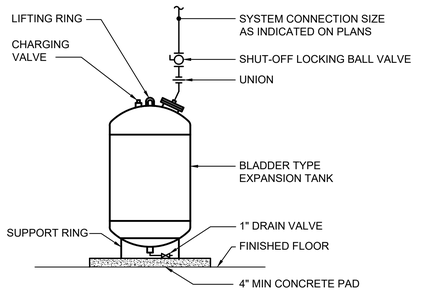
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: JAR
CHECKED BY: KDA

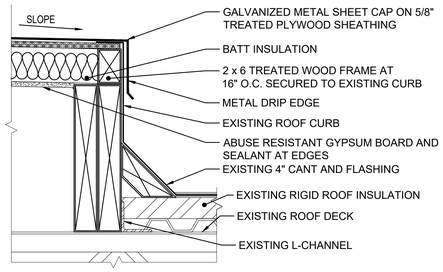
M-302

DATE: 09/08/2025



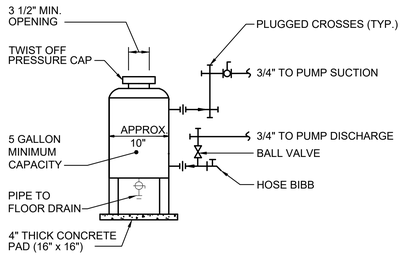
EXPANSION TANK DETAIL

NOT TO SCALE



ROOF CURB CAPPING DETAIL

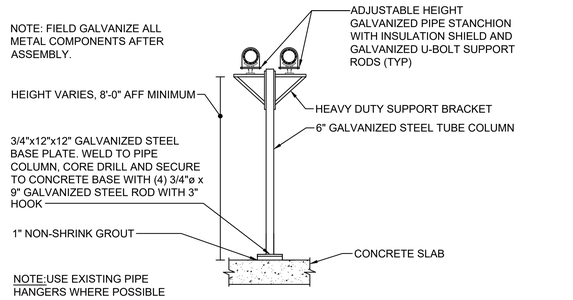
NOT TO SCALE



NOTE: INSTALL IN ACCORDANCE WITH MANUFACTUER RECOMMENDATIONS.

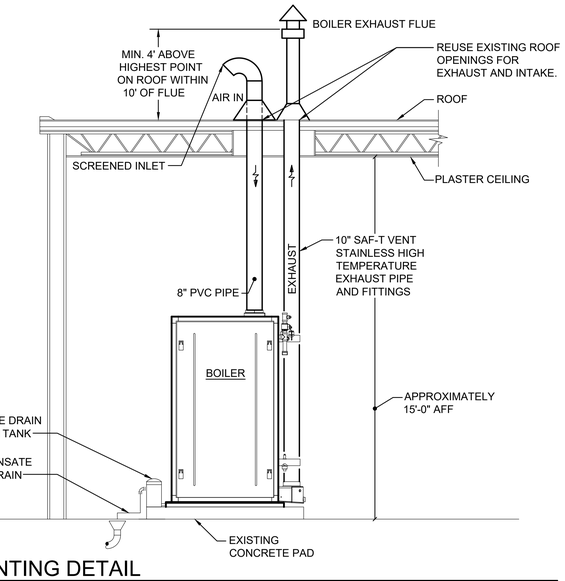
5 GALLON CHEMICAL FEED TANK DETAIL

NOT TO SCALE



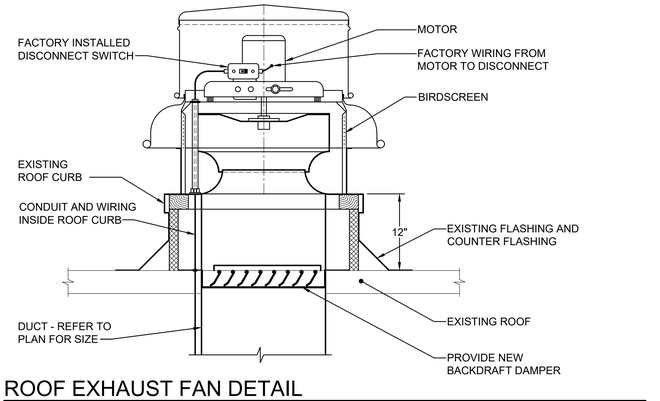
PIPING SUPPORT DETAIL

NOT TO SCALE (TYPICAL FOR ALL PIPING IN BOILER ROOM)



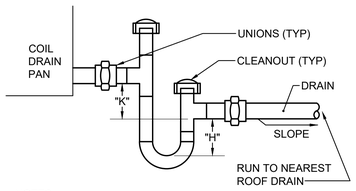
BOILER VENTING DETAIL

NOT TO SCALE (TYPICAL FOR B-1, 2, 3, AND 4)



ROOF EXHAUST FAN DETAIL

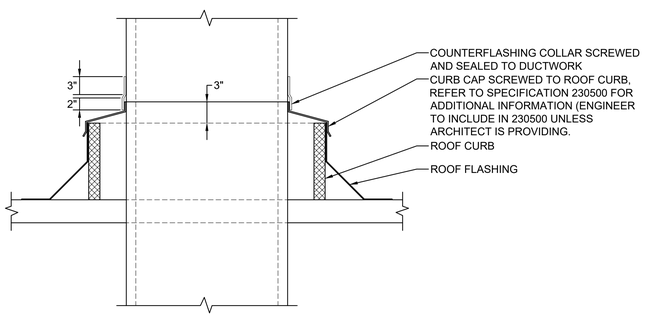
NOT TO SCALE



NOTES:
1. "K" = MINIMUM 1/2".
2. "H" = 1/2" PLUS MAXIMUM TOTAL STATIC PRESSURE.
3. SIZE TRAP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

COIL CONDENSATE TRAP DETAIL

NOT TO SCALE (POSITIVE PRESSURE)



DUCT THRU ROOF CURB DETAIL

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

MECHANICAL DETAILS

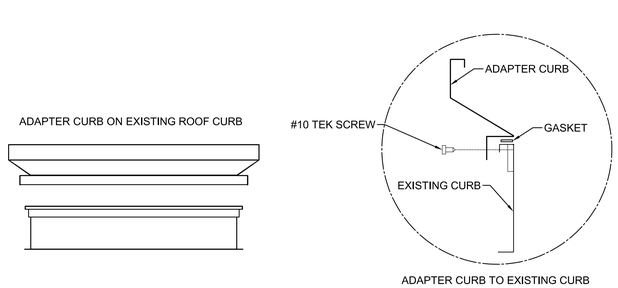
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

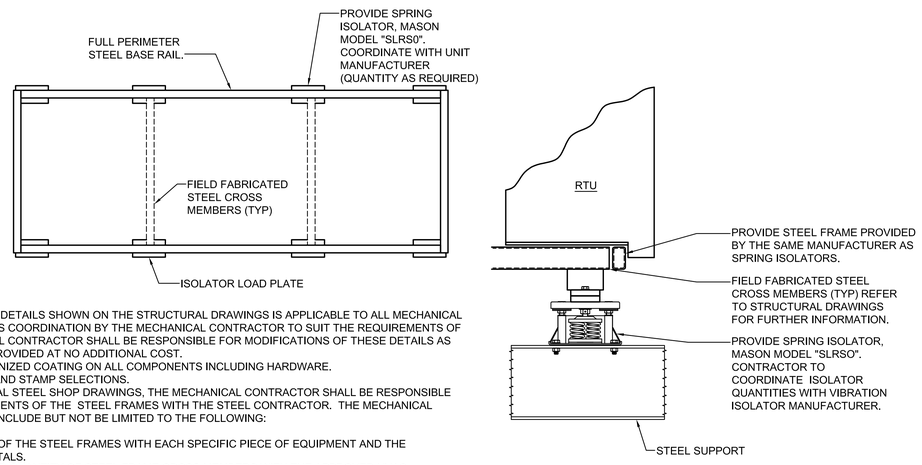
M-401

DATE: 09/08/2025



ADAPTER CURB DETAIL

NOT TO SCALE



NOTES:

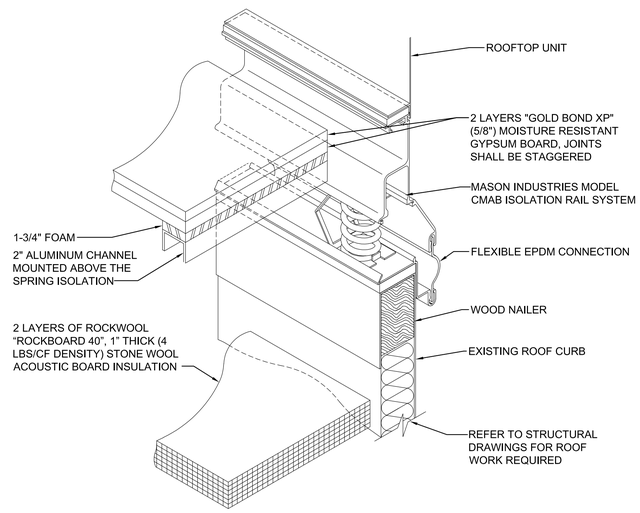
1. THE TYPICAL STEEL FRAME PLAN AND DETAILS SHOWN ON THE STRUCTURAL DRAWINGS IS APPLICABLE TO ALL MECHANICAL UNITS. THIS TYPICAL DETAIL REQUIRES COORDINATION BY THE MECHANICAL CONTRACTOR TO SUIT THE REQUIREMENTS OF THE UNIT PROVIDED. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFICATIONS OF THESE DETAILS AS REQUIRED TO SUIT THE EQUIPMENT PROVIDED AT NO ADDITIONAL COST.
2. STEEL FRAMING SHALL HAVE A GALVANIZED COATING ON ALL COMPONENTS INCLUDING HARDWARE.
3. ISOLATION MANUFACTURER TO SEAL AND STAMP SELECTIONS.
4. PRIOR TO SUBMISSION OF STRUCTURAL STEEL SHOP DRAWINGS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS OF THE STEEL FRAMES WITH THE STEEL CONTRACTOR. THE MECHANICAL CONTRACTOR COORDINATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

    a. COORDINATE THE DIMENSIONS OF THE STEEL FRAMES WITH EACH SPECIFIC PIECE OF EQUIPMENT AND THE APPROVED EQUIPMENT SUBMITTALS.
    b. COORDINATE THE LOCATION AND QUANTITY OF STEEL FRAME CROSS MEMBERS WITH THE APPROVED HVAC EQUIPMENT AND INSULATION SUBMITTALS.
    c. COORDINATE THE LOCATION, TYPE, QUANTITY AND ATTACHMENT REQUIREMENTS FOR ISOLATORS WITH THE ISOLATOR MANUFACTURER AND APPROVED SPRING ISOLATOR SUBMITTALS.

ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL

NOT TO SCALE

(RTU-1, 2, 3, 5, 6, 8, 9, 10, 12, 13, 14, 16 & 17)



ROOFTOP UNIT MOUNTING DETAIL

NOT TO SCALE

(RTU-11, 15, 18 & 19)

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KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GOV ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6415, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL DETAILS

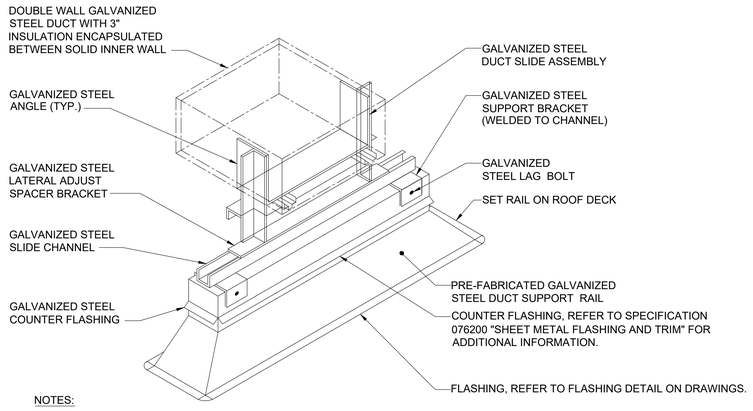
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-402

DATE: 09/08/2025

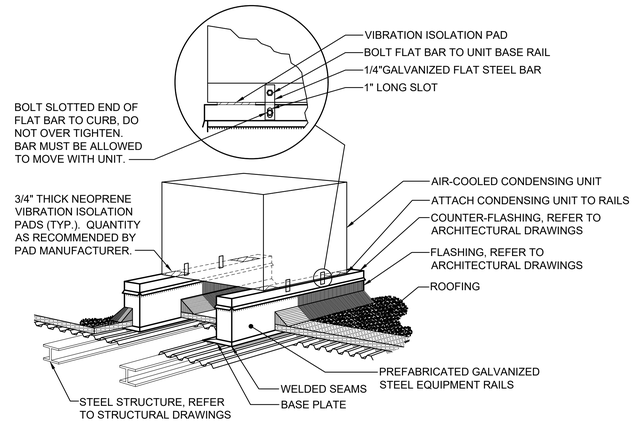


NOTES:

1. DUCT SUPPORTS SHALL BE SPACED A MAXIMUM OF 4'-0" APART.
2. ANGLE IRON SUPPORTS SHALL BE SIZED IN ACCORDANCE WITH SMACNA DUCTWORK SUPPORT DETAILS OR IN ACCORDANCE WITH AND STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER. THE SIZING OF THE SUPPORTS SHALL INCLUDE WIND LOADING.

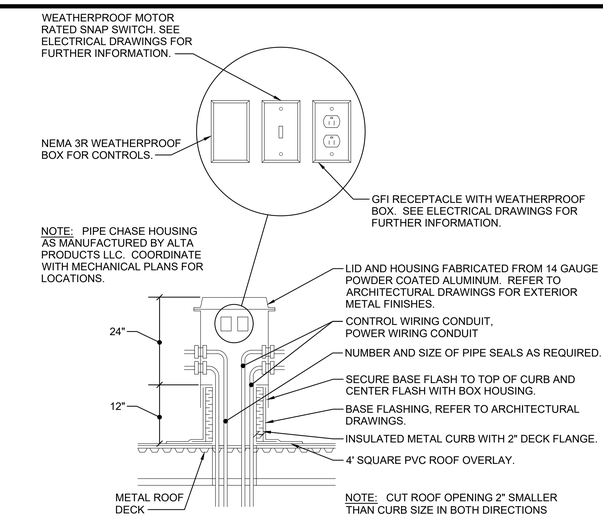
TYPICAL ROOF MOUNTED DUCT SUPPORT DETAIL

NOT TO SCALE (RTU-1, 2, 3, 5 & 6)



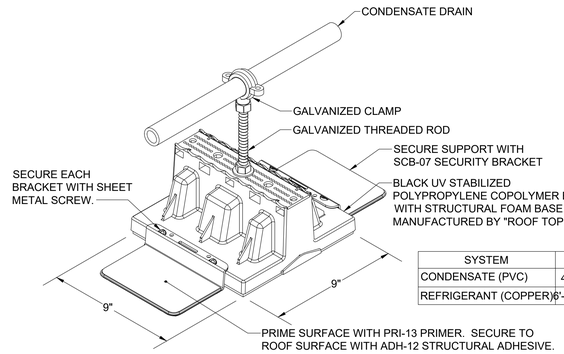
TYPICAL CONDENSING UNIT CURB DETAIL

NOT TO SCALE (CU-4, 7, 7A & OU-1 THROUGH OU-4)



REFRIGERANT PIPING AND POWER THROUGH ROOF DETAIL

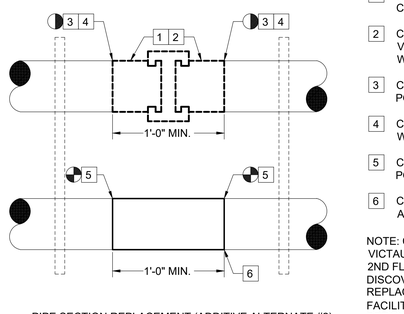
NOT TO SCALE (CU-7 & 7A)



SYSTEM	SPACING
CONDENSATE (PVC)	4'-0" ON CENTERS
REFRIGERANT (COPPER)	6'-0" ON CENTERS

PIPING SUPPORT DETAIL

NOT TO SCALE



PIPE SECTION REPLACEMENT (ADDITIVE ALTERNATE #2)

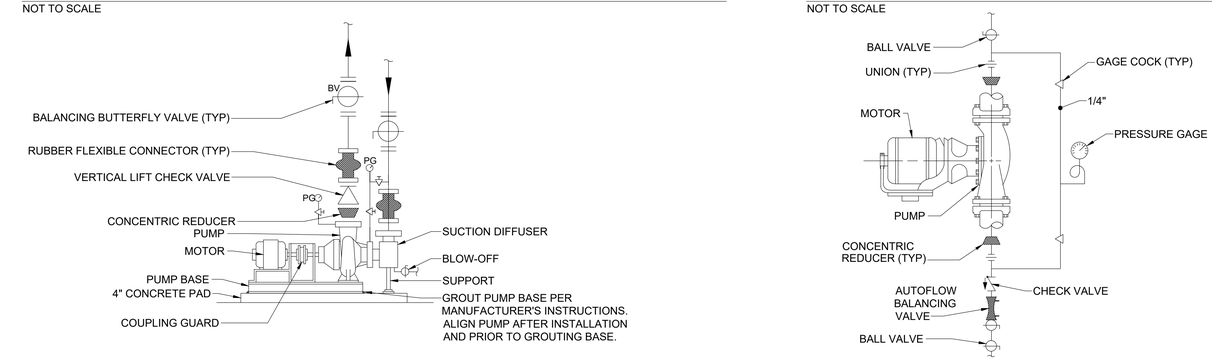
NOTES: (THIS DETAIL ONLY)

1. CONTRACTOR TO REMOVE VICTAULIC COUPLING COMPLETE.
2. CONTRACTOR TO INSPECT THE AREA AROUND THE VICTAULIC COUPLING FOR DETERIORATION PREVENTING WELDED PIPE INSTALLATION.
3. CONTRACTOR TO CUT AND REMOVE PIPE SECTION AT POINT INDICATED.
4. CONTRACTOR TO REMOVE CEILING IN AREAS WHERE WELDING WILL OCCUR.
5. CONTRACTOR TO BUTTWELD SPOOL PIPE PIECE AT POINT INDICATED.
6. CONTRACTOR TO PROVIDE FIREWATCH PERSONNEL AND FIRE BLANKET PROTECTION.

NOTE: CONTRACTOR TO REMOVE AND REPLACE APPROXIMATELY 160 VICTAULIC CONNECTIONS IN THE MAIN PIPING HEADER OF THE 1ST AND 2ND FLOORS. NEW WELDED CONNECTIONS SHALL BE INSTALLED. UPON DISCOVERY OF PIPE DETERIORATION PREVENTING CONNECTION REPLACEMENT, CONTRACTOR SHALL REPLACE PIPE SECTION TO FACILITATE THE REPLACEMENT. REFER TO "PIPE REPLACEMENT DETAIL" ON DRAWING M-403. REFER TO PIPING DRAWINGS FOR PIPE SIZES AND LOCATION OF PIPING AND COUPLING FITTINGS.

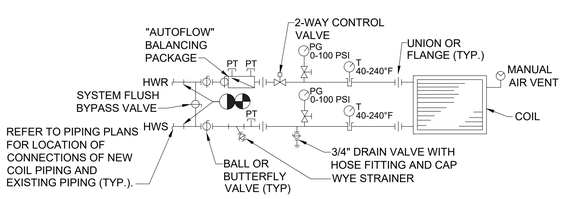
PIPE REPLACEMENT DETAIL

NOT TO SCALE



BASE MOUNTED END SUCTION PUMP PIPING DETAIL

NOT TO SCALE

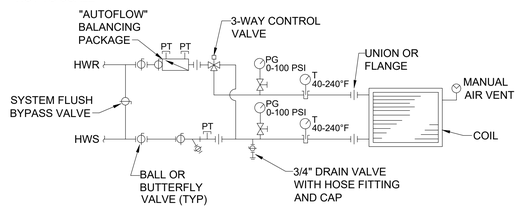


NOTES:

1. ARRANGE PIPING TO PERMIT REMOVAL OF COIL IN RTU'S.
2. THIS DIAGRAM APPLIES TO ALL NEW HOT WATER COILS AND INCLUDES ALL NEW DEVICES SHOWN IN THIS DIAGRAM.

HOT WATER COIL PIPING DIAGRAM - 2 WAY VALVE

NOT TO SCALE

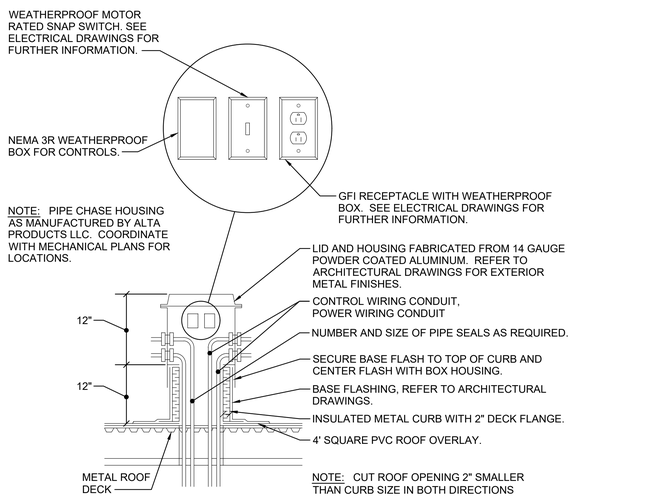


NOTES:

1. PROVIDE FOR AHU-4, 7A & 7B.

HOT WATER COIL PIPING DIAGRAM - 3 WAY VALVE

NOT TO SCALE



REFRIGERANT PIPING AND POWER THROUGH ROOF DETAIL

NOT TO SCALE (OU-1 THROUGH OU-4)

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, SUITE 420 HAMPTON, VA 23666
2609 S. LYNNHAVEN ROAD, SUITE 113 VA BEACH, VA 23452
TEL (757) 599-0415 (757) 599-6435
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL DETAILS

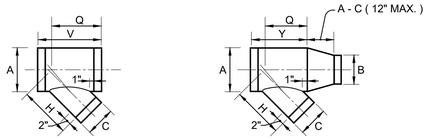
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-403

DATE: 09/08/2025



(ONE TAP) V = 1.414 D + 4.8"
(TWO TAPS) V = 1.414 (C + D) + 9.7"

$Q = \frac{A}{2} + .707C + 3.414$

$H = .707A + \frac{C}{2} + 4.414$

ROUND LATERAL

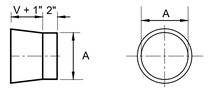
(ONE TAP) V = 1.414 D + 4.8"
(TWO TAPS) V = 1.414 (C + D) + 9.7"

$Q = \frac{A}{2} + .707C + 3.414$

$H = .707A + \frac{C}{2} + 4.414$

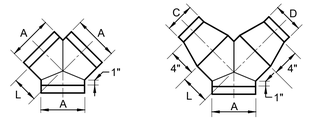
ROUND REDUCING LATERAL

BRANCH TAKEOFFS



V = 4 1" FOR MINOR AXIS OF 22" OR LESS
V = 6 1" FOR MINOR AXIS 23" TO 38"
V = 8" FOR MINOR AXIS OVER 38"

ROUND BELLMOUTH



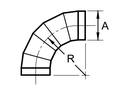
$L = \frac{A}{2} + 2"$

ROUND LATERAL

$L = \frac{A}{2} + 2"$

ROUND REDUCING LATERAL

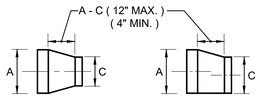
ROUND "Y" BRANCH



R = 1.5A + 3"

3" - 20" DIA.

ROUND ELBOWS

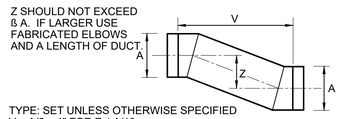


CONCENTRIC ECCENTRIC

ROUND REDUCERS

BEAD = é" FOR A = 3" - 23"
BEAD = ñ" FOR A = 24" AND OVER

ROUND COUPLINGS



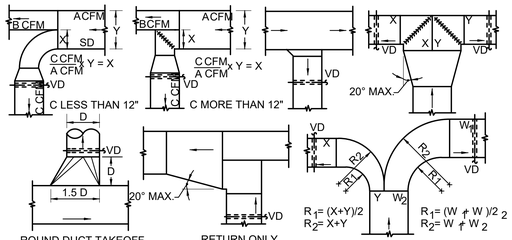
TYPE: SET UNLESS OTHERWISE SPECIFIED
V = A/2 + 4" FOR Z ¢ A/10
V = A + 4" FOR A/10 < Z ¢ A/4
V = 2A + 4" FOR A/4 < Z
SPECIFY: Z - CENTERLINE OFFSET

ROUND OFFSETS

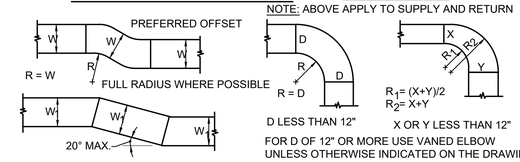
LOW VELOCITY SINGLE-WALL ROUND DUCT FITTING DETAILS

NOT TO SCALE

REFER TO DUCTWORK CONSTRUCTION REQUIREMENTS



NOTE: ABOVE APPLY TO SUPPLY AND RETURN



FOR D OF 12" OR MORE USE VANED ELBOW
UNLESS OTHERWISE INDICATED ON THE DRAWING.

LOW VELOCITY SINGLE WALL RECTANGULAR DUCTWORK DETAILS

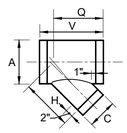
NOT TO SCALE

REFER TO DUCTWORK CONSTRUCTION REQUIREMENTS

DUCTWORK CONSTRUCTION REQUIREMENTS

SYSTEM	PRESSURE CLASS	SEAL CLASS	LEAKAGE CLASS
SUPPLY AIR	+6.0" WG	CLASS A	RECTANGULAR - 4 ROUND - 2
RETURN AIR	-1.0" WG	CLASS A	RECTANGULAR - 8 ROUND - 4
EXHAUST AIR	-1.0" WG	CLASS A	RECTANGULAR - 8 ROUND - 4
TRANSFER AIR	N/A	NOT REQUIRED	-

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



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(TWO TAPS) V = 1.414 (C + D) + 9.7"

$Q = \frac{A}{2} + .707C + 3.414$

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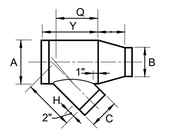
ROUND LATERAL



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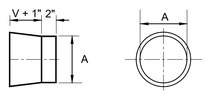
ROUND REDUCING LATERAL

BRANCH TAKEOFFS



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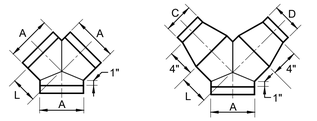
ROUND BELLMOUTH



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ROUND LATERAL

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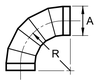
ROUND REDUCING LATERAL

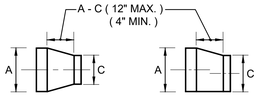
ROUND "Y" BRANCH



R = 1.5A + 3"

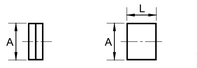
3" - 20" DIA.

ROUND ELBOWS



CONCENTRIC ECCENTRIC

ROUND REDUCERS



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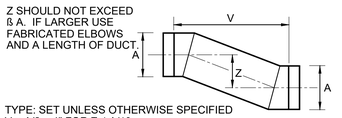
ROUND COUPLINGS



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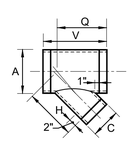
SPECIFY: Z - CENTERLINE OFFSET

ROUND OFFSETS

MEDIUM PRESSURE SINGLE-WALL ROUND DUCTWORK FITTING DETAILS

NOT TO SCALE

REFER TO DUCTWORK CONSTRUCTION REQUIREMENTS



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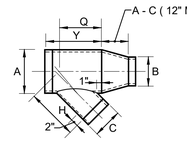

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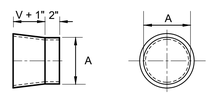

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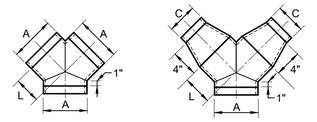

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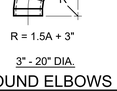

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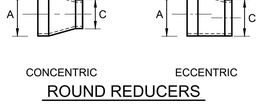

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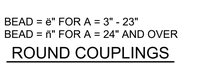

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ROUND OFFSETS

MEDIUM PRESSURE DOUBLE-WALL ROUND DUCT FITTING DETAILS

NOT TO SCALE

REFER TO DUCTWORK CONSTRUCTION REQUIREMENTS

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
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22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

MECHANICAL DETAILS

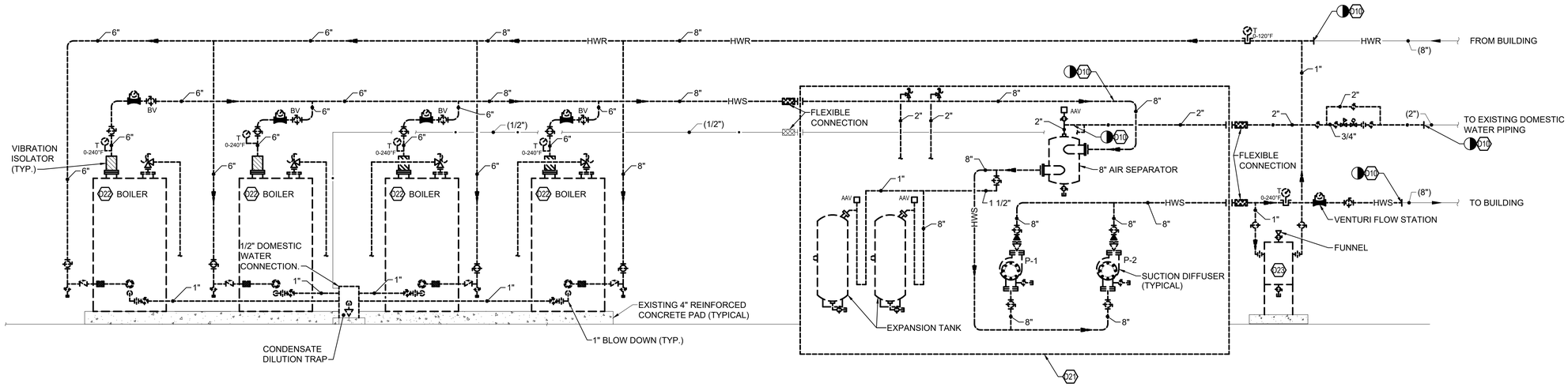
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

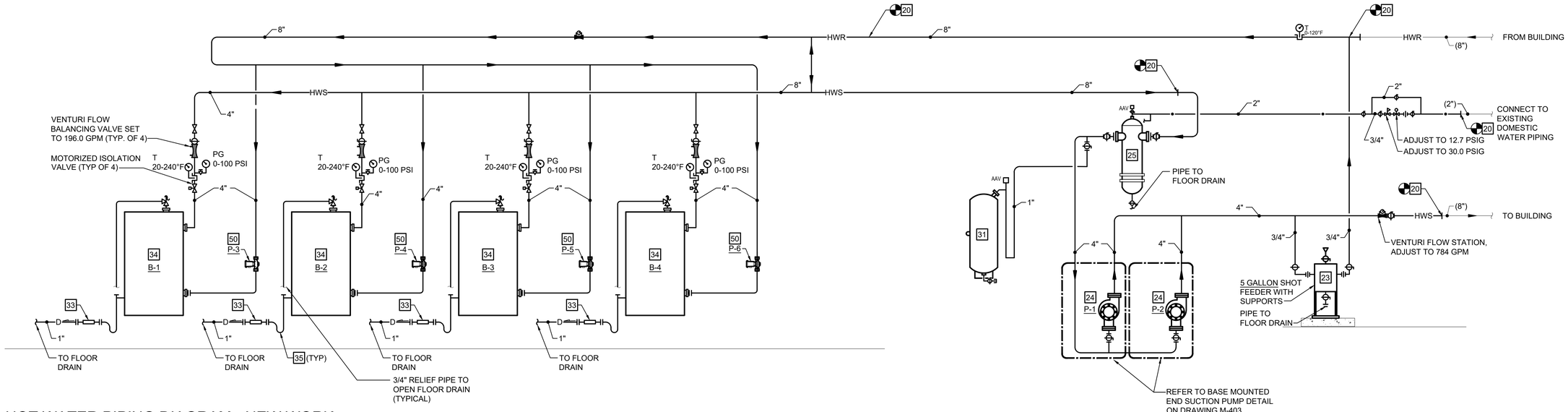
M-404

DATE: 09/08/2025



HOT WATER PIPING DIAGRAM - DEMOLITION

NOT TO SCALE



HOT WATER PIPING DIAGRAM - NEW WORK

NOT TO SCALE

DEMOLITION NOTES ⬡	
NO.	DESCRIPTION
D10	DISCONNECT AND REMOVE HOT WATER SUPPLY AND RETURN PIPING INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS TO POINT INDICATED. CAP WHERE REQUIRED. SAVE PIPE SUPPORTS WHERE POSSIBLE FOR REUSE.
D21	DISCONNECT AND REMOVE PUMP PACKAGE COMPLETE INCLUDING VFDS, AIR SEPARATOR, EXPANSION TANK, AND PIPING TO POINT INDICATED.
D22	DISCONNECT AND REMOVE BOILER AND CONTROL WIRING COMPLETE.
D23	REMOVE CHEMICAL FEED TANK COMPLETE.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
20	PROVIDE NEW HOT WATER SUPPLY/RETURN PIPING COMPLETE INCLUDING HANGERS AND SUPPORTS TO POINT INDICATED.
23	PROVIDE 5-GALLON 20 MICRON NEPTUNE FILTER CHEMICAL SHOT FEEDER (MODEL - FTF-5DB) OMIT FUNNEL. MOUNT ON EXISTING CONCRETE PAD. CONNECT TO EXISTING PIPING.
24	PROVIDE PUMP, CONTROLS AND ACCESSORIES COMPLETE. MOUNT PUMPS ON EXISTING CONCRETE PAD. REFER TO "BASE MOUNTED END SUCTION PUMP PIPING DETAIL" ON DRAWING M-403.
25	PROVIDE AIR/DIRT SEPARATOR SPIROTHERM, MODEL VDN800FA, OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. OBSERVE ALL SERVICE CLEARANCE REQUIREMENTS FOR REMOVABLE LOWER HEAD AND MEDIA.

NEW WORK NOTES ☐	
NO.	DESCRIPTION
31	PROVIDE 264 GALLON VOLUME ACCEPTANCE BLADDER EXPANSION TANK.
33	PROVIDE CONDENSATE NEUTRALIZATION KIT. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
34	PROVIDE LOCHINVAR BOILER AND CONTROLS COMPLETE. INSTALL ON EXISTING CONCRETE PAD.
35	TRAP BOILER CONDENSATE DRAIN PIPING IN ACCORDANCE WITH BOILER MANUFACTURER'S RECOMMENDATIONS.
50	PROVIDE PUMP, CONTROLS AND ACCESSORIES COMPLETE. REFER TO "IN-LINE VERTICAL PUMP DETAIL" ON DRAWING M-403.

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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL DIAGRAMS - DEMOLITION AND NEW WORK

REVISIONS

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DRAWN BY: SDH
CHECKED BY: KDA

M-405

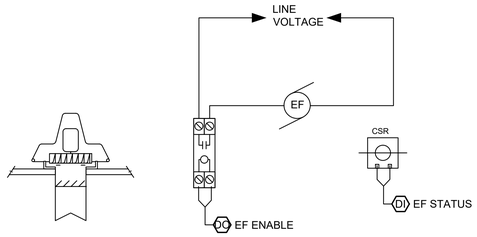
DATE: 09/08/2025

EXHAUST FAN GRAPHICAL USER INTERFACE MAIN SCREEN

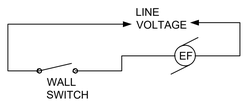
MISCELLANEOUS	Hardware Points				Software Points				
POINT NAME	AI	AO	BI	BO	AV	BV	TREND	ALARM	SHOW ON GRAPHIC
EXHAUST FANS									X
ENABLE/DISABLE				X			X		X
STATUS			X				X	X	X

GENERAL EXHAUST FANS

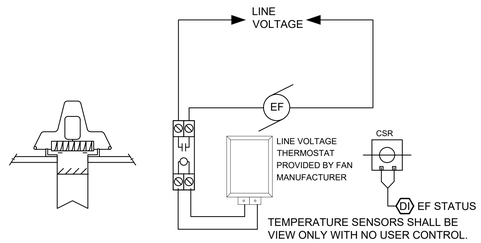
1. THE BAS SHALL ENABLE AND DISABLE THE DDC CONTROLLED EXHAUST FANS BASED ON THE OWNER'S OCCUPANCY SCHEDULE. THE BAS SHALL MONITOR COMMAND AND RUN STATUS INDICATIONS AND TRANSMIT AN ALARM TO THE DDC OPERATOR'S WORKSTATION ANYTIME THE FAN'S COMMANDED STATE DOES NOT MATCH THE RUN STATUS INDICATION.
2. EXHAUST FANS SERVED BY FAN SWITCHES SHALL NOT BE REQUIRED TO INTERFACE WITH THE DDC SYSTEM.
3. EXHAUST FANS SERVED BY LINE VOLTAGE THERMOSTATS SHALL BE ENABLED WHEN SPACE TEMPERATURE RISES ABOVE SETPOINT (85°F), AND DISABLED WHEN SPACE TEMPERATURE FALLS BELOW SETPOINT.



BAS CONTROLLED EF DIAGRAM
NOT TO SCALE (TYP. EF-1 THRU 3, 5 THRU 9, 14 THRU 20)

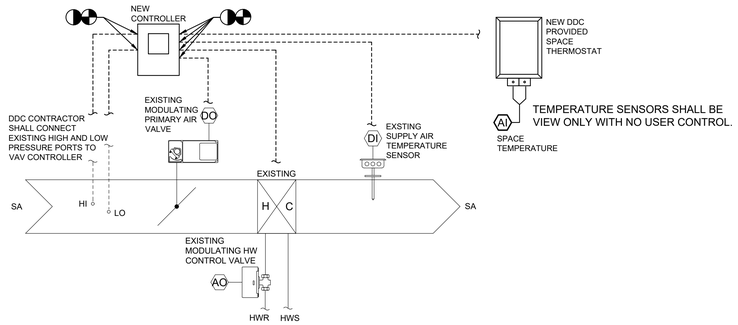


SWITCH-CONTROLLED EF DIAGRAM
NOT TO SCALE (TYP. EF-10 THRU 13)



THERMOSTAT CONTROLLED EF DIAGRAM
NOT TO SCALE (EF-4 ONLY)

EXHAUST FAN DIAGRAMS
NOT TO SCALE

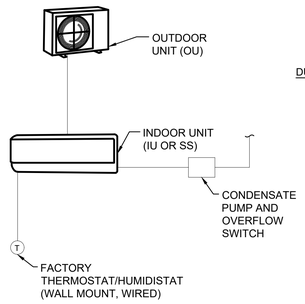


SINGLE DUCT SHUT OFF VAV TERMINAL UNIT CONTROL DIAGRAM (NEW)
NOT TO SCALE

GRAPHICAL USER INTERFACE MAIN SCREEN

	HARDWARE POINTS				SOFTWARE POINTS				
POINT NAME	AI	AO	BI	BO	AV	BV	TREND	ALARM	SHOW ON GRAPHIC
SPACE TEMPERATURE	X						X	X	X
SPACE TEMPERATURE SETPOINT					X		X		X
DISCHARGE AIR TEMPERATURE	X						X	X	X
HOT WATER CONTROL VALVE		X					X	X	X

NOTE: THE GRAPHICS SHALL INCLUDE THE SETPOINT DISPLAY FOR EACH CONTROLLED OR MONITORED VARIABLE.



DUCTLESS SPLIT SYSTEM INDOOR UNIT/COMPUTER ROOM AC SYSTEM

A. THE UNIT WILL OPERATE IN HEATING OR COOLING MODE AS CONTROLLED BY IT'S WALL MOUNTED THERMOSTAT PROVIDED WITH THE UNIT.

DUCTLESS SPLIT SYSTEM/CRAC UNIT DIAGRAM
NOT TO SCALE (TYP. IU-1/OU-1 THRU IU-3/OU-3 & SS-1/OU-4)

SINGLE DUCT SHUT OFF VAV TERMINAL UNIT SEQUENCE OF OPERATION (NEW)

SINGLE DUCT VAV BOX WITH HOT WATER RE-HEAT

1. BUILDING AUTOMATION SYSTEM INTERFACE:
   a. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED AND UNOCCUPIED COMMANDS. THE BAS SHALL ALSO SEND A HEAT/COOL MODE, PRIORITY SHUTDOWN COMMANDS, SPACE TEMPERATURE AND/OR SPACE TEMPERATURE SETPOINT. IF COMMUNICATION IS LOST WITH THE BAS, THE VAV CONTROLLER SHALL OPERATE USING ITS LOCAL SETPOINTS.
2. OCCUPANCY MODE:
   a. THE OCCUPANCY MODE SHALL BE COMMUNICATED OR HARDWIRED TO THE VAV VIA A BINARY INPUT. VALID OCCUPANCY MODES FOR THE VAV SHALL BE:
3. OCCUPIED:
   a. NORMAL OPERATING MODE FOR OCCUPIED SPACES OR DAYTIME OPERATION. WHEN THE UNIT IS IN THE OCCUPIED MODE THE VAV SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE OCCUPIED HEATING OR COOLING SETPOINT. APPLICABLE VENTILATION AND AIRFLOW SETPOINTS SHALL BE ENFORCED. THE OCCUPIED MODE SHALL BE THE DEFAULT MODE OF THE VAV.
4. UNOCCUPIED:
   a. NORMAL OPERATING MODE FOR UNOCCUPIED SPACES OR NIGHTTIME OPERATION. WHEN THE UNIT IS IN UNOCCUPIED MODE THE VAV CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE STORED UNOCCUPIED HEATING OR COOLING SETPOINT REGARDLESS OF THE PRESENCE OF A HARDWIRED OR COMMUNICATED SETPOINT. WHEN THE SPACE TEMPERATURE EXCEEDS THE ACTIVE UNOCCUPIED SETPOINT THE VAV SHALL MODULATE FULLY CLOSED.
6. HEAT/COOL MODE:
   a. THE HEAT/COOL MODE SHALL BE SET BY A COMMUNICATED VALUE OR AUTOMATICALLY BY THE VAV. IN STANDALONE OR AUTO MODE THE VAV SHALL COMPARE THE PRIMARY AIR TEMPERATURE WITH THE CONFIGURED AUTO CHANGEOVER SETPOINT TO DETERMINE IF THE AIR IS "HOT" OR "COLD". HEATING MODE SHALL COMMAND THE VAV TO HEAT ONLY; IT IMPLIES THE PRIMARY AIR TEMPERATURE IS HOT. COOLING MODE SHALL COMMAND THE VAV TO COOL ONLY; IT IMPLIES THE PRIMARY AIR TEMPERATURE IS COLD.
7. HEAT/COOL SETPOINT:
   a. THE SPACE TEMPERATURE SETPOINT SHALL BE DETERMINED EITHER BY A LOCAL (E.G., THUMBWHEEL) SETPOINT, THE VAV DEFAULT SETPOINT OR A COMMUNICATED VALUE. THE VAV SHALL USE THE LOCALLY STORED DEFAULT SETPOINTS WHEN NEITHER A LOCAL SETPOINT NOR COMMUNICATED SETPOINT IS PRESENT. IF BOTH A LOCAL SETPOINT AND COMMUNICATED SETPOINT EXIST, THE VAV SHALL USE THE COMMUNICATED VALUE.
8. COOLING MODE:
   a. WHEN THE UNIT IS IN COOLING MODE, THE VAV CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE COOLING SETPOINT BY MODULATING THE AIRFLOW BETWEEN THE ACTIVE COOLING MINIMUM AIRFLOW SETPOINT TO THE MAXIMUM COOLING AIRFLOW SETPOINT. BASED ON THE VAV CONTROLLER OCCUPANCY MODE, THE ACTIVE COOLING SETPOINT SHALL BE ONE OF THE FOLLOWING:

SETPOINT	DEFAULT VALUE
OCCUPIED COOLING SETPOINT	74.0 DEG. F
UNOCCUPIED COOLING SETPOINT	85.0 DEG. F
OCCUPIED STANDBY COOLING SETPOINT	78.0 DEG. F
OCCUPIED MIN COOLING AIRFLOW SETPOINT	SEE VAV SCHEDULE
OCCUPIED MAX COOLING AIRFLOW SETPOINT	SEE VAV SCHEDULE

   b. THE VAV SHALL USE THE MEASURED SPACE TEMPERATURE AND THE ACTIVE COOLING SETPOINT TO DETERMINE THE REQUESTED COOLING CAPACITY OF THE UNIT. THE OUTPUTS WILL BE CONTROLLED BASED ON THE UNIT CONFIGURATION AND THE REQUESTED COOLING CAPACITY.
9. HEATING MODE:
   a. WHEN THE UNIT IS IN HEATING MODE, THE VAV CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE AT THE ACTIVE HEATING SETPOINT BY MODULATING THE AIRFLOW BETWEEN THE ACTIVE HEATING MINIMUM AIRFLOW SETPOINT TO THE MAXIMUM HEATING AIRFLOW SETPOINT. BASED ON THE VAV CONTROLLER OCCUPANCY MODE, THE ACTIVE HEATING SETPOINT SHALL BE ONE OF THE FOLLOWING:

SETPOINT	DEFAULT VALUE
OCCUPIED HEATING SETPOINT	71.0 DEG. F
UNOCCUPIED HEATING SETPOINT	60.0 DEG. F
OCCUPIED STANDBY HEATING SETPOINT	67.0 DEG. F
OCCUPIED MIN HEATING AIRFLOW SETPOINT	SEE VAV SCHEDULE
OCCUPIED MAX HEATING AIRFLOW SETPOINT	SEE VAV SCHEDULE

   b. THE VAV CONTROLLER SHALL USE THE MEASURED SPACE TEMPERATURE AND THE ACTIVE HEATING SETPOINT TO DETERMINE THE REQUESTED HEATING CAPACITY OF THE UNIT. THE OUTPUTS WILL BE CONTROLLED BASED ON THE UNIT CONFIGURATION AND THE REQUESTED HEATING CAPACITY.
10. REHEAT CONTROL:
   a. REHEAT SHALL ONLY BE ALLOWED WHEN THE PRIMARY AIR TEMPERATURE IS 5.0 DEG. F BELOW THE CONFIGURED REHEAT ENABLE SETPOINT OF 70.0 DEG. F (ADJ.). THE REHEAT SHALL BE ENABLED WHEN THE SPACE TEMPERATURE DROPS BELOW THE ACTIVE COOLING SETPOINT AND THE AIRFLOW IS AT THE MINIMUM COOLING AIRFLOW SETPOINT. DURING REHEAT THE VAV SHALL OPERATE AT ITS MINIMUM HEATING AIRFLOW SETPOINT AND ENERGIZE THE HEAT AS FOLLOWS:
   b. HOT WATER REHEAT: IF THE SPACE TEMPERATURE IS BELOW THE HEATING SETPOINT THE BAS SHALL MODULATE THE HOT WATER VALVE OPEN TO THE COIL AS REQUIRED TO MAINTAIN THE ACTIVE HEATING SETPOINT.
11. SPACE SENSOR FAILURE:
   a. IF THERE IS A FAULT WITH THE OPERATION OF THE ZONE SENSOR AN ALARM SHALL BE ANNUNCIATED AT THE BAS. SPACE SENSOR FAILURE SHALL CAUSE THE VAV TO DRIVE THE DAMPER TO MINIMUM AIR FLOW IF THE VAV IS IN THE OCCUPIED MODE, OR DRIVE IT CLOSED IF THE VAV IS IN THE UNOCCUPIED MODE.

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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL DIAGRAMS

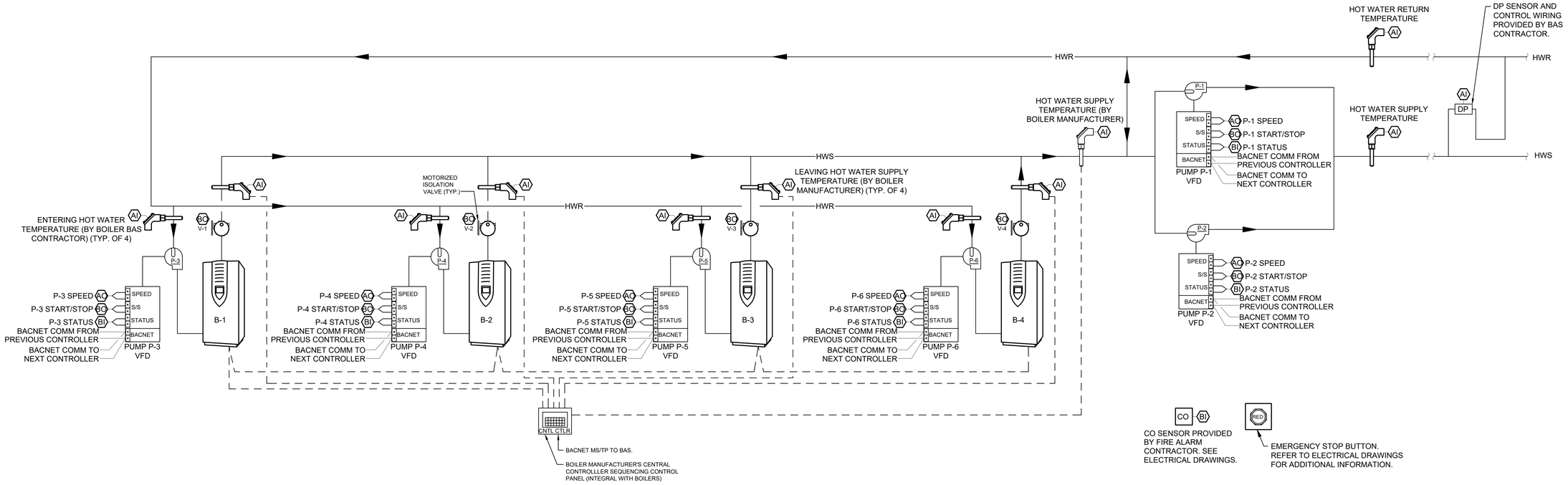
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-501

DATE: 09/08/2025



HOT WATER CONTROL DIAGRAM

NOT TO SCALE

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARMS	SHOW ON GRAPHIC
HOT WATER RETURN TEMP	X					X	X	X	X
HOT WATER SUPPLY TEMP	X					X	X	X	X
OUTSIDE AIR TEMP					X				X
P-1 STATUS			X				X	X	X
P-1 START/STOP				X					X
P-1 SPEED	X								X
P-1 RUNTIME	X							X	X
P-2 STATUS			X				X	X	X
P-2 START/STOP				X					X
P-2 SPEED	X								X
P-2 RUNTIME	X							X	X
P-3 STATUS			X				X	X	X
P-3 START/STOP				X					X
P-3 SPEED	X								X
P-3 RUNTIME	X							X	X
P-4 STATUS			X				X	X	X
P-4 START/STOP				X					X
P-4 SPEED	X								X
P-4 RUNTIME	X							X	X
P-5 STATUS			X				X	X	X
P-5 START/STOP				X					X
P-5 SPEED	X								X
P-5 RUNTIME	X							X	X
P-6 STATUS			X				X	X	X
P-6 START/STOP				X					X
P-6 SPEED	X								X
P-6 RUNTIME	X							X	X
LOW WATER LEVEL			X			X	X	X	X
B-1/B-2/B-3/B-4 ENABLE COMMAND				X					X
B-1/B-2/B-3/B-4 STATUS			X			X		X	X
B-1/B-2/B-3/B-4 FAULT			X					X	X
B-1/B-2/B-3/B-4 ISOLATION VALVE POSITION			X				X	X	X
B-1/B-2/B-3/B-4 ENTERING HW TEMPERATURE POINTS	X						X	X	X
B-1/B-2/B-3/B-4 LEAVING HW TEMPERATURE POINTS	X						X	X	X
CARBON MONOXIDE SENSOR			X					X	X
SYSTEM DIFFERENTIAL PRESSURE	X							X	X

HOT WATER SYSTEM POINTS LIST

HOT WATER SYSTEM SEQUENCE OF OPERATION

THE BAS SHALL ENABLE/DISABLE HOT WATER PUMPS AND ENABLE/DISABLE THE BOILERS THROUGH THE BOILER MANUFACTURER'S SEQUENCING PANEL, TO CONTROL THE HOT WATER SUPPLY TEMPERATURE TO THE SYSTEM. BOILERS SHALL BE STAGED BASED ON SYSTEM DEMAND BY THE BOILER MANUFACTURER'S INTEGRAL CONTROL PANEL AND MAINTAIN LEAVING HOT WATER TEMPERATURE BASED ON AN EXTERNAL HEATING WATER TEMPERATURE CONTROL SIGNAL FROM THE BAS SYSTEM. IF THE SYSTEM LOAD SHOULD BEGIN TO FALL BELOW THE LOAD CAPACITY OF THE BOILERS, THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL SEQUENCE OFF BOILERS SO THAT NO MORE BOILERS ARE IN OPERATION THAN IS REQUIRED TO MEET THE REDUCED LOAD. THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL ALTERNATE LEAD AND LAG BOILERS ON A WEEKLY BASIS. THE BAS CONTROLS SHALL ENABLE AND DISABLE THE BOILER SEQUENCER PANEL, MONITOR HOT WATER SUPPLY AND RETURN TEMPERATURE, AND MONITOR BOILER ALARM STATUS. THE BOILER SEQUENCER PANEL SHALL ENABLE/DISABLE THE BOILER PUMPS, OPEN THE MOTORIZED ISOLATION VALVE PRIOR TO ENABLING ANY BOILER AND CLOSE THE VALVE AFTER ANY BOILER IS DISABLED.

1. PRIMARY/SECONDARY HOT WATER PUMP CONTROL (TYP. FOR P-1 & P-2):

   THE BAS SHALL ENABLE/DISABLE THE PUMPS AND MODULATE THEIR SPEED AS REQUIRED BY SYSTEM DEMANDS. THE SYSTEM SHALL MAINTAIN DIFFERENTIAL PRESSURE AT A REMOTE LOCATION FOR THE HOT WATER SYSTEM AS INDICATED IN THE CONTROL DIAGRAM. THE SETPOINT SHALL BE USED TO PROPERLY CONTROL THE PRESSURE IN THE SYSTEM AND OPTIMIZE THE PUMP OPERATION AND SYSTEM OPERATION. THE DDC CONTROLLER SHALL HAVE FIELD PROGRAMMABLE INDEPENDENT SETPOINTS, THE VALUE OF WHICH SHALL BE THE OPTIMUM DIFFERENTIAL PRESSURE AS DESIGNED FOR THE REMOTE LOCATION INDICATED IN THE CONTROL DIAGRAM.

2. DOWNSTREAM DIFFERENTIAL PRESSURE CONTROL: AFTER THE LEAD HOT WATER PUMP HAS STARTED, AS PREVIOUSLY DESCRIBED, THE BAS SHALL CONTROL PUMP SPEED TO MAINTAIN DOWNSTREAM HEATING WATER DIFFERENTIAL PRESSURE AT ITS SETPOINT. THE DOWNSTREAM DIFFERENTIAL PRESSURE TRANSMITTER SHALL INPUT THE DOWNSTREAM HOT WATER DIFFERENTIAL PRESSURE TO THE BAS. SHOULD THE DOWNSTREAM HOT WATER DIFFERENTIAL PRESSURE BEGIN TO FALL BELOW ITS SETPOINT, THE BAS SHALL SIGNAL THE PUMP VFD TO INCREASE PUMP SPEED. SHOULD THE DOWNSTREAM HEATING WATER DIFFERENTIAL PRESSURE BEGIN TO RISE ABOVE ITS SETPOINT, THE REVERSE SHALL OCCUR.

3. BOILER CONTROL (TYP. FOR B-1 THRU B-4):

   a. THE BOILER SYSTEM CONTROLS SHALL BE INTEGRATED TO THE BUILDING BAS THROUGH BACNET MS/TP INTERFACE FOR MONITORING. ALL CONTROL SHALL BE VIA HARDWIRED CONNECTIONS.
   b. AFTER THE BAS HAS STARTED THE LEAD HOT WATER PUMP (P-1 OR P-2), AS PREVIOUSLY DESCRIBED, THE DDC SHALL ENABLE THE LEAD BOILER THROUGH THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL. THE LEAD BOILER SHALL OPERATE TO MAINTAIN LEAVING HEATING WATER TEMPERATURE AT ITS SETPOINT THROUGH ITS OWN CONTROLS.
   c. THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL SELECT A DIFFERENT BOILER WEEKLY TO ACT AS THE LEAD, INDEXING THE OTHER BOILERS AS LAG BOILERS IN SEQUENTIAL ORDER.
   d. THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL STAGE THE BOILERS TO MAXIMIZE TIME SPENT AT THE LOWEST FIRING RATE, MAXIMIZING EFFICIENCIES.

4. HEATING WATER RESET CONTROL (TYP. FOR EACH LOCATION):

   a. THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL RESET THE HEATING WATER SUPPLY TEMPERATURE INVERSELY WITH RESPECT TO THE OUTSIDE AIR TEMPERATURE AS MONITORED BY THE BAS SYSTEM BY CONTROLLING THE BOILER SUPPLY WATER TEMPERATURE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

HW SUPPLY TEMP (°F)	OUTSIDE AIR TEMP (°F)
160	20
110	65

   b. SHOULD THE HEATING WATER SUPPLY TEMPERATURE BEGIN TO FALL BELOW ITS CALCULATED SETPOINT, THE BOILER MANUFACTURER'S SEQUENCING CONTROL PANEL SHALL SEQUENCE ON ADDITIONAL BOILERS AS REQUIRED TO MAINTAIN HEATING WATER RESET SETPOINT. SHOULD THE HEATING WATER SUPPLY TEMPERATURE BEGIN TO RISE ABOVE ITS CALCULATED SETPOINT, THE REVERSE WILL OCCUR.

5. THE BOILER POWER SUPPLY SHALL BE HARD WIRED TO AN EMERGENCY STOP BUTTON. WHEN THE BUTTON IS ENABLED, ALL BOILERS SHALL LOSE POWER AND STOP. THE GAS SOLENOID VALVES WITHIN THE BOILER SHALL CLOSE.

6. UPON A SIGNAL FROM THE FIRE ALARM CONTROL PANEL THAT CARBON MONOXIDE HAS BEEN DETECTED, THE BAS SHALL SHUT DOWN THE BOILERS AND SEND AN ALARM TO THE OWNER'S WORKSTATION. THE FIRE ALARM CONTRACTOR SHALL PROVIDE THE CO SENSOR AND A REMOTE ADDRESSABLE RELAY LOCATED NEAR THE MAIN DDC PANELS IN THE BOILER ROOM. THE BAS SHALL MONITOR THE RELAY FOR DETECTION OF CO BY THE FIRE ALARM SYSTEM. A MANUAL RESET OF THE BOILERS SHALL BE REQUIRED. THE ALARM REQUIREMENTS, AS SPECIFIED IN UL2034, ARE INDICATED BELOW:
   a. 30 PPM - ALARM AFTER 8 HOURS
   b. 70 PPM, ALARM AFTER 1 HOUR
   c. 150 PPM - ALARM AFTER 10 MINUTES
   d. 300 PPM - ALARM AFTER 4 MINUTES

7. FREEZE PROTECTION: BOILER SHALL TURN ON THE BOILER AND SYSTEM PUMPS WHEN THE BOILER WATER TEMPERATURE FALLS BELOW 45°F.

8. BACNET INTEGRATION WITH 0-10V DC INPUT: THE CONTROL SHALL ALLOW AN OPTION TO ENABLE AND CONTROL SET POINT TEMPERATURE OR CONTROL FIRING RATE BY SENDING THE BOILER A 0-10V INPUT SIGNAL.

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

MECHANICAL CONTROL DIAGRAMS

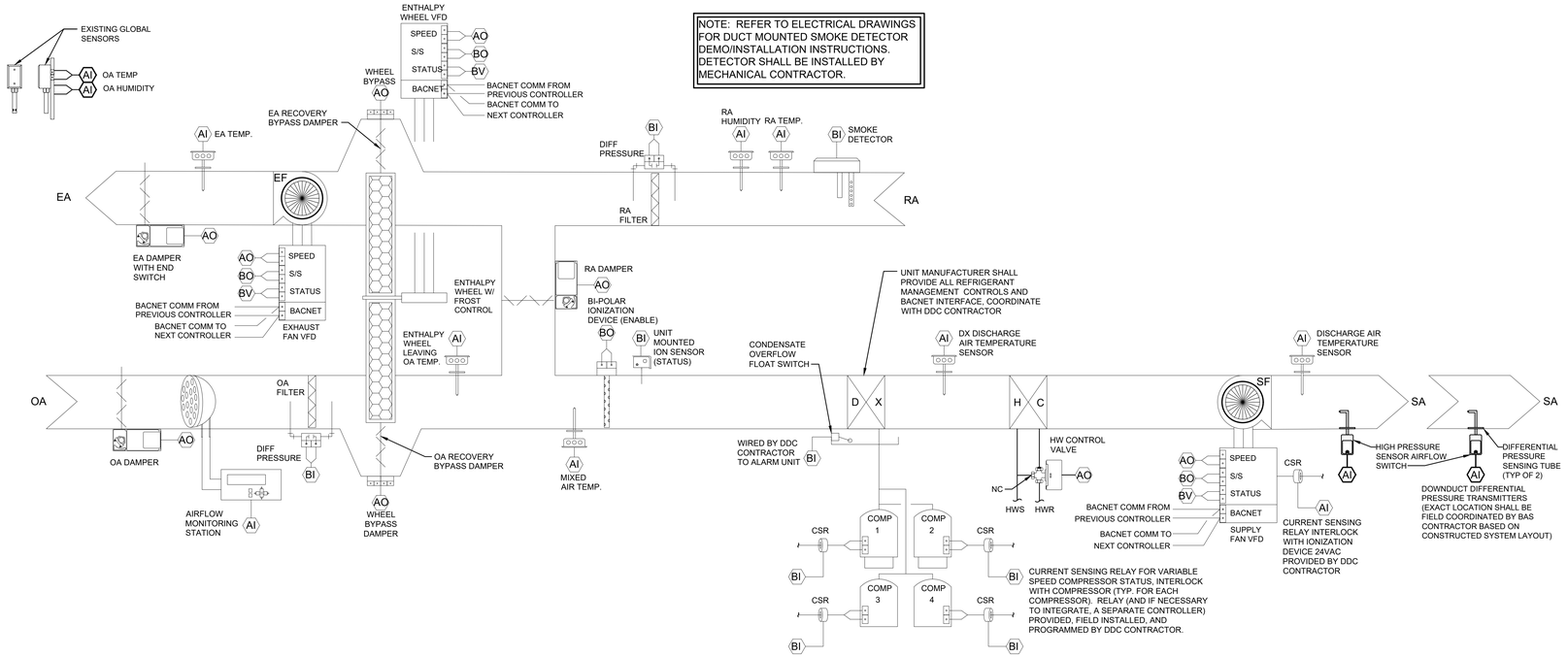
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-502

DATE: 09/08/2025



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

LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HC	HEATING COIL
HW	HOT WATER
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

MULTIPLE ZONES VARIABLE AIR VOLUME PACKAGED ROOFTOP AIR CONDITIONING UNIT WITH ENERGY RECOVERY WHEEL CONTROL DIAGRAM (RTU-1,10, 11, 15, 16 & 17)

NOT TO SCALE

MULTIPLE ZONES VARIABLE AIR VOLUME PACKAGED ROOFTOP AIR CONDITIONING UNIT WITH ENERGY RECOVERY WHEEL SEQUENCE OF OPERATION (RTU-1,10, 11, 15, 16 & 17)

A. THE UNIT MOUNTED CONTROLLER SHALL ENERGIZE THE UNIT THROUGH ITS OPTIMIZATION PROGRAM FOR MORNING WARM-UP. DURING MORNING WARM-UP, THE OUTSIDE AIR, EXHAUST, AND WHEEL BYPASS DAMPERS SHALL REMAIN FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, THE ENERGY RECOVERY WHEEL SHALL BE DISABLED, AND THE SUPPLY FAN SHALL BE ENABLED. UNIT SUPPLY AIR TEMPERATURE SHALL BE RESET UPWARD TO 80°F (ADJ.). "OCCUPIED MODE" WHEN RETURN AIR TEMPERATURE REACHES 70°F (ADJ.), OR WHEN SCHEDULED BY THE BAS.

B. DURING OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN AND THE ENERGY RECOVERY WHEEL. THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN ITS PRESET MINIMUM AIRFLOW SETPOINT AS SENSED BY THE AIRFLOW MONITORING STATION AND CLOSE THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT. THE UNIT MOUNTED CONTROLLER SHALL OPEN THE EXHAUST AIR DAMPER. THE EXHAUST AIR DAMPER END SWITCH SHALL ENABLE THE EXHAUST FANS VARIABLE FREQUENCY DRIVE. THE RECOVERY BYPASS DAMPERS SHALL REMAIN CLOSED.

C. SUPPLY FAN SPEED SHALL BE CONTROLLED TO MAINTAIN DOWN DUCT SUPPLY AIR STATIC PRESSURE SETPOINT. SYSTEM SHALL MONITOR THE PRIMARY AIR VALVE POSITION ON ALL TERMINAL VARIABLE AIR VOLUME BOXES AND RESET THE SUPPLY DUCT STATIC PRESSURE SETPOINT SO THAT AT LEAST ONE TERMINAL VAV BOX PRIMARY AIR VALVE IS AT LEAST 95% OPEN. IF THE DISCHARGE STATIC PRESSURE RISES ABOVE THE STATIC HIGH-PRESSURE SETPOINT, (4" WC ADJ.) SUPPLY FAN SHALL BE DISABLED. MANUAL RESET SHALL BE REQUIRED TO RESTART UNIT.

D. THE EXHAUST AIR FAN VFD SHALL BE CONTROLLED BY THE OA AFMS TO MAINTAIN A FIXED CFM DIFFERENTIAL BETWEEN THE OA CFM AND THE EXHAUST AIR CFM (90%).

E. THE AIR-CONDITIONING UNIT HAS FOUR MODES OF OPERATION:

COOLING RECOVERY:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT AND THE RETURN AIR TEMPERATURE. IN THIS MODE, THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE CLOSED. THE AIR-COOLED CONDENSING UNIT SECTION COMPRESSORS SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (50°F ADJ.). THE DISCHARGE AIR SETPOINT SHALL BE INVERSELY RESET FROM SPACE TEMPERATURE.

COOLING NO RECOVERY MODE:

1. THIS MODE IS ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT BUT BELOW 70°F. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR RECOVERY DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN. THE AIR-COOLED CONDENSING UNIT SECTION COMPRESSORS SHALL CYCLE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (50°F ADJ.). THE DISCHARGE AIR SETPOINT SHALL BE INVERSELY RESET FROM SPACE TEMPERATURE.

COOLING ECONOMIZER MODE:

1. THIS MODE IS ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR-DRY BULB ECONOMIZING ENABLE SETPOINT AND BELOW THE RETURN AIR TEMPERATURE. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER WILL BE 100% OPEN, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN. WHEN THE ECONOMIZER MODE IS ENABLED, THE OUTSIDE AIR DAMPER SHALL MODULATE BETWEEN ITS MINIMUM FLOW SETPOINT AND ITS MAXIMUM FLOW SETPOINT, CLOSING THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT TO MAINTAIN THE DISCHARGE AIR TEMPERATURE 50°F (ADJ.). THE DISCHARGE AIR TEMPERATURE SHALL BE RESET FROM THE SPACE HAVING THE HIGHEST COOLING DEMAND.

HEATING RECOVERY MODE:

1. THIS MODE IS ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT, THE MIXED AIR TEMPERATURE IS BELOW THE DISCHARGE AIR TEMPERATURE SETPOINT 50°F (ADJ.), THE AIR-COOLED CONDENSING UNIT IS DE-ENERGIZED, AND THE OUTSIDE AIRFLOW IS AT THE MINIMUM FLOW SETTING. IN THIS MODE, THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE CLOSED. THE HOT WATER HEATING COIL CONTROL VALVE SHALL MODULATE OPEN TO MAINTAIN DISCHARGE AIR TEMPERATURE OF 50°F (ADJ.) SETPOINT OF THE UNIT CONTROLLER.

E. WHEN THE MIXED AIR TEMPERATURE FALLS BELOW THE FREEZE PROTECTION SETPOINT (40°F), THE UNIT MOUNTED CONTROLLER SHALL DISABLE THE SUPPLY AND EXHAUST FAN, FULLY CLOSE THE OUTSIDE AIR DAMPER, AND FULLY OPEN THE RETURN AIR DAMPER.

F. ON DETECTION OF PRODUCTS OF COMBUSTION, THE SMOKE DETECTOR SHALL STOP THE UNIT SUPPLY AIR FAN, EXHAUST AIR FAN, AND CLOSE THE OUTSIDE AIR DAMPER.

G. WHENEVER THE UNIT IS DE-ENERGIZED, THE DDC CONTROLLER SHALL MODULATE THE HOT WATER HEATING VALVE TO MAINTAIN 50°F AS SENSED BY THE HOT WATER HEATING COIL DISCHARGE SENSOR.

H. THE MECHANICAL COOLING SHALL BE LOCKED OUT IF THE SUPPLY FAN CFM FALLS BELOW 40% OF MAXIMUM. THE FAN RPM THAT RESULTS IN THIS CFM VALUE SHALL BE DETERMINED DURING THE UNIT FAN BALANCING.

I. ENTHALPY WHEEL FAILURE: ON DETECTION OF AN ENTHALPY WHEEL ROTATIONAL FAILURE, AND ALARM SHALL BE SENT TO ALL NETWORK TERMINALS, ALARM PRINTERS, AND THE CENTRAL OPERATOR COMPUTER. IN THE HEATING MODE, IF THE OUTSIDE AIR TEMPERATURE IS BELOW 40°F, THE UNIT SHALL BE COMMANDED TO HEATING MODE, AND THE UNIT CONTROLLER SHALL CLOSE THE OUTDOOR AND EXHAUST AIR DAMPERS FULLY, AND OPEN THE RECIRCULATION DAMPERS FULLY.

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
BAS ENABLE/DISABLE COMMAND				X	X	X	X		X
OCCUPIED/UNOCCUPIED MODE						X	X		X
OUTSIDE AIR TEMP (1)	X								X
OUTSIDE AIR HUMIDITY	X								X
OUTSIDE AIR DAMPER POSITION		X					X	X	X
OUTSIDE AIR FLOW RATE	X						X		X
OA FILTER STATUS			X					X	X
ENTHALPY WHEEL LAT	X						X		X
BIPOLAR IONIZATION ENABLE				X			X		X
CONDENSATE SWITCH			X					X	X
COMPRESSOR STATUS (2)			X						X
SMOKE DETECTOR			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
DOWN DUCT STATIC PRESSURE	X								X
DX DISCHARGE AIR TEMPERATURE									
RETURN AIR TEMP.	X						X	X	X
RETURN AIR HUMIDITY	X						X	X	X
RA FILTER STATUS			X					X	X
SPACE PRESSURE SETPOINT					X				X
OA RECOVERY BYPASS DAMPER		X							X
EA RECOVERY BYPASS DAMPER		X							X
ENERGY WHEEL SPEED		X					X		X
ENERGY WHEEL START/STOP				X					X
ENERGY WHEEL FAN STATUS						X	X	X	X
EXHAUST FAN SPEED		X					X		X
EXHAUST FAN START/STOP				X					X
EXHAUST FAN STATUS						X	X	X	X
EXHAUST AIR TEMP.	X						X	X	X
EXHAUST AIR DAMPER POSITION		X					X	X	X
RETURN AIR MIXING DAMPER		X					X		X
HOT WATER CONTROL VALVE		X					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.

MULTIPLE ZONES VARIABLE AIR VOLUME PACKAGED ROOFTOP AIR CONDITIONING UNIT WITH ENERGY RECOVERY WHEEL POINTS LIST (RTU-1,10, 11, 15, 16 & 17)

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL CONTROL DIAGRAMS

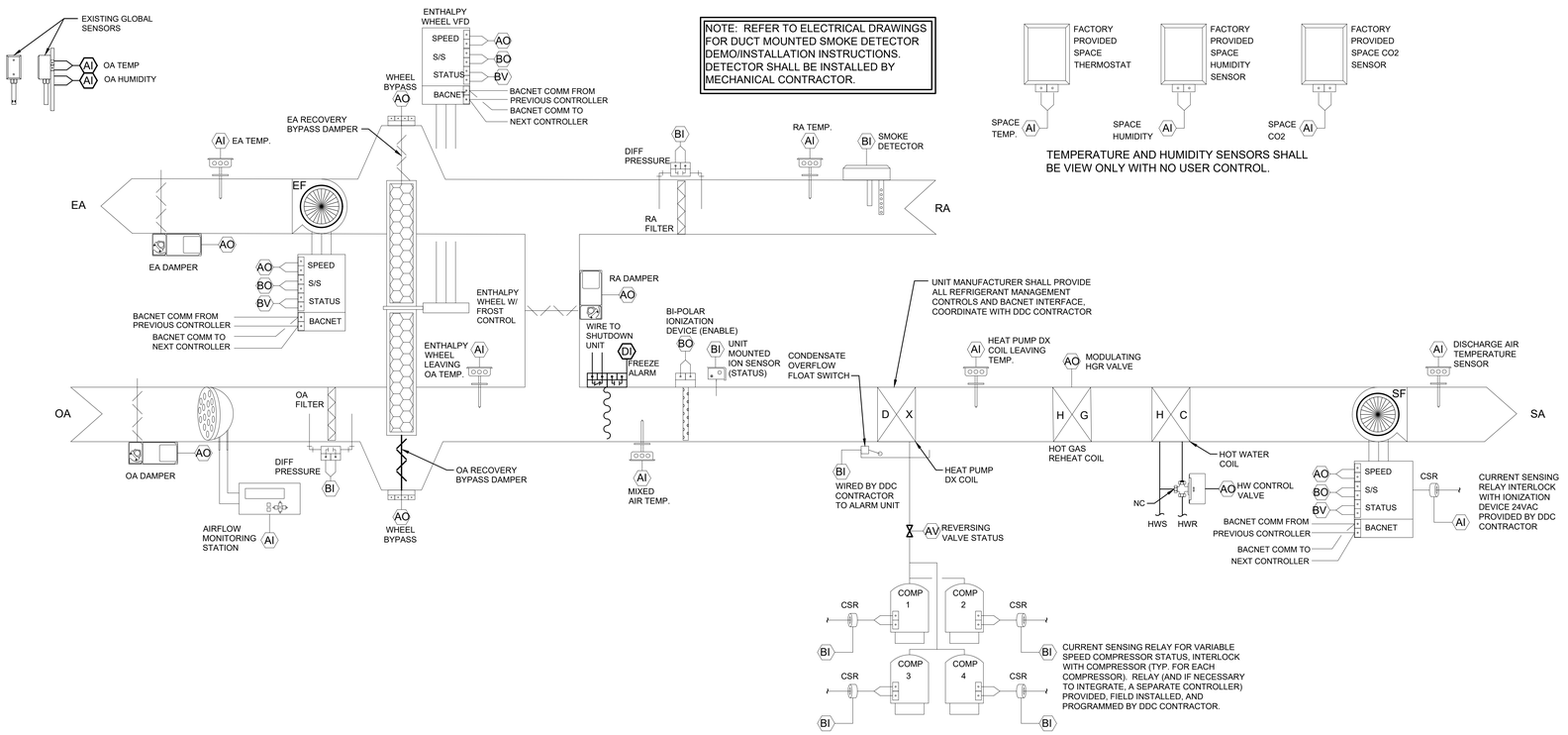
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-503

DATE: 09/08/2025



SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL CONTROL DIAGRAM (RTU-2, 6, 12, 13 & 14)

NOT TO SCALE

LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HC	HEATING COIL
HG	HOT GAS
HW	HOT WATER
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL SEQUENCE OF OPERATION (RTU-2, 6, 12, 13 & 14)

A. THE UNIT MOUNTED CONTROLLER SHALL ENERGIZE THE UNIT THROUGH ITS OPTIMIZATION PROGRAM FOR MORNING WARM-UP. DURING MORNING WARM-UP, THE OUTSIDE AIR, EXHAUST, AND WHEEL BYPASS DAMPERS SHALL REMAIN FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, THE ENERGY RECOVERY WHEEL WILL BE DISABLED, AND THE SUPPLY FAN SHALL BE ENABLED. UNIT SUPPLY AIR TEMPERATURE WILL BE RESET UPWARD TO 80°F (ADJ.). THE UNIT SHALL BE INDEXED TO "OCCUPIED MODE" WHEN RETURN AIR TEMPERATURE REACHES 70°F (ADJ.), OR WHEN SCHEDULED BY THE BAS.

B. DURING OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN AND THE ENERGY RECOVERY WHEEL. THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN ITS PRESET MINIMUM AIRFLOW SETPOINT AS SENSED BY THE AIRFLOW MONITORING STATION AND CLOSE THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT. THE UNIT MOUNTED CONTROLLER SHALL OPEN THE EXHAUST AIR DAMPER. THE EXHAUST AIR DAMPER END SWITCH SHALL ENABLE THE EXHAUST FAN VARIABLE FREQUENCY DRIVE. THE RECOVERY BYPASS DAMPERS SHALL REMAIN CLOSED.

C. THE EXHAUST FAN VFD SHALL BE CONTROLLED BY THE OA AFMS TO MAINTAIN A FIXED CFM DIFFERENTIAL BETWEEN THE OA CFM AND THE EA CFM (90%).

D. THE UNIT HAS FOUR MODES OF OPERATION:

COOLING RECOVERY:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT (55°F, ADJ.) AND THE RETURN AIR TEMPERATURE. IN THIS MODE,THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING NO RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT BUT BELOW 70°F. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING ECONOMIZER MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR-DRY BULB ECONOMIZING ENABLE SETPOINT AND BELOW THE RETURN AIR TEMPERATURE. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN. WHEN THE ECONOMIZER MODE IS ENABLED, THE OUTSIDE AIR DAMPER SHALL MODULATE BETWEEN ITS MINIMUM FLOW SETPOINT AND ITS MAXIMUM FLOW SETPOINT, CLOSING THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT TO MAINTAIN THE DISCHARGE AIR TEMPERATURE (50°F ADJ.). THE SPACE AIR TEMPERATURE SHALL BE RESET FROM THE SPACE HAVING THE HIGHEST COOLING DEMAND.

HEATING RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT, THE MIXED AIR TEMPERATURE IS BELOW THE SPACE AIR TEMPERATURE SETPOINT (70°F ADJ.), THE AIR-COOLED CONDENSING UNIT IS DE-ENERGIZED, AND THE OUTSIDE AIRFLOW IS AT THE MINIMUM FLOW SETTING. IN THIS MODE, THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A FALL IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT (70°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE HEATING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A CONTINUED FALL IN SPACE TEMPERATURE BELOW SETPOINT, THE UNIT-MOUNTED CONTROLLER SHALL OPEN THE HOT WATER VALVE TO MAINTAIN SETPOINT. ON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT, UNIT-MOUNTED CONTROLLER SHALL THE REVERSE SHALL OCCUR.

E. WHEN THE MIXED AIR TEMPERATURE FALLS BELOW THE FREEZE PROTECTION SETPOINT (40°F), THE UNIT MOUNTED CONTROLLER SHALL DISABLE THE SUPPLY AND EXHAUST FAN, FULLY CLOSE THE OUTSIDE AIR DAMPER, AND FULLY OPEN THE RETURN AIR DAMPER.

F. ON DETECTION OF PRODUCTS OF COMBUSTION, THE SMOKE DETECTOR SHALL STOP THE UNIT SUPPLY AIR FAN AND EXHAUST AIR FAN, AND CLOSE THE OUTSIDE AIR DAMPER.

G. THE MECHANICAL COOLING SHALL BE LOCKED OUT IF THE SUPPLY FAN CFM FALLS BELOW 40% OF MAXIMUM. THE FAN RPM THAT RESULTS IN THIS CFM VALUE SHALL BE DETERMINED DURING THE UNIT FAN BALANCING.

H. 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.

I. CARBON DIOXIDE (CO2) DEMAND CONTROLLED VENTILATION: DURING THE OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL MONITOR SPACE CARBON DIOXIDE LEVELS AND CONTROL THE POSITION OF THE OUTSIDE AIR DAMPER AND RECIRCULATING AIR DAMPER TO MAINTAIN CO2 SETPOINT. INITIAL SETPOINT SHALL BE DETERMINED BY THE BAS CONTRACTOR AND SHALL BE 500 PPM ABOVE THE MEASURED OUTSIDE AIR LEVELS. ON A RISE IN CO2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL OPEN THE OUTSIDE AIR DAMPER, PROPORTIONALLY CLOSING THE RECIRCULATION AIR DAMPER TO SUPPLY AN INCREASING AMOUNT OF OUTSIDE AIR. ON A FALL IN CO2 LEVELS BELOW SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL CLOSE THE OUTSIDE AIR DAMPER. THE MINIMUM AMOUNT OF OUTSIDE AIR SHALL NOT BE LESS THAN 10% OF THE TOTAL SUPPLY AIR VOLUME. THE MAXIMUM AMOUNT OF OUTSIDE AIR SHALL BE THE VOLUME LISTED IN THE RTU SCHEDULE. THE UNIT MOUNTED CONTROLLER SHALL ACCOMPLISH THIS SEQUENCE BY STAGING THE UNIT THROUGH ITS NORMAL SEQUENCES AS IDENTIFIED IN THE PREVIOUS PARAGRAPHS. ON A CONTINUED RISE IN CO2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL PLACE THE UNIT INTO CO2 DEMAND VENTILATION CONTROL. ON A FALL IN CO2 LEVELS BELOW SETPOINT, THE BAS SHALL RETURN THE UNIT TO ITS PREVIOUS OPERATING MODE.

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
BAS ENABLE/DISABLE COMMAND				X	X	X	X		X
OCCUPIED/UNOCCUPIED MODE						X	X		X
OUTSIDE AIR TEMP (1)	X								X
OUTSIDE AIR HUMIDITY (1)	X								X
OUTSIDE AIR DAMPER POSITION		X					X	X	X
OUTSIDE AIR FLOW RATE	X						X		X
OA FILTER STATUS			X					X	X
ENERGY WHEEL LAT	X						X		X
BIPOLAR IONIZATION ENABLE				X			X		X
CONDENSATE SWITCH			X					X	X
COMPRESSOR STATUS (2)			X						X
MODULATING REHEAT VALVE		X					X	X	X
REVERSING VALVE STATUS			X		X		X		X
SMOKE DETECTOR			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 (3)	X						X	X	X
SPACE TEMP. SETPOINT					X				X
SPACE HUMIDITY (3)	X						X	X	X
SPACE HUMIDITY SET POINT					X				X
SPACE CO2	X						X	X	X
SPACE CO2 SETPOINT					X				X
RETURN AIR TEMP.	X						X	X	X
RETURN AIR MIXING DAMPER		X					X		X
RA FILTER STATUS			X					X	X
ENERGY WHEEL SPEED		X					X		X
ENERGY WHEEL START/STOP				X					X
ENERGY WHEEL FAN STATUS						X	X	X	X
EXHAUST FAN SPEED		X					X		X
EXHAUST FAN START/STOP				X					X
EXHAUST FAN STATUS						X	X	X	X
EXHAUST AIR TEMP.	X						X	X	X
EXHAUST AIR DAMPER POSITION		X					X	X	X
OA RECOVERY BYPASS DAMPER		X							X
EA RECOVERY BYPASS DAMPER		X							X
HOT WATER CONTROL VALVE		X					X		X
MIXED AIR TEMPERATURE	X						X	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) MANUFACTURER PROVIDED, BAS CONTRACTOR INSTALLED.

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL POINTS LIST (RTU-2, 6, 12, 13 & 14)

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4329 OLEN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)896-2933 FAX (757)896-6435 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL CONTROL DIAGRAMS

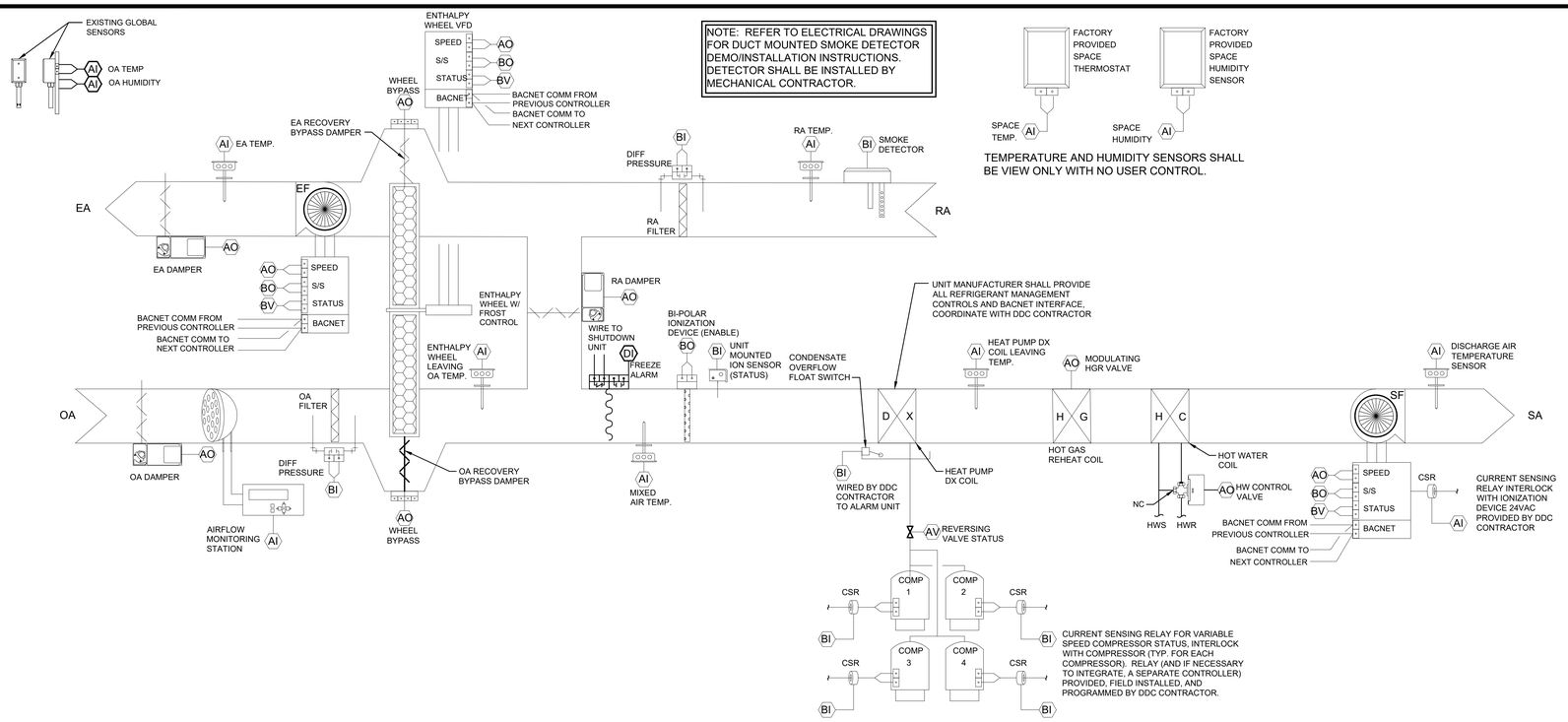
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-504

DATE: 09/08/2025



SINGLE ZONE CONSTANT VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL CONTROL DIAGRAM (RTU-2, 6, 12, 13 & 14)

NOT TO SCALE

SINGLE ZONE CONSTANT VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL SEQUENCE OF OPERATION (RTU-5, 8 & 9)

A. THE UNIT MOUNTED CONTROLLER SHALL ENERGIZE THE UNIT THROUGH ITS OPTIMIZATION PROGRAM FOR MORNING WARM-UP. DURING MORNING WARM-UP, THE OUTSIDE AIR, EXHAUST, AND WHEEL BYPASS DAMPERS SHALL REMAIN FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, THE ENERGY RECOVERY WHEEL WILL BE DISABLED, AND THE SUPPLY FAN SHALL BE ENABLED. UNIT SUPPLY AIR TEMPERATURE WILL BE RESET UPWARD TO 80°F (ADJ.). THE UNIT SHALL BE INDEXED TO "OCCUPIED MODE" WHEN RETURN AIR TEMPERATURE REACHES 70°F (ADJ.), OR WHEN SCHEDULED BY THE BAS.

B. DURING OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN AND THE ENERGY RECOVERY WHEEL. THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN ITS PRESET MINIMUM AIRFLOW SETPOINT AS SENSED BY THE AIRFLOW MONITORING STATION AND CLOSE THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT. THE UNIT MOUNTED CONTROLLER SHALL OPEN THE EXHAUST AIR DAMPER. THE EXHAUST AIR DAMPER END SWITCH SHALL ENABLE THE EXHAUST FAN VARIABLE FREQUENCY DRIVE. THE RECOVERY BYPASS DAMPERS SHALL REMAIN CLOSED.

C. THE EXHAUST FAN VFD SHALL BE CONTROLLED BY THE OA AFMS TO MAINTAIN A FIXED CFM DIFFERENTIAL BETWEEN THE OA CFM AND THE EA CFM (90%).

D. THE UNIT HAS FOUR MODES OF OPERATION:

COOLING RECOVERY:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT (55°F, ADJ.) AND THE RETURN AIR TEMPERATURE. IN THIS MODE,THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING NO RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT BUT BELOW 70°F. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING ECONOMIZER MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR-DRY BULB ECONOMIZING ENABLE SETPOINT AND BELOW THE RETURN AIR TEMPERATURE. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN. WHEN THE ECONOMIZER MODE IS ENABLED, THE OUTSIDE AIR DAMPER SHALL MODULATE BETWEEN ITS MINIMUM FLOW SETPOINT AND ITS MAXIMUM FLOW SETPOINT, CLOSING THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT TO MAINTAIN THE DISCHARGE AIR TEMPERATURE (50°F ADJ.). THE SPACE AIR TEMPERATURE SHALL BE RESET FROM THE SPACE HAVING THE HIGHEST COOLING DEMAND.

HEATING RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT, THE MIXED AIR TEMPERATURE IS BELOW THE SPACE AIR TEMPERATURE SETPOINT (70°F ADJ.), THE AIR-COOLED CONDENSING UNIT IS DE-ENERGIZED, AND THE OUTSIDE AIRFLOW IS AT THE MINIMUM FLOW SETTING. IN THIS MODE, THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A FALL IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT (70°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE HEATING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A CONTINUED FALL IN SPACE TEMPERATURE BELOW SETPOINT, THE UNIT-MOUNTED CONTROLLER SHALL OPEN THE HOT WATER VALVE TO MAINTAIN SETPOINT. ON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT, UNIT-MOUNTED CONTROLLER SHALL THE REVERSE SHALL OCCUR.

E. WHEN THE MIXED AIR TEMPERATURE FALLS BELOW THE FREEZE PROTECTION SETPOINT (40°F), THE UNIT MOUNTED CONTROLLER SHALL DISABLE THE SUPPLY AND EXHAUST FAN, FULLY CLOSE THE OUTSIDE AIR DAMPER, AND FULLY OPEN THE RETURN AIR DAMPER.

F. ON DETECTION OF PRODUCTS OF COMBUSTION, THE SMOKE DETECTOR SHALL STOP THE UNIT SUPPLY AIR FAN AND EXHAUST AIR FAN, AND CLOSE THE OUTSIDE AIR DAMPER.

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
BAS ENABLE/DISABLE COMMAND				X	X	X	X		X
OCCUPIED/UNOCCUPIED MODE						X	X		X
OUTSIDE AIR TEMP (1)	X								X
OUTSIDE AIR HUMIDITY (1)	X								X
OUTSIDE AIR DAMPER POSITION		X					X	X	X
OUTSIDE AIR FLOW RATE	X						X		X
OA FILTER STATUS			X					X	X
ENERGY WHEEL LAT	X						X		X
BIPOLAR IONIZATION ENABLE				X			X		X
CONDENSATE SWITCH			X					X	X
COMPRESSOR STATUS (2)			X						X
MODULATING REHEAT VALVE		X					X	X	X
REVERSING VALVE STATUS			X		X		X		X
SMOKE DETECTOR			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 (3)	X						X	X	X
SPACE TEMP. SETPOINT					X				X
SPACE HUMIDITY (3)	X						X	X	X
SPACE HUMIDITY SET POINT					X				X
RETURN AIR TEMP.	X						X	X	X
RETURN AIR MIXING DAMPER		X					X		X
RA FILTER STATUS			X					X	X
ENERGY WHEEL SPEED		X					X		X
ENERGY WHEEL START/STOP				X					X
ENERGY WHEEL FAN STATUS						X	X	X	X
EXHAUST FAN SPEED		X					X		X
EXHAUST FAN START/STOP				X					X
EXHAUST FAN STATUS						X	X	X	X
EXHAUST AIR TEMP.	X						X	X	X
EXHAUST AIR DAMPER POSITION		X					X	X	X
OA RECOVERY BYPASS DAMPER		X							X
EA RECOVERY BYPASS DAMPER		X							X
HOT WATER CONTROL VALVE		X					X		X
MIXED AIR TEMPERATURE	X						X	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) MANUFACTURER PROVIDED, BAS CONTRACTOR INSTALLED.

SINGLE ZONE CONSTANT VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL POINTS LIST (RTU-5, 8 & 9)

LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HC	HEATING COIL
HG	HOT GAS
HW	HOT WATER
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4225 OX ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757)596-6435
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL CONTROL DIAGRAMS

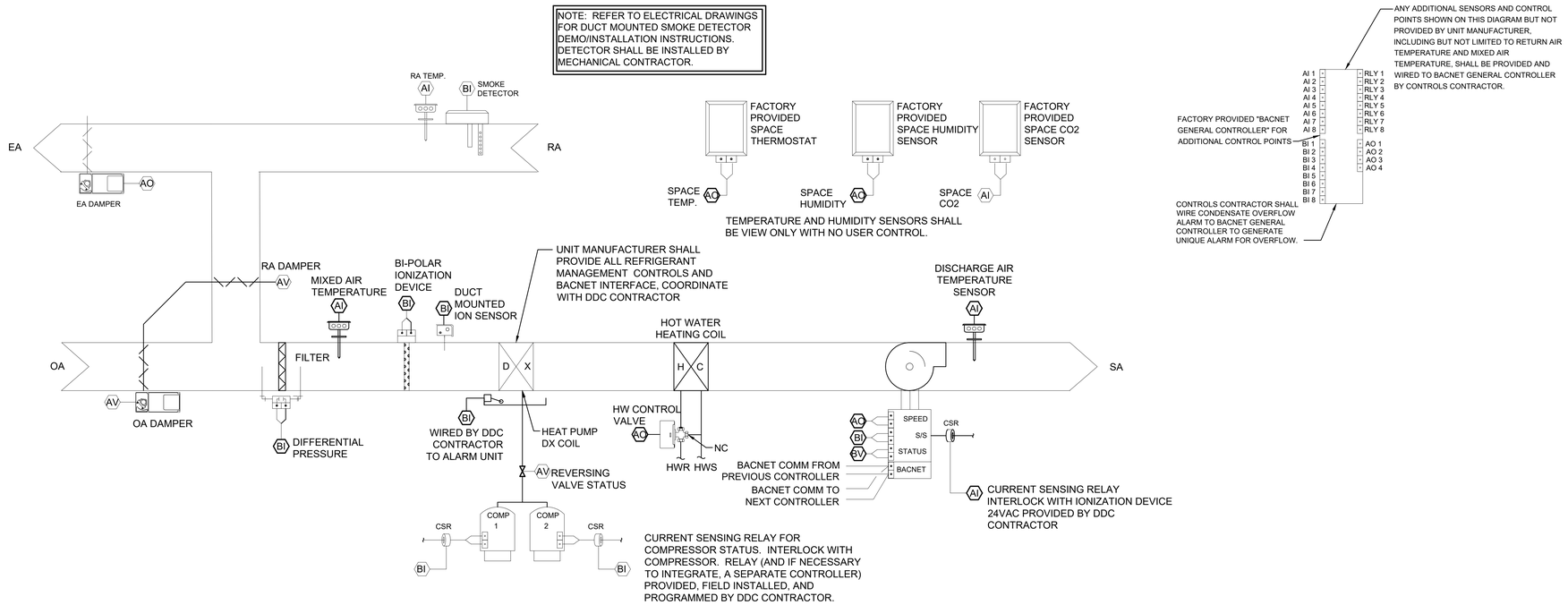
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-505

DATE: 09/08/2025



LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HC	HEATING COIL
HG	HOT GAS
HW	HOT WATER
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT CONTROL DIAGRAM (RTU-3)

NOT TO SCALE

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT SEQUENCE OF OPERATIONS (RTU-3)

A. 2 HOURS (ADJUSTABLE) BEFORE THE TRANSITION FROM UNOCCUPIED TO OCCUPIED MODE, BASED ON THE OWNER'S OCCUPANCY SCHEDULE, THE BAS SHALL INDEX THE UNIT FOR MORNING WARM-UP. DURING MORNING WARM-UP, THE OUTSIDE AIR DAMPER WILL REMAIN FULLY CLOSED, THE RETURN AIR DAMPER WILL BE FULLY OPEN, AND THE HOT WATER REHEAT VALVE WILL BE FULLY OPEN TO THE COIL. THE RETURN AIR SENSOR WILL SWITCH TO "OCCUPIED MODE" AT 70°F (ADJUSTABLE) OR WHEN SCHEDULED BY THE DDC.

B. DURING THE OCCUPIED MODE, THE DDC CONTROLLER WILL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN IT'S PRESET MINIMUM AIRFLOW SETPOINT AS SENSED BY THE AIRFLOW MONITORING STATION, CLOSE THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT, AND OPEN THE ASSOCIATED EXHAUST DAMPER. THE UNIT MOUNTED CONTROLLER WILL SIGNAL THE SUPPLY FAN VFD TO RUN THE SUPPLY FAN AT 100% OF THE MAXIMUM CFM.

C. OCCUPIED MODE:

1. THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING THE OCCUPIED MODE. THE OUTSIDE AIR DAMPER SHALL BE MAINTAINED AT THE MINIMUM VENTILATION POSITION DURING THE UNOCCUPIED MODE UNLESS ECONOMIZING CONDITIONS ARE PRESENT.

2. COOLING: WHEN THE SPACE TEMPERATURE RISES ABOVE THE OCCUPIED SPACE COOLING TEMPERATURE SETPOINT (75°F), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE COOLING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE UNIT LEAVING AIR TEMPERATURE SETPOINT (55°F). ON A FALL IN SPACE TEMPERATURE ABOVE SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

3. HEATING: WHEN THE SPACE TEMPERATURE FALLS BELOW THE OCCUPIED SPACE HEATING TEMPERATURE SETPOINT (70°F), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE HEATING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A CONTINUED FALL IN SPACE TEMPERATURE BELOW SETPOINT, THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE HOT WATER VALVE TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT, THE HOT WATER VALVE SHALL BE MODULATED CLOSED AND THE COMPRESSORS SHALL BE DISABLED.

4. DEHUMIDIFICATION: ON A RISE IN SPACE HUMIDITY ABOVE THE OCCUPIED SPACE HUMIDITY SETPOINT (60% RH), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE COOLING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN A REFRIGERANT SUCTION SATURATION TEMPERATURE SETPOINT OF 40°F. THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE HOT GAS REHEAT VALVE TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 72°F. ON A FALL IN OCCUPIED SPACE HUMIDITY BELOW SETPOINT, THE REVERSE SHALL OCCUR.

5. ECONOMIZER: DURING THE COOLING MODE, IF THE OUTSIDE AIR TEMPERATURE FALLS BELOW THE ECONOMIZER HIGH LIMIT TEMPERATURE (65°F, NON-ADJUSTABLE), THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN THE COOLING SUPPLY AIR SETPOINT. IF THE OUTSIDE AIR DAMPER HAS BEEN MODULATED 100% OPEN AND THE SUPPLY AIR IS STILL ABOVE SETPOINT, THE UNIT-MOUNTED CONTROLLER SHALL ENABLE AND MODULATE THE COMPRESSORS TO MAINTAIN THE COOLING SUPPLY AIR SETPOINT. ON A RISE IN OUTSIDE AIR TEMPERATURE ABOVE THE ECONOMIZER HIGH LIMIT SETPOINT, THE OUTSIDE AIR DAMPER SHALL BE MODULATED CLOSED TO IT'S ORIGINAL MINIMUM VENTILATION POSITION AND THE UNIT SHALL REVERT TO ITS NORMAL COOLING SEQUENCE.

D. UNOCCUPIED MODE:

1. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED DURING THE UNOCCUPIED MODE. COOLING: WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED SPACE

2. COOLING TEMPERATURE SETPOINT (80°F), THE UNIT-MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN, INDEX THE REVERSING VALVE TO THE COOLING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE UNIT LEAVING AIR TEMPERATURE SETPOINT (55°F). ON A FALL IN SPACE TEMPERATURE ABOVE SETPOINT, THE COMPRESSORS AND THE SUPPLY FAN SHALL BE DISABLED.

E. WHEN THE MIXED AIR TEMPERATURE FALLS BELOW THE FREEZE PROTECTION SETPOINT (40°F),THE UNIT MOUNTED CONTROLLER SHALL DISABLE THE SUPPLY FAN AND EXHAUST, FULLY CLOSE THE OUTSIDE AIR DAMPER AND FULLY OPEN THE RETURN AIR DAMPER.

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.

G. CARBON DIOXIDE (CO_2) DEMAND CONTROLLED VENTILATION: DURING THE OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL MONITOR SPACE CARBON DIOXIDE LEVELS AND CONTROL THE POSITION OF THE OUTSIDE AIR DAMPER AND RECIRCULATING AIR DAMPER TO MAINTAIN CO_2 SETPOINT. INITIAL SETPOINT SHALL BE DETERMINED BY THE BAS CONTRACTOR AND SHALL BE 500 PPM ABOVE THE MEASURED OUTSIDE AIR LEVELS. ON A RISE IN CO_2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL OPEN THE OUTSIDE AIR DAMPER, PROPORTIONALLY CLOSING THE RECIRCULATION AIR DAMPER TO SUPPLY AN INCREASING AMOUNT OF OUTSIDE AIR. ON A FALL IN CO_2 LEVELS BELOW SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL CLOSE THE OUTSIDE AIR DAMPER. THE MINIMUM AMOUNT OF OUTSIDE AIR SHALL NOT BE LESS THAN 10% OF THE TOTAL SUPPLY AIR VOLUME. THE MAXIMUM AMOUNT OF OUTSIDE AIR SHALL BE THE VOLUME LISTED IN THE RTU SCHEDULE. THE UNIT MOUNTED CONTROLLER SHALL ACCOMPLISH THIS SEQUENCE BY STAGING THE UNIT THROUGH ITS NORMAL SEQUENCES AS IDENTIFIED IN THE PREVIOUS PARAGRAPHS. ON A CONTINUED RISE IN CO_2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL PLACE THE UNIT INTO CO_2 DEMAND VENTILATION CONTROL. ON A FALL IN CO_2 LEVELS BELOW SETPOINT, THE BAS SHALL RETURN THE UNIT TO ITS PREVIOUS OPERATING MODE.

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
OCCUPIED/UNOCCUPIED MODE						X	X		X
SUPPLY FAN START/STOP			X						X
SUPPLY FAN STATUS						X	X	X	X
SUPPLY FAN SPEED		X					X		X
OUTSIDE AIR TEMP (1)	X								X
COMPRESSOR STATUS (2)			X					X	X
SPACE TEMPERATURE (3)		X					X	X	X
SPACE TEMP. SETPOINT					X				X
SPACE HUMIDITY (3)	X						X	X	X
SPACE HUMIDITY SET POINT					X				X
HEATING VALVE POSITION	X						X		X
REVERSING VALVE STATUS			X		X		X		X
OUTSIDE AIR DAMPER POSITION					X		X	X	X
OUTSIDE AIR FLOW RATE	X						X	X	X
RETURN AIR DAMPER POSITION					X				X
RETURN AIR TEMPERATURE	X						X	X	X
MIXED AIR TEMPERATURE	X						X	X	X
DISCHARGE AIR TEMP	X						X	X	X
CONDENSATE SWITCH			X					X	X
BIPOLAR IONIZATION ENABLE			X				X		X
BIPOLAR IONIZATION STATUS	X						X	X	X
FILTER STATUS			X					X	X
SMOKE DETECTOR			X					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) MANUFACTURER PROVIDED, BAS CONTRACTOR INSTALLED.

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT POINTS LIST (RTU-3)

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
620 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

MECHANICAL CONTROL DIAGRAMS

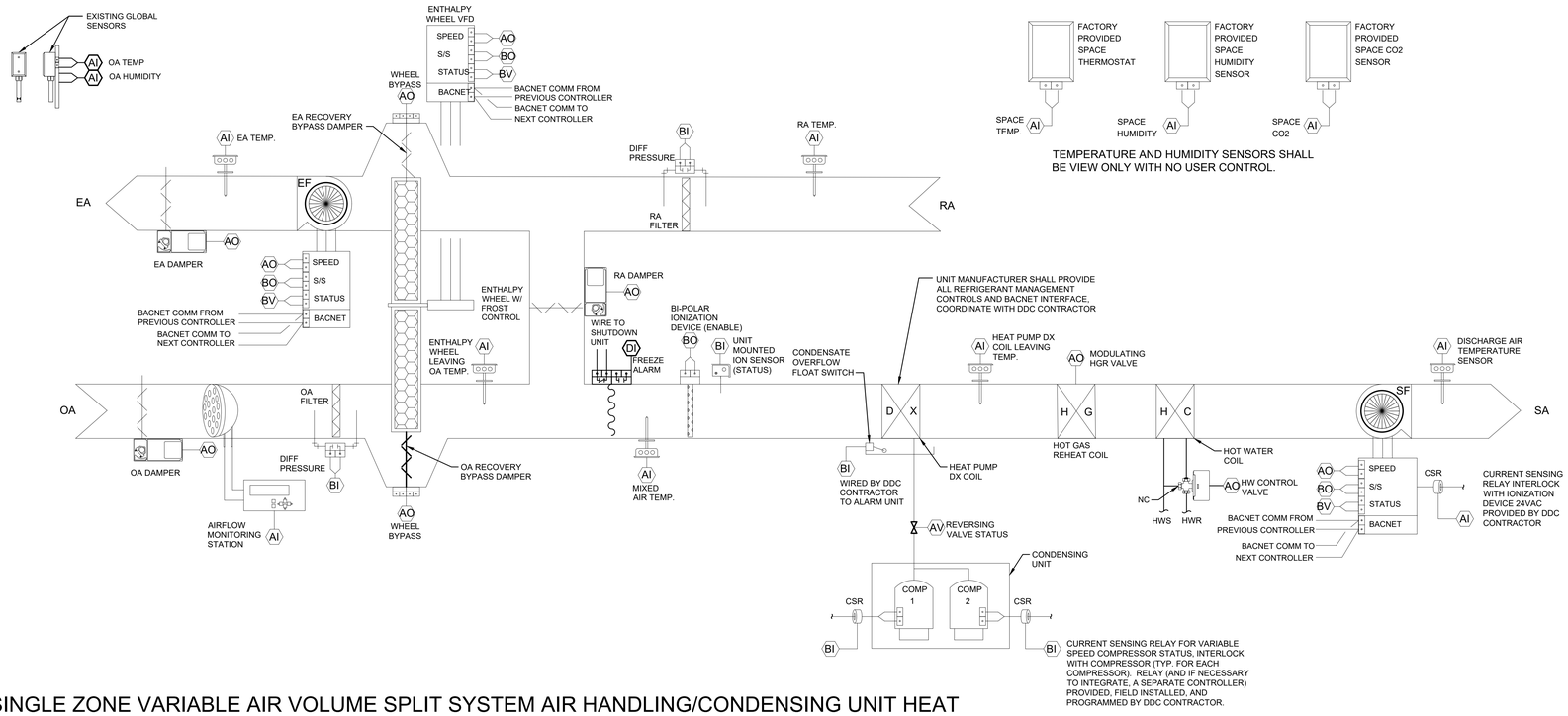
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-506

DATE: 09/08/2025



LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HC	HEATING COIL
HG	HOT GAS
HW	HOT WATER
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

SINGLE ZONE VARIABLE AIR VOLUME SPLIT SYSTEM AIR HANDLING/CONDENSING UNIT HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL CONTROL DIAGRAM (AHU-4/CU-4, 7/CU-7 & 7A/CU-7A)

NOT TO SCALE

SINGLE ZONE VARIABLE AIR VOLUME SPLIT SYSTEM AIR HANDLING/CONDENSING UNIT HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL SEQUENCE OF OPERATIONS (AHU-4/CU-4, 7/CU-7 & 7A/CU-7A)

A. THE UNIT CONTROLLER SHALL ENERGIZE THE UNIT THROUGH ITS OPTIMIZATION PROGRAM FOR MORNING WARM-UP. DURING MORNING WARM-UP, THE OUTSIDE AIR, EXHAUST, AND WHEEL BYPASS DAMPERS SHALL REMAIN FULLY CLOSED, THE RETURN AIR DAMPER SHALL BE FULLY OPEN, THE ENERGY RECOVERY WHEEL WILL BE DISABLED, AND THE SUPPLY FAN SHALL BE ENABLED. UNIT SUPPLY AIR TEMPERATURE WILL BE RESET UPWARD TO 80°F (ADJ.). THE UNIT SHALL BE INDEXED TO "OCCUPIED MODE" WHEN RETURN AIR TEMPERATURE REACHES 70°F (ADJ.), OR WHEN SCHEDULED BY THE BAS.

B. DURING OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL ENABLE THE SUPPLY FAN AND THE ENERGY RECOVERY WHEEL. THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER OPEN TO MAINTAIN ITS PRESET MINIMUM AIRFLOW SETPOINT AS SENSED BY THE AIRFLOW MONITORING STATION AND CLOSE THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT. THE UNIT MOUNTED CONTROLLER SHALL OPEN THE EXHAUST AIR DAMPER. THE EXHAUST AIR DAMPER END SWITCH SHALL ENABLE THE EXHAUST FAN VARIABLE FREQUENCY DRIVE. THE RECOVERY BYPASS DAMPERS SHALL REMAIN CLOSED.

C. THE EXHAUST FAN VFD SHALL BE CONTROLLED BY THE OA AFMS TO MAINTAIN A FIXED CFM DIFFERENTIAL BETWEEN THE OA CFM AND THE EA CFM (90%).

D. THE UNIT HAS FOUR MODES OF OPERATION:

COOLING RECOVERY:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT (55°F, ADJ.) AND THE RETURN AIR TEMPERATURE. IN THIS MODE,THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING NO RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT BUT BELOW 70°F. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE 100% OPEN. ON A RISE IN SPACE TEMPERATURE ABOVE THE COOLING SETPOINT (75°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSORS TO MAINTAIN A UNIT LEAVING AIR TEMPERATURE OF 55°F. ON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSORS SHALL BE DISABLED.

COOLING ECONOMIZER MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR-DRY BULB ECONOMIZING ENABLE SETPOINT AND BELOW THE RETURN AIR TEMPERATURE. IN THIS MODE, THE HEAT WHEEL SHALL BE DISABLED, THE EXHAUST AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN, AND THE OUTSIDE AIR RECOVERY BYPASS DAMPER SHALL BE 100% OPEN. WHEN THE ECONOMIZER MODE IS ENABLED, THE OUTSIDE AIR DAMPER SHALL MODULATE BETWEEN IT'S MINIMUM FLOW SETPOINT AND ITS MAXIMUM FLOW SETPOINT, CLOSING THE RETURN AIR DAMPER A PROPORTIONAL AMOUNT TO MAINTAIN THE DISCHARGE AIR TEMPERATURE (50°F ADJ.). THE SPACE AIR TEMPERATURE SHALL BE RESET FROM THE SPACE HAVING THE HIGHEST COOLING DEMAND.

HEATING RECOVERY MODE:

1. THIS MODE SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW THE OUTSIDE AIR DRY-BULB ECONOMIZING ENABLE SETPOINT, THE MIXED AIR TEMPERATURE IS BELOW THE SPACE AIR TEMPERATURE SETPOINT (70°F ADJ.), THE AIR-COOLED CONDENSING UNIT IS DE-ENERGIZED, AND THE OUTSIDE AIRFLOW IS AT THE MINIMUM FLOW SETTING. IN THIS MODE, THE HEAT WHEEL SHALL BE ENABLED, THE EXHAUST AIR WHEEL BYPASS DAMPER, AND THE OUTSIDE AIR WHEEL BYPASS DAMPER SHALL BE CLOSED. ON A FALL IN SPACE TEMPERATURE BELOW THE HEATING SETPOINT (70°F, ADJ.), THE UNIT-MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE TO THE HEATING POSITION AND MODULATE THE COMPRESSORS TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A CONTINUED FALL IN SPACE TEMPERATURE BELOW SETPOINT, THE UNIT-MOUNTED CONTROLLER SHALL OPEN THE HOT WATER VALVE TO MAINTAIN SETPOINT. ON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT, UNIT-MOUNTED CONTROLLER SHALL THE REVERSE SHALL OCCUR.

E. WHEN THE MIXED AIR TEMPERATURE FALLS BELOW THE FREEZE PROTECTION SETPOINT (40°F), THE UNIT MOUNTED CONTROLLER SHALL DISABLE THE SUPPLY AND EXHAUST FAN, FULLY CLOSE THE OUTSIDE AIR DAMPER, AND FULLY OPEN THE RETURN AIR DAMPER.

F. ON DETECTION OF PRODUCTS OF COMBUSTION, THE SMOKE DETECTOR SHALL STOP THE UNIT SUPPLY AIR FAN AND EXHAUST AIR FAN, AND CLOSE THE OUTSIDE AIR DAMPER.

G. THE MECHANICAL COOLING SHALL BE LOCKED OUT IF THE SUPPLY FAN CFM FALLS BELOW 40% OF MAXIMUM. THE FAN RPM THAT RESULTS IN THIS CFM VALUE SHALL BE DETERMINED DURING THE UNIT FAN BALANCING.

H. 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.

I. CARBON DIOXIDE (CO2) DEMAND CONTROLLED VENTILATION: DURING THE OCCUPIED MODE, THE UNIT MOUNTED CONTROLLER SHALL MONITOR SPACE CARBON DIOXIDE LEVELS AND CONTROL THE POSITION OF THE OUTSIDE AIR DAMPER AND RECIRCULATING AIR DAMPER TO MAINTAIN CO2 SETPOINT. INITIAL SETPOINT SHALL BE DETERMINED BY THE BAS CONTRACTOR AND SHALL BE 500 PPM ABOVE THE MEASURED OUTSIDE AIR LEVELS. ON A RISE IN CO2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL OPEN THE OUTSIDE AIR DAMPER, PROPORTIONALLY CLOSING THE RECIRCULATION AIR DAMPER TO SUPPLY AN INCREASING AMOUNT OF OUTSIDE AIR. ON A FALL IN CO2 LEVELS BELOW SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL CLOSE THE OUTSIDE AIR DAMPER. THE MINIMUM AMOUNT OF OUTSIDE AIR SHALL NOT BE LESS THAN 10% OF THE TOTAL SUPPLY AIR VOLUME. THE MAXIMUM AMOUNT OF OUTSIDE AIR SHALL BE THE VOLUME LISTED IN THE RTU SCHEDULE. THE UNIT MOUNTED CONTROLLER SHALL ACCOMPLISH THIS SEQUENCE BY STAGING THE UNIT THROUGH ITS NORMAL SEQUENCES AS IDENTIFIED IN THE PREVIOUS PARAGRAPHS. ON A CONTINUED RISE IN CO2 LEVELS ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL PLACE THE UNIT INTO CO2 DEMAND VENTILATION CONTROL. ON A FALL IN CO2 LEVELS BELOW SETPOINT, THE BAS SHALL RETURN THE UNIT TO ITS PREVIOUS OPERATING MODE.

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
BAS ENABLE/DISABLE COMMAND				X	X	X	X		X
OCCUPIED/UNOCCUPIED MODE						X	X		X
OUTSIDE AIR TEMP (1)	X								X
OUTSIDE AIR HUMIDITY (1)	X								X
OUTSIDE AIR DAMPER POSITION		X					X	X	X
OUTSIDE AIR FLOW RATE	X						X		X
OA FILTER STATUS			X					X	X
ENERGY WHEEL LAT	X						X		X
BIPOLAR IONIZATION ENABLE				X			X		X
CONDENSATE SWITCH			X					X	X
COMPRESSOR STATUS (2)			X						X
MODULATING REHEAT VALVE		X					X	X	X
REVERSING VALVE STATUS			X		X		X		X
SUPPLY FAN SPEED		X					X		X
SUPPLY FAN START/STOP				X					X
SUPPLY FAN STATUS						X	X	X	X
DX COIL DISCHARGE AIR TEMP	X						X	X	X
BIPOLAR IONIZATION STATUS			X				X	X	X
SPACE TEMPERATURE (3)	X						X	X	X
SPACE TEMP. SETPOINT					X				X
SPACE HUMIDITY (3)	X						X	X	X
SPACE HUMIDITY SET POINT					X				X
SPACE CO2	X						X	X	X
SPACE CO2 SETPOINT					X				X
RETURN AIR TEMP.	X						X	X	X
RETURN AIR MIXING DAMPER		X					X		X
RA FILTER STATUS			X					X	X
ENERGY WHEEL SPEED		X					X		X
ENERGY WHEEL START/STOP				X					X
ENERGY WHEEL FAN STATUS						X	X	X	X
EXHAUST FAN SPEED		X					X		X
EXHAUST FAN START/STOP				X					X
EXHAUST FAN STATUS						X	X	X	X
EXHAUST AIR TEMP.	X						X	X	X
EXHAUST AIR DAMPER POSITION		X					X	X	X
OA RECOVERY BYPASS DAMPER		X							X
EA RECOVERY BYPASS DAMPER		X							X
HOT WATER CONTROL VALVE		X					X		X
MIXED AIR TEMPERATURE	X						X	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.

SINGLE ZONE VARIABLE AIR VOLUME SPLIT SYSTEM AIR HANDLING/CONDENSING UNIT HEAT PUMP UNIT WITH ENERGY RECOVERY WHEEL POINTS LIST (AHU-4/CU-4, 7/CU-7 & 7A/CU-7A)

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TEL (757) 599-6435 (757) 599-6415 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL CONTROL DIAGRAMS

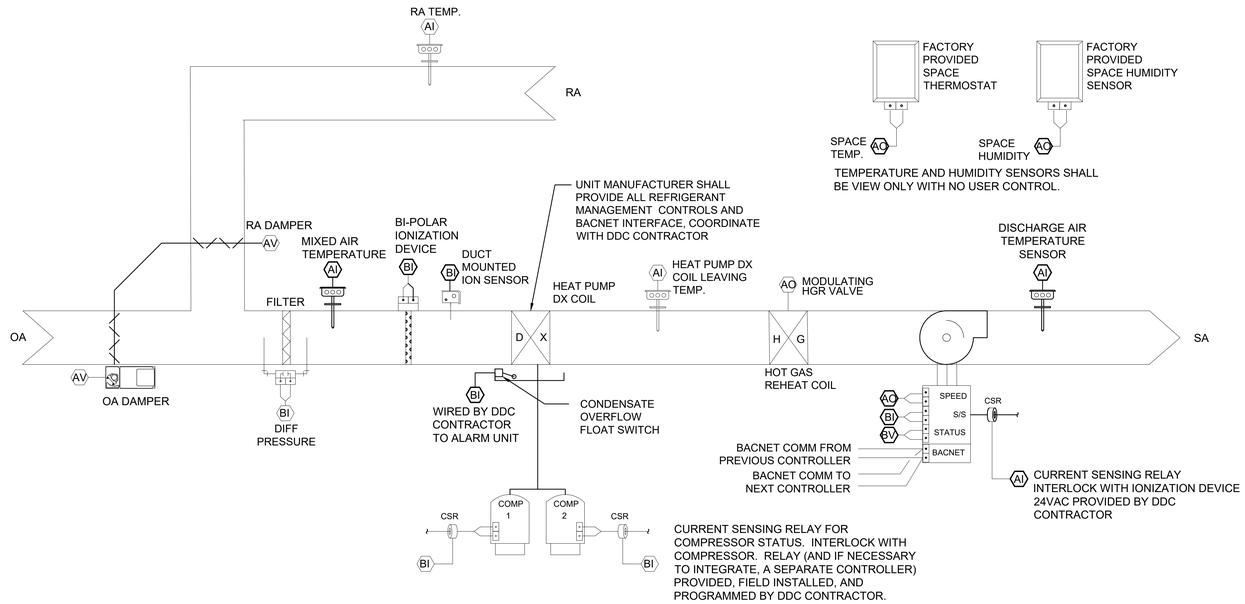
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-507

DATE: 09/08/2025



LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
AV	ANALOG VALUE SOFTWARE POINT
BAS	BUILDING AUTOMATION SYSTEM
BO	BINARY OUTPUT
BV	BINARY VALUE SOFTWARE POINT
COMP	VARIABLE SPEED COMPRESSOR
CSR	CURRENT SENSING RELAY
DDC	DIRECT DIGITAL CONTROLS
DX	DIRECT EXPANSION
HG	HOT GAS
NC	NORMALLY CLOSED
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
S/S	START/STOP
TEMP	TEMPERATURE

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT CONTROL DIAGRAM (RTU-18 & 19)

NOT TO SCALE

GRAPHICAL USER INTERFACE MAIN SCREEN

POINT NAME	HARDWARE POINTS AI	AO	BI	BO	SOFTWARE POINTS AV	BV	TREND	ALARM	SHOW ON GRAPHIC
OCCUPIED/UNOCCUPIED MODE						X	X		X
SUPPLY FAN START/STOP			X						X
SUPPLY FAN STATUS						X	X	X	X
SUPPLY FAN SPEED		X					X		X
OUTSIDE AIR TEMP (1)	X								X
COMPRESSOR STATUS (2)			X					X	X
SPACE TEMPERATURE (3)		X					X	X	X
SPACE TEMP. SETPOINT					X				X
SPACE HUMIDITY (3)	X						X	X	X
SPACE HUMIDITY SET POINT					X				X
OUTSIDE AIR DAMPER POSITION					X		X	X	X
RETURN AIR DAMPER POSITION					X				X
RETURN AIR TEMPERATURE	X						X	X	X
MIXED AIR TEMPERATURE	X						X	X	X
DISCHARGE AIR TEMP	X						X	X	X
CONDENSATE SWITCH			X					X	X
BIPOLAR IONIZATION ENABLE			X				X		X
BIPOLAR IONIZATION STATUS	X						X	X	X
FILTER STATUS			X					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) MANUFACTURER PROVIDED, DDC INSTALLED.

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT POINTS LIST (RTU-18 & 19)

SINGLE ZONE VARIABLE AIR VOLUME PACKAGED ROOFTOP HEAT PUMP UNIT SEQUENCE OF OPERATION (RTU-18 & 19)

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, MODULATE THE COMPRESSORS FOR DIRECT EXPANSION COOLING AND HEATING, 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 BAS 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 BAS 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 ENABLE THE COMPRESSOR(S) 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. HEATING: ON A FALL BELOW THE SPACE HEATING TEMPERATURE SETPOINT OF 70°F (ADJ.), THE UNIT MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE INTO THE HEATING POSITION AND MODULATE THE DX HEATING COIL TO MAINTAIN THE SPACE HEATING TEMPERATURE SETPOINT. ON A RISE ABOVE THE PROGRAMMED SPACE HEATING TEMPERATURE SETPOINT, THE REVERSE SHALL OCCUR.
4. ON A RISE IN SPACE RELATIVE HUMIDITY ABOVE THE SPACE RELATIVE HUMIDITY SETPOINT OF 60% RH (ADJ.), IF AND ONLY IF THE SPACE TEMPERATURE SETPOINT IS SATISFIED, THE OUTSIDE AIR DAMPER SHALL MODULATE TO ITS MINIMUM POSITION (IF IN ECONOMIZER MODE), THE RETURN AIR DAMPER SHALL MODULATE PROPORTIONALLY OPEN AND THE DEHUMIDIFICATION CONTROL SEQUENCE OF OPERATION SHALL BE ENABLED. THE SUPPLY FAN SHALL MODULATE TO MAXIMUM SPEED. THE DX COOLING SHALL BE ENABLED AND CONTROLLED TO MAINTAIN THE REFRIGERATION SUCTION TEMPERATURE SETPOINT OF 40°F. ON A FALL BELOW THE SPACE RELATIVE HUMIDITY SETPOINT, THE REVERSE SHALL OCCUR. THE HOT GAS REHEAT SOLENOID VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (72°F).
5. WHEN THE OUTSIDE AIR TEMPERATURE IS 65°F (NON-ADJUSTABLE) OR BELOW, AND THE SPACE TEMPERATURE IS ABOVE ITS RESPECTIVE PROGRAMMED COOLING TEMPERATURE SET POINT, THE COMPRESSOR SHALL BE DISABLED AND THE OUTSIDE AND RETURN AIR DAMPERS SHALL BE MODULATED OPEN AND CLOSED RESPECTIVELY TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. IF THE OUTSIDE AIR DAMPER HAS BEEN MODULATED 100% OPEN AND SPACE TEMPERATURE IS STILL ABOVE SETPOINT, THE UNIT MOUNTED CONTROLLER SHALL MODULATE THE COMPRESSOR(S) TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. ON A FALL BELOW THE SPACE TEMPERATURE SETPOINT, THE OUTSIDE AIR DAMPER SHALL MODULATE TO ITS MINIMUM POSITION AND THE RETURN AIR DAMPER SHALL MODULATE PROPORTIONALLY OPEN. WHEN THE OUTSIDE AIR TEMPERATURE RISES ABOVE 65°F, THE UNIT SHALL REVERT TO ITS COOLING AND/OR HEATING SEQUENCES.

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.
3. HEATING: ON A FALL BELOW THE PROGRAMMED LOW LIMIT SPACE TEMPERATURE SET POINT OF 60°F (ADJ.), THE SUPPLY AIR FAN SHALL BE ENABLED. AFTER THE SUPPLY AIR FAN OPERATION IS ESTABLISHED BY ITS RESPECTIVE CURRENT SENSING RELAY, THE UNIT MOUNTED CONTROLLER SHALL INDEX THE REVERSING VALVE INTO THE HEATING POSITION AND MODULATE THE DX HEATING COIL TO MAINTAIN THE LOW LIMIT SPACE TEMPERATURE SETPOINT. ON A RISE ABOVE THE UNOCCUPIED LOW LIMIT SPACE TEMPERATURE SET POINT, THE REVERSE SHALL OCCUR.
4. DEHUMIDIFICATION: ON A RISE IN SPACE RELATIVE HUMIDITY ABOVE THE SPACE RELATIVE HUMIDITY SETPOINT OF 60% RH (ADJ.), IF AND ONLY IF THE SPACE TEMPERATURE SETPOINT IS SATISFIED, THE SUPPLY AIR FAN SHALL BE ENABLED AND MODULATED TO MAXIMUM SPEED. AFTER THE SUPPLY AIR FAN OPERATION IS ESTABLISHED BY ITS RESPECTIVE CURRENT SENSING RELAY, THE DX COOLING SHALL BE ENABLED AND CONTROLLED TO MAINTAIN THE REFRIGERANT SUCTION TEMPERATURE SETPOINT OF 40°F (ADJ.). THE HOT GAS REHEAT SOLENOID VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (72°F).

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL CONTROL DIAGRAMS

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: SDH
DRAWN BY: TWW
CHECKED BY: KDA

M-508

DATE: 09/08/2025

ELECTRICAL LEGEND:

LIGHTING:

- EXISTING SURFACE MOUNTED OR SUSPENDED1' X 4' LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING SURFACE MOUNTED OR SUSPENDED1' X 8' LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING RECESSED 2' X 2' LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING RECESSED 2' X 4' LIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING SURFACE MOUNTED OR SUSPENDED DOWNLIGHT FIXTURE TO BE REMOVED AND REINSTALLED.
- EXISTING EXIT LIGHT TO BE REMOVED AND REINSTALLED.

POWER:

- (P) EXISTING CEILING MOUNTED PROJECTOR TO BE REMOVED AND REINSTALLED.
- (EF) ELECTRICAL CONNECTION TO EXHAUST FAN
- (E) ELECTRICAL CONNECTION TO EQUIPMENT.
- MAGNETIC MOTOR STARTER
- VFD VARIABLE FREQUENCY DRIVE FURNISHED BY DIVISION 23.
- (J) JUNCTION BOX - SIZE AS REQUIRED BY N.E.C. IF NOT INDICATED
- (EP) GENERATOR EMERGENCY STOP PUSHBUTTON FURNISHED BY GENERATOR PROVIDER.
- (PB) BOILER EMERGENCY STOP PUSHBUTTON STATION - INSTALL PUSHBUTTON +48" A.F.F. PROVIDE MAINTAINED CONTACT RED MUSHROOM HEAD PUSHBUTTON WITH STAINLESS STEEL COVERPLATE. CONNECT PUSHBUTTON TO CONTROL CIRCUIT FOR BOILERS SUCH THAT ALL BOILERS WILL BE SHUT OFF WHEN THE PUSHBUTTON IS DEPRESSED AND THE CONTROL CIRCUIT IS RE-ENERGIZED WHEN THE PUSHBUTTON IS RESET. PROVIDE RED ENGRAVED BAKELITE NAMEPLATE ABOVE PUSH BUTTON LABELED "BOILER EMERGENCY STOP"
- 3P 60/40 3R DISCONNECT SWITCH, 600V, U.O.N.: 3P = NUMBER OF POLES, 60 = SWITCH RATING, 40 = FUSE RATING (NF INDICATES NON-FUSED). 3R = NEMA 3R ENCLOSURE.
- WP,GFI DUPLEX RECEPTACLE, 20A, 120V, INSTALL +18" A.F.F. TO CENTER U.O.N. SUBSCRIPT "WP,GFI" WHEN USED INDICATES, WEATHER-RESISTANT, GROUND FAULT INTERRUPTER TYPE RECEPTACLE WITH WEATHERPROOF WHILE IN USE RATED COVERPLATE.
- PANELBOARD, 480Y/277 VOLT
- PANELBOARD, 208Y/120 VOLT
- T DRY TYPE TRANSFORMER
- BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO TICK MARKS INDICATES 2 #12 CONDUCTORS AND 1 #12 GROUND, IN 1/2" CONDUIT U.O.N. TICK MARKS INDICATE NUMBER OF CONDUCTORS IF OTHER THAN THREE: (7) INDICATES GROUNDING CONDUCTOR. SEE NEW WORK NOTES, SWITCHBOARD, AND PANELBOARD SCHEDULES FOR CONDUCTOR SIZES LARGER THAN #12.
- HOMERUNS TO PANEL. PANEL & CIRCUIT DESIGNATIONS AS INDICATED.
- LA-2 CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL.
- CONDUIT TURNED UP.
- CONDUIT TURNED DOWN.
- SM,3R 20 AMP, 600 VOLT, SINGLE POLE MOTOR RATED SWITCH WITH NEMA 3R COVERPLATE.
- SM220,3R 20 AMP, 600 VOLT, TWO POLE POLE MOTOR RATED SWITCH WITH NEMA 3R COVERPLATE.
- SM230,3R 30 AMP, 600 VOLT, TWO POLE MOTOR RATED SWITCH WITH NEMA 3R COVERPLATE.
- (1) DEMOLITION NOTE INDICATOR.
- 1 NEW WORK NOTE INDICATOR.
- 42 ROOM NUMBER INDICATOR.

FIRE ALARM SYSTEMS:

- (S) EXISTING FIRE ALARM SYSTEM SMOKE DETECTOR TO BE REMOVED AND REINSTALLED.
- (D) FIRE ALARM SYSTEM SMOKE DETECTOR.
- (DM) PROVIDE NEW CEILING MOUNTED CARBON MONOXIDE DETECTOR, MACURCO CATALOG NUMBER CM-E1. CONNECT TO EXISTING FIRE ALARM CONTROL PANEL.
- FAPS EXISTING FIRE ALARM POWER SUPPLY.
- FACP EXISTING FIRE ALARM CONTROL PANEL.
- (F) EXISTING FIRE ALARM PULL STATION.
- 15 EXISTING WALL MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE.
- (HS) EXISTING CEILING MOUNTED FIRE ALARM AUDIO/VISUAL DEVICE TO BE REMOVED AND REINSTALLED.
- (V) EXISTING CEILING MOUNTED FIRE ALARM VISUAL DEVICE TO BE REMOVED AND REINSTALLED.

CCTV / SECURITY SYSTEMS:

- EXISTING CEILING MOUNTED CCTV CAMERA TO BE REMOVED AND REINSTALLED.

INTERCOM / CLOCK /TV / SOUND SYSTEMS:

- (SP) EXISTING CEILING MOUNTED PROJECTOR SPEAKER
- (S) EXISTING CEILING MOUNTED SPEAKER TO BE REMOVED AND REINSTALLED.
- (S) EXISTING CEILING MOUNTED SPEAKER TO REMAIN.
- TV TELEVISION MONITOR
- CEILING MOUNTED CLOCK
- SB WALL MOUNTED SMART BOARD
- (W) EXISTING CEILING MOUNTED WIRELESS ACCESS TO BE REMOVED AND REINSTALLED.

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 COX TELEPHONE EQUIPMENT. COORDINATE IN ADVANCE WITH NNPS PLANT SERVICES/ELECTRIC SHOP AND NNPS TECHNOLOGY.
2. ALL FIRE ALARM WORK (WIRING DEVICES AND CONNECTING DEVICES) SHALL BE PERFORMED BY CERTIFIED BOSCH/RADIONICS MANUFACTURER. DOCUMENTATION OF BOSCH CERTIFICATION BY COMPANY AND INSTALLER SHALL BE PROVIDED.
3. NNPS TECHNOLOGY STAFF WILL PROVIDE ADDRESSING AND VERBAL GUIDANCE ON THE ALARM CONNECTIVITY. IF QUESTIONS COME UP DURING THE PROJECT CONTACT NNPS TECHNOLOGY.
4. NNPS TECHNOLOGY STAFF WILL PROVIDE THE FIRE ALARM PANEL PROGRAMMING.
5. AMBASSADOR OR ANOTHER AUTHORIZED NOTIFIER TECHNICIAN NEEDS TO BE CONTRACTED FOR NOTIFIER SYSTEM PROGRAMMING
6. PRIOR TO THE PROJECT STARTING GENERAL CONTRACTOR FOREMAN AND ASSISTANT FOREMAN NAMES AND TELEPHONE NUMBERS SHOULD BE PROVIDED TO NNPS TECHNOLOGY SO THAT ALARM CODES CAN BE CREATED AND THE ABILITY OF PLACING THE ALARM SYSTEMS ON TEST
7. PRIOR TO ANY DISTURBANCE OF THE ALARM SYSTEMS THE SYSTEM(S) SHOULD BE PLACED ON TEST WITH OUR ALARM MONITORING CENTER
8. ANY NEW FIRE DEVICES SHALL BE WIRED WITH 4-CONDUCTOR RED PLENUM RATED FIRE WIRE. RED AND BLACK WIRES SHALL BE POWER AND THE OTHER TWO USED FOR DATA.
9. NO T-TAPPING SHALL BE USED ON THE FIRE ALARM SYSTEM
10. IF ANY MODIFICATIONS OR DEVICE REMOVAL/REINSTALLATIONS ARE NEEDED A CITY PERMIT MUST BE PULLED FOR THE FIRE ALARM SYSTEM.
11. HARD AND ELECTRONIC COPIES OF AS-BUILT DRAWINGS SHALL BE PROVIDED TO NNPS TECHNOLOGY THAT SHOWS CABLE PATH, ZONE NUMBER FOR ANY NEW DEVICES, LOCATION OF DEVICES, ETC.
12. PROVIDE REQUIRED MODULES IN EXISTING FIRE ALARM CONTROL PANEL TO MONITOR NEW CARBON MONOXIDE DETECTORS.
13. PROVIDE A FIRE ALARM REMOTE ADDRESSABLE RELAY AND INSTALL NEAR THE MAIN DDC PANELS IN THE BOILER ROOM. THE BAS SHALL MONITOR THE RELAY FOR DETECTION OF CARBON MONOXIDE SIGNAL FROM THE FIRE ALARM CONTROL PANEL.

ABBREVIATIONS:

A	AMP, AMPERE
A.F.F.	ABOVE FINISHED FLOOR
A.T.S.	AUTOMATIC TRANSFER SWITCH
C/B	CIRCUIT BREAKER
CKT	CIRCUIT
EF	EXHAUST FAN
FACP	FIRE ALARM CONTROL PANEL
GFI	GROUND FAULT INTERRUPTER
HACR	HEATING AIR CONDITIONING RATED
HP	HEAT PUMP
KAIC	KILO-AMPEREINTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILLS
KW	KILO-WATT
MCB	MAIN CIRCUIT BREAKER
MDS	MAIN DISTRIBUTION SWITCHBOARD
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
N.E.C.	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON FUSED
NO.	NUMBER
P	POLE
PSI	PER SQUARE INCH
RTU	ROOF TOP UNIT
IU	INDOOR UNIT
OU	OUTDOOR UMIT
U.O.N.	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
WP	WEATHERPROOF
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 U.O.N.
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 ANY 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. FLUORESCENT BALLASTS IN EXISTING LIGHT FIXTURES SCHEDULED TO BE REMOVED MAY CONTAIN PCB'S. REMOVE THE BALLASTS FROM THE LIGHT FIXTURES, PROPERLY CONTAIN AND DISPOSE OF SAME IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS GOVERNING SAME.
6. FLUORESCENT LAMPS IN EXISTING LIGHT FIXTURES SCHEDULED TO BE REMOVED MAY CONTAIN MERCURY. REMOVE THE LAMPS FROM THE LIGHT FIXTURES, PROPERLY CONTAIN AND DISPOSE OF SAME IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS GOVERNING SAME.
7. LABEL ALL EXISTING LIGHT FIXTURES REMOVED AND SCHEDULE FOR REINSTALLATION WITH ROOM NUMBER TO ENSURE LIGHT FIXTURES ARE REINSTALLED IN THE SAME ROOM THEY WERE REMOVED FROM.
8. ALL BRANCH CIRCUITRY ASSOCIATED WITH LIGHTING REPLACEMENT MECHANICAL EQUIPMENT BEING REMOVED AS A PART OF THIS PROJECT SHALL BE REMOVED BACK TO POINT OF ORIGIN. ONLY CONDUITS IN EXISTING WALLS MAY BE ABANDONED IN PLACE.
9. EXISTING CONCEALED WIRING TO BE REMOVED SHALL BE DISCONNECTED FROM ITS SOURCE. REMOVE CONDUCTORS AND CUT CONDUITS FLUSH WITH CONCRETE FLOORS, AND TOP OPENINGS WITH NON-SHRINK GROUT. WHERE WOOD FLOORS ARE ENCOUNTERED, REMOVE CONDUIT TO BELOW WOOD FLOOR. WHERE CONDUIT THAT PASSES THROUGH WALLS IS REMOVED, SEAL OPENING IN WALL WITH A MATERIAL THAT IS EQUAL TO THE FIRE RATING OF THE MATERIAL THE WALL IS CONSTRUCTED FROM.
10. LABEL ALL EQUIPMENT/DEVICES WITH REGARDS TO ROOM NUMBERS AND LOCATIONS TO ENSURE EACH ITEM IS REINSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. All ITEMS SHALL BE SECURELY STORED IN A TEMPERATURE AND HUMIDITY CONTROLLED LOCATION AND AWAY FROM ALL CONSTRUCTION. COORDINATE THE IDENTIFICATION OF EACH ITEM WITH THE OWNER PRIOR TO REMOVAL AND PROVIDE DOCUMENTATION IDENTIFYING EACH ITEM TYPE AND QUANTITY.
12. BEFORE BEGINNING ANY WORK, FIELD VERIFY THE WORKING CONDITION OF ALL EXIT LIGHTS AND LIGHT FIXTURE SCHEDULED FOR REMOVAL. NOTIFY THE OWNER OF ANY DEFECTIVE EQUIPMENT. AFTER REINSTALLATION OF EXIT LIGHT AND LIGHT FIXTURE SAVED DURING DEMOLITION IS COMPLETE, RE-VERIFY THE WORKING CONDITION OF EACH. REPLACE ALL EXIT LIGHTS AND LIGHT FIXTURES FOUND DEFECTIVE AFTER REINSTALLATION WHICH WAS WORKING PRIOR TO REMOVAL TO MATCH EXISTING AT NO ADDITIONAL COST TO THE OWNER.
13. DURING REMOVAL OF THE EXISTING LAY-IN CEILING PANELS, SUPPORT ALL BRANCH CIRCUITRY TO ACCOMMODATE THE INSTALLATION OF NEW HVAC SYSTEM EQUIPMENT AND DUCTWORK. RE-VERIFY THE WORKING CONDITION OF BRANCH CIRCUITRY AND REPLACE ALL BRANCH CIRCUITRY TO MATCH EXISTING AT NO ADDITIONAL COST TO OWNER.
14. DISCONNECT AND REMOVE ALL LIGHT FIXTURES, SPEAKERS AND WIRELESS ACCESS DEVICES SHOWN ON THIS DRAWING AS REQUIRED TO ACCOMMODATE THE REMOVAL AND REINSTALLATION OF MECHANICAL EQUIPMENT, AND SAVE FOR REUSE. LABEL EACH EQUIPMENT/DEVICE WITH REGARDS TO ROOM NUMBERS AND LOCATIONS TO ENSURE EACH EQUIPMENT/DEVICE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE ASSOCIATED BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF NEW MECHANICAL EQUIPMENT AND DUCTWORK. COORDINATE MECHANICAL WORK WITH THE MECHANICAL CONTRACTOR. COORDINATE FIRE ALARM AND SECURITY WORK WITH THE OWNER.
15. TEMPORARILY BAG AND SUPPORT ALL CEILING MOUNTED SMOKE DETECTORS SHOWN ON THIS DRAWING FROM EXISTING STRUCTURE TO ACCOMMODATE THE REMOVAL AND REINSTALLATION OF EXISTING CEILING. REINSTALL ALL EXISTING CEILING MOUNTED SMOKE DETECTORS SAVED DURING DEMOLITION IN EXISTING CEILING IN ORIGINAL LOCATIONS. IN AREAS THAT CEILINGS ARE NOT DISTURBED, PROVIDE DUST CAPS ON ALL DEVICES.
16. DISCONNECT, REMOVE AND SAVE FOR REINSTALLATION THE FOLLOWING EQUIPMENT / DEVICES IN ALL SPACES WHERE CEILINGS ARE REMOVED / REINSTALLED AND WITH HVAC SYSTEM DEMOLITION / NEW WORK:
    - ALL COMPUTERS INCLUDING ASSOCIATED MONITORS, TOWERS, POWER CORDS AND DATA PATCH CABLES.
    - ALL WALL AND DESK MOUNTED TELEPHONE INSTRUMENTS, INCLUDING PATCH CABLES.
    - ALL PRINTERS INCLUDING ASSOCIATED POWER CORDS AND DATA PATCH CABLES.
    - ALL WIRELESS ACCESS POINTS DEVICES.
    - ALL CEILING MOUNTED OR CART MOUNTED PROJECTORS INCLUDING ASSOCIATED MOUNTING PLATES, CEILING MOUNTED RECEPTACLES, CEILING MOUNTED DATA OUTLETS, POWER CORDS AND DATA PATCH CABLES.
    - ALL WALL MOUNTED SMARTBOARDS, MDF AND IDF DATA RACKS SHALL REMAIN IN PLACE, COVERED AND PROTECTED THROUGHOUT CONSTRUCTION.
17. LABEL ALL EQUIPMENT/DEVICES WITH REGARDS TO ROOM NUMBERS AND LOCATIONS TO ENSURE EACH ITEM IS REINSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. ALL ITEMS SHALL BE SECURELY STORED IN A TEMPERATURE AND HUMIDITY CONTROLLED LOCATION AND AWAY FROM ALL CONSTRUCTION. COORDINATE THE IDENTIFICATION OF EACH ITEM WITH THE OWNER PRIOR TO REMOVAL AND PROVIDE DOCUMENTATION IDENTIFYING EACH ITEM TYPE AND QUANTITY.
18. DISCONNECT AND REMOVE FROM SITE, ALL WALL MOUNTED TELEVISIONS SHOWN ON THIS DRAWING, INCLUDING WALL MOUNTED TELEVISION BRACKETS, POWER AND AV PATCH CABLES. EXISTING POWER AND AV OUTLET BOXES TO REMAIN.

GENERAL NOTES:

1. DISCONNECT AND REMOVE ALL ELECTRICAL MATERIAL, EQUIPMENT AND ELECTRICAL CONNECTIONS TO HVAC UNITS SHOWN ON ELECTRICAL DEMOLITION DRAWINGS, U.O.N.
2. PROVIDE ALL ELECTRICAL DEMOLITION WORK NECESSARY TO INSTALL NEW WORK. CONTRACTOR SHALL REROUTE AND RECONNECT ANY CIRCUIT THAT WILL REMAIN IN USE BUT INTERFERES WITH NEW CONSTRUCTION.
3. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTIONS THEREOF AFFECTED BY NEW WORK.
4. 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.
5. ANY POWER OUTAGE THAT WILL AFFECT THE MAIN DISTRIBUTION SWITCHBOARD (MDS) AND POWER TO THE WHOLE BUILDING SHALL BE COORDINATED IN ADVANCE WITH NNPS PLANT SERVICES/ELECTRIC SHOP. A 48 HOUR NOTICE SHALL BE PROVIDED.
6. BEFORE BEGINNING ANY WORK, FIELD VERIFY THE WORKING CONDITION OF ALL AUXILIARY SYSTEM EQUIPMENT/DEVICES (WIRELESS ACCESS POINTS, PROJECTORS, SMOKE DETECTORS, MOTION DETECTORS, FIRE ALARM NOTIFICATION DEVICES, PHONES, PRINTERS, COMPUTERS, MONITORS, KEYBOARDS, ETC.) SCHEDULED FOR REMOVAL. SCHEDULE WITH WILLIAM CHAMBERS WITH NNPS FOR TESTING AND WALK-THROUGH. NOTIFY THE OWNER OF ANY DEFECTIVE EQUIPMENT. AFTER REINSTALLATION OF AUXILIARY SYSTEMS EQUIPMENT/DEVICES SAVED DURING DEMOLITION IS COMPLETE, RE-VERIFY THE WORKING CONDITION OF EACH. REPLACE ALL EQUIPMENT/DEVICES FOUND DEFECTIVE AFTER REINSTALLATION WHICH WAS WORKING PRIOR TO REMOVAL WITH NEW EQUIPMENT/DEVICES TO MATCH EXISTING AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL REQUIRE A WALK THROUGH WITH NNPS TECH STAFF TO ENSURE A FULL WORKING SYSTEM PRIOR TO REMOVAL.
7. DURING REMOVAL OF THE EXISTING LAY-IN CEILING PANELS, SUPPORT ALL EXISTING AUXILIARY SYSTEMS CABLES (DATA, TELEPHONE, CCTV, FIRE ALARM, MOTION DETECTORS, CATV, ETC.) ORIGINATING FROM MDF OR IDF EQUIPMENT FROM EXISTING STRUCTURE ABOVE EXISTING CEILING. ADJUST ROUTING OF THESE CABLE TO ACCOMMODATE THE INSTALLATION OF NEW HVAC SYSTEM EQUIPMENT AND DUCTWORK. 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 OWNER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING, REROUTING OR SECURING ALL AUXILIARY SYSTEMS CABLES DURING CONSTRUCTION IF ANY CEILINGS ARE TO BE REMOVED. IF ANY WIRING HAS TO BE DISCONNECTED TO BE REROUTED, THE CONTRACTOR SHALL COORDINATE WITH NNPS.
9. PRIOR TO THE START OF CONSTRUCTION, THE ELECTRICAL SUB-CONTRACTOR SHALL VERIFY THE OPERATION OF ALL OCCUPANCY SENSORS SHOWN TO BE REMOVED AND REINSTALLED. NOTIFY THE ENGINEER IF ANY OCCUPANCY SENSORS ARE NOT IN PROPER WORKING CONDITION.
10. ALL AUXILIARY DEVICES SHALL BE BASED AND SUSPENDED ABOVE CEILING PRIOR TO CEILING REMOVAL ANY DEVICES NOT EFFECTED BY CONSTRUCTION SHALL BE PROTECTED FROM DUST AND DEBRIS.
11. REINSTALL ALL LIGHT FIXTURES, SPEAKERS AND WIRELESS ACCESS DEVICES SAVED DURING DEMOLITION ON EXISTING CEILING AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. PROVIDE NEW ANNEALED, LIGHT ZINC-COATED FINISH, 12-GAUGE WIRE FROM ALL FOUR CORNERS TIED TO BUILDING STRUCTURAL MEMBERS FOR ALL RECESSED LIGHT FIXTURES. SECURING SAFETY WIRES TO BRIDGING IS NOT ACCEPTABLE. THE SUPPORTING WIRES SHALL BE DISTINGUISHABLE BY COLOR OR TAGGING. ALL SURFACE MOUNTED LIGHT FIXTURES SHALL BE ROD HUNG. ROD HANGERS SHALL BE A MINIMUM .25" DIAMETER. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH NEW DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR.
12. REINSTALL THE FOLLOWING EQUIPMENT/DEVICES SAVED DURING DEMOLITION AND CONNECT TO EXISTING POWER AND AUXILIARY SYSTEM CABLING:
    - ALL COMPUTERS INCLUDING ASSOCIATED MONITORS, TOWERS, POWER CORDS AND DATA PATCH CABLES.
    - ALL WALL AND DESK MOUNTED TELEPHONE INSTRUMENTS, INCLUDING PATCH CABLES.
    - ALL PRINTERS INCLUDING ASSOCIATED POWER CORDS AND DATA PATCH CABLES.
    - ALL WIRELESS ACCESS POINTS DEVICES.
    - ALL CEILING MOUNTED OR CART MOUNTED PROJECTORS INCLUDING ASSOCIATED MOUNTING PLATES, CEILING MOUNTED RECEPTACLES, CEILING MOUNTED DATA OUTLETS, POWER CORDS AND DATA PATCH CABLES.
    - ALL WALL MOUNTED SMARTBOARDS, MDF AND IDF DATA RACKS SHALL REMAIN IN PLACE, COVERED AND PROTECTED THROUGHOUT CONSTRUCTION.
13. THE ELECTRICAL CONTRACTOR SHALL INVENTORY ALL EXISTING CIRCUIT BREAKERS BEING REMOVED AS PART OF THIS PROJECT. THE CONTRACTOR SHALL USE EXISTING CIRCUIT BREAKERS IN DIFFERENT PANELS AS LONG AS THEY ARE IN GOOD WORKING CONDITION, THE AMPACITY, K.A.I.C. RATING, AND MOUNTING HARDWARE ARE THE SAME IN BOTH PANELS. AT THE END OF THE PROJECT, THE CONTRACTOR SHALL TURN ALL REMAINING CIRCUIT BREAKERS OVER TO THE OWNER.

THE CONTRACTOR SHALL INCLUDE IN HIS/HER BID THE HIRING OF THE "SEAM GROUP" TO PROVIDE SHORT CIRCUIT, COORDINATION STUDY, ARC FLASH HAZARD ANALYSIS, AND ARC FLASH LABELS. THE CONTRACTOR SHALL CONTACT JUSTIN SANDERS justin.sanders1@us.abb.com (1-765-418-7112) AT THE "SEAM GROUP" PRIOR TO PROCURING A CONTRACT FOR THIS PROJECT. THE SHORT CIRCUIT, COORDINATION STUDY, AND ARC FLASH HAZARD ANALYSIS SHALL BE PROVIDED FOR ALL NEW POWER DISTRIBUTION EQUIPMENT, ALL EXISTING HVAC EQUIPMENT, AND ALL EXISTING POWER DISTRIBUTION EQUIPMENT AFFECTED BY THE SCOPE OF THIS CONTRACT. THE ARC FLASH EQUIPMENT LABELS SHALL BE UV PROTECTED TYPE, FURNISHED BY THE SEAM GROUP, AND INSTALLED ON THE EQUIPMENT BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE SEAM GROUP AND PROVIDE THE REQUIRED DATA (POWER EQUIPMENT SHOP DRAWINGS, FEEDERS INFORMATION [TYPE, LENGTH, AND SIZES], AND EXISTING POWER COMPANY TRANSFORMER INFORMATION TO THE SEAM GROUP TO PERFORM THE STUDY AND ARC FLASH ANALYSIS. THE STUDY AND ANALYSIS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO SUBMITTING POWER DISTRIBUTION EQUIPMENT SHOP DRAWINGS. THE CONTRACTOR SHALL SUBMIT A HARD COPY ALONG WITH AN ELECTRONIC COPY OF THE FINAL STUDY PRODUCED BY THE SEAM GROUP TO THE OWNER.

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, STE 200, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-0435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS

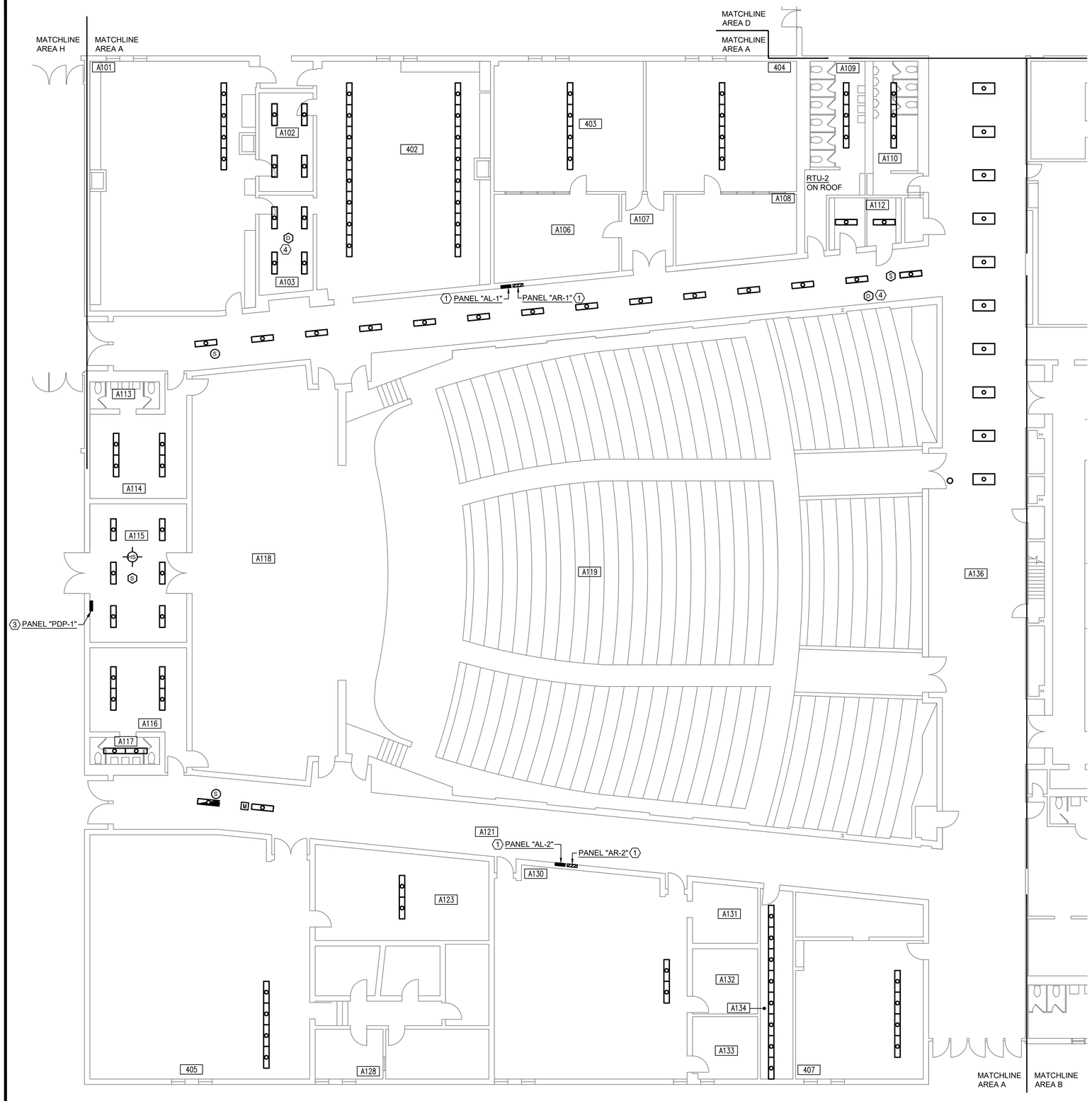
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-001

DATE: 09/08/2025



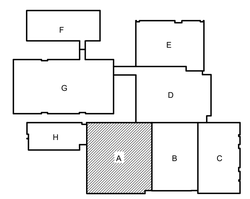
DEMOLITION NOTES (THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALARM DEVICES AND INTERCOM SPEAKERS SHOWN ON THIS DRAWING. SAVE ALL WIRING WIRING FOR REUSE.
3. DISCONNECT AND REMOVE PANELBOARD INTERIOR. SAVE PANELBOARD BACKCAN, PANEL FEEDER CONDUCTORS, AND ALL BRANCH CIRCUITS FOR REUSE.
4. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.

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.

ELECTRICAL FIRST FLOOR PLAN - AREA 'A' - DEMOLITION (2)

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



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'A' - DEMOLITION

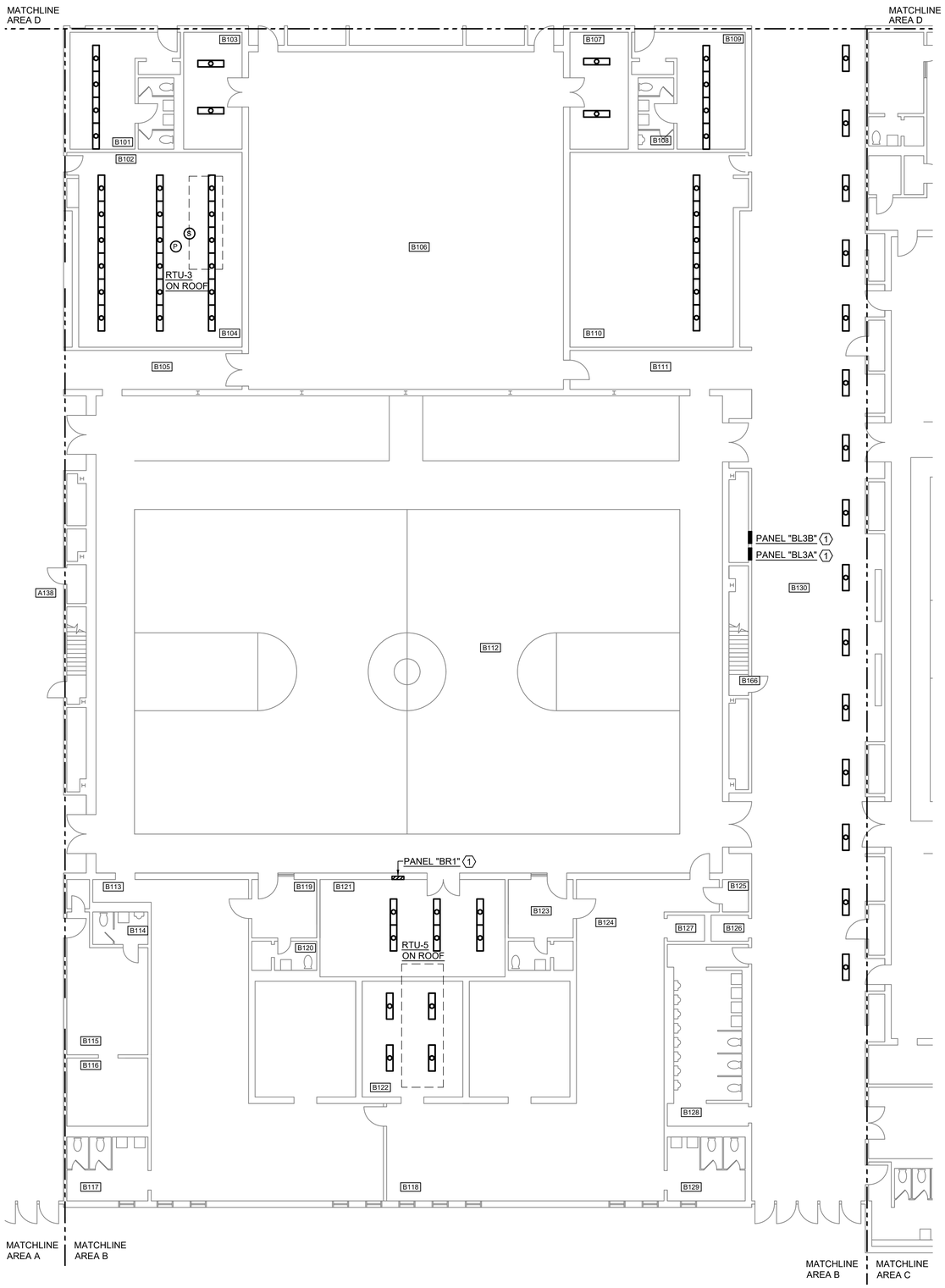
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED101

DATE: 09/08/2025



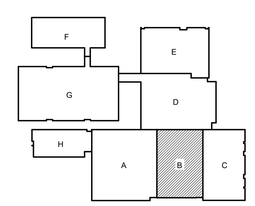
ELECTRICAL FIRST FLOOR PLAN - AREA 'B' - DEMOLITION ②

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. ① EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. ② DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALARM DEVICES AND INTERCOM SPEAKERS SHOWN ON THIS DRAWING. SAVE ALL WIRING FOR REUSE. REMOVE ALL CEILING MOUNTED PROJECTORS SHOWN ON THIS DRAWING. SAVE ALL POWER AND SYSTEMS WIRING FOR REUSE.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'B' - DEMOLITION

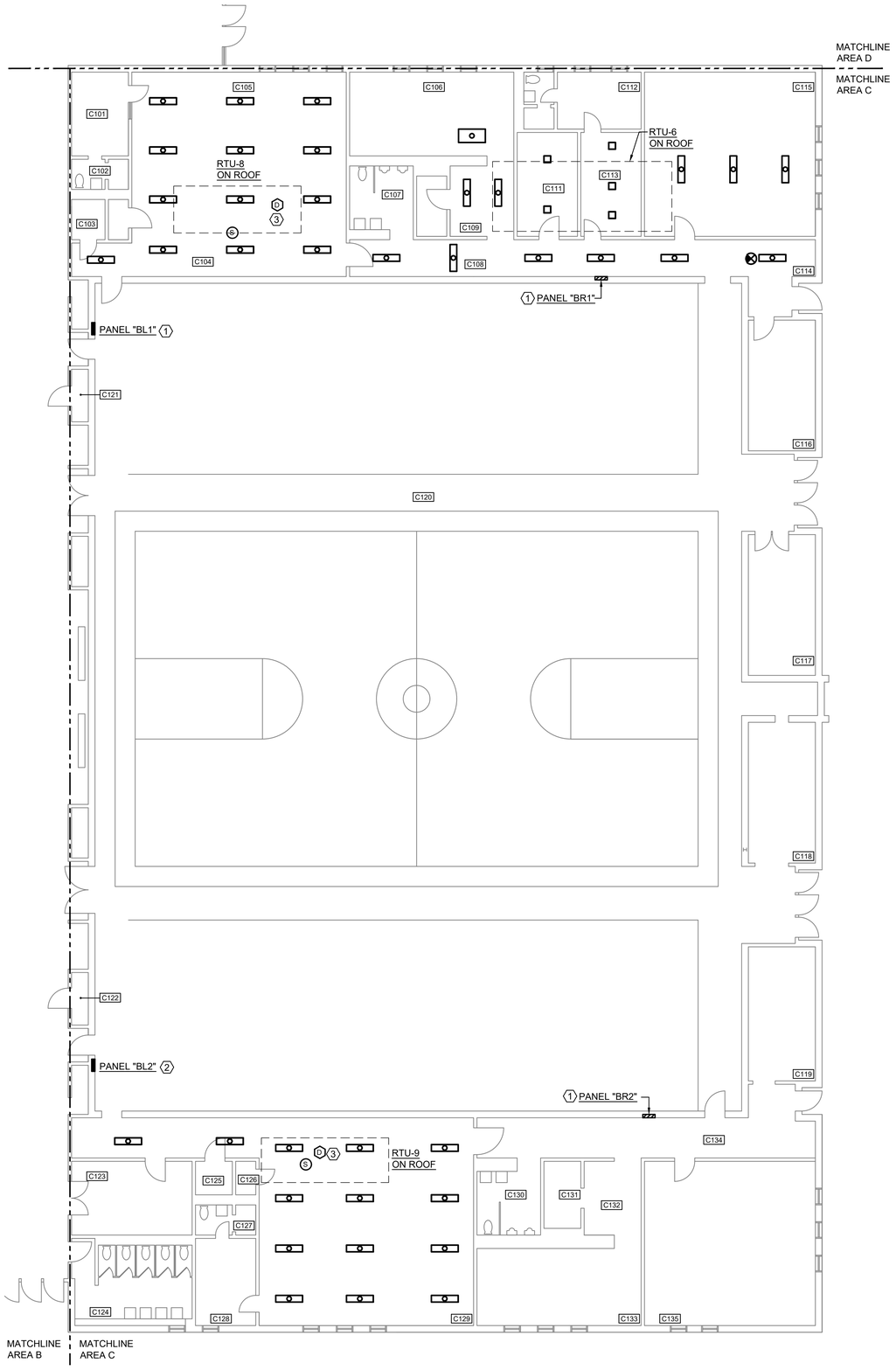
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED102

DATE: 09/08/2025



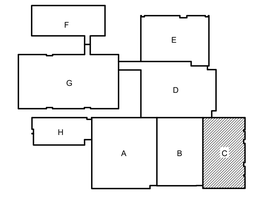
ELECTRICAL FIRST FLOOR PLAN - AREA 'C' - DEMOLITION ②

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE ASSOCIATED BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED INTERCOM SPEAKERS SHOWN ON THIS DRAWING. SAVE ALL WIRING FOR REUSE.
3. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'C' - DEMOLITION

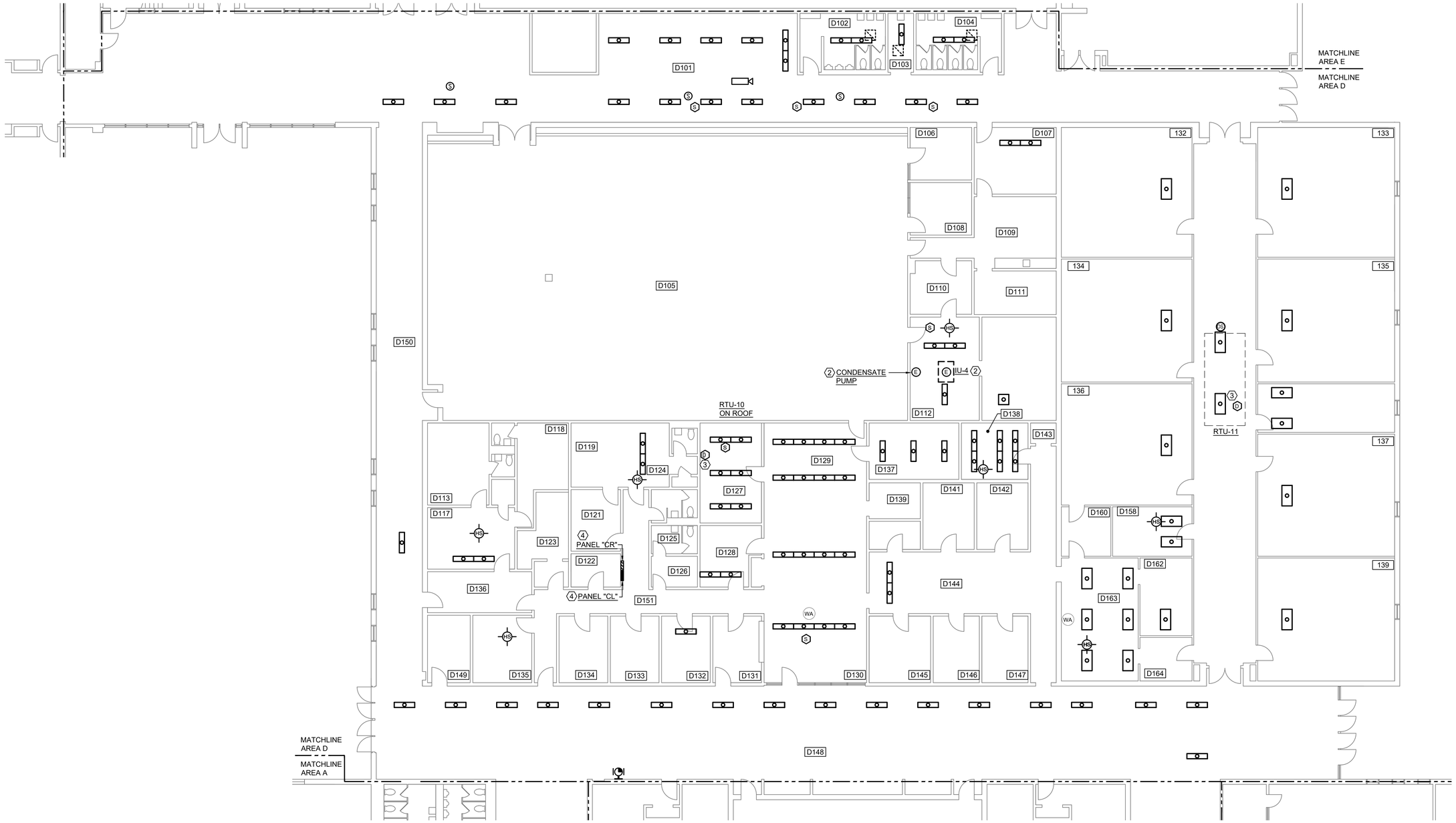
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED103

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'D' - DEMOLITION ①

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

DEMOLITION NOTES (THIS DRAWING ONLY)

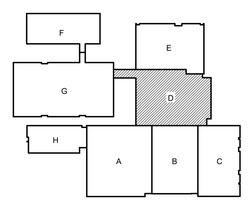
① DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALARM DEVICES, INTERCOM SPEAKERS, WIRELESS ACCESS POINT DEVICES, AND CCTV CAMERAS SHOWN ON THIS DRAWING. SAVE ALL WIRING WIRING FOR REUSE.

② DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. SAVE EXISTING BRANCH CIRCUITRY FOR REUSE.

③ DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.

④ EXISTING TO REMAIN.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-045

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'D' - DEMOLITION

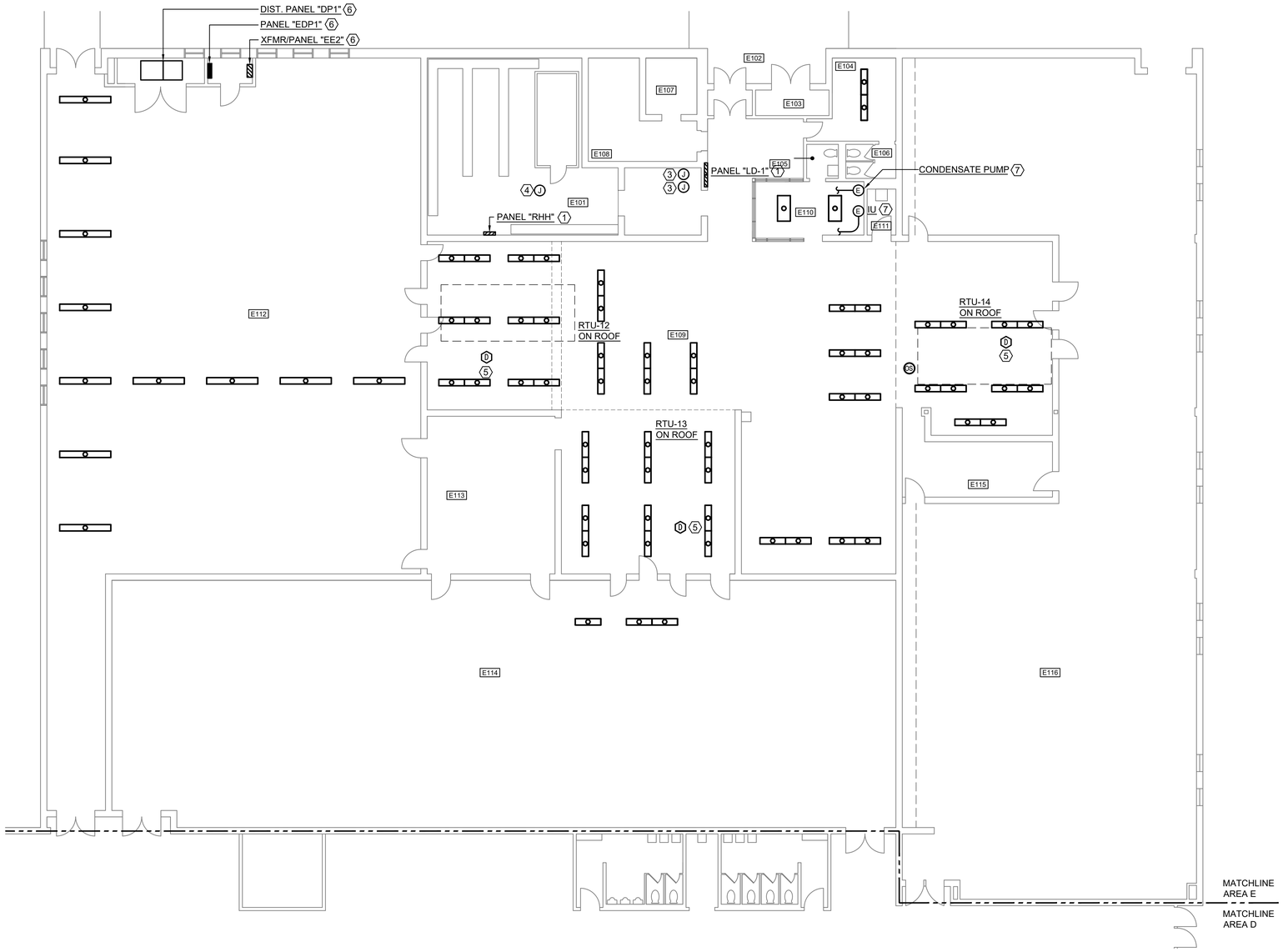
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED104

DATE: 09/08/2025



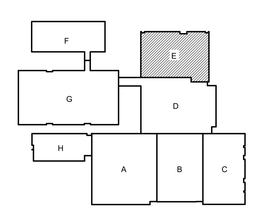
ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - DEMOLITION ②

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES, LIGHT SENSOR DEVICES ASSOCIATED WITH LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT.
3. DISCONNECT BRANCH CIRCUITS SERVING WALK IN COOLER LIGHTS, AND EVAPORATOR. CUT CONDUITS ABOVE THE CEILING AND REMOVE CONDUCTORS BACK TO INDICATED PANEL. SAVE REMAINING BRANCH CIRCUIT FOR REUSE. LABEL CIRCUIT BREAKERS "SPARE" IN PANELBOARD INDEX.
4. DISCONNECT BRANCH CIRCUITS SERVING WALK IN FREEZER LIGHTS, AND EVAPORATOR/CONDENSER. CUT CONDUITS ABOVE THE CEILING AND REMOVE CONDUCTORS BACK TO INDICATED PANEL. SAVE REMAINING BRANCH CIRCUITRY FOR REUSE. LABEL CIRCUIT BREAKERS "SPARE" IN PANEL INDEX.
5. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.
6. SEE DRAWINGS E105 AND E202 FOR WORK ASSOCIATED WITH THIS ELECTRICAL EQUIPMENT.
7. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY BACK TO POINT OF ORIGIN.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - DEMOLITION

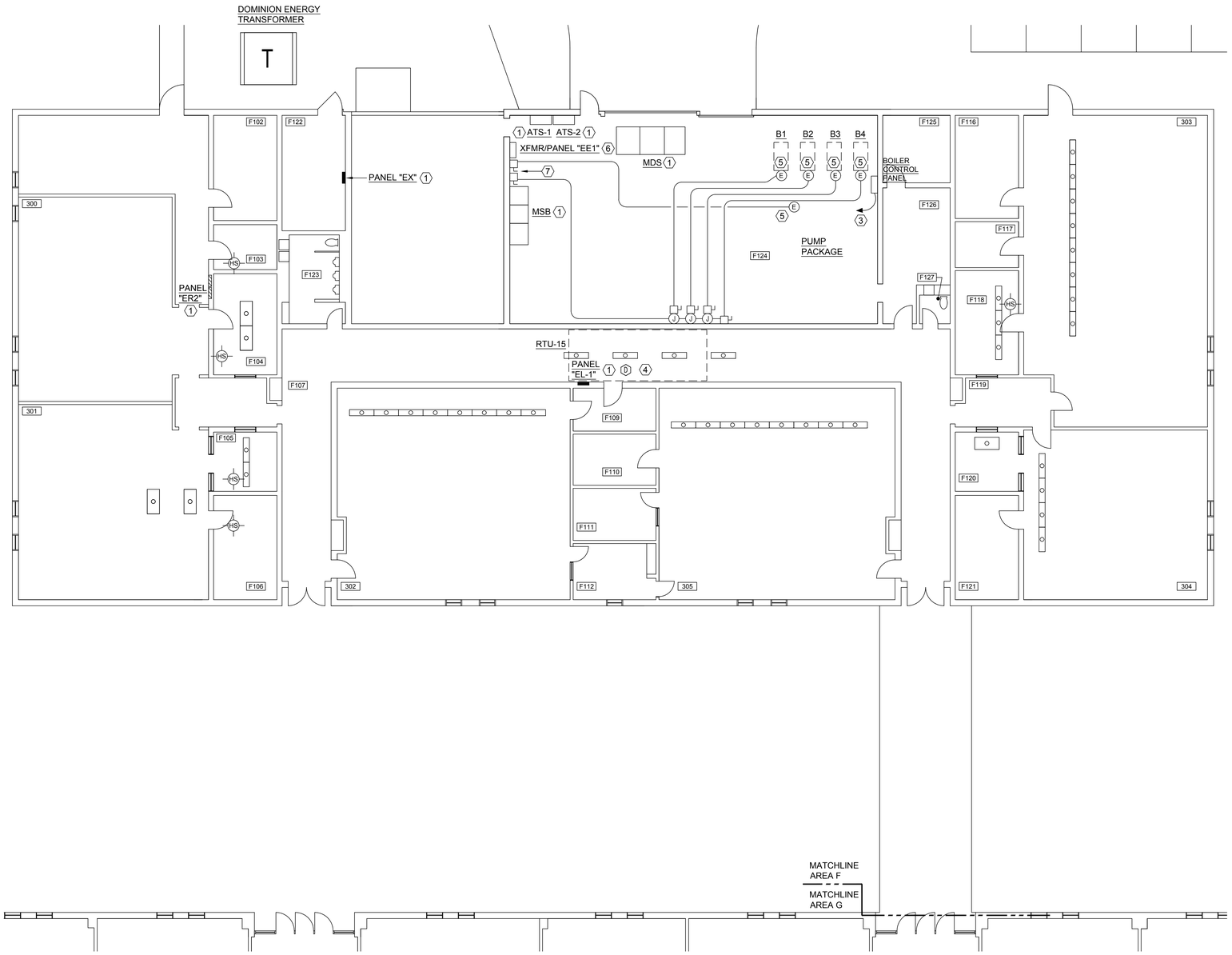
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED105

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'F' - DEMOLITION ②

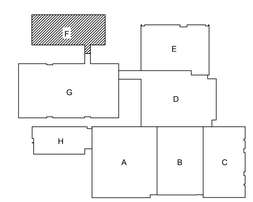
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES

(THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALARM DEVICES SHOWN ON THIS DRAWING. SAVE ALL WIRING WIRING FOR REUSE.
3. DISCONNECT ELECTRICAL CONNECTION TO BOILER CONTROL PANEL. SAVE BRANCH CIRCUIT FOR REUSE.
4. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.
5. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCHES AND BRANCH CIRCUIT BACK TO WIRING TROUGH ADJACENT TO EXISTING MSB.
6. EXISTING 15KVA MINI POWER ZONE XFMR/PANEL "EE1" TO REMAIN. REMOVE FEEDER BRANCH CIRCUITRY BACK TO WIRING TROUGH.
7. REMOVE WIRING TROUGH UNDER DISCONNECT SWITCHES AND POWER MINI ZONE. REMOVE FEEDER BRANCH CIRCUITRY BACK TO ATS-2.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'F' - DEMOLITION

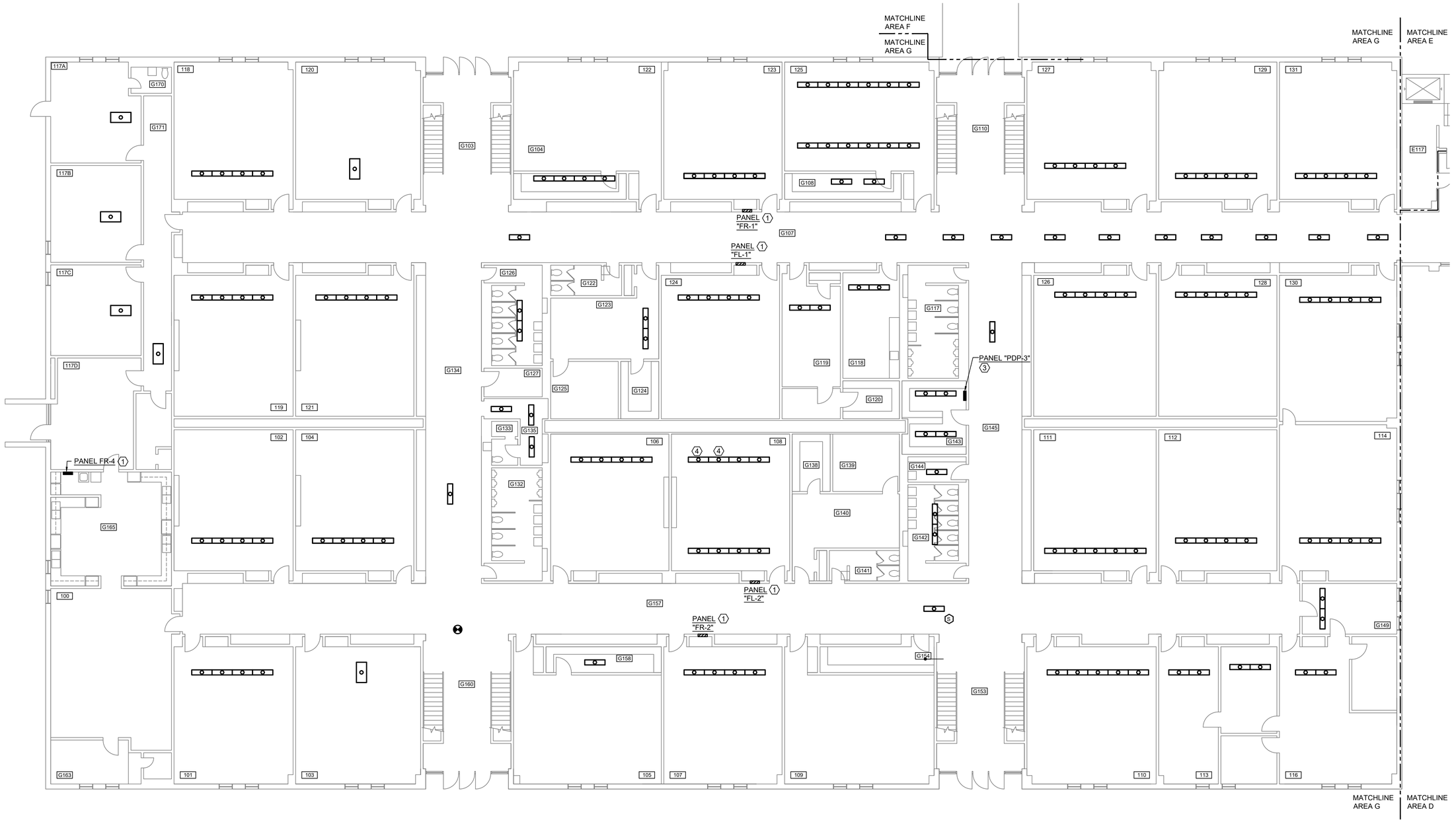
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED106

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'G' - DEMOLITION (2)

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

DEMOLITION NOTES (THIS DRAWING ONLY)

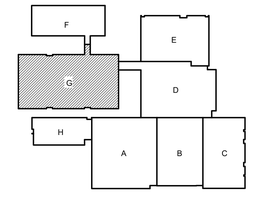
(1) EXISTING ELECTRICAL EQUIPMENT TO REMAIN.

(2) DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES (U.O.N.) AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALRM DEVICES SHOWN ON THIS DRAWING. SAVE ALL WIRING FOR REUSE.

(3) DISCONNECT AND REMOVE PANELBOARD. SAVE PANEL FEEDER CONDUCTORS AND ALL HOMERUN BRANCH CIRCUITS FOR REUSE.

(4) REMOVE LIGHT FIXTURE. REMOVE BRANCH CIRCUITRY BACK TO LAST FIXTURE TO REMAIN.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 420
HAMPTON, VA 23666
4329 GUN ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE: (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'G' - DEMOLITION

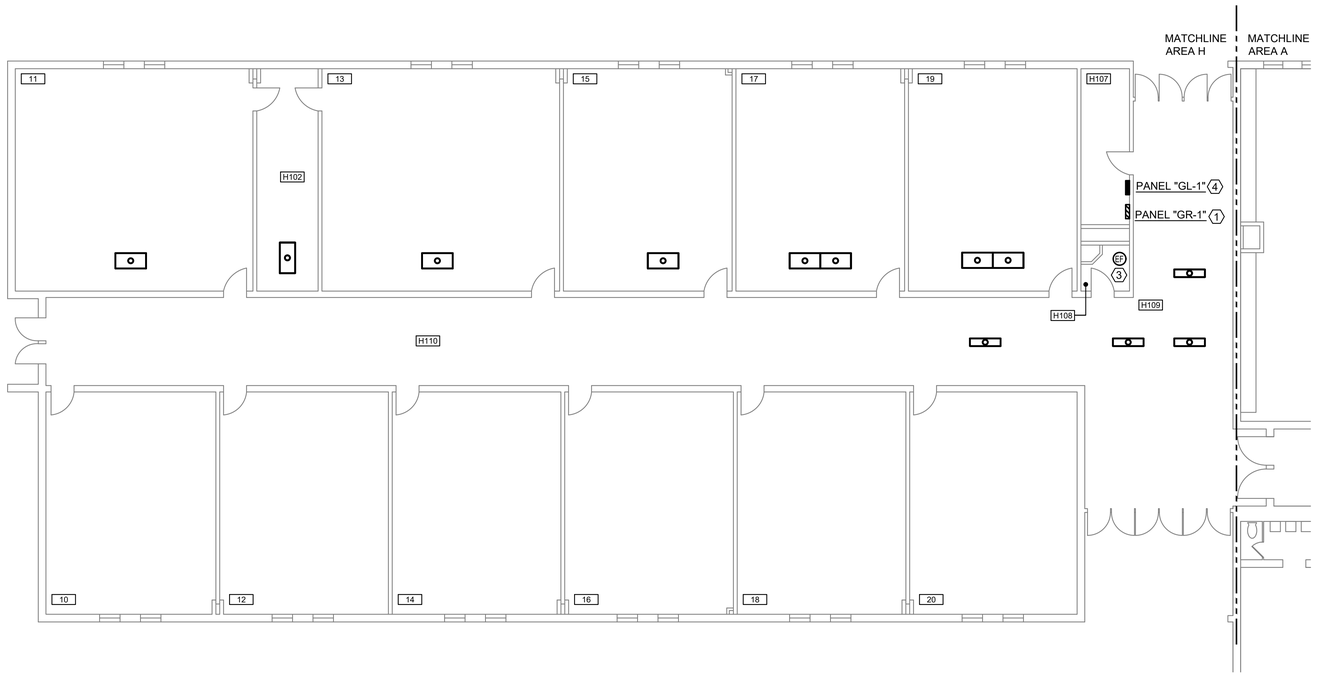
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED107

DATE: 09/08/2025



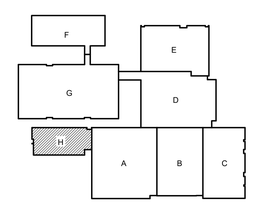
ELECTRICAL FIRST FLOOR PLAN - AREA 'H' - DEMOLITION 2

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT.
3. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. REMOVE PANEL "GL-1". SAVE FEEDER CONDUCTORS AND ALL BRANCH CIRCUITRY FOR REUSE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
HAMPTON, VA 23666
4329 OLDS ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'H' - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED108

DATE: 09/08/2025

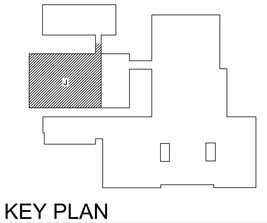
ELECTRICAL SECOND FLOOR PLAN - AREA 'J' - DEMOLITION ②

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
2. DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES, LIGHT SENSOR DEVICES ASSOCIATED WITH LIGHT FIXTURES SHOWN ON THIS FLOOR PLAN AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED FIRE ALARM DEVICES, INTERCOM SPEAKERS, WIRELESS ACCESS DEVICES, AND CCTV CAMERAS SHOWN ON THIS DRAWING. SAVE ALL WIRING FOR REUSE. REMOVE ALL CEILING MOUNTED PROJECTORS SHOWN ON THIS DRAWING. SAVE ALL POWER AND SYSTEMS WIRING FOR REUSE.
3. REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE DETECTOR FOR REUSE.

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

1/8" = 1'-0"

SCALE: 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200
HAMPTON, VA 23666
4321 CGS ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE: (757) 399-4415
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL SECOND FLOOR PLAN - AREA 'J' - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED109

DATE: 09/08/2025

ELECTRICAL SECOND FLOOR PLAN - AREA 'K' - DEMOLITION (2)

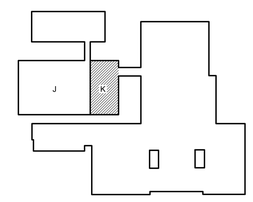
SCALE: 1/8" = 1'-0"

DEMOLITION NOTES (THIS DRAWING ONLY)

(1) EXISTING ELECTRICAL EQUIPMENT TO REMAIN.

(2) DISCONNECT AND REMOVE ALL CEILING MOUNTED LIGHT FIXTURES AND SAVE FOR REUSE. LABEL EACH LIGHT FIXTURE WITH REGARDS TO ROOM NUMBERS SHOWN ON THIS DRAWING AND LOCATIONS TO ENSURE EACH LIGHT FIXTURE IS INSTALLED IN THE SAME LOCATION FROM WHICH THEY WERE REMOVED. SAVE BRANCH CIRCUITRY FOR REUSE. RELOCATE AND EXTEND BRANCH CIRCUITRY AS REQUIRED TO ACCOMMODATE THE REMOVAL AND INSTALLATION OF ROOF MOUNTED MECHANICAL EQUIPMENT. REMOVE ALL CEILING MOUNTED PROJECTORS SHOWN ON THIS DRAWING. SAVE ALL POWER AND SYSTEMS WIRING FOR REUSE. REMOVE ALL CEILING MOUNTED WIRELESS ACCESS POINT DEVICES SHOWN ON THIS DRAWING. SAVE ALL WIRING WIRING FOR REUSE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
STE 420 GOV ROAD
2809 S. LYNNHAVEN ROAD
TELEPHONE (757) 599-6435
HAMPTON, VA 23666
GLEN ALLEN, VA 23060
VA BEACH, VA 23452
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL SECOND FLOOR PLAN - AREA 'K' - DEMOLITION

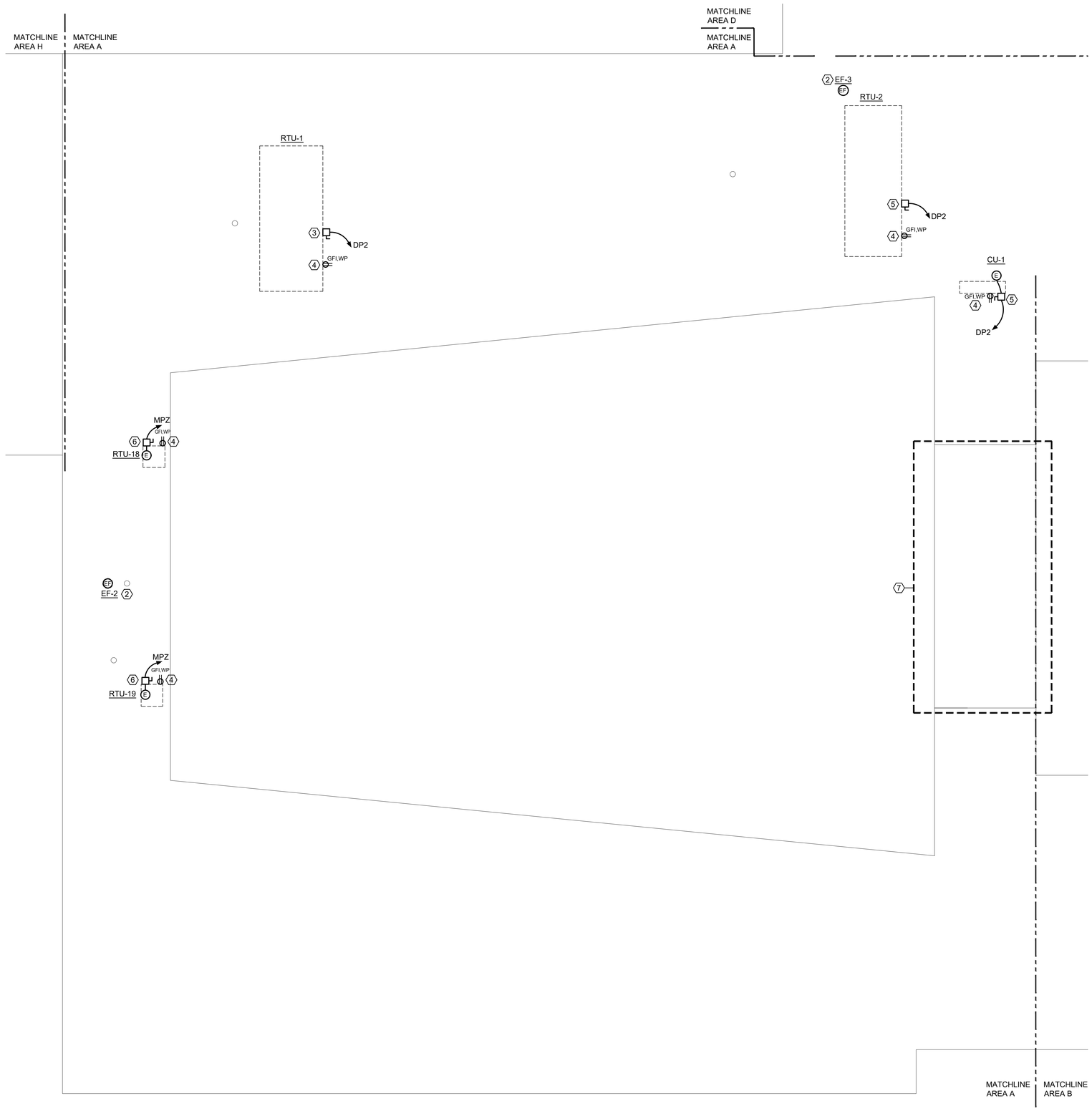
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED110

DATE: 09/08/2025

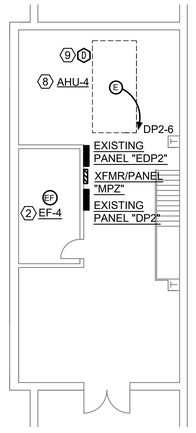


ELECTRICAL ROOF PLAN - AREA 'A' - DEMOLITION 1

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

DEMOLITION NOTES (THIS DRAWING ONLY)

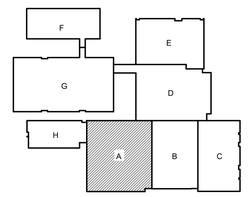
1. SEE "MEZZANINE FLOOR PLAN - AREA A - DEMOLITION" ON THIS DRAWING FOR LOCATION OF PANEL/XFMR "MPZ".
2. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
3. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
5. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE CONDUCTORS BACK TO CIRCUIT BREAKER IN INDICATED PANEL. REMOVE CONDUIT TO MEZZANINE AND SAVE REMAINING CONDUIT FOR REUSE. LABEL CIRCUIT BREAKER SPARE IN PANEL INDEX.
6. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE BRANCH CIRCUITRY BACK TO CIRCUIT BREAKER IN EXISTING PANEL. LABEL CIRCUIT BREAKER "SPARE" IN PANEL INDEX.
7. SEE "MEZZANINE FLOOR PLAN - AREA A - DEMOLITION" ON THIS DRAWING FOR WORK IN THIS AREA.
8. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. SAVE BRANCH CIRCUITRY FOR REUSE.
9. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR, SAMPLING TUBES AND REMOTE TEST STATION. REMOVE FIRE ALARM BRANCH CIRCUITRY BACK TO POINT OF ORIGIN.



MEZZANINE FLOOR PLAN - AREA 'A' - DEMOLITION

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

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'A' - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

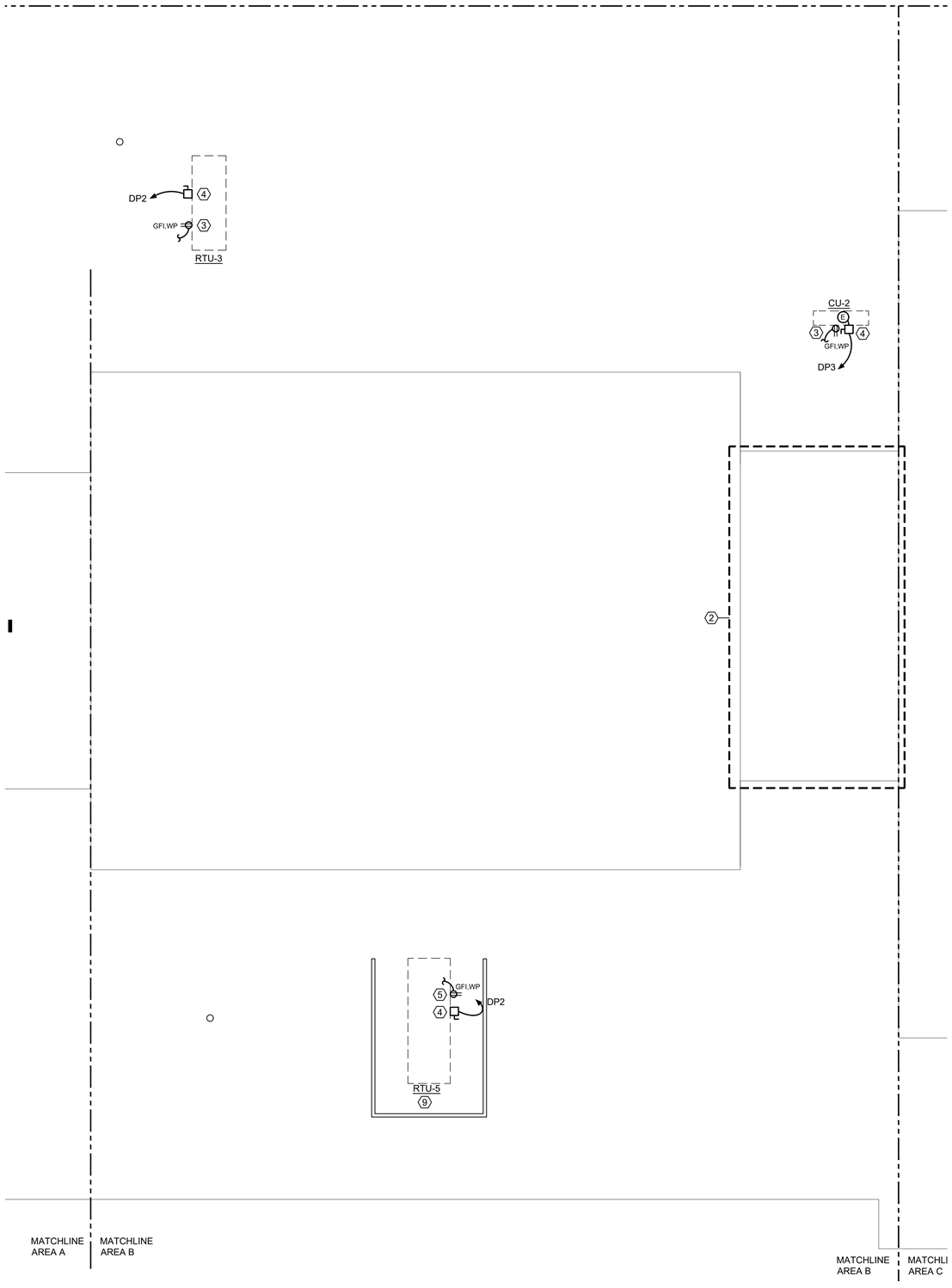
COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED111

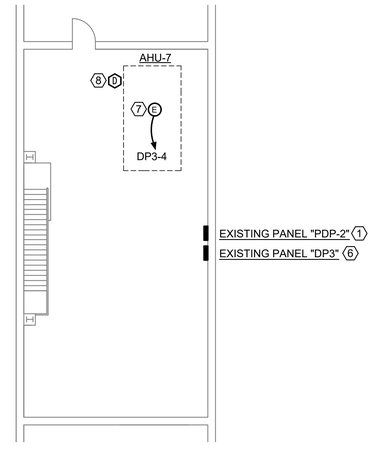
DATE: 09/08/2025

DEMOLITION NOTES (THIS DRAWING ONLY)

1. DISCONNECT AND REMOVE PANELBOARD INTERIOR. SAVE PANELBOARD BACKCAN, PANEL FEEDER CONDUCTORS, AND ALL BRANCH CIRCUITS FOR REUSE.
2. SEE "MEZZANINE FLOOR PLAN - AREA B - DEMOLITION" ON THIS DRAWING FOR WORK IN THIS AREA.
3. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE BRANCH CIRCUITRY BACK TO INDICATED PANEL. LABEL CIRCUIT BREAKER SPARE IN PANEL INDEX.
5. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY BACK TO POINT OF ORIGIN.
6. EXISTING ELECTRICAL EQUIPMENT TO REMAIN.
7. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY BACK TO INDICATED PANEL. LABEL CIRCUIT BREAKER SPARE IN PANEL INDEX.
8. REMOVE DUCT SMOKE DETECTOR, SAMPLING TUBES, AND REMOTE TEST STATION. REMOVE FIRE ALARM BRANCH CIRCUITRY BACK TO POINT OF ORIGIN.
9. DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND SAMPLING TUBES BEFORE REMOVAL OF THE RTU. SAVE FIRE ALARM CONDUCTORS AND SMOKE DETECTOR FOR REUSE.



ELECTRICAL ROOF PLAN – AREA 'B' – DEMOLITION
SCALE: 1/8" = 1'-0"



MEZZANINE FLOOR PLAN - AREA 'B' - DEMOLITION
SCALE: 1/8" = 1'-0"

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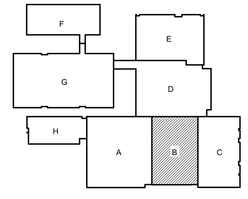


KEY PLAN
NOT TO SCALE

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
221 ENTERPRISE PARKWAY
HAMPTON, VA 23666
4325 GUN ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'B' - DEMOLITION

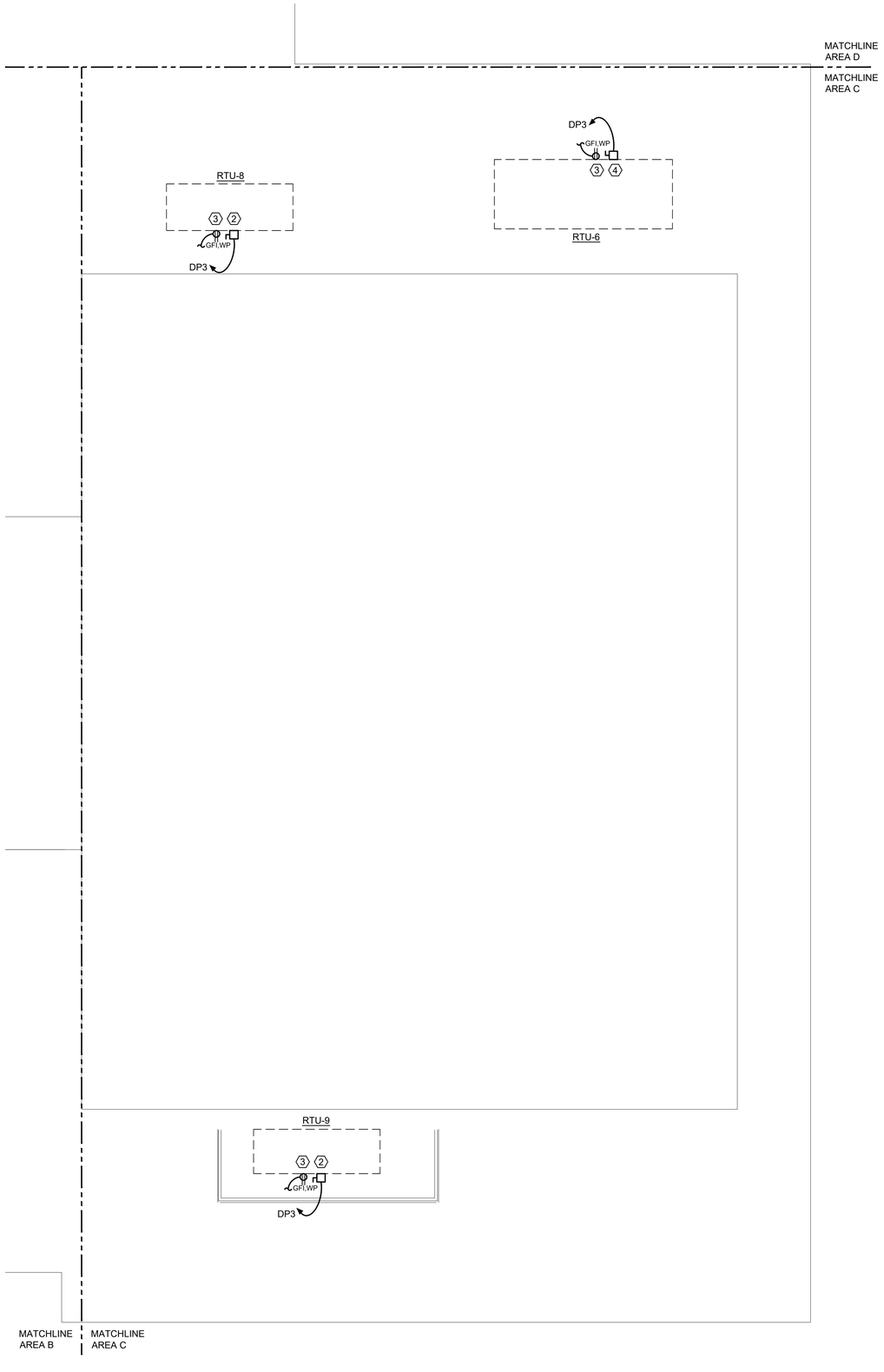
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED112

DATE: 09/08/2025



MECHANICAL ROOF PLAN – AREA 'C' – DEMOLITION ①

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

DEMOLITION NOTES (THIS DRAWING ONLY)

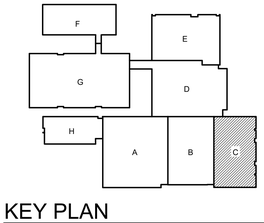
① SEE DRAWING ED112 FOR LOCATION OF PANEL "DP3".

② DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE BRANCH CIRCUITRY BACK TO INDICATED PANEL.

③ REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.

④ DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE CONDUCTORS BACK TO EXISTING CIRCUIT BREAKER IN INDICATED PANEL. REMOVE CONDUIT TO BELOW ROOF AND SAVE REMAINING CONDUIT FOR REUSE.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.043752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
MECHANICAL ROOF PLAN - AREA 'C' - DEMOLITION

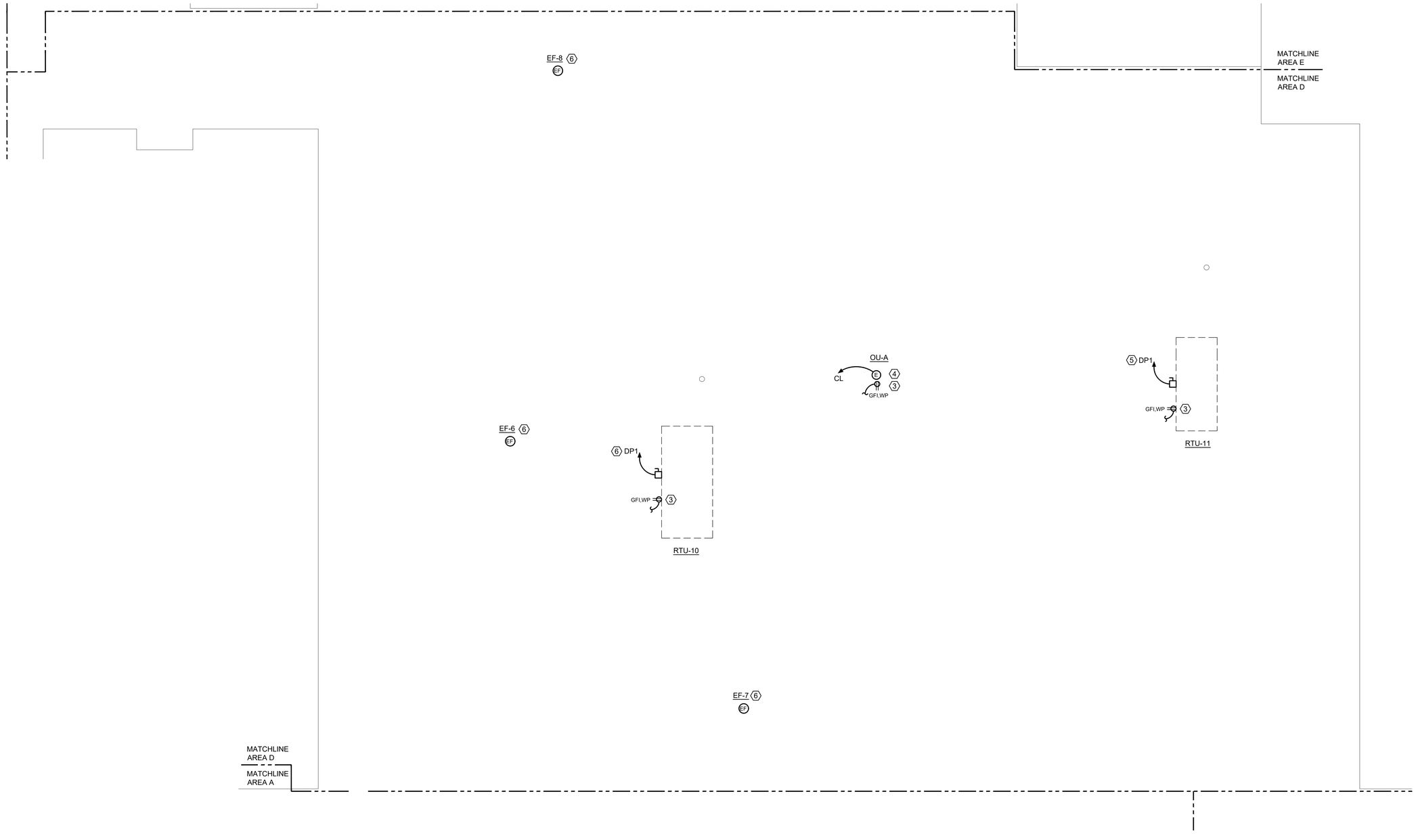
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED113

DATE: 09/08/2025



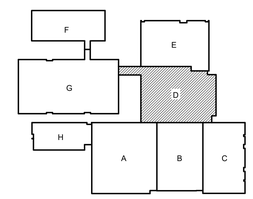
ELECTRICAL ROOF PLAN – AREA 'D' – DEMOLITION 1 2

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. SEE DRAWING ED105 FOR LOCATION OF PANEL "DP1".
2. SEE DRAWING ED104 FOR LOCATION OF PANEL "CL".
3. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
5. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH. REMOVE CONDUCTORS BACK TO CIRCUIT BREAKER IN INDICATED PANEL. REMOVE CONDUIT TO BELOW ROOF AND SAVE REMAINING CONDUIT FOR REUSE.
6. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE EXISTING BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'D' - DEMOLITION

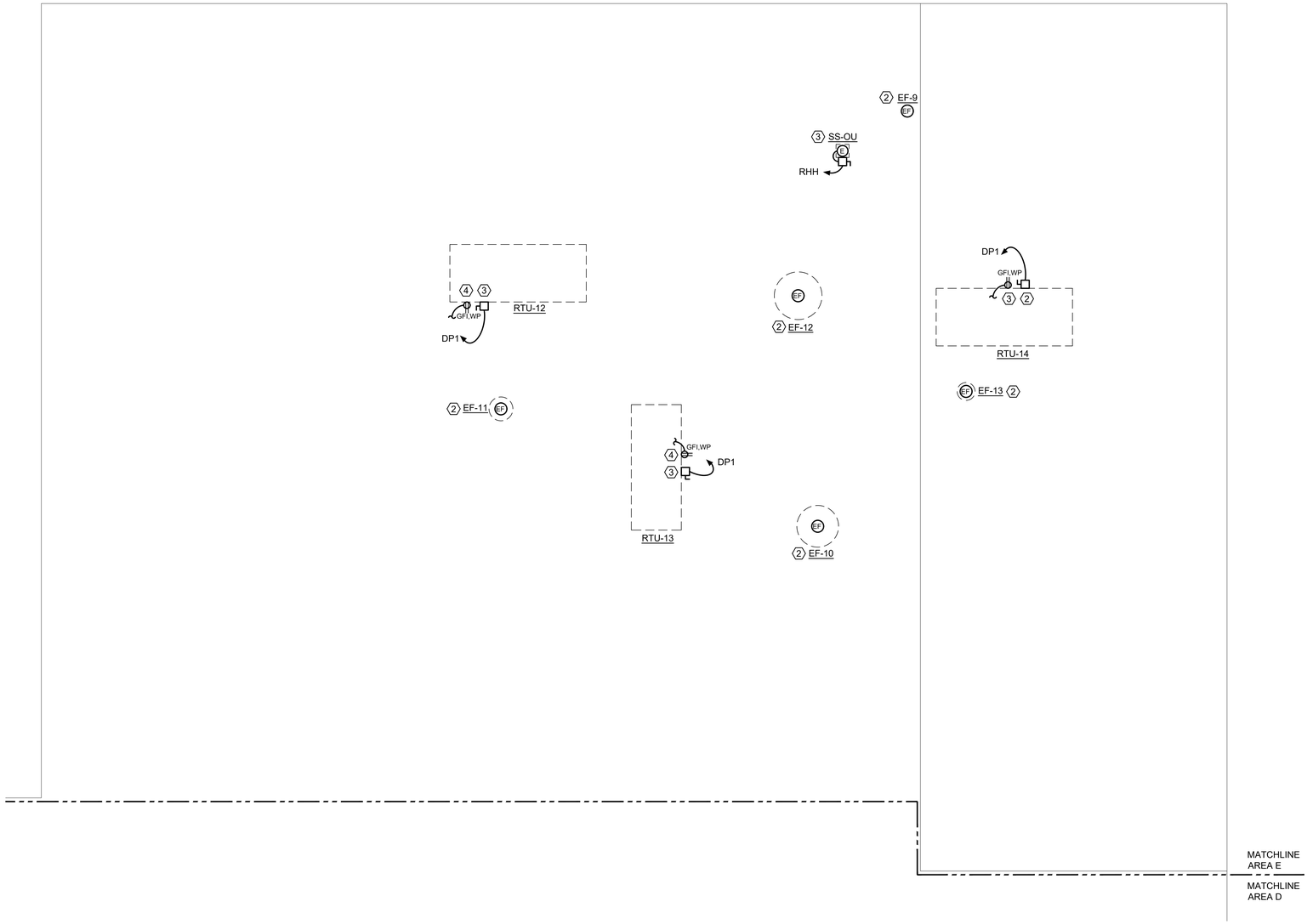
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED114

DATE: 09/08/2025



ELECTRICAL ROOF PLAN – AREA 'E' – DEMOLITION ①

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

DEMOLITION NOTES (THIS DRAWING ONLY)

① SEE DRAWING ED105 FOR LOCATION OF PANEL "DP1" AND PANEL "RHH".

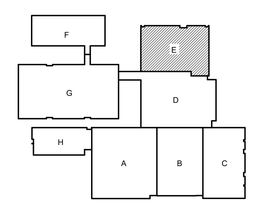
② DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.

③ DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH AND BRANCH CIRCUITRY TO CIRCUIT BREAKER IN INDICATED PANEL. LABEL EXISTING CIRCUIT BREAKER "SPARE" IN PANEL.

④ REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.

⑤ DISCONNECT HOMERUN CONDUCTORS FROM DISCONNECT SWITCH FOR WALK-IN COOLER. REMOVE HOMERUN BACK TO INDICATED PANEL EXCEPT SAVE CONDUIT THROUGH ROOF FOR REUSE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'E' - DEMOLITION

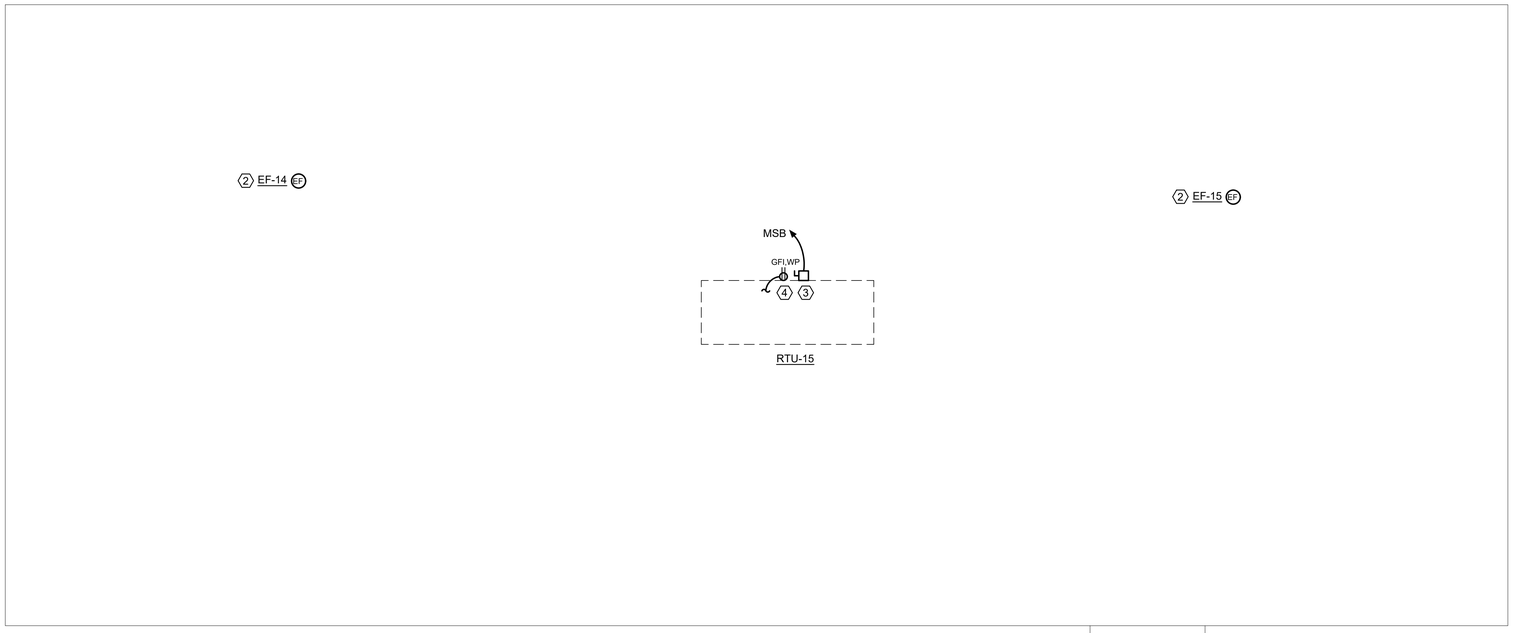
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED115

DATE: 09/08/2025



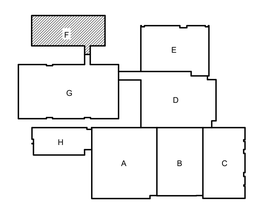
ELECTRICAL ROOF PLAN – AREA 'F' – DEMOLITION 1

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. SEE DRAWING ED106 FOR LOCATION OF MOTOR CONTROL CENTER (MCC).
2. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
3. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH AND BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

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KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'F' - DEMOLITION

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

ED116

DATE: 09/08/2025

MATCHLINE AREA F

MATCHLINE AREA G

MATCHLINE AREA G

MATCHLINE AREA E

EF

5 EF-20

EF

5 EF-17

RTU-16

2 3

GFI,WP

DP4

4 EF-18 EF

RTU-17

2 3

GFI,WP

DP4

4 EF-19 EF

5 EF

EF

5 EF-16

MATCHLINE AREA G

MATCHLINE AREA D

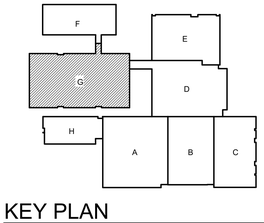
ELECTRICAL ROOF PLAN – AREA 'J' – DEMOLITION

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

DEMOLITION NOTES (THIS DRAWING ONLY)

1. SEE DRAWING ED109 FOR LOCATION OF PANELS "FR4", "FR5" AND "DP4".
2. REMOVE GFI/WP DUPLEX RECEPTACLE MOUNTED ON MECHANICAL EQUIPMENT. REMOVE BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
3. DISCONNECT ELECTRICAL CONNECTION TO DISCONNECT SWITCH MOUNTED ON MECHANICAL EQUIPMENT. REMOVE DISCONNECT SWITCH AND BRANCH CIRCUITRY TO BELOW ROOF AND SAVE REMAINING BRANCH CIRCUITRY FOR REUSE.
4. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. REMOVE CONDUCTORS BACK TO CIRCUIT BREAKER IN INDICATED PANEL. REMOVE CONDUIT TO BELOW ROOF AND SAVE REMAINING CONDUIT FOR REUSE.
5. DISCONNECT ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT. SAVE BRANCH CIRCUITRY FOR REUSE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
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09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers

22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VA 23666
4325 GOV. WOOD ROAD GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'J' - DEMOLITION

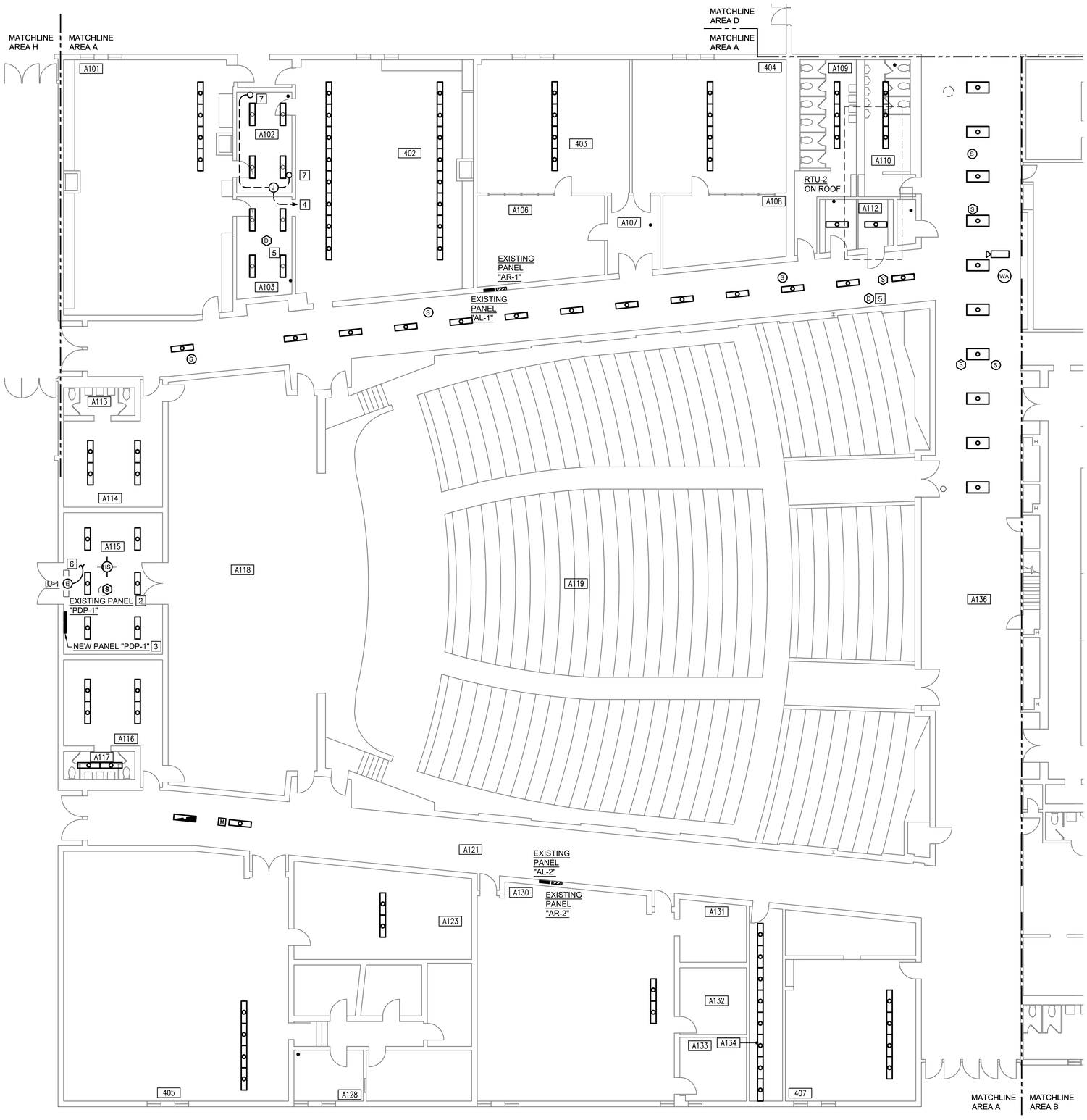
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

ED117

DATE: 09/08/2025



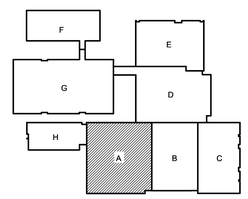
ELECTRICAL FIRST FLOOR PLAN - AREA 'A' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES AND INTERCOM SPEAKERS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED.
2. REUSE EXISTING PANEL BACKCAN AS A JUNCTION BOX AND PROVIDE A BLANK COVERPLATE.
3. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION SECTION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301. INSTALL NEW PANEL NEXT TO EXISTING PANEL BACKCAN. REUSE EXISTING FEEDER CONDUCTORS AND HOMERUN BRANCH CIRCUITS SAVE DURING DEMOLITION AND EXTEND TO NEW PANEL AND CIRCUIT BREAKERS.
4. PROVIDE HOMERUN (2 #10 AND 1 #10 GROUND IN 1/2" CONDUIT) TO PANEL "MPZ" AND CONNECT TO NEW 20A-1P CIRCUIT BREAKER PROVIDED BY NEW WORK NOTE 12 ON DRAWING E-111. CHANGE PANEL INDEX TO REFLECT LOAD SERVED.
5. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.
6. PROVIDE 3/4" CONDUIT UP TO OU ON ROOF. INSTALL INTERCONNECTING WIRING FURNISHED BY EQUIPMENT PROVIDER IN CONDUIT. MAKE ALL ELECTRICAL CONNECTIONS TO IU AND OU AS DIRECTED BY THE EQUIPMENT PROVIDER.
7. INSTALL DUPLEX RECEPTACLE BEHIND EXISTING KILN AS DIRECTED BY THE OWNER FOR NEW EXHAUST HOOD. PROVIDE BRANCH CIRCUITRY IS SURFACE METAL RACEWAY FROM OUTLET BOX TO ABOVE CEILING. CONVERT RACEWAY TO CONDUIT ABOVE THE CEILING AND EXTEND BRANCH CIRCUIT AS INDICATED.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'A' -NEW WORK

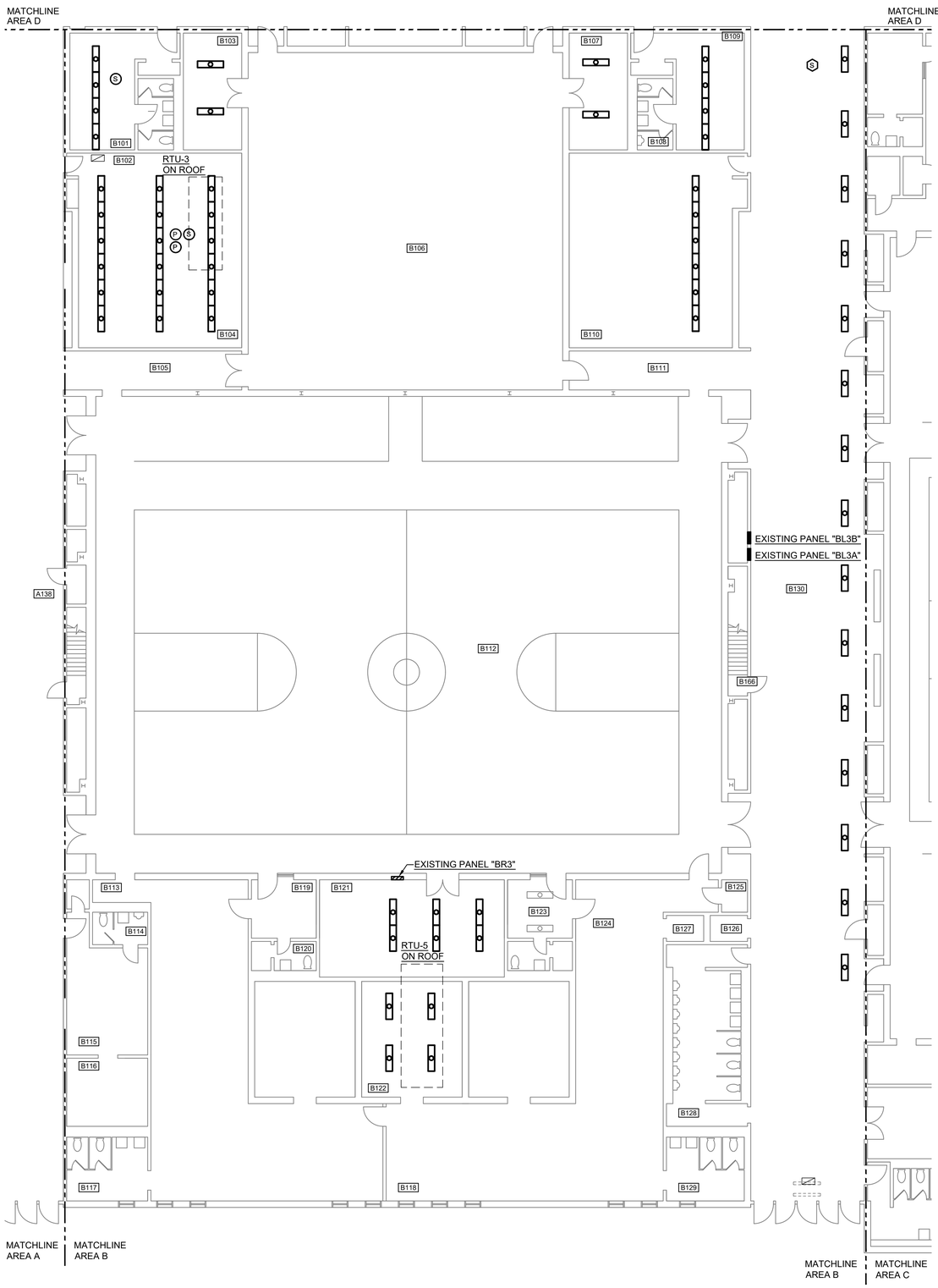
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-101

DATE: 09/08/2025



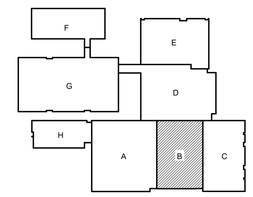
ELECTRICAL FIRST FLOOR PLAN - AREA 'B' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES AND INTERCOM SPEAKERS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED. REINSTALL CEILING MOUNTED PROJECTORS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING POWER AND SYSTEMS WIRING SAVED DURING DEMOLITION.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'B' - NEW WORK

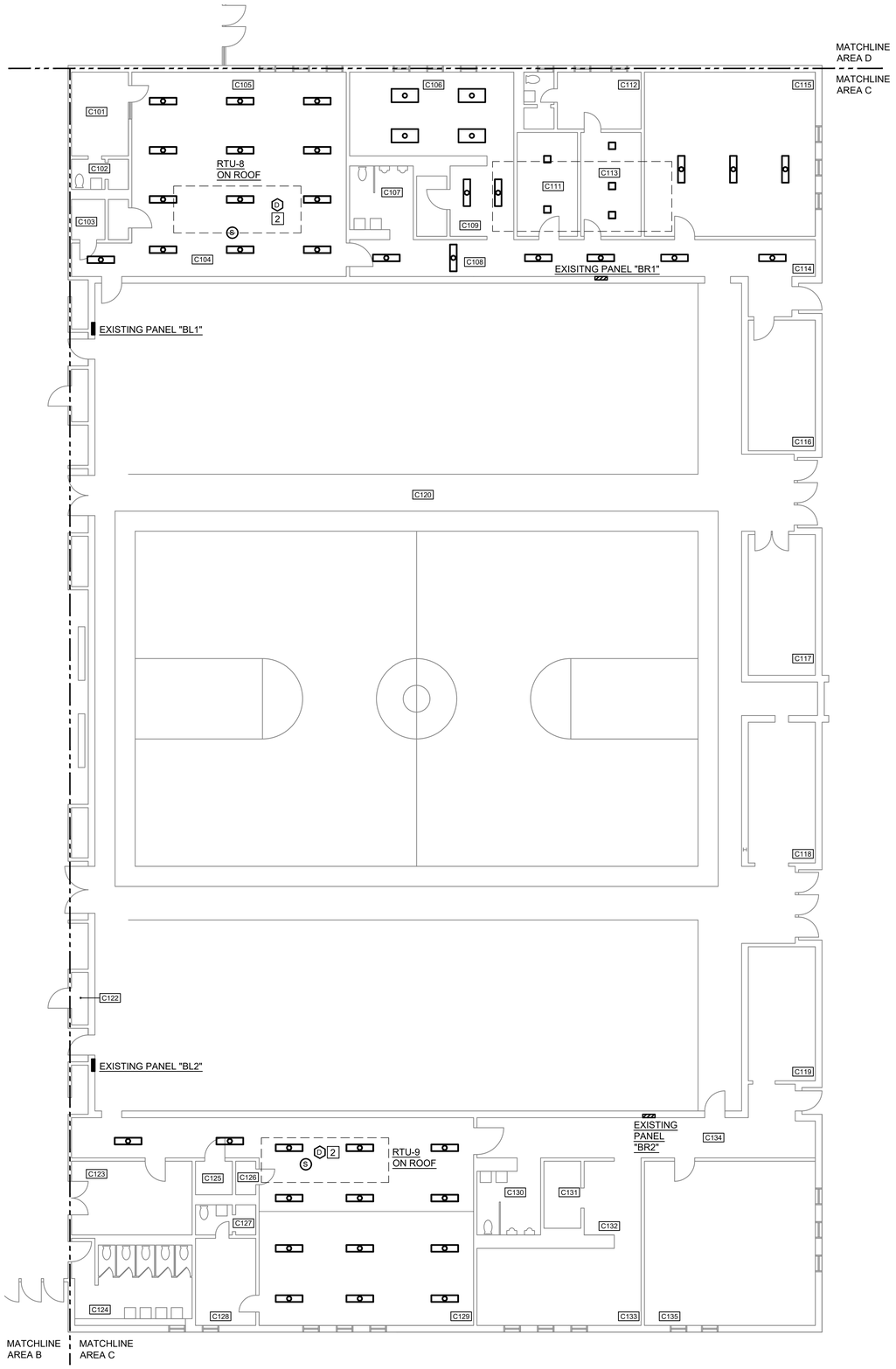
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-102

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'C' - NEW WORK 1

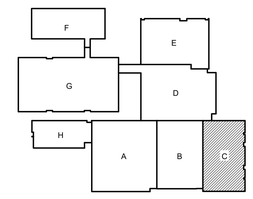
SCALE: 1/8" = 1'-0"

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED INTERCOM SPEAKERS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED.

2. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
HAMPTON, VA 23666
4325 GUN ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE (757) 599-6435
PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'C' - NEW WORK

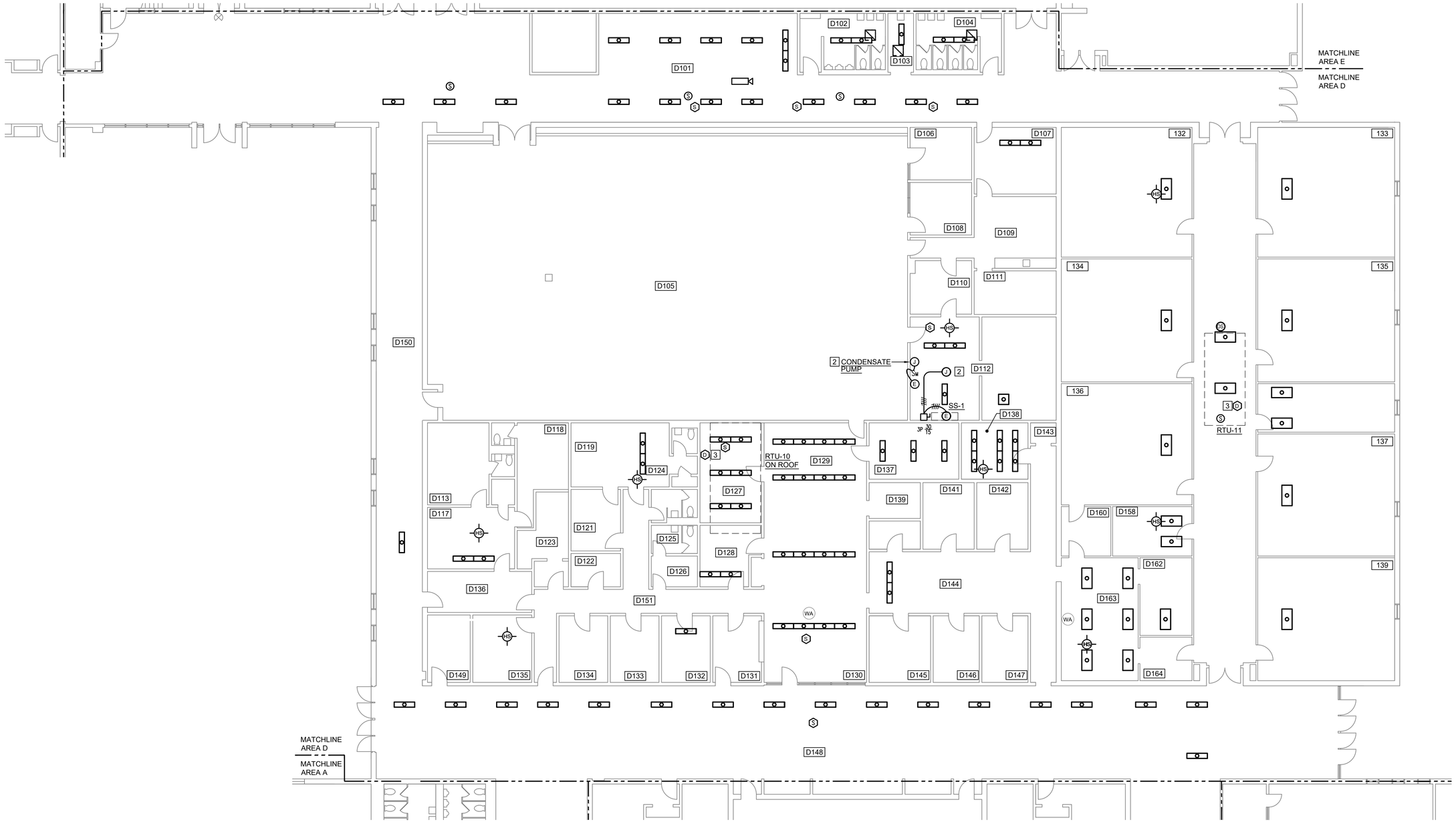
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-103

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'D' - NEW WORK 1

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

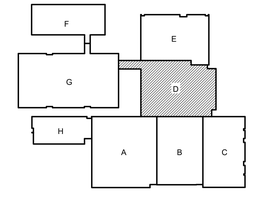
NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES, INTERCOM SPEAKERS, WIRELESS ACCESS POINT, AND CCTV CAMERAS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION.

2. PROVIDE JUNCTION BOX ON THE END OF EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT FROM JUNCTION BOX AND CONNECT TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.

3. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-045

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'D' - NEW WORK

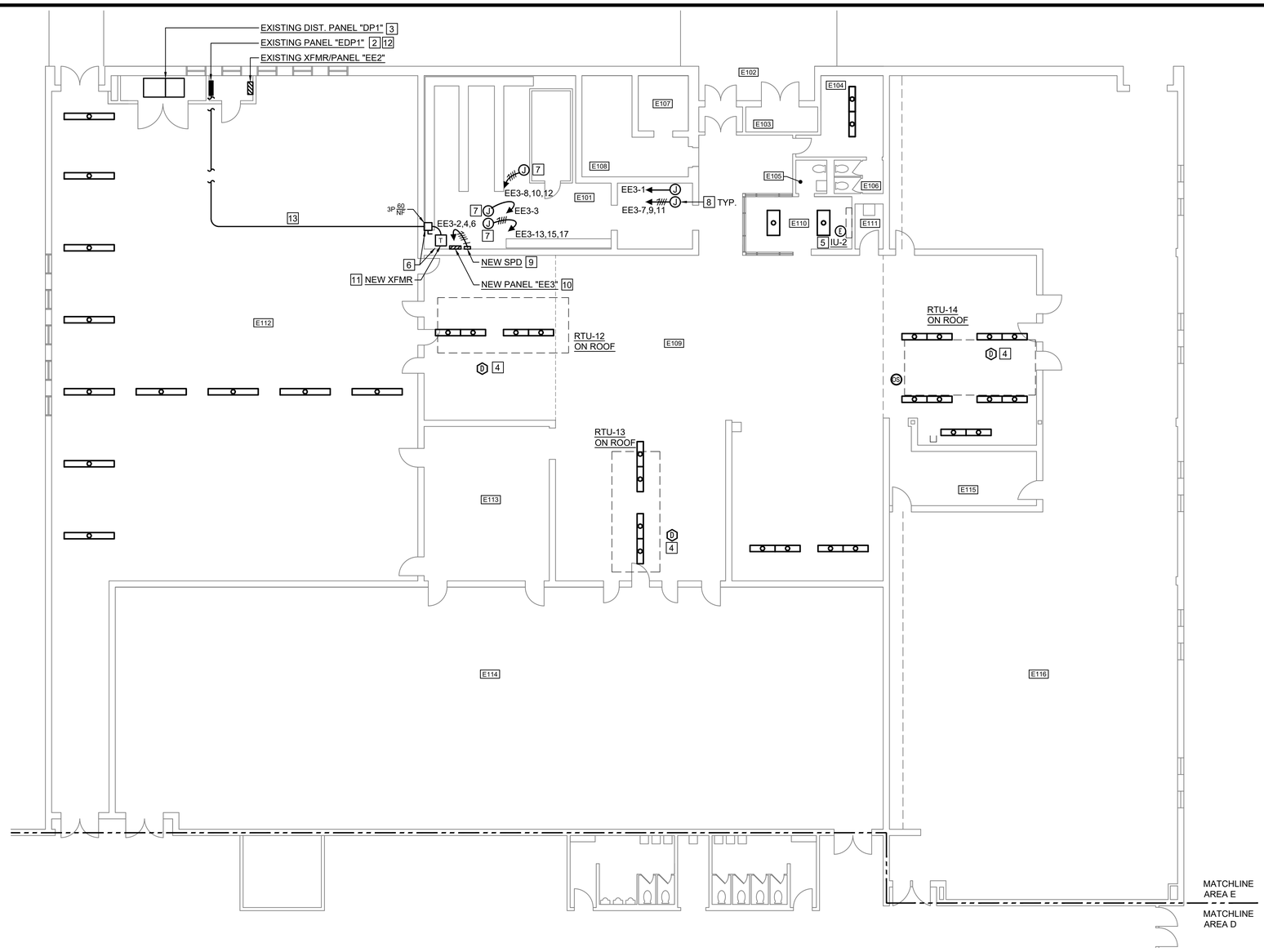
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-104

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES, AND LIGHT SENSOR DEVICES ASSOCIATED WITH LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR.

2. REMOVE 80A-30P CIRCUIT BREAKER FOR RTU-12, 80A-3P CIRCUIT BREAKER FOR RTU-13. PROVIDE 150A-3P CIRCUIT BREAKER FOR NEW RTU-10, 125A-3P CIRCUIT BREAKER FOR NEW RTU-14, AND 100A-3P CIRCUIT BREAKER FOR NEW RTU-13 AND INSTALL ALL IN PANEL. PANEL "EDP1" IS SQUARE D TYPE "HCN" PANELBOARD,480 VOLT,600AMP,3 PHASE,4 WIRE, M.L.O.

3. REMOVE SPARE 60A-3P, 80A-3P, AND 150A-3P CIRCUIT BREAKERS AND TURN ALL OVER TO THE OWNER. PROVIDE SPACE COVERS AS REQUIRED. REMOVE 70A-3P CIRCUIT BREAKER FOR RTU-11. PROVIDE 80A-3P CIRCUIT BREAKER FOR RTU-11. PROVIDE 125A-3P CIRCUIT BREAKER FOR RTU-12 AND INSTALL IN PANEL. MATCH K.A.I.C. RATING OF EXISTING CIRCUIT BREAKERS. SWITCHBOARD DP1 IS A SIEMENS TYPE "P4" SWITCHBOARD.

4. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.

5. PROVIDE ELECTRICAL CONNECTION TO IU VIA DISCONNECT SWITCH FURNISHED BY EQUIPMENT PROVIDER.

6. REMOVE EXISTING STORAGE RACKS FOR INSTALLATION OF NEW PANELS, AND TRANSFORMER. RELOCATE RACK AS DIRECTED BY THE OWNER.

7. PROVIDE JUNCTION BOX ON THE END OF WALK IN FREEZER BRANCH CIRCUIT SAVED DURING DEMOLITION AND EXTEND BRANCH CIRCUITS TO NEW PANEL IN ACCORDANCE WITH PANELBOARD SCHEDULE ON DRAWING E-301.

8. PROVIDE JUNCTION BOX ON THE END OF WALK IN COOLER BRANCH CIRCUIT SAVED DURING DEMOLITION AND EXTEND BRANCH CIRCUITS ON NEW PANEL IN ACCORDANCE WITH PANELBOARD SCHEDULE ON DRAWING E-301.

9. PROVIDE NEW SPD IN ACCORDANCE WITH SPECIFICATION SECTION 264313.

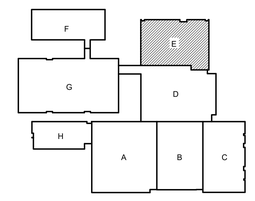
10. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION SECTION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301.

11. PROVIDE NEW 30KVA DRY-TYPE TRANSFORMER IN ACCORDANCE WITH SPECIFICATION SECTION 262200. PROVIDE 4 #3 AND 1 #8 GROUND IN 1-1/4" FLEXIBLE METAL CONDUIT FROM TRANSFORMER AND CONNECT TO MAIN CIRCUIT BREAKER IN PANEL "RHH1".

12. PROVIDE NEW 45A-3P CIRCUIT BREAKER AND MOUNTING HARDWARE. INSTALL CIRCUIT BREAKER IN AVAILABLE SPACE IN PANEL. MATCH K.A.I.C. RATING OF EXISTING CIRCUIT BREAKERS. PANEL "EDP1" IS SQUARE D TYPE "HCN" 480 VOLT, 600AMP, 3 PHASE, 4 WIRE, M.L.O. PANELBOARD. CHANGE PANEL INDEX TO READ "NEW TRANSFORMER".

13. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 45A-3P CIRCUIT BREAKER PROVIDED BY NEW WORK NOTE 12, AND CONNECT TO PRIMARY TERMINALS ON NEW 30 KVA TRANSFORMER VIA NEW DISCONNECT SWITCH.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, #203 GOV ROAD, 2809 S. LYNNHAVEN ROAD
TELEPHONE: (757) 599-6435
HAMPTON, VA 23666
GLEN ALLEN, VA 23060
VA BEACH, VA 23452
PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'E' - NEW WORK

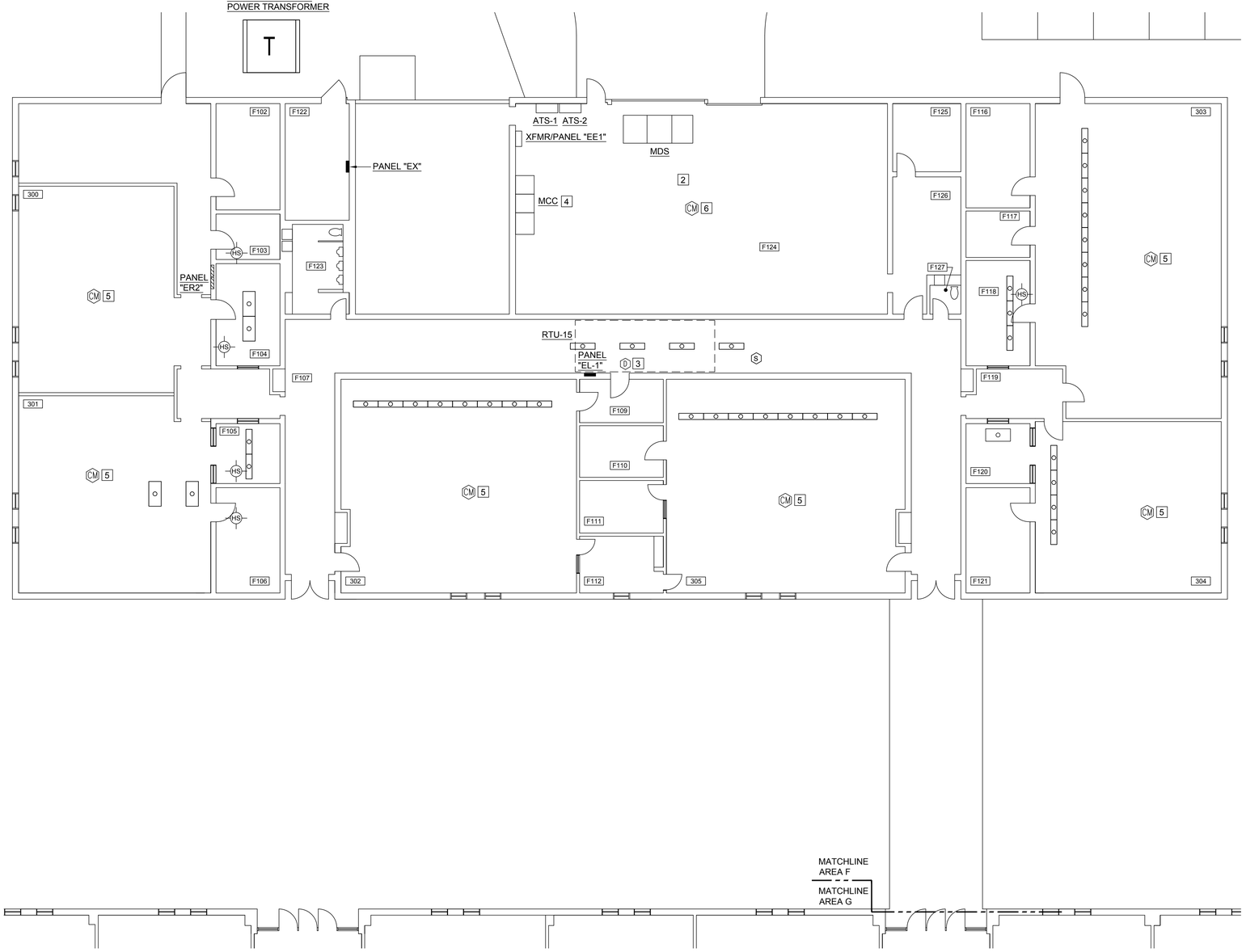
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-105

DATE: 09/08/2025



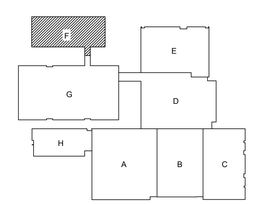
ELECTRICAL FIRST FLOOR PLAN - AREA 'F' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED.
2. SEE "ENLARGED MECHANICAL ROOM FLOOR PLAN - NEW WORK" ON DRAWING E-201 FOR ADDITIONAL WORK IN THIS AREA.
3. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.
4. REMOVE 125A-3P CIRCUIT BREAKER IN MSB SERVING RTU-15 AND TURN OVER TO OWNER. PROVIDE A 150A-3P CIRCUIT BREAKER AND INSTALL IN SPACE. MATCH K.A.I.C. RATINGS OF OTHER CIRCUIT BREAKERS IN THE SWITCHBOARD. THE MSB IS A GENERAL ELECTRIC "SPECTRA SERIES" SWITCHBOARD,480 VOLT,3000 AMP,3 PHASE,4 WIRE, MCB.
5. PROVIDE NEW CEILING MOUNTED CARBON MONOXIDE DETECTOR. INSTALL ON CEILING AND CONNECT TO EXISTING FACP.
6. PROVIDE CARBON MONOXIDE DETECTOR. INSTALL ON BOTTOM OF BAR JOIST AND CONNECT TO EXISTING FACP.

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

1/8" = 1'-0"
5' 0 5' 10' 15' 20'
SCALE FEET

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KENZIE CAMBAR
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09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 CUSTIS ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'F' - NEW WORK

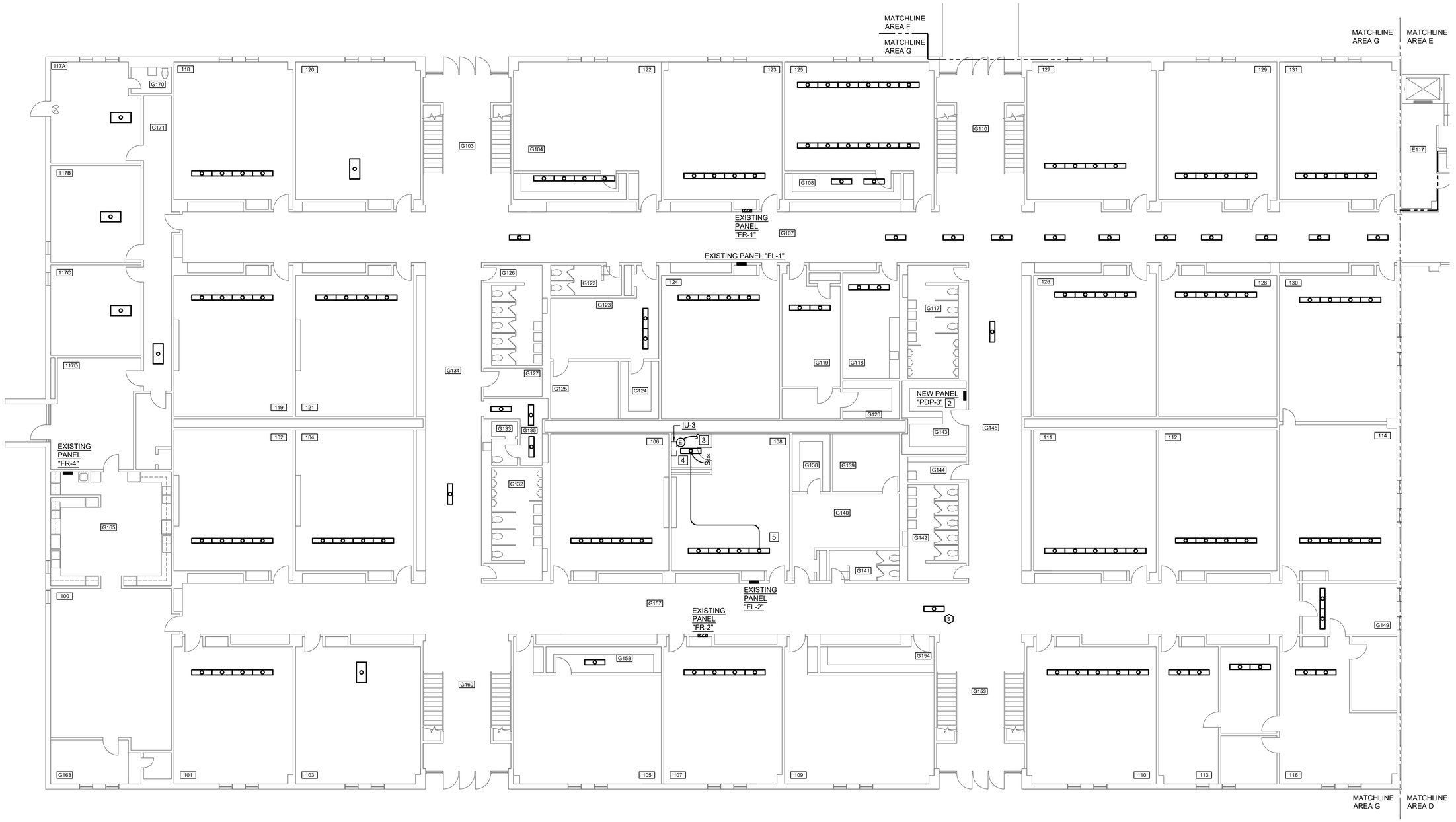
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-106

DATE: 09/08/2025



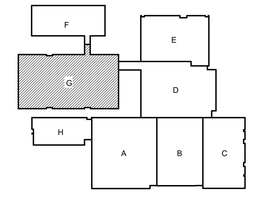
ELECTRICAL FIRST FLOOR PLAN - AREA 'G' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED.
2. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301. REUSE AND EXTEND EXISTING FEEDER CONDUCTORS AND HOMERUN BRANCH CIRCUITS TO NEW CIRCUIT BREAKERS.
3. PROVIDE 3/4" CONDUIT UP TO OU ON ROOF. INSTALL INTERCONNECTING WIRING FURNISHED BY EQUIPMENT PROVIDER IN CONDUIT. MAKE ALL ELECTRICAL CONNECTIONS TO IU AND OU AS DIRECTED BY THE EQUIPMENT PROVIDER.
4. PROVIDE NEW LIGHT FIXTURE - DAY-BRITE CATALOG FSS430-835-UNV-DIM OR APPROVED EQUAL.
5. PROVIDE NEW BRANCH CIRCUITRY AND CONNECT TO EXISTING UNSWITCHED LIGHTING BRANCH CIRCUIT IN EXISTING LIGHT FIXTURE.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200 — HAMPTON, VA 23666
4329 GUN ROAD — GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD — VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 — PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL FIRST FLOOR PLAN - AREA 'G' - NEW WORK

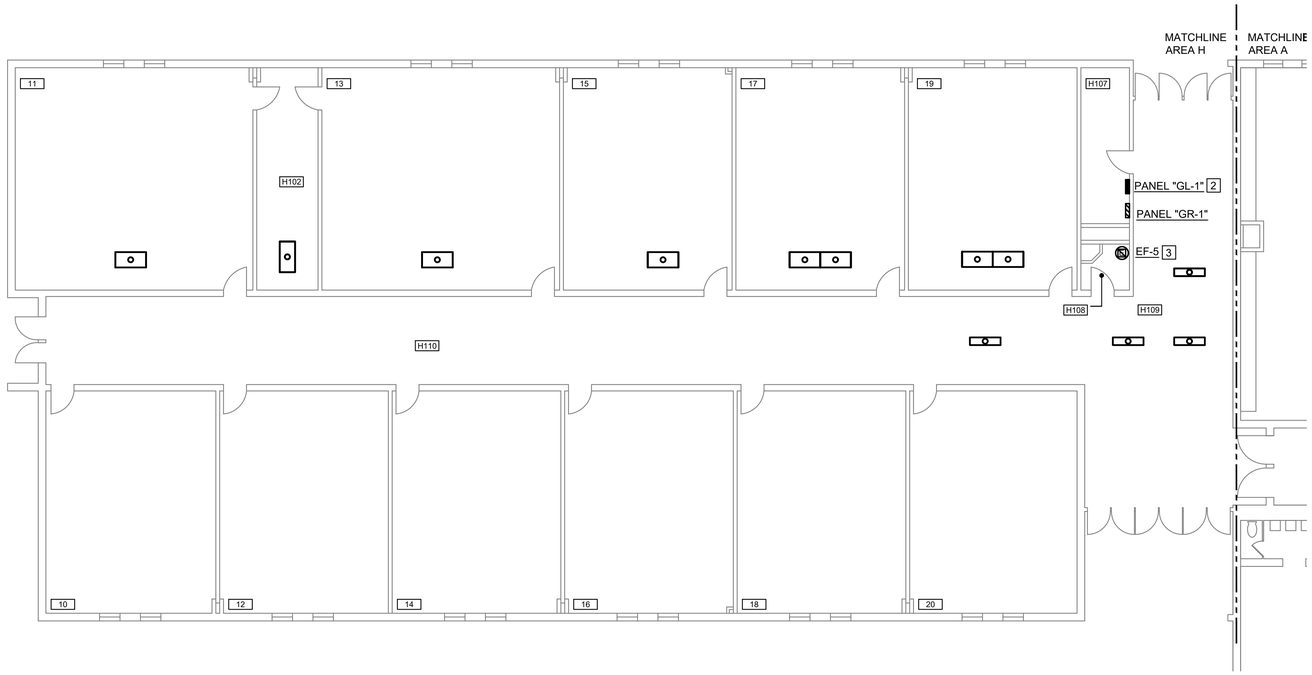
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-107

DATE: 09/08/2025



ELECTRICAL FIRST FLOOR PLAN - AREA 'H' - NEW WORK 1

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

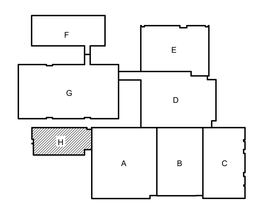
NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR.

2. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301. REUSE AND EXTEND EXISTING FEEDER CONDUCTORS AND HOMERUN BRANCH CIRCUITS TO NEW CIRCUIT BREAKERS.

3. CONNECT NEW EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION. EXTEND BRANCH CIRCUITRY AS REQUIRED.

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

1/8" = 1'-0"

SCALE 5' 0 5' 10' 15' 20' FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4329 OLIN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL FIRST FLOOR PLAN - AREA 'H' - NEW WORK

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-108

DATE: 09/08/2025

ELECTRICAL SECOND FLOOR PLAN - AREA 'J' - NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES, AND LIGHT SENSOR DEVICES ASSOCIATED WITH LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL ALL CEILING MOUNTED FIRE ALARM DEVICES, INTERCOM SPEAKERS, WIRELESS ACCESS DEVICES, AND CCTV CAMERAS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION. EXTEND EXISTING WIRING AS REQUIRED. REINSTALL CEILING MOUNTED PROJECTORS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING POWER AND SYSTEMS WIRING SAVED DURING DEMOLITION.

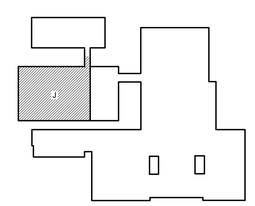
2. INTERCEPT EXISTING CIRCUITS HM-2,4, AND 6 ABOVE EXISTING PANEL "HM". PROVIDE JUNCTION BOX ON THE END OF BRANCH CIRCUITRY AND EXTEND AS INDICATED.

3. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.

4. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION SECTION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301. REMOVE EXISTING BOOK SHELVES AS REQUIRED TO MAINTAIN NEC REQUIRED WORKING CLEARANCE AROUND THE PANEL AND AS DIRECTED BY THE OWNER.

5. REMOVE THREE (3) 20A-1P CIRCUIT BREAKERS IN SPACES 2, 4 AND 6 AND TURN OVER TO OWNER. PROVIDE 60A-3P, 10 K.A.I.C. CIRCUIT BREAKER AND INSTALL IN SPACES. PANEL "HM" IS A SQUARE D TYPE "NQOD" PANELBOARD. PROVIDE 4 #6 AND 1 #10 GROUND IN 1-1/4" CONDUIT. CONNECT TO NEW 60A-3P CIRCUIT BREAKER AND TO MAIN LUGS IN NEW PANEL "HM1".

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.



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THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200
HAMPTON, VA 23666
4325 GUN ROAD
GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD
VA BEACH, VA 23452
TELEPHONE: (757) 599-6435
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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL SECOND FLOOR PLAN - AREA 'J' - NEW WORK

REVISIONS

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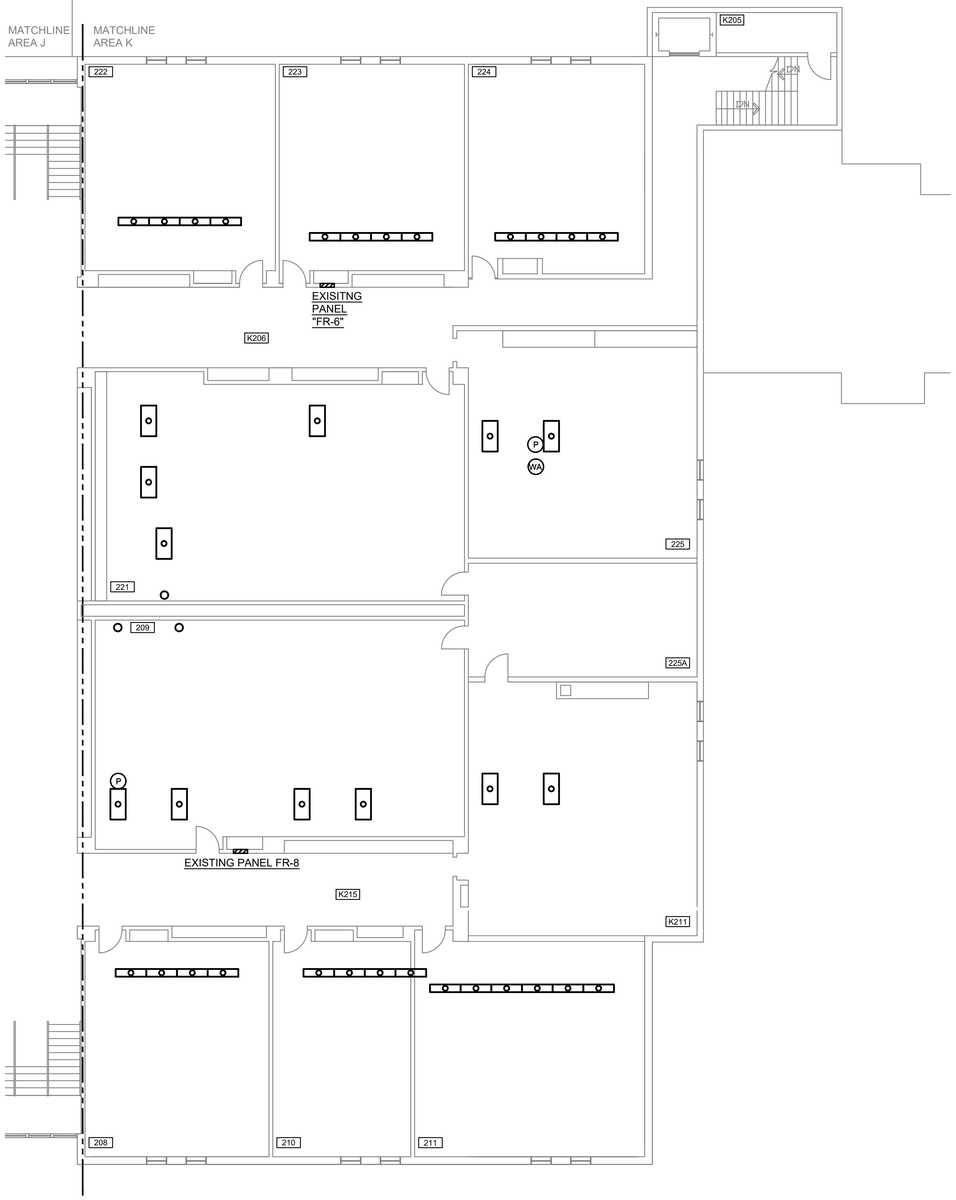
DRAWN BY:	MWH
CHECKED BY:	KC

E-109

DATE: 09/08/2025



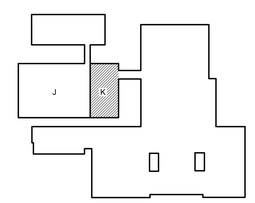
ELECTRICAL SECOND FLOOR PLAN - AREA 'K' - NEW WORK [1]

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. REINSTALL ALL CEILING MOUNTED LIGHT FIXTURES SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING BRANCH CIRCUITRY SAVED DURING DEMOLITION. EXTEND EXISTING BRANCH CIRCUITRY AS REQUIRED. COORDINATE NEW LIGHT FIXTURE SUPPORTS WITH EXISTING DUCTWORK AND PIPING AND ADJUST AS DIRECTED BY THE MECHANICAL CONTRACTOR. REINSTALL CEILING MOUNTED PROJECTORS SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING POWER AND SYSTEMS WIRING SAVED DURING DEMOLITION. REINSTALL ALL CEILING MOUNTED WIRELESS ACCESS POINT SAVED DURING DEMOLITION IN CEILING IN ORIGINAL LOCATIONS, AND RECONNECT TO EXISTING WIRING SAVED DURING DEMOLITION.

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL SECOND FLOOR PLAN - AREA 'K' - NEW WORK

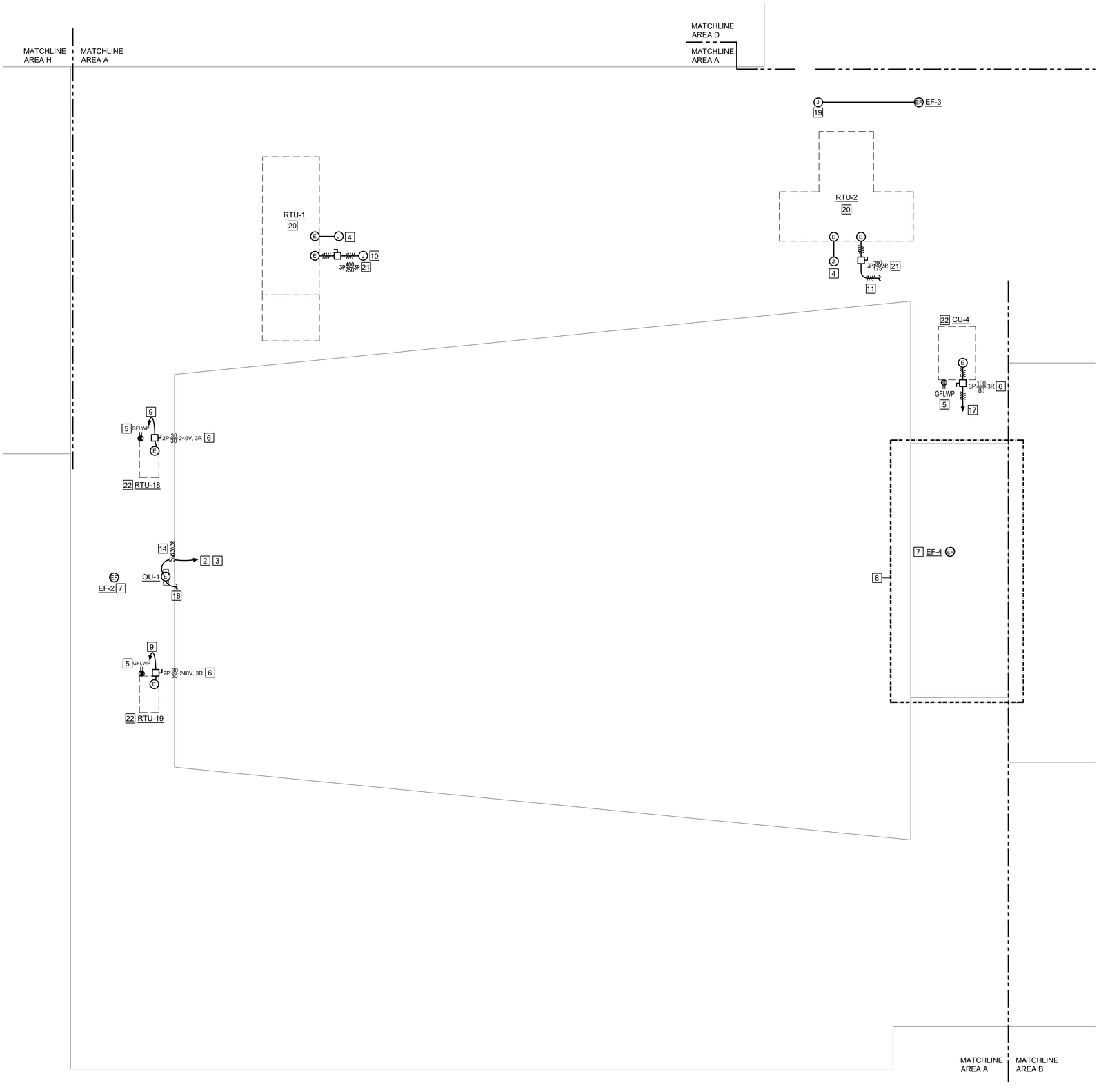
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

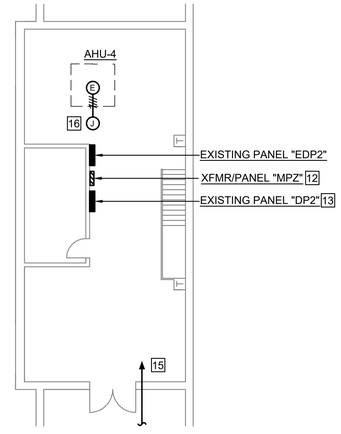
E-110

DATE: 09/08/2025



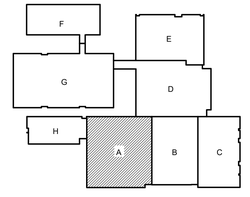
NEW WORK NOTES (THIS DRAWING ONLY)

1. SEE "MEZZANINE FLOOR PLAN - "AREA A" - NEW WORK" ON THIS DRAWING FOR LOCATION OF XFMR / PANEL "MPZ".
2. RUN HOMERUN DOWN THROUGH ROOF HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
3. PROVIDE 2 #10 AND 1 #10 GROUND IN 1/2" CONDUIT. CONNECT HOMERUN TO NEW 20A-2P CIRCUIT BREAKER IN PANEL "MPZ" PROVIDED BY NEW WORK NOTE 12. CHANGE PANEL INDEX TO REFLECT LOAD SERVED. RUN HOMERUN DOWN THROUGH ROOF CHASE. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT RUN UP THROUGH ROOF CURB AND THROUGH MECHANICAL EQUIPMENT AS DIRECTED BY EQUIPMENT PROVIDER AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. PROVIDE NEW WP/GFI RECEPTACLE. INSTALL ON NEW POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 22. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT, RUN CONCEALED INSIDE THE POWER PEDESTAL POST AND CONNECT TO NEW RECEPTACLE.
6. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 22. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
7. CONNECT EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION. EXTEND BRANCH CIRCUITRY AS REQUIRED.
8. SEE "MEZZANINE FLOOR PLAN - AREA A - NEW WORK" ON THIS DRAWING FOR WORK IN THIS AREA. EXTEND BRANCH CIRCUITRY AS REQUIRED.
9. PROVIDE 2 #10 AND 1 #10 GROUND IN 1/2" CONDUIT FROM NEW 30A-2P CIRCUIT BREAKER IN PANEL "MPZ" (PROVIDED BY NEW WORK NOTE 13) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
10. PROVIDE JUNCTION BOX (SIZE AS REQUIRED) ON THE END OF EXISTING BRANCH CIRCUITRY ABOVE THE CEILING SAVED DURING DEMOLITION. PROVIDE 3-250 KCMIL AND 1 #4 GROUND IN 2-1/2" LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX, CONNECT BRANCH CIRCUITRY TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
11. PROVIDE 3 #2/0 AND 1 #6 GROUND FROM MECHANICAL EQUIPMENT AND CONNECT TO NEW 175A-3P CIRCUIT BREAKER IN PANEL "DP2" PROVIDED BY NEW WORK NOTE 13. INSTALL CONDUCTORS IN 2" LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM EXISTING 2" CONDUIT SAVED DURING DEMOLITION. CONNECT BRANCH CIRCUIT TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
12. REMOVE TWO (2) 15A-2P CIRCUIT BREAKERS IN XFMR/PANEL "MPZ" MADE SPARE DURING DEMOLITION. PROVIDE TWO (2) 15A-2P, ONE (1) 20A-2P, AND TWO (2) 20A-1P CIRCUIT BREAKERS AND INSTALL IN SPACES. XFMR/PANEL "MPZ" IS A SIEMENS XFMR/PANEL.
13. REMOVE 125A-3P CIRCUIT BREAKER FOR RTU-2, 30A-3P CIRCUIT BREAKER FOR RTU-3, 25A-3P CIRCUIT BREAKER FOR AHU-4, 45A-3P CIRCUIT BREAKER FOR RTU-5 AND 60A-3P CIRCUIT BREAKER FOR CU-1. PROVIDE 175A-3P CIRCUIT BREAKER FOR NEW RTU-2, 40A-3P CIRCUIT BREAKER FOR RTU-3, 25A-3P CIRCUIT BREAKER FOR NEW AHU-4, 50A-3P CIRCUIT BREAKER FOR RTU-5 AND 80A-3P CIRCUIT BREAKER FOR NEW CU-4. INSTALL ALL CIRCUIT BREAKERS IN EXISTING PANEL. PANEL "DP2" IS A SIEMENS TYPE "P4" 1200A, 480V, 3Ø, 4 WIRE, M.L.O PANEL.
14. PROVIDE NEW MOTOR RATED SWITCH AND INSTALL ON HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
15. PROVIDE 2 #12 AND 1 #12 GROUND IN 1/2" CONDUIT TO DUPLEX RECEPTACLE AT RTU-5. SEE DRAWING E-112 FOR CONTINUATION.
16. PROVIDE JUNCTION BOX ON THE END OF THE EXISTING AHU-4 BRANCH CIRCUITRY SAVED DURING DEMOLITION. PROVIDE 3 #10 AND 1 #10 GROUND IN 1/2" CONDUIT AND CONNECT TO NEW AHU-4.
17. PROVIDE 3 #4 AND 1 #8 GROUND IN 1-1/4" CONDUIT FROM DISCONNECT SWITCH AND CONNECT TO NEW 80A-3P CIRCUIT BREAKER PROVIDED BY NEW WORK NOTE 13.
18. PROVIDE 3/4" CONDUIT BETWEEN OU AND CORRESPONDING IU ON FIRST FLOOR. SEE DRAWING E-101 FOR LOCATION. FOLLOW PATH OF REFRIGERANT PIPING WITH CONDUIT. CONVERT CONDUIT BELOW ROOF PENETRATION TO LIQUID-TIGHT FLEXIBLE METAL CONDUIT. COORDINATE LOCATION OF ROOF PENETRATION WITH MECHANICAL CONTRACTOR. INSTALL AND CONNECT EQUIPMENT MANUFACTURER FURNISHED CONDUCTORS BETWEEN IU AND OU AS DIRECTED BY EQUIPMENT MANUFACTURER.
19. PROVIDE JUNCTION BOX ON THE END OF EXISTING EXHAUST FAN BRANCH CIRCUITRY BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT ABOVE THE CEILING FROM JUNCTION BOX AND CONNECT TO RELOCATED EXHAUST FAN.
20. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
21. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON ROOF MOUNTED POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 20. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
22. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #2" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.



MEZZANINE FLOOR PLAN - AREA 'A' - NEW WORK

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



KEY PLAN

NOT TO SCALE

ELECTRICAL ROOF PLAN - AREA 'A' - NEW WORK 1

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

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
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Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 400, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'A' - NEW WORK

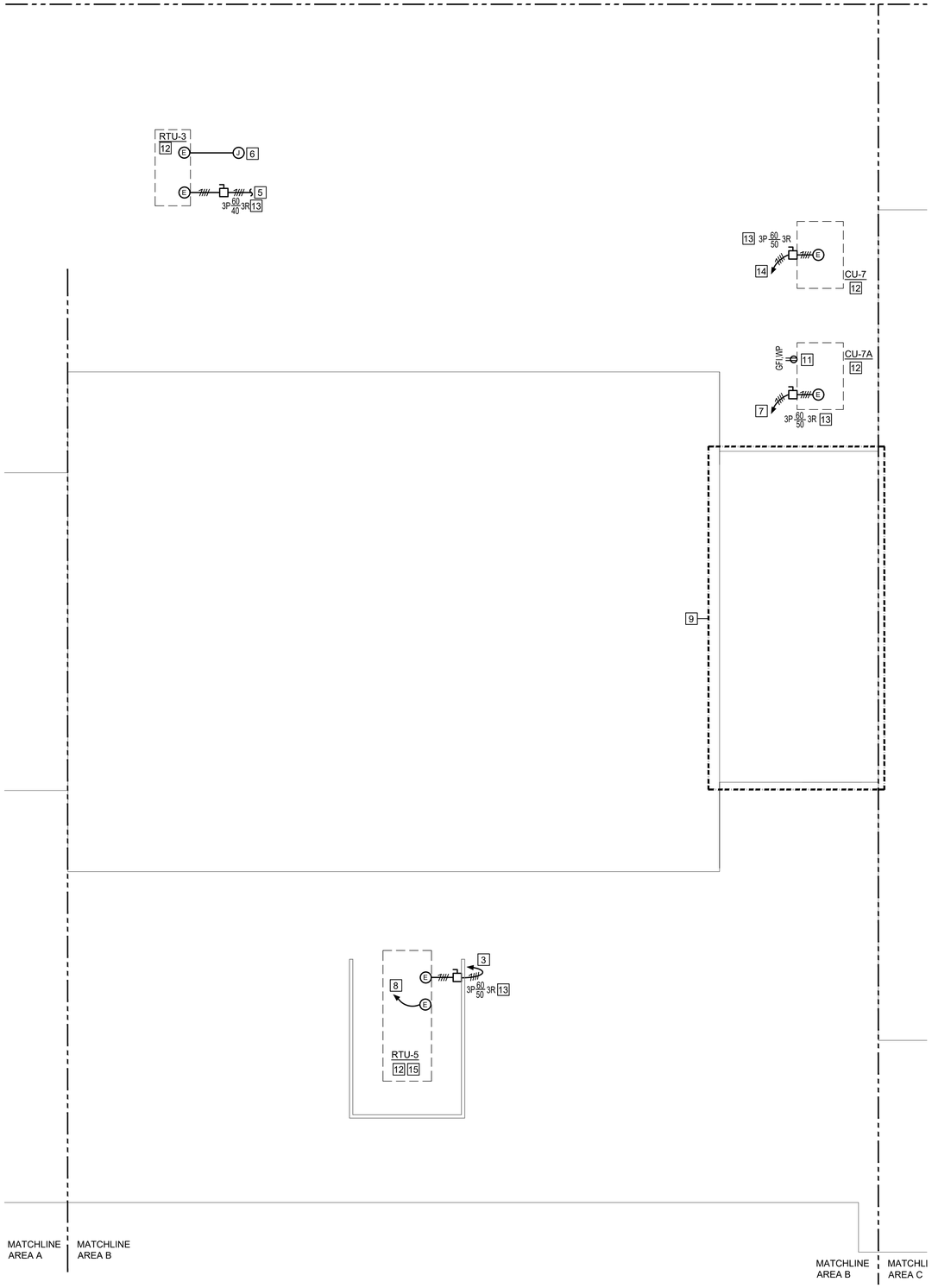
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

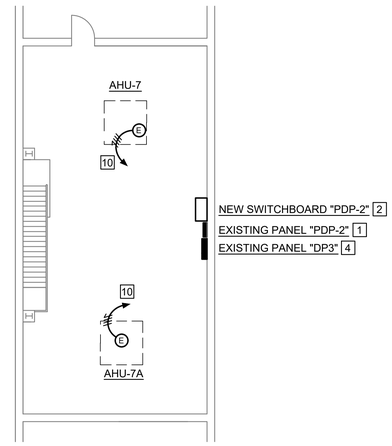
E-111

DATE: 09/08/2025



ELECTRICAL ROOF PLAN – AREA 'B' – NEW WORK

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



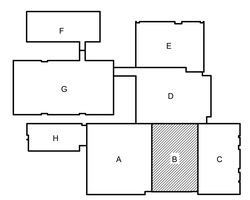
MEZZANINE FLOOR PLAN - AREA 'B' - DEMOLITION

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

NEW WORK NOTES

(THIS DRAWING ONLY)

1. REUSE EXISTING PANEL BACKCAN AS A JUNCTION BOX AND PROVIDE A BLANK COVERPLATE.
2. PROVIDE NEW PANELBOARD IN ACCORDANCE WITH SPECIFICATION 262416 AND THE PANELBOARD SCHEDULE ON DRAWING E-301. INSTALL NEW PANEL NEXT TO EXISTING PANEL BACKCAN. REUSE EXISTING FEEDER CONDUCTORS AND HOMERUN BRANCH CIRCUITS SAVE DURING DEMOLITION AND EXTEND TO NEW PANEL AND CIRCUIT BREAKERS.
3. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 50A-3P CIRCUIT BREAKER IN PANEL "DP2" (PROVIDED BY NEW WORK NOTE 13 ON DRAWING E-111) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
4. REMOVE 150A-3P CIRCUIT BREAKER FOR RTU-6, 45A-3P CIRCUIT BREAKER FOR AHU-7, 80A-3P CIRCUIT BREAKER FOR CU-2, AND TWO (2) 40A-3P CIRCUIT BREAKERS FOR RTU-8 & 9, AND TURN ALL OVER TO THE OWNER. PROVIDE 175A-3P CIRCUIT BREAKER FOR NEW RTU-6, 50A-3P CIRCUIT BREAKER FOR NEW RTU-8, 50A-3P CIRCUIT BREAKER FOR RTU-9, TWO (2) 15A-3P CIRCUIT BREAKERS FOR NEW AHU-7A & B, AND TWO (2) 50A-3P CIRCUIT BREAKERS FOR NEW CU-7A & B. PROVIDE NEW MOUNTING HARDWARE AND NEW INTERIOR PANEL COVER FOR ADDED CIRCUIT BREAKERS. MATCH K.A.I.C. RATING OF EXISTING CIRCUIT BREAKERS. INSTALL ALL IN EXISTING PANEL. PANEL "DP2" IS A SIEMENS TYPE "P4" PANEL.
5. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 40A-3P CIRCUIT BREAKER IN PANEL "EDP2" (PROVIDED BY NEW WORK NOTE 13 ON DRAWING E-111) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
6. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUITRY BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT RUN UP THROUGH ROOF CURB AND THROUGH MECHANICAL EQUIPMENT AS DIRECTED BY EQUIPMENT PROVIDER AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
7. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 50A-3P CIRCUIT BREAKER IN PANEL DP2 (PROVIDED BY NEW WORK NOTE 4) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
8. PROVIDE NEW HOMERUN. CONNECT TO EXISTING 20A-1P CIRCUIT BREAKER IN PANEL "MPZ" MADE SPARE DURING DEMOLITION. RUN BRANCH CIRCUIT BELOW ROOF THROUGH ROOF CURB AND THROUGH MECHANICAL EQUIPMENT AS DIRECTED BY EQUIPMENT PROVIDER AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
9. SEE "MEZZANINE FLOOR PLAN - AREA B - NEW WORK" ON THIS DRAWING FOR WORK IN THIS AREA.
10. PROVIDE 3 #12 AND 1 #12 GROUND IN 1/2" CONDUIT AND CONNECT TO NEW 15A-3P CIRCUIT BREAKER IN PANEL DP2 PROVIDED BY NEW WORK NOTE 4.
11. PROVIDE NEW WP/GFI RECEPTACLE. INSTALL ON NEW POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 12. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT, RUN CONCEALED INSIDE THE POWER PEDESTAL POST AND CONNECT TO NEW RECEPTACLE.
12. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #2" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
13. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 12. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
14. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 50A-3P CIRCUIT BREAKER IN PANEL DP2 (PROVIDED BY NEW WORK NOTE 4) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
15. THOROUGHLY CLEAN EXISTING DUCT SMOKE DETECTOR SAVED DURING DEMOLITION. PROVIDE NEW SAMPLING TUBES. REINSTALL EXISTING DUCT SMOKE DETECTOR AND NEW SAMPLING TUBES IN EXISTING DUCTWORK. CONNECT DUCT SMOKE DETECTOR TO EXISTING FIRE ALARM WIRING SAVED DURING DEMOLITION. TEST DETECTOR TO ENSURE PROPER OPERATION.



KEY PLAN

NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'

SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 23-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'B' - NEW WORK

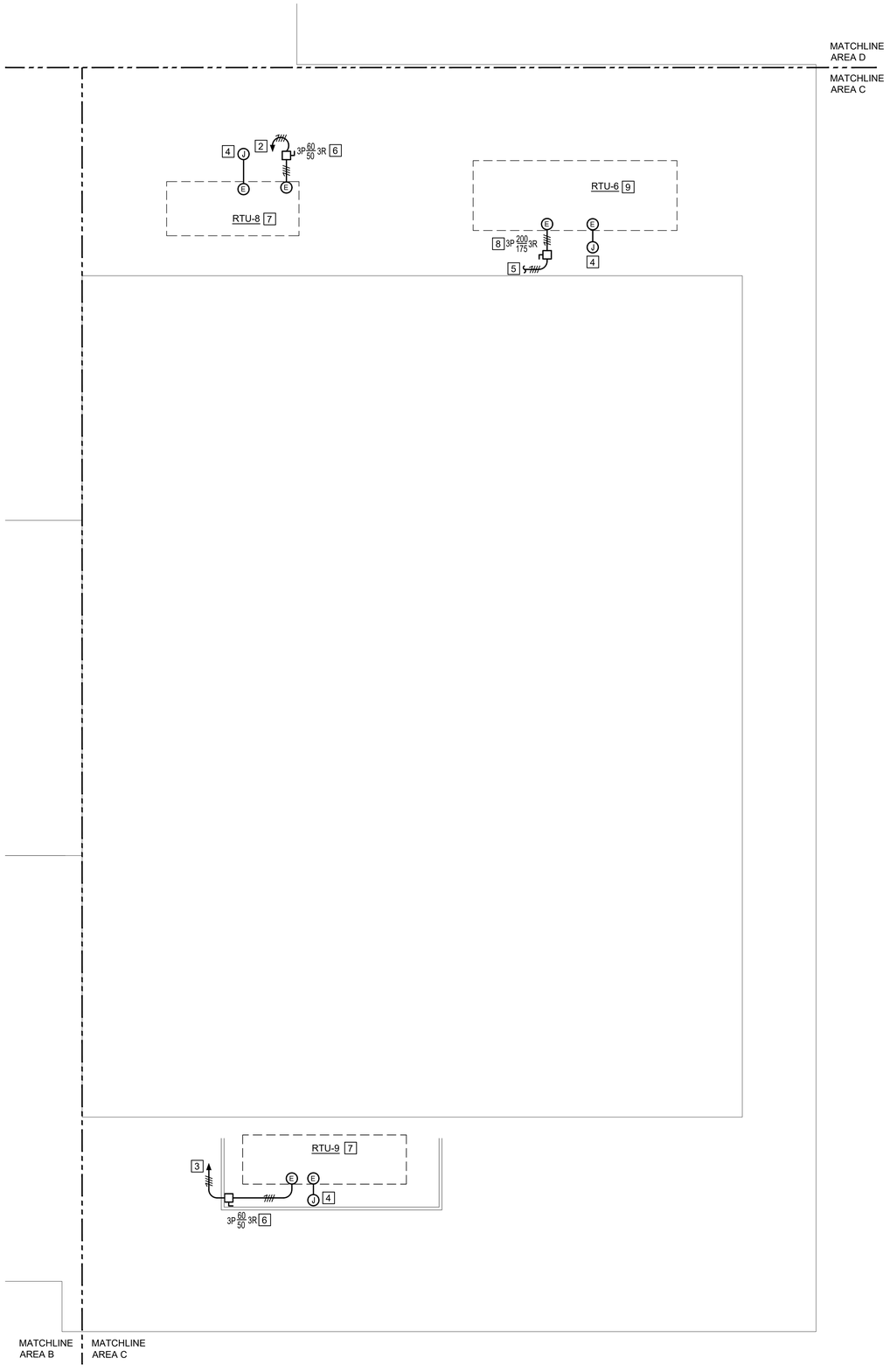
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-112

DATE: 09/08/2025

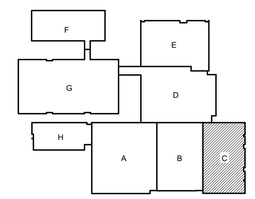


ELECTRICAL ROOF PLAN – AREA 'C' – NEW WORK

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. SEE DRAWING E-112 FOR LOCATION OF PANEL "DP3".
2. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 60A-3P CIRCUIT BREAKER IN PANEL "DP3" (PROVIDED BY NEW WORK NOTE 4 ON DRAWING E-112) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
3. PROVIDE 3 #8 AND 1 #10 GROUND IN 3/4" CONDUIT FROM NEW 50A-3P CIRCUIT BREAKER IN PANEL "DP3" (PROVIDED BY NEW WORK NOTE 4 ON DRAWING E-112) TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. PROVIDE 3 #2/0 AND 1 #6 GROUND FROM NEW 175A-3P CIRCUIT BREAKER IN PANEL "DP3" (PROVIDED BY NEW WORK NOTE 4 ON DRAWING E-112) TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
6. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 7. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
7. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #2" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
8. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 9. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
9. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.



KEY PLAN

NOT TO SCALE

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5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'C' - NEW WORK

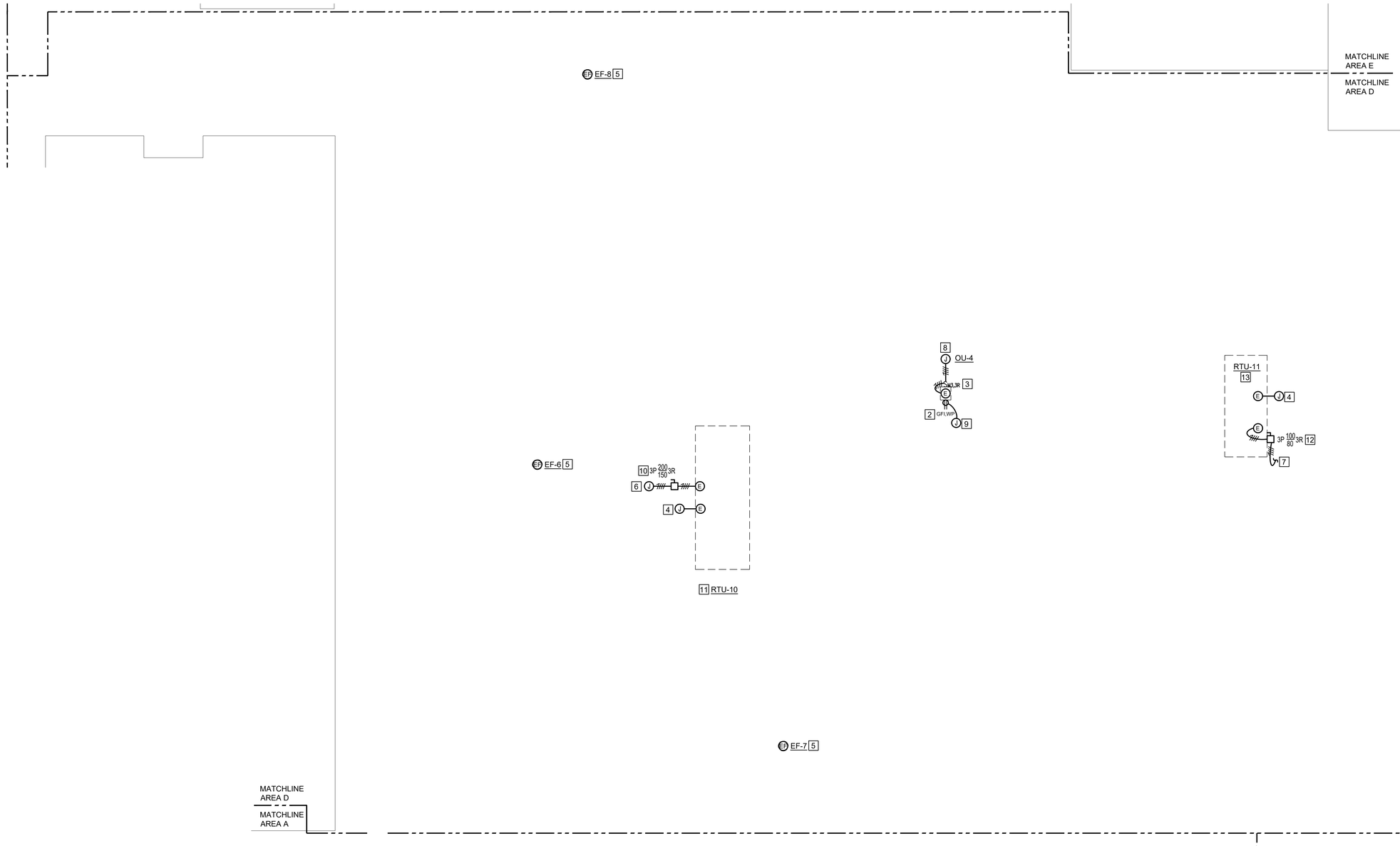
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO: 23-065
DESIGNED BY: DWC
DRAWN BY: MWH
CHECKED BY: KC

E-113

DATE: 09/08/2025

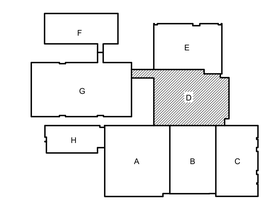


ELECTRICAL ROOF PLAN – AREA 'D' – NEW WORK 1

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. SEE DRAWING E-105 FOR LOCATION OF PANEL "DP1".
2. PROVIDE NEW WP/GFI AND INSTALL ON HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
3. PROVIDE NEW MOTOR RATED SWITCH AND INSTALL ON HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUITRY BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUITRY IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. CONNECT EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION.
6. PROVIDE JUNCTION BOX ON THE END OF EXISTING BRANCH CIRCUITRY BELOW ROOF. PROVIDE 3 #1/0 AND 1 #6 GROUND FROM JUNCTION BOX AND CONNECT TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
7. PROVIDE 3 #3 AND 1 #8 GROUND FROM MECHANICAL EQUIPMENT AND CONNECT TO NEW 80A-3P CIRCUIT BREAKER IN PANEL "DP1" PROVIDED BY NEW WORK NOTE 3 ON DRAWING E-105. INSTALL CONDUCTORS IN 1-1/4" LIQUID-TIGHT CONDUIT FROM EXISTING 1-1/4" CONDUIT SAVED DURING DEMOLITION. CONNECT BRANCH CIRCUIT TO NEW MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
8. PROVIDE JUNCTION BOX ON THE END OF EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT FROM JUNCTION BOX AND CONNECT TO MECHANICAL EQUIPMENT VIA DISCONNECT SWITCH.
9. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUITRY BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT ABOVE THE CEILING FROM JUNCTION BOX AND CONNECT TO NEW RECEPTACLE.
10. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 11. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
11. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
12. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 13. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
13. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #2" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 200 HAMPTON, VA 23666
4325 GUN ROAD GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD VA BEACH, VA 23452
TELEPHONE (757) 599-6435 PROJECT NUMBER: 25-065

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'D' - NEW WORK

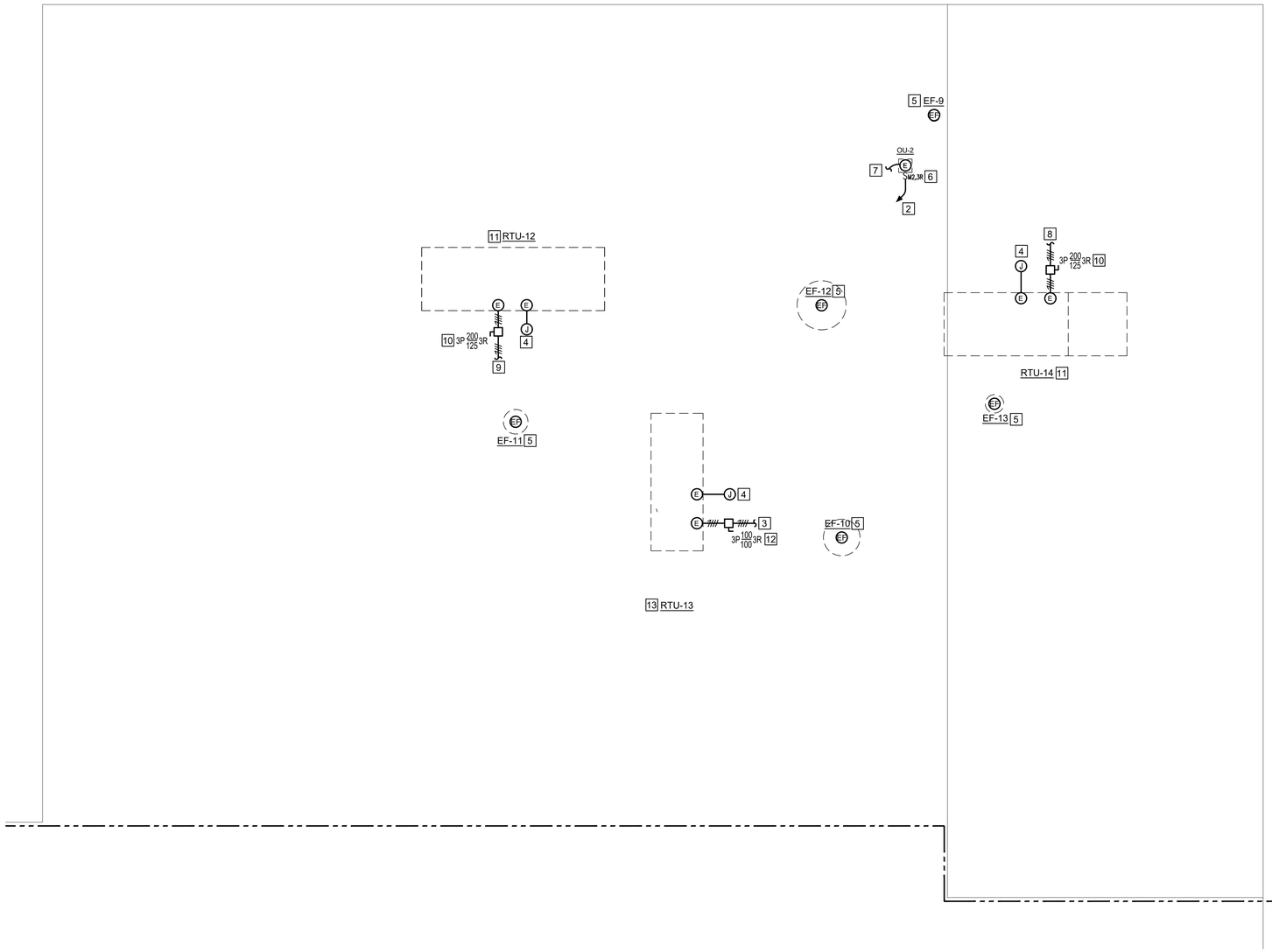
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-114

DATE: 09/08/2025

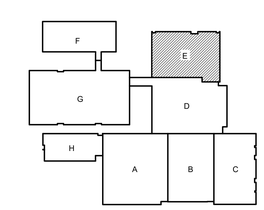


ELECTRICAL ROOF PLAN – AREA 'E' – NEW WORK

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. SEE DRAWING ED105 FOR LOCATION OF PANELS "DP1", "EDP1", AND "RHH1".
2. REUSE AND EXTEND EXISTING BRANCH CIRCUITRY, THROUGH NEW HOOD CHASE HOUSING, NEW MOTOR RATED SWITCH, AND TERMINATE AT NEW OU.
3. PROVIDE 3 #3 AND 1 #8 GROUND IN 1-1/4" CONDUIT FROM NEW 100A-3P CIRCUIT BREAKER IN PANEL "EDP1" (PROVIDED BY NEW WORK NOTE 2 ON DRAWING E-105) TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. CONNECT EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION.
6. PROVIDE NEW MOTOR RATED SWITCH AND INSTALL ON HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
7. PROVIDE 3/4" CONDUIT BETWEEN OU AND CORRESPONDING IU ON FIRST FLOOR. SEE DRAWING E-105 FOR LOCATION. FOLLOW PATH OF REFRIGERANT PIPING WITH CONDUIT. CONVERT CONDUIT BELOW ROOF PENETRATION TO LIQUID-TIGHT FLEXIBLE METAL CONDUIT. COORDINATE LOCATION OF ROOF PENETRATION WITH MECHANICAL CONTRACTOR. INSTALL AND CONNECT EQUIPMENT MANUFACTURER FURNISHED CONDUCTORS BETWEEN IU AND OU AS DIRECTED BY EQUIPMENT MANUFACTURER.
8. PROVIDE 3 #1 AND 1 #6 GROUND IN 1-1/2" CONDUIT FROM NEW 125A-3P CIRCUIT BREAKER IN PANEL "EDP1" (PROVIDED BY NEW WORK NOTE 2 ON DRAWING E-105) TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
9. PROVIDE 3 #1 AND 1 #6 GROUND IN 1-1/2" CONDUIT FROM NEW 125A-3P CIRCUIT BREAKER IN PANEL "DP1" (PROVIDED BY NEW WORK NOTE 3 ON DRAWING E-105) TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.
10. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 11. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
11. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
12. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 13. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
13. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #2" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.



KEY PLAN
NOT TO SCALE

1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
Lic. No.049752
09-08-2025
PROFESSIONAL ENGINEER

THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY, SUITE 420 — HAMPTON, VA 23666
4329 OLDS ROAD — GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD — VA BEACH, VA 23452
TELEPHONE: (757) 599-6435 — PROJECT NUMBER: 25-043

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'E' - NEW WORK

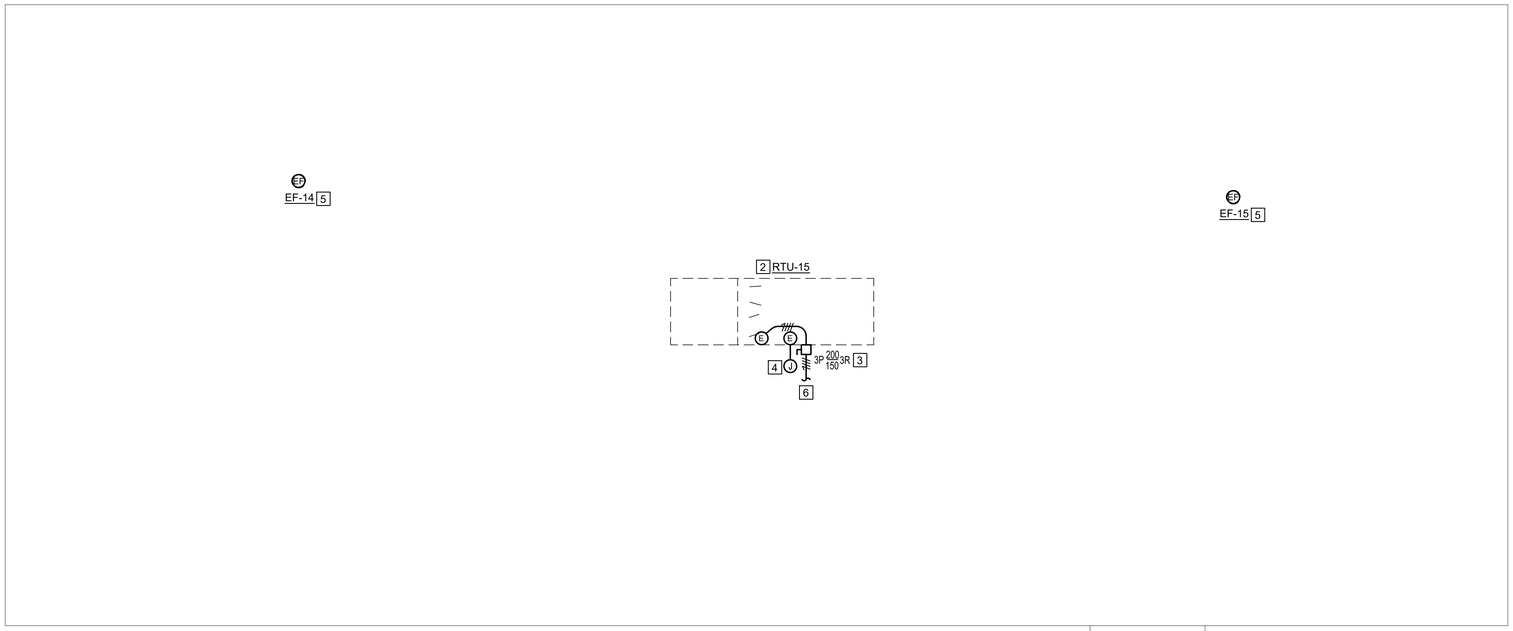
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-115

DATE: 09/08/2025

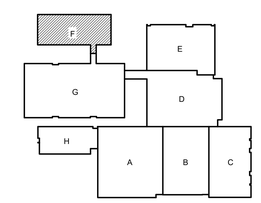


ELECTRICAL ROOF PLAN – AREA 'F' – NEW WORK

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

NEW WORK NOTES (THIS DRAWING ONLY)

1. SEE DRAWING E-106 FOR LOCATION OF SWITCHBOARD "MCC".
2. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
3. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 2. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. CONNECT EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION.
6. PROVIDE 3 #1/0 AND 1 #6 GROUND IN 1-1/2" CONDUIT FROM NEW 150A-3P CIRCUIT BREAKER IN SWTICHBOARD "MSB" (PROVIDED BY NEW WORK NOTE 4 ON DRAWING E-106) TO MECHANICAL EQUIPMENT VIA NEW DISCONNECT SWITCH.



KEY PLAN
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1/8" = 1'-0"

5' 0 5' 10' 15' 20'
SCALE FEET

COMMONWEALTH OF VIRGINIA
KENZIE CAMBAR
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09-08-2025
PROFESSIONAL ENGINEER

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22 ENTERPRISE PARKWAY, HAMPTON, VA 23666
4325 GUN ROAD, GLEN ALLEN, VA 23060
2809 S. LYNNHAVEN ROAD, VA BEACH, VA 23452
TELEPHONE: (757) 599-6435, PROJECT NUMBER: 25-045

MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT
NEWPORT NEWS, VIRGINIA
ELECTRICAL ROOF PLAN - AREA 'F' - NEW WORK

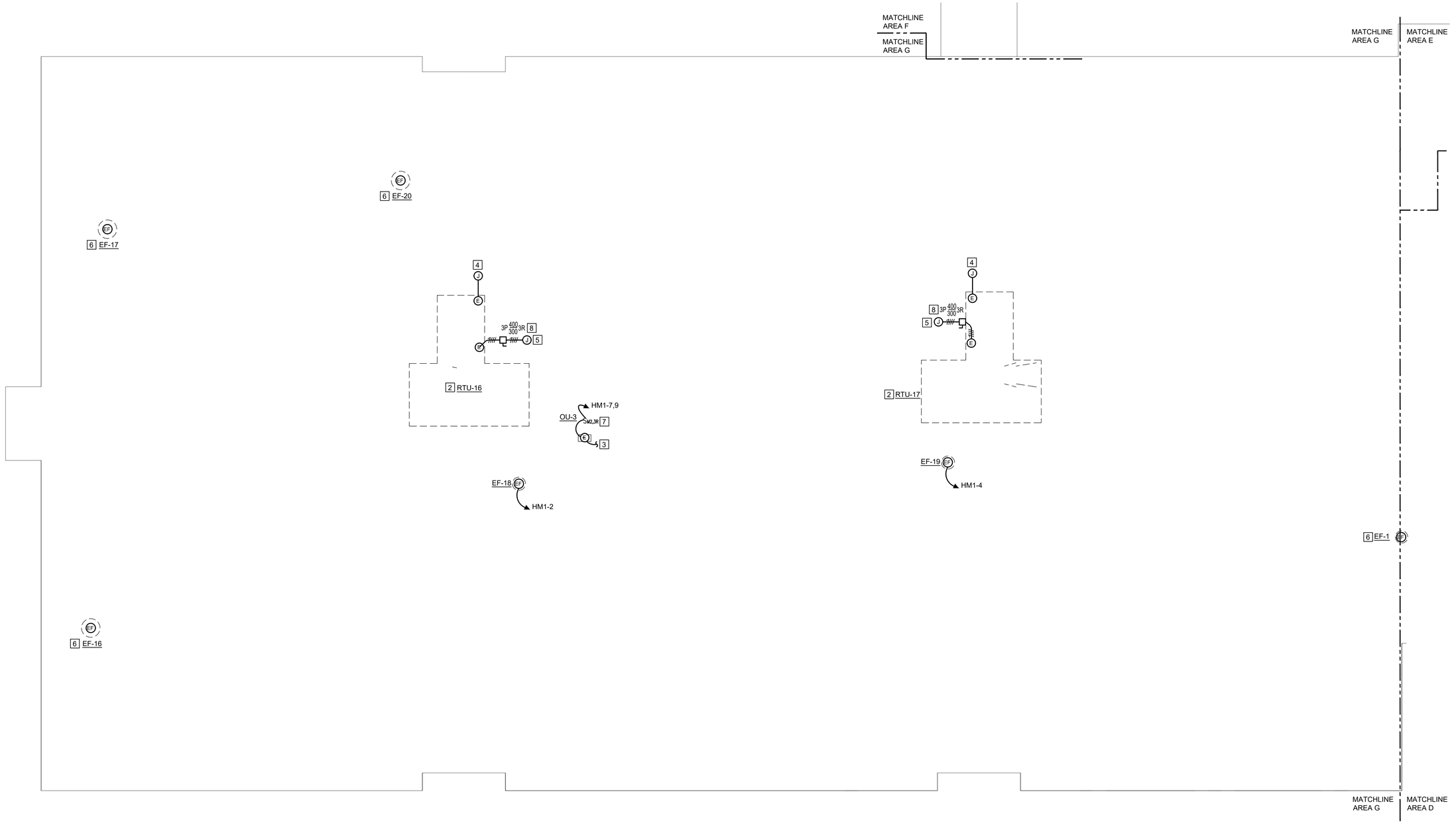
REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-116

DATE: 09/08/2025



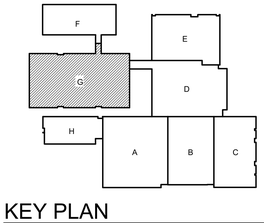
ELECTRICAL ROOF PLAN – AREA 'J' – NEW WORK [1]

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

NEW WORK NOTES

(THIS DRAWING ONLY)

1. SEE DRAWING E109 FOR LOCATION OF PANELS "FR4", "FR5", "DP4", AND "HM1".
2. PROVIDE POWER PEDESTAL POST (IN ACCORDANCE WITH "ROOF MOUNTED POWER PEDESTAL POST DETAIL #1" ON DRAWING E-002) TO SERVE MECHANICAL EQUIPMENT. PATCH ROOF AROUND THE POWER PEDESTAL TO THE SATISFACTION OF THE OWNER. FIELD VERIFY LOCATION WITH OWNER AND ENGINEER.
3. PROVIDE 3/4" CONDUIT BETWEEN OU AND CORRESPONDING IU ON FIRST FLOOR. SEE DRAWING E101 FOR LOCATION. FOLLOW PATH OF REFRIGERANT PIPING WITH CONDUIT. CONVERT CONDUIT BELOW ROOF PENETRATION TO LIQUID-TIGHT FLEXIBLE METAL CONDUIT. COORDINATE LOCATION OF ROOF PENETRATION WITH MECHANICAL CONTRACTOR. INSTALL AND CONNECT EQUIPMENT MANUFACTURER CONDUCTORS BETWEEN IU AND OU AS DIRECTED BY EQUIPMENT MANUFACTURER.
4. PROVIDE JUNCTION BOX ON THE END OF EXISTING RECEPTACLE BRANCH CIRCUIT BELOW ROOF SAVED DURING DEMOLITION. PROVIDE BRANCH CIRCUIT IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECT TO UNIT MOUNTED DUPLEX RECEPTACLE.
5. PROVIDE JUNCTION BOX (SIZE AS REQUIRED) ON THE END OF EXISTING BRANCH CIRCUIT ABOVE THE CEILING SAVED DURING DEMOLITION. PROVIDE 3-350 KCMIL AND 1 #4 GROUND IN 3" LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX, CONNECT BRANCH CIRCUIT TO MECHANICAL EQUIPMENT NEW VIA DISCONNECT SWITCH.
6. CONNECT EXHAUST FAN TO EXISTING BRANCH CIRCUIT SAVED DURING DEMOLITION.
7. PROVIDE NEW MOTOR RATED SWITCH AND INSTALL ON HOOD CHASE HOUSING. SEE "TYPICAL PIPING AND POWER ROOF CHASE HOUSING PENETRATION DETAIL" ON DRAWING M-403.
8. PROVIDE NEW DISCONNECT SWITCH AND INSTALL ON POWER PEDESTAL POST PROVIDED BY NEW WORK NOTE 2. INSTALL ALL BRANCH CIRCUITRY CONCEALED WITHIN POWER PEDESTAL POST, BELOW THE ROOF, AND WITHIN MECHANICAL EQUIPMENT ROOF CURB.



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22 ENTERPRISE PARKWAY, STE 200 | HAMPTON, VA 23666
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MENCHVILLE HIGH SCHOOL
HVAC SYSTEM REPLACEMENT

NEWPORT NEWS, VIRGINIA

ELECTRICAL ROOF PLAN - AREA 'J' - NEW WORK

REVISIONS

MARK	DESCRIPTION	DATE

COMM. NO:	23-065
DESIGNED BY:	DWC
DRAWN BY:	MWH
CHECKED BY:	KC

E-117

DATE: 09/08/2025