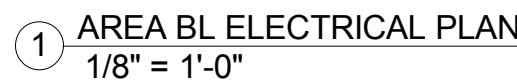
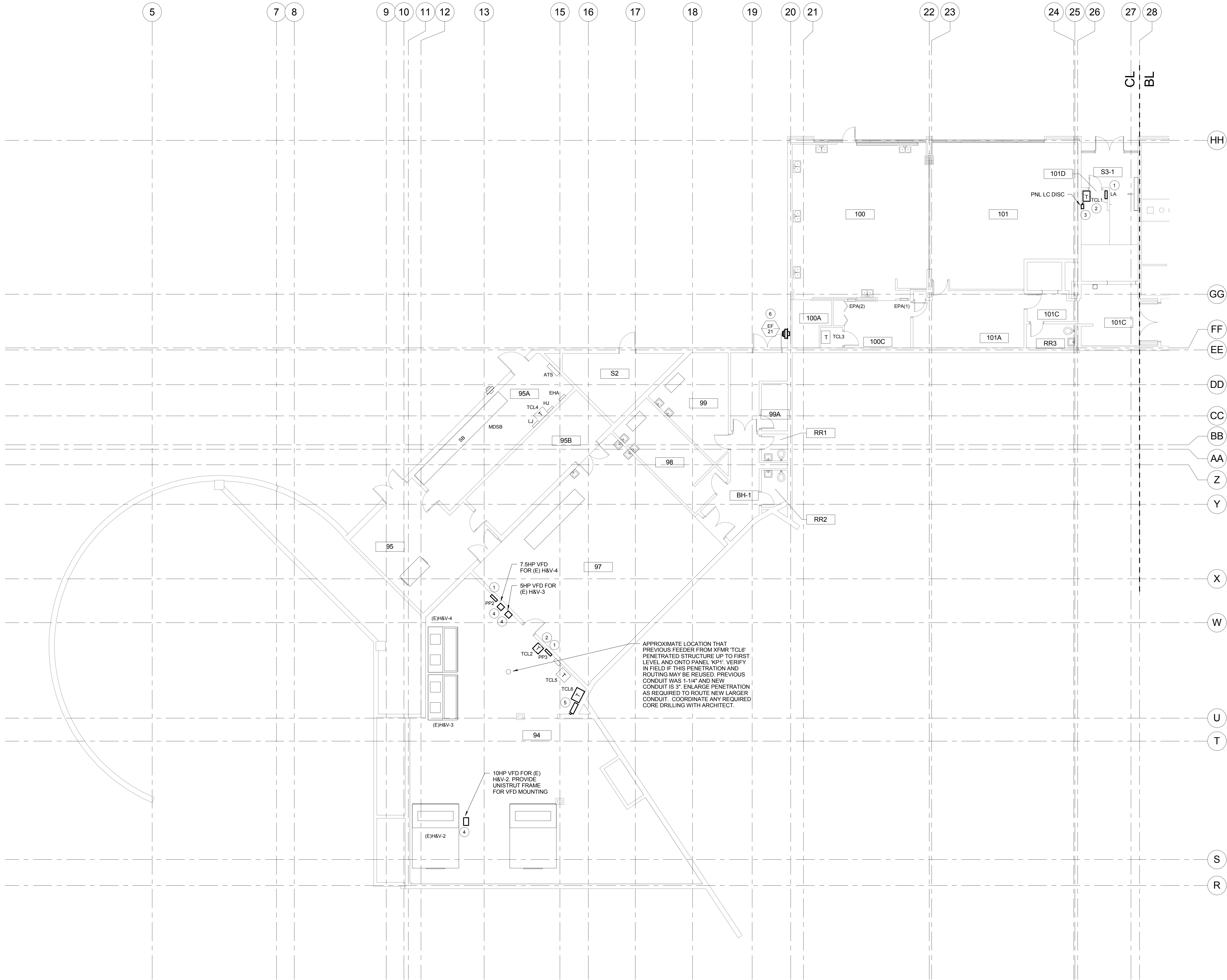


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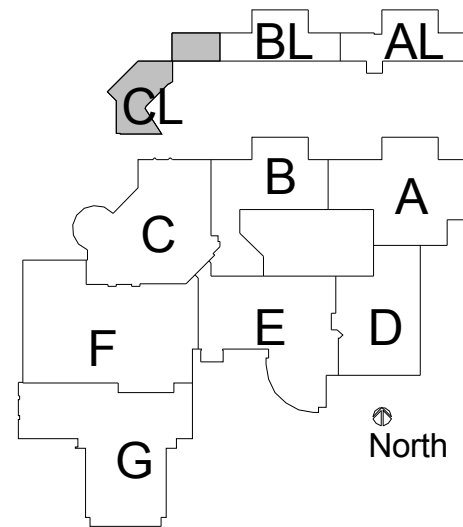
- 1 REPLACE OLD PANEL WITH NEW, RECONNECT (B-RANCH CIRCUITS TO REMAIN, E) FEEDERS TO REMAIN, AND WHERE NECESSARY BY ONE-LINE DIAGRAM, EXTEND INCOMING AND OUTGOING CIRCUITS AS NECESSARY FOR RELOCATION.
- 2 REPLACE OLD TRANSFORMER WITH NEW, (E) PRIMARY AND SECONDARY FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM.
- 3 REPLACE OLD PANEL, RECESSED IN BLOCK OR IN NEW, NEW ENCLOSURE SHALL FIT WITH EXISTING WALL, OPENING, RECONNECT (B-RANCH CIRCUITS TO REMAIN, E) FEEDERS TO REMAIN, AND WHERE NECESSARY BY ONE-LINE DIAGRAM, EXTEND INCOMING AND OUTGOING CIRCUITS AS NECESSARY FOR RELOCATION.
- 4 REPLACE OLD SWITCHBOARD WITH NEW, RECONNECT AND EXTEND EXISTING FEEDERS AS NECESSARY, MODIFY EXISTING ELECTRICAL PANEL, EQUIPMENT AS NECESSARY, REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION, COORDINATE WITH ELECTRICAL CONTRACTOR TO POWER DOWN/TIME WITH OWNER.
- 5 (E) RECEPTACLE SERVES WATER HEATER, PROVIDE NEW 201 SHUNT TRIP CIRCUIT BREAKER, PANEL LA-21 WITH 100-40-2 AMP, 240V, 3-POLE, 40-42 AMP, RE-TERMINATE (E) WIRING FOR THIS RECEPTACLE ON THIS BREAKER, COORDINATE WITH ELECTRICAL CONTRACTOR WITH MECHANICAL CONTRACTOR WHO IS PROVIDING EOE.
- 6 PROVIDE 120V CONNECTION FOR BOILER CONTROLS, CIRCUIT TO SPARE 201 CIRCUIT BREAKER, LA-21 WHICH WAS PREVIOUSLY USED FOR RELOCATED WATER HEATER (REF: FLAG NOTE #5).
- 7 INSTALL VFD (PROVIDED BY MC) FOR EXISTING PUMP, EXTEND FEEDERS AS NECESSARY TO PUMP, PUMP ELECTRICAL PANEL, VFD AND MOTOR TO ALLOW VFD TO BE MOUNTED IN NEW LOCATION (VFD REQUIRED WORKING WITH ELECTRICAL CONTRACTOR), RE-TERMINATE EXISTING LOCATION AND COORDINATE WITH MECHANICAL CONTRACTOR.
- 8 UPDATE EXISTING LIGHTING CIRCUIT IN CLASSROOM FOR NEW FIXTURES.



- NOTES:**
1. ADD ALTERNATE #7: PROVIDE PRICING FOR REPLACING ALL 'R1' FIXTURES WITH 'R1-ALT' FIXTURES. CIRCUITING/SWITCHING TO REMAIN THE SAME.
  2. REFER TO DEMOLITION PLAN OF THIS AREA FOR REINSTALLATION OF ELECTRICAL DEVICES IN ROOMS WHERE THE CEILING IS TEMPORARILY REMOVED TO ACCOMMODATE MECHANICAL WORK. ALL DEVICES SHALL BE REINSTALLED IN SAME LOCATIONS AS REMOVED.
  3. COORDINATE NEW EQUIPMENT LOCATIONS AND CONFIGURATIONS WITH EXISTING STRUCTURE AND EQUIPMENT TO ENSURE NEC REQUIRED CLEARANCES ARE PROVIDED AND RECONNECTION TO EXISTING FEEDERS IS POSSIBLE WHERE REQUIRED PER ONE-LINE DIAGRAM. VERIFY EXACT CONDITIONS IN THE FIELD.
  4. COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.

- FLAG NOTES:**
1. REPLACE OLD PANEL WITH NEW. RECONNECT (E) BRANCH CIRCUITS TO REMAIN. (E) FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM. EXTEND INCOMING AND OUTGOING CIRCUITS AS NECESSARY FOR RECONNECTION.
  2. REPLACE OLD TRANSFORMER WITH NEW. (E) PRIMARY AND SECONDARY FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM.
  3. REPLACE OLD DISCONNECTS WITH NEW. REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION.
  4. INSTALL VFD (PROVIDED BY MC) FOR EXISTING H&V UNIT. PROVIDE NEW FEEDER TO MATCH EXISTING FROM PANEL TO NEW VFD AND INTO MOTOR. COORDINATE EXACT LOCATION AND CONNECTION WITH MECHANICAL CONTRACTOR.
  5. REPLACE OLD TRANSFORMER AND DISCONNECT WITH LARGER SIZE AS INDICATED ON ONE-LINE DIAGRAM. PROVIDE NEW PRIMARY AND SECONDARY FEEDERS. COORDINATE EXACT ROUTING IN FIELD.
  6. PROVIDE ELECTRICAL CONNECTION FOR REPLACED EXHAUST FAN. UTILIZE CONNECTION MADE AVAILABLE IN SAME LOCATION DURING DEMOLITION.

1 AREA CL ELECTRICAL PLAN  
1/8" = 1'-0"

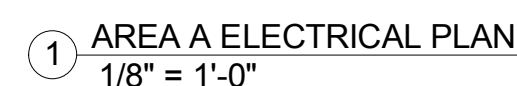


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1	ACR	19 Jan 2012
2	BGR	

REVISIONS

E1.3





- SHEET CONTENTS**

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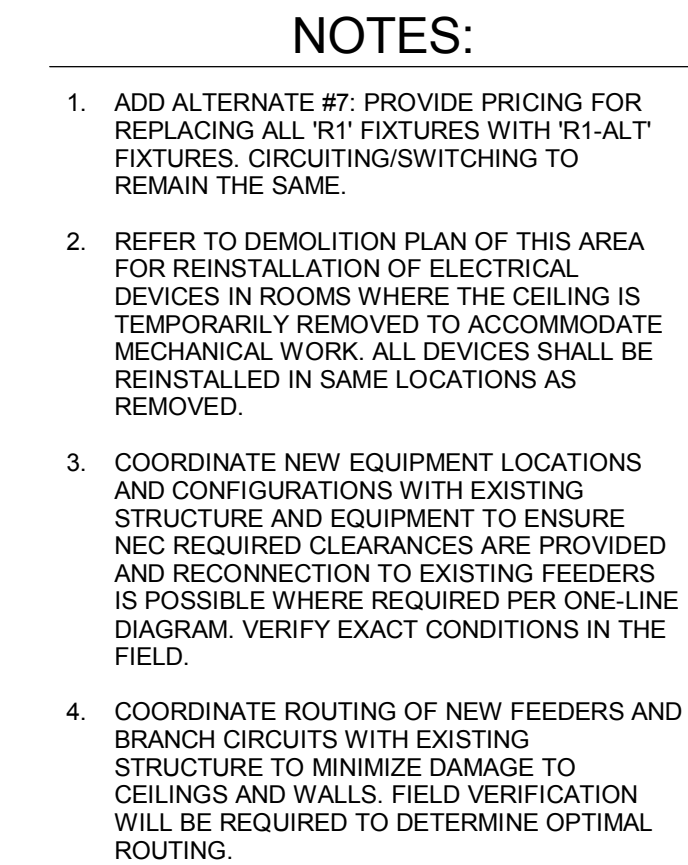
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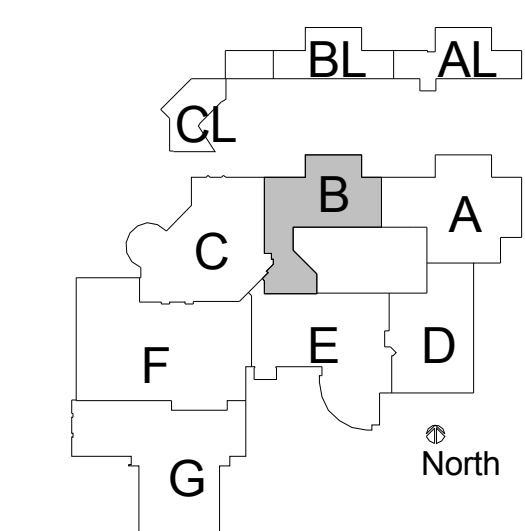
FLAG NOTES:

1. REPLACE OLD PANEL WITH NEW  
RECONNECT (E) BRANCH CIRCUITS TO  
REMAIN. (E) FIDERS MAY BE REUSED  
WHERE INDICATED BY ONE-LINE DIAGRAM.  
EXTEND INCOMING AND OUTGOING CIRCUITS  
AS NECESSARY FOR RECONNECTION.
2. UTILIZE EXISTING LIGHTING CIRCUIT IN  
CLASSROOM FOR NEW FIXTURES.
3. PROVIDE 120V POWER TO FIRE/SMOKE  
DAMPER AND THE INTO FIRE ALARM SYSTEM.  
CIRCUIT TO (E) SPARE 20/1 CIRCUIT  
BREAKER IN 'LCA2/1'. PROVIDE DUCT  
DETECTOR FOR ACTIVATION OF DAMPER.

**SHEET CONTENTS**

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THE ITALIAN PATRISTIC MOVEMENT, 1870-1900: THE RENEWAL OF AGOSTINO



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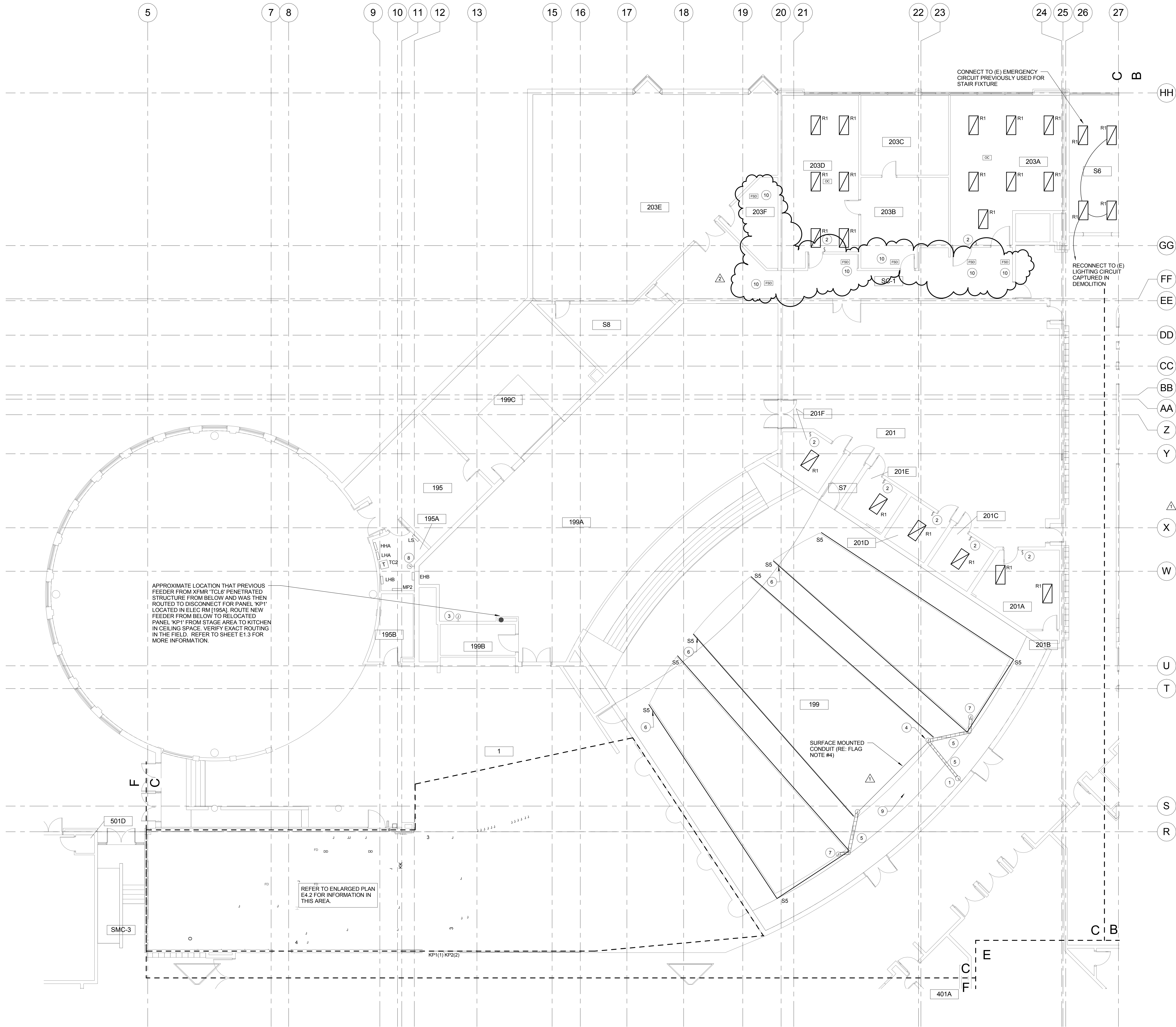
  
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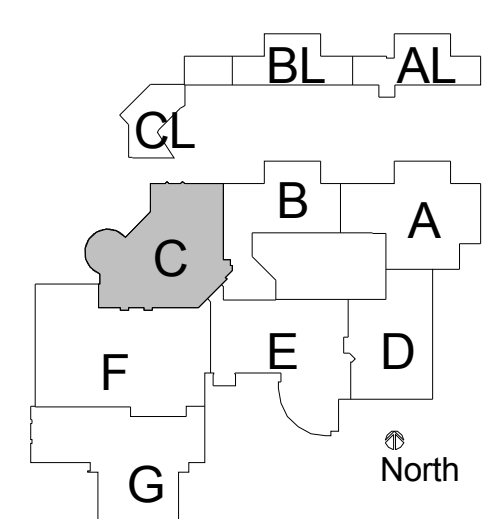
- NOTES:**
1. ADD ALTERNATE #7: PROVIDE PRICING FOR REPLACING ALL 'R1' FIXTURES WITH 'R1-ALT' FIXTURES. CIRCUITING/SWITCHING TO REMAIN THE SAME.
  2. REFER TO DEMOLITION PLAN OF THIS AREA FOR REINSTALLATION OF ELECTRICAL DEVICES IN ROOMS WHERE THE CEILING IS TEMPORARILY REMOVED TO ACCOMMODATE MECHANICAL WORK. ALL DEVICES SHALL BE REINSTALLED IN SAME LOCATIONS AS REMOVED.
  3. COORDINATE NEW EQUIPMENT LOCATIONS AND CONFIGURATIONS WITH EXISTING STRUCTURE AND EQUIPMENT TO ENSURE NEC REQUIRED CLEARANCES ARE PROVIDED AND RECONNECTION TO EXISTING FEEDERS IS POSSIBLE WHERE REQUIRED PER ONE-LINE DIAGRAM. VERIFY EXACT CONDITIONS IN THE FIELD.
  4. COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.

- FLAG NOTES:**
1. PROVIDE ENCLOSURE WITH (2) TRANSFORMERS FOR FEED TO AISLE LIGHTING. SPLIT AISLE LIGHTING EVENLY BETWEEN TWO TRANSFORMERS. UTILIZE WIREMOLD TO ROUTE FEED ON WALL FROM CEILING ABOVE TO ENCLOSURE. TRANSITION TO CONDUIT FOR ROUTING POWER THROUGH SAWCUT IN CONCRETE TO J-BOX NEAR SEATING. CIRCUIT TO AVAILABLE SPARE 201 CIRCUIT BREAKER IN PANEL 'EHB' WITH 30 (2WG) WIRING AND PROVIDE STEP-DOWN TRANSFORMER AS NOTED IN FLAG NOTE #8. REFER TO DIAGRAM ON E6.1 FOR MORE INFORMATION.
  2. UTILIZE EXISTING LIGHTING CIRCUIT FOR NEW FIXTURES.
  3. (E) LIGHTING CONTACTOR FOR EM LIGHTING IN THE AUDITORIUM. MOUNT NEW CONTACTOR TO THE FIRE ALARM PANEL SIGNAL ADJACENT TO (E) CONTACTOR. REFER TO DIAGRAM ON E6.1 FOR MORE INFORMATION. COORDINATE EXACT LOCATION IN THE FIELD.
  4. SURFACE MOUNT J-BOX TO INSIDE OF CURB BEHIND SEATING AND ROUTE POWER FROM TRANSFORMERS. RUN SURFACE MOUNTED CONDUIT (PAINTED BLACK) HIDDEN ALONG CURB TO AISLE LIGHTING POWER FEEDS.
  5. HATCHING DESIGNATES POTENTIAL SAW CUTTING FOR ROUTING OF POWER BETWEEN AISLES TO FEED LIGHTING. COORDINATE ALL SAW CUTTING WITH ARCHITECT AND OWNER. COORDINATE PATCHING WITH GC AND REQUIREMENTS PER SPECIFICATIONS.
  6. NEW LED AISLE LIGHTING FIXTURE TYPE 'S5'. INSTALL ALONG AISLES AS INDICATED. COORDINATE WITH CARPET INSTALLER AND FINAL SEATING LAYOUT.
  7. RECESSED J-BOX IN CONCRETE FOR ROUTING OF POWER TO NEW AISLE LIGHTING. COORDINATE EXACT LOCATION WITH FINAL SEATING LAYOUT TO AVOID CONFLICTS.
  8. PROVIDED STEP DOWN TRANSFORMER FOR AUDITORIUM AISLE LIGHTING. WALL MOUNT TRANSFORMER NEXT TO PANEL 'EHB'. REFER TO DIAGRAM ON E6.1 FOR MORE INFORMATION.
  9. ACTIVATION OF FIRE ALARM SYSTEM SHALL SHUT DOWN SOUND SYSTEM. VERIFY EXACT LOCATION OF CONNECTION TO SOUND SYSTEM WITH OWNER. REFER TO DIAGRAM 'J' SYSTEM WITH OWNER FOR MORE INFORMATION.
  10. CIRCUIT FIRE/SMOKE DAMPER TO SPARE 201 CIRCUIT BREAKER IN PANEL 'HC'. PROVIDE DUCT/SMOKE DETECTOR AS NECESSARY FOR ACTIVATION OF DAMPER.

APPROXIMATE LOCATION THAT PREVIOUS FEEDER FROM XFMR 'TCL6' PENETRATED STRUCTURE FROM BELOW AND WAS THEN ROUTED TO DISCONNECT FOR PANEL 'KP1' LOCATED IN ELEC RM (195A). ROUTE NEW FEEDER FROM BELOW TO RELOCATED PANEL 'KP1' FROM STAGE AREA TO KITCHEN IN CEILING SPACE. VERIFY EXACT ROUTING IN THE FIELD. REFER TO SHEET E1.3 FOR MORE INFORMATION.

REFER TO ENLARGED PLAN E4.2 FOR INFORMATION IN THIS AREA.

SURFACE MOUNTED CONDUIT (RE: FLAG NOTE #4)



1 AREA C ELECTRICAL PLAN  
1/8" = 1'-0"



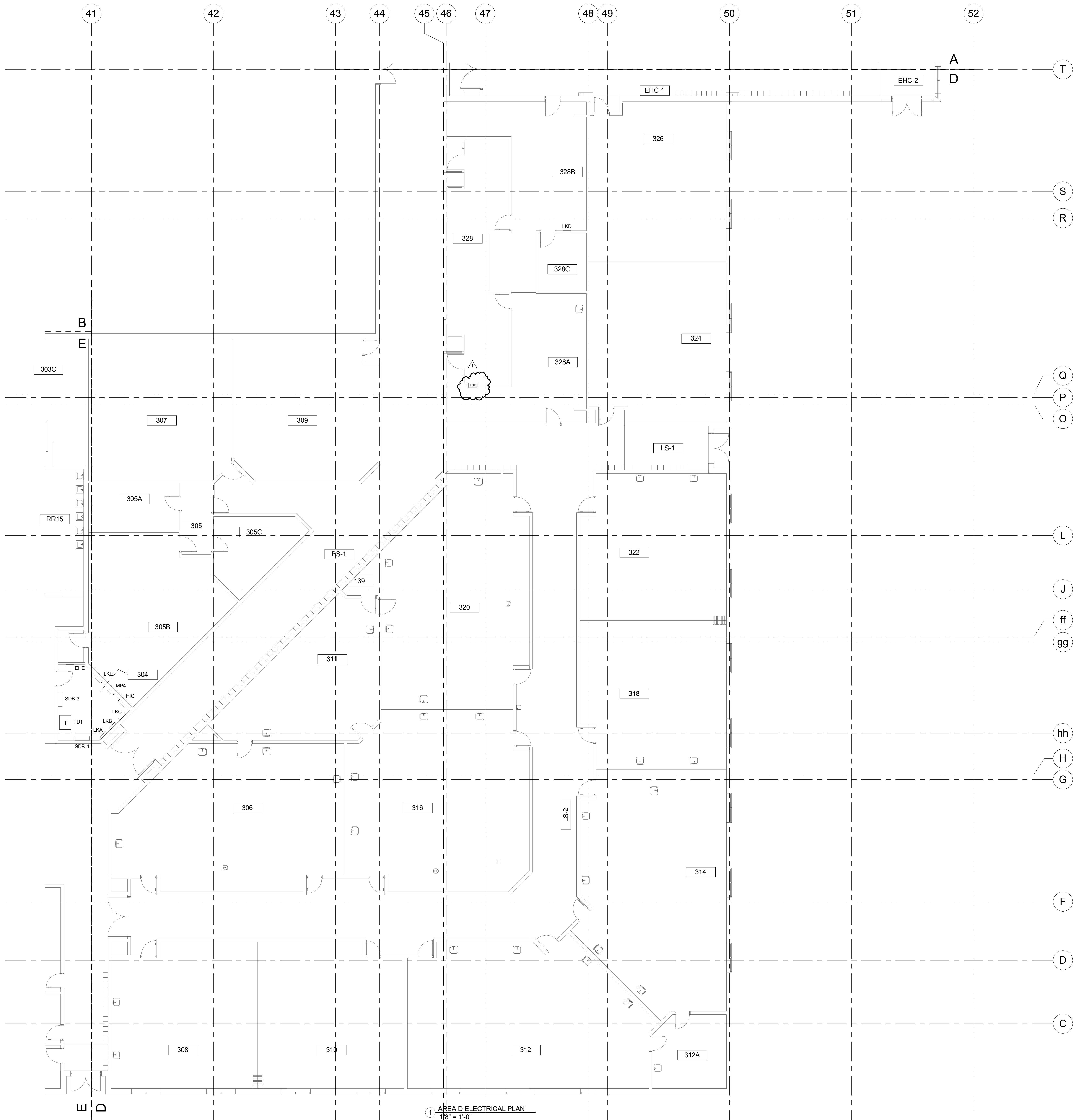
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27	As Issued	27	As Issued

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1403 Campus Avenue, Suite 201, Champaign, Illinois 61820-4609  
Studio: 307.632.7003 Fax: 307.631.4468  
www.aplusarch.com



1 AREA D ELECTRICAL PLAN  
1/8" = 1'-0"

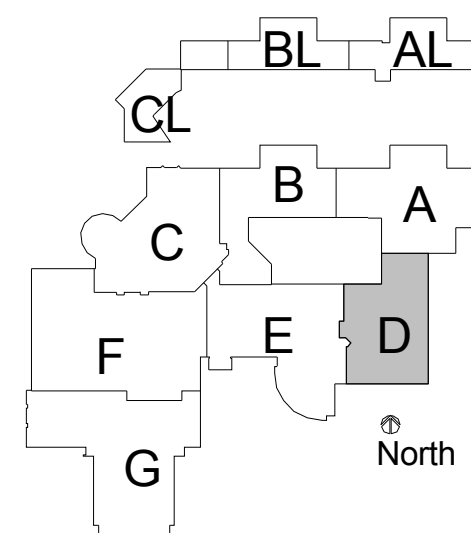
NOTES:  
1. REFER TO DEMOLITION PLAN OF THIS AREA FOR REINSTALLATION OF ELECTRICAL DEVICES IN ROOMS WHERE THE CEILING IS TEMPORARILY REMOVED TO ACCOMMODATE MECHANICAL WORK. ALL DEVICES SHALL BE REINSTALLED IN SAME LOCATIONS AS REMOVED.

FLAG NOTES:  
1. CIRCUIT FIRE/SMOKE DAMPER TO SPARE 201 CIRCUIT BREAKER IN PANEL HIC. PROVIDE DUCT/SMOKE DETECTOR AS NECESSARY FOR ACTIVATION OF DAMPER.

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318 East Oak Street, Fort Collins, Colorado 80521-2915  
Phone: (970) 225-1000 Fax: (970) 225-1001  
1402 Campus Avenue, Suite 201, Champaign, Illinois 61820-4669  
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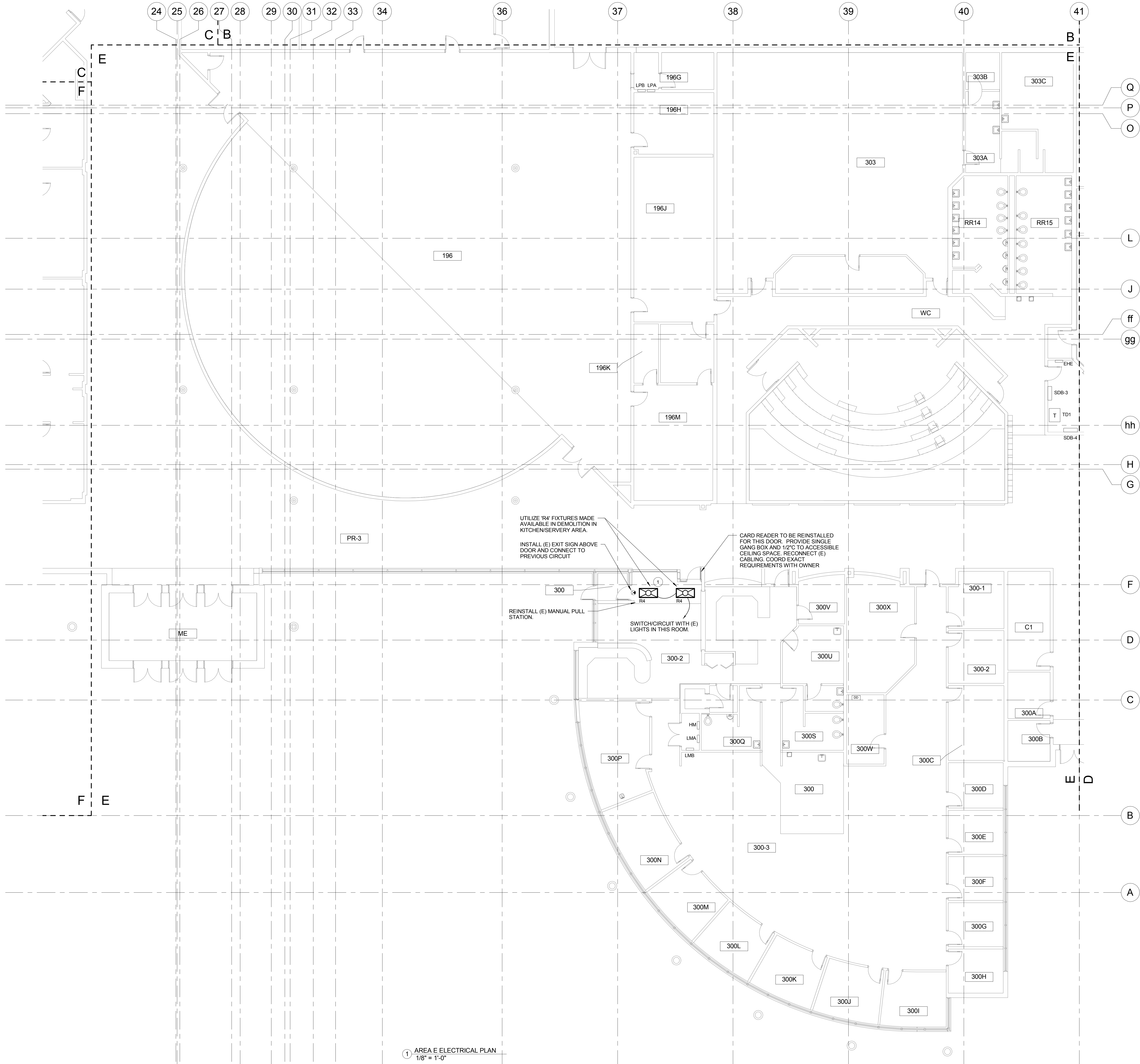
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1	ASJ #01	4/19/12
2	ACR	
3	BGR	

19 Jan 2012

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- NOTES:**
- REFER TO DEMOLITION PLAN OF THIS AREA FOR REINSTALLATION OF ELECTRICAL DEVICES IN ROOMS WHERE THE CEILING IS TEMPORARILY REMOVED TO ACCOMMODATE MECHANICAL WORK. ALL DEVICES SHALL BE REINSTALLED IN SAME LOCATIONS AS REMOVED.
  - COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.
- FLAG NOTES:**
- CIRCUIT HALF OF THIS FIXTURE TO EMERGENCY CIRCUIT THAT IS CURRENTLY USED IN THIS AREA WITH EXISTING 1/4\"/>

ARCHITECTURE PLUS

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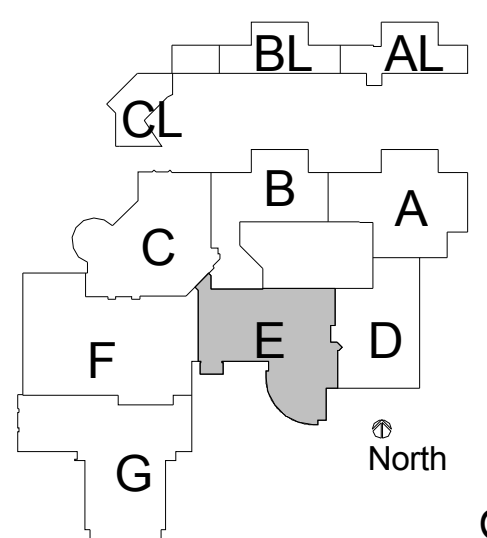
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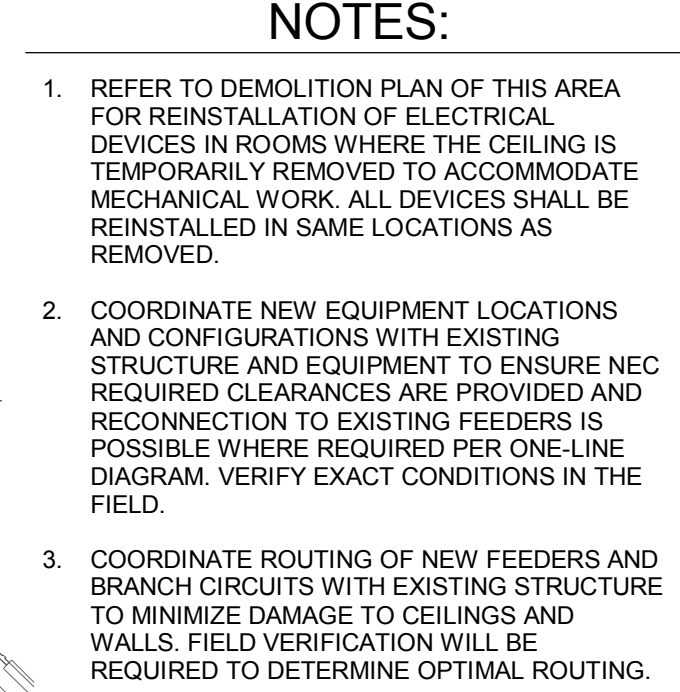
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1 AREA E ELECTRICAL PLAN  
1/8" = 1'-0"



- 1 REPLACE OLD PANEL WITH NEW. RECONNECT (E) BRANCH CIRCUITS TO REMAIN. (E) FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM. EXTEND NEW BRANCH CIRCUITS AND OUTGOING CIRCUITS AS NECESSARY FOR RECONNECTION.
- 2 REPLACE OLD TRANSFORMER WITH NEW. (E) FEEDERS AND SECONDARY FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM.
- 3 REPLACE OLD DISCONNECTS WITH NEW. RECONNECT FEEDERS. REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION.
- 4 REPLACE OLD PANEL RECESSED IN BLOCK WALL WITH NEW. NEW ENCLOSURE SHALL FIT WITH EXISTING WALL INDICATED. RECONNECT EXISTING CIRCUITS TO NEW PANEL. FEEDERS MAY BE REUSED WHERE INDICATED BY ONE-LINE DIAGRAM. EXTEND INCOMING AND OUTGOING CIRCUITS AS NECESSARY FOR RECONNECTION.
- 5 PROVIDE NEW FLUORESCENT HIGH-BAY FIXTURE IN SAME LOCATION AS REMOVED METAL FLEXIBLE FIXTURE. RECONNECT EXISTING CIRCUITS/SWITCHING FOR NEW FIXTURE. MOUNT FIXTURE AT SAME HEIGHT AS PREVIOUS FIXTURE.
- 6 CONTACTOR FOR USE WITH EMERGENCY SHUT-OFF FOR SHOP EQUIPMENT. MOUNT ABOVE PANEL. COORDINATE WITH (E) CONDUIT WATER TIGHTER TO DIAGRAM ON SHEET E8.1 FOR MORE INFORMATION. EQUIPMENT SHOWN OFFSET FOR CLARITY.
- 7 EMERGENCY POWER OFF (EPO) BUTTON FOR DECONTAMINATION OF SHOP EQUIPMENT. SURFACE MOUNT TO (E) WALL. COORDINATE EXACT LOCATION WITH OWNER. REFER TO DIAGRAM ON SHEET E8.1 FOR MORE INFORMATION.

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## AREA F ELECTRICAL PLAN

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NOTES:

1. REFER TO DEMOLITION PLAN OF THIS AREA FOR REINSTALLATION OF ELECTRICAL DEVICES IN ROOMS WHERE THE CEILING IS TEMPORARILY REMOVED TO ACCOMMODATE MECHANICAL WORK. ALL DEVICES SHALL BE REINSTALLED IN SAME LOCATIONS AS REMOVED.
2. COORDINATE NEW EQUIPMENT LOCATIONS AND CONFIGURATIONS WITH EXISTING STRUCTURE AND EQUIPMENT TO ENSURE NEC REQUIRED CLEARANCES ARE PROVIDED AND RECONNECTION TO EXISTING FEEDERS IS POSSIBLE WHERE REQUIRED PER ONE-LINE DIAGRAM. VERIFY EXACT CONDITIONS IN THE FIELD.
3. COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.
4. PROVIDE DUCT DETECTORS FOR EQUIPMENT INDICATED AND TIE INTO FIRE ALARM SYSTEM AND BAS. COORDINATE WITH MECHANICAL CONTRACTOR FOR SHUTDOWN OF EQUIPMENT WHEN ACTIVATED. PROVIDE KEYED REMOTE TEST STATION AT NO HIGHER THAN 7' AFF. COORDINATE FINAL LOCATION IN FIELD.

FLAG NOTES:

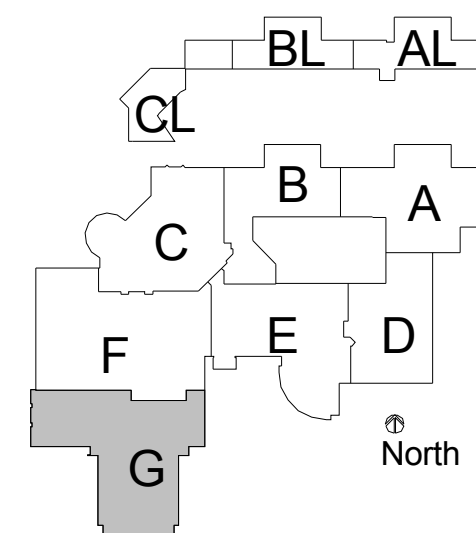
1. PROVIDE NEW FLUORESCENT HIGH-BAY FIXTURE IN SAME LOCATION AS REMOVED METAL HALIDE FIXTURE. UTILIZE SAME CIRCUITING/SWITCHING FOR NEW FIXTURE. MOUNT FIXTURE AT SAME HEIGHT AS PREVIOUS FIXTURE.
2. PROVIDE 120V POWER TO FIRE/SMOKE DAMPER. CIRCUIT TO (E) SPARE 2001 CIRCUIT BREAKER IN 'LSB'. PROVIDE SMOKE DETECTOR IN ROOM FOR ACTIVATION OF DAMPER AND TIE INTO FIRE ALARM SYSTEM.
3. PROVIDE 120V POWER TO FIRE/SMOKE DAMPER. CIRCUIT TO (E) SPARE 2001 CIRCUIT BREAKER IN 'LSB'. UTILIZE DUCT DETECTOR PROVIDED FOR RTU FOR ACTIVATION OF DAMPER.
4. INSTALL VFD'S (PROVIDED BY MC) FOR EXISTING RTU ON ROOF. PROVIDE NEW FEEDER FROM ROOFTOP DISCONNECT DOWN TO WIREWAY TO FEED VFD'S. PROVIDE NEW FEEDER FROM EACH VFD TO MOTORS ON ROOF. REFER TO E1-12 FOR RTU LOCATION AND DIAGRAM 'E' FOR VFD WIRING INFORMATION. COORDINATE EXACT LOCATION AND CONNECTION WITH MECHANICAL CONTRACTOR.

REPLACE (2) LAMPS AND (1) BALLAST PER 4' FIXTURE IN ALL EXISTING FIXTURES USED FOR EGRESS LIGHTING WITH TYPES PER SPECIFICATIONS, TYP OF 26. VERIFY QUANTITY OF FIXTURES IN FIELD

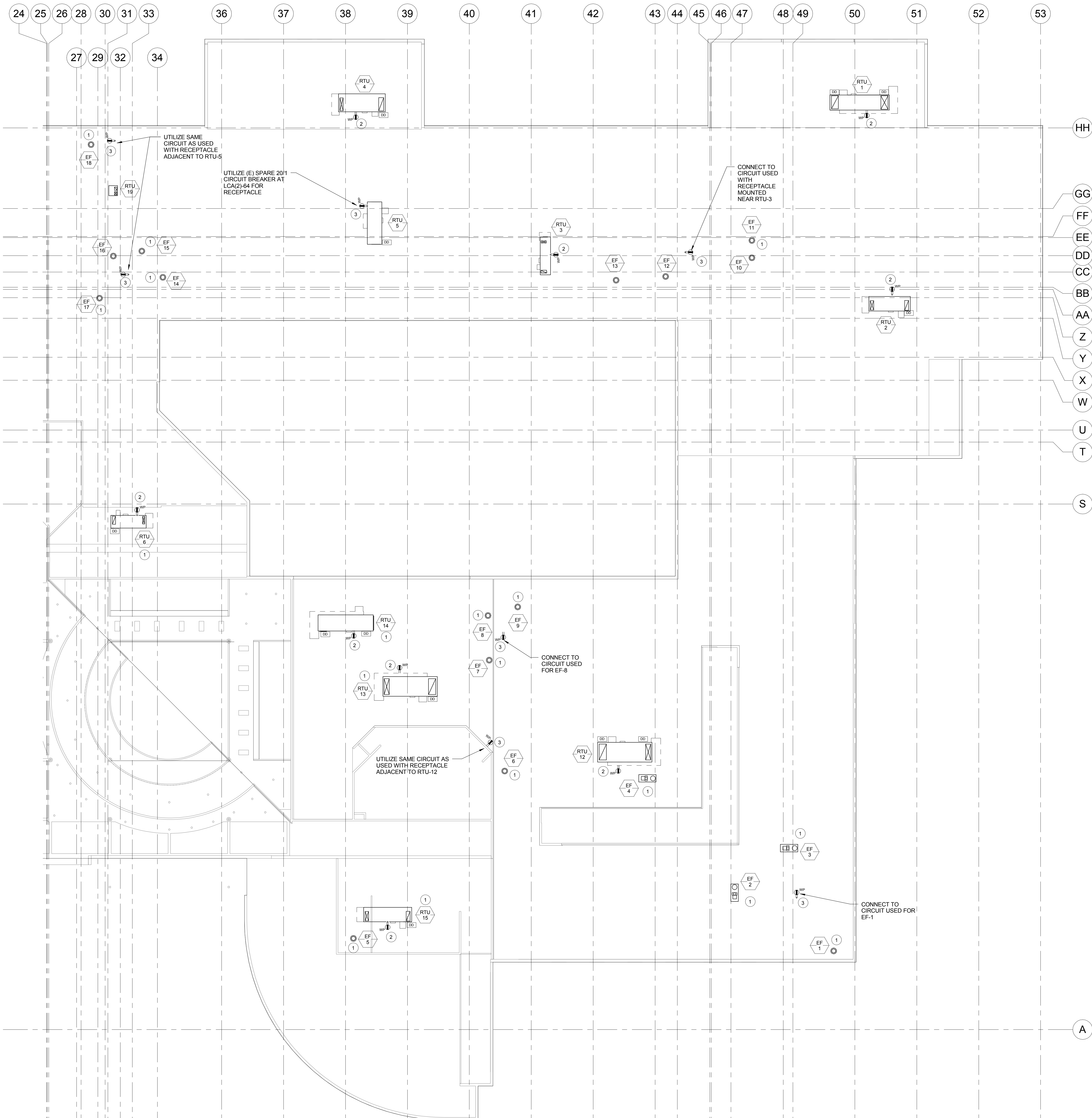
MOUNT ALL 'S4' FIXTURES IN THE GYM AS CLOSE TO STRUCTURE AS POSSIBLE

(E) SWITCHES WITH MULTIPLE ZONES OF LIGHTING TO BE REUSED

1 AREA G ELECTRICAL PLAN  
1/8" = 1'-0"



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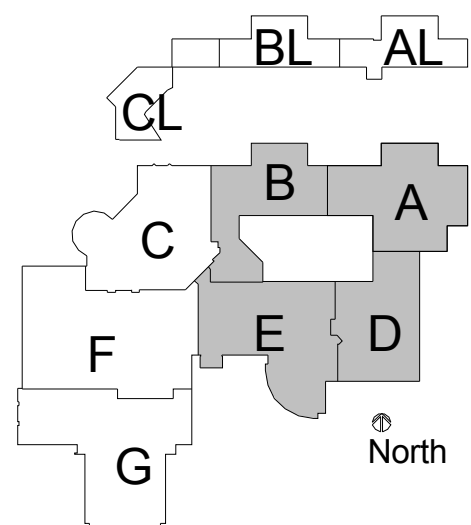


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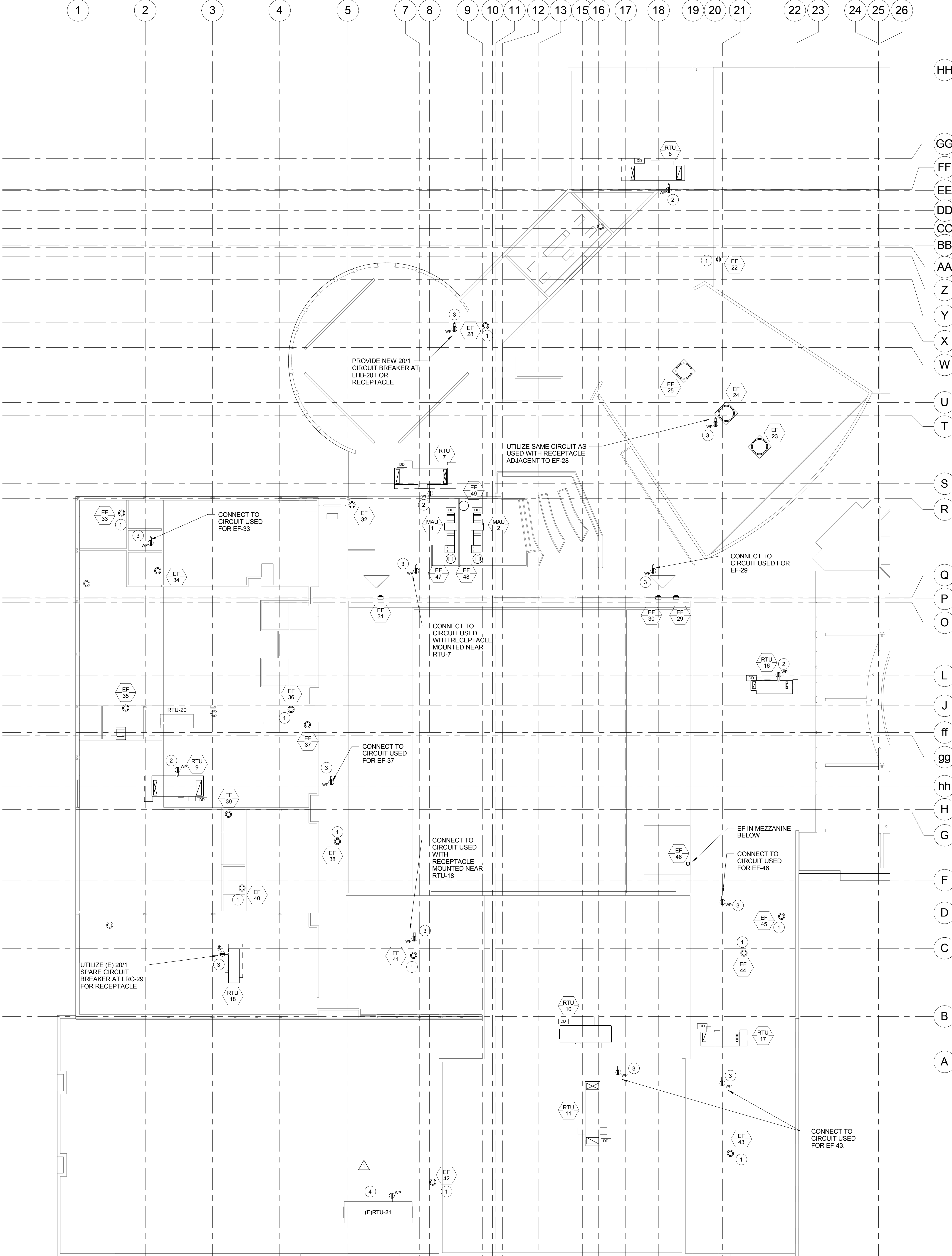
1. RECEPTACLES FOR EQUIPMENT SERVICING SHALL BE PROVIDED WITHIN 25' OF ALL NEW MECHANICAL EQUIPMENT.
2. COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.
3. PROVIDE DUCT DETECTORS FOR EQUIPMENT INDICATED AND TIE INTO FIRE ALARM SYSTEM AND BAS. COORDINATE WITH MECHANICAL CONTRACTOR FOR SHUTDOWN OF EQUIPMENT WHEN ACTIVATED. PROVIDE KEYED REMOTE TEST STATION AT NO HIGHER THAN 7' AFF IN SPACE BELOW. COORDINATE FINAL LOCATION IN FIELD.

FLAG NOTES:

1. PROVIDE ELECTRICAL CONNECTION FOR REPLACED EQUIPMENT. UTILIZE (E) CONNECTION MADE AVAILABLE IN SAME LOCATION DURING DEMOLITION. CONFIRM IN FIELD THAT WIRING IS OF SUFFICIENT SIZE AND VOLTAGE RATING FOR EQUIPMENT. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. PROVIDE NEW GFCI RECEPTACLE WITH WEATHERPROOF IN-USE COVER FOR SERVICING OF EQUIPMENT. UTILIZE (E) 120V CIRCUIT PREVIOUSLY USED FOR ROOFTOP MOUNTED RECEPTACLE. MOUNT RECEPTACLE ON UNISTRUT FRAME AT 24" AFF.
3. PROVIDE NEW GFCI RECEPTACLE WITH WEATHERPROOF IN-USE COVER FOR SERVICING OF EQUIPMENT. MOUNT RECEPTACLE ON UNISTRUT FRAME AT 24" AFF.







NOTES:

1. RECEPTACLES FOR EQUIPMENT SERVICING SHALL BE PROVIDED WITHIN 25' OF ALL NEW MECHANICAL EQUIPMENT.
2. COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.
3. PROVIDE DUCT DETECTORS FOR EQUIPMENT INDICATED AND TIE INTO FIRE ALARM SYSTEM AND BAS. COORDINATE WITH MECHANICAL CONTRACTOR FOR SHUTDOWN OF EQUIPMENT WHEN ACTIVATED. PROVIDE KEYED REMOTE TEST STATION AT NO HIGHER THAN 7' AFF IN SPACE BELOW. COORDINATE FINAL LOCATION IN FIELD.

FLAG NOTES:

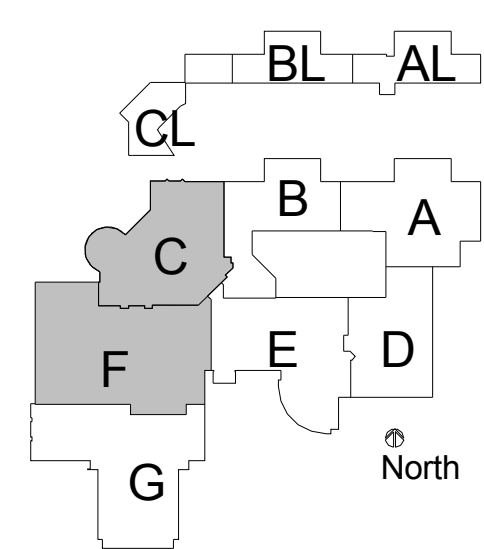
1. PROVIDE ELECTRICAL CONNECTION FOR REPLACED EQUIPMENT. UTILIZE (E) CONNECTION MADE AVAILABLE IN SAME LOCATION DURING DEMOLITION. CONFIRM IN FIELD THAT WIRING IS OF SUFFICIENT SIZE AND VOLTAGE RATINGS FOR EQUIPMENT. NOTIFY ENGINEER OF ANY DISCREPANCIES.
2. PROVIDE NEW GFCI RECEPTACLE WITH WEATHERPROOF IN-USE COVER FOR SERVICING OF EQUIPMENT. UTILIZE (E) 120V CIRCUIT PREVIOUSLY USED FOR ROOFTOP MOUNTED RECEPTACLE. MOUNT RECEPTACLE ON UNISTRUT FRAME AT 24" AFF.
3. PROVIDE NEW GFCI RECEPTACLE WITH WEATHERPROOF IN-USE COVER FOR SERVICING OF EQUIPMENT. MOUNT RECEPTACLE ON UNISTRUT FRAME AT 24" AFF.
4. NEW VFD'S BEING PROVIDED FOR EXISTING RTU BY MECHANICAL CONTRACTOR. ROUTE NEW FEEDER FROM EXISTING DISCONNECT ON ROOF TO VFD'S LOCATED IN SPACE BELOW AND BACK UP TO MOTORS FROM VFD'S. REFER TO E1-10 FOR VFD LOCATIONS AND DIAGRAM 'E' ON SHEET E6.1 FOR VFD WIRING INFORMATION.



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SHEET CONTENTS  
ELECTRICAL ROOF PLAN

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Consulting Engineers, Inc.  
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Fort Collins: (970) 221-9591  
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ISSUE FOR BIDDING  
No. 1  
Addendum #3

Date: 2/9/12  
Description: Addendum #3

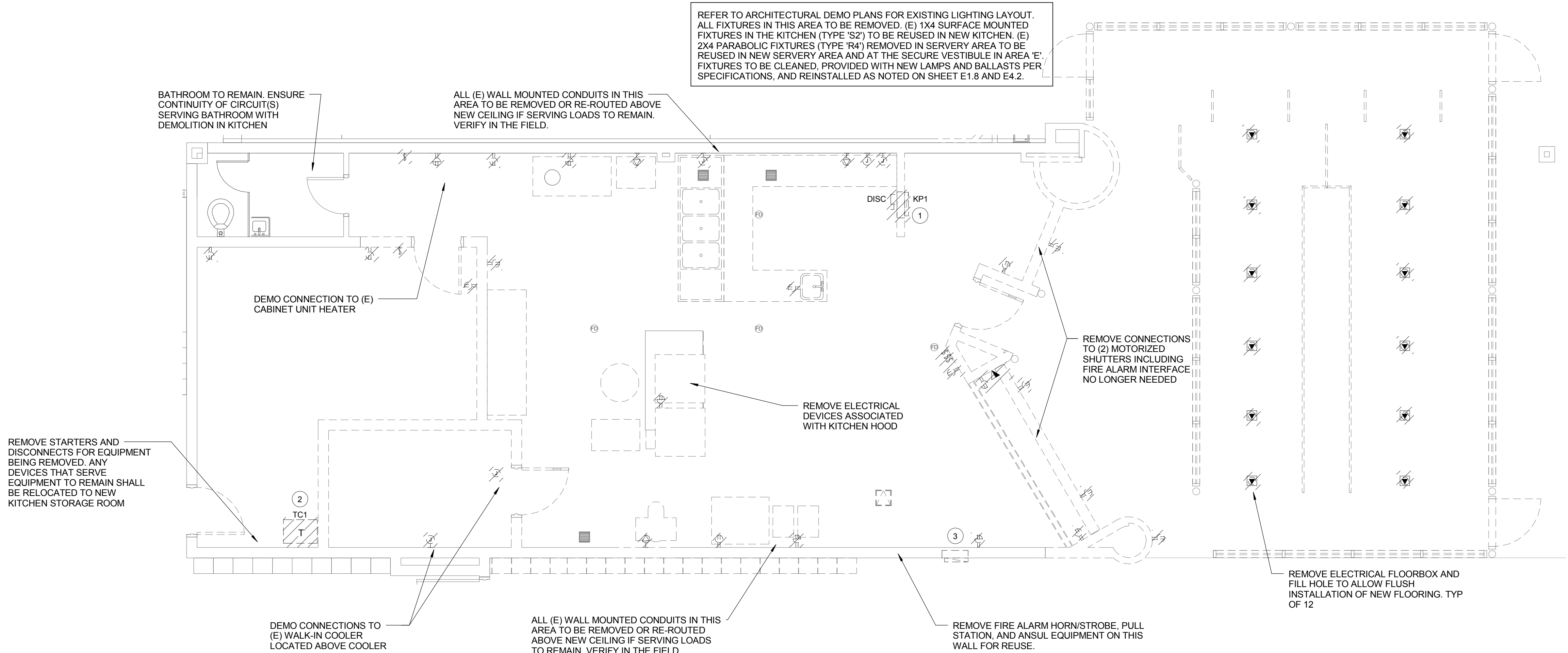
REVISIONS  
E1.12

NOTES:

1. REFER TO ARCHITECTURAL RCP DEMO PLAN FOR FULL SCOPE OF CEILINGS BEING REMOVED BOTH TEMPORARILY AND PERMANENTLY. SCOPE SHOWN HERE IS INTENDED TO SHOW LARGE PIECES OF DEMOLITION ONLY. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL DEVICES FROM CEILINGS AND REINSTALLING IN SAME LOCATION UNLESS NOTED OTHERWISE.
2. EXISTING CONDITIONS ARE SHOWN FOR REFERENCE ONLY AND ARE BASED OFF OF CASUAL OBSERVATION IN THE FIELD AND PREVIOUS CONSTRUCTION DRAWINGS. VERIFY ALL EXISTING CONDITIONS IN THE FIELD.
3. DEMOLITION OF ROOFTOP EXHAUST FANS ARE SHOWN ON SHEET ED1.11 AND ED1.12. REFER TO MECHANICAL DEMO FLOOR PLANS FOR THE CORRESPONDING LOCATIONS OF THESE FANS BELOW THE ROOF THAT MAY CONTAIN ACCESSORIES TO THE FANS SUCH AS MOTOR STARTERS AND MOTORIZED DAMPERS. EC RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL CONNECTIONS TO FANS BEING REMOVED.
4. REMOVE ALL UNUSED WIRING/CONDUIT FROM EQUIPMENT BEING REMOVED UNLESS NOTED OTHERWISE. ENSURE CONTINUITY OF CIRCUIT IF IT FEEDS MULTIPLE LOADS. CONDUITS THAT CAN'T BE REMOVED SHALL BE LABELED WITH THE LOCATION THE CONDUIT TERMINATES, BE IDENTIFIED AS "SPARE", AND BE PROVIDED WITH A PULLSTRING.

FLAG NOTES:

1. EXISTING PANEL TO BE REMOVED AND REPLACED IN DIFFERENT LOCATION. REMOVE FEEDER FROM WALL TO ALLOW DEMO OF WALL. EXISTING CIRCUITS TO REMAIN SHALL BE REFEED FROM NEW PANEL.
2. EXISTING TRANSFORMER TO BE REMOVED. REMOVE PRIMARY AND SECONDARY FEEDERS AS MUCH AS IS PRACTICAL.
3. REMOVE EXISTING PANEL IN BLOCK WALL. CIRCUITS TO REMAIN SHALL BE REFEED FROM NEW PANEL. HOLE LEFT FROM REMOVAL OF PANEL SHALL BE FILLED IN TO MATCH EXISTING WALL. REFER TO ARCHITECTURAL DRAWINGS FOR MORE INFORMATION.



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ELECTRICAL ENLARGED  
PLANS

Poudre High School Renovations  
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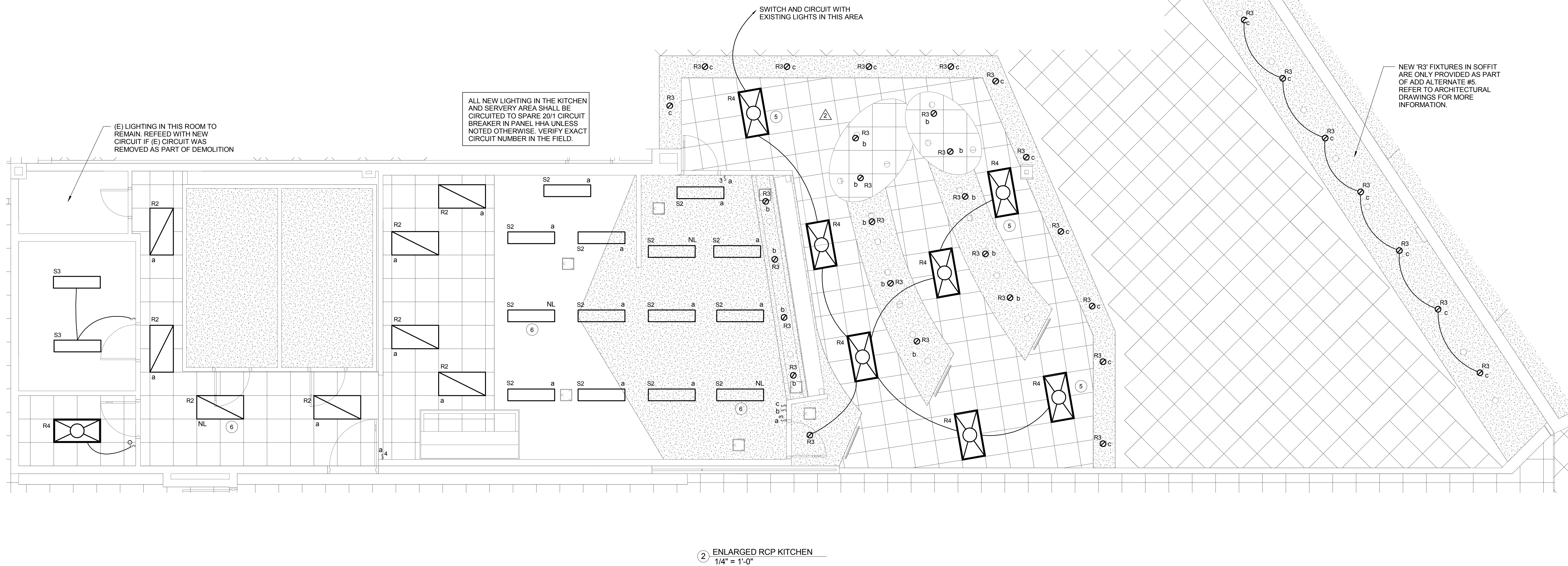
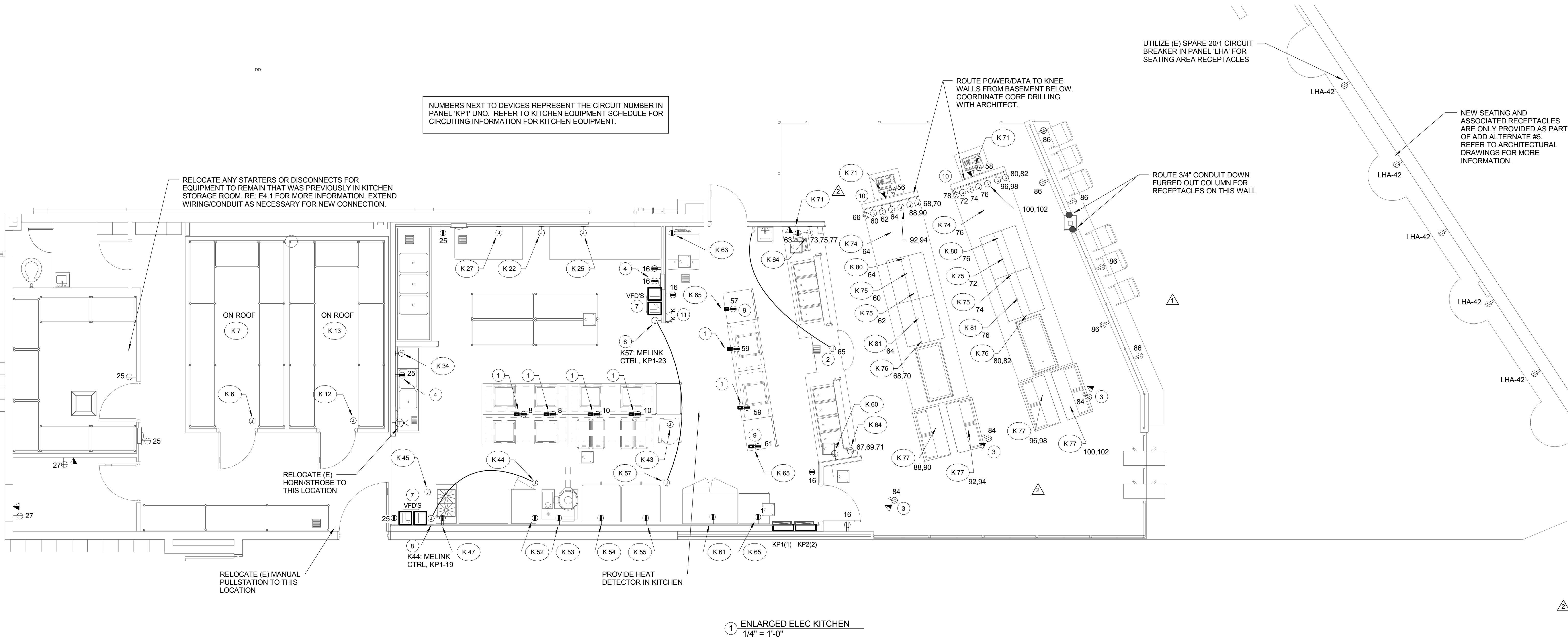
ISSUE FOR BIDDING

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REVISIONS

E4.1

19 Jan 2012



# NOTES:

- COORDINATE ROUTING OF NEW FEEDERS AND BRANCH CIRCUITS WITH EXISTING STRUCTURE TO MINIMIZE DAMAGE TO CEILINGS AND WALLS. FIELD VERIFICATION WILL BE REQUIRED TO DETERMINE OPTIMAL ROUTING.
- REFER TO KITCHEN EQUIPMENT SCHEDULE ON SHEET E7.1 FOR EQUIPMENT ROUGH-IN REQUIREMENTS. REFER TO KITCHEN DRAWINGS FOR ADDITIONAL KITCHEN EQUIPMENT INSTALLATION REQUIREMENTS, MOUNTING HEIGHTS, ETC.
- ALL RECEPTACLES IN KITCHEN AREA TO BE GFCI RATED.
- ALL EQUIPMENT UNDER TYPE 1 KITCHEN HOODS TO BE SHUTDOWN BY FIRE SUPPRESSION SYSTEM VIA SHUNT TRIP CIRCUIT BREAKERS. REFER TO DIAGRAM ON SHEET E6.1 FOR MORE INFORMATION. COORDINATE WITH ANSUL INSTALLER.
- ROUTE ALL DATA DEVICES BACK TO NEAREST IDF ROOM.

# FLAG NOTES:

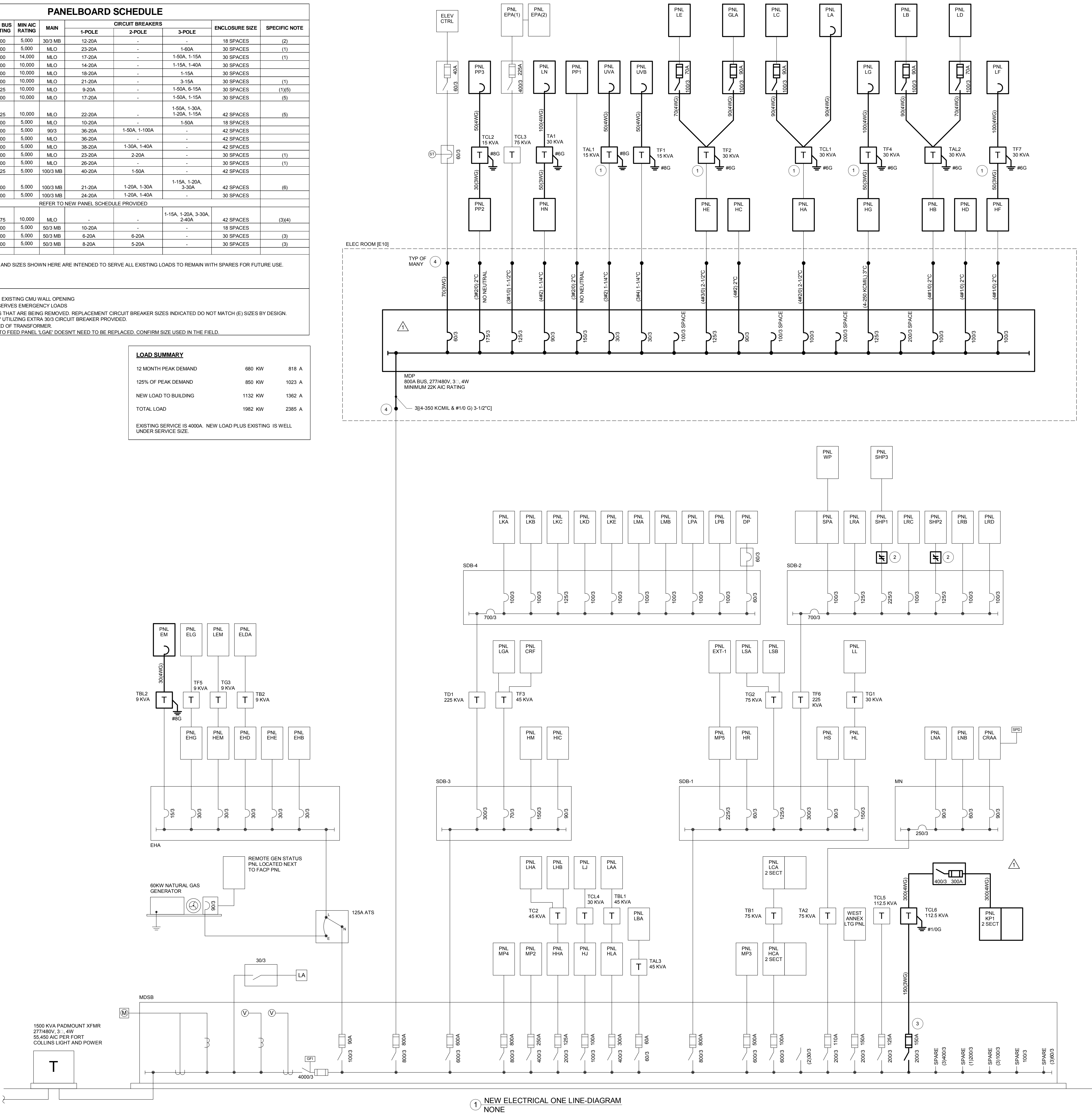
- PROVIDE CORD REEL MOUNTED TO CEILING WITH INTEGRAL 5-20A DUPLEX GFCI RECEPTACLE BY HUBBELL, #HBL45123GF20. PROVIDE (1) DUPLEX RECEPTACLE IN CEILING FOR EVERY (2) CORD REELS FOR CONNECTION OF CORD REEL PLUG.
- PROVIDE POWER CONNECTION FOR MOTORIZED SHUTTER. PROVIDE 3/4" CONDUIT AND WIRING AS REQUIRED TO CONTROL LOCATION. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIED.
- POWER/DATA MOUNTED ON SOFFIT ABOVE FOR FLAT SCREEN TV. PROVIDE RECESSED LOW VOLTAGE CABLE PLATE WITH 20A RECESSED RECEPTACLE BY DATACOMM, #45-0020-WH.
- PROVIDE CLOCK OUTLET AT +84" AFF FOR FAN.
- CIRCUIT HALF OF THIS FIXTURE TO EMERGENCY CIRCUIT THAT IS CURRENTLY USED IN THIS AREA WITH EXISTING 'R4' FIXTURES.
- CIRCUIT FIXTURE TO EMERGENCY CIRCUIT USED WITH 'R4' FIXTURES IN COMMON AREA.
- (2) VFD'S ABOVE SINK FOR THE MAKE-UP AIR UNIT AND EXHAUST FAN ASSOCIATED WITH THE KITCHEN HOOD. VFD'S ARE FURNISHED BY OTHERS AND INSTALLED/WIRED BY EC. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION AND DIAGRAM ON E8.1 FOR VFD WIRING INFORMATION. PROVIDE 120V POWER TO MELINK CONTROLLER ADJACENT TO VFD'S WITH SAME CIRCUIT AS USED FOR THE HOOD LIGHTS.
- PROVIDE 120V CONNECTION FOR MELINK I/O PROCESSOR. COORDINATE FINAL LOCATION WITH HOOD INSTALLER. CONNECT OUTPUT WIRING FROM CONTROLLER TO THE KITCHEN HOOD LIGHTS. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- PROVIDE 'ISO' RATED CORD WITH STRAIN RELIEF FROM CEILING FOR CONNECTION OF KITCHEN EQUIPMENT.
- FEED DEVICES ON SPEEDLINE FROM J-BOXES ON KNEE WALL. ALL SPEEDLINE EQUIPMENT EXCEPT BEVERAGE COOLERS (K77) ARE FED THROUGH CONTACTOR IN KITCHEN FOR SHUTOFF OF EQUIPMENT ON SPEEDLINE BY SWITCH. RECEPTACLES ON KNEE WALL DO NOT RUN THROUGH CONTACTOR. REFER TO KITCHEN DRAWINGS FOR MORE INFORMATION.
- PROVIDE (2) KEYED SWITCHES FOR ACTIVATION OF CONTACTORS CONTROLLING KITCHEN EQUIPMENT LOCATED ON TWO SPEEDLINES. MOUNT (2) CONTACTORS HIGH ON WALL ABOVE SWITCHES. REFER TO DIAGRAM ON SHEET E6.1 FOR MORE INFORMATION.

No.	Description	Date
1	Addendum #3	2/9/12
2	PR #02	4/2/12
ACR		
BGR		
REVISIONS		
19 Jan 2012		



PANELBOARD SCHEDULE										
PANEL TAG	MOUNT	VOLT / PHASE	MIN BUS RATING	MIN AIC RATING	MAIN	CIRCUIT BREAKERS			ENCLOSURE SIZE	SPECIFIC NOTE
						1-POLE	2-POLE	3-POLE		
EM	SURFACE	208/3	100	5,000	30/3 MB	12-20A	-	-	18 SPACES	(2)
GLA	RECESSED	208/3	100	5,000	MLO	23-20A	-	1-60A	30 SPACES	(1)
HA	RECESSED	480/3	100	14,000	MLO	17-20A	-	1-50A, 1-15A	30 SPACES	(1)
HB	SURFACE	480/3	100	10,000	MLO	14-20A	-	1-15A, 1-40A	30 SPACES	
HC	SURFACE	480/3	100	10,000	MLO	18-20A	-	1-15A	30 SPACES	
HD	RECESSED	480/3	100	10,000	MLO	21-20A	-	3-15A	30 SPACES	(1)
HE	RECESSED	480/3	125	10,000	MLO	9-20A	-	1-50A, 6-15A	30 SPACES	(1)(5)
HF	SURFACE	480/3	100	10,000	MLO	17-20A	-	1-50A, 1-15A	30 SPACES	(5)
HG	SURFACE	480/3	125	10,000	MLO	22-20A	-	1-50A, 1-30A, 1-20A, 1-15A	42 SPACES	(5)
HN	SURFACE	480/3	100	5,000	MLO	10-20A	-	1-50A	18 SPACES	
LA	SURFACE	208/3	100	5,000	90/3	36-20A	-	1-50A, 1-100A	-	42 SPACES
LB	SURFACE	208/3	100	5,000	MLO	36-20A	-	-	-	42 SPACES
LC	SURFACE	208/3	100	5,000	MLO	36-20A	-	1-30A, 1-40A	-	42 SPACES
LD	RECESSED	208/3	100	5,000	MLO	23-20A	-	2-20A	-	30 SPACES (1)
LE	RECESSED	208/3	100	5,000	MLO	28-20A	-	-	-	30 SPACES (1)
LF	SURFACE	208/3	225	5,000	100/3 MB	40-20A	-	1-50A	-	42 SPACES
LG	SURFACE	208/3	100	5,000	100/3 MB	21-20A	-	1-15A, 1-20A, 3-30A	-	42 SPACES (6)
LN	SURFACE	208/3	100	5,000	100/3 MB	24-20A	-	1-20A, 1-40A	-	30 SPACES
PP1					REFER TO NEW PANEL SCHEDULE PROVIDED					
PP2	SURFACE	480/3	175	10,000	MLO	-	-	1-15A, 1-20A, 3-30A, 2-40A	-	42 SPACES (3)(4)
PP3	SURFACE	208/3	100	5,000	50/3 MB	10-20A	-	-	-	18 SPACES
UVA	SURFACE	208/3	100	5,000	50/3 MB	6-20A	-	6-20A	-	30 SPACES (3)
UVB	SURFACE	208/3	100	5,000	50/3 MB	9-20A	-	5-20A	-	30 SPACES (3)
<b>GENERAL NOTES:</b>										
A. CIRCUIT BREAKERS QUANTITY AND SIZES SHOWN HERE ARE INTENDED TO SERVE ALL EXISTING LOADS TO REMAIN WITH SPARES FOR FUTURE USE.										
B.										
C.										
D.										
<b>SPECIFIC NOTES:</b>										
(1) PANEL TO BE RECESSED INTO EXISTING CMU WALL OPENING										
(2) PANEL TO HAVE RED FINISH, SERVES EMERGENCY LOADS										
(3) PANEL FEEDS MANY (E) LOADS THAT ARE BEING REMOVED. REPLACEMENT CIRCUIT BREAKER SIZES INDICATED DO NOT MATCH (E) SIZES BY DESIGN										
(4) RETIRED TRANSFORMER TOL2 UTILIZING EXTRA 30/3 CIRCUIT BREAKER PROVIDED.										
(5) 50/3 CB PROVIDED FOR REFEED OF TRANSFORMER.										
(6) BREAKER PREVIOUSLY USED TO FEED PANEL LG4C DOESN'T NEED TO BE REPLACED. CONFIRM SIZE USED IN THE FIELD.										

LOAD SUMMARY		
12 MONTH PEAK DEMAND	680 KW	818 A
125% OF PEAK DEMAND	850 KW	1023 A
NEW LOAD TO BUILDING	1132 KW	1362 A
TOTAL LOAD	1982 KW	2385 A
EXISTING SERVICE IS 4000A. NEW LOAD PLUS EXISTING IS WELL UNDER SERVICE SIZE.		



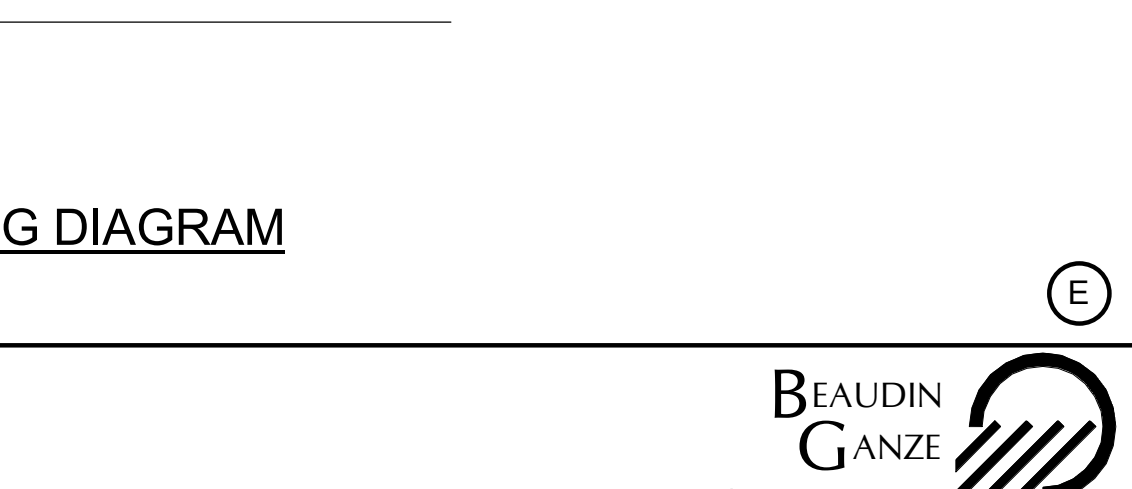
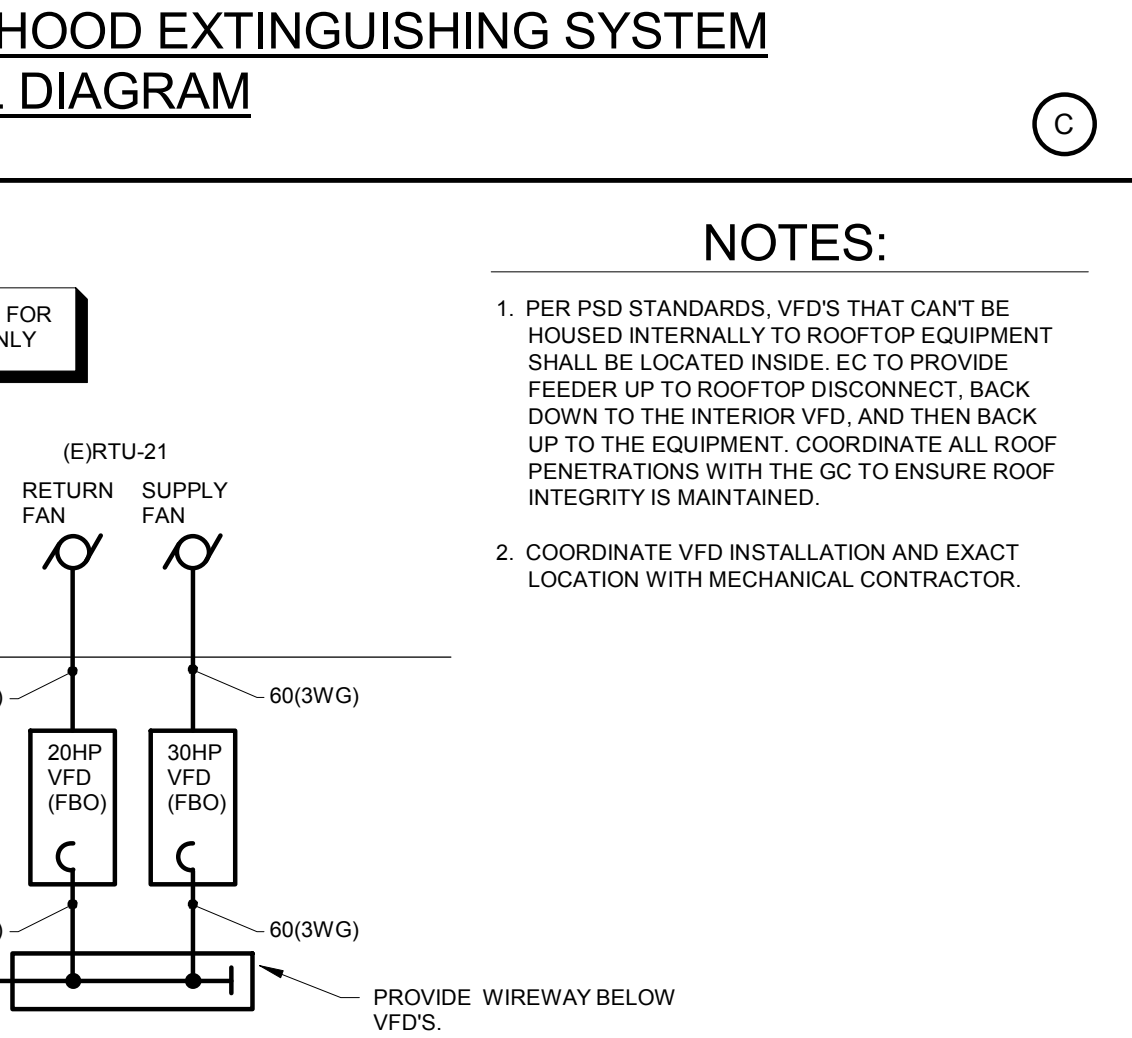
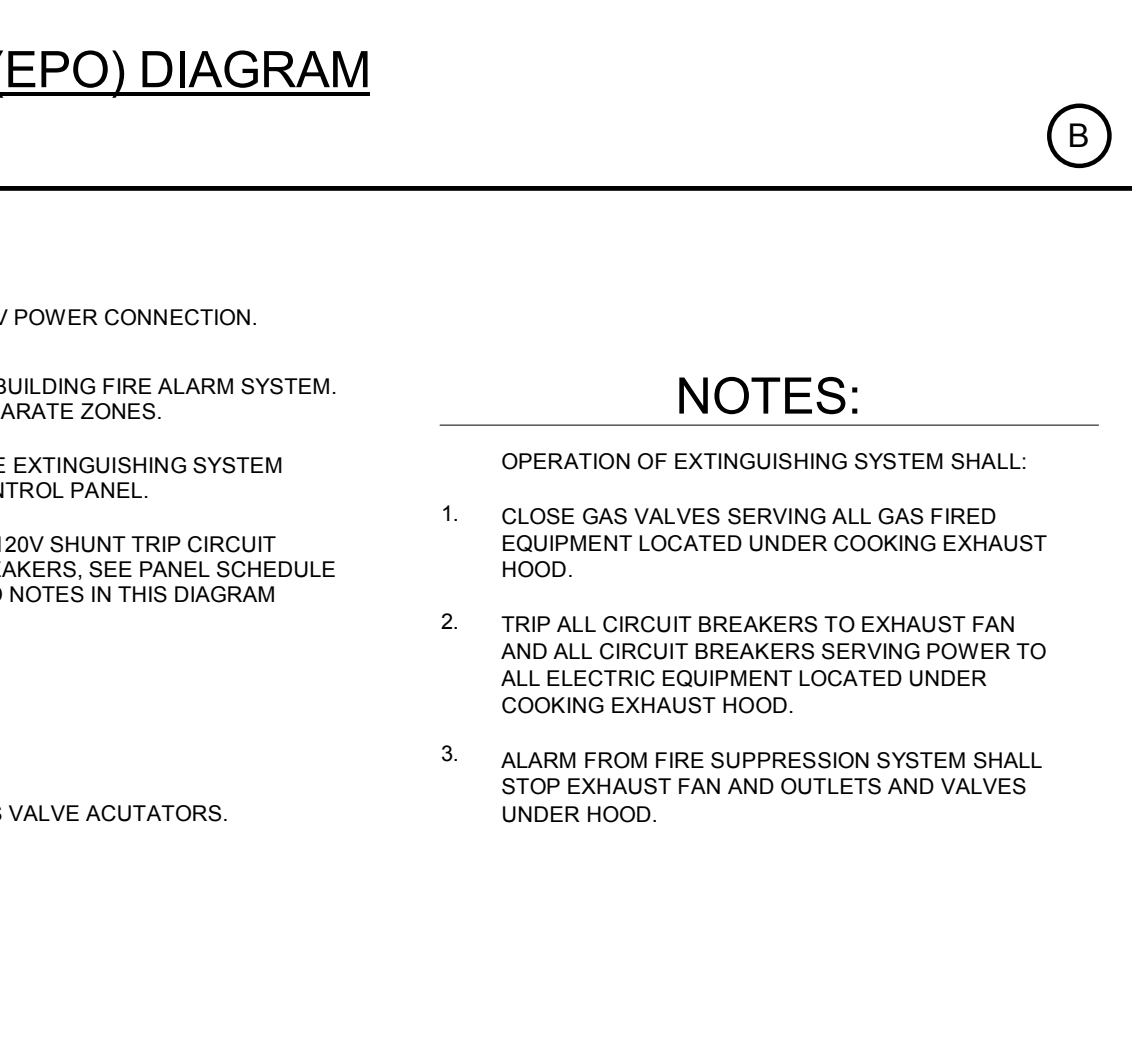
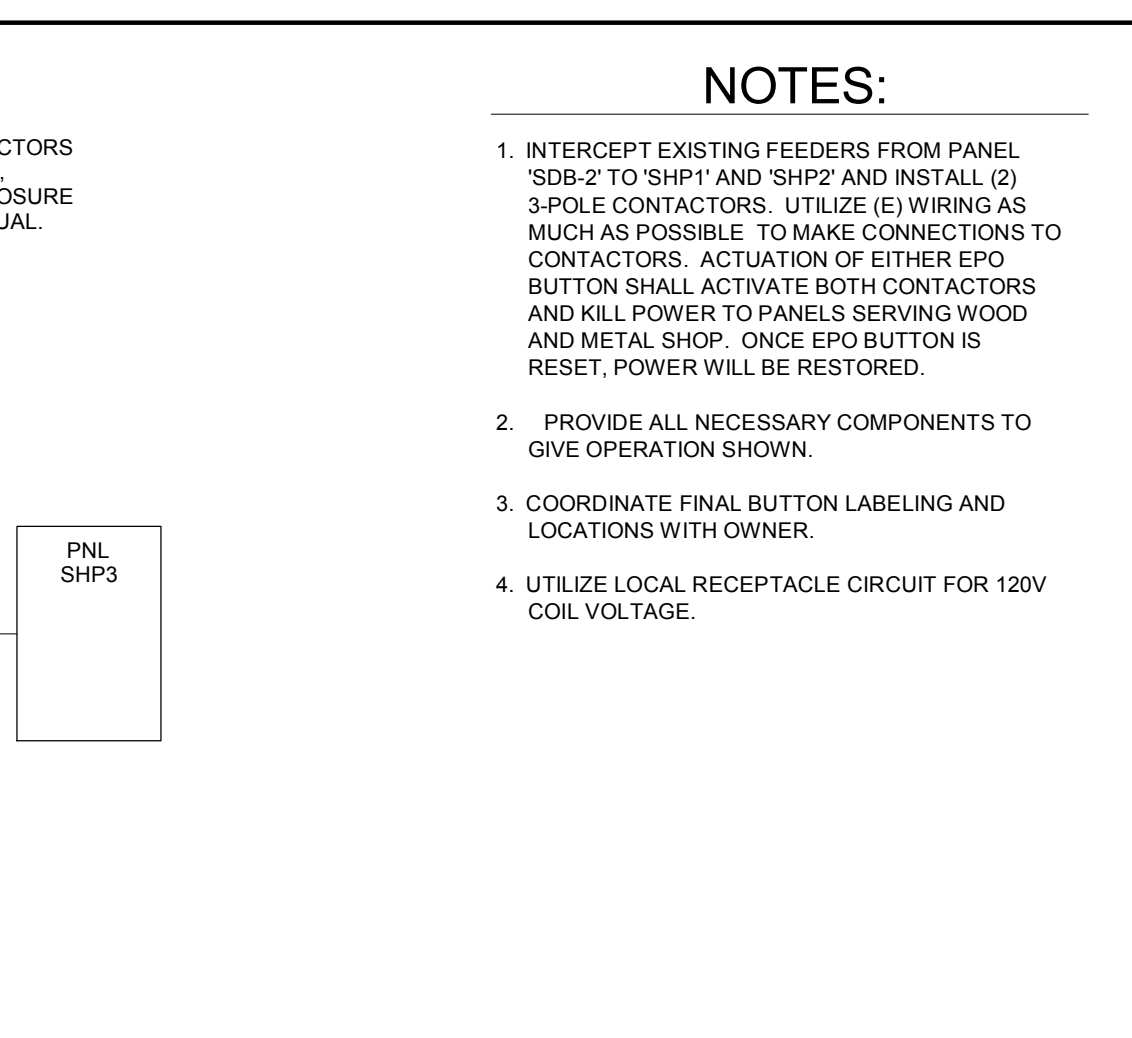
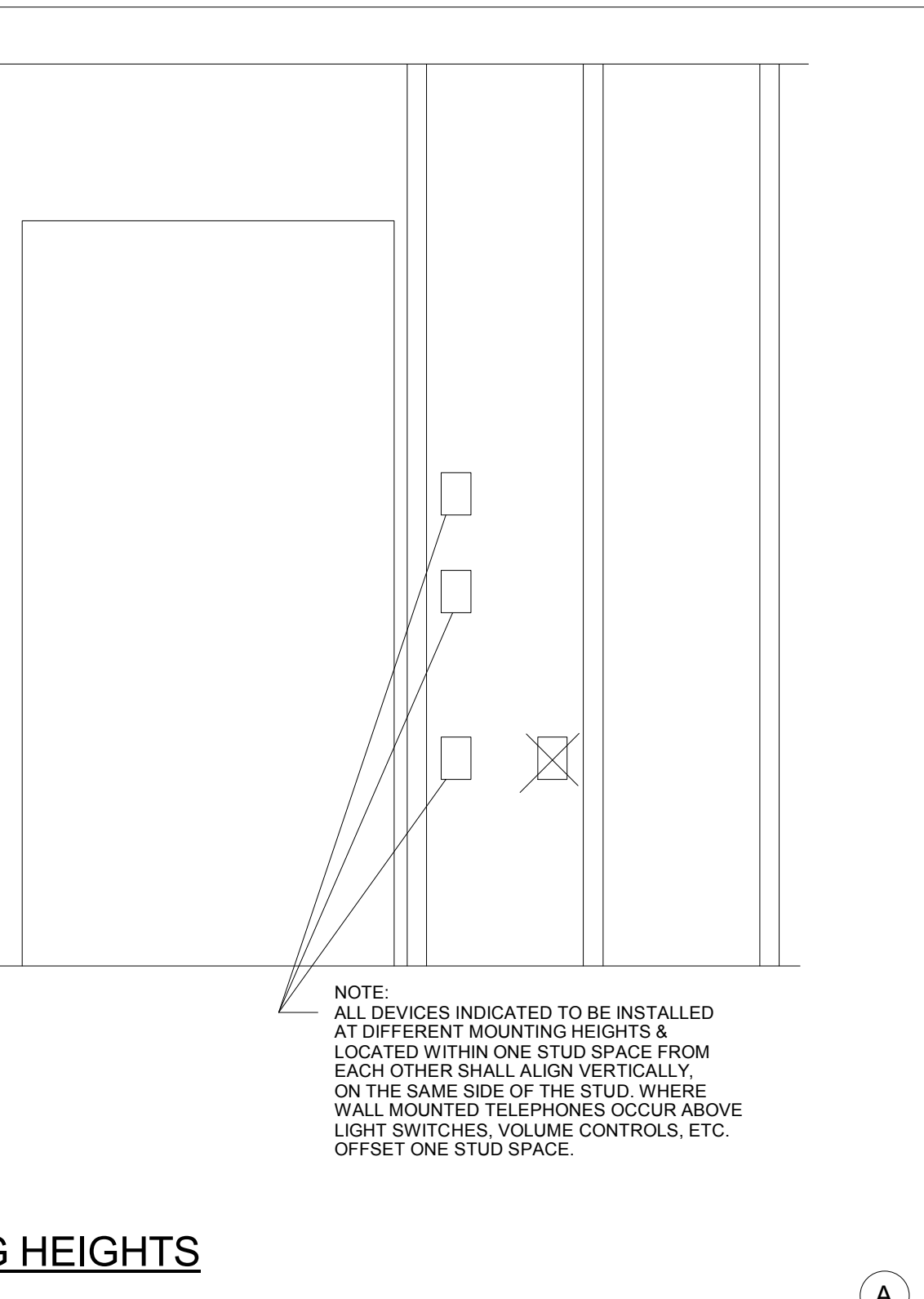
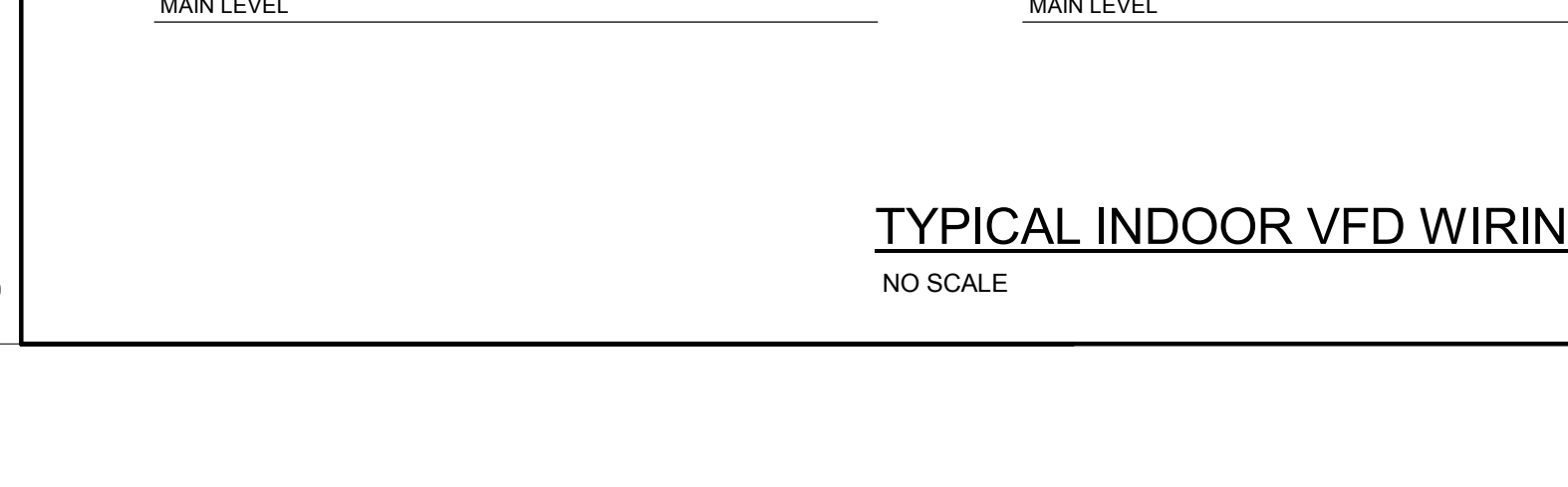
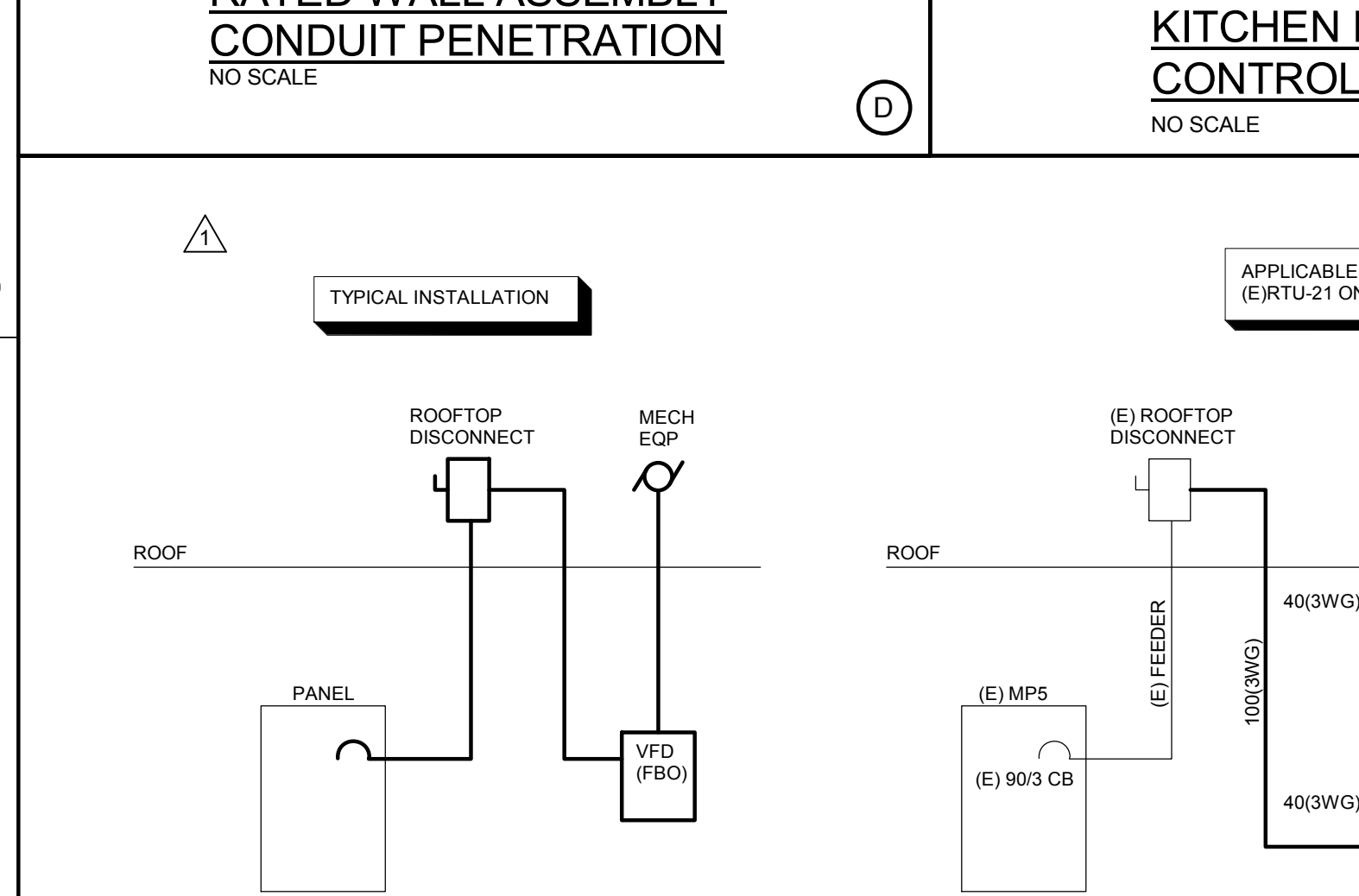
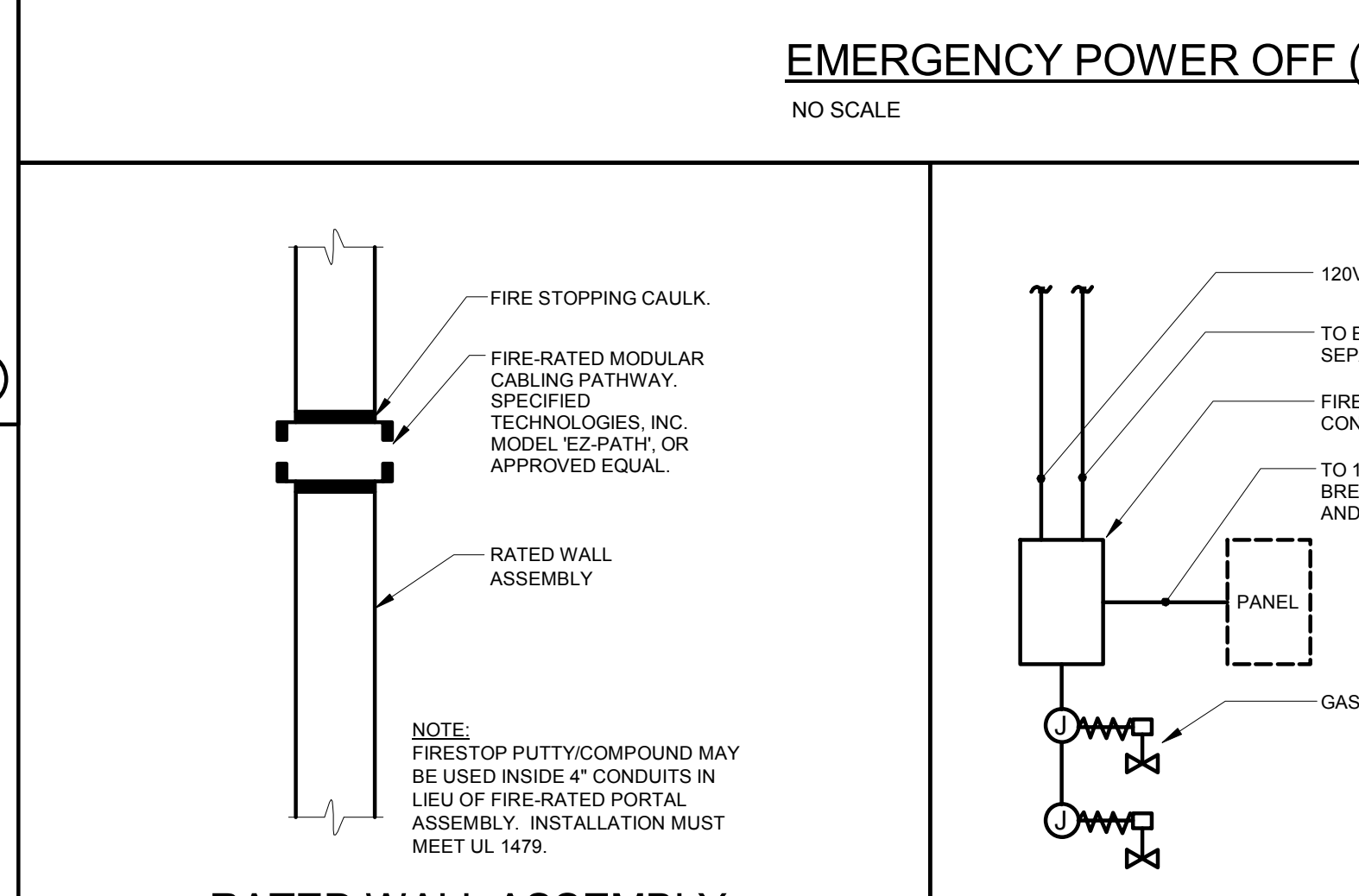
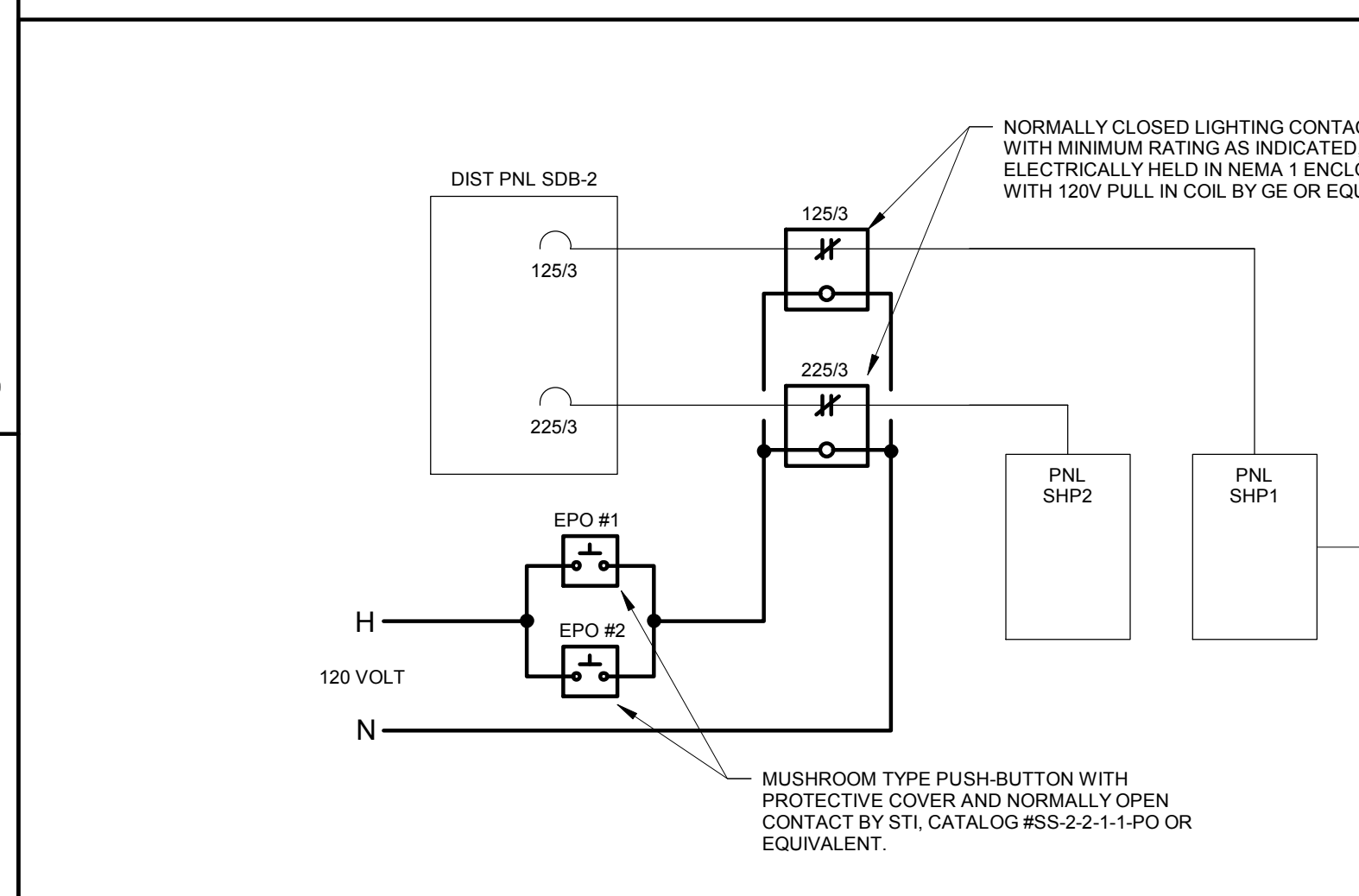
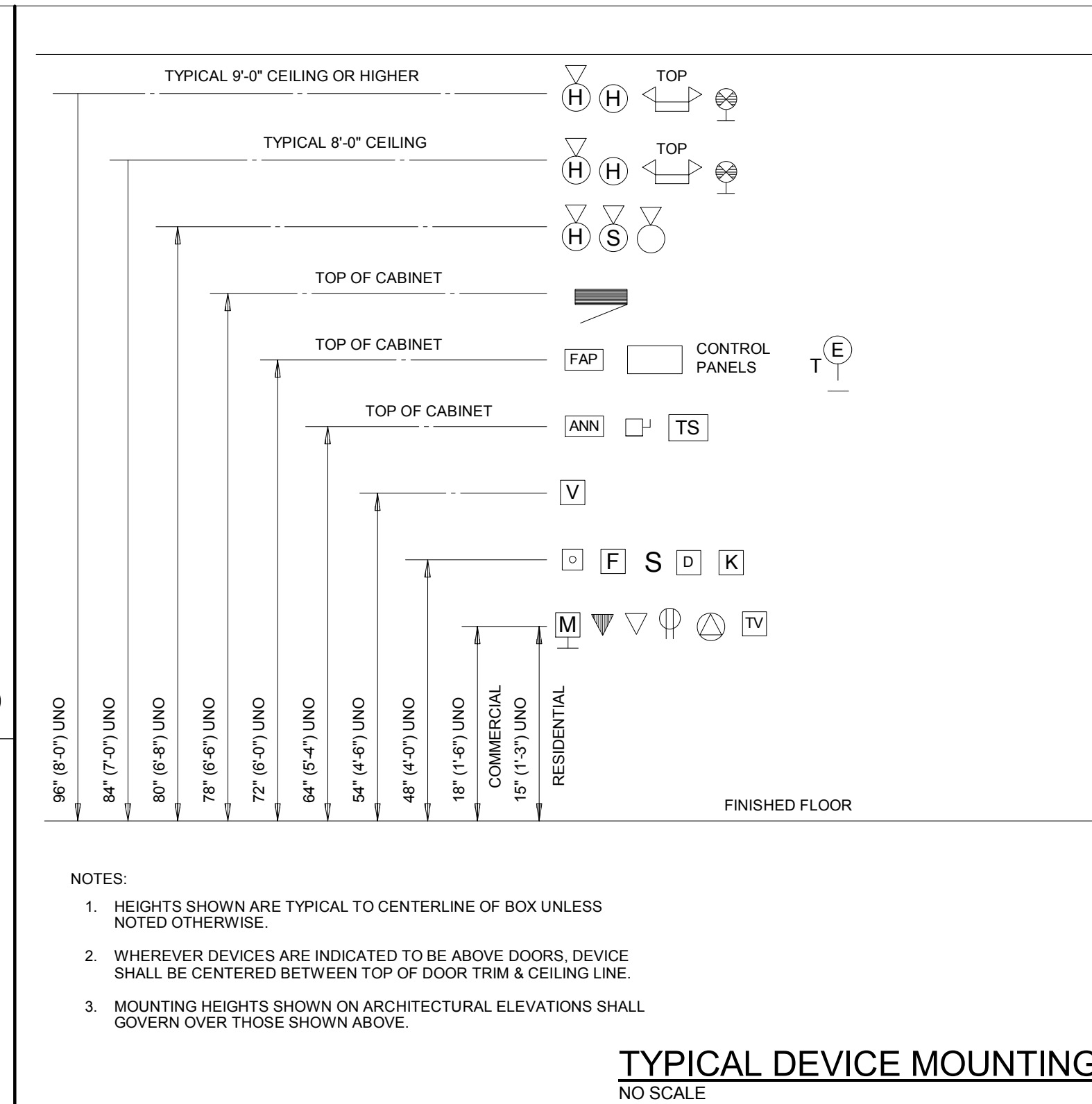
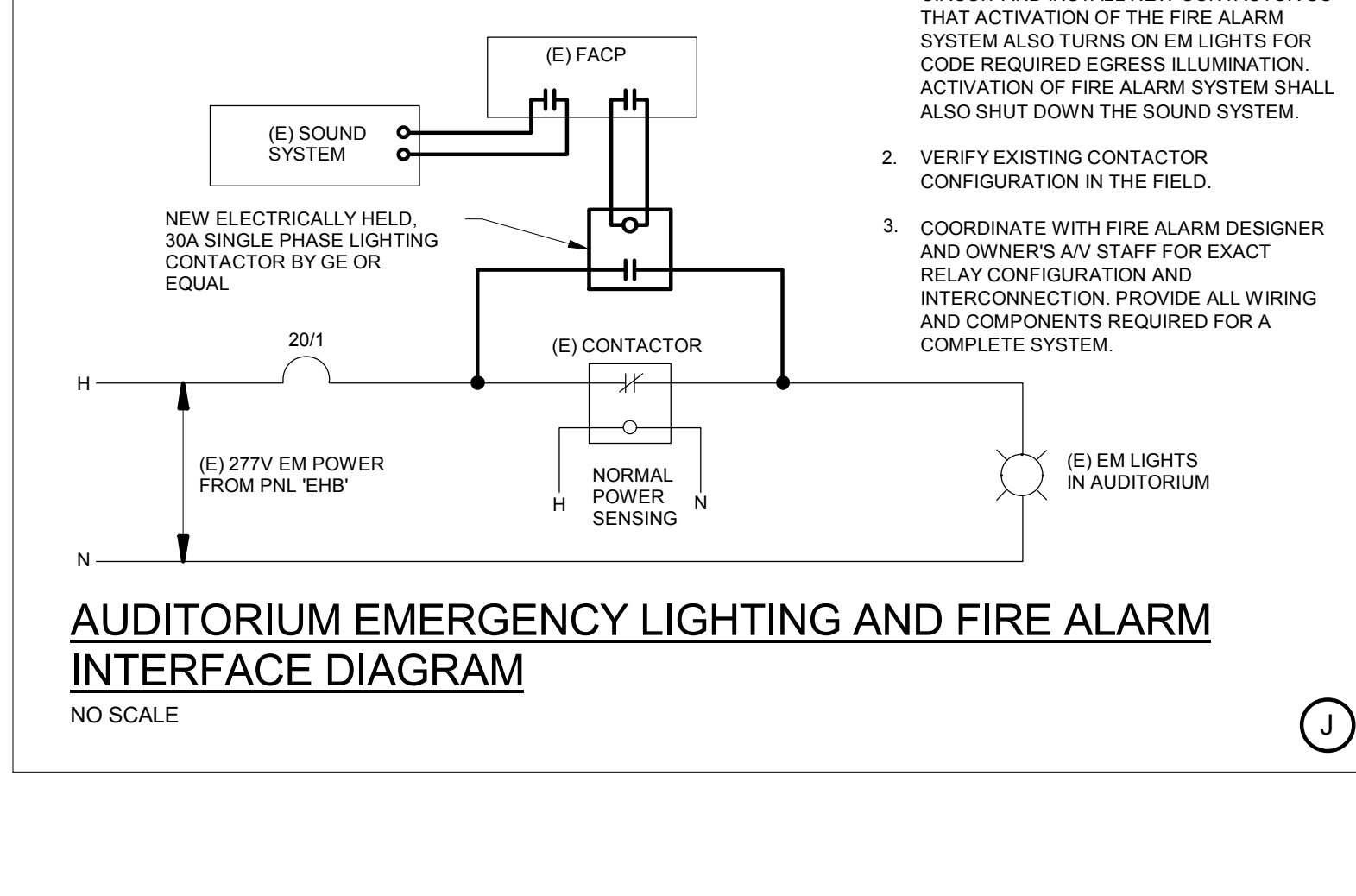
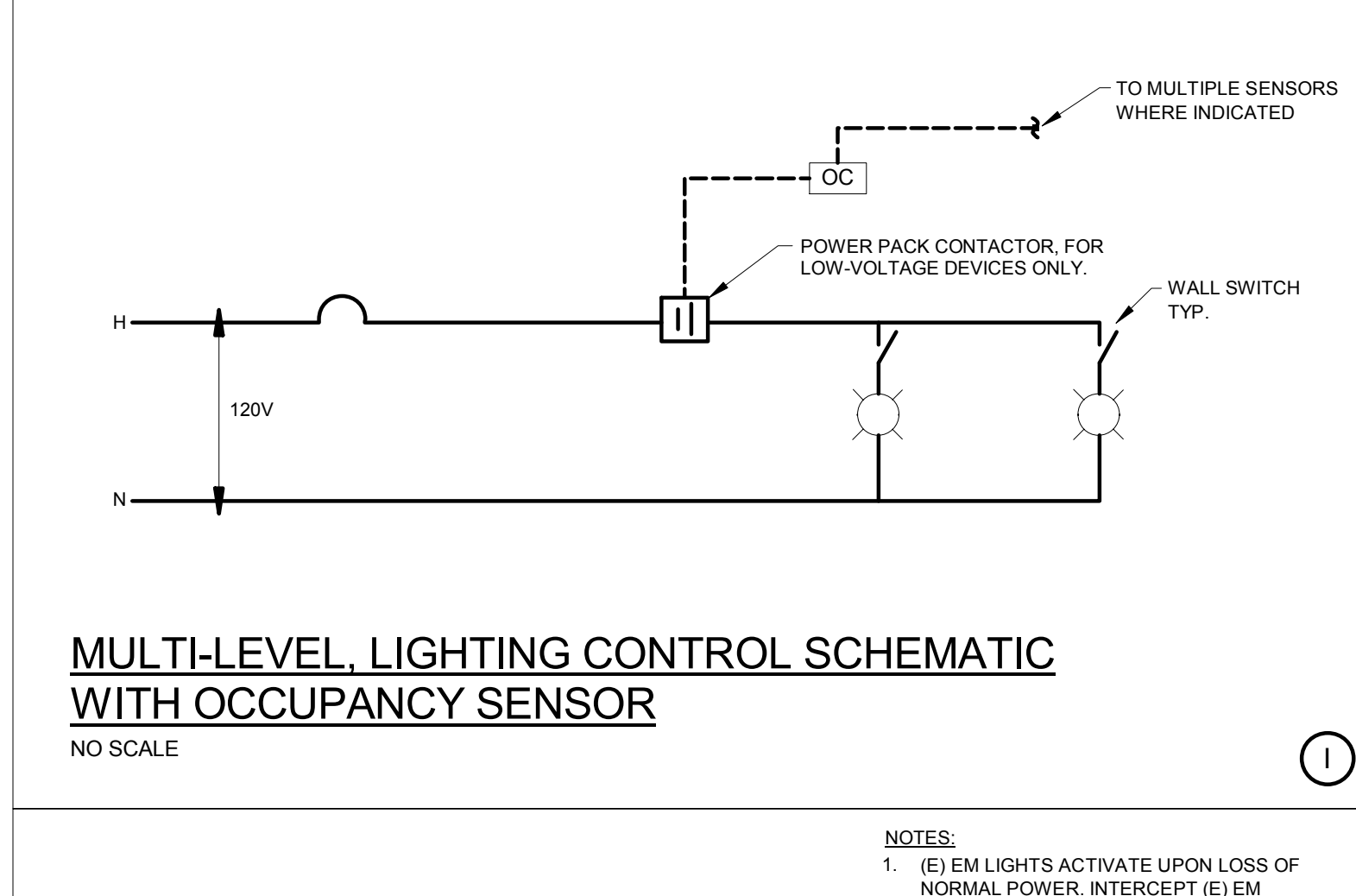
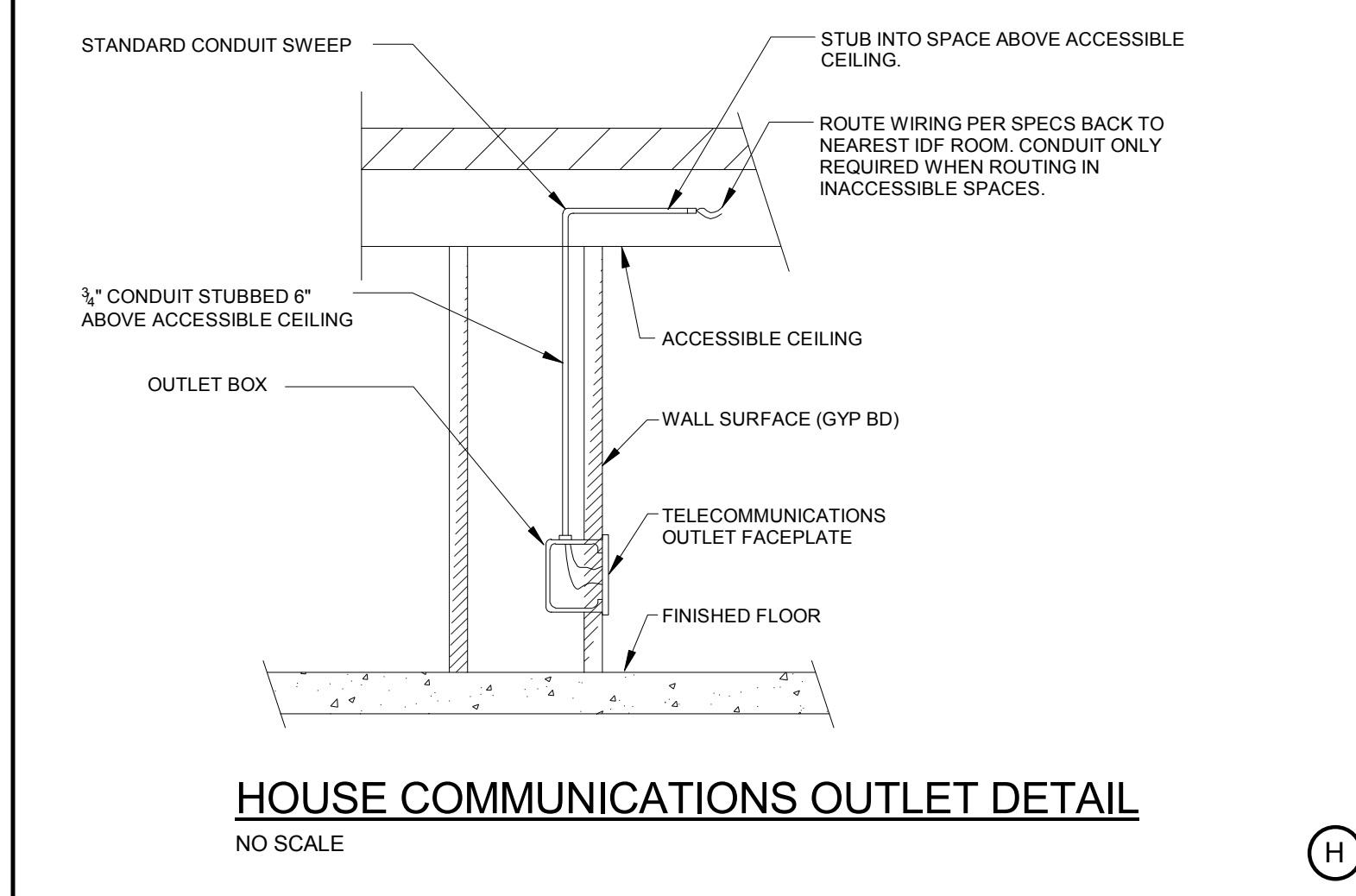
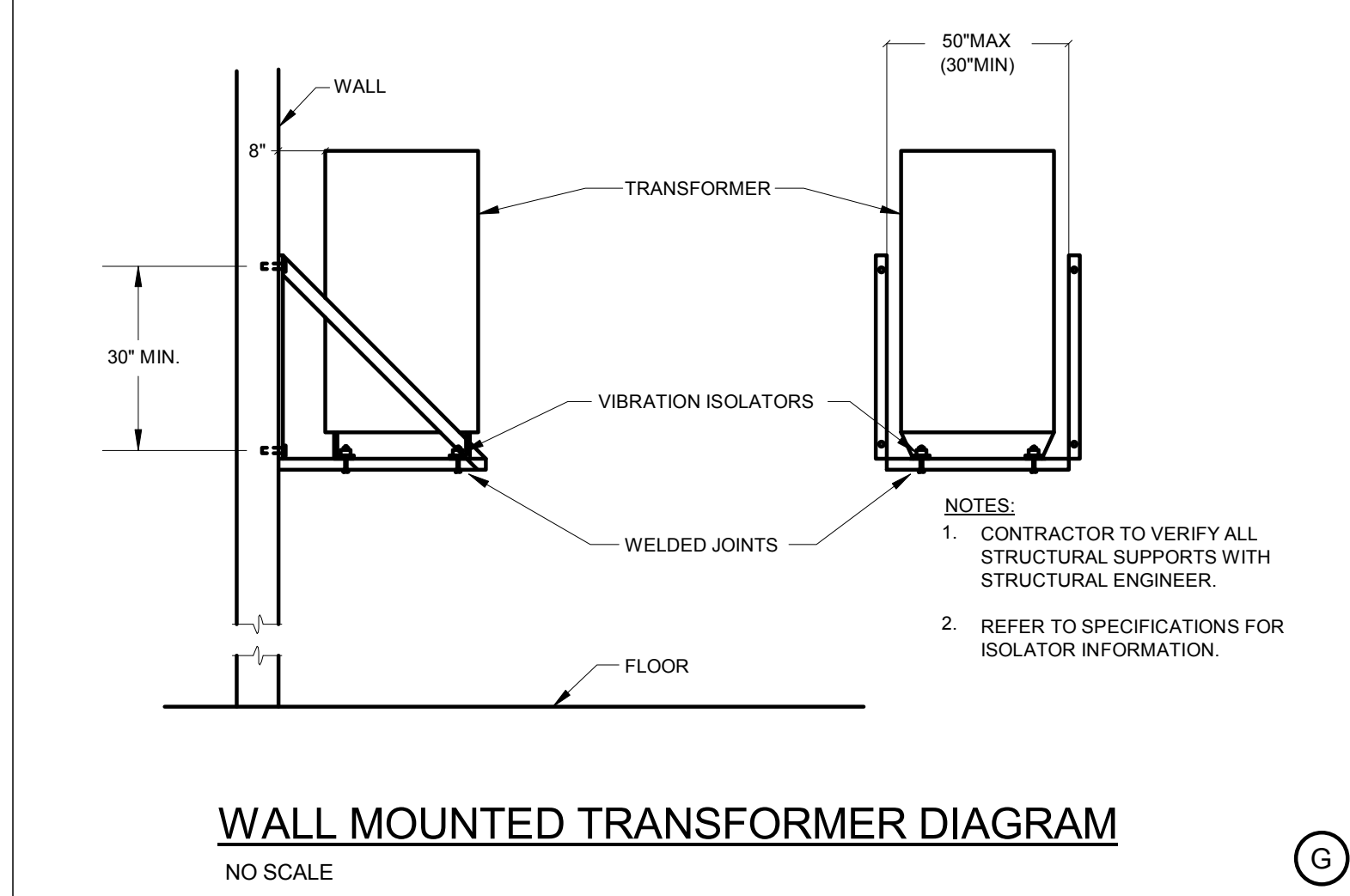
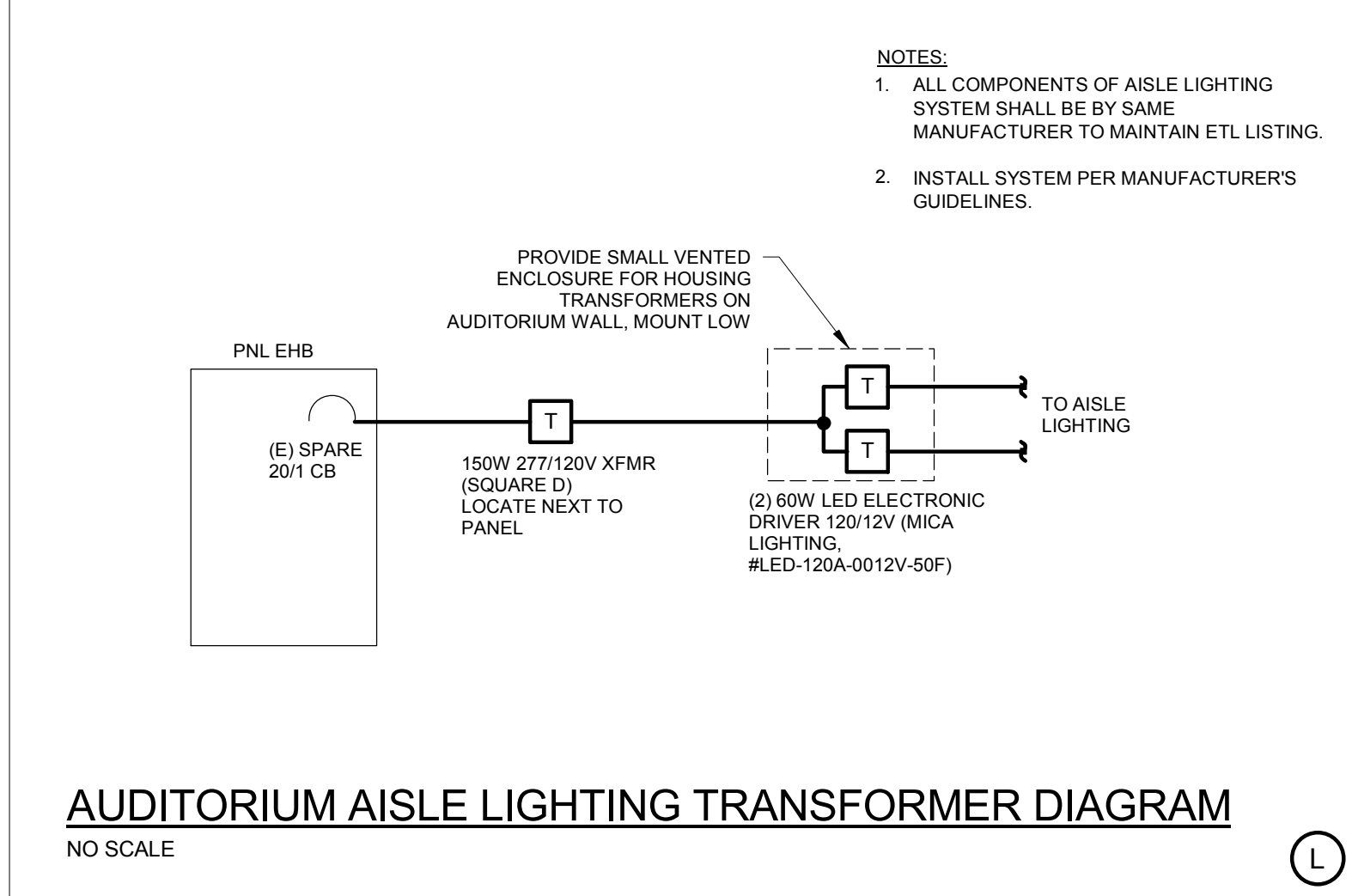
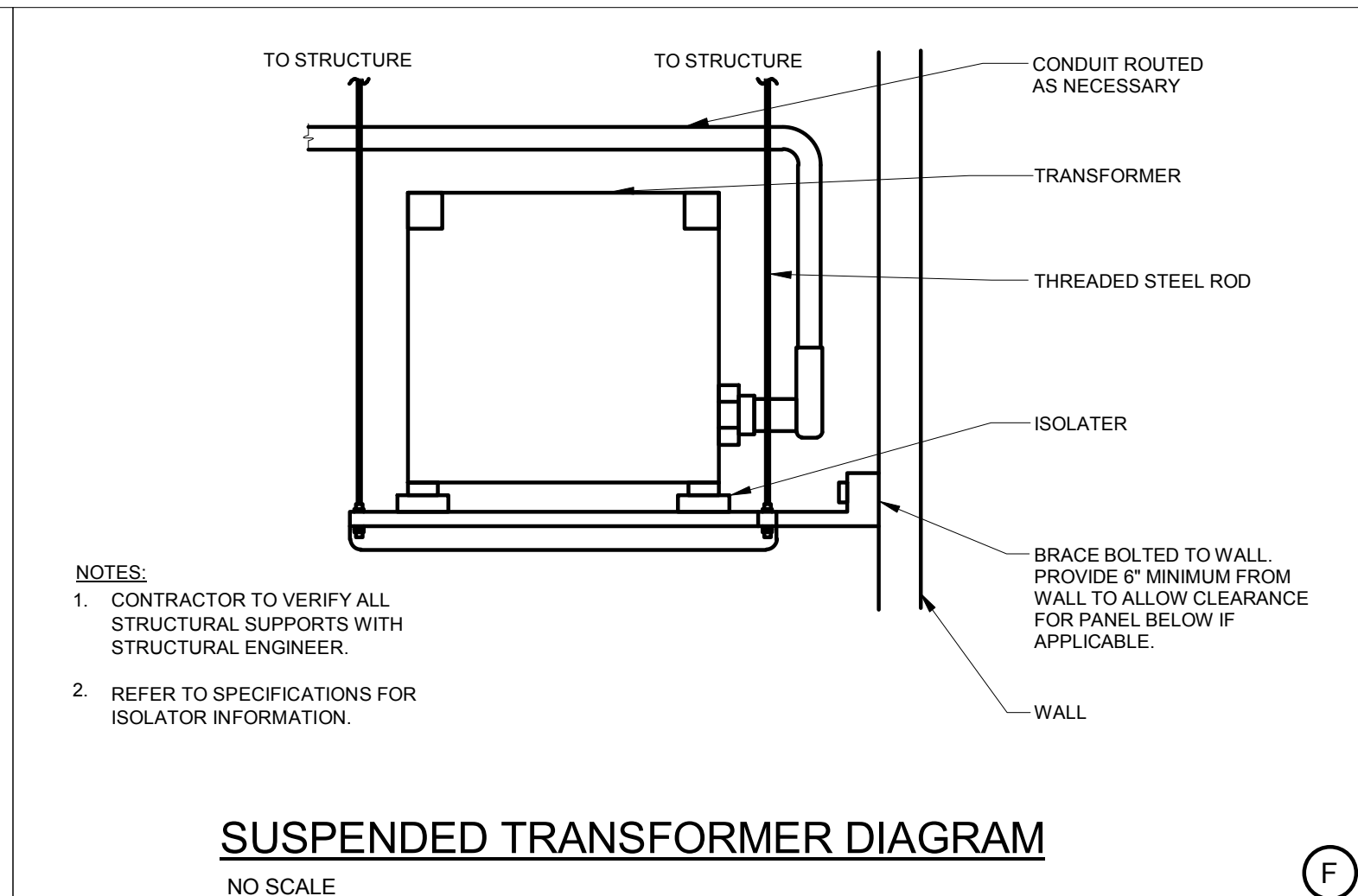
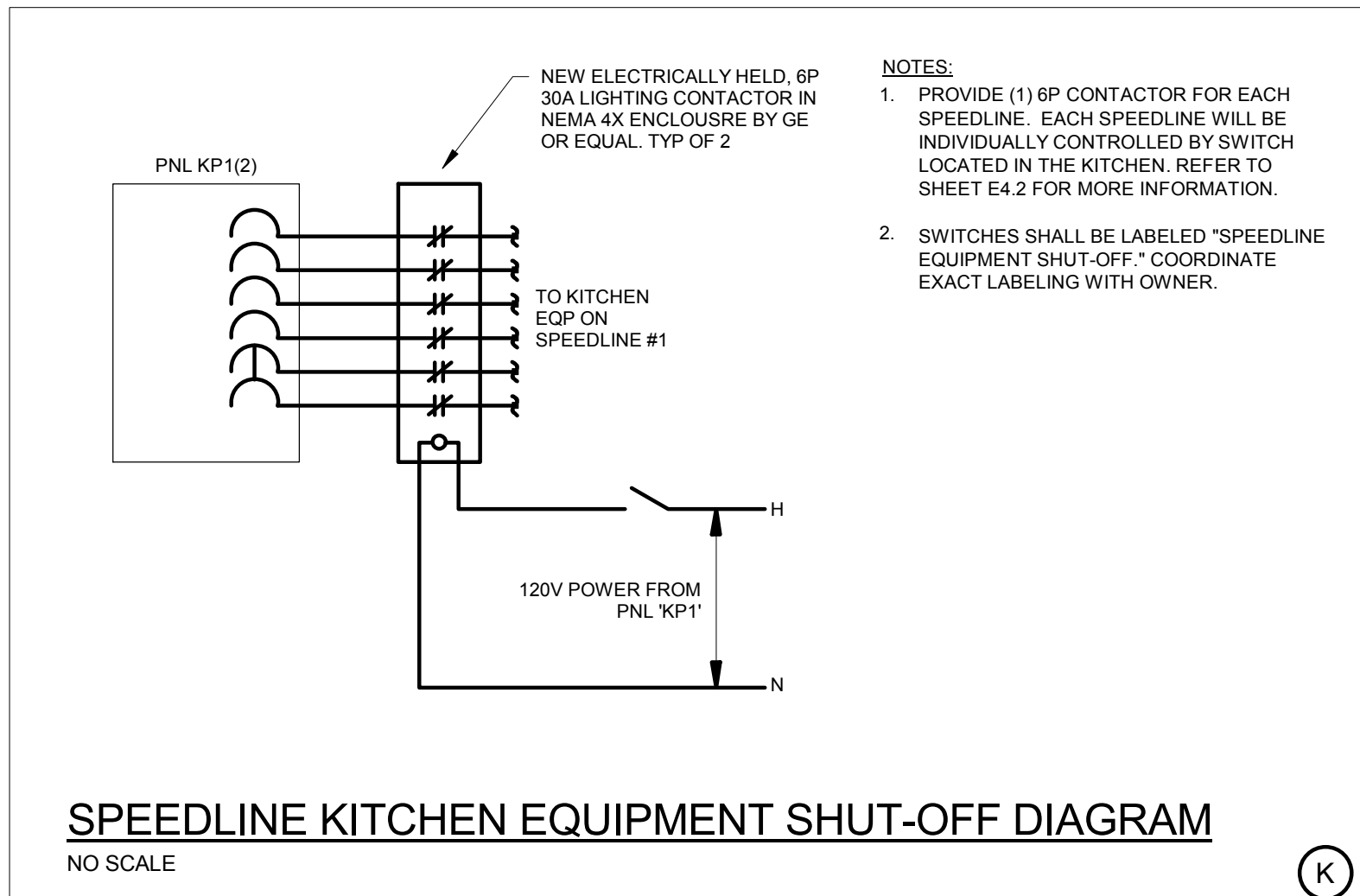
#### NOTES:

- REFER TO PHASING NOTES ON SHEET E0.1 FOR TUNING OF WORK SHOWN HERE. FOR EACH PIECE OF EQUIPMENT, VERIFY ON DRAWINGS WHICH AREA THE EQUIPMENT IS LOCATED IN AND ACCORDINGLY THE PHASE THE WORK GETS COMPLETED. 'MOP' SHALL NOT BE REPLACED UNTIL PHASE 2 TO PREVENT POWER DISRUPTIONS TO AREAS D.E.F. AND G DURING PHASE 1 CONSTRUCTION.
- THIS DRAWING HAS BEEN PREPARED IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE DESIGN PROFESSIONAL CANNOT ASSURE ITS ACCURACY AND THIS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.
- LIGHT LINE WEIGHT INDICATES EXISTING.
- ALL WIRE SIZES SHOWN ARE FOR COPPER CONDUCTORS. ALUMINUM CONDUCTORS ARE NOT ALLOWED.
- REFER TO PANELBOARD SCHEDULE ON THIS SHEET FOR INFORMATION ON PANELS BEING REPLACED. EXISTING PANELS THAT ARE BEING REUSED HAVE PANEL SCHEDULES PROVIDED ON SHEET E7.1.
- METAL CONDUIT MAY ONLY BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR WHEN INTERCEPTING AND MATCHING EXISTING FEEDERS. ALL OTHER FEEDERS SHALL HAVE GREEN GROUND WIRE INCLUDED.

#### FLAG NOTES:

- TRANSFORMER REPLACED WITH SMALLER SIZE BASED ON METERING DATA.
- CONTACTOR FOR EMERGENCY SHUT-OFF OF SHOP EQUIPMENT PANEL. REFER TO DIAGRAM ON SHEET E6.1 FOR MORE INFORMATION.
- UTILIZE SPARE DISCONNECT WITH NEW 150A FUSES FOR NEW FEEDER TO SERVE KITCHEN LOADS.
- INTERCEPT EXISTING FEEDER IN ELECTRICAL ROOM (E10) AND EXTEND AS NECESSARY TO FEED INTO NEW 'MOP'. PROVIDE J-BOX AS NECESSARY. VERIFY (E) FEEDER SIZE IN THE FIELD AND MATCH SIZE WITH NEW FEEDER. FEEDER SIZES SHOWN ARE BASED ON PREVIOUS CONSTRUCTION DOCUMENTS.







LUMINAIRE SCHEDULE										
TYPE	DESCRIPTION	MOUNTING	RECESS DEPTH	LAMPS		INPUT WATTS	VOLT	MANUFACTURER	CATALOG NUMBER	SPECIFIC NOTES
				QTY	TYPE					
P1	DELETED PR #02.									
R1	2X4 RECESSED FLUORESCENT VOLUMETRIC FIXTURE WITH SYLVANIA LOW BALLAST FACTOR INSTANT START BALLAST	RECESSED	4-3/4"	2	28W T8	58	277	COLUMBIA	TRA24-232G-CLO-E	
R1-ALT	2X4 RECESSED LED FIXTURE	RECESSED	4-3/4"	-	LED AS SUPPLIED	50	277	CREE	CR24-50L-40K	(1)
R2	2X4 RECESSED FLUORESCENT FIXTURE WITH LENS, WET LISTING, AND SYLVANIA LOW BALLAST FACTOR INSTANT START BALLAST	RECESSED	3-3/4"	3	28W T8	63 W	277	COLUMBIA	WT24-332G-FA-A12-3EU	
R3	8" RECESSED LED DOWNLIGHT WITH 1100 LUMEN MODULE AND WET LISTING	RECESSED	6-3/4"	-	LED AS SUPPLIED	17.3	277	PRESCOLITE	LF6LED-6FLED5 40K	
R4	EXISTING 2X4 PARABOLIC FIXTURE TO BE RELOCATED	RECESSED	-	3	28W T8	63 W	277	-	-	(3)
S1	LOW PROFILE HIGH-BAY SUSPENDED FLUORESCENT FIXTURE WITH HUB MOUNT, WIREGUARD, AND TWO SYLVANIA HIGH BALLAST FACTOR INSTANT START BALLASTS	SUSPENDED	-	6	28W T8	168 W	277	H.E. WILLIAMS	GL-4-632-HUB MT 3/4"-GC2Y185-WG11-EB42-UNV	(1)(5)
S2	EXISTING SURFACE MOUNTED 1X4 FLUORESCENT FIXTURE IN KITCHEN TO BE RELOCATED	SURFACE	-	2	28W T8	56 W	277	-	-	(2)
S3	1X4 WRAP FOR KITCHEN STORAGE WITH ACRYLIC LENS AND SYLVANIA LOW BALLAST FACTOR INSTANT START BALLAST	SURFACE	-	2	28W T8	56 W	277	COLUMBIA	WC4-232-EU	
S4	LOW PROFILE HIGH-BAY FLUORESCENT FIXTURE WITH HUB MOUNT, WIREGUARD, AND SYLVANIA HIGH BALLAST FACTOR INSTANT START BALLAST	SUSPENDED	-	4	28W T8	112 W	277	H.E. WILLIAMS	GL-4-632-HUB MT 3/4"-GC2Y185-WG11-EB42-UNV	(1)(5)
S5	LED AND FIBER OPTIC ASLE LIGHT	SURFACE	-	-	LED AS SUPPLIED	25W PER LED	12V DC	MICA LIGHTING	NLA-1870-R	(6)
S6	LOW PROFILE HIGH-BAY SUSPENDED FLUORESCENT FIXTURE WITH HUB MOUNT, WIREGUARD, AND TWO SYLVANIA HIGH BALLAST FACTOR INSTANT START BALLASTS	SUSPENDED	-	8	28W T8	224 W	277	H.E. WILLIAMS	GL-4-632-HUB MT 3/4"-GC2Y185-WG11-EB42-UNV	(1)(5)
<b>GENERAL NOTES:</b> A. THE LUMINAIRE SCHEDULE CAN NOT BE USED INDEPENDENTLY OF THE DRAWINGS AND SPECIFICATIONS TO OBTAIN LUMINAIRE COSTS. THE INDIVIDUAL ESTABLISHING LUMINAIRE COSTS SHALL NOT QUOTE PRICING WITHOUT FIRST ISSUING APPLICABLE ELECTRICAL DRAWINGS AND ELECTRICAL DIVISION SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY DRAWINGS AND SPECIFICATIONS TO THE INDIVIDUAL QUOTING LUMINAIRE PRICING. B. REFER TO DRAWINGS FOR FIXTURES REQUIRING EMERGENCY BATTERY BACKUP OPTION (SHOWN BY HATCH INOVER SYMBOL). MINIMUM LIGHT OUTPUT FOR EM BALLAST SHALL BE 600 LUMENS. C. ALL FLUORESCENT LAMPS ARE TO BE 4100° KELVIN COLOR TEMPERATURE. <b>SPECIFIC NOTES:</b> (1) NO SUBSTITUTIONS. (2) FIXTURES ARE EXISTING AND SHOWN HERE FOR REFERENCE ONLY. PROVIDE WITH NEW LAMPS AND BALLAST PRIOR TO REINSTALLATION. (3) FIXTURES ARE EXISTING AND SHOWN HERE FOR REFERENCE ONLY. (4) CONFIRM FINISH WITH ARCHITECT. (5) FIXTURE UTILIZES HUB MOUNT TO CONNECT TO EXISTING STEM AND THEN CABLE SUSPENSION KIT TO PROVIDE EXTRA SUPPORT FROM STRUCTURE. (6) PROVIDE ALL NECESSARY TRANSITIONS, POWER FEEDS, TRANSFORMERS, END CAPS AND OTHER ACCESSORIES NEEDED FOR COMPLETE INSTALLATION OF FIXTURE.										

KITCHEN EQUIPMENT SCHEDULE										
MARK	DESCRIPTION	VOLT / PHASE	HP / WATTS	AMPS	HARDWIRED	CONNECTION RECEPTACLE	DISCONNECT	FEEDER	CIRCUIT	SPECIFIC NOTES
K06	WALK IN FREEZER	120/1	1.2 KW	10.0	YES	-	20A 1P	20(2WG)	KP1-29	(3)
K07	WALK IN FREEZER CONDENSER	208/3	9.0 KW	25.0	YES	-	30A 3P	30(3WG)	LHA-42-44-46	(2)(6)
K12	WALK IN COOLER	120/1	840 W	7.0	YES	-	20A 1P	20(2WG)	KP1-31	(3)
K13	WALK IN COOLER CONDENSER	208/3	5.7 KW	16.0	YES	-	30A 3P	30(3WG)	KP1-30,32,34	(2)
K22	DISH MACHINE	208/3	14.4 KW	40.0	YES	-	60A 3P	60(3WG)	KP1-20,22,24	
K25	DISPOSAL	208/1	1.3 KW	6.0	YES	-	20A 2P	20(2WG)	KP1-26,28	
K27	BOOSTER HEATER	120/1	600 W	5.0	YES	-	20A 1P	20(2WG)	KP1-18	
K34	DISPOSAL	208/1	1.3 KW	6.0	YES	-	20A 2P	20(2WG)	KP1-12,14	
K43	MIXER	208/3	2.1 KW	6.0	YES	-	20A 3P	20(3WG)	KP1-2,4,6	
K44	EXHAUST HOOD	120/1	1.2 KW	10.0	YES	-	-	20(2WG)	KP1-19	(1)
K45	FIRE SUPPRESSION SYSTEM	120/1	600 W	5.0	YES	-	20A 1P	20(2WG)	KP1-21	
K47	RANGE, 2 BURNER	120/1	1.2 KW	10.0	-	NEMA 5-20R	-	20(2WG)	KP1-15	(1)
K52	STEAMER, CONNECTION	120/1	600 W	5.0	-	NEMA 5-20R	-	20(2WG)	KP1-11	(1)
K53	TILTING KETTLE	120/1	600 W	5.0	-	NEMA 5-20R	-	20(2WG)	KP1-9	
K54	CONVECTION OVEN, DOUBLE STACKED	120/1	600 W	5.0	-	NEMA 5-20R	-	20(2WG)	KP1-7	
K55	CONVECTION OVEN, UPPER/LOWER	120/1	1.2 KW	10.0	-	NEMA 5-20R	-	20(2WG)	KP1-5	
K57	EXHAUST HOOD, TYPE 2	120/1	1.2 KW	10.0	YES	-	-	20(2WG)	KP1-23	
K60	MILK COOLER	120/1	1.2 KW	10.0	-	NEMA 5-20R	-	20(2WG)	KP1-79	
K61	REFRIGERATOR, 3 DOOR	120/1	2.4 KW	20.0	-	NEMA 5-20R	-	20(2WG)	KP1-3	
K63	ICE MACHINE	120/1	1.6 KW	13.8	-	NEMA 5-20R	-	20(2WG)	KP1-55	
K64	DUAL TEMP FOOD WELL	208/3	4.0 KW	16.0	YES	-	30A 3P	20(4WG)	RE: DRAWINGS	
K65	HEATED HOLDING CABINET	120/1	1.9 KW	16.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	
K71	CASHIER STANDS	120/1	1.2 KW	10.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	
K74	SALAD BAR, REFRIGERATED	120/1	600 W	5.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	(4)(5)
K75	MERCHANDISER, HEATED	120/1	1.5 KW	12.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	(4)(5)
K76	HOT FOOD WELLS	208/1	3.1 KW	15.0	-	NEMA 6-20R	-	20(2WG)	RE: DRAWINGS	(4)(5)
K77	MILK/BEVERAGE COOLER	208/120/1	3.1 KW	15.0	-	NEMA L14-20R	-	20(3WG)	RE: DRAWINGS	(5)
K80	MERCHANDISING RACKS, LIGHTS	120/1	360 W	3.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	(4)(5)
K81	MERCHANDISING RACK, LIGHTS	120/1	360 W	3.0	-	NEMA 5-20R	-	20(2WG)	RE: DRAWINGS	(4)(5)
<b>GENERAL NOTES:</b> A. FIELD VERIFY ALL EQUIPMENT POWER AND CONNECTION REQUIREMENTS WITH KITCHEN CONTRACTOR AND MANUFACTURER'S INFORMATION. B. HARD WIRED EQUIPMENT CONNECTIONS SHALL BE SEALTIGHT. C. E.C. SHALL COORDINATE ALL CONNECTION POINT LOCATIONS AND RECEPTACLE CONFIGURATIONS WITH THE KITCHEN CONSULTANT. VERIFY EQUIPMENT DISCONNECT REQUIREMENTS PRIOR TO INSTALLATION. D. ANY EQUIPMENT UNDER HOOD TIES INTO FIRE SUPPRESSION SYSTEM. PROVIDE SHUNT TRIP CIRCUIT BREAKER TO TURN EQUIPMENT OFF WHEN FIRE SUPPRESSION SYSTEM IS ACTIVATED. E. PROVIDE ALL EQUIPMENT DISCONNECTS IN KITCHEN WITH NEMA 3R RATING. F. COORDINATE CONTROLS WITH KITCHEN EQUIPMENT VENDOR. <b>SPECIFIC NOTES:</b> (1) EQUIPMENT FED FROM SHUNT TRIP CIRCUIT BREAKER THAT IS ACTIVATED BY FIRE SUPPRESSION SYSTEM. (2) PROVIDE RELAY FOR SIGNALING SECURITY SYSTEM UPON LOSS OF POWER TO EQUIPMENT. REFER TO KITCHEN DRAWINGS FOR MORE INFORMATION. (3) WIRE HOOD LIGHTS THROUGH MELNICO PROCESSOR. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION. (4) EQUIPMENT WIRED THROUGH CONTACTOR FOR SHUT-OFF OF SPEEDLINE EQUIPMENT. REFER TO DIAGRAM ON E6.1 FOR MORE INFORMATION. (5) EXTEND CONNECTION FROM J-BOX ON WALL TO EQUIPMENT WHICH IS PROVIDED WITH PLUG AND CORD. COORDINATE WITH KITCHEN CONTRACTOR. (6) PROVIDE HEAT TAPE FOR FREEZER CONDENSER DRAIN LINE PER KITCHEN EQUIPMENT DRAWING REQUIREMENTS.										

MECHANICAL EQUIPMENT SCHEDULE (EXHAUST FANS ONLY)												
MARK	DESCRIPTION	VOLT / PHASE	HP	WATTS	FLA	MCA	CONTROLS	DISCONNECT/ FUSE SIZE	FEEDER	CIRCUIT	SPECIFIC NOTES	
EF-1	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-2	EXHAUST FAN	120/1	1/2 HP	1.2 KW	9.8	12.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-3	EXHAUST FAN	120/1	1/2 HP	1.2 KW	9.8	12.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-4	EXHAUST FAN	120/1	1/2 HP	1.2 KW	9.8	12.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-5	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-6	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-7	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-8	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-9	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-10	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	30(2WG)	LNA	(4)	
EF-11	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-12	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	-	PROVIDED W/ EQP	30(2WG)	LNA	(4)	
EF-13	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	30(2WG)	SHARE CKT WITH EF-17		
EF-14	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT TIMER SWITCH (PROV BY MC)	PROVIDED W/ EQP	20(2WG)	LCA(2)	(4)	
EF-15	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	20(2WG)	SHARE CKT WITH EF-14		
EF-16	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	30(2WG)	SHARE CKT WITH EF-17		
EF-17	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-18	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-21	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-22	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-23	EXHAUST FAN	408/3	1 HP	1.7 KW	2.1	2.6	-	PROVIDED W/ EQP	30(3WG)	HHA	(3)	
EF-24	EXHAUST FAN	408/3	1 HP	1.7 KW	2.1	2.6	-	PROVIDED W/ EQP	30(3WG)	HHA	(3)	
EF-25	EXHAUST FAN	408/3	1 HP	1.7 KW	2.1	2.6	-	PROVIDED W/ EQP	30(3WG)	HHA	(3)	
EF-28	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-29	EXHAUST FAN	120/1	1/3 HP	864 W	7.2	9.0	-	PROVIDED W/ EQP	30(2WG)	LHB-29		
EF-30	EXHAUST FAN	120/1	3/4 HP	1.6 KW	13.8	17.3	-	PROVIDED W/ EQP	30(2WG)	LHB-18		
EF-31	EXHAUST FAN	120/1	1/3 HP	864 W	7.2	9.0	-	PROVIDED W/ EQP	30(2WG)	LHB-27		
EF-32	EXHAUST FAN	120/1	1/20 HP	240 W	2.0	2.5	-	PROVIDED W/ EQP	30(2WG)	LHB-27		
EF-33	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-34	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT TIMER SWITCH (PROV BY MC)	PROVIDED W/ EQP	30(2WG)	LRB	(4)	
EF-35	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	30(2WG)	LRB	(4)	
EF-36	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-37	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	30(2WG)	LG	(4)	
EF-38	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-39	EXHAUST FAN	120/1	1/20 HP	240 W	2.0	2.5	CONNECT TIMER SWITCH (PROV BY MC)	PROVIDED W/ EQP	20(2WG)	LRC	(4)	
EF-40	EXHAUST FAN	120/1	1/6 HP	528 W	4.4	5.5	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-41	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-42	EXHAUST FAN	120/1	1/8 HP	528 W	4.4	5.5	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-43	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-44	EXHAUST FAN	120/1	1/8 HP	348 W	2.9	3.6	CONNECT T-STAT (PROV BY MC)	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-45	EXHAUST FAN	120/1	1/25 HP	120 W	1	1.3	-	PROVIDED W/ EQP	UTILIZE EXISTING FEEDER	UTILIZE EXISTING CIRCUIT		
EF-46	EXHAUST FAN	120/1	1/6 HP	528 W	4.4	5.5	-	PROVIDED W/ EQP	20(2WG)	LRG	(4)	
EF-47	EXHAUST FAN	480/3	2 HP	2.8 KW	3.4	4.3	VFD BY MC	30A 3P	20(3WG)	MP2-19,21,23	(2)	
EF-48	EXHAUST FAN	408/3	1 HP	1.7 KW	2.1	2.6	VFD BY MC	30A 3P	20(3WG)	MP2-2,4,6	(2)	
EF-49	EXHAUST FAN	120/1	1/4 HP	696 W	5.8	7.3	-	PROVIDED W/ EQP	30(2WG)	KP1-33		
<b>GENERAL NOTES:</b> A. SEE SPECIFICATIONS FOR ELECTRICAL DIVISION AND MECHANICAL DIVISION MOTOR STARTER COORDINATION. B. PROVIDE PHASE PROTECTION FOR ALL THREE PHASE MOTORS ABOVE 7-1/2 HP. C. PROVIDE ALL EXTERIOR DISCONNECTS WITH NEMA 3R RATING. D. <b>SPECIFIC NOTES:</b> (1) NOT USED (2) REFER TO TYPICAL VFD WIRING DIAGRAM ON SHEET E6.1 FOR WIRING INFORMATION. (3) PROVIDE NEW 203 CIRCUIT BREAKER IN PANEL 'HHA' TO SERVE EF-23, EF-24, AND EF-25. (4) PROVIDE NEW 201 CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EXHAUST FAN.												

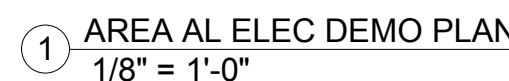
MECHANICAL EQUIPMENT SCHEDULE												
MARK	DESCRIPTION	VOLT / PHASE	HP	WATTS	FLA	MCA	STARTER	DISCONNECT/ FUSE SIZE	FEEDER	CIRCUITING PANEL	SPECIFIC NOTES	
AF-1	AIR FILTER	120/1	1/6 HP	528 W	4.4	5.5	-	MOTOR RATED SW	20(2WG)	LRB	(3)	
B-1	BOILER	480/3	5 HP	6.3 KW	7.6	9.5	-	30A 3P	20(3WG)	PP1-7,9,11		
B-2	BOILER	480/3	5 HP	6.3 KW	7.6	9.5	-	30A 3P	20(3WG)	PP1-13,15,17		
B-3	BOILER	480/3	5 HP	6.3 KW	7.6	9.5	-	30A 3P	20(3WG)	PP1-19,21,23		
P-1	PUMP	480/3	1.5 HP	2.5 KW	3.0	3.8	NEMA 00	30A 3P	20(3WG)	PP1-14,16,18		
P-2	PUMP	480/3	1.5 HP	2.5 KW	3.0	3.8	NEMA 00	30A 3P	20(3WG)	PP1-20,22,24		
P-3	PUMP	480/3	1.5 HP	2.5 KW	3.0	3.8	NEMA 00	30A 3P	20(3WG)	PP1-26,28,30		
MAU-1	MAKE-UP AIR UNIT	480/3	1 HP	1.7 KW	2.1	2.6	VFD BY MC	30A 3P	20(3WG)	MP2-19,21,23	(2)	
MAU-2	MAKE-UP AIR UNIT	408/3	1.5 HP	2.5 KW	3.0	3.8	VFD BY MC	30A 3P	20(3WG)	MP2-2,4,6	(2)	
ERV-1	ENERGY RECOVERY	480/3	-	44.0 KW	-	52.9	PROVIDED W/ EGP	PROVIDED W/ EGP	60(3WG)	MP5-7,9,11		
RTU-1	ROOFTOP UNIT	480/3	-	101.3 KW	-	122.0	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	125(3WG)	MP3-13,15,17		
RTU-2	ROOFTOP UNIT	480/3	-	48.8 KW	-	58.8	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	70(3WG)	MP3-19,21,23		
RTU-3	ROOFTOP UNIT	480/3	-	14.9 KW	-	18.0	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	20(3WG)	MP3-1,3,5		
RTU-4	ROOFTOP UNIT	480/3	-	76.6 KW	-	92.2	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	125(3WG)	MP3-8,10,12		
RTU-5	ROOFTOP UNIT	480/3	-	46.7 KW	-	56.3	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	60(3WG)	HCA(2)-14,16,18		
RTU-6	ROOFTOP UNIT	480/3	-	37.8 KW	-	45.5	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	50(3WG)	MP2-8,10,12	(1)	
RTU-7	ROOFTOP UNIT	480/3	-	61.1 KW	-	73.8	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	80(3WG)	MP2-14,16,18		
RTU-8	ROOFTOP UNIT	480/3	-	62.7 KW	-	75.5	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	80(3WG)	MP2-1,3,5	(1)	
RTU-9	ROOFTOP UNIT	480/3	-	65.7 KW	-	79.1	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	90(3WG)	SDB1-19,21,23		
RTU-10	ROOFTOP UNIT	480/3	-	29.6 KW	-	35.7	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	40(3WG)	HL-2,4,6		
RTU-11	ROOFTOP UNIT	480/3	-	21.8 KW	-	26.3	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	40(3WG)	MP5-25,27,29		
RTU-12	ROOFTOP UNIT	480/3	-	94.9 KW	-	114.3	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	150(3WG)	MP4-14,16,18		
RTU-13	ROOFTOP UNIT	480/3	-	49.2 KW	-	59.3	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	70(3WG)	MP4-8,10,12	(1)	
RTU-14	ROOFTOP UNIT	480/3	-	88.0 KW	-	105.9	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	125(3WG)	MP4-38,40,42	(1)	
RTU-15	ROOFTOP UNIT	480/3	-	53.4 KW	-	64.3	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	80(3WG)	MP4-2,4,6	(1)	
RTU-16	ROOFTOP UNIT	480/3	-	30.2 KW	-	36.4	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	50(3WG)	MP2-7,9,11		
RTU-17	ROOFTOP UNIT	480/3	-	34.9 KW	-	42.0	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	50(3WG)	HL-8,10,12		
RTU-18	ROOFTOP UNIT	480/3	-	29.0 KW	-	34.9	VFD PROVIDED W/ EGP	PROVIDED W/ EGP	40(3WG)	SDB1-25,27,29		
RTU-19	ROOFTOP UNIT	208/1	-	2.8 KW	-	13.6	-	30A 2P	30(2WG)	LCA(2)	(4)	
WH-1	WATER HEATER	120/1	-	1.2 KW	10.0	12.5	-	CORD AND PLUG	20(2WG)	SHARE CKT WITH AF-1		
GENERAL NOTES:												
A. SEE SPECIFICATIONS FOR ELECTRICAL DIVISION AND MECHANICAL DIVISION MOTOR STARTER COORDINATION.												
B. PROVIDE PHASE PROTECTION FOR ALL THREE PHASE MOTORS ABOVE 7-1/2 HP.												
C. PROVIDE NEW 201 CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EQUIPMENT.												
D. PROVIDE NEW 202 CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EQUIPMENT.												
SPECIFIC NOTES:												
(1) UTILIZE (E) FEEDER FROM REMOVED RTU IN SIMILAR LOCATION FOR NEW CONNECTION. CONFIRM IN FIELD THAT FEEDER MEETS MINIMUM SIZE REQUIREMENTS AS INDICATED ON THIS SCHEDULE. PER AVAILABLE AS-BUILT DRAWINGS AND SITE INVESTIGATION (E) FEEDER SHOULD MEET REQUIREMENTS. NOTIFY ENGINEER OF ANY DISCREPANCIES.												
(2) REFER TO TYPICAL VFD WIRING DIAGRAM ON SHEET E-1 FOR WIRING INFORMATION.												
(3) PROVIDE NEW 201 CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EQUIPMENT.												
(4) PROVIDE NEW 202 CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EQUIPMENT.												

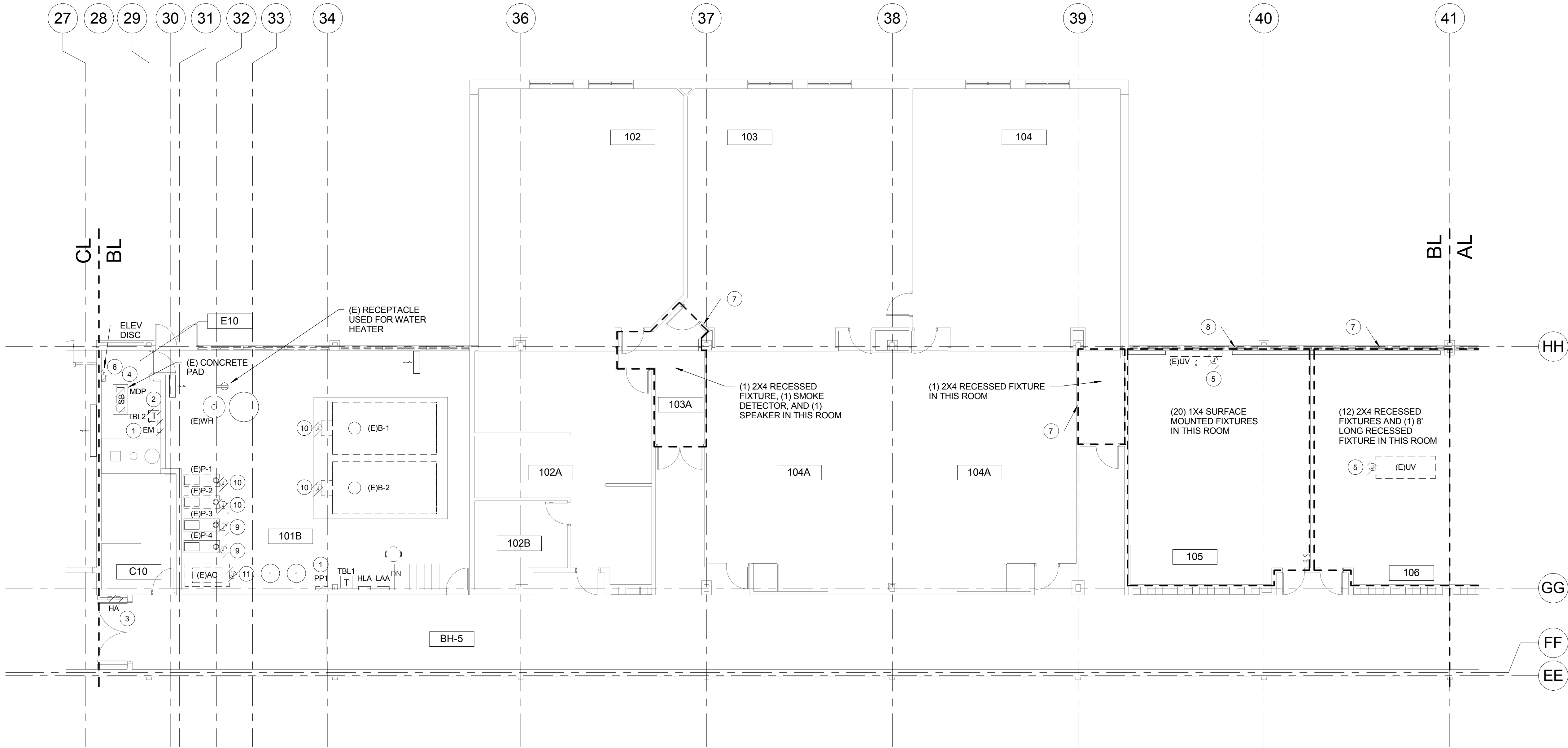


PANEL:		MP4		VOLTAGE:		277/480V, 3PH, 4W	
LOCATION:		ELEC D102		MINIMUM BUS:		800	
MOUNTING:		SURFACE		MAIN:		MLO	
				MINIMUM AIC:		18,000A	
No.	LOAD	TYPE	LOAD DESCRIPTION	BREAKER POLE	BUS TRIP	BREAKER POLE	LOAD
1	A	B	C	A	B	C	No.
1				3	25	30	3
2							4
3							5
4							6
5							7
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<b>PANEL:</b>		(E) MP3		<b>VOLTAGE:</b>		277/480V, 3PH, 4W	
<b>LOCATION:</b>		ELEC AL146		<b>MINIMUM BUS:</b>		600	
<b>MOUNTING:</b>		SURFACE		<b>MAIN:</b>		MLO	
				<b>MINIMUM AIC:</b>		13,000A	
NO.	LOAD	TYPE	LOAD DESCRIPTION	BREAKER	BUS	BREAKER	LOAD
A	B	C		POLE TRIP	A	B	C
1			SPACE	1	20	3	2
3			SPACE	1	20	3	4
5			SPACE	1	20	3	6
7			SPACE	1	20	3	8
9			SPACE	1	20	3	10
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13			SPACE	1	20	3	14
15			SPACE	1	20	3	16
17			SPACE	1	20	3	18
19			SPACE	1	20	3	20
21			SPACE	1	20	3	22
23			SPACE	1	20	3	24
25			SPACE	1	20	3	26
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29			SPACE	1	20	3	30
31			SPACE	1	20	3	32
33			SPACE	1	20	3	34
35			SPACE	1	20	3	36
37			SPACE	1	20	3	38
39			SPACE	1	20	3	40
41			SPACE	1	20	3	42
43			SPACE	1	20	3	44
45			SPACE	1	20	3	46
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49			SPACE	1	20	3	50
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53			SPACE	1	20	3	54
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439			SPACE	1	20	3	440
4							







1 AREA BL ELEC DEMO PLAN  
1/8" = 1'-0"

#### NOTES:

- REFER TO ARCHITECTURAL RCP DEMO PLAN FOR FULL SCOPE OF CEILINGS BEING REMOVED BOTH TEMPORARILY AND PERMANENTLY. SCOPE SHOWN HERE IS INTENDED TO SHOW LARGE PIECES OF DEMOLITION ONLY. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL DEVICES FROM CEILINGS AND REINSTALLING IN SAME LOCATION UNLESS NOTED OTHERWISE.
- EXISTING CONDITIONS ARE SHOWN FOR REFERENCE ONLY AND ARE BASED OFF OF CASUAL OBSERVATION IN THE FIELD AND PREVIOUS CONSTRUCTION DRAWINGS. VERIFY ALL EXISTING CONDITIONS IN THE FIELD.
- DEMOLITION OF ROOFTOP EXHAUST FANS ARE SHOWN ON SHEET ED1.11 AND ED1.12. REFER TO MECHANICAL DEMO FLOOR PLANS FOR THE CORRESPONDING LOCATIONS OF THESE FANS BELOW THE ROOF THAT MAY CONTAIN ACCESSORIES TO THE FANS SUCH AS MOTOR STARTERS AND MOTORIZED DAMPERS. EC RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL CONNECTIONS TO FANS BEING REMOVED.
- REMOVE ALL UNUSED WIRING/CONDUIT FROM EQUIPMENT BEING REMOVED UNLESS NOTED OTHERWISE. ENSURE CONTINUITY OF CIRCUIT IF IT FEEDS MULTIPLE LOADS. CONDUITS THAT CAN'T BE REMOVED SHALL BE LABELED WITH THE LOCATION THE CONDUIT TERMINATES. BE IDENTIFIED AS "SPARE", AND BE PROVIDED WITH A PULLSTRING.

#### FLAG NOTES:

- EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM.
- EXISTING TRANSFORMER TO BE REMOVED AND REPLACED. CAPTURE EXISTING FEEDERS FOR RECONNECTION TO NEW TRANSFORMER AS NECESSARY PER ONE-LINE DIAGRAM.
- EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM. PANEL RECESSED IN BLOCK WALL. NEW ENCLOSURE SHALL FIT WITHIN EXISTING WALL OPENING.
- EXISTING SWITCHBOARD TO BE REMOVED AND REPLACED IN KIND. SEQUENCE WORK TO MINIMIZE DOWNTIME AND COORDINATE TIMING WITH OWNER. CAPTURE INCOMING AND OUTGOING FEEDERS FOR RECONNECTION.
- REMOVE ELECTRICAL CONNECTION TO UNIT VENTILATOR. REMOVE ALL CONDUIT/WIRING BACK TO SOURCE AS MUCH AS PRACTICAL.
- REMOVE ELEVATOR DISCONNECT. ELEVATOR TO BE REFEED FROM NEW SWITCHBOARD.
- REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE TEMPORARY REMOVAL OF CEILING. REINSTALL DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. THE APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.
- REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE DEMOLITION OF CEILING. CAPTURE POWER FOR REUSE WITH NEW LIGHTS PROVIDED. REINSTALL OTHER DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. THE APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.
- REMOVE CONNECTION TO EXISTING PUMP VFD FOR INSTALLATION OF NEW VFD. REFER TO MECHANICAL DRAWINGS FOR MORE INFORMATION.
- REMOVE ELECTRICAL CONNECTION TO EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECTS, STARTERS, ETC. REMOVE ALL CONDUIT/WIRING BACK TO SOURCE AS MUCH AS PRACTICAL. VERIFY EXACT LOCATION OF EQUIPMENT IN FIELD.
- AIR COMPRESSOR CONNECTION SHALL NOT BE REMOVED UNTIL ALL PNEUMATIC CONTROLS HAVE BEEN SWITCHED OVER TO DDC CONTROLS ON ENTIRE PROJECT. COORDINATE TIMING WITH CONTROLS CONTRACTOR AND OWNER.

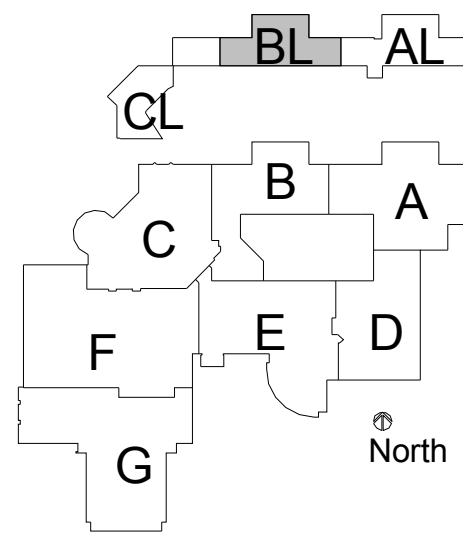
ARCHITECTURE PLUS

318 East Oak Street, Fort Collins, Colorado 80524-2915  
1403 Campus Avenue, Suite 201, Channah, Wyoming 82001-6669  
Studio: 970.632.7003 Fax: 970.631.4468  
www.aplusarch.com

SHEET CONTENTS

AREA BL ELECTRICAL DEMO PLAN

Poudre High School Renovations  
201 Impala Drive  
Fort Collins, CO 80521



BEAUDIN  
GANZE

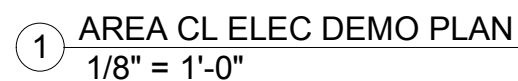
Consulting Engineers, Inc.  
Vail: (970) 640-6108  
Lake Tahoe: (303) 552-7334  
Denver: (303) 278-3820  
Fort Collins: (970) 221-0801  
Albuquerque: (505) 323-9070  
www.bganze.com



ISSUE FOR BIDDING

No.	Description	Date
1	ED1.12	19 Jan 2012

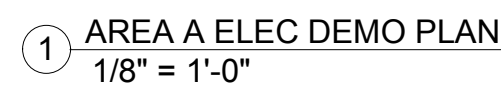
REVISIONS



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1. REFER TO ARCHITECTURAL RCP DEMO PLAN FOR FULL SCOPE OF CEILINGS BEING REMOVED. THE TEMPORARY DEMO AND PERMANENTLY SCOPE SHOWN HERE IS INTENDING TO SHOW LAYOUT OF THE DEMOLITION ONLY. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL DEVICES FROM CEILING AND RESTORATION TO ORIGINAL LOCATION UNLESS NOTED OTHERWISE.
2. EXISTING CONDITIONS ARE SHOWN FOR REFERENCE ONLY AND ARE BASED OFF OF CASUAL OBSERVATION OF EXISTING AND PREVIOUS CONSTRUCTION DRAWINGS. VERIFY ALL EXISTING CONDITIONS IN THE FIELD.  
  
DEMOLITION OF ROOFTOP EXHAUST FANS ARE TO BE COMPLETED BY THE CONTRACTOR TO MECHANICAL DEMO FLOOR PLANS FOR THE CORRESPONDING LOCATIONS OF THESE FANS FROM THE ROOFTOP. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL ACCESSORIES TO THE FANS SUCH AS MOTOR STARTERS AND MOTORIZED DAMPERS. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL CONNECTIONS TO FANS BEING REMOVED.
3. REMOVE ALL UNUSED EQUIPMENT/CONDUIT FROM EQUIPMENT ROOMS UNLESS NOTED OTHERWISE. ENSURE CONTINUITY OF CIRCUIT TO ALL UTILITIES. ALL CONDUIT THAT CANNOT BE REMOVED SHALL BE LABELLED WITH THE LOCATION THE CONDUIT TERMINATES, BE IDENTIFIED AS "STAB" AND BE PROVIDED WITH A PULL STRING.

- 1 EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW TRANSFORMER. SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM.
- 2 EXISTING TRANSFORMER TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITERS FOR RECONNECTION TO NEW TRANSFORMER AS NECESSARY PER ONE-LINE DIAGRAM.
- 3 EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM. PANEL SHALL BE NEW, TYPE, WALL ENCLOSURE SHALL FIT WITHIN EXISTING WALL OPENING.
- 4 REMOVE ELECTRICAL CONNECTION TO UNIT VENTILATION. REMOVE ALL CONDUITING BACK TO SOURCE AS MUCH AS PRACTICAL.
- 5 REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE DEMOLITION OF CEILING. REINSTATE DEVICES IN SAME LOCATION. ONE CEILING IS PUT BACK TO THE SAME QUANTITY OF DEVICES INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.
- 6 REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE DEMOLITION OF CEILING. REINSTATE DEVICES FOR REUSE WITH NEW LIGHTS PROVIDED. REINSTATE OTHER DEVICES IN SAME LOCATION. ONE CEILING IS PUT BACK TO THE SAME QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.



Consulting Engineers, Inc.

Vail: (970) 949-6108  
Lake Tahoe: (530) 550-7334  
Denver: (303) 278-3820  
Fort Collins: (970) 221-5691  
Albuquerque: (505) 323-9070  
[www.bqce.com](http://www.bqce.com)

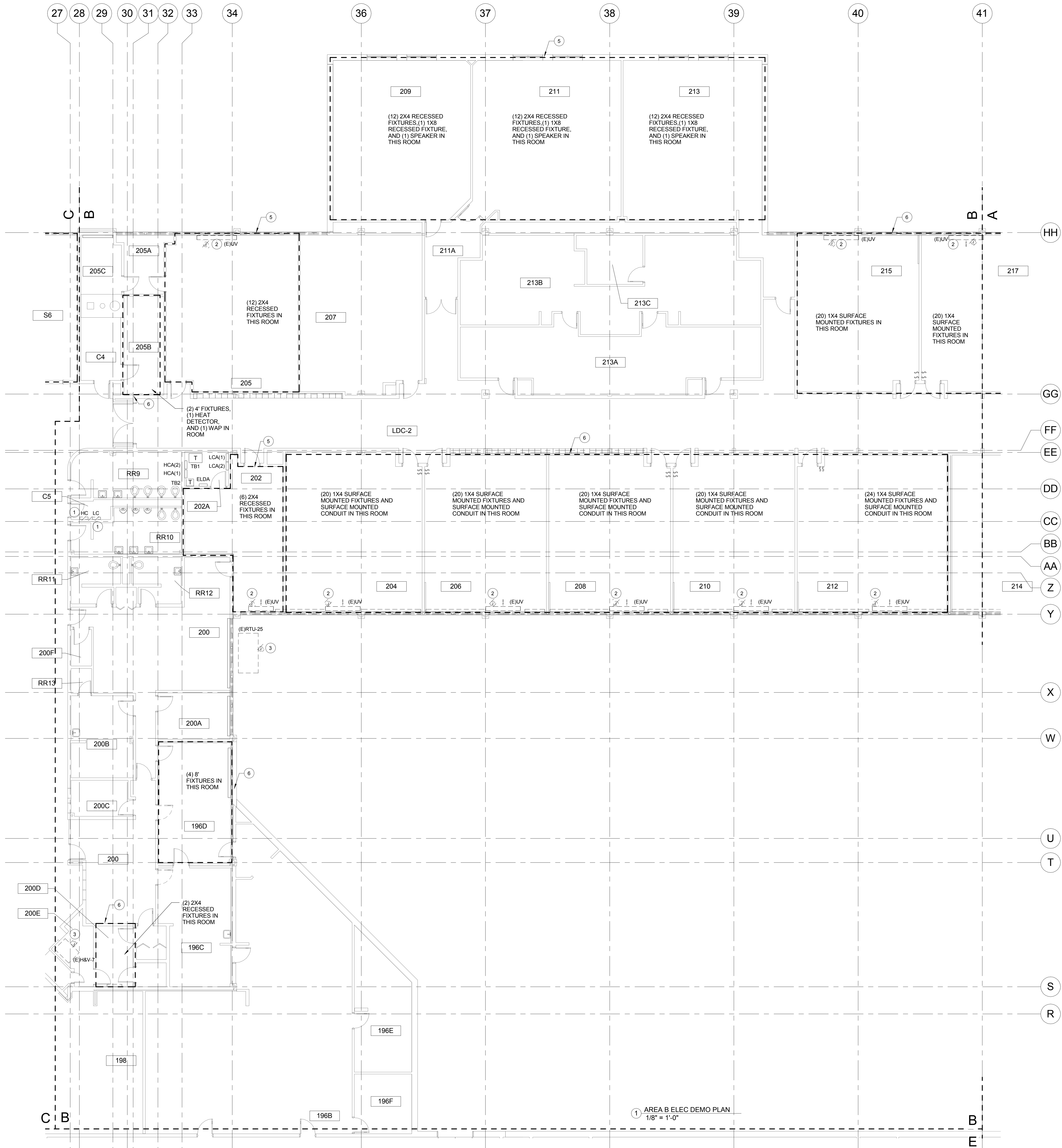
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Project No: 9079.00

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0 Jan 2

REVISIONS



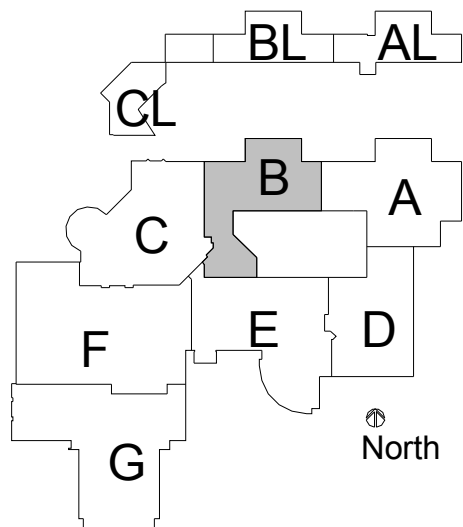


NOTES:

- REFER TO ARCHITECTURAL RCP DEMO PLAN FOR FULL SCOPE OF CEILINGS BEING REMOVED BOTH TEMPORARILY AND PERMANENTLY. SCOPE SHOWN HERE IS INTENDED TO SHOW LARGE PIECES OF DEMOLITION ONLY. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL DEVICES FROM CEILINGS AND REINSTALLING IN SAME LOCATION UNLESS NOTED OTHERWISE.
- EXISTING CONDITIONS ARE SHOWN FOR REFERENCE ONLY AND ARE BASED OFF OF CASUAL OBSERVATION IN THE FIELD AND PREVIOUS CONSTRUCTION DRAWINGS. VERIFY ALL EXISTING CONDITIONS IN THE FIELD.
- DEMOLITION OF ROOFTOP EXHAUST FANS ARE SHOWN ON SHEET ED1.11 AND ED1.12. REFER TO MECHANICAL DEMO FLOOR PLANS FOR THE CORRESPONDING LOCATIONS OF THESE FANS BELOW THE ROOF THAT MAY CONTAIN ACCESSORIES TO THE FANS SUCH AS MOTOR STARTERS AND MOTORIZED DAMPERS. EC RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL CONNECTIONS TO FANS BEING REMOVED.
- REMOVE ALL UNUSED WIRING/CONDUIT FROM EQUIPMENT BEING REMOVED UNLESS NOTED OTHERWISE. ENSURE CONTINUITY OF CIRCUIT IF IT FEEDS MULTIPLE LOADS. CONDUITS THAT CAN'T BE REMOVED SHALL BE LABELED WITH THE LOCATION THE CONDUIT TERMINATES, BE IDENTIFIED AS "SPARE", AND BE PROVIDED WITH A PULLSTRING.

FLAG NOTES:

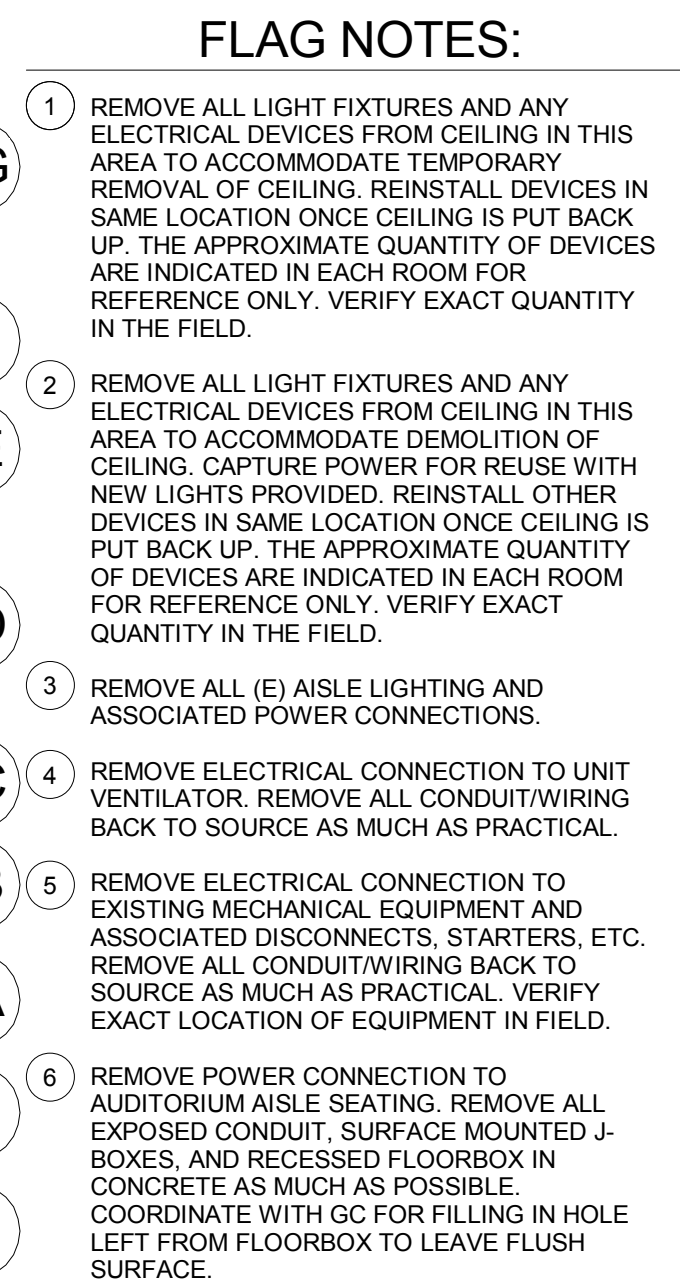
- EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM.
- REMOVE ELECTRICAL CONNECTION TO UNIT VENTILATOR. REMOVE ALL CONDUIT/WIRING BACK TO SOURCE AS MUCH AS PRACTICAL.
- REMOVE ELECTRICAL CONNECTION TO EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECTS, STARTERS, ETC. REMOVE ALL CONDUIT/WIRING BACK TO SOURCE AS MUCH AS PRACTICAL. VERIFY EXACT LOCATION OF EQUIPMENT IN FIELD.
- NOT USED.
- REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE TEMPORARY REMOVAL OF CEILING. REINSTALL DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. THE APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.
- REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE DEMOLITION OF CEILING. CAPTURE POWER FOR REUSE WITH NEW LIGHTS PROVIDED. REINSTALL OTHER DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. THE APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD. REROUTE SURFACE MOUNTED CONDUIT ABOVE NEW CEILING IF SERVING LOADS TO REMAIN.



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No.	Description	Date
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# ISSUE FOR BIDDING

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REVIEW	BG		
DATE	19		

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**Poudre High School Renovations**  
201 Impala Drive  
Fort Collins, CO 80521

**SHEET CONTENTS**

AREA C ELECTRICAL DEMO  
PLAN

ARCHITECTURE PLUS

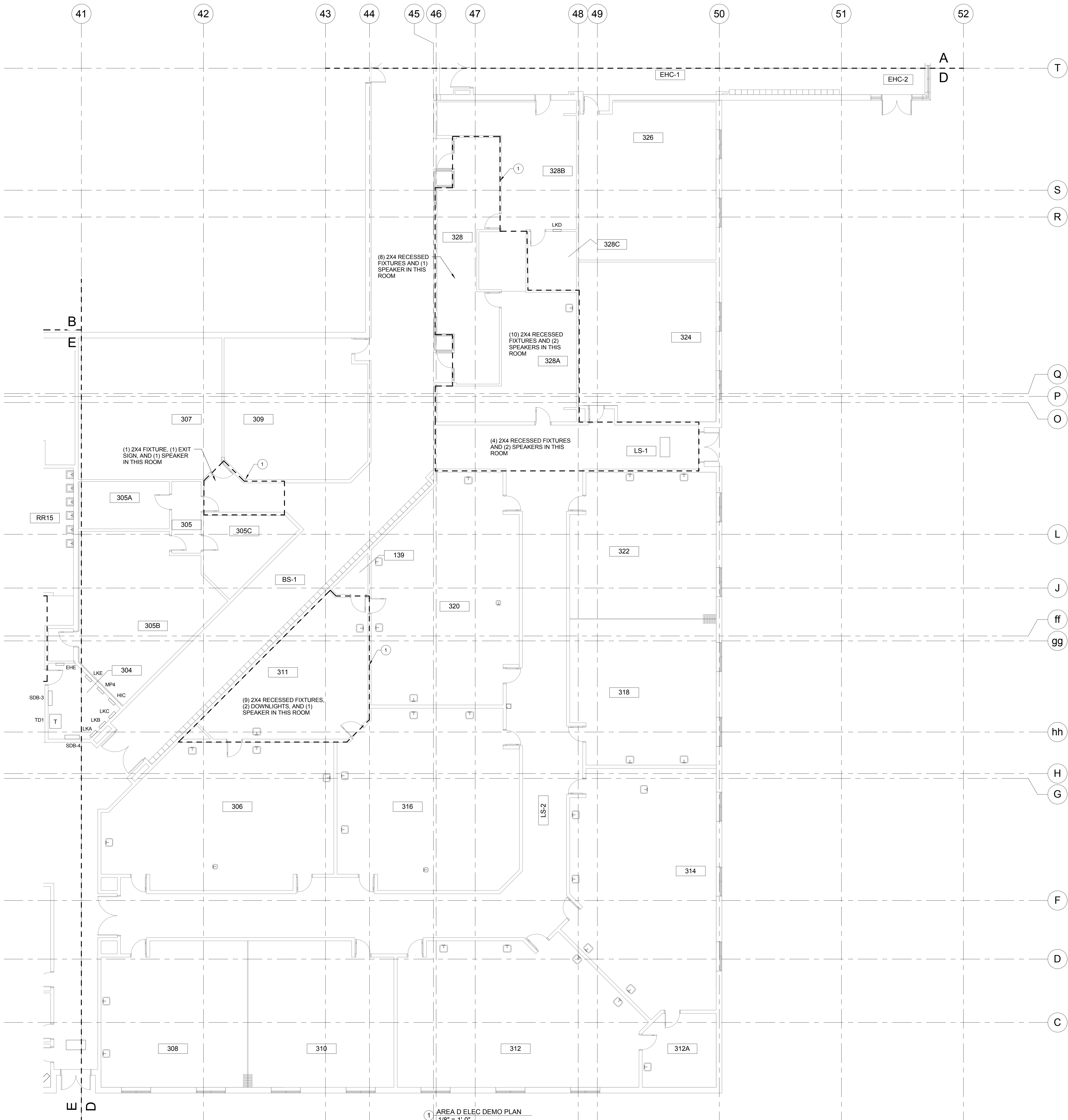
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1 AREA C ELEC DEMO PLAN  
1/8" = 1'-0"

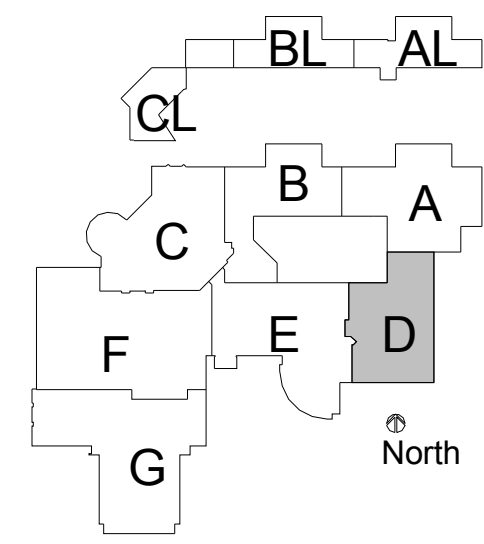


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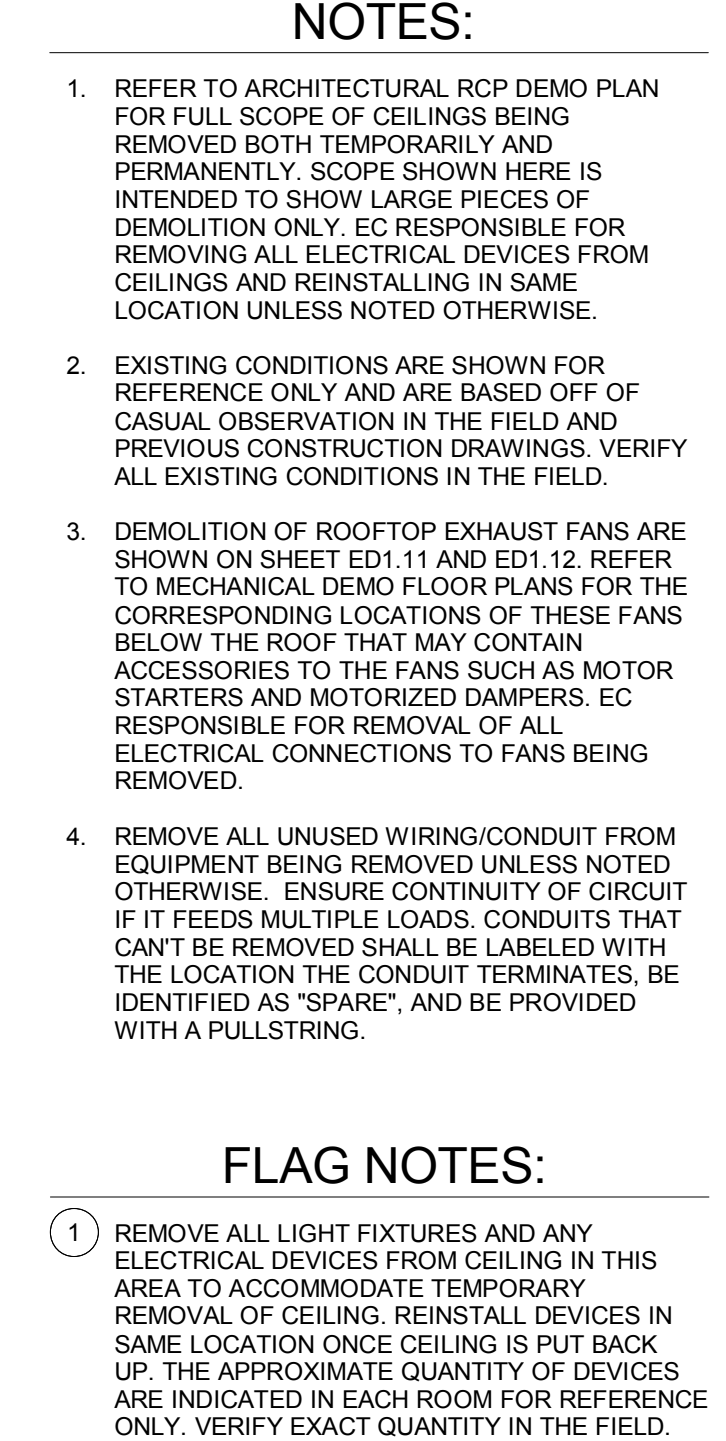
- REFER TO ARCHITECTURAL RCP DEMO PLAN FOR FULL SCOPE OF CEILINGS BEING REMOVED BOTH TEMPORARILY AND PERMANENTLY. SCOPE SHOWN HERE IS INTENDED TO SHOW LARGE PIECES OF DEMOLITION ONLY. EC RESPONSIBLE FOR REMOVING ALL ELECTRICAL DEVICES FROM CEILINGS AND REINSTALLING IN SAME LOCATION UNLESS NOTED OTHERWISE.
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FLAG NOTES:

- REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE TEMPORARY REMOVAL OF CEILING. REINSTALL DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. THE APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.



No.	Description	Date
1	ED1.17	19 Jan 2012



A map of the 10 counties in the study area, labeled A through J. County E is shaded in grey, indicating it is the county of interest.




BeauDIN  
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# SHEET CONTENTS

## AREA E ELECTRICAL DEMO PLAN


11

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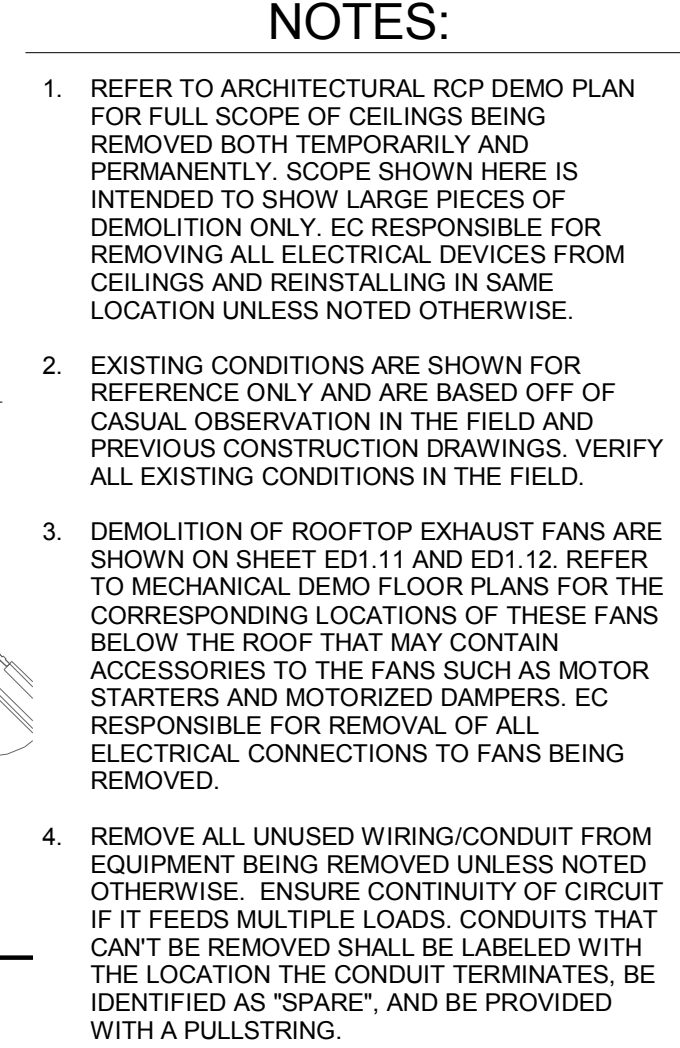
THE DESIGN AND OF RALPH RECOVERED AFTER REPAIRING. AS AN INSTRUMENT OF PROFESSIONAL CARE AND IS NOT TO BE USED FOR ANY OTHER PRODUCT WITHOUT PRIOR WRITTEN AUTHORIZATION.

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No.	Description	REVISIONS
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DATE 19 Jan 2012	



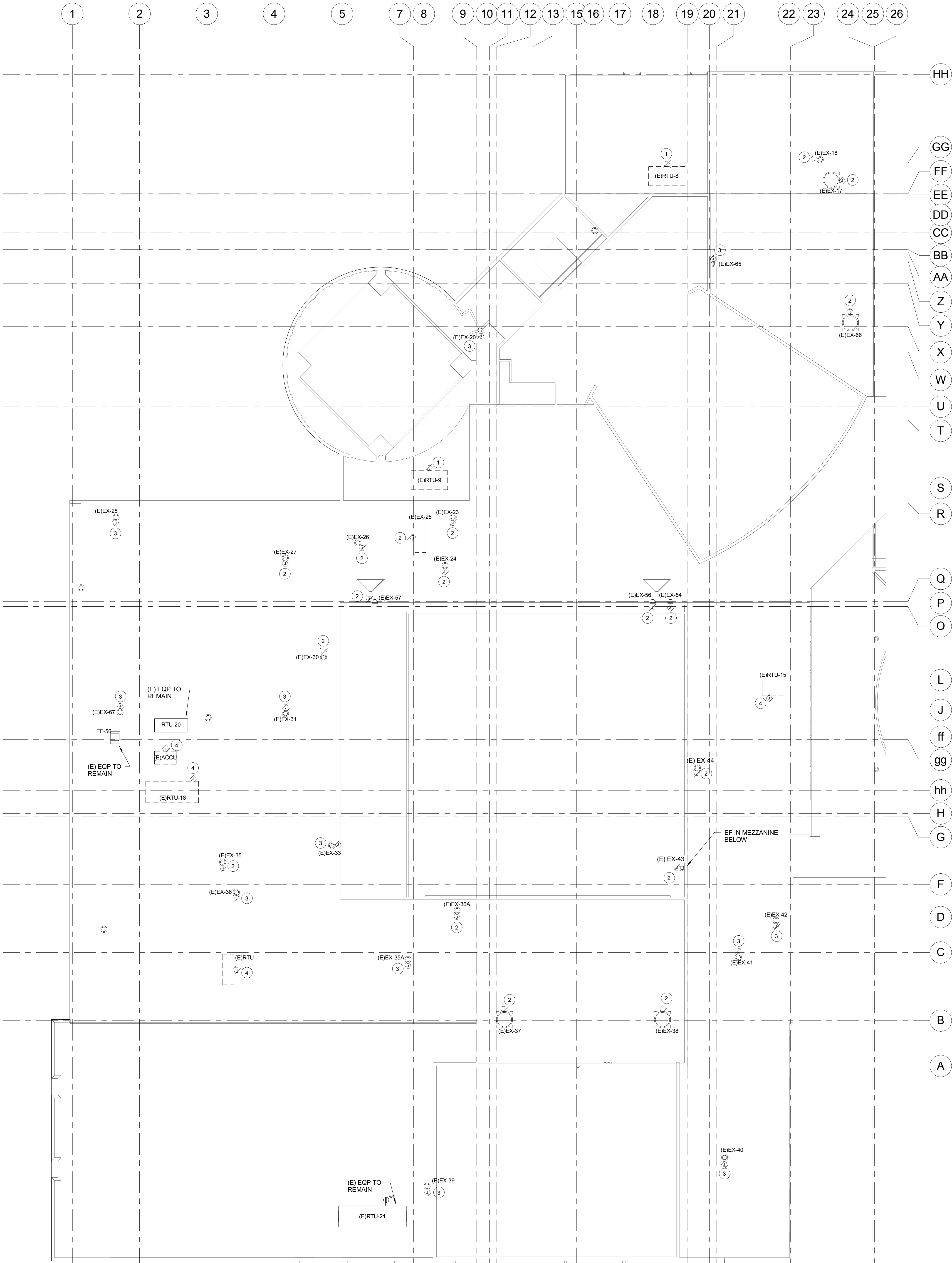


- 1 EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM.
- 2 EXISTING TRANSFORMER TO BE REMOVED AND REPLACED. CAPTURE EXISTING FEEDERS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM.
- 3 EXISTING DISCONNECTS ON SECONDARY FEEDERS FROM TRANSFORMER TO BE REMOVED AND REPLACED.
- 4 EXISTING PANEL TO BE REMOVED AND REPLACED. CAPTURE EXISTING CIRCUITS FOR RECONNECTION TO NEW PANEL. FEEDER(S) SHALL BE REUSED WHERE INDICATED ON ONE-LINE DIAGRAM. PANEL DELETED FROM EXISTING WALL. NEW ENCLOSURE SHALL FIT WITHIN EXISTING WALL OPENING.
- 5 REMOVE ELECTRICAL CONNECTION TO UNIT AND REUSE ELECTRICAL CONNECTIONS FROM PANEL TO SOURCE AS MUCH AS PRACTICAL.
- 6 PANEL TO BE REMOVED BUT NOT REPLACED. ALL CIRCUITS FED FROM THIS PANEL THAT ARE TO REMAIN SHALL BE RECURICUTED TO PANEL U/S.
- 7 REMOVE EXISTING METAL HALIDE FIXTURE. LEAVE CIRCUITING/SWITCHING IN PLACE FOR REUSE WITH NEW FIXTURE. REFER TO SHEET E-1 FOR ADDITIONAL FIXTURES REMOVED IN THIS ROOM.
- 8 REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE TEMPORARY REMOVAL OF CEILING. REINSTALL FIXTURES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. APPROXIMATE QUANTITY OF DEVICES TO BE REMOVED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.
- 9 REMOVE CONNECTION TO EXISTING EXHAUST FAN. REUSE WIRING AND CONNECTIONS TO SOURCE AS MUCH AS IS PRACTICAL.
- 10 REMOVE ALL LIGHT FIXTURES AND ANY ELECTRICAL DEVICES FROM CEILING IN THIS AREA TO ACCOMMODATE DEMOLITION OF CEILING. LEAVE CIRCUITING/SWITCHING IN PLACE WITH NEW LIGHTS PROVIDED. REINSTALL CEILING DEVICES IN SAME LOCATION ONCE CEILING IS PUT BACK UP. APPROXIMATE QUANTITY OF DEVICES ARE INDICATED IN EACH ROOM FOR REFERENCE ONLY. VERIFY EXACT QUANTITY IN THE FIELD.









NOTES:

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- REMOVE ALL UNUSED WIRING/CONDUIT FROM EQUIPMENT BEING REMOVED UNLESS NOTED OTHERWISE. ENSURE CONTINUITY OF CIRCUIT IF IT FEEDS MULTIPLE LOADS. CONDUITS THAT CAN'T BE REMOVED SHALL BE LABELED WITH THE LOCATION THE CONDUIT TERMINATES, BE IDENTIFIED AS "SPARE", AND BE PROVIDED WITH A PULLSTRING.

FLAG NOTES:

- REMOVE CONNECTION TO EXISTING ROOFTOP UNIT. CAPTURE (E) CIRCUIT FOR REUSE WITH NEW ROOFTOP UNIT. CONFIRM CIRCUIT MEETS SIZE REQUIREMENTS PER MECHANICAL EQUIPMENT SCHEDULE AND NOTIFY ENGINEER OF ANY DISCREPANCIES. CAPTURE 120V CIRCUIT USED FOR UNIT MOUNTED RECEPTACLE FOR REUSE.
- REMOVE CONNECTION TO EXISTING EXHAUST FAN AND ALL APPURTENANCES INCLUDING ANY MOTORIZED DAMPER AND/OR MOTOR STARTER IN THE CEILING SPACE BELOW. REMOVE WIRING/CONDUIT BACK TO SOURCE AS MUCH AS POSSIBLE.
- REMOVE CONNECTION TO EXISTING EXHAUST FAN AND ALL APPURTENANCES INCLUDING ANY MOTORIZED DAMPER AND/OR MOTOR STARTER IN THE CEILING SPACE BELOW. CAPTURE (E) CIRCUIT FOR REUSE WITH NEW EXHAUST FAN IN SAME LOCATION IF NOTED ON MECHANICAL EQUIPMENT SCHEDULE.
- REMOVE CONNECTION TO EXISTING ROOFTOP UNIT. REMOVE WIRING/CONDUIT BACK TO SOURCE AS MUCH AS POSSIBLE. CAPTURE 120V CIRCUIT USED FOR UNIT MOUNTED RECEPTACLE FOR REUSE WHERE APPLICABLE.

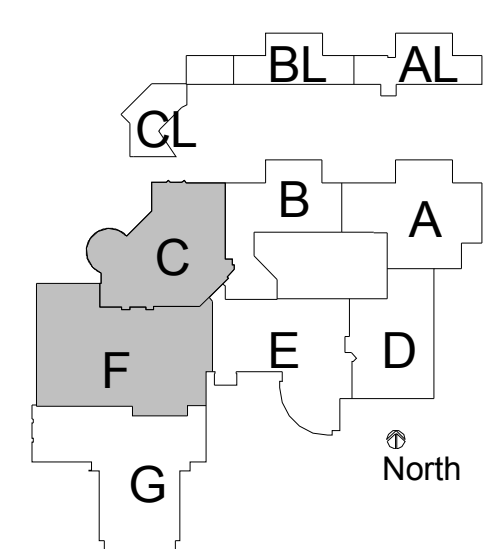
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SHEET CONTENTS

ELECTRICAL DEMO ROOF PLAN

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No.	Description	Date
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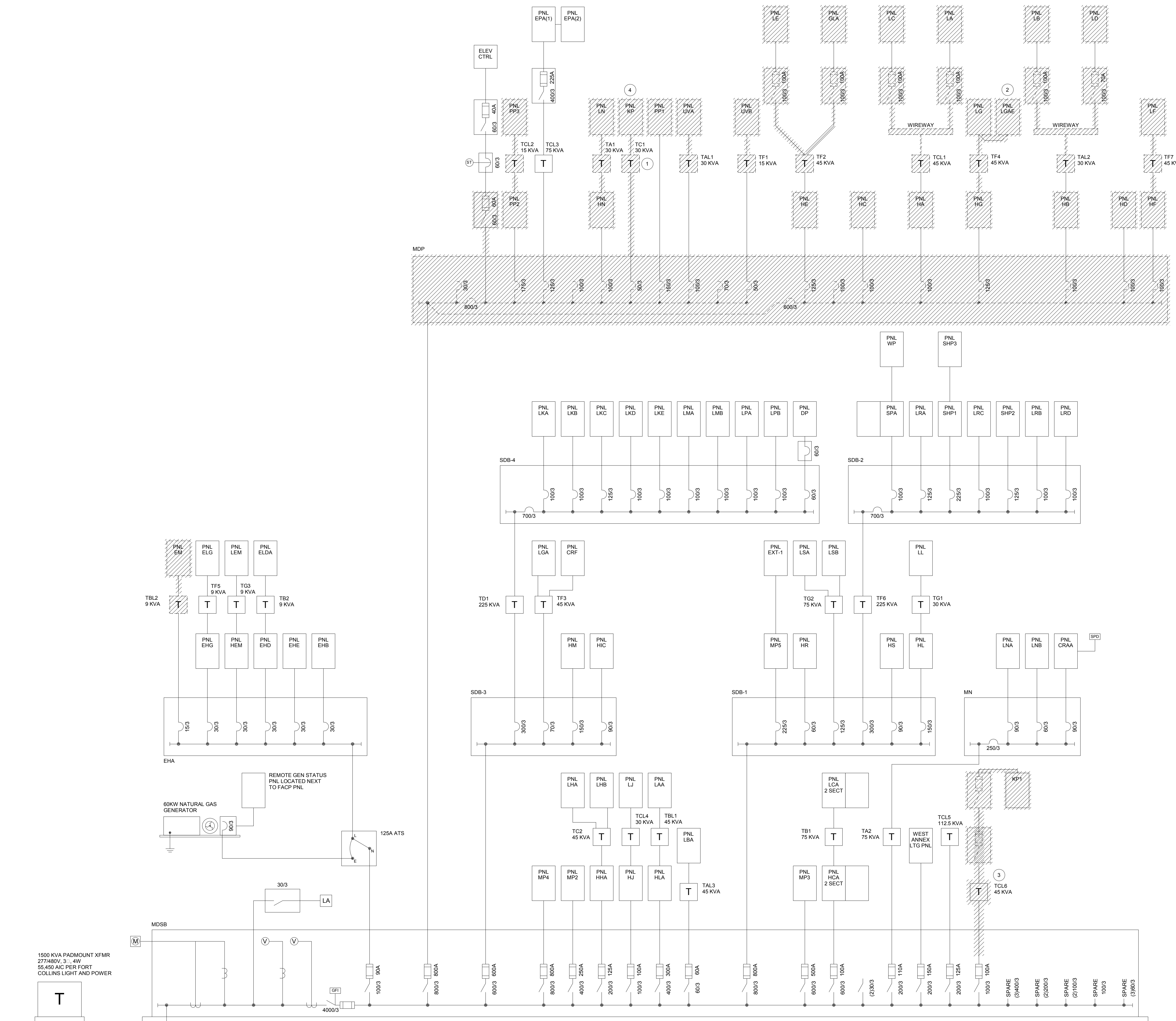


NOTES:

1. REFER TO PHASING NOTES ON SHEET E0.1 FOR TIMING OF WORK SHOWN HERE. FOR EACH PIECE OF EQUIPMENT, VERIFY ON DRAWINGS WHICH AREA THE EQUIPMENT IS LOCATED IN AND ACCORDINGLY THE PHASE THE WORK GETS COMPLETED. MDP SHALL NOT BE REPLACED UNTIL PHASE 2 TO PREVENT POWER DISRUPTIONS TO AREAS D.E.F. AND G DURING PHASE 1 CONSTRUCTION.
2. THIS DRAWING HAS BEEN PREPARED IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE DESIGN PROFESSIONAL CANNOT ASSURE ITS ACCURACY AND THIS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING OR FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO IT AS A RESULT. THOSE RELYING ON THIS DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.
3. LIGHT LINE WEIGHT INDICATES EXISTING.
4. REMOVE ALL HATCHED EQUIPMENT AND FEEDERS AS INDICATED. REFER TO SHEET E5.1 FOR INFORMATION ON EQUIPMENT BEING REPLACED.

FLAG NOTES:

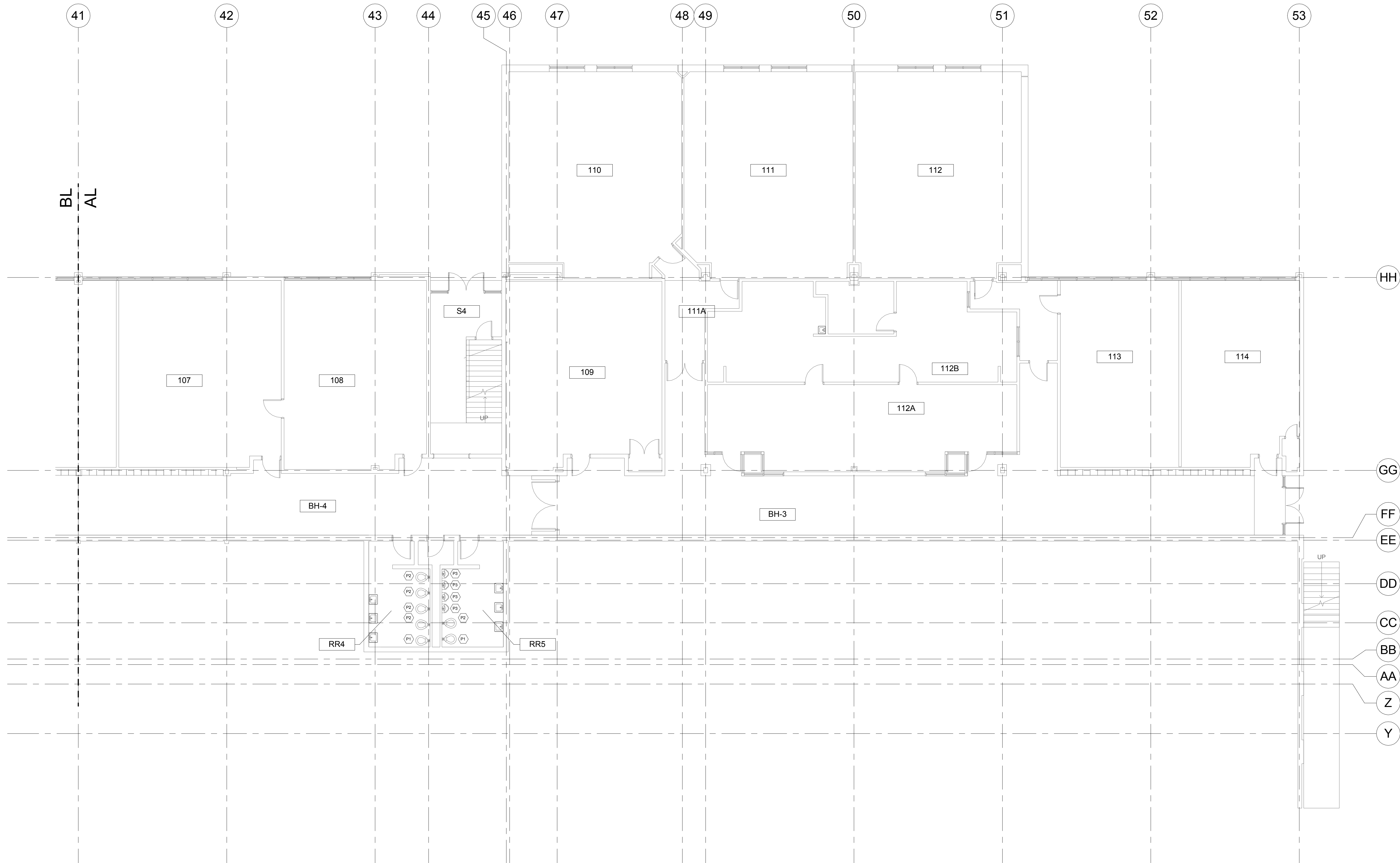
1. TRANSFORMER TO BE REMOVED AND NOT REPLACED. REMOVE FEEDER BACK TO SOURCE AS MUCH AS IS PRACTICAL.
2. PANEL TO BE REMOVED AND NOT REPLACED. ALL CIRCUITS TO REMAIN SHALL BE MOVED TO PANEL 'LG'.
3. TRANSFORMER TO BE REMOVED AND REPLACED WITH A LARGER SIZE TO SERVE NEW KITCHEN LOADS.
4. PANEL TO BE REMOVED AND NOT REPLACED. ALL CIRCUITS TO REMAIN SHALL BE MOVED TO PANEL 'KP1'.



1 DEMOLITION ELECTRICAL ONE LINE-DIAGRAM  
NONE







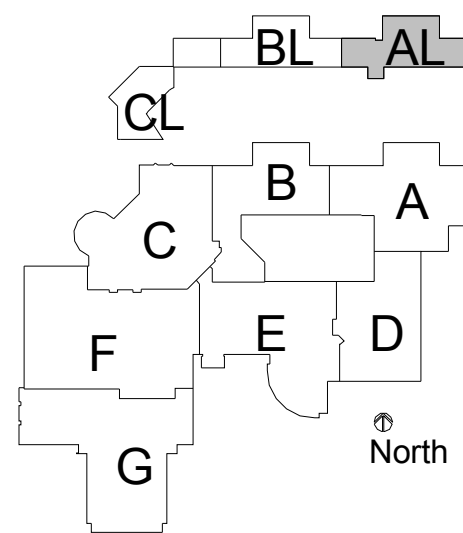
1 AREA AL PLUMBING PLAN  
1/8" = 1'-0"

NOTES:  
1. PLUMBING SCOPE, ASIDE FROM KITCHEN REMODEL, IS LIMITED TO REPLACING EXISTING WATER CLOSETS AND URINALS WITH NEW.

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SHEET CONTENTS  
AREA AL PLUMBING PLAN

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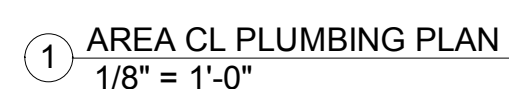


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1. PLUMBING SCOPE, ASIDE FROM KITCHEN REMODEL, IS LIMITED TO REPLACING EXISTING WATER CLOSETS AND URINALS WITH NEW.

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3

DATE: 19 Jan 2012

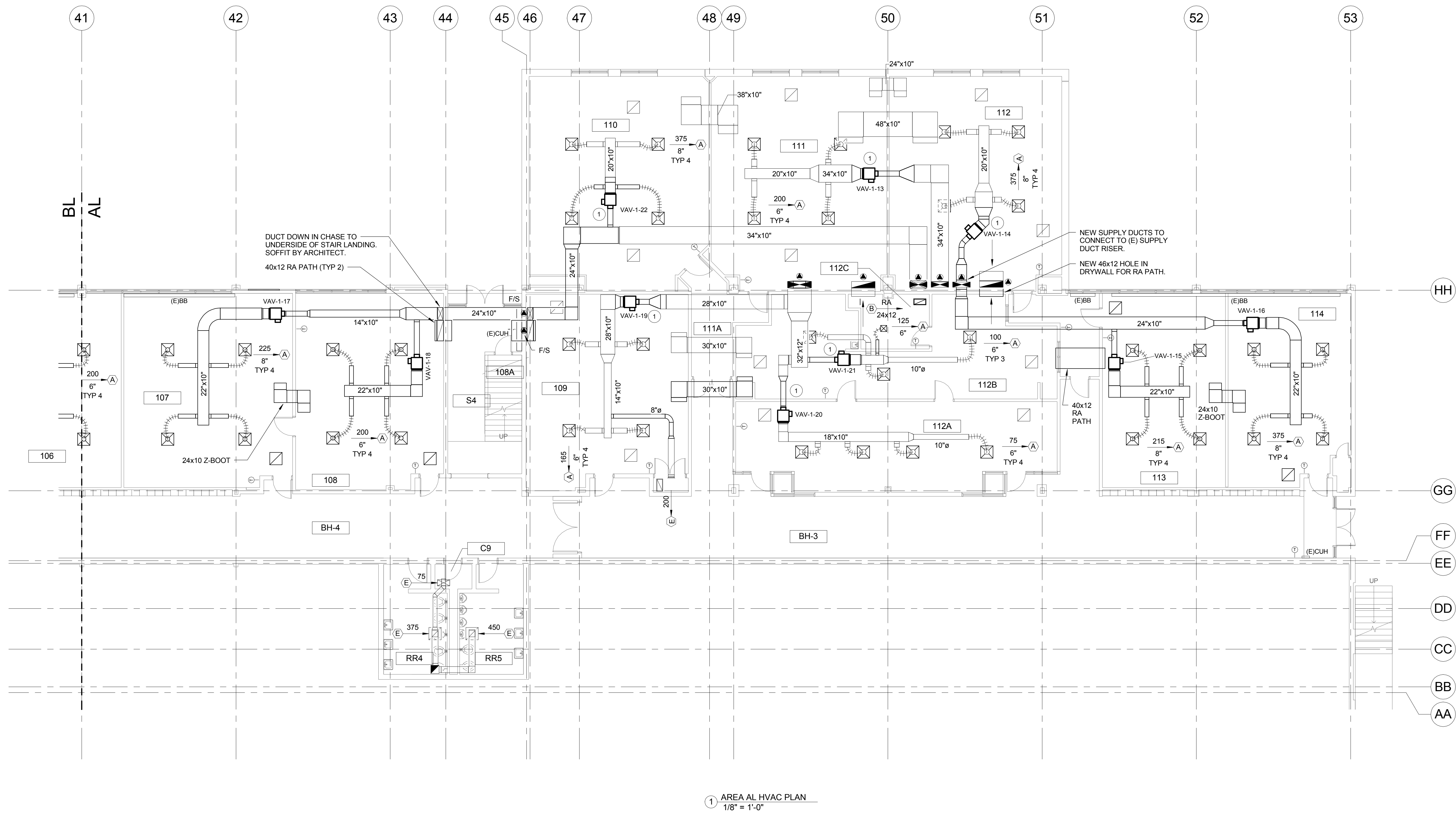


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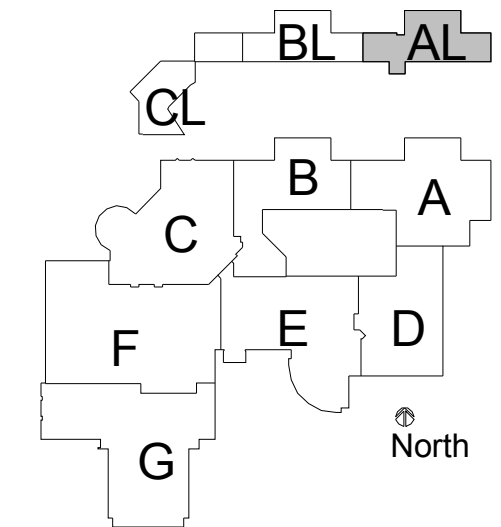




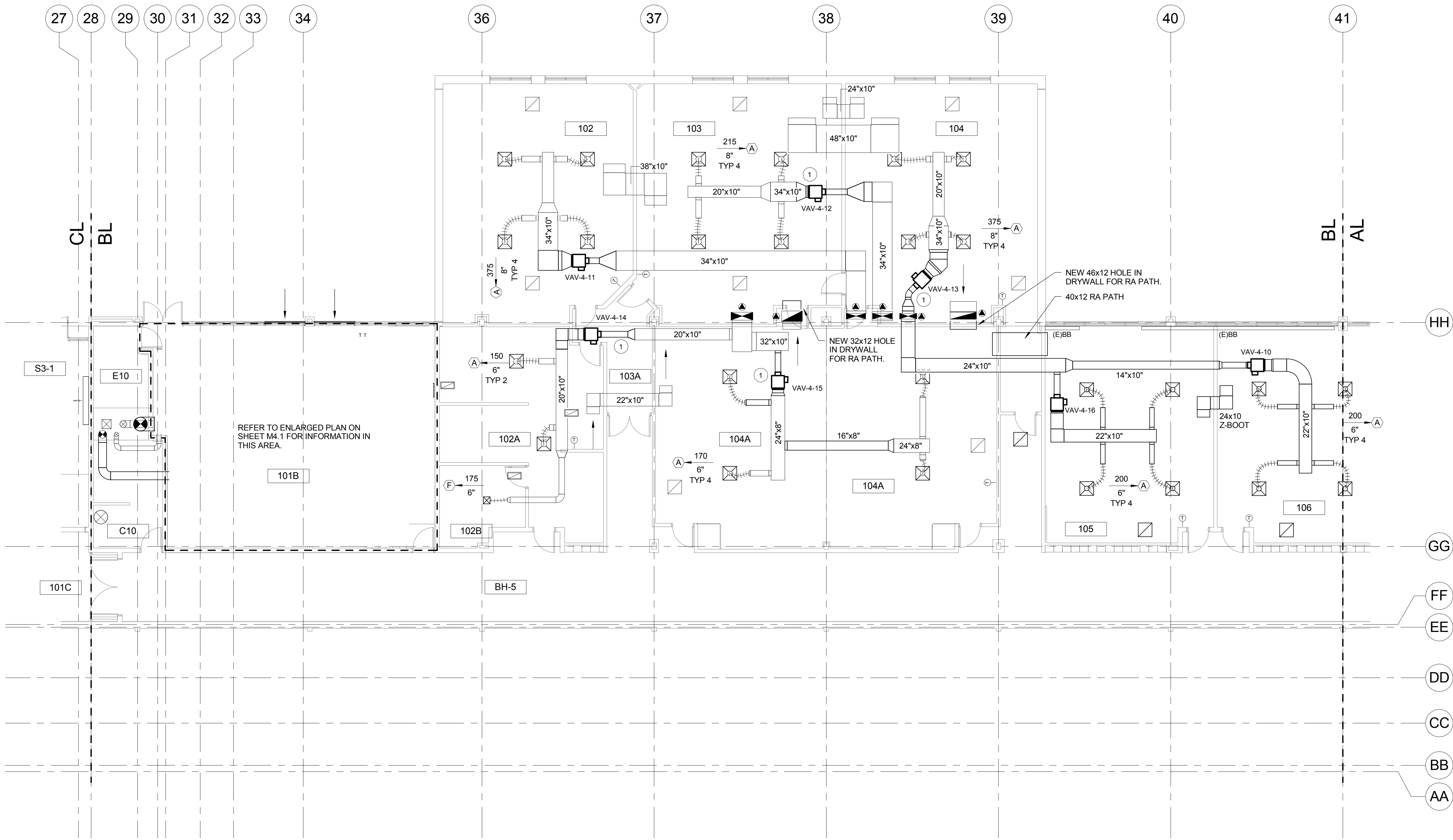


- NOTES:**
1. RETURN AIR PATH FOR EACH RTU SHALL REMAIN OR BE ADDED IF NECESSARY. SPACES UTILIZE A RETURN AIR PLENUM. (E) AND NEW TRANSFER DUCTS ARE SHOWN FOR CONTINUITY OF THE RETURN AIR PATH. ALTHOUGH AREAS MAY BE ENCOUNTERED WHERE TRANSFER DUCTS NEED TO BE ADDED DUE TO UNKNOWN CONDITIONS.
  2. ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  3. DIFFUSERS WITH TAGS OTHER THAN E ARE NEW. REFER TO MD PLANS FOR WHICH ONES ARE TO BE INSTALLED IN PLACE OF (E) DIFFUSERS. TRANSITION TO NEW NECK SIZE FROM EXISTING RUNOUT AS REQUIRED.
  4. REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
  5. ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO, 24x24 OR 24x12 AS SHOWN ON DRAWINGS.

- FLAG NOTES:**
1. NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW AND 4" OF INLET SIZE DUCTWORK UPSTREAM AND CONNECT TO EXISTING.



Date		Description	No.	REVISIONS
DESIGN		CWH/CGW		
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DATE				



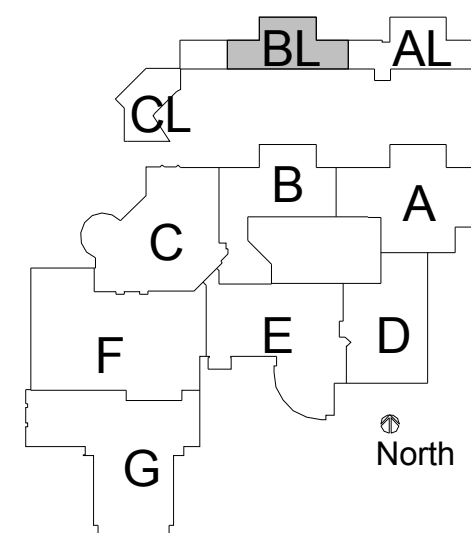
1 AREA BL HVAC PLAN  
1/8" = 1'-0"

NOTES:

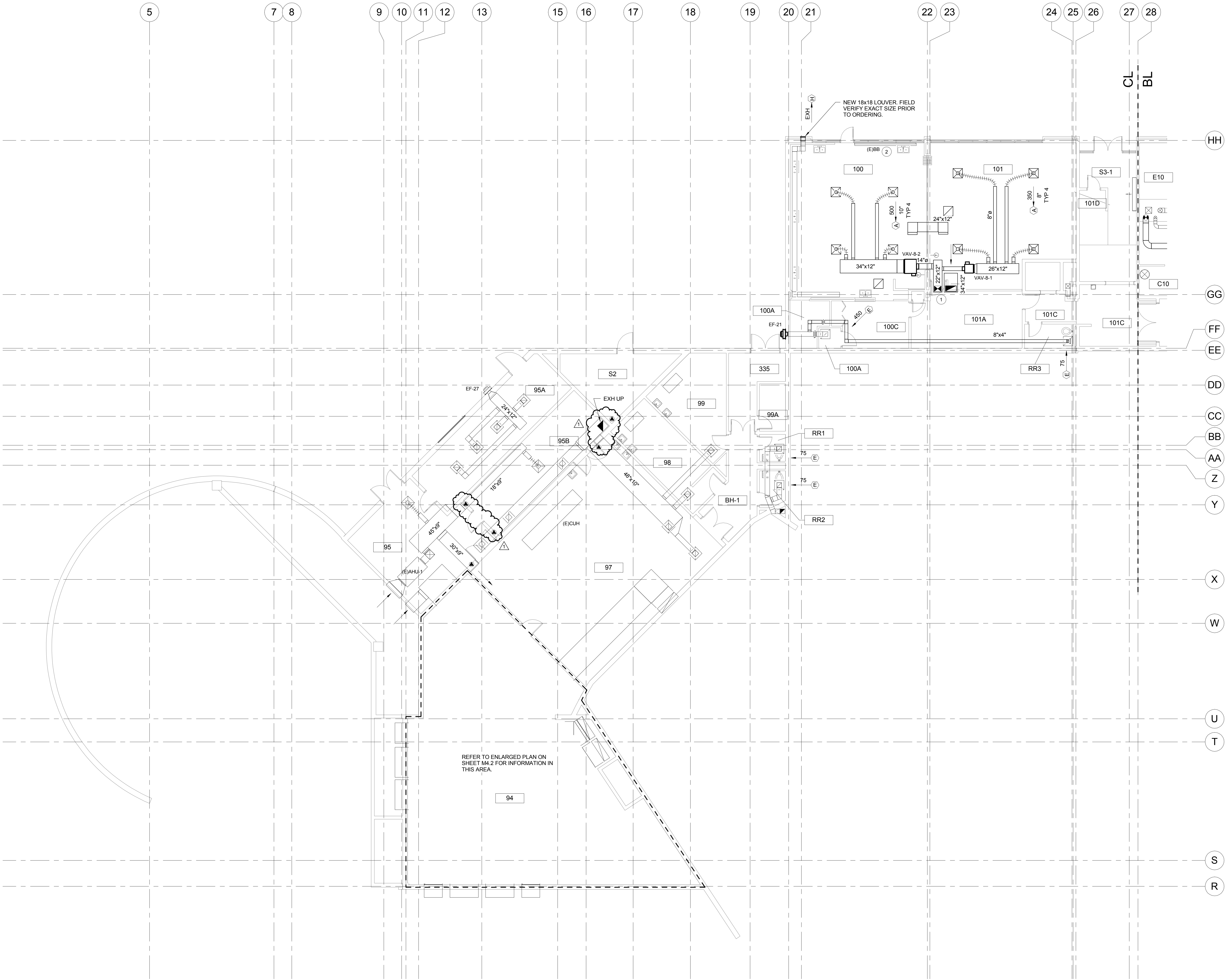
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4. REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
5. ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO, 24x24 OR 24x12 AS SHOWN ON DRAWINGS.

FLAG NOTES:

- 1 NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW AND 4" OF INLET SIZE DUCTWORK UPSTREAM AND CONNECT TO EXISTING.







1 AREA CL HVAC PLAN  
1/8" = 1'-0"

NOTES:

1. RETURN AIR PATH FOR EACH RTU SHALL REMAIN OR BE ADDED IF NECESSARY. SPACES UTILIZE A RETURN AIR PLENUM. (E) AND NEW TRANSFER DUCTS ARE SHOWN FOR CONTINUITY OF THE RETURN AIR PATH. ALTHOUGH AREAS MAY BE ENCOUNTERED WHERE TRANSFER DUCTS NEED TO BE ADDED DUE TO UNKNOWN CONDITIONS.
2. ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
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4. REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
5. ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO, 24X24 OR 24X12 AS SHOWN ON DRAWINGS.

FLAG NOTES:

1. SUPPLY AND RETURN DUCT UP CHASE. RETURN DUCT SHALL TERMINATE OPEN, ENDED IN CEILING SPACE. PROVIDE A FIRE DAMPER AT THE FLOOR PENETRATION. COORDINATE ACCESS PANELS WITH GC.
2. PROVIDE A 6X6 GRILLE AT BACK OF COUNTER UNDER SINK AND A 4X10 GRILLE IN LAMINATE BEHIND SINK.

ARCHITECTURE PLUS

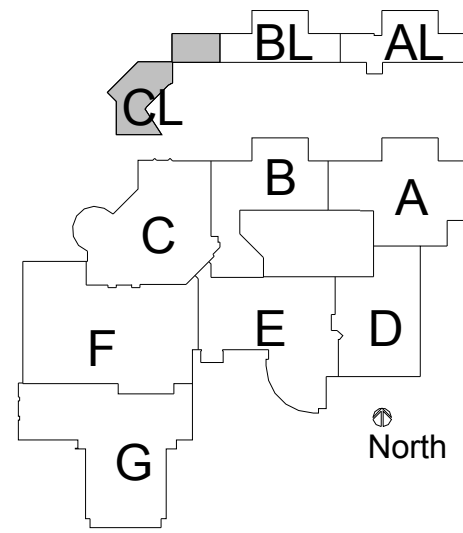
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SHEET CONTENTS

AREA CL HVAC PLAN

Poudre High School Renovations  
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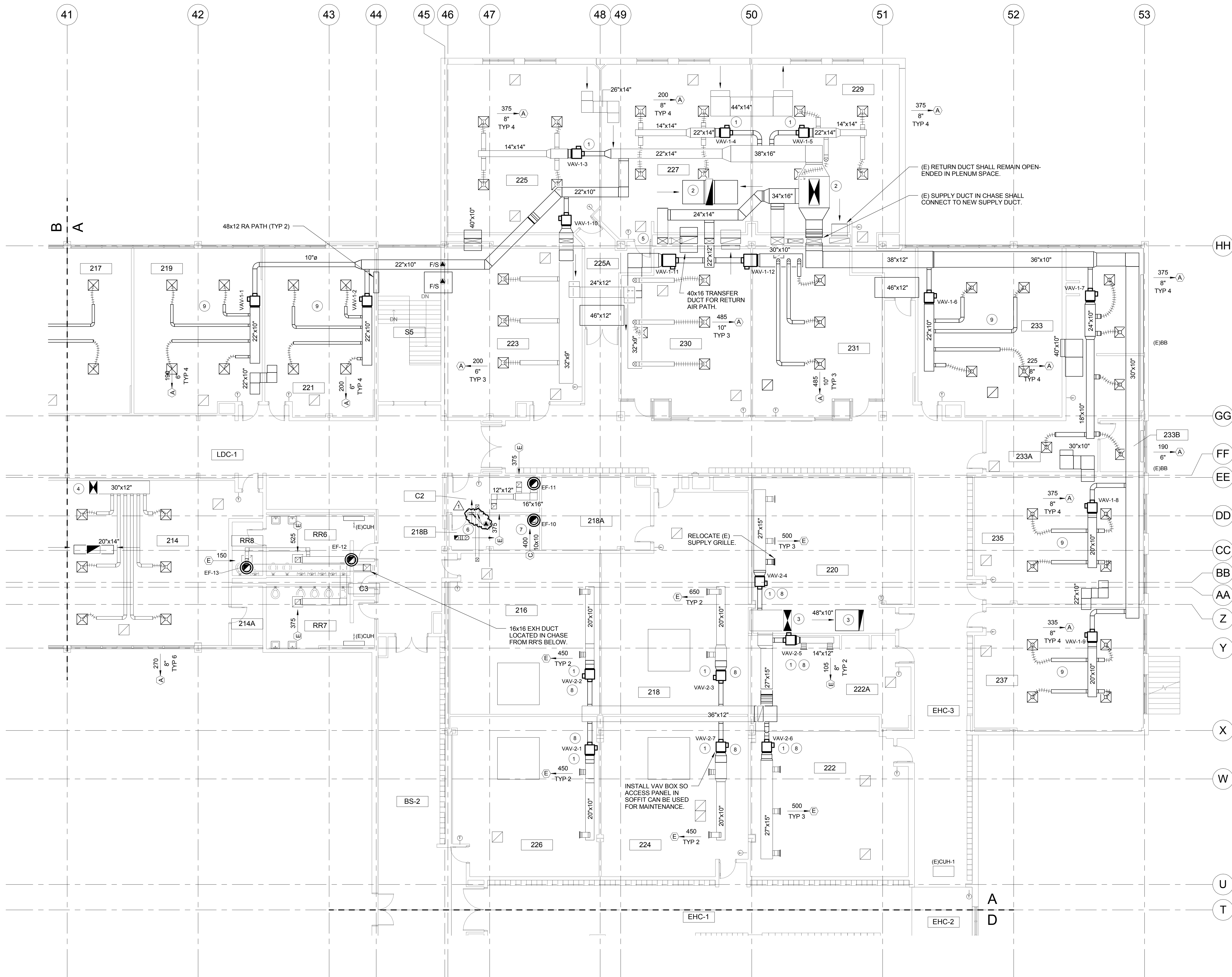
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No. 1  
Date 4/19/12  
Description  
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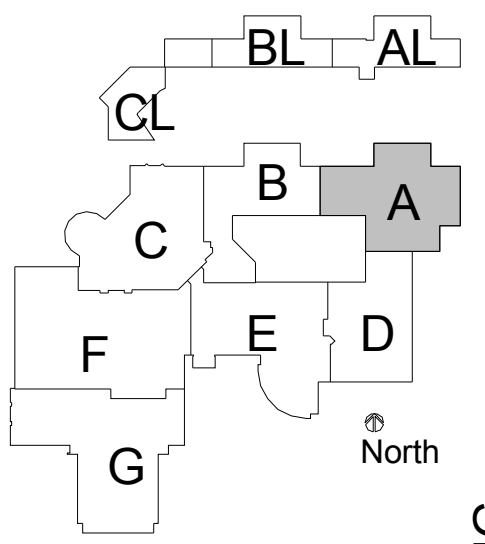
19 Jan 2012  
M2.3



1 AREA A HVAC PLAN  
1/8" = 1'-0"

- NOTES:**
- RETURN AIR PATH FOR EACH RTU SHALL REMAIN OR BE ADDED IF NECESSARY. SPACES UTILIZE A RETURN AIR PLENUM. (E) AND NEW TRANSFER DUCTS ARE SHOWN FOR CONTINUITY OF THE RETURN AIR PATH. ALTHOUGH AREAS MAY BE ENCOUNTERED WHERE TRANSFER DUCTS NEED TO BE ADDED DUE TO UNKNOWN CONDITIONS.
  - ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - DIFFUSERS WITH TAGS OTHER THAN E ARE NEW. REFER TO MD PLANS FOR WHICH ONES ARE TO BE INSTALLED IN PLACE OF (E) DIFFUSERS. TRANSITION TO NEW NECK SIZE FROM EXISTING RUNOUT AS REQUIRED.
  - REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
  - ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO 24x24 OR 24x12 AS SHOWN ON DRAWINGS.

- FLAG NOTES:**
- NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW AND PROVIDE 4" OF INLET SIZE DUCTWORK. CONNECT DUCTWORK TO EXISTING.
  - (E) SUPPLY DUCT UP TO NEW RTU-1 SUPPLY OPENING. MODIFY (E) SUPPLY AS NEEDED TO TRANSITION TO RTU OPENING. RETURN DUCT THE SIZE OF THE RETURN OPENING SHALL SPLIT INTO (2) 6x12 OPEN ENDED DUCTS FOR RETURN AIR TO THE NEW RTU.
  - (E) SUPPLY DUCT UP TO NEW RTU-2 SUPPLY OPENING. MODIFY (E) SUPPLY AS NEEDED TO TRANSITION TO RTU OPENING. RETURN DUCT FOR RTU SHALL TRANSITION TO OPENING SIZE AND TERMINATE OPEN-ENDED AS SHOWN ABOVE THE CEILING.
  - (E) SUPPLY AND NEW RETURN DUCT UP TO NEW RTU-3 SUPPLY AND RETURN OPENINGS. (E) SUPPLY DUCT SHALL TRANSITION TO OPENING SIZE OF UNIT. 22x22 RETURN DUCT SHALL SPLIT AND TERMINATE OPEN ENDED ABOVE CEILING.
  - TRANSITION (E) DUCT AND CONNECT TO 24x14 DUCT IN CHASE.
  - 10x10 DUCT UP TO ROOF WITH GOOSENECK. PROVIDE 4" FILTER RACK.
  - 12x12 DUCT TO EXHAUST GRILLE LOCATED 2' AFF. REFER TO SHEET M6.1 FOR DIAGRAM OF THIS AREA.
  - INSTALL ACCESS PANEL IN (E) SOFFIT. FIELD VERIFY DIMENSIONS.
  - ROUTE DUCTWORK FOR DIFFUSERS UP IN JOIST SPACE AS NEEDED IN THIS AREA. TYP.



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1	CWN/CWG	
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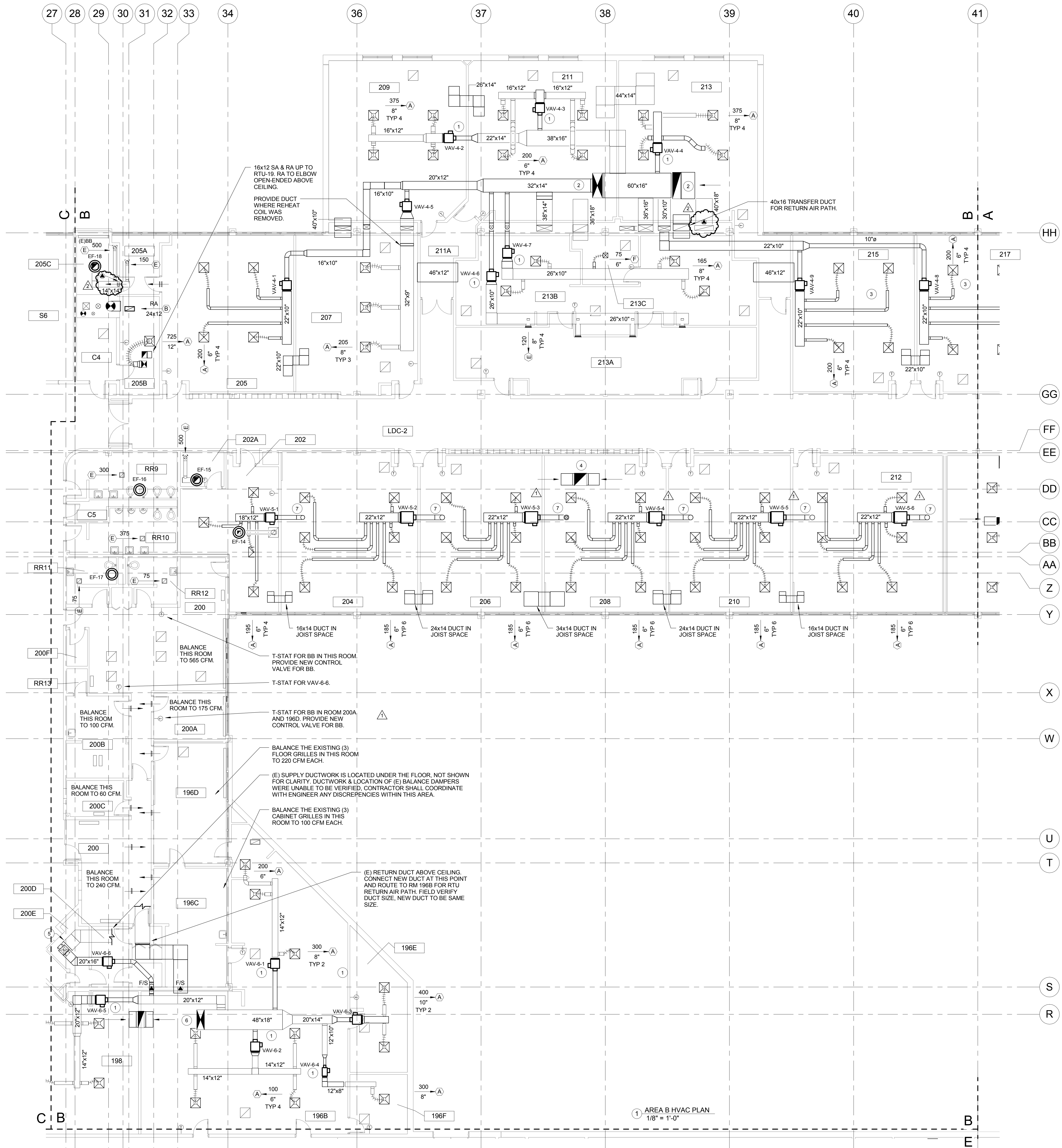
SHEET CONTENTS

AREA A HVAC PLAN

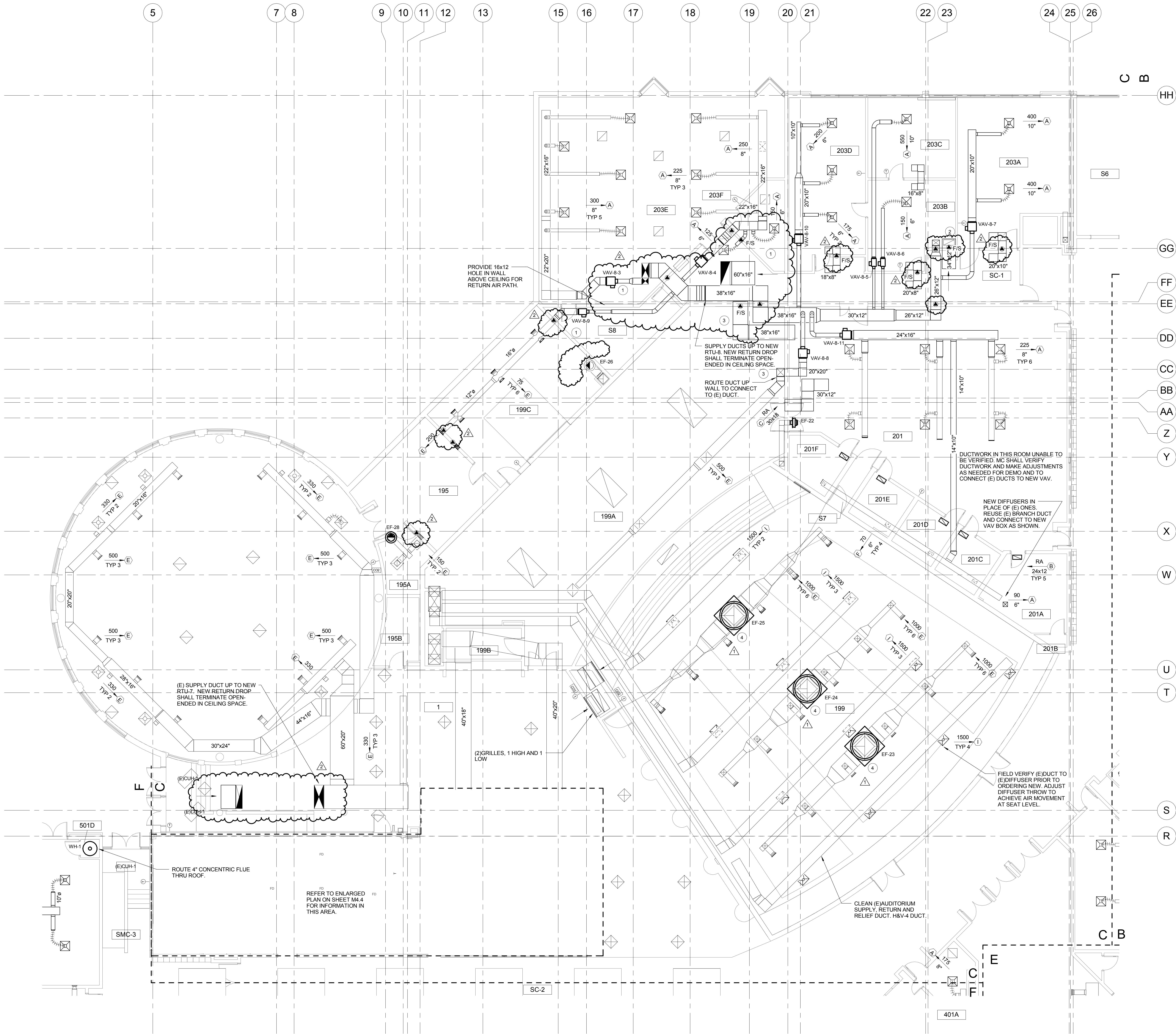
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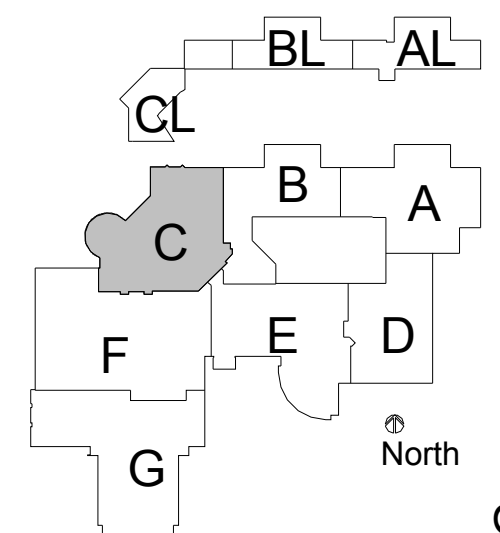




- NOTES:**
- RETURN AIR PATH FOR EACH RTU SHALL REMAIN OR BE ADDED IF NECESSARY. SPACES UTILIZE A RETURN AIR PLENUM. (E) AND NEW TRANSFER DUCTS ARE SHOWN FOR CONTINUITY OF THE RETURN AIR PATH. ALTHOUGH AREAS MAY BE ENCOUNTERED WHERE TRANSFER DUCTS NEED TO BE ADDED DUE TO UNKNOWN CONDITIONS.
  - ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - DIFFUSERS WITH TAGS OTHER THAN E ARE NEW. REFER TO MD PLANS FOR WHICH ONES ARE TO BE INSTALLED IN PLACE OF (E) DIFFUSERS. TRANSITION TO NEW NECK SIZE FROM EXISTING RUNOUT AS REQUIRED.
  - REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
  - ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO, 24x24 OR 24x12 AS SHOWN ON DRAWINGS.

- FLAG NOTES:**
- NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW. PROVIDE 4" OF INLET SIZE DUCTWORK UPSTREAM AND CONNECT TO EXISTING.
  - 18x14 SUPPLY & 28x14 RETURN DUCT DOWN CHASE TO LOWER LEVEL VAV BOXES. COORDINATE THE FINAL FLOOR OPENINGS TO FALL BETWEEN ADJACENT FLOOR JOISTS PRIOR TO CUTTING. DO NOT CUT ANY CONCRETE JOISTS.
  - EXPOSED DUCT AND NEW RETURN GRILLE IN STAGE AREA TO HAVE PAINTABLE FINISH. PAINT TO MATCH WALL.
  - CONNECT NEW EF TO EXISTING RELIEF DUCT.

1 AREA C HVAC PLAN  
1/8" = 1'-0"



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2	ASI #01	4/19/12
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19 Jan 2012		

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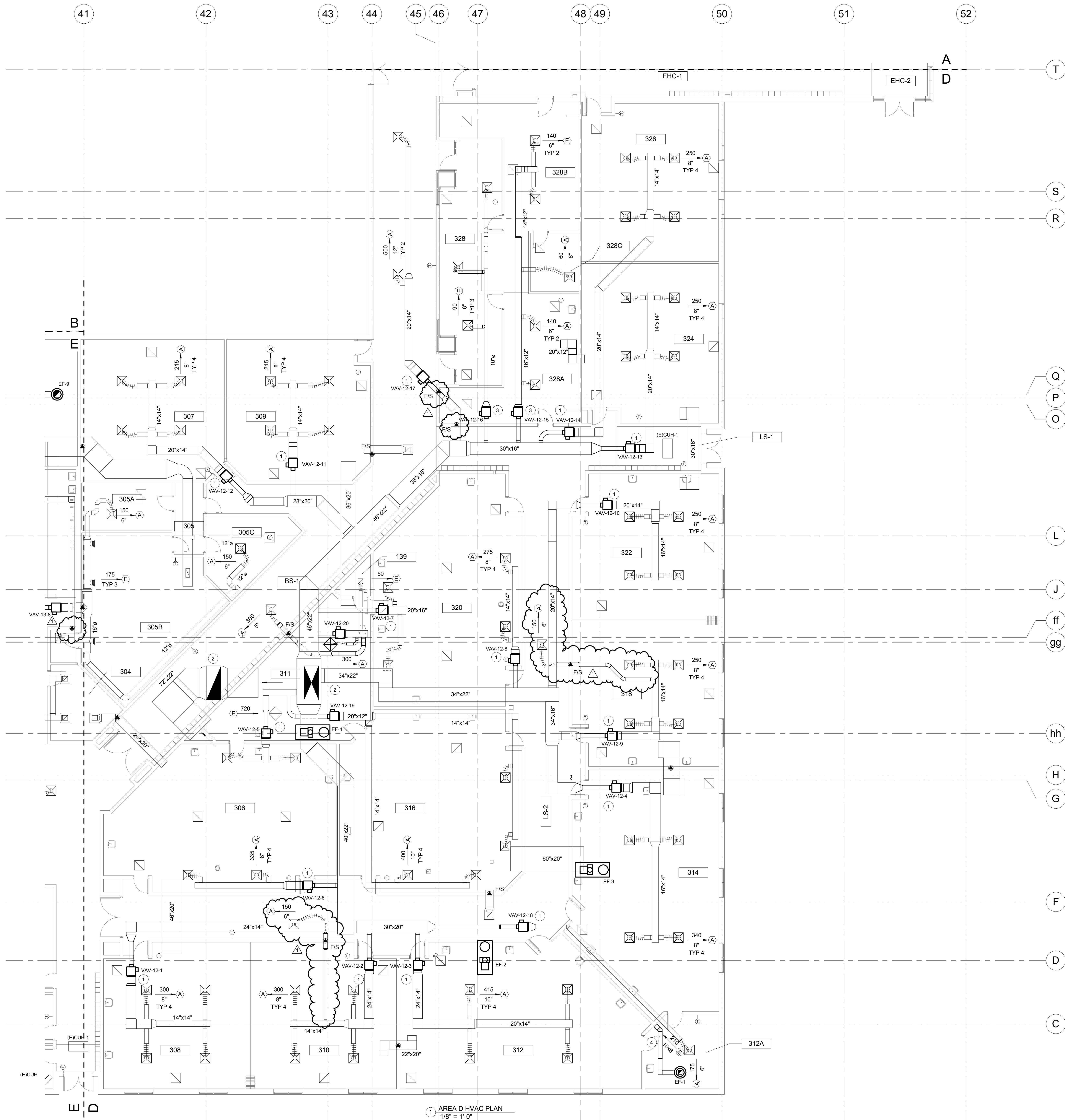
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AREA C HVAC PLAN

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NOTES:

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FLAG NOTES:

1. NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW AND PROVIDE 4" OF INLET SIZE DUCTWORK. CONNECT DUCTWORK TO EXISTING.
2. (E) SUPPLY DUCT SHALL TRANSITION AND CONNECT TO NEW RTU-12 SUPPLY OPENING. PROVIDE NEW RETURN DUCT THE SIZE OF THE OPENING AND REROUT (E) RETURN DUCT AS NEEDED TO CONNECT TO RETURN DUCT.
3. NEW VAV BOX. CONNECT INLET TO (E) DUCT MAIN. SUPPLY DUCT SHALL CONNECT TO (E) SUPPLY DIFFUSERS AS SHOWN. PROVIDE CONNECTIONS AND TRANSITIONS AS NEEDED.
4. 10x10 DUCT TO FROM EXHAUST FAN TO EXHAUST GRILLE LOCATED 1' AFF. REFER TO SHEET M6.1 FOR DIAGRAM OF THIS AREA.

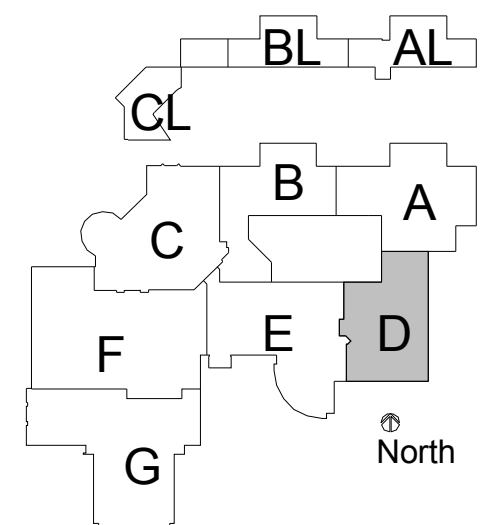
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SHEET CONTENTS

AREA D HVAC PLAN

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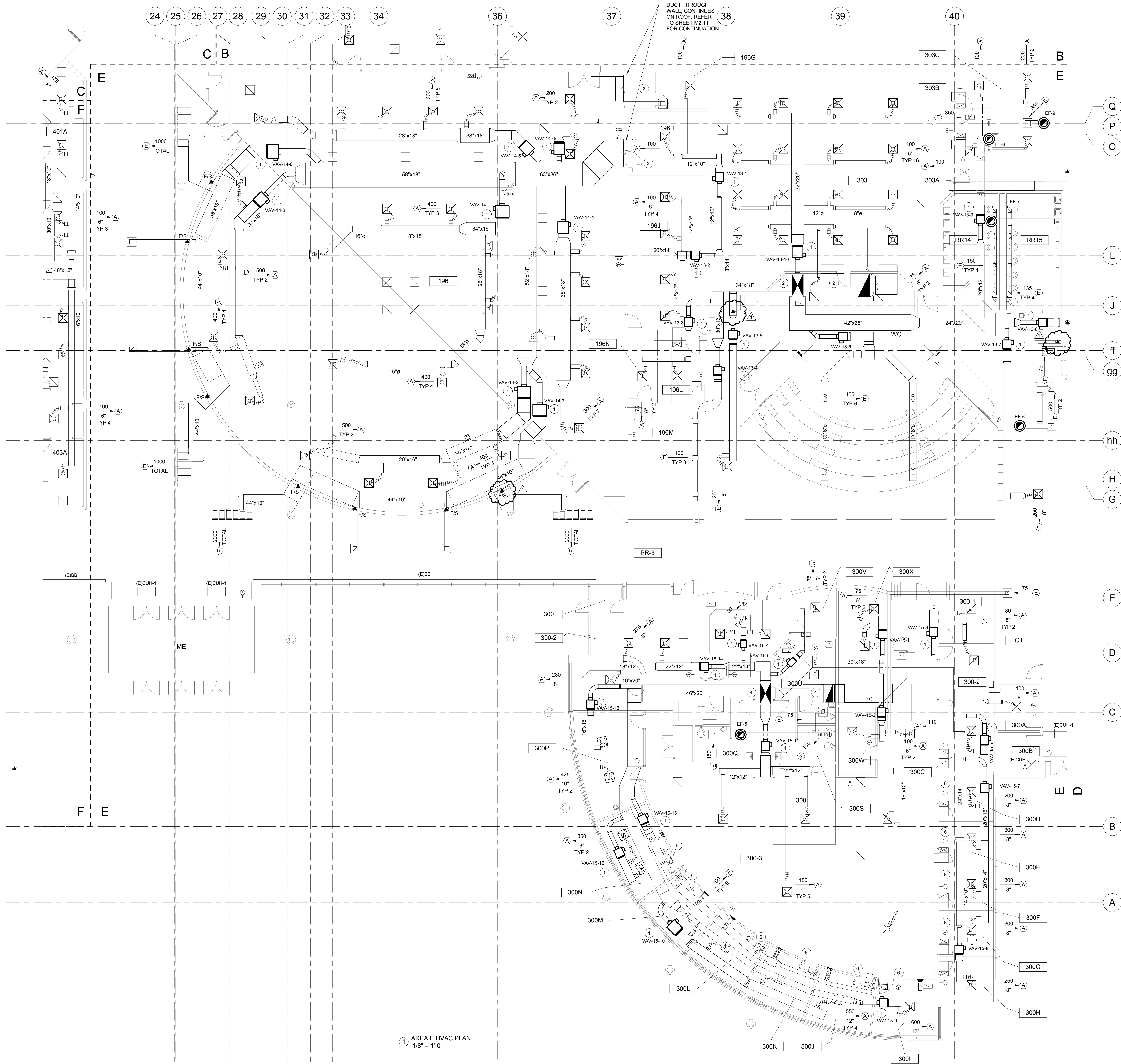


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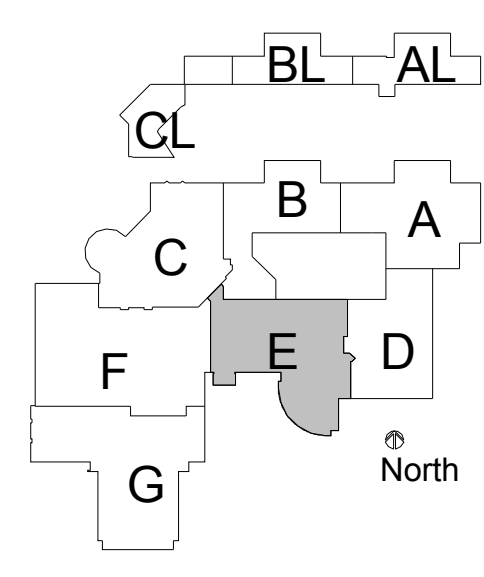
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M2.7  
19 Jan 2012



- NOTES:**
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  - ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - DIFFUSERS WITH TAGS OTHER THAN E ARE NEW. REFER TO MD PLANS FOR WHICH ONES ARE TO BE INSTALLED IN PLACE OF (E) DIFFUSERS. TRANSITION TO NEW NECK SIZE FROM EXISTING RUNOUT AS REQUIRED.
  - REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
  - ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO, 24X24 OR 24X12 AS SHOWN ON DRAWINGS.

- FLAG NOTES:**
- NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW/SR. PROVIDE 4" OF INLET SIZE DUCTWORK UPSTREAM AND CONNECT TO EXISTING DUCTWORK.
  - (E) SUPPLY DUCT SHALL TRANSITION AND CONNECT TO NEW RTU-13 SUPPLY OPENING. PROVIDE NEW RETURN DUCT THE SIZE OF THE OPENING AND REWORK (E) RETURN DUCT AS NEEDED TO CONNECT TO RETURN DUCT.
  - NEW RTU-14 ON ROOF. RTU SUPPLY AND RETURN DUCT ON ROOF SHALL CONNECT INTO (E) DUCTWORK.
  - (E) SUPPLY DUCT SHALL TRANSITION AND CONNECT TO NEW RTU-15 SUPPLY OPENING. PROVIDE NEW RETURN DUCT THE SIZE OF THE OPENING AND REWORK (E) RETURN DUCT AS NEEDED TO CONNECT TO RETURN DUCT.
  - (2) SWITCHES LOCATED ON WALL. BOTTOM SWITCH CONTROLS LIGHTS. TOP SWITCH CONTROLS EF-9. IN-USE LIGHT AND DARK ROOM LIGHTS. LABEL SWITCH TO EF-9.
  - T-STATS SHALL BE AVERAGED FOR VAV CONTROL.

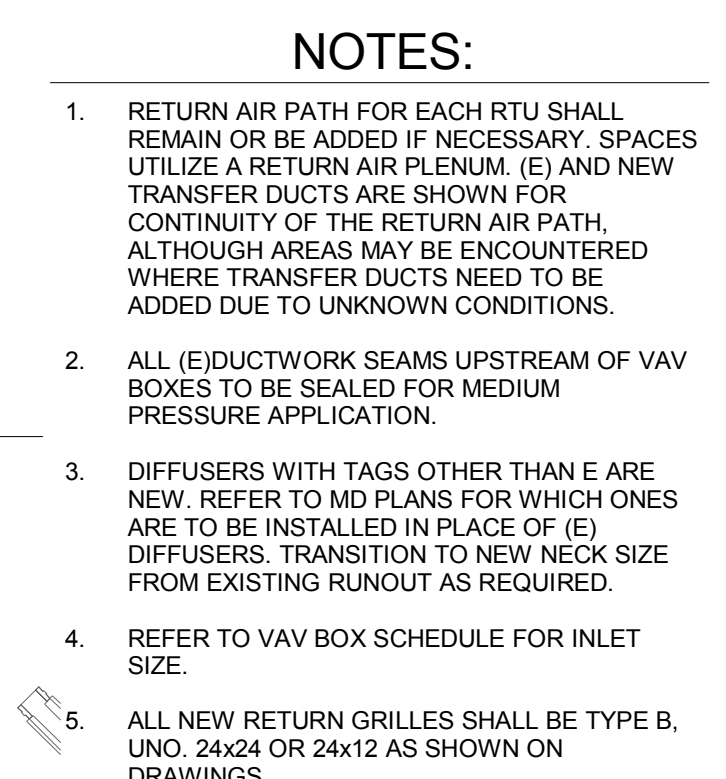


1 AREA E HVAC PLAN  
1/8" = 1'-0"

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M2.8	



- 1 (E) SUPPLY UP TO NEW RTU-8. (E) RETURN DUCT SHALL BE MODIFIED AS NEEDED TO ROUTE TO NEW RETURN OPENING.
- 2 NEW VAV BOX IN LOCATION OF REMOVED HOT WATER REHEAT COIL. RECONNECT HW. PROVIDE 4" OF INLET SIZE DUCTWORK UPSTREAM AND CONNECT TO EXISTING.
- 3 (E) SUPPLY UP TO NEW RTU-18. (E) RETURN DUCT SHALL BE MODIFIED AS NEEDED TO ROUTE TO NEW RETURN OPENING. 36x10 OPEN-ENDED DUCT SHALL TERMINATE OPEN-ENDED IN CEILING SPACE.
- 4 (1) EXHAUST GRILLE LOCATED IN CEILING AND  
(1) EXHAUST GRILLE LOCATED BEHIND DOOR 1' AFF. REFER TO SHEET M-1 FOR DIAGRAM OF THIS AREA.

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2	ASI #01	4/19/12

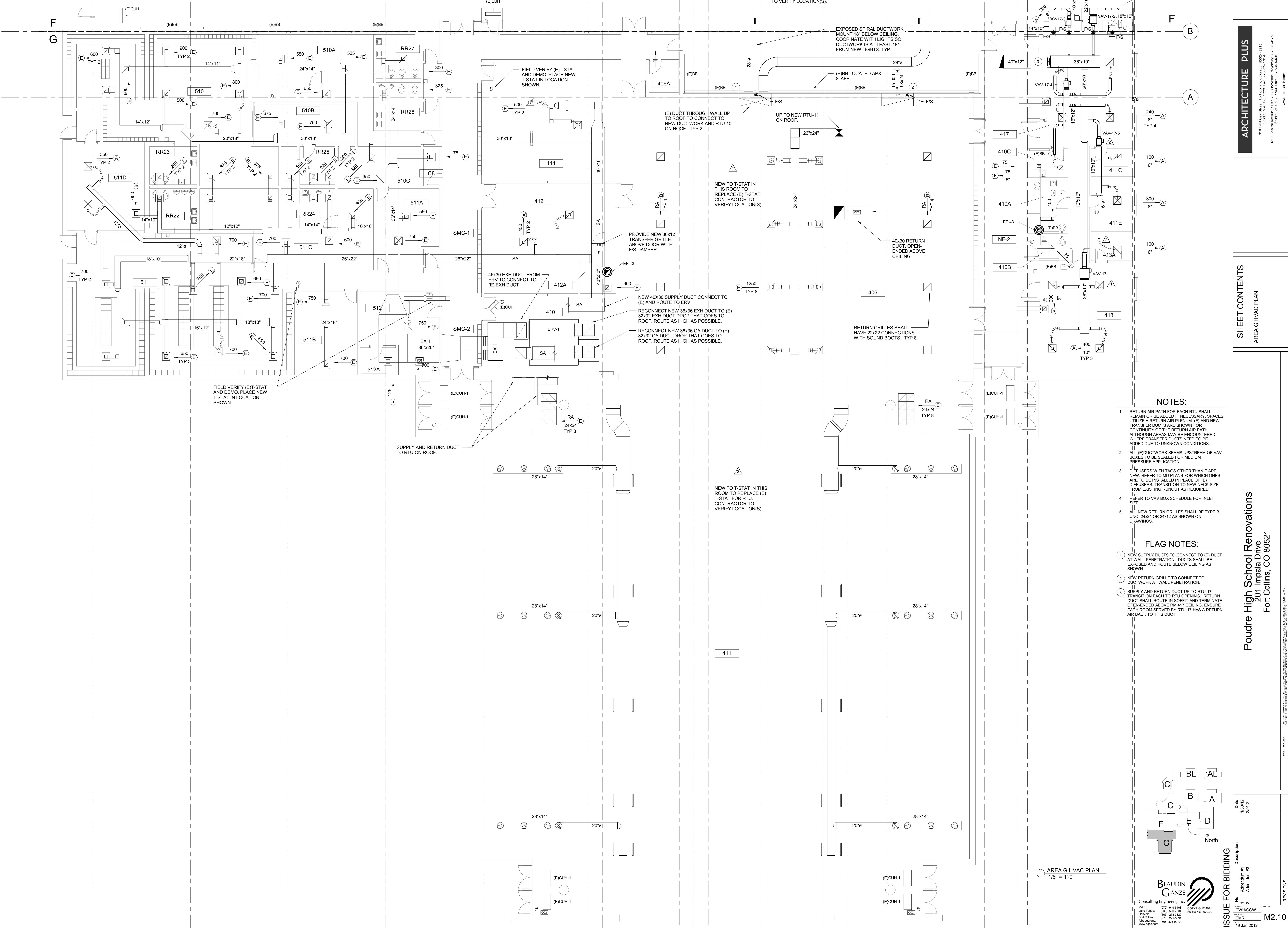
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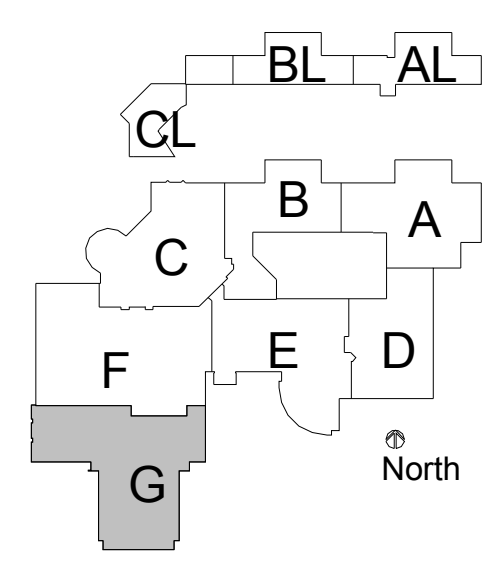


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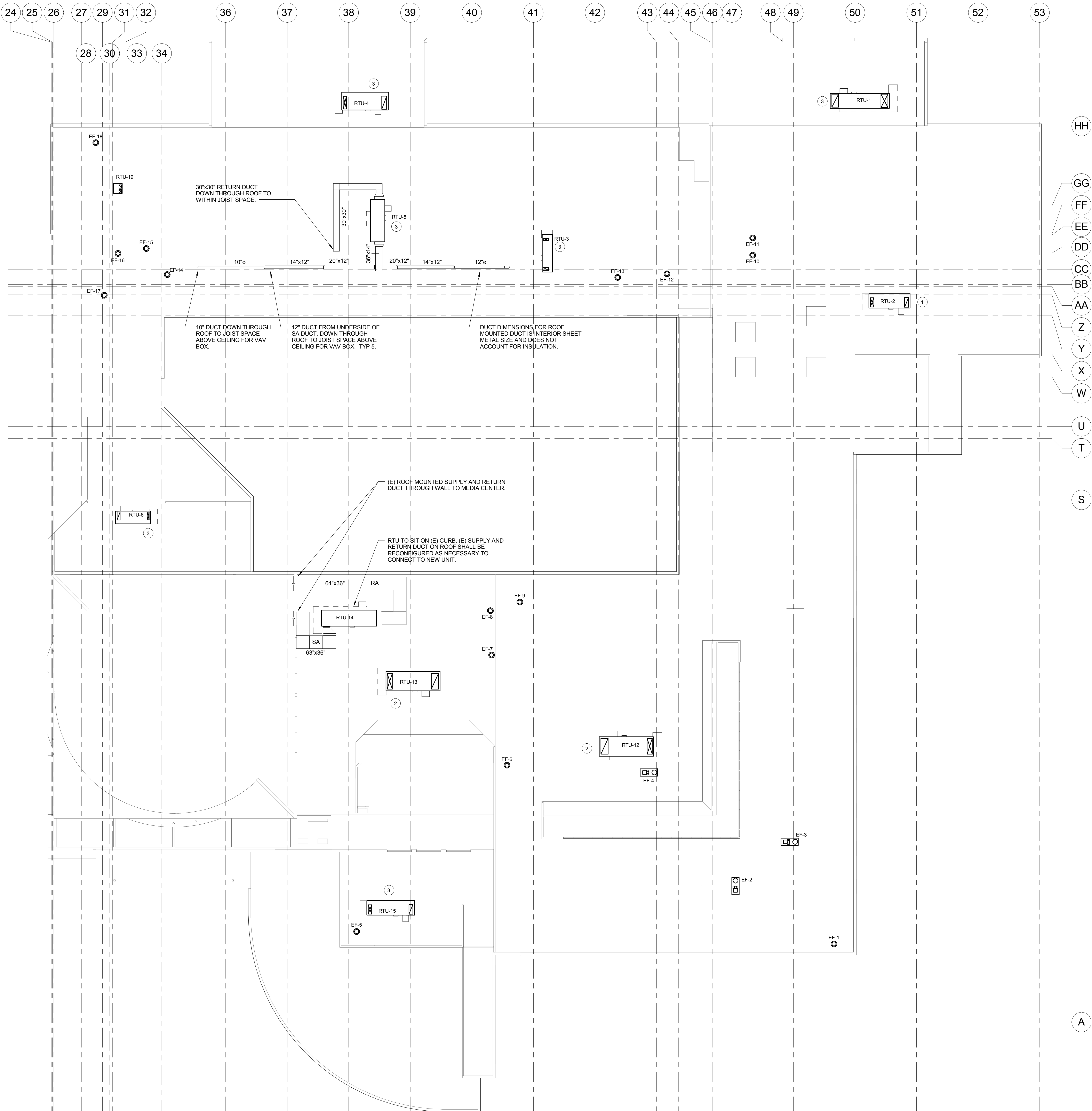
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- ALL (E) DUCTWORK SEAMS UPSTREAM OF VAV BOXES TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
- DIFFUSERS WITH TAGS OTHER THAN E ARE NEW. REFER TO MD PLANS FOR WHICH ONES ARE TO BE INSTALLED IN PLACE OF (E) DIFFUSERS. TRANSITION TO NEW NECK SIZE FROM EXISTING RUNOUT AS REQUIRED.
- REFER TO VAV BOX SCHEDULE FOR INLET SIZE.
- ALL NEW RETURN GRILLES SHALL BE TYPE B, UNO 24x24 OR 24x12 AS SHOWN ON DRAWINGS.

FLAG NOTES:

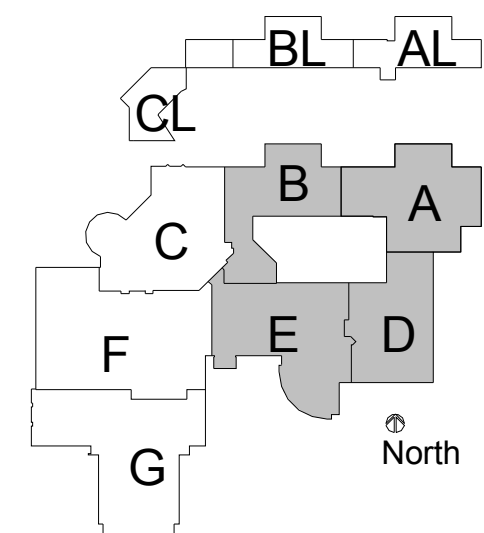
- NEW SUPPLY DUCTS TO CONNECT TO (E) DUCT AT WALL PENETRATION. DUCTS SHALL BE EXPOSED AND ROUTE BELOW CEILING AS SHOWN.
- NEW RETURN GRILLE TO CONNECT TO DUCTWORK AT WALL PENETRATION.
- SUPPLY AND RETURN DUCT UP TO RTU-17. TRANSITION EACH TO RTU OPENING. RETURN DUCT SHALL ROUTE IN SOFFIT AND TERMINATE OPEN ENDED ABOVE RM 417 CEILING. ENSURE EACH ROOM SERVED BY RTU-17 HAS A RETURN AIR BACK TO THIS DUCT.







- NOTES:**
1. EXTEND ANY EXISTING VTR'S WITHIN 10' OF NEW RTU OA INLET TO ABOVE RTU.
  2. COORDINATE EXACT LOCATION OF RTUS AND SUPPLY/RETURN DUCT DROPS WITH STRUCTURAL DRAWINGS TO AVOID (E) STRUCTURAL ELEMENTS.
- FLAG NOTES:**
- 1 RTU TO SIT ON (E) STRUCTURAL BEAMS ON ROOF. SUPPLY DUCT DROP SHALL MATCH PREVIOUS SUPPLY LOCATION AND CONNECT TO (E) SUPPLY DUCT.
  - 2 RTU TO SIT ON (E) CURB. SUPPLY DUCT DROP SHALL MATCH PREVIOUS SUPPLY LOCATION AND CONNECT TO (E) SUPPLY DUCT.
  - 3 LOCATION OF NEW RTU AND NEW CURB.



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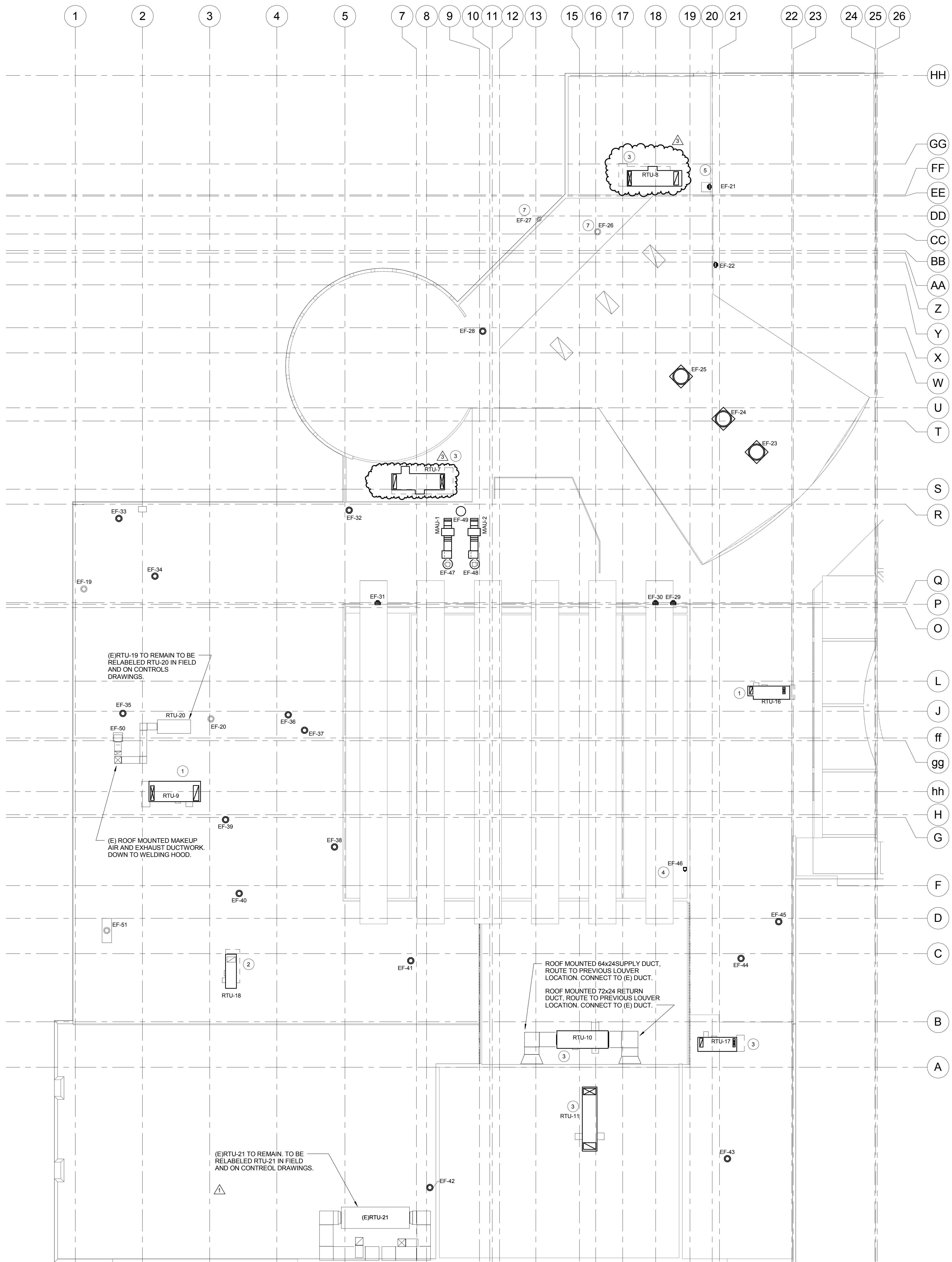
No.	Description	Date
1	CWN/CGW	19 Jan 2012
2	CMR	

**M2.11**

**SHEET CONTENTS**  
MECHANICAL ROOF PLAN

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Fax: (970) 221-9591  
Studio: 307 E. 3rd St., Fort Collins, CO 80501-4648  
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NOTES:

1. EXTEND ANY EXISTING VTR'S WITHIN 10' OF NEW RTU OA INLET TO ABOVE RTU.
2. COORDINATE EXACT LOCATION OF RTUS AND SUPPLY/RETURN DUCT DROPS WITH STRUCTURAL DRAWINGS TO AVOID (E) STRUCTURAL ELEMENTS.

FLAG NOTES:

- 1 RTU TO SIT ON (E) STRUCTURAL BEAMS ON ROOF. SUPPLY DUCT DROP SHALL MATCH PREVIOUS SUPPLY LOCATION AND CONNECT TO (E) SUPPLY DUCT.
- 2 RTU TO SIT ON (E) CURB. SUPPLY DUCT DROP SHALL MATCH PREVIOUS SUPPLY LOCATION AND CONNECT TO (E) SUPPLY DUCT.
- 3 LOCATION OF NEW RTU ON CURB.
- 4 IN LINE FAN LOCATED IN MEZZ SHOWN FOR CLARITY. (E) DUCT TO REMAIN AND ROUTE TO ROOF. TERMINATE WITH COOK PR-12 ROOF MOUNTED GRAVITY VENTILATOR. PROVIDE 8" CURB FOR VENTILATOR.
- 5 SIDEWALL EXHAUST FAN LOCATED ON LEVEL 0 NOT ROOF. SHOWN FOR CLARITY.
- 6 (E)EXHAUST FAN TO REMAIN. LOCATED ON LEVEL 0, NOT ROOF. SHOWN FOR CLARITY. RE-NUMBERED.
- 7 (E)EXHAUST FAN TO REMAIN. RE-NUMBERED.

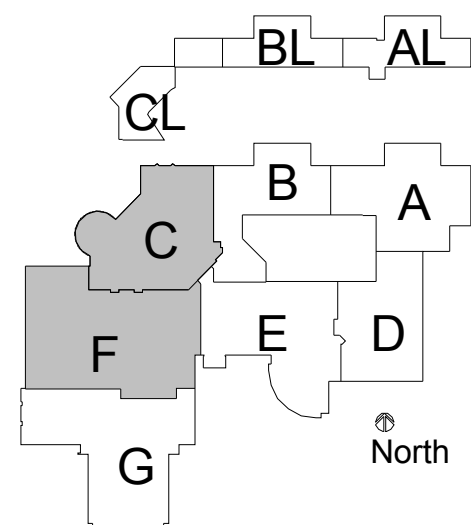
ARCHITECTURE PLUS

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1402 Campus Avenue, Suite 201, Channahon, Illinois 63201-4669  
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SHEET CONTENTS

MECHANICAL ROOF PLAN

Poudre High School Renovations  
201 Impala Drive  
Fort Collins, CO 80521



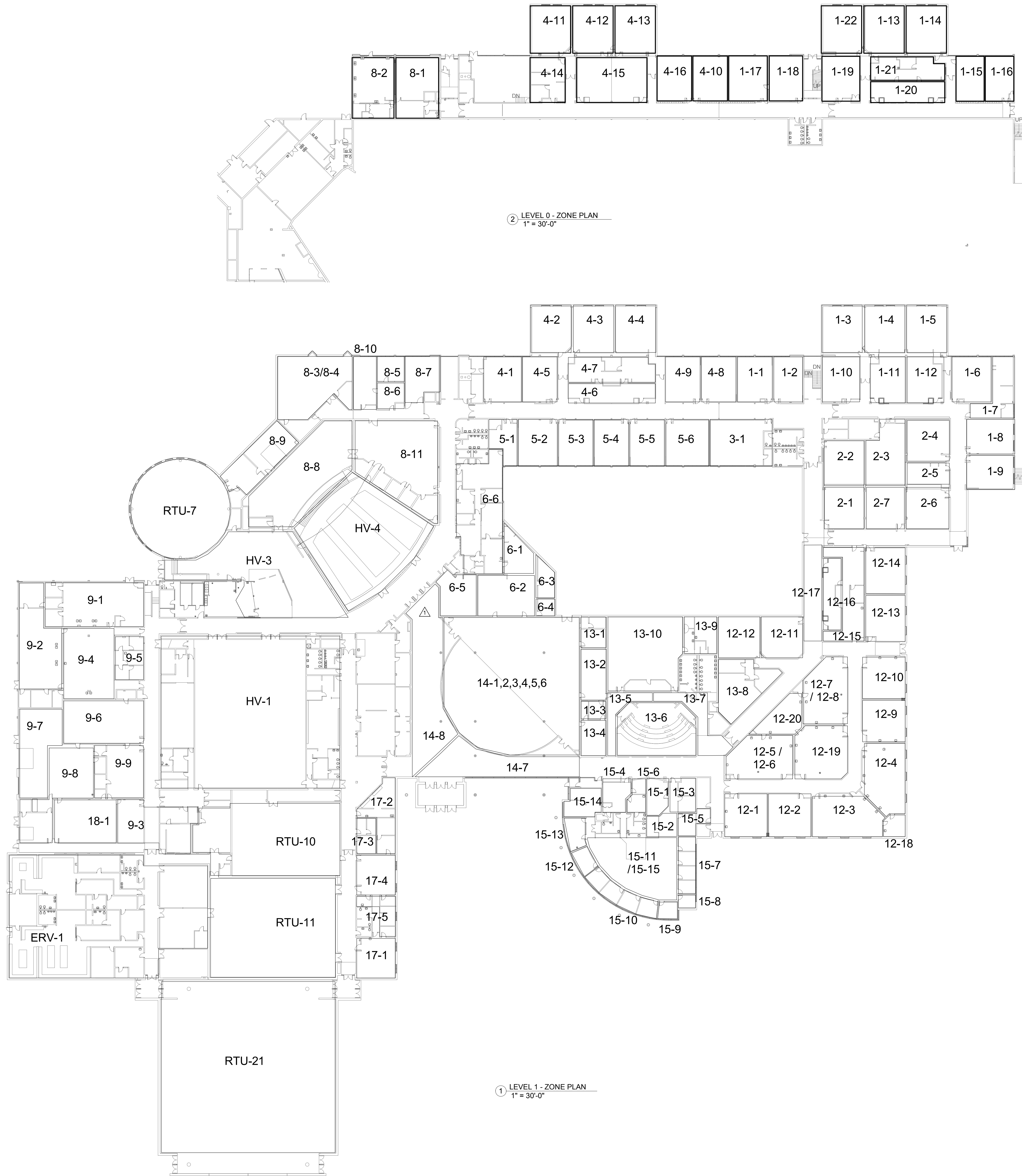
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ISSUE FOR BIDDING

No.	Description	Date
1	1/30/12	
2	2/9/12	
3	4/19/12	
4	AS1 #01	
5	CMR	
6	CWN/CGW	
7	19 Jan 2012	

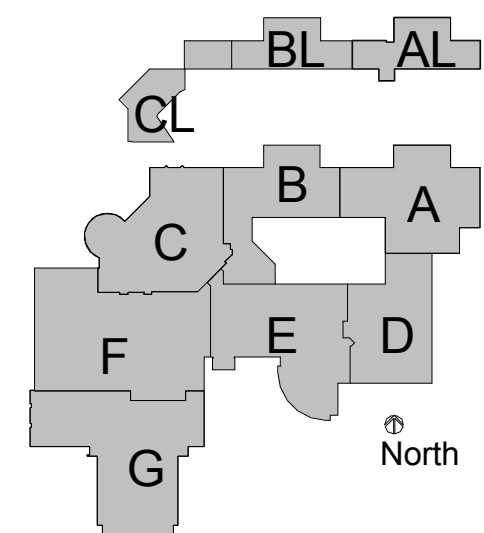
REVISIONS

M2.12



2 LEVEL 0 - ZONE PLAN  
1" = 30'-0"

1 LEVEL 1 - ZONE PLAN  
1" = 30'-0"



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ISSUE FOR BIDDING

No.	Description	Date
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REVISIONS

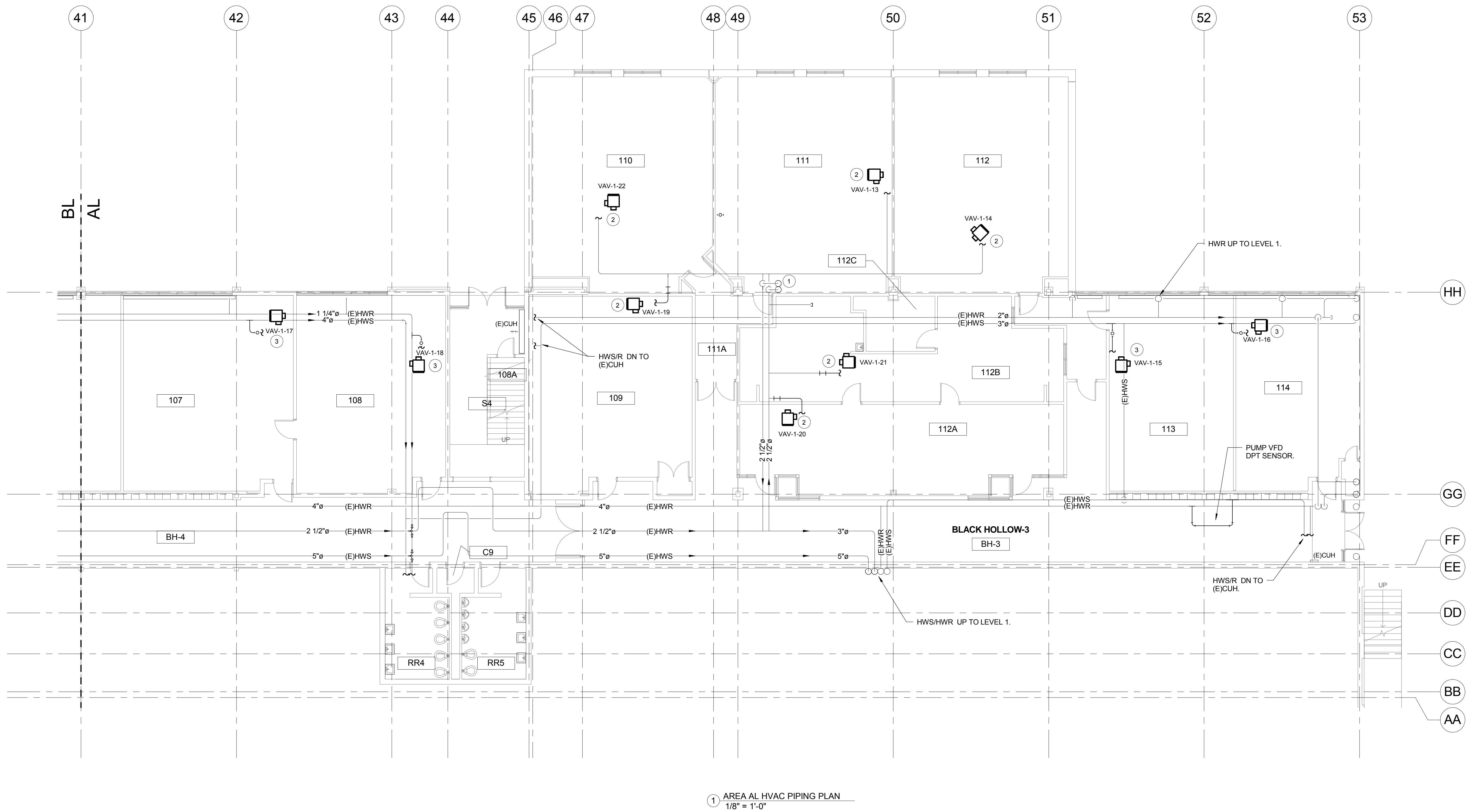
19 Jan 2012

M2.13

Poudre High School Renovations  
201 Impala Drive  
Fort Collins, CO 80521

SHEET CONTENTS  
HVAC ZONE PLAN

ARCHITECTURE PLUS  
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1403 Campus Avenue, Suite 201, Champaign, Illinois 61820-1469  
Studio: 307.632.7903 Fax: 307.631.4468  
www.aplusarch.com



# NOTES:

1. EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
2. BRANCH RUNOUTS TO VAV BOXES ARE 3/4" UNO.
3. DO NOT ROUTE HWS/R PIPING IN FRONT OF VAV BOX CONTROL PANEL. ROUTE HWS/R TO EACH VAV BOX IN A MANNER THAT DOES NOT INHIBIT MAINTENANCE ACCESS.
4. ISOLATION VALVES REQUIRED AT ALL BRANCHES OFF MAINS. PROVIDE ISOLATION VALVES FOR ALL EQUIPMENT.
5. CONTRACTOR TO VERIFY RIGHT HAND OR LEFT HAND COIL/CONTROL CONNECTION LOCATIONS TO ALLOW FOR PROPER MAINTENANCE ACCESS.
6. ALL CONTROL VALVES, ISOLATION VALVES AND BALANCE VALVES TO BE INSTALLED IN AN ACCESSIBLE LOCATION. COORDINATE ACCESS PANELS WITH GC IF REQUIRED.

## FLAG NOTES:

1. 2" HWS/HWR UP TO LEVEL 1.
2. NEW VAV BOX IN APPROXIMATE LOCATION OF REMOVED HEATING COIL. (E) HWS/R FROM HEATING COIL SHALL BE RECONFIGURED AND CONNECTED TO VAV BOX. PROVIDE VALVING PER DIAGRAM ON SHEET M6.1.
3. NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

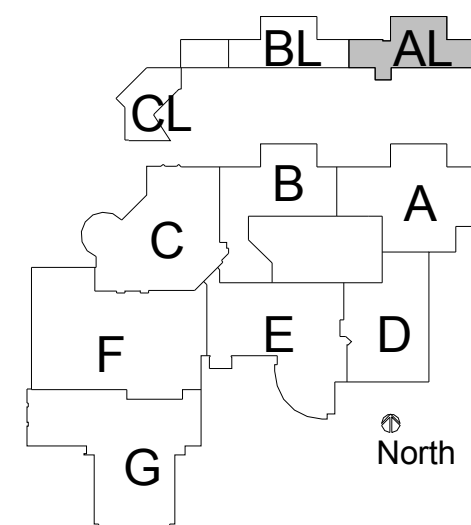
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970.225.1000  
1403 College Avenue, Suite 201, Channahon, Illinois 61015-4669  
908.282.7903 Fax 908.282.4468  
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SHEET CONTENTS

AREA AL HVAC PIPING PLAN

Poudre High School Renovations  
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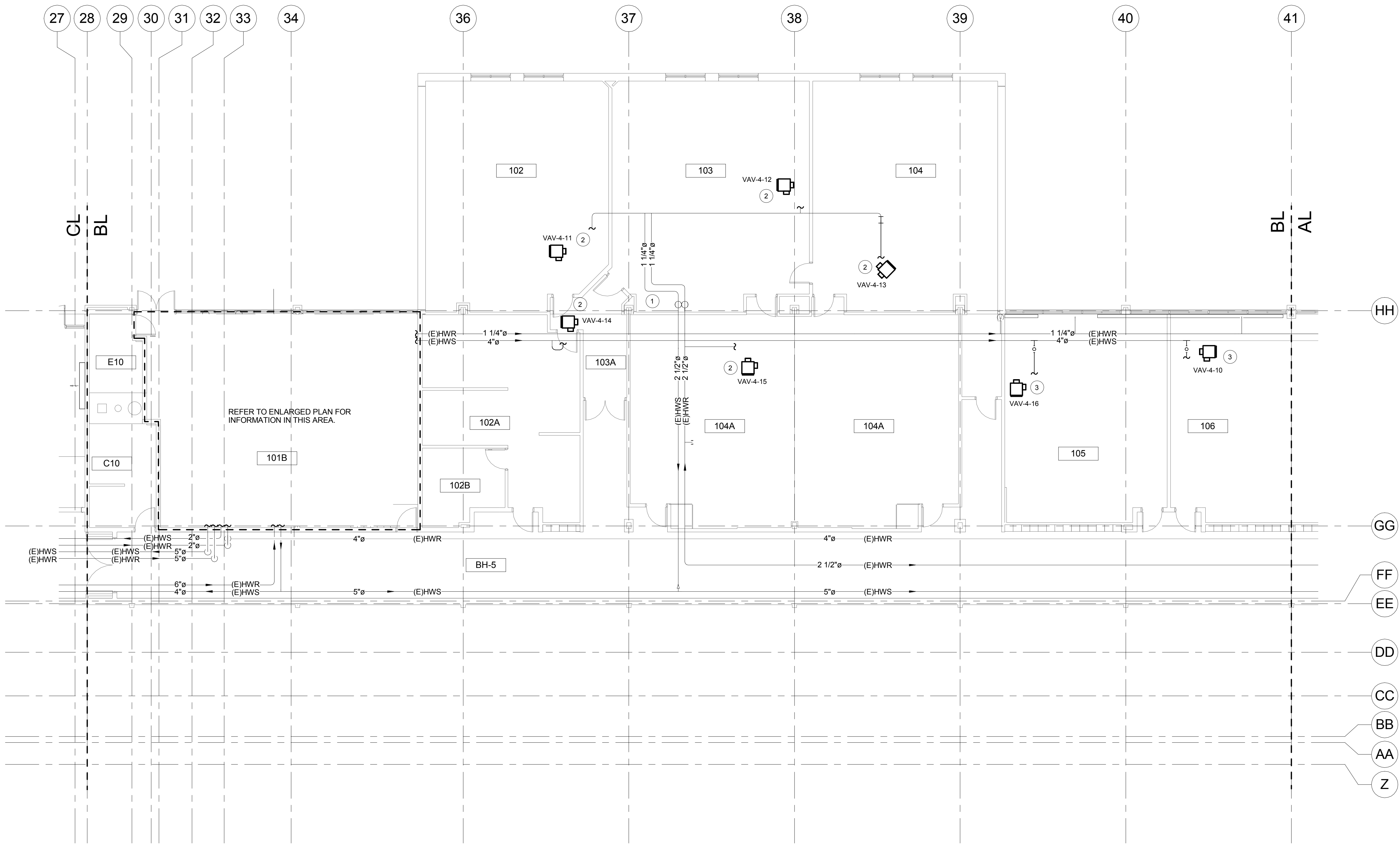
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ISSUE FOR BIDDING

No.	Description	Date
1	CW/CCW	19 Jan 2012
2	CMR	

M3.1

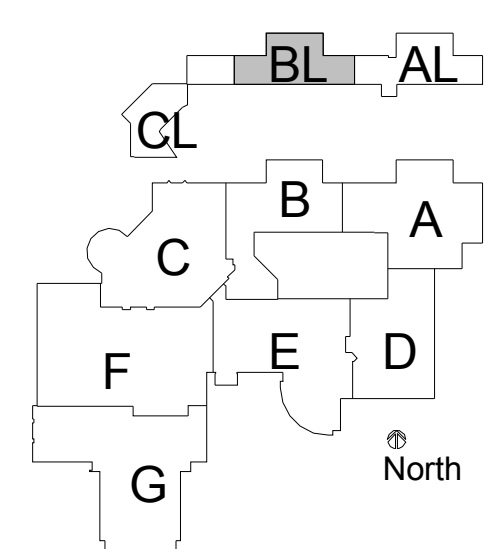




1 AREA BL HVAC PIPING PLAN  
1/8" = 1'-0"

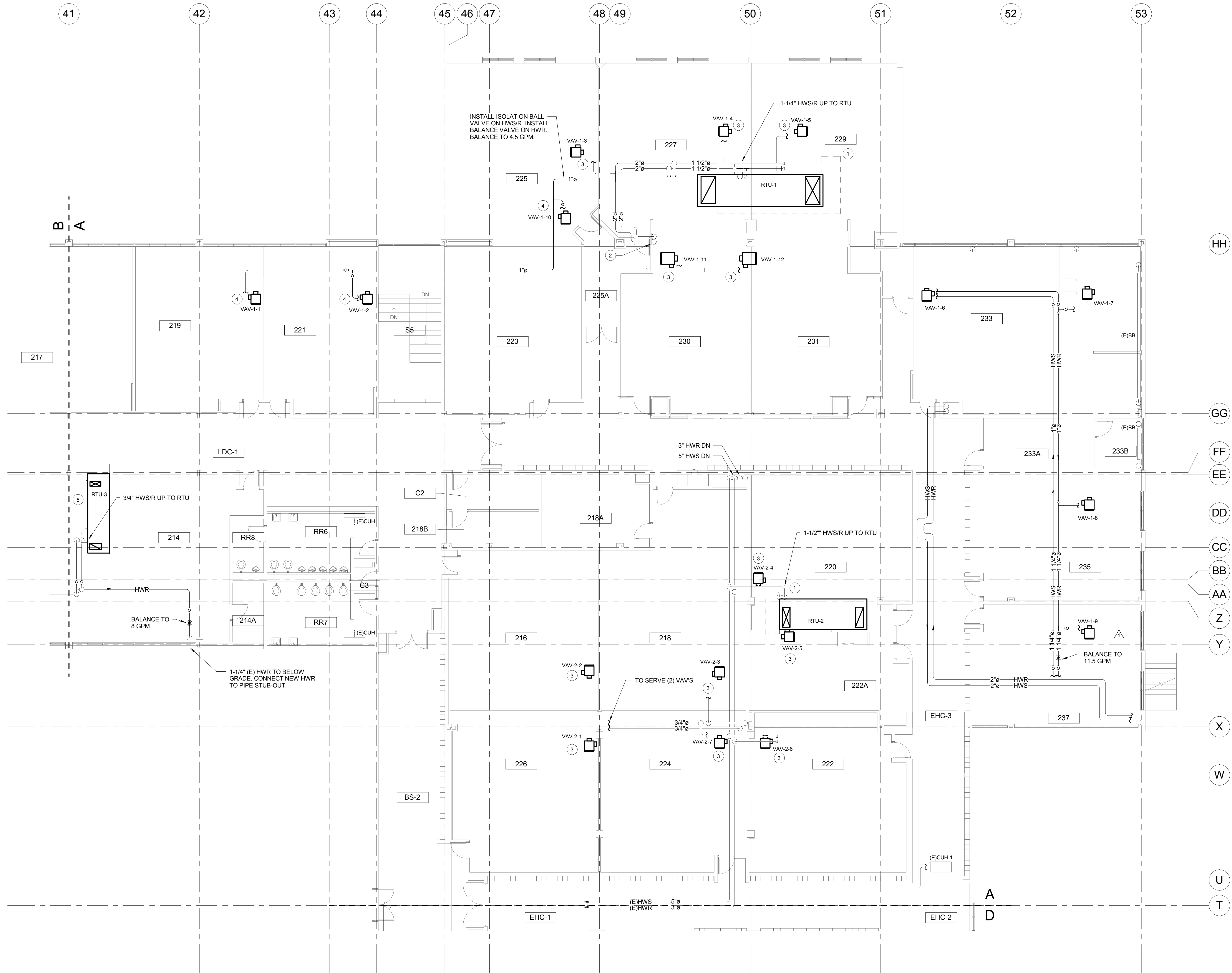
- NOTES:**
1. EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
  2. BRANCH RUNOUTS TO VAV BOXES ARE 3/4" UNO.
  3. DO NOT ROUTE HWS/R PIPING IN FRONT OF VAV BOX CONTROL PANEL. ROUTE HWS/R TO EACH VAV BOX IN A MANNER THAT DOES NOT INHIBIT MAINTENANCE ACCESS.
  4. ISOLATION VALVES REQUIRED AT ALL BRANCHES OFF MAINS. PROVIDE ISOLATION VALVES FOR ALL EQUIPMENT.
  5. CONTRACTOR TO VERIFY RIGHT HAND OR LEFT HAND COIL/CONTROL CONNECTION LOCATIONS TO ALLOW FOR PROPER MAINTENANCE ACCESS.
  6. ALL CONTROL VALVES, ISOLATION VALVES AND BALANCE VALVES TO BE INSTALLED IN AN ACCESSIBLE LOCATION. COORDINATE ACCESS PANELS WITH GC IF REQUIRED.

- FLAG NOTES:**
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  2. NEW VAV BOX IN APPROXIMATE LOCATION OF REMOVED HEATING COIL. (E) HWS/R FROM HEATING COIL SHALL BE RECONFIGURED AND CONNECTED TO VAV BOX. PROVIDE VALVING PER DIAGRAM ON SHEET M6.1.
  3. NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.



No.	Description	Date
1	CMR	19 Jan 2012
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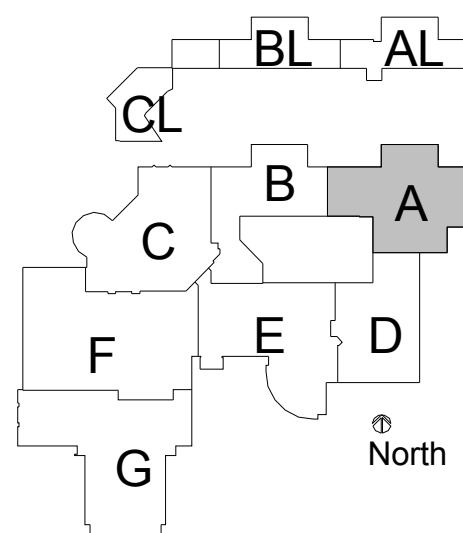
1 AREA A HVAC PIPING PLAN  
1/8" = 1'-0"

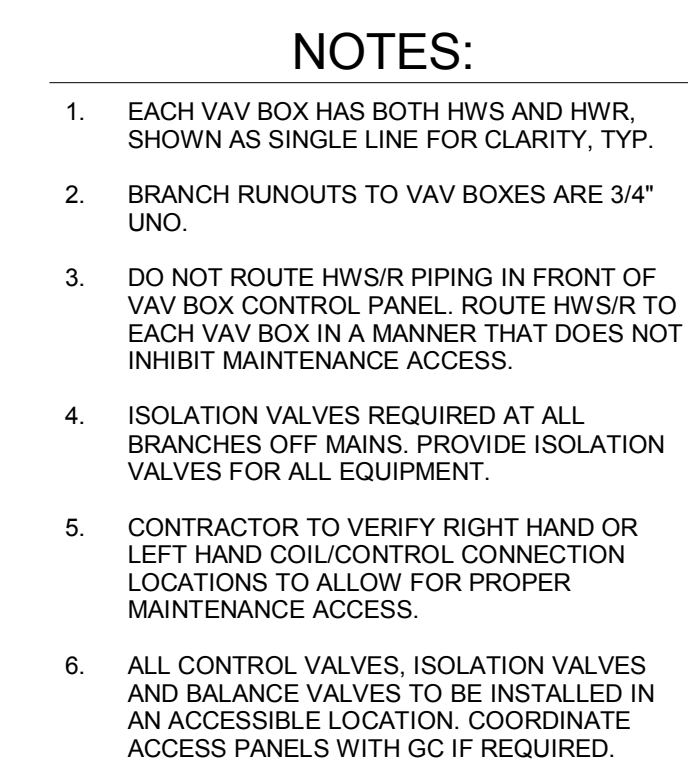
NOTES:

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- ALL CONTROL VALVES, ISOLATION VALVES AND BALANCE VALVES TO BE INSTALLED IN AN ACCESSIBLE LOCATION. COORDINATE ACCESS PANELS WITH GC IF REQUIRED.

FLAG NOTES:

- HWS/HWR UP TO NEW RTU LOCATED ON ROOF. (E) HWS/R FROM REMOVED RTU SHALL BE CAPPED. CONNECT NEW 1-1/2" PIPE TO 3" HWR/ 5" HWS.
- 2" HWS/HWR DN TO LEVEL 0.
- NEW VAV BOX IN APPROXIMATE LOCATION OF REMOVED HEATING COIL. (E) HWS/R FROM HEATING COIL SHALL BE RECONFIGURED AND CONNECTED TO VAV BOX. PROVIDE VALVING PER DIAGRAM ON SHEET M6.1.
- NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.
- HWS/HWR UP TO NEW RTU LOCATED ON ROOF. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

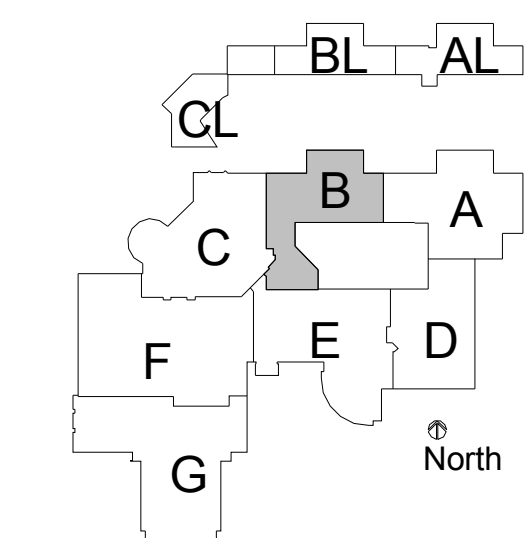




- 1 HWS/HWR UP TO NEW RTU LOCATED ON ROOF.  
(E) HWS/R FROM REMOVED RTU SHALL BE RECONFIGURED FOR CONNECTION TO NEW UNIT.
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- 3 NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.
- 4 HWS/HWR UP TO NEW RTU LOCATED ON ROOF.  
HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

AREA B HVAC PIPING PLAN

THE MEANS AND VARIANCE COEFFICIENTS OF THE REPRESENTATIVE UTILITY IN THE REPRESENTATIVE ARCHITECTURE



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## ISSUE FOR BIDDING

ISSUE FOR BIDDING		No.	Description	Date
ORIGINAL	CVHW/CGW	1	Addendum #1	1/30/12
REVIEWED	CMR	2	Addendum #3	2/9/12
DATE	10 Jan 2012			

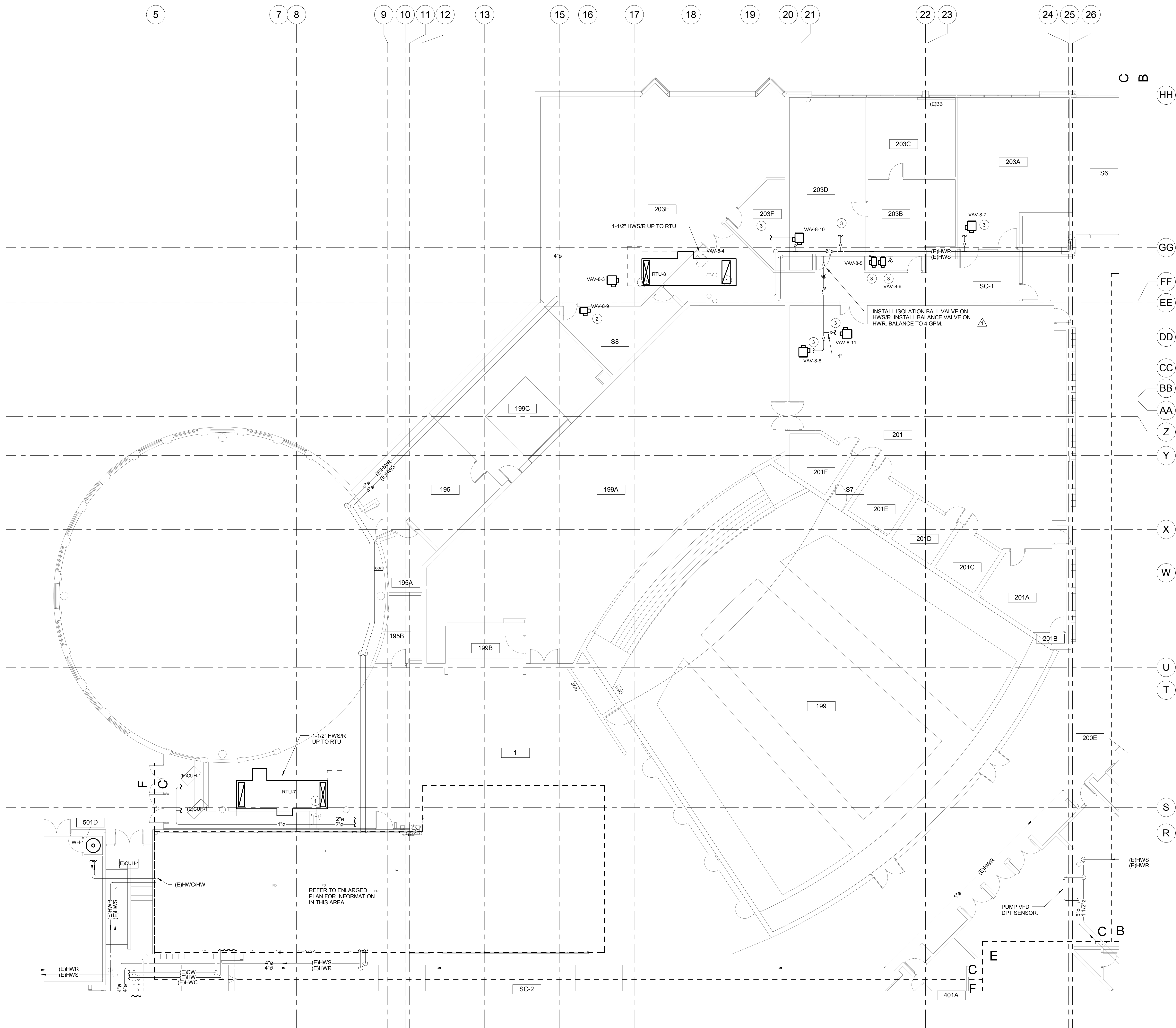
SHEET NO. \_\_\_\_\_

M3.5

DWY 1000000000

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NOTES:

1. EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
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3. NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

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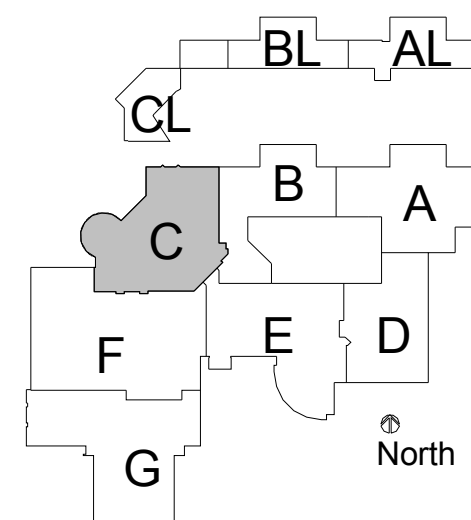
318 East Oak Street, Fort Collins, CO 80524-2915  
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SHEET CONTENTS

AREA C HVAC PIPING PLAN

Poudre High School Renovations  
201 Impala Drive  
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ISSUE FOR BIDDING

No. 1  
Description  
Addendum #3

DATE  
2/9/12

PROJECT NO.  
9070-00

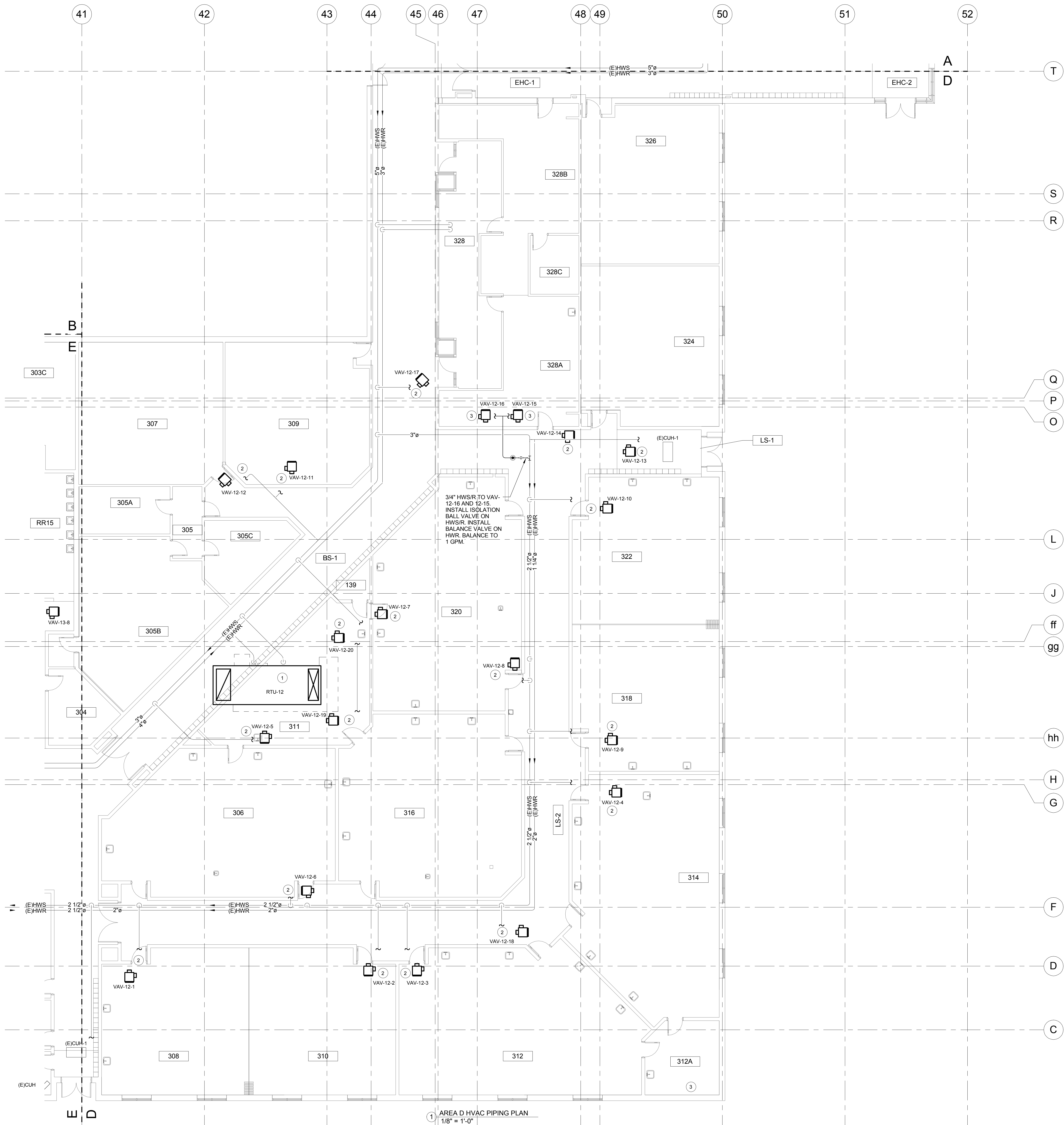
PROJECT NAME  
CWHS/COW

PROJECT LOCATION  
CMR

PROJECT DATE  
19 Jan 2012

PROJECT NO.  
M3.6

1 AREA C HVAC PIPING PLAN  
1/8" = 1'-0"



NOTES:

1. EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
2. BRANCH RUNOUTS TO VAV BOXES ARE 3/4" UNO.
3. DO NOT ROUTE HWS/R PIPING IN FRONT OF VAV BOX CONTROL PANEL. ROUTE HWS/R TO EACH VAV BOX IN A MANNER THAT DOES NOT INHIBIT MAINTENANCE ACCESS.
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FLAG NOTES:

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- 3 NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

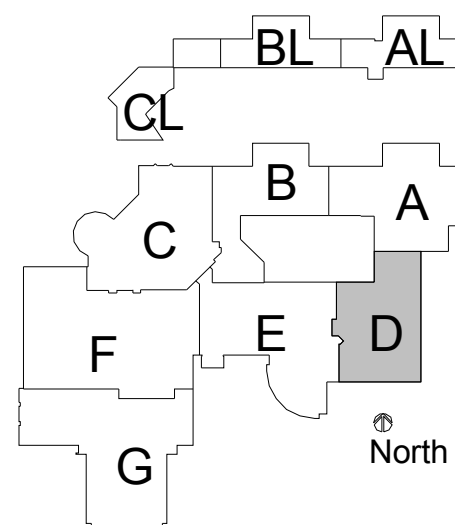
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SHEET CONTENTS

AREA D HVAC PIPING PLAN

Poudre High School Renovations  
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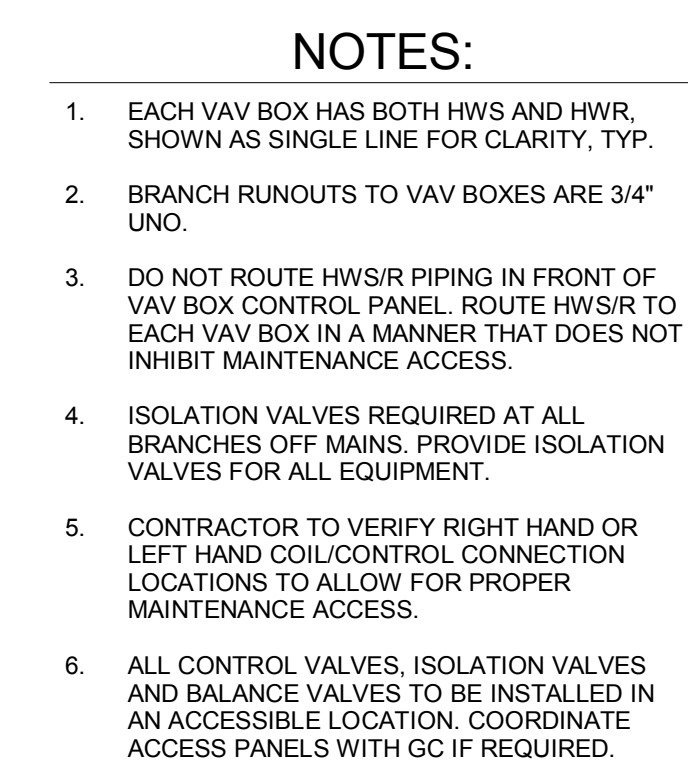
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ISSUE FOR BIDDING

No.	Description	Date
1	CWN/CGW	19 Jan 2012
2	CMR	
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REVISIONS

M3.7



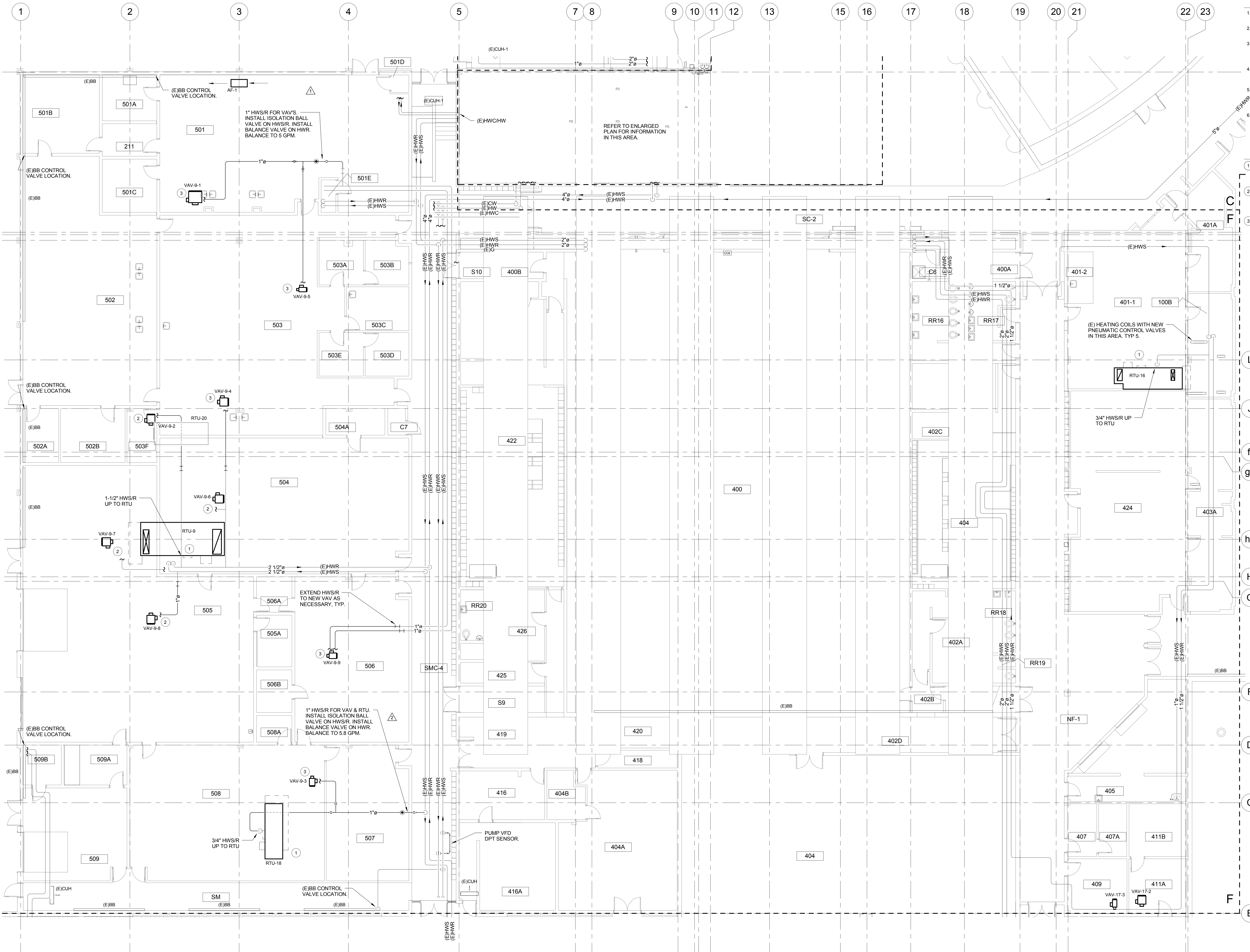
- ① HWS/HWR UP TO NEW RTU LOCATED ON ROOF. (E) HWS/R FROM REMOVED RTU SHALL BE RECONFIGURED FOR CONNECTION TO NEW UNIT.
- ② NEW VAV BOX IN APPROXIMATE LOCATION OF REMOVED HEATING COIL. (E) HWS/R FROM HEATING COIL SHALL BE RECONFIGURED AND CONNECTED TO VAV BOX. PROVIDE VALVING PER DIAGRAM ON SHEET M5.1.
- ③ NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

**Poudre High School Renovations**  
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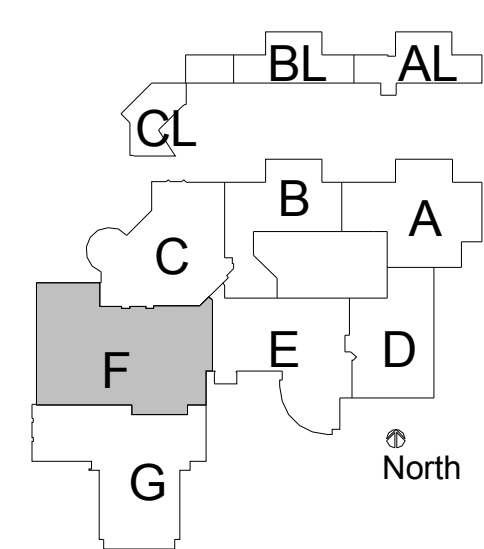
No.	Description	Date
1	Addendum #1	1/30/12

8

M3.8



- NOTES:**
- EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
  - BRANCH RUNOUTS TO VAV BOXES ARE 3/4" UNO.
  - DO NOT ROUTE HWS/R PIPING IN FRONT OF VAV BOX CONTROL PANEL. ROUTE HWS/R TO EACH VAV BOX IN A MANNER THAT DOES NOT INHIBIT MAINTENANCE ACCESS.
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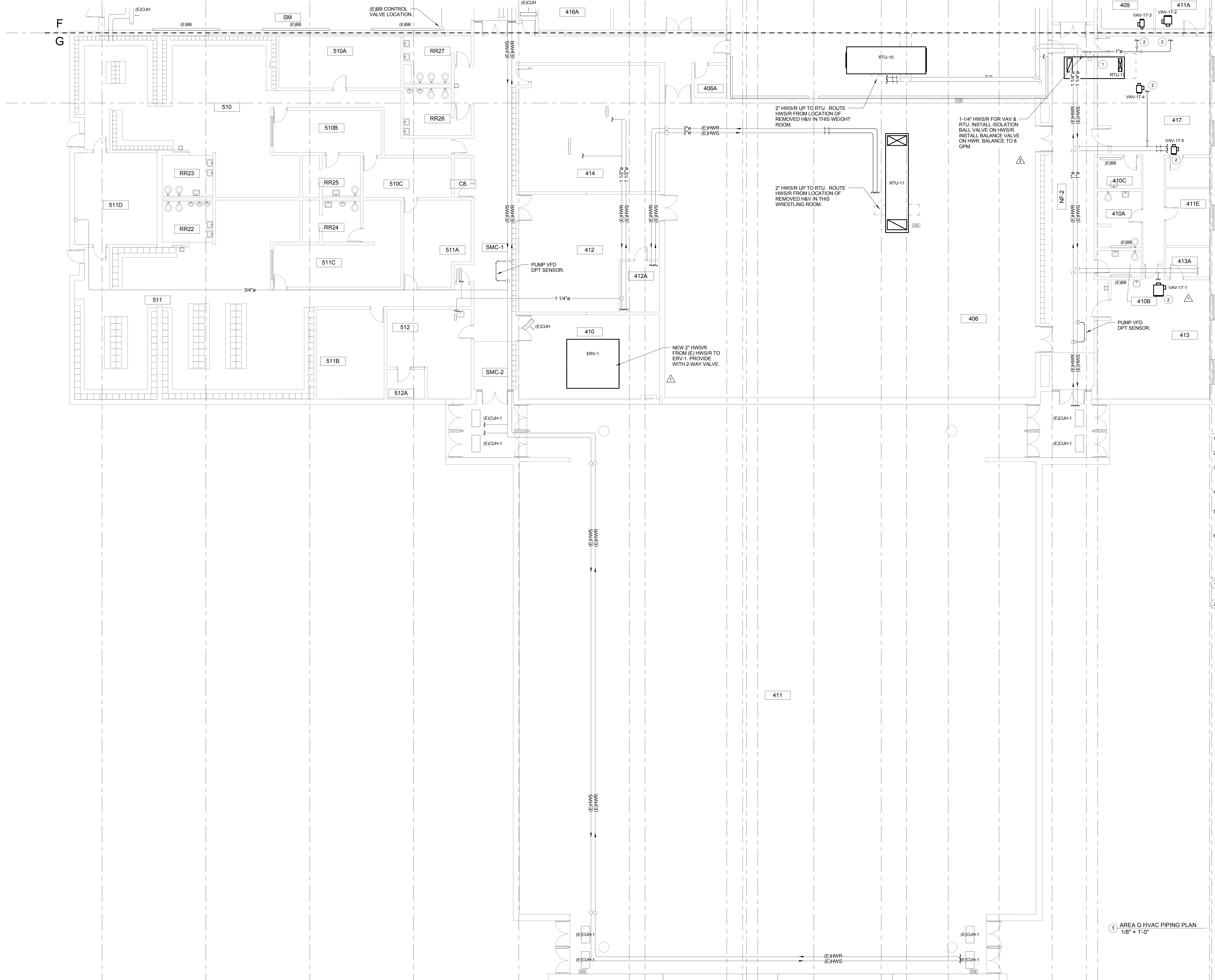
1 AREA F HVAC PIPING PLAN  
1/8" = 1'-0"

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ISSUE FOR BIDDING	
No.	Description
1	Addendum #1
2	Addendum #3
REVISIONS	

OWNER	CWH/CGW
REVIEWED	CMR
DATE	.....
SHEET NO.	M3.9



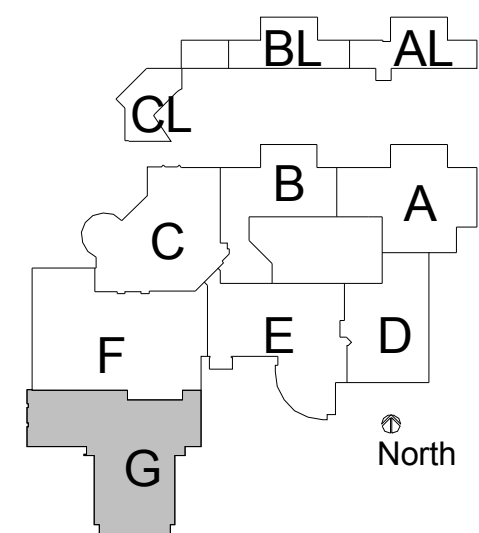


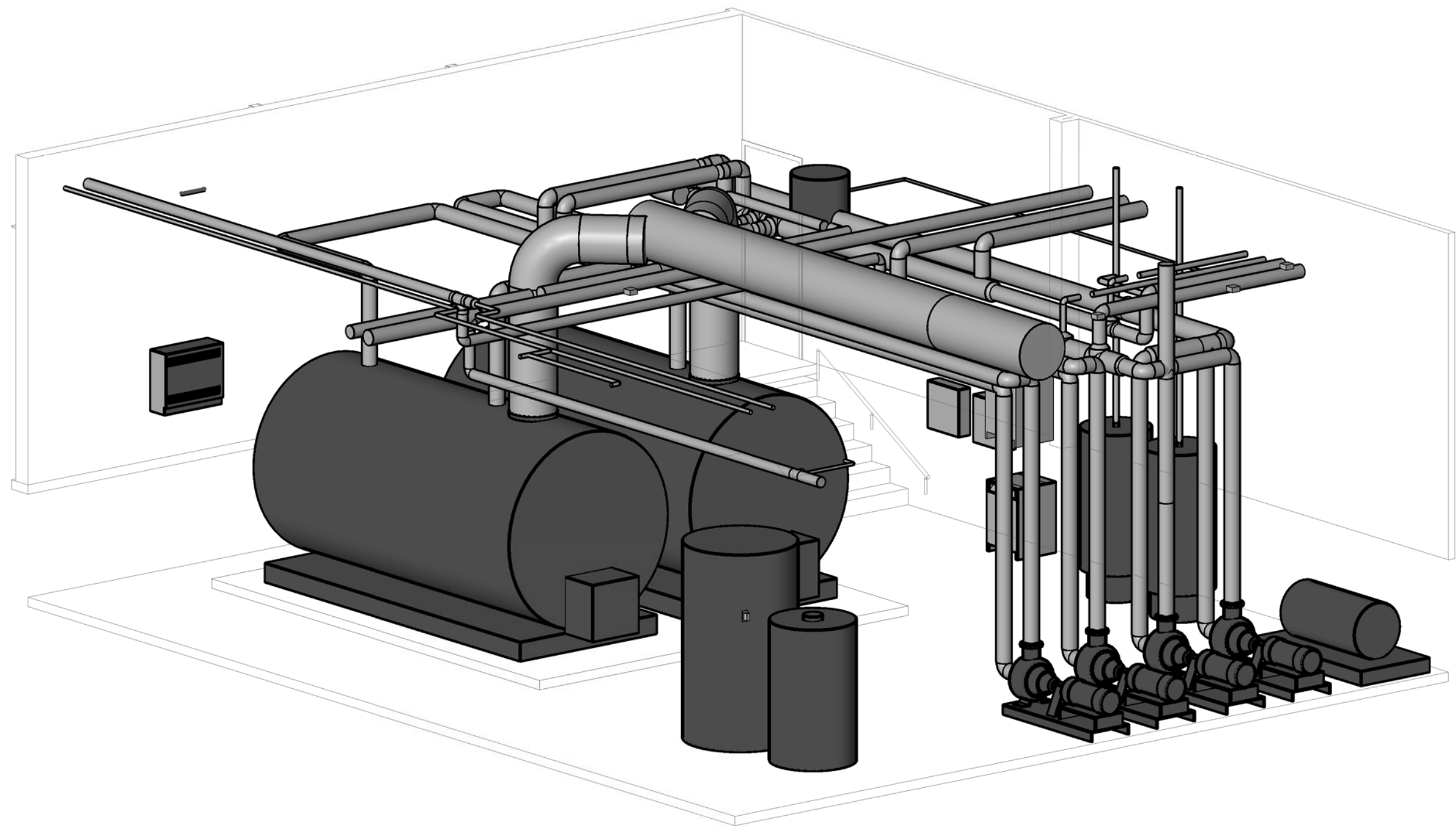
NOTES:

- EACH VAV BOX HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
- BRANCH RUNOUTS TO VAV BOXES ARE 3/4" UNO.
- DO NOT ROUTE HWS/R PIPING IN FRONT OF VAV BOX CONTROL PANEL. ROUTE HWS/R TO EACH VAV BOX IN A MANNER THAT DOES NOT INHIBIT MAINTENANCE ACCESS.
- ISOLATION VALVES REQUIRED AT ALL BRANCHES OFF MAINS. PROVIDE ISOLATION VALVES FOR ALL EQUIPMENT.
- CONTRACTOR TO VERIFY RIGHT HAND OR LEFT HAND COIL/CONTROL CONNECTION LOCATIONS TO ALLOW FOR PROPER MAINTENANCE ACCESS.
- ALL CONTROL VALVES, ISOLATION VALVES AND BALANCE VALVES TO BE INSTALLED IN AN ACCESSIBLE LOCATION. COORDINATE ACCESS PANELS WITH GC IF REQUIRED.

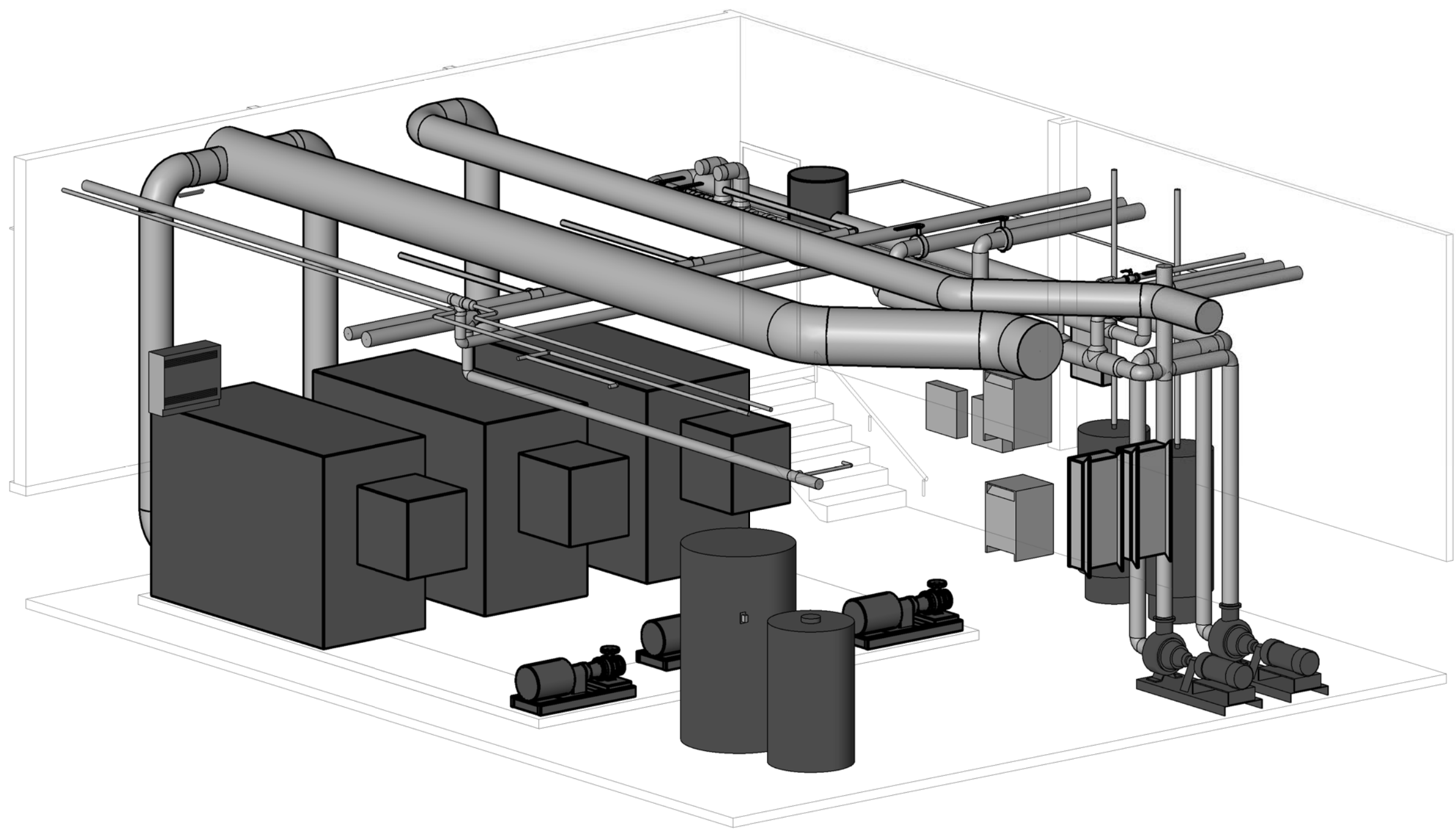
FLAG NOTES:

- HWS/HWR UP TO NEW RTU LOCATED ON ROOF. 1" HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.
- NEW VAV BOX. HWS/R SHALL BE ROUTE FROM NEAREST POINT ON MAIN.

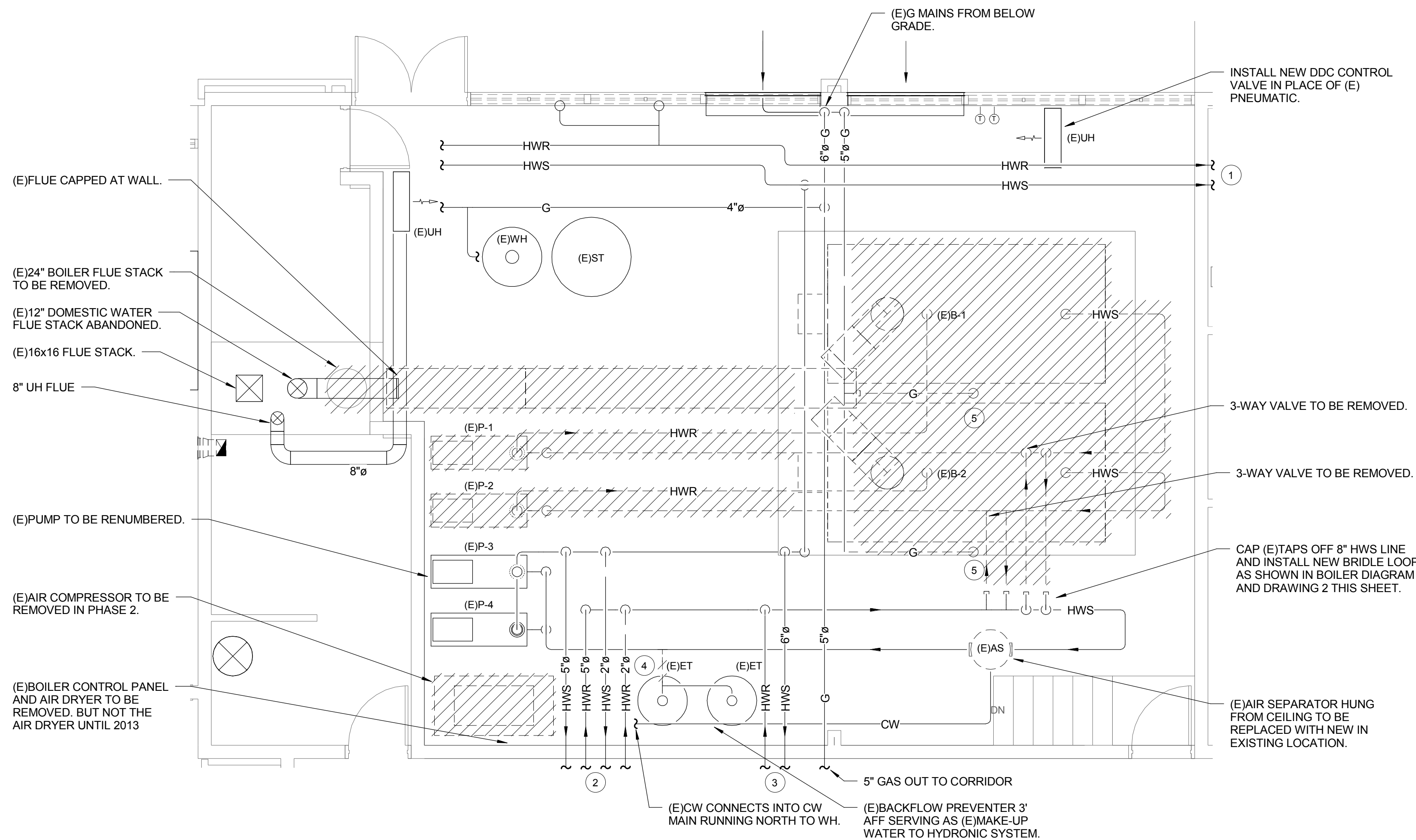




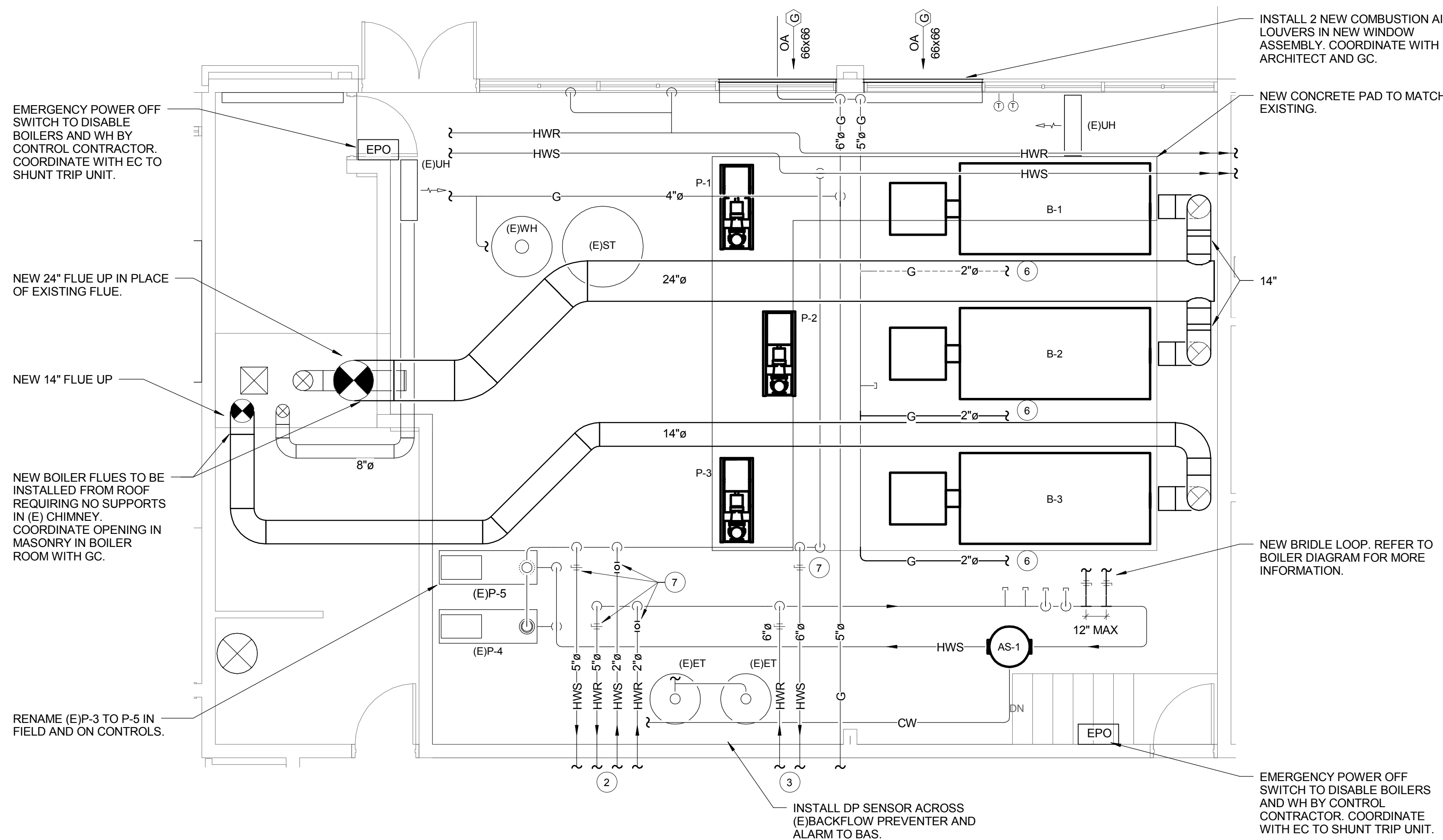
3 101B (E) BOILER ROOM



4 101B BOILER ROOM



1 ENLARGED MECH (E) BOILER ROOM  
1/4" = 1'-0"



2 ENLARGED MECH BOILER ROOM  
1/4" = 1'-0"

NOTES:

1. ALL NEW FLUE SHALL BE FED FROM ABOVE AND REQUIRE NO SUPPORTS IN (E) CHIMNEY.
2. COORDINATE WITH GC FOR REQUIRED OPENINGS TO TRANSITION FLUE INTO BOILER ROOM.
3. CONTRACTOR SHALL FIELD VERIFY BOILER FLUE PATH, DIMENSIONS AND LENGTHS PRIOR TO ORDERING.
4. ISOLATION VALVES REQUIRED AT ALL BRANCHES OFF MAINS. PROVIDE ISOLATION VALVES FOR ALL EQUIPMENT.

FLAG NOTES:

- 1 (E) 1-1/4" HWR TO AREA'S A AND B, (E) 4" HWS TO AREA'S A AND B UV'S AND CU'S.
- 2 (E) 5" HWS TO AREA'S C AND F, (E) 2" HWS TO MUSIC AND HOME EC, (E) 2" HWR FROM HOME EC AND MUSIC, (E) 5" HWR FROM AREA'S C AND F.
- 3 (E) 6" HWS TO SYSTEM AND (E) 6" HWR FROM SYSTEM.
- 4 DISCONNECT EXISTING EXPANSION TANK PIPING FROM HWS MAIN AND RECONNECT AS SHOWN IN BOILER DIAGRAM.
- 5 (E) 4" G DOWN TO BOILER.
- 6 ROUTE 2" GAS LINE FROM (E) 4" GAS LINE TO NEW BOILERS.
- 7 INSTALL NEW ISOLATION VALVES IN EXISTING PIPING, TYP.

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- 1 REMOVE (E)COIL CIRC PUMP, 3-WAY PNEUMATIC VALVE AND RE-PIPE WITH NEW 2-WAY DDC CONTROL VALVE.
- 2 (E)1962 HEATING AND VENTILATION UNIT TO REMAIN. REFURBISH UNIT. CLEAN FAN WHEEL, DAMPERS AND INTERIOR OF UNIT. REPAIR DAMAGE DAMPER LINKAGE. REPLACE FAN MOTOR WITH PREMIUM EFFICIENCY INVERTER DUTY MOTOR AND VFD. REFER TO SCHEDULE SHEETS FOR MOTOR HP. REMOVE EXISTING PNEUMATIC CONTROLS AND REPLACE WITH DDC.
- 3 REMOVE POWER FROM COIL CIRC PUMP AND FAN MOTOR. H&V-1 TO BE ABANDONED IN PLACE.
- 4 (E)DUCTWORK SHALPY TO MISS COLUMN. NOT SHOWN FOR GARITY.

1603 Capitol Avenue, Suite 205, Cheyenne, Wyoming 82001-4200  
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**Poudre High School Renovations**  
201 Impala Drive  
Fort Collins, CO 80521

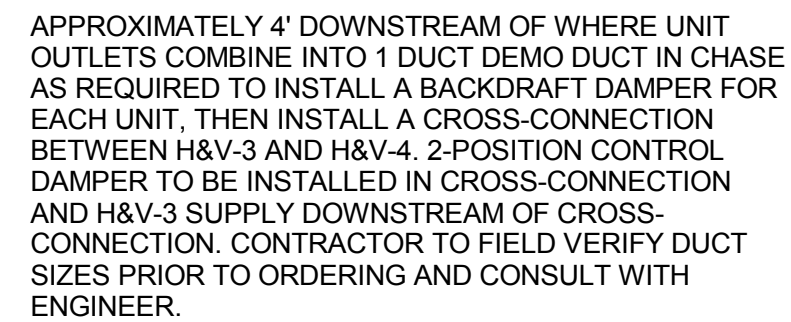
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No.	Description	Date	REVISIONS	SHEET NO.	M4.2
FORMER	CWH/CGW				
REVIEWED	CMR				
DATE	10 Jan 2012				

Consulting Engineers, Inc. 

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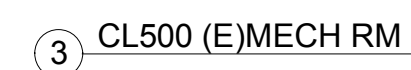


PROVIDE DUCT CLEANING OF H&V-  
2,3 AND 4 SUPPLY, RETURN AND OA  
DUCTS.

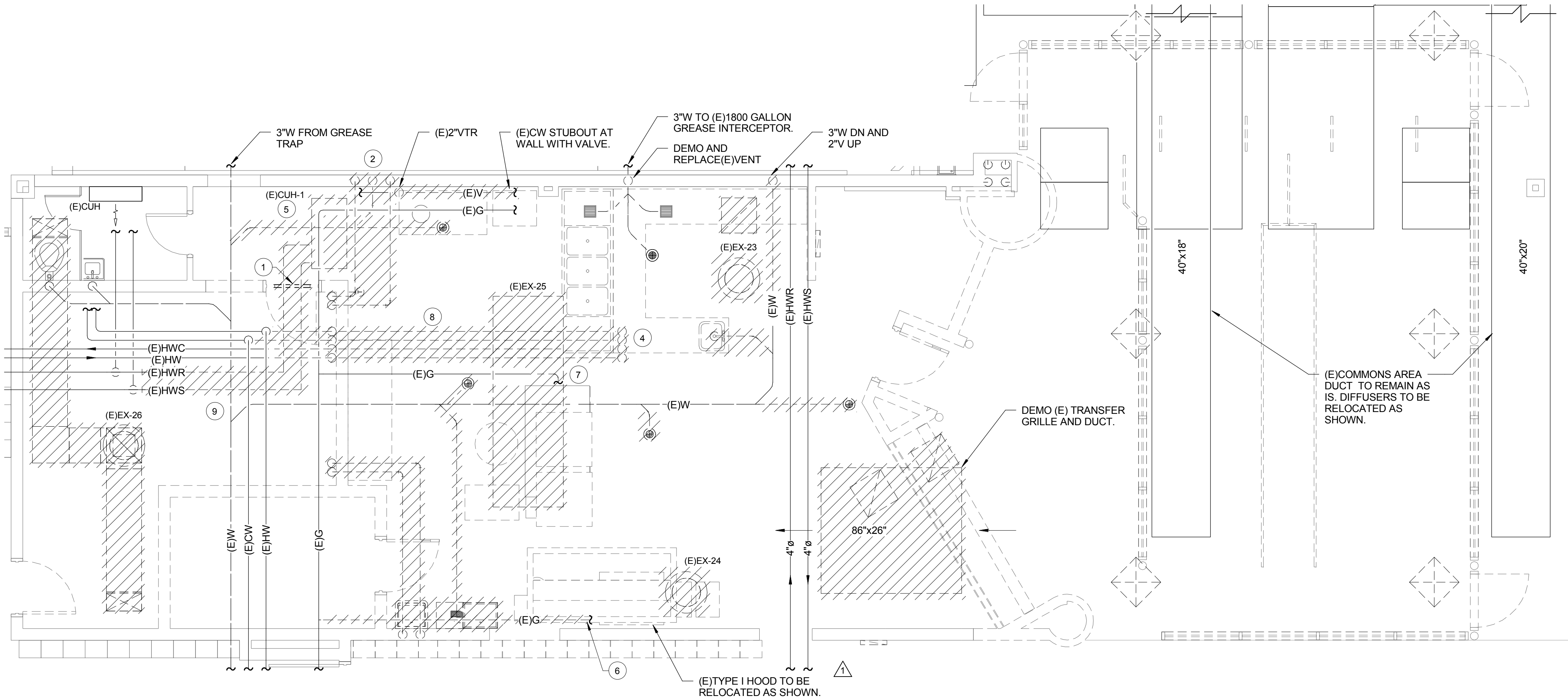
(E)26x26 DUCTS UP IN CHASE —  
COMBINE INTO 30x50 TO SERVE  
AUDITORIUM, CONTRACTOR TO  
FIELD VERIFY EXACT SIZE OF  
(E)DUCT.

(E)26x26 DUCTS UP IN CHASE —  
COMBINE INTO 30x50 TO SERVE  
COMMONS AREA. CONTRACTOR  
TO FIELD VERIFY EXACT SIZE  
OF (E) DUCT.

1 ENLARGED LEVEL 0 (E)MECH ROOM  
1/4" = 1'-0"



3



FLAG NOTES:

- (E)LOUVER LOCATED IN BOTTOM OF DOOR.
- 1/2" CW, 1/2" HW, 1-1/4" W AND 1-1/4" V CAPPED AND STUBBED AT WALL.
- APPROXIMATE LOCATION OF GREASE TRAP ACCORDING TO 1994 KITCHEN DRAWINGS.
- 1-1/4" CW, 1-1/4" TEMP WATER, 1" 140 WATER AND 1" HW C UP THRU FLOOR FROM BELOW TO SERVE SINKS. SHOWN OFFSET FOR CLARITY. CAP AT FLOOR AT BOTH ENDS AND ABANDON IN PLACE.
- REMOVE CUH-1 AS SHOWN AND CAP (E) HWR/HWS LINES.
- (E)1-1/2" GAS LINE. 1" GAS LINE TO EACH FRYER AND TO GRILL. AUTOMATIC GAS SHUT-OFF VALVES.
- (E)3" GAS LINE TO SERVE KITCHEN EQUIPMENT.
- 1-1/4" CW, 1-1/4" TEMP WATER, 1" 140 WATER AND 1" HW C ROUTE UNDERGROUND.
- INSTALL HWS/R 3/4" STUBS WITH VALVES AND CAPS FOR FUTURE PSD WORK IN NEW CORRIDOR WEST OF NEW FREEZER.

SHEET CONTENT'S  
MECHANICAL ENLARGED  
PLANS

Poudre High School Renovations  
201 Impala Drive  
Fort Collins, CO 80521

ISSUE FOR BIDDING

No.	Description	Date
1	Addendum #3	2/9/12
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REVISIONS  
M4.3

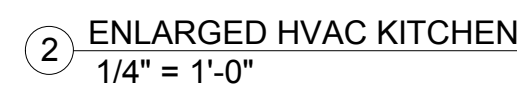


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Sheet 1 of 2  
M4.3

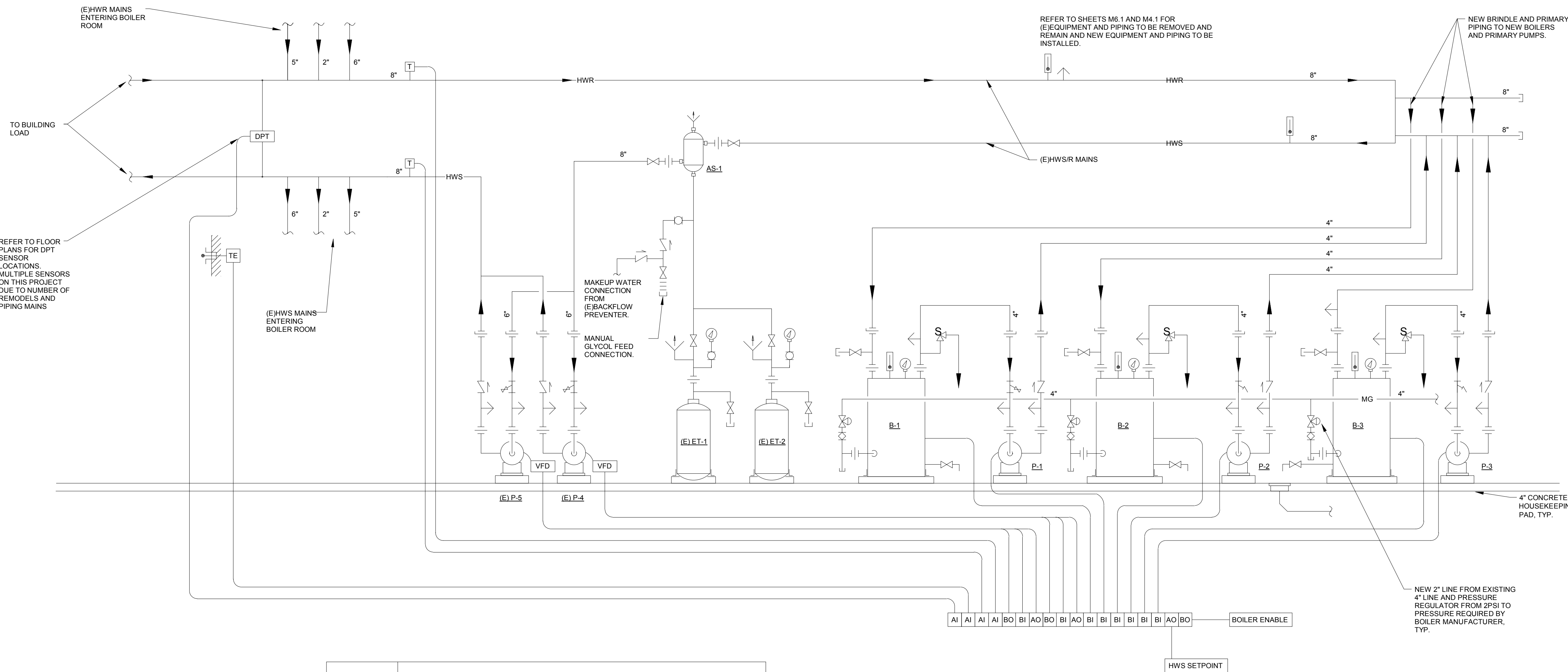




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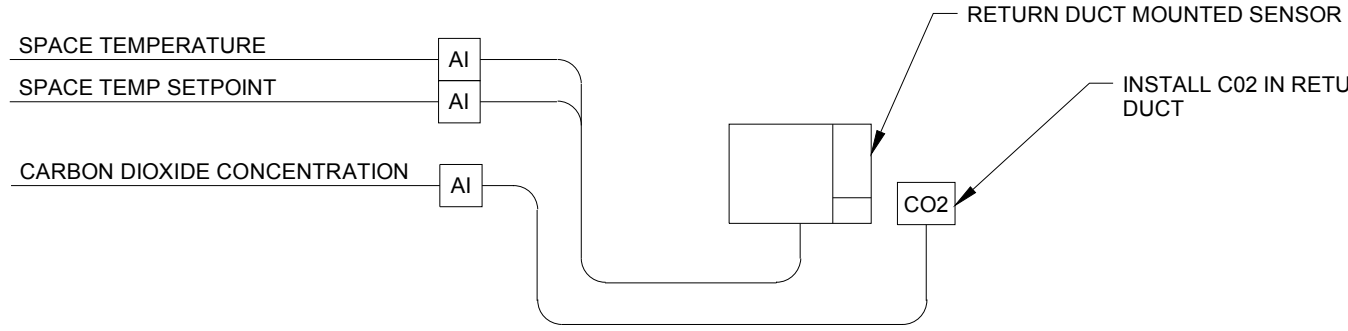
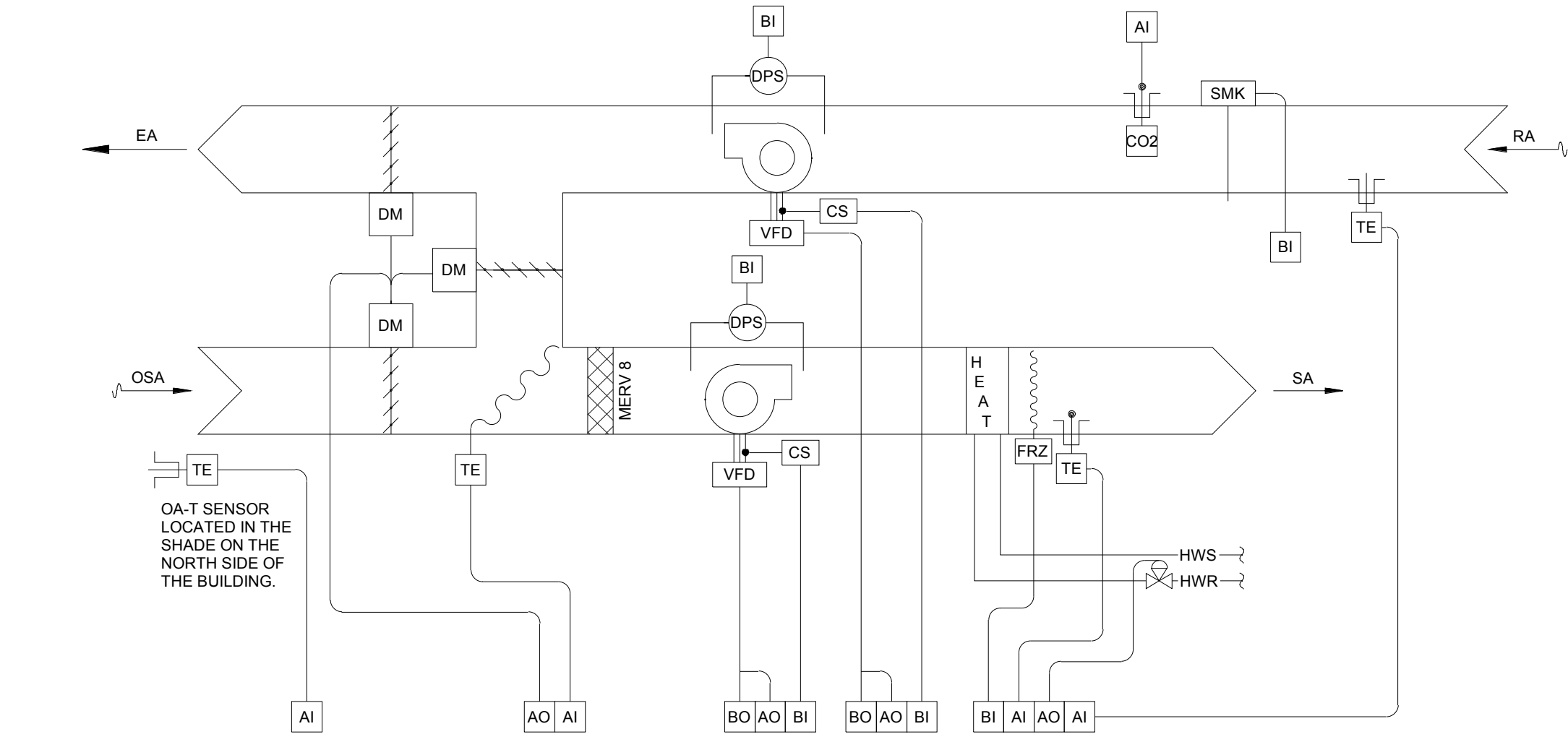


SYSTEM POINTS LIST - HEATING WATER SYSTEM												
SYSTEM POINT DESCRIPTION	ANALOG			BINARY			SYSTEM FEATURE					NOTES
	INPUT	OUTPUT	INPUT	OUTPUT	INPUT	OUTPUT	ALARMS	PROGRAMS				
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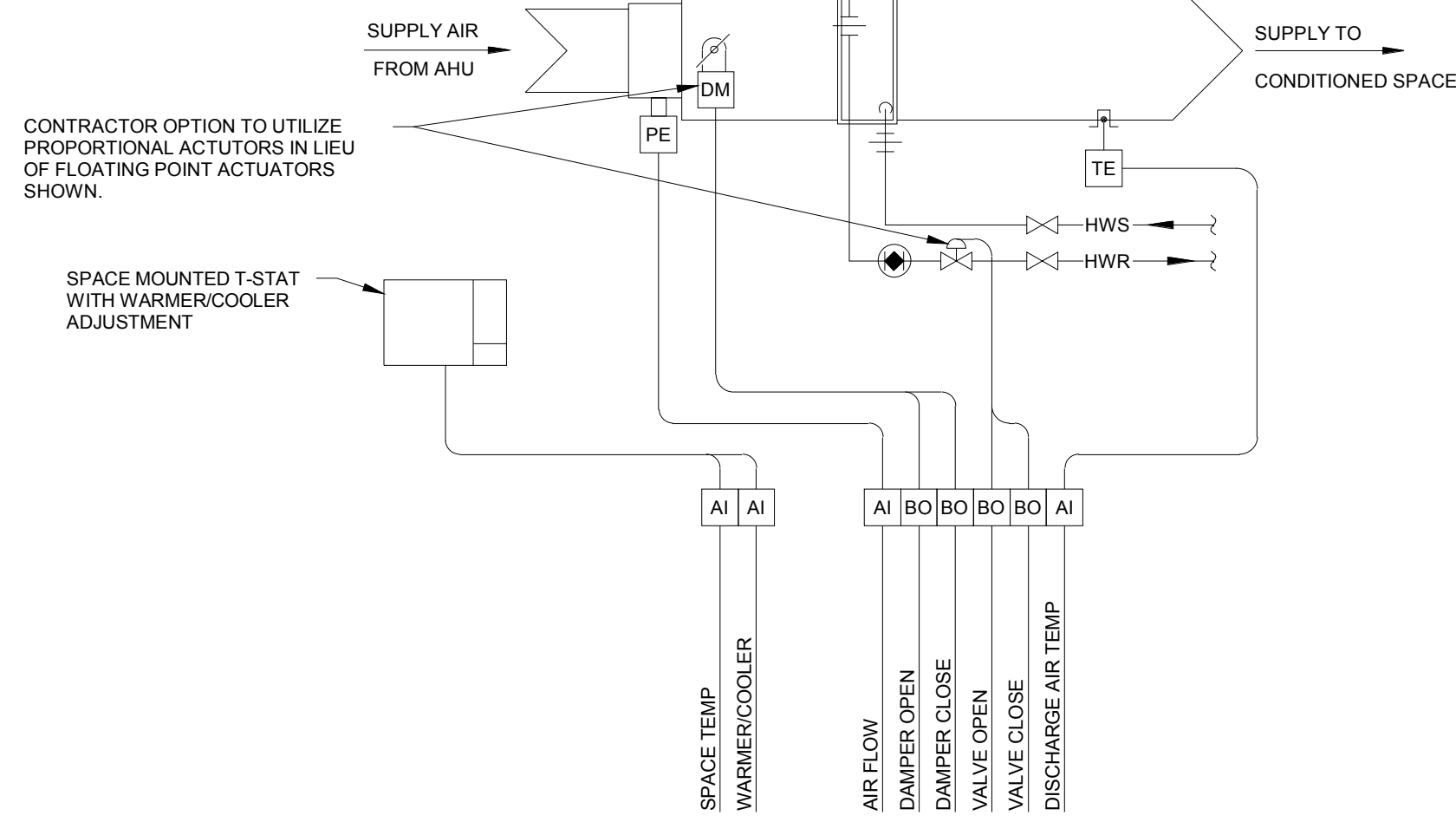


SYSTEM POINTS LIST – VAV SINGLE ZONE HEATING AND VENTILATING AIR HANDLING UNIT													
SYSTEM POINT DESCRIPTION	ANALOG				BINARY				SYSTEM FEATURE				
	HEATING COIL ON	COOLING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON
RETURN AIR CO2	X												
OUTSIDE TEMP	X												
MIXING DAMPERS	X	X											
MIXED AIR TEMP	X												
RETURN AIR TEMP	X												
HOT WATER VLV	X												
FREEDAT	X												
SUPPLY FAN S/S	X												
SUPPLY FAN VFD	X												
SUPPLY FAN STATUS	X	X											
RETURN FAN S/S	X												
RETURN FAN VFD	X												
RETURN FAN STATUS	X	X											
SMOKE DETECTORS	X												
SUPPLY AIR TEMP	X	X											
SPACE PRESSURE	X	X											
SPACE CO2	X												
SPACE TEMP	X												
SPACE TEMP SETPOINT	X	X											
SUPPLY FAN ON SWITCH	X	X											
RETURN FAN ON SWITCH	X	X											
COOLING ENABLE	X	X											
WARMUP ENABLE	X	X											
GENERAL NOTES:													



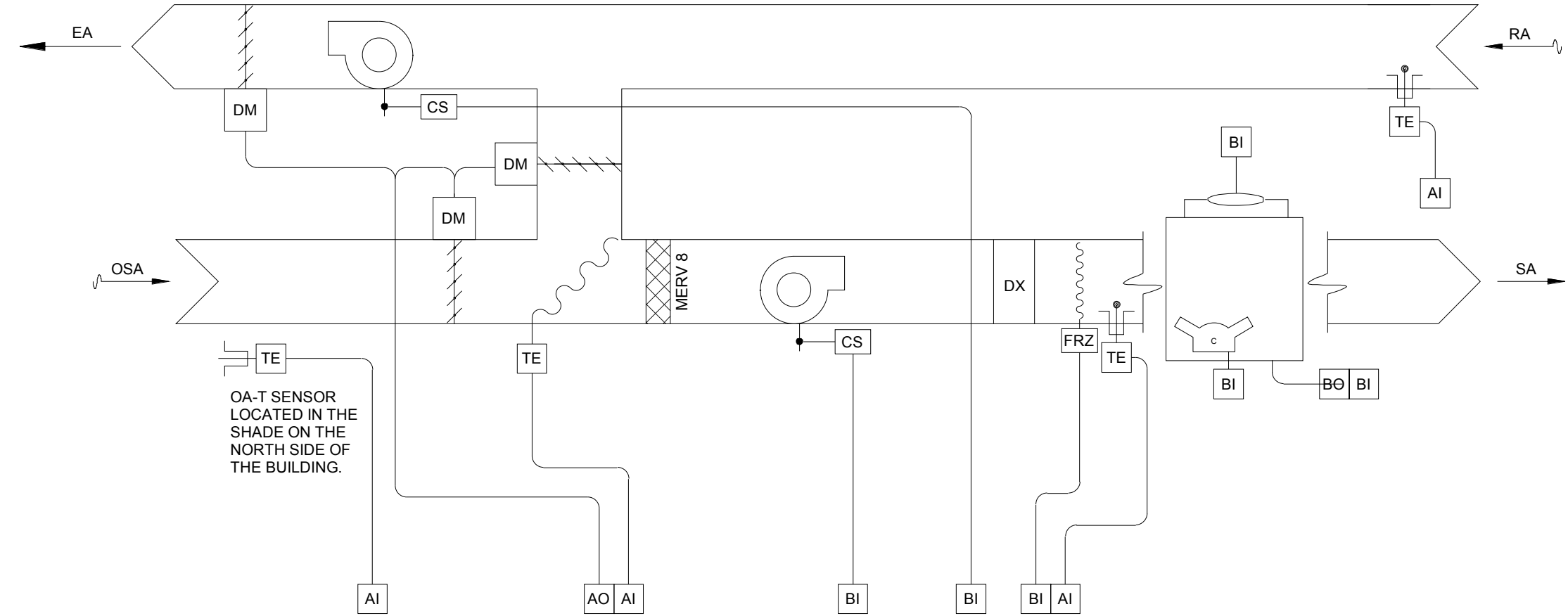
1 VAV SINGLE ZONE HEATING AND VENTILATING CONTROLS SCHEMATIC NONE

SYSTEM POINTS LIST – VAV BOX WITH HW REHEAT													
SYSTEM POINT DESCRIPTION	ANALOG				BINARY				SYSTEM FEATURE				
	HEATING COIL ON	COOLING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON
SPACE TEMP	X												
WARMER/COOLER	X												
WARMER/COOLER	X												
DAMPER OPEN	X												
DAMPER CLOSE	X												
VALVE OPEN	X												
VALVE CLOSE	X												
DISCHD AIR TEMP	X	X											
GENERAL NOTES:													



2 VAV w/ REHEAT (NEW TERMINAL BOX) CONTROLS SCHEMATIC NONE

SYSTEM POINTS LIST – CV COOLING ONLY ROOFTOP UNIT													
SYSTEM POINT DESCRIPTION	ANALOG				BINARY				SYSTEM FEATURE				
	HEATING COIL ON	COOLING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON	HEATING COIL ON
OUTSIDE TEMP	X												
MIXED AIR TEMP	X												
RETURN AIR TEMP	X												
FREEDAT	X												
SUPPLY FAN STATUS	X	X											
SPACE TEMP	X												
SPACE TEMP SETPOINT	X	X											
EXHAUST FAN STATUS	X	X											
SUPPLY AIR TEMP	X	X											
RTU FACTORY CONTROL/DC INTERFACE FOR COMPRESSOR CONTROL	X	X											
COOLING ENABLE	X	X											
COMP# STATUS	X	X											
COMP# ALARM	X	X											
COMP# FAN# STATUS	X	X											
GENERAL NOTES:													



3 CV SINGLE ZONE COOLING ONLY PACKAGED RTU CONTROLS SCHEMATIC NONE

## SEQUENCE OF CONTROL: SINGLE ZONE VAV ROOFTOP, HEATING AND VENTILATION ONLY

DESCRIPTION - THE SYSTEM CONSISTS OF AN AIR HANDLING UNIT COMPLETE WITH MIXING BOX, FILTER SECTION, HOT WATER COIL, SUPPLY FAN WITH VARIABLE FREQUENCY DRIVE AND AN EXHAUST/RETURN FAN WITH VARIABLE FREQUENCY DRIVE.

CONTROL SEQUENCE APPLIES TO NEW RTU-10 AND 11 AND EXISTING RTU-21. ALL SERVING GYMNASIUM TYPE OCCUPANCIES.

SCHEDULING - OCCUPIED/UNOCCUPIED SCHEDULING APPLIES TO THESE SYSTEMS. SCHEDULES TO BE DETERMINED BY OWNER AND SHALL BE AVAILABLE THROUGH THE OPERATOR WORKSTATION INTERFACE.

SCHEDULING CONTROLS SPACE SETPOINT TEMPERATURE. DURING OCCUPIED MODE, AHU SHALL MAINTAIN SPACE TEMPERATURE AT SETPOINT DICTATED BY SPACE MOUNTED THERMOSTAT (I.E. 68-72°F HEATING, 74-76°F COOLING). DURING UNOCCUPIED MODE, AHU SHALL MAINTAIN SPACE TEMPERATURE AT SETBACK TEMPERATURE SETPOINT (I.E. 60°F HEATING, N/A COOLING UNLESS MORNING COOL-DOWN IS ENABLED, FURTHER DESCRIPTION BELOW).

OCCUPIED/UNOCCUPIED SCHEDULING ALSO CONTROLS VENTILATION. WHEN SCHEDULED IN THE OCCUPIED MODE, SUPPLY FAN SHALL OPERATE AND CONTROLLED DEVICES SHALL POSITION WITH RESPECT TO THEIR PI CONTROL LOOP. WHEN SCHEDULED IN THE UNOCCUPIED MODE, FANS SHALL BE SHUT-OFF. RETURN DAMPER FULL OPEN, RELIEF AND OUTSIDE AIR DAMPERS CLOSED, AND HEATING WATER VALVE SHALL BE 100% OPEN. SUPPLY FAN SHALL BE PERMITTED TO OPERATE ON DEMAND FOR HEATING.

MORNING WARM-UP - SHALL BE SCHEDULED TO OCCUR PRIOR TO OCCUPANCY. PROVIDE ADJUSTABLE DURATION TO PERMIT BUILDING OPERATOR TO TUNE TIME PERIOD REQUIRED TO FULLY EXECUTE WARM-UP EXERCISES PRIOR TO OCCUPANCY. DURING MORNING WARM-UP, SUPPLY FAN VFD SHALL BE AT MAXIMUM SPEED (AS DETERMINED BY BALANCE CONTRACTOR). AIR HANDLING UNIT SHALL SUPPLY 80°F (ADJ.) AIR. OSA DAMPER SHALL BE CLOSED, RA DAMPER SHALL BE OPEN. RETURN FAN SHALL AT MINIMUM SPEED. AS ZONE REACHES OCCUPIED SETPOINT, THE AHU HEATING COIL CONTROL VALVE SHALL CLOSE AND THE AHU SUPPLY FAN SPEED SHALL GO TO MINIMUM. MORNING WARM-UP SHALL BE ABLE TO BE DISABLED/ENABLED AT GRAPHICS.

MORNING COOL-DOWN - SHALL BE BASED UPON TREND DATA COLLECTED OVER THE PREVIOUS 7 DAYS (ADJ.) TO DETERMINE WHETHER OR NOT MORNING COOL-DOWN IS WARRANTED. MORNING COOL-DOWN SHALL BE DEEMED WARRANTED IF:

1. DEMAND FOR COOLING OCCURRED ON THE MAJORITY OF THE DAYS IN PREVIOUS PERIOD POLLED.
2. OR DAILY MAXIMUM OUTSIDE AIR TEMPERATURE EXCEEDED SPACE TEMPERATURE SETPOINT FOR A MAJORITY OF THE DAYS IN THE IN PREVIOUS PERIOD POLLED.

WHEN DEEMED WARRANTED, MORNING COOL-DOWN SHALL BE EXECUTED IN LIEU OF MORNING WARM-UP ROUTINE. THE MORNING COOL-DOWN ROUTINE SHALL BE SCHEDULED TO OCCUR PRIOR TO OCCUPANCY. PROVIDE ADJUSTABLE DURATION TO PERMIT BUILDING OPERATOR TO TUNE TIME PERIOD REQUIRED TO FULLY EXECUTE COOL-DOWN EXERCISE PRIOR TO OCCUPANCY. DURING MORNING COOL-DOWN, HEATING WATER VALVE SHALL BE CLOSED AND BCS SHALL MODULATE MIXING BOX POSITION TO ACHIEVE COOLING DISCHARGE AIR TEMPERATURE. SUPPLY FAN SHALL STOP AND OSA DAMPER SHALL SHUT ONCE THE SPACE TEMPERATURE REACHES THE MORNING COOL-DOWN SETPOINT (USER ADJ. 60°F TO 68°F). MORNING COOL-DOWN SHALL BE ABLE TO BE DISABLED/ENABLED AT GRAPHICS.

MIXED AIR CONTROL: MIXING BOX CONTROL IS CONTROLLED BY MULTIPLE CONTROL LOOPS. BAS SHALL HIGH SELECT CONTROL POSITION AMONGST THE FOLLOWING LOOPS:

OCCUPIED/UNOCCUPIED: DAMPER CLOSED DURING UNOCCUPIED AND OPEN TO MINIMUM POSITION DURING OCCUPIED. MINIMUM OUTSIDE AIR POSITIONS SHALL NOT BE LESS THAN 10% OSA DURING OCCUPIED PERIODS.

MIXED AIR TEMPERATURE CONTROL LOOP: WHEN OUTSIDE AIR TEMPERATURE FALLS BELOW DISCHARGE AIR SETPOINT BY 2 DEGREE, MIXING DAMPERS SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT.

DEMAND CONTROLLED VENTILATION LOOP: CARBON DIOXIDE LEVEL SHALL BE MONITORED TO MODULATE OUTSIDE AIR DAMPERS TO MAINTAIN CARBON DIOXIDE LEVELS AT SETPOINT (500 PPM ABOVE THE OUTDOOR REFERENCE POINT).

CO2 RESET SCHEDULE: OSA DAMPER POSITION SHALL BE RESET BASED ON THE FOLLOWING SCHEDULE. 100 PPM ABOVE OR REFERENCE CO2 LEVEL OSA DAMPERS SHALL BE AT 10% OPEN. 500 PPM ABOVE OR REFERENCE CO2 LEVEL OSA DAMPERS SHALL BE OPEN TO MINIMUM OUTDOOR AIR LISTED IN EQUIPMENT SCHEDULES. CONTROLS CONTRACTOR, TAB CONTRACTOR AND COMMISSIONING AGENT TO VERIFY THIS DAMPER POSITION IN FIELD.

ECONOMIZER CONTROL LOOP: OPEN OUTSIDE AIR DAMPER, CLOSE RETURN AIR DAMPER, AND OPEN RELIEF DAMPER (WHERE APPLICABLE). DURING ECONOMIZER MODE, COOLING IS VIA ECONOMIZER MODE ONLY. DISABLE ECONOMIZER COOLING WHEN OUTSIDE AIR TEMPERATURES ARE GREATER THAN INDOOR SPACE TEMPERATURE SETPOINT.

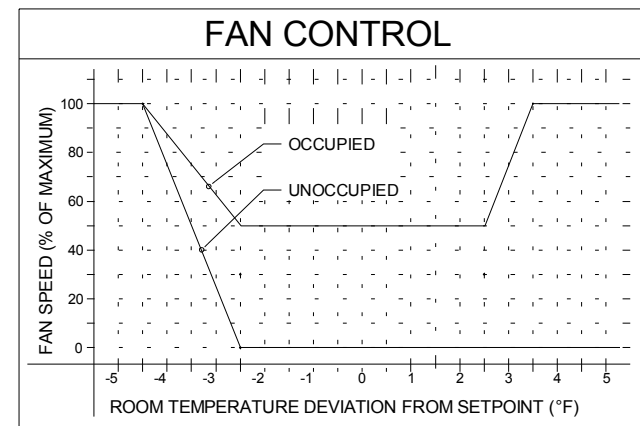
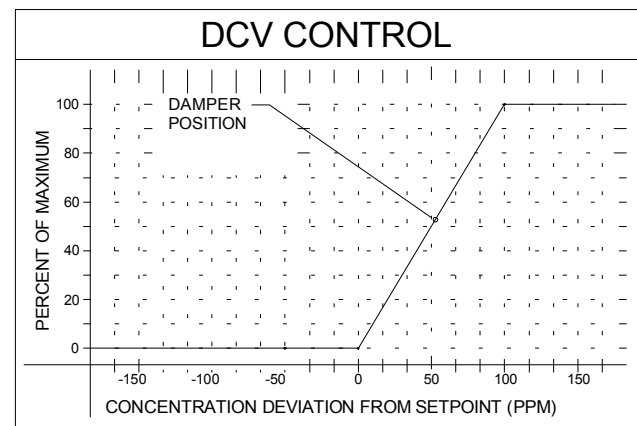
DISCHARGE AIR TEMPERATURE (DAT) CONTROL: DAT SETPOINT SHALL BE 80°F FOR HEATING AND 55°F FOR COOLING. MODULATE MIXING BOX POSITION TO MAINTAIN DAT AT SETPOINT DURING ECONOMIZER COOLING. IF THE OSA DAMPERS ARE AT MINIMUM POSITION (OR COMMANDED FURTHER OPEN BY DCV LOGIC) AND THE MIXED AIR TEMPERATURE IS BELOW DAT SETPOINT, MODULATE HEATING WATER VALVE TO MAINTAIN DAT AT SETPOINT. EXISTING RTU-21 FACE BYPASS DAMPER TO HAVE THE BYPASS LOOKED CLOSED.

FAN CONTROL: THE SUPPLY FAN VFD SHALL BE MODULATED BASED ON SPACE TEMPERATURE DEVIATION FROM SETPOINT PER THE RESET SCHEDULE BELOW INDICATING DEADBAND, HEATING AND COOLING RAMP-UP RANGES, AND MINIMUM SPEED.

RETURN FAN CONTROL: RETURN FAN SHALL TRACK SUPPLY FAN BY A DIFFERENTIAL TO PROVIDE A SLIGHTLY POSITIVE (0.01-0.05") MIXING BOX PRESSURE. TAB CONTRACTOR, CONTROL CONTRACTOR AND COMMISSIONING AGENT TO CREATE A TRACKING CURVE BASED ON SUPPLY FAN SPEED OF 50-100% TO MAINTAIN POSITIVE MIXING BOX THROUGHOUT RANGE.

FREEZE PROTECTION MODE: DURING UNOCCUPIED HOURS IF DAT IS BELOW 40 DEGREES MODULATE HEATING VALVE TO MAINTAIN MAT AT 55 DEGREES.

- FEATURES -
1. DISCHARGE AIR TEMPERATURE SHALL BE TRENDED HOURLY.
  2. GENERATE AN ALARM SHOULD DISCHARGE AIR TEMPERATURE STRAY FROM DISCHARGE AIR TEMPERATURE SETPOINT BY 5 DEG OR MORE WHEN SPACE IS IN HEATING MODE.
  3. GENERATE AN ALARM SHOULD ANY FAN STATUS NOT MATCH FAN COMMAND.
  4. GENERATE AN ALARM AND OPEN HEATING VALVE TO 100% SHOULD FREEZE STAT TRIP AND DAMPERS SHALL GO TO UNOCCUPIED MODE POSITION.
  5. GENERATE AN ALARM SHOULD SMOKE DETECTOR TRIP AND SHUT UNIT DOWN, VALVES AND DAMPERS SHALL GO TO UNOCCUPIED MODE.
  6. HOURLY TREND ITEMS INDICATED IN THE POINTS LIST TO BE TRENDED. STORE DATA FOR 1 YEAR PRIOR TO PURGING.
  7. GENERATE ALARMS AS INDICATED IN THE POINTS LIST AND IN THE SEQUENCE OF CONTROL ABOVE.



## SEQUENCE OF CONTROL: VAV w/ REHEAT

DESCRIPTION - CONSIST OF A PRESSURE INDEPENDENT VARIABLE AIR VOLUME BOX COMPLETE WITH MOTORIZED DAMPER, HOT WATER REHEAT COIL, FLOATING POINT OR PROPORTIONAL CONTROL VALVE, AND AIR FLOW PRESSURE TRANSDUCER.

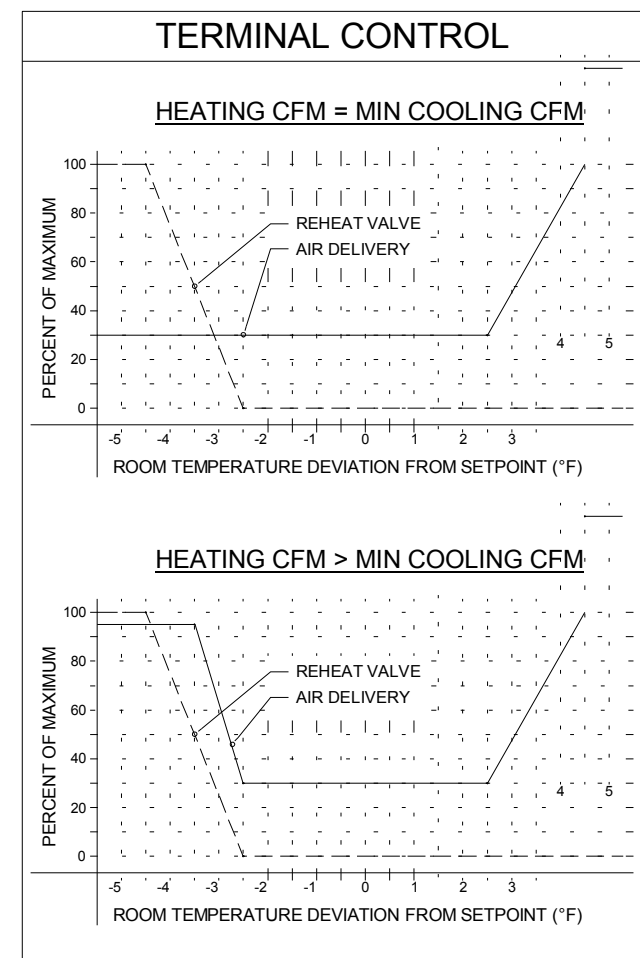
SCHEDULING - OCCUPIED/UNOCCUPIED SCHEDULING APPLIES TO THESE SYSTEMS. SCHEDULES TO BE DETERMINED BY OWNER AND SHALL BE AVAILABLE THROUGH THE OPERATOR WORKSTATION INTERFACE.

SCHEDULING CONTROLS SPACE SETPOINT TEMPERATURE. DURING OCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETPOINT DICTATED BY SPACE MOUNTED THERMOSTAT (I.E. 70°F HEATING, 75°F COOLING). DURING UNOCCUPIED MODE, TERMINAL UNIT SHALL MAINTAIN SPACE TEMPERATURE AT SETBACK TEMPERATURE SETPOINT (I.E. 62°F HEATING, N/A COOLING).

TERMINAL BOX SHALL BE GO FULL OPEN ON A CALL FOR NIGHT SETBACK HEATING DURING UNOCCUPIED PERIODS. ONCE SETBACK TEMPERATURE IS MET, DAMPER SHALL CLOSE.

CONTROL - THE AIRFLOW PRESSURE TRANSDUCER SHALL INDICATE TO THE UNIT MOUNTED DCV CONTROLLER MEASURED AIRFLOW. THE DCV CONTROLLER SHALL MODULATE THE VAV BOX DAMPER TO MAINTAIN AIRFLOW AT SETPOINT. AIRFLOW SETPOINT AND REHEAT VALVE SHALL BE MODULATED BASED ON SPACE TEMPERATURE DEVIATION FROM SETPOINT PER THE SAMPLE RESET SCHEDULES BELOW INDICATING DEADBAND, HEATING AND COOLING RAMP-UP RANGES, AND MINIMUM AIRFLOWS.

- NOTES:
1. THE GRAPHICS ARE PROVIDED FOR REFERENCE ONLY.
  2. EACH TERMINAL BOX IS UNIQUE AND MAY HAVE ROOMS THAT VARY FROM THOSE DEPICTED ABOVE.
  3. INCLUDE LOGIC TO OPERATE REHEAT VALVE AND AIRFLOW RATE IN CONCERT TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT WHEN IN HEATING MODE (I.E. 80°F MAX AT -2°F AND GREATER DEVIATION FROM SETPOINT) REFER TO VAV EQUIPMENT SCHEDULE FOR DAT SETPOINT.
  4. REFER TO EQUIPMENT SCHEDULES FOR INITIAL AIR DELIVERY (CFM) SETTINGS FOR HEATING, MINIMUM COOLING, AND COOLING MODES OF OPERATION.



THE SPACE MOUNTED TEMPERATURE SENSOR SHALL INCORPORATE A WARMER/COOLER ADJUSTMENT ALLOWING ZONE OCCUPANTS TO BIAS THE SPACE TEMPERATURE SETPOINT BY A FIXED AMOUNT IN EITHER DIRECTION.

FEATURES -

1. COOPERATION WITH MORNING WARMUP IN RESPECTIVE AHU SEQUENCES.
2. SPACE TEMPERATURE SHALL BE TRENDED HOURLY.
3. GENERATE AN ALARM SHOULD DISCHARGE AIR TEMPERATURE STRAY FROM DISCHARGE AIR TEMPERATURE SETPOINT BY 5 DEG OR MORE.
4. HOURLY TREND ITEMS INDICATED IN THE POINTS LIST TO BE TRENDED. STORE DATA FOR 1 YEAR PRIOR TO PURGING.

## SEQUENCE OF CONTROL: CV PACKAGED RTU

THE SYSTEM CONSIST OF A SMALL TONAGE ROOF TOP UNIT (RTU) COMPLETE WITH SUPPLY FAN, POWER EXHAUST FAN, ECONOMIZER, AND DX COMPRESSOR - COMMUNICATIONS ROOM - RTU-19

SCHEDULING: UNIT SHALL BE ENABLED 24/7

CONTROL:

RTU SHALL INCLUDE PACKAGED COMPRESSOR CONTROLS FOR COOLING DAT CONTROL FROM FACTORY. ENABLE SIGNAL AND DAT RESET SIGNAL TO BE SENT FROM BUILDING BAS. RTU FACTORY DX COOLING CONTROL SHALL REPORT CONDENSER FAN STATUS, COMPRESSOR STATUS AND ALARM CONDITION BACK TO BAS. DAMPERS SHALL BE FURNISHED AND INSTALLED BY RTU MANUFACTURER. ALSO INCLUDE TERMINAL STRIP FOR FIELD INSTALLED CONTROLS. BAS SHALL PROVIDE ACTUATORS, SENSORS AND ALL CONTROL WIRING AND INSTALL IN FIELD TO ACHIEVE SEQUENCE AND POINTS LIST AS OUTLINED.

MIXED AIR CONTROL:

WHEN OUTSIDE AIR TEMPERATURE FALLS BELOW DISCHARGE AIR SETPOINT BY 2 DEGREES, MIXING DAMPERS SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AT SETPOINT. THERE SHALL BE NO MINIMUM OUTSIDE AIR DAMPER POSITION, THE SPACE IS UNOCCUPIED AND MAY BE ALLOWED TO GO TO ZERO. WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN DISCHARGE AIR TEMPERATURE SETPOINT, THE OUTSIDE AIR DAMPERS SHALL BE OPEN 100% UNTIL OSA TEMPERATURE IS WITHIN 2 DEGREES OF RA TEMPERATURE.

SPACE TEMPERATURE CONTROL: UPON A RISE IN SPACE TEMPERATURE TO 2 DEGREES ABOVE SETPOINT THE SUPPLY FAN SHALL ENERGIZE. WHEN ECONOMIZER MODE (100% OUTSIDE AIR) IS NO LONGER ABLE TO MAINTAIN SPACE TEMPERATURE SETPOINT, THE DX COOLING SHALL STAGE ON TO MAINTAIN SPACE SETPOINT AND THE OSA DAMPERS SHALL CLOSE IF OSA TEMPERATURE IS WITHIN 2 DEGREES OF RA TEMPERATURE. WHEN SPACE TEMPERATURE FALLS 2 DEGREES BELOW SETPOINT DX COOLING SHALL BE TURNED OFF AND SUPPLY FAN SHALL TURNED OFF.

DISCHARGE AIR TO BE RESET FROM 55 TO 75 DEGREES BASED ON SPACE SENSOR DEVIATION FROM SETPOINT.

POWER EXHAUST SHALL ENERGIZE WHEN UNIT IS IN ECONOMIZER MODE, AND OSA DAMPERS IS GREATER THAN 50%.

ANTI-SHORT CYCLING FOR FAN AND COMPRESSORS SHALL BE INCORPORATED. BAS CONTRACTOR TO COORDINATE WITH RTU MANUFACTURER FOR APPROPRIATE TIME FRAMES.

FEATURES:

1. SPACE TEMPERATURE SHALL BE TRENDED HOURLY
2. ALARM SHALL ANY STATUS NOT MATCH COMMAND
3. ALARM IF SPACE TEMPERATURE IS MORE THAN 5 DEGREES ABOVE SETPOINT OR IS BELOW 55 DEGREES

[illegible]

100% OA INDOOR AIR HANDLING UNIT WITH ENERGY RECOVERY VENTILATOR

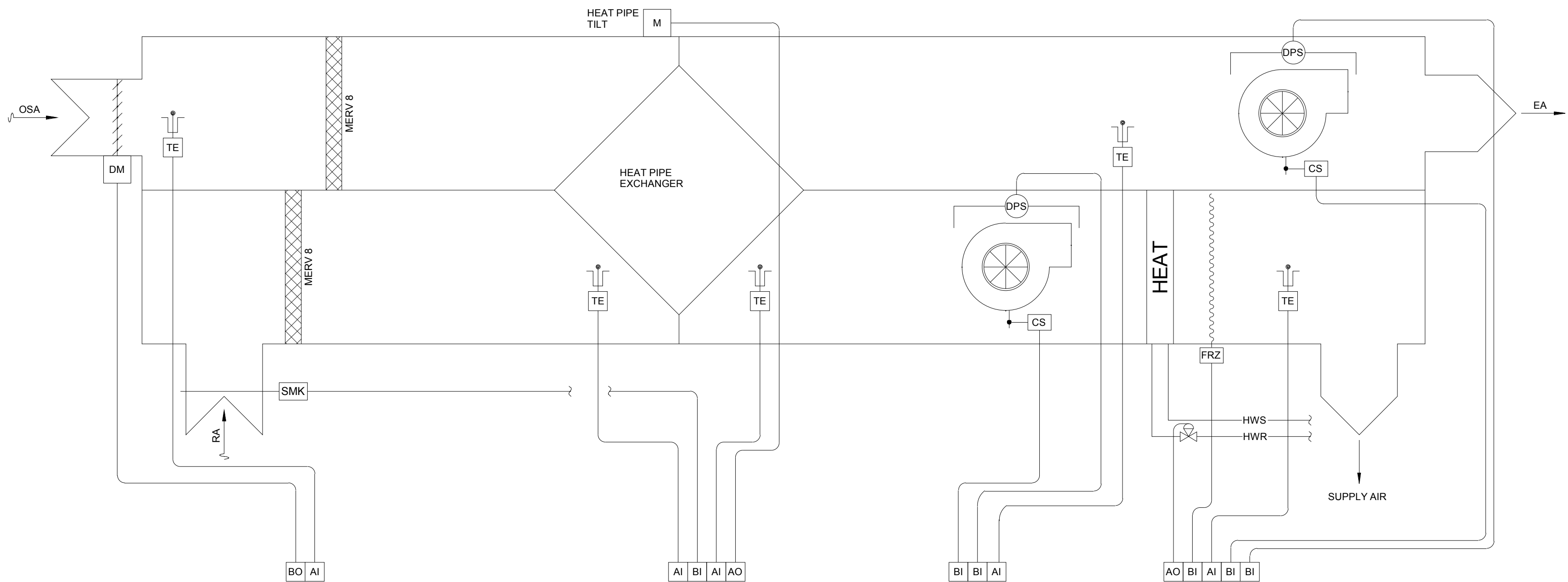
HEAT EXCHANGER FROST PROTECTION:  
FACTORY HEAT PIPE CONTROLLER SHALL TILT HEAT  
PIPE TO PREVENT FROST BUILD UP ON THE HEAT  
EXCHANGER.

THE SYSTEM CONSIST OF AN INDOOR AIR HANDLING UNIT COMPLETE WITH SUPPLY FAN, RETURN FAN, ENERGY RECOVERY HEAT PIPE, ECONOMIZER, HYDRONIC HEATING COILS, PRE FILTER AND FINAL FILTER. CONTROLS SHALL BE FIELD INSTALLED BY TCC WITH THE EXCEPTION OF ERV MANUFACTURER PROVIDED FACTORY HEAT PIPE CONTROLLER. ERV MANUFACTURER SHALL PROVIDE AN INTERFACE TO TEMPERATURE CONTROLS CONTROL CONTRACTOR TO ALLOW FULL COMMUNICATION OF POINTS BETWEEN HEAT PIPE CONTROLLER AND BAS. COORDINATION BETWEEN TEMPERATURE CONTROLS CONTRACTOR AND ERV MANUFACTURER IS IMPERATIVE.

SCHEDULING:  
SCHEDULING SHALL BE PER OWNER

DISCHARGE AIR CONTROL: DISCHARGE AIR TEMPERATURE IS TO BE MAINTAINED AT SETPOINT BY TILTING THE HEAT PIPE AND MODULATING THE HOT WATER CONTROL VALVE. DISCHARGE AIR SETPOINT SHALL VARY BASED ON POLLING OF THE REHEAT COIL ZONES SERVED BY THIS UNIT. IF MAJORITY OF ZONES ARE ABOVE SETPOINT DASH SHALL BE 60 DEGREES (ADJUSTABLE), AS MAJORITY OF ZONES REACH SETPOINT THE DASH RESET SHALL BE 70 DEGREES (ADJUSTABLE). IF MAJORITY OF ZONES ARE BELOW SETPOINT, DASH SHALL BE 80 DEGREES (ADJUSTABLE), AS MAJORITY OF ZONES REACH SETPOINT DASH SHALL RESET DOWN TO 75 DEGREES (ADJUSTABLE). BAS SHALL SEND FACTORY HEAT PIPE CONTROLLER DASH RESET SIGNAL.

FEATURES:  
GENERATE AN ALARM SHOULD DISCHARGE AIR  
TEMPERATURE STRAY BELOW DISCHARGE AIR  
TEMPERATURE SETPOINT BY 10 DEG OR MORE.  
GENERATE AN ALARM SHOULD FAN STATUS NOT  
MATCH FAN COMMAND. GENERATE AN ALARM AND  
OPEN HEATING VALVE TO 100% SHOULD FREEZE STAT  
TRIP. GENERATE AN ALARM SHOULD SMOKE DETECTOR  
TRIP AND SHUT UNIT DOWN.



1 100% OA AHU WITH ENERGY RECOVERY VENTILATOR  
NONE

THIS SHEET ADDED  
IN ITS ENTIRETY.



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# SSUE FOR BIDDING

No. 1		Description Addendum #3		Date 2/9/12
DRAWING CWH/CGW REVISED CMR DATE 10 Jan 2012		SHEET NO.  M5.5		
REVISIONS				

**Poudre High School Renovations**  
201 Impala Drive  
Fort Collins, CO 80521

SHEET 1 CONTENTS

MECHANICAL CONTROL  
DIAGRAMS

ARCHITECTURE PLUS

318 East Oak Street, Fort Collins, Colorado 80524-2915  
Studio: 970.493.1220 Fax: 970.224.1314

603 Capitol Avenue, Suite 205, Cheyenne, Wyoming 82001-4569  
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


VAV BOX SCHEDULE																
MARK	LOCATION/ TYPE	INLET DIA. (IN.)	MAX. COOLING CFM	MIN. COOLING CFM	MAX. HEATING CFM	HEATING COIL							MANUFACTURER	ACCESSORIES	REMARKS	
						AIR CONDITIONS			WATER CONDITIONS							
						E.A.T. DB (°F)	L.A.T. DB (°F)	SENSIBLE MBH	E.W.T. (°F)	L.W.T. (°F)	GPM	PD	ROWS			
1-1	Classroom	8	800	400	800	55	95	28.5	140	120.7	3.2	2.1	3	KRUEGER LMHS		
1-2	Classroom	8	800	400	800	55	95	28.5	140	120.7	3.2	2.1	3	KRUEGER LMHS		
1-3	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
1-4	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	4	KRUEGER LMHS		
1-5	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
1-6	Classroom	10	900	450	900	55	95	32.0	140	114.7	3.0	1.3	3	KRUEGER LMHS		
1-7	Office	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
1-8	Classroom	10	860	430	860	55	95	30.6	140	113.6	2.6	1.1	3	KRUEGER LMHS		
1-9	Classroom	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
1-10	Classroom	8	600	300	300	55	92	9.9	140	111.7	0.8	0.3	2	KRUEGER LMHS		
1-11	Computer Lab	12	1455	730	730	55	86	20.1	140	101.4	1.2	0.4	2	KRUEGER LMHS		
1-12	Computer Lab	12	1455	730	730	55	86	20.1	140	101.4	1.2	0.4	2	KRUEGER LMHS		
1-13	Classroom	10	850	425	850	55	95	30.3	140	113.4	2.6	1.1	3	KRUEGER LMHS		
1-14	Classroom	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
1-15	Classroom	10	860	430	860	55	95	30.6	140	113.6	2.6	1.1	3	KRUEGER LMHS		
1-16	Classroom	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
1-17	Classroom	10	900	450	900	55	95	32.0	140	114.7	3.0	1.3	3	KRUEGER LMHS		
1-18	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
1-19	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
1-20	Office	6	300	150	300	55	95	10.7	140	125.3	1.7	0.7	2	KRUEGER LMHS		
1-21	Office	6	425	212.5	425	55	95	15.1	140	112.3	1.2	0.7	3	KRUEGER LMHS		
1-22	Classroom	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
2-1	Classroom	8	900	450	450	55	85	12.0	140	108.2	0.9	0.3	2	KRUEGER LMHS		
2-2	Classroom	8	900	450	450	55	85	12.0	140	108.2	0.9	0.3	2	KRUEGER LMHS		
2-3	Classroom	10	1300	650	650	55	90	20.2	140	117	2.0	0.8	2	KRUEGER LMHS		
2-4	Classroom	12	1500	750	750	55	86	20.7	140	101	1.2	0.4	2	KRUEGER LMHS		
2-5	Classroom	4	210	105	105	55	95	3.7	140	130.6	0.9	0.5	1	KRUEGER LMHS		
2-6	Classroom	12	1500	750	750	55	86	20.7	140	101	1.2	0.4	2	KRUEGER LMHS		
2-7	Classroom	8	900	450	450	55	85	12.0	140	108.2	0.9	0.3	2	KRUEGER LMHS		
4-1	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
4-2	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
4-3	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
4-4	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
4-5	Classroom	8	615	310	310	55	95	11.0	140	116.6	1.1	0.4	2	KRUEGER LMHS		
4-6	Office	6	480	240	240	55	92	7.9	140	117.3	0.8	0.2	2	KRUEGER LMHS		
4-7	Office	8	735	370	370	55	88	10.9	140	109.1	0.8	0.3	2	KRUEGER LMHS		
4-8	Classroom	10	800	400	800	55	97	29.9	140	112	2.0	1.9	3	KRUEGER LMHS		
4-9	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
4-10	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
4-11	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		
4-12	Classroom	10	850	425	850	55	95	30.3	140	113.4	2.6	1.1	3	KRUEGER LMHS		
4-13	Classroom	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
4-14	Office	6	475	245	245	55	95	8.7	140	121.2	1.1	0.3	2	KRUEGER LMHS		
4-15	Classroom	8	680	340	340	55	95	18.2	140	111.7	1.5	0.5	3	KRUEGER LMHS		
4-16	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
5-1	Copy Room	8	780	390	390	55	95	13.9	140	121.9	1.8	1.1	2	KRUEGER LMHS		
5-2	Classroom	12	1100	550	1100	55	95	39.2	140	107.5	2.7	1.5	3	KRUEGER LMHS		
5-3	Classroom	12	1100	550	1100	55	95	39.2	140	107.5	2.7	1.5	3	KRUEGER LMHS		
5-4	Classroom	12	1100	550	1100	55	95	39.2	140	107.5	2.7	1.5	3	KRUEGER LMHS		
5-5	Classroom	12	1100	550	1100	55	95	39.2	140	107.5	2.7	1.5	3	KRUEGER LMHS		
5-6	Classroom	12	1100	550	1100	55	95	39.2	140	107.5	2.7	1.5	3	KRUEGER LMHS		
6-1	Stacks	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
6-2	Stacks	6	400	200	400	55	95	14.2	140	111	1.1	0.5	3	KRUEGER LMHS		
6-3	Office	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
6-4	Office	6	300	150	300	55	95	10.7	140	125.3	1.7	0.7	2	KRUEGER LMHS		3-WAY VALVE
6-5	Classroom	6	460	230	460	55	90	14.3	140	127	2.5	1.5	2	KRUEGER LMHS		
6-6	Office	16	2100	1050	2100	55	94	72.9	140	98.3	4.0	0.8	4	KRUEGER LMHS		
8-1	Classroom	14	1400	700	1400	55	95	49.8	140	101.8	3.0	1.3	3	KRUEGER LMHS		3-WAY VALVE
8-2	Classroom	16	2000	1000	2000	55	96	73.0	140	99	4.0	0.8	4	KRUEGER LMHS		
8-3	Music Room	14	1500	750	1500	55	96	54.7	140	95.1	2.8	0.8	4	KRUEGER LMHS		
8-4	Music Room	12	1200	600	1200	55	95	42.7	140	109.7	3.2	1.9	3	KRUEGER LMHS		
8-5	Office	6	550	275	550	55	95	19.6	140	118.6	2.1	1.7	3	KRUEGER LMHS		
8-6	Office	4	150	75	150	55	90	4.7	140	133.5	1.6	1.4	1	KRUEGER LMHS		
8-7	Classroom	10	800	400	800	55	97	29.9	140	103.9	2.0	1.9	3	KRUEGER LMHS		
8-8	Auditorium Stage	22	2000	1000	1125	55	80	25.0	140	102.7	1.5	0.4	1	KRUEGER LMHS		
8-9	Storage	8	650	325	325	55	95	11.6	140	117.7	1.2	0.5	2	KRUEGER LMHS		
8-10	Classroom	6	550	275	550	55	95	19.6	140	118.6	2.1	1.7	3	KRUEGER LMHS		
8-11	Music Room	12	1720	860	860	55	90	26.8	140	112	2.2	1.1	2	KRUEGER LMHS		
9-1	Classroom	16	2225	1115	2225	55	93	75.2	140	97.4	4.0	0.8	4	KRUEGER LMHS		3-WAY VALVE
9-2	Classroom	14	1770	885	1770	55	95	63.0	140	96.5	3.3	1.1	4	KRUEGER LMHS		
9-3	Classroom	10	750	375	375	55	85	10.0	140	132.7	3.1	1.8	1	KRUEGER LMHS		
9-4	Classroom	8	740	370	740	55	95	26.3	140	120.2	3.0	1.9	3	KRUEGER LMHS		
9-5	Offices	8	350	175	175	55	90	5.5	140	127.4	1.0	0.8	1	KRUEGER LMHS		
9-6	Classroom	10	860	430	860	55	95	30.6	140	113.6	2.6	1.1	3	KRUEGER LMHS		
9-7	Wood Shop	12	1050	525	1050	55	95	37.4	140	106.3	2.5	1.3	3	KRUEGER LMHS		
9-8	Wood Shop	22	2350	1175	2350	55	98	89.9	140	89	4.0	0.8	4	KRUEGER LMHS		
9-9	Classroom	8	675	340	340	55	95	12.1	140	118.7	1.3	0.6	2	KRUEGER LMHS		
12-1	Classroom	12	1200	600	1200	55	95	42.7	140	109.7	3.2	1.9	3	KRUEGER LMHS		
12-2	Classroom	12	1200	600	1200	55	95	42.7	140	109.7	3.2	1.9</				



GRILLE, REGISTER, DIFFUSER & LOUVER						
SYMBOL	USE	PATTERN	FINISH	MANUFACTURER* & MODEL #	ACCESSORIES	REMARKS
(A)	SUPPLY 24x24	ADJ.	WHITE	TITUS TMSA 24x24	-	REFER TO DWGS FOR NECK SIZE
(B)	RETURN	FIXED	WHITE	TITUS 24x8	-	-
(C)	EXHAUST	FIXED	WHITE	TITUS 350	-	REFER TO DWGS FOR GRILLE SIZE
(D)	SUPPLY	FIXED	WHITE	TITUS 300	-	REFER TO DWGS FOR GRILLE SIZE
(E)	EXISTING GRILLE, TO BE REUSED. BALANCE TO CFM NOTED ON DWGS.					
(F)	SUPPLY 12x12	ADJ.	WHITE	TITUS TMSA 12x12	-	REFER TO DWGS FOR NECK SIZE
(G)	COMBUSTION AIR	ADJUSTABLE	PER ARCHITECT	RUSKIN ELM6375DX	24 VOLT CONTROL DAMPER, 1" GLAZING FIN TO MATE WITH NEW WINDOW SYSTEM	
(H)	EXHAUST	FIXED	PER ARCHITECT	RUSKIN ELF375DX		FIELD VERIFY DIMENSION IN FIELD PRIOR TO ORDERING
(I)	SUPPLY	ADJUSTABLE	WHITE	TITUS XC310	FIELD VERIFY DUCT CONNECTION TO (E) DIFFUSER PRIOR TO ORDERING. COORDINATE WITH ENGINEER	NEW AUDITORIUM DIFFUSER
GENERAL NOTES:						
A.						
B.						

EXHAUST FAN SCHEDULE												
MARK	TYPE	SERVICE	SONES	FAN				MOTOR		MANUFACTURER & MODEL #	ACCESSORIES	REMARKS/CONTROL
				CFM	RPM	ESP		HP (WATT)	VOLT/ PHASE			
						@ S.L. (IN WC)	@ ALT (IN WC)					
EF-1	DOWNBLAST	STORAGE - 312A	4.3	210	1018	0.4	0.4	1/8	120/1	COOK 100C15DH	NOTE A	24/7
EF-2	UTILITY SET	CHEM. LAB - 312		720	1992	1.2	1	1/2	120/1	COOK 120CF	NOTE A	WHEEL WIDTH REDUCED 33% ALUMINUM WHEEL. MANUAL SWITCH AT EXISTING FUME HOOD
EF-3	UTILITY SET	CHEM. LAB - 314		720	1992	1.2	1	1/2	120/1	COOK 120CF	NOTE A	WHEEL WIDTH REDUCED 33% ALUMINUM WHEEL. MANUAL SWITCH AT EXISTING FUME HOOD
EF-4	UTILITY SET	PREP - 311		720	1992	1.2	1	1/2	120/1	COOK 120CF	NOTE A	WHEEL WIDTH REDUCED 33% ALUMINUM WHEEL. MANUAL SWITCH AT EXISTING FUME HOOD
EF-5	DOWNBLAST	RR - 300Q, 300S & C1	10.3	450	1539	0.6	0.5	1/8	120/1	COOK 100C15DH	NOTE A	OCCUNOCC
EF-6	DOWNBLAST	ELECTRICAL - 304	5.3	1,000	910	0.4	0.3	1/6	120/1	COOK 135C2B	NOTE B	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-7	DOWNBLAST	RR - 14 & 15	8.5	1,215	1144	0.6	0.5	1/6	120/1	COOK 135C2B	NOTE B	OCCUNOCC
EF-8	DOWNBLAST	ROOM - 303A	6.3	350	1318	0.4	0.3	1/8	120/1	COOK 90C15DH	NOTE A	EXISTING MANUAL SWITCH
EF-9	DOWNBLAST	DARK ROOM - 303C	4.5	850	855	0.4	0.3	1/6	120/1	COOK 135C10D	NOTE A	EXISTING MANUAL SWITCH
EF-10	DOWNBLAST	COMM DATA - 218B	9.6	400	1469	0.6	0.5	1/8	120/1	COOK 100C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-11	DOWNBLAST	ELECTRICAL - C2	6.0	750	1101	0.5	0.4	1/4	120/1	COOK 120C15D	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-12	DOWNBLAST	RR - 6, 7 & 8	7.6	1,050	1091	0.6	0.5	1/6	120/1	COOK 135C2B	NOTE B	OCCUNOCC
EF-13	DOWNBLAST	RR - 4, 5 & C9	8.0	900	1256	0.6	0.5	1/4	120/1	COOK 120C13D	NOTE A	OCCUNOCC
EF-14	DOWNBLAST	TEACHER WORK - 202	7.8	380	1715	0.4	0.3	1/8	120/1	COOK 90C15DL	NOTE A	SPRING WOUND TIMER FURNISH BY TC. INSTALL BY EC
EF-15	DOWNBLAST	ELECTRICAL - 202A	8.2	500	1521	0.4	0.3	1/8	120/1	COOK 90C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-16	DOWNBLAST	RR - 9 & 10	4.4	675	964	0.4	0.3	1/4	120/1	COOK 120C13D	NOTE A	OCCUNOCC
EF-17	DOWNBLAST	RR - 11 & 12	3.8	150	980	0.4	0.3	1/8	120/1	COOK 100C15DH	NOTE A	OCCUNOCC
EF-18	DOWNBLAST	ELEV EQUIP & STORAGE - 205C & 205A	10.3	650	1514	0.4	0.3	1/8	120/1	COOK 100C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-19	EXISTING	2D STUDIO - 502	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									EXISTING
EF-20	EXISTING	2D/3D STUDIO - 503	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									EXISTING
EF-21	WALL MOUNTED	CLOSET & RR - 100A & RR3	8.8	525	1556	0.6	0.5	1/6	120/1	COOK 100W2B		OCCUNOCC. UNOCC OVERRIDE BY LINE VOLTAGE TSTAT IN ELECTRICAL ROOM
EF-22	WALL MOUNTED	RR - 1 & 2	5.0	150	1260	0.5	0.4	1/8	120/1	COOK 90W15DH		OCCUNOCC
EF-23, 24 & 25	DOWNBLAST	AUDITORIUM - 199	8.0	6,000	373	0.5	0.4	1	480/3	COOK 365C7B	NOTE B	STAGED BY TC PER SEQUENCE ON CONTROL DIAGRAMS
EF-26	EXISTING	UNIFORM & SCENERY STORAGE - 95B & 95	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									OCCUNOCC
EF-27	EXISTING	MAIN ELECTRIC - 95A	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									EXISTING
EF-28	DOWNBLAST	ELECTRICAL - 195A	5.7	300	1253	0.4	0.3	1/8	120/1	COOK 90C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-29	WALL MOUNTED	RR - 16 & 17	9.9	1,350	1196	0.9	0.75	1/3	120/1	COOK 165WH4B		OCCUNOCC
EF-30	WALL MOUNTED	WOMAN'S LOCKERS - 404	13.8	1,860	1475	1.2	1	3/4	120/1	COOK 165WH8B		OCCUNOCC
EF-31	WALL MOUNTED	MEN'S LOCKERS - 422	13.5	1,400	1378	0.9	0.75	1/3	120/1	COOK 135W4B		OCCUNOCC
EF-32	DOWNBLAST	RR - 21	3.7	75	1362	0.4	0.3	1/20	120/1	COOK 70C15DH	NOTE A	OCCUNOCC
EF-33	DOWNBLAST	STORAGE - 501B & 211	5.3	800	1029	0.4	0.3	1/4	120/1	COOK 120C15D	NOTE A	24/7
EF-34	DOWNBLAST	ROOM - 501C	5.7	300	1253	0.4	0.3	1/8	120/1	COOK 90C15DH	NOTE A	SPRING WOUND TIMER FURNISH BY TC. INSTALL BY EC
EF-35	DOWNBLAST	502A, 502B & 503F	6.3	800	1122	0.5	0.4	1/4	120/1	COOK 120C15D	NOTE A	OCCUNOCC
EF-36	DOWNBLAST	ELEC - 504A	5.3	275	1086	0.4	0.3	1/8	120/1	COOK 100C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-37	DOWNBLAST	MEN'S LOCKERS - 422	5.6	825	1046	0.4	0.3	1/4	120/1	COOK 120C15D	NOTE A	OCCUNOCC
EF-38	DOWNBLAST	RR & COACHES - 20 & 426	10.6	750	1725	0.6	0.5	1/4	120/1	COOK 100C3B	NOTE B	OCCUNOCC
EF-39	DOWNBLAST	TECH EQUIP - 506A	4.2	100	1435	0.4	0.3	1/20	120/1	COOK 70C15DH	NOTE A	SPRING WOUND TIMER FURNISH BY TC. INSTALL BY EC
EF-40	DOWNBLAST	ELECTRICAL - 506B	7.4	1,000	1173	0.4	0.3	1/6	120/1	COOK 120C2B	NOTE B	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-41	DOWNBLAST	COMM DATA - 404B	9.8	600	1454	0.4	0.3	1/8	120/1	COOK 100C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-42	DOWNBLAST	ELEC ROOM - 412A	5.0	960	893	0.4	0.3	1/6	120/1	COOK 135C10D	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-43	DOWNBLAST	RR & TUBE FEEDING - 410A, B, & C	6.9	300	1607	0.6	0.5	1/8	120/1	COOK 90C15DM	NOTE A	OCCUNOCC
EF-44	DOWNBLAST	COMM DATA & ELEC - 407 & 407A	7.7	450	1468	0.4	0.3	1/8	120/1	COOK 90C15DH	NOTE A	LINE VOLTAGE THERMOSTAT FURNISH BY TC. INSTALL BY EC
EF-45	DOWNBLAST	CONCESSIONS - 405	5.2	200	1039	0.4	0.3	1/25	120/1	COOK 100C10DH	NOTE A	EXISTING
EF-46	INLINE	RR & COACHES - 18, 19 & 402A	7.3	725	1725	0.4	0.3	1/6	120/1	COOK DB-8		OCCUNOCC
EF-47	UP BLAST GREASE	TYPE I HOOD	9.1	2,700	1454	1.5	1.25	2	480/3	GREENHECK CUE-161-A	COMBO CURB WITH MAU-1	REFER TO CONTROL DIAGRAMS FOR VARIABLE VOLUME OPERATION
EF-48	UP BLAST	TYPE II HOOD	14.4	2,200	1662	1.2	1	1	480/3	GREENHECK CUE-141-VG	COMBO CURB WITH MAU-2	REFER TO CONTROL DIAGRAMS FOR VARIABLE VOLUME OPERATION
EF-49	UP BLAST	DISHWASHER HOOD	7.1	600	1354	0.6000	0.5000	1/4	120	GREENHECK CUE-099-VG	VARI GREEN SPEED CONTROL	DISHWASHER HOOD
EF-50	EXISTING	FABRICATIONS - 505	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									EXISTING
EF-51	EXISTING	FINISH ROOM - 508A	EXISTING EXHAUST FAN TO REMAIN. RELABEL WITH NEW NUMBER IN FIELD AND ON CONTROL GRAPHICS									EXISTING
GENERAL NOTES:												
A:		INCLUDE STD DISCONNECT, ROOF CURB, FAN SPEED CONTROLLER AND BACKDRAFT DAMPER.										
B:		INCLUDE STD DISCONNECT, ROOF CURB AND BACKDRAFT DAMPER.										

AIR HANDLING UNIT SCHEDULE																																			
MARK	AREA SERVED	MIN. OUTSIDE AIR (CFM)	AIR DELIVERY CAPACITY										DX COIL					HEATING COIL							MCA	MOCP	VOLT/ PHASE	NUMBER OF COMPRESSORS	FILTER	APPROX. OPER. WEIGHT (LBS)	MANUFACTURER* & MODEL #	ACCESSORIES / REMARKS			
			SUPPLY FAN					RETURN FAN					AIR CONDITIONS			CONDENSING SECTION		AIR CONDITIONS			WATER CONDITIONS														
			CFM	E.S.P. @ S.L. / ALT (IN W.C.)	WHEEL DIA / TYPE	R.P.M.	MOTOR (HP/BHP)	CFM	E.S.P. @ S.L. / ALT (IN W.C.)	WHEEL DIA / TYPE	R.P.M.	MOTOR (HP/BHP)	E.A.T. DB/WB (°F)	L.A.T. DB/WB (°F)	TOTAL MBH	AMBIENT TEMP. DB (°F)	E.A.T. DB (°F)	L.A.T. DB (°F)	SENSIBLE MBH	E.W.T. (°F)	L.W.T. (°F)	GPM	MAX. WTR P.D. (FT.)	MAX. AIR P.D. (IN.)											
RTU-1	A	8900	17,500	2.5	28" VAF	1263	20	17,500	1	20/20 FC	668	10	814/59	55.549.8	393	95	37	77.4	552.04	140	110	37	5.7	0.2	132.3	175	480/3	4	MERV 8	8700	ENGINEERED AIR FWB324/C/OMV	NOTE A			
RTU-2	A	3000	7200	2	16" VAF	2403	5	7200	1	20/18 FC	677	5	80.2/59	55.3445.2	170	95	43	76	217	140	110	14.5	3.7	0.2	67.1	80	480/3	43	MERV 8	5700	ENGINEERED AIR FWB164/C/OMV	NOTE B			
RTU-3	RM 214	600	1600	0.5	11" VAF	2281	1	1600	.5	9/9 FC	1512	1	79.7/58	55.849.5	34	95	45.7	77.4	42	140	110	2.7	4.7	0.04	23.8	30	480/3	2) DIGITAL SCROLL 1ST STAGE, ON/OFF SECOND	MERV 8	2600	ENGINEERED AIR FWA32/C/OMV	NOTE A			
RTU-4	B	6300	12,500	2.5	22" VAF	1663	15	12,500	1	18/18 FC	785	7.5	81.3/58	5548.5	283	95	37.3	79.5	446	140	110	27.8	5	0.15	98.3	125	480/3	4	MERV 8	6000	ENGINEERED AIR FWA244/C/OMV	NOTE A			
RTU-5	B	2250	6300	2	16" VAF	2261	7.5	6300	1	18/18 FC	785	3	79.5/58	54.449.6	133	95	46.9	77.2	154	140	110	10	4.8	0.12	52.1	60	480/3	4	MERV 8	4500	ENGINEERED AIR FWA114/C/OMV	NOTE A			
RTU-6	B	1350	4000	2	12" VAF	2599	5	4000	1	12/12 FC	1112	2	79.2/58	54.648.5	84	95	61.9	77.1	76	140	110	4.8	3.5	0.08	40	50	480/3	4	MERV 8	4000	ENGINEERED AIR FWA74/C/OMV	NOTE A			
RTU-7	CAFETERIA	6700	9400	0.75	20" VAF	1585	7.5	9400	.5	20/18 FC	691	5	83.9/60	55.3445.4	209	95	23.8	75	255	140	110	18	5.9	0.10	62.1	70	480/3	4	MERV 8	7000	ENGINEERED AIR FWA174/C/OMV	NOTE A			
RTU-8	C	3400	9200	2.5	18" VAF	2197	10	9200	1	20/18 FC	689	5	79.6/58	54.748.9	208	95	46.1	75.3	242	140	110	16.8	5.4	0.09	67.1	70	480/3	4	MERV 8	7000	ENGINEERED AIR FWA174/C/OMV	NOTE A			
RTU-9	F	3200	10,900	1.75	20" VAF	1862	10	10,900	1	20/18 FC	2788	7.5	78.7/59	5549.3	235	95	51	74.4	241	140	110	17.3	2.5	0.12	79.1	100	480/3	4	MERV 8	3400	ENGINEERED AIR FWA204/C/OMV	NOTE B			
RTU-10	WEIGHT ROOM	3300	15,000	1.25	32" VAF	767	7.5	15,000	.5	18/18 FC	800	7.5	-	-	-	-	55.7	78.4	510	140	110	34.6	2.3	0.15	35.7	50	480/3	N/A	MERV 8	5500	ENGINEERED AIR LM15/C/OMV	NOTE A			
RTU-11	WRESTLING ROOM	3700	10,000	0.75	25" VAF	995	5	10,000	.5	18/18 FC	640	5	-	-	-	-	46	76.7	343	140	110	23	3.8	0.15	26.3	40	480/3	N/A	MERV 8	5100	ENGINEERED AIR LM10/C/OMV	NOTE A, NEW HW CONTROL VALVE TO BE 3-WAY			
RTU-12	D	6200	15,750	1.75	22" VAF	1833	15	15,750	1	18/18 FC	806	10	79.9/55	54.6445.4	350	95	44.5	75	376	140	110	26.4	3.2	0.11	121.8	150	480/3	4	MERV 8	11,000	ENGINEERED AIR FWA294/C/OMV	NOTE B			
RTU-13	E	4800	6700	2.25	18" VAF	2018	7.5	6700	1	12/12 FC	1087	5	84/59	54.748.6	158	95	23.6	76.9	131	140	110	14	3.8	0.17	59.3	70	480/3	4	MERV 8	5000	ENGINEERED AIR FWA134/C/OMV	NOTE B			
RTU-14	MEDIA CENTER	1500	18,000	1.5	28" VAF	1253	15	18,000	1	20/20 FC	789	5	78/55	54.548.5	157	95	64.8	75.6	259	140	110	17.5	2.4	0.08	113.4	150	480/3	4	MERV 8	8500	ENGINEERED AIR FWA304/C/OMV	NOTE B			
RTU-15	E	1100	8500	1.5	16" VAF	2566	10	8500	1	20/18 FC	683	5	76.6/57	5549.4	161	95	67	76.8	90	140	110	5.4	6.8	0.07	64.3	80	480/3	4	MERV 8	5500	ENGINEERED AIR FWB134/C/OMV	NOTE A, NEW HW CONTROL VALVE TO BE 3-WAY			
RTU-16	F	600	2300	1	11" VAF	3000	2	2300	1	10/10 FC	1317	1	78.3/58	54.249.5	49	95	53.1	77.5	44	140	110	2.7	4.3	0.09	36.4	40	480/3	2) DIGITAL SCROLL 1ST STAGE, ON/OFF SECOND	MERV 8	3500	ENGINEERED AIR FWA6/C/OMV	NOTE B, NEW HW CONTROL VALVE TO BE 3-WAY			
RTU-17	G	600	4000	2	12" VAF	2952	5	4000	1	12/12 FC	1112	2	76.9/55	54.746.1	83	95	60.3	75.2	70	140	110	4.8	3.7	0.06	42	50	480/3	4	MERV 8	4000	ENGINEERED AIR FWA84/C/OMV	NOTE A			
RTU-18	RM 508	500	1500	0.5	11" VAF	2193	2	15,000	.5	9/9 FC	1242	1	79.2/58	55.549.3	32	95	48.4	76.2	40	140	110	2.7	3.2	0.08	23.8	30	480/3	2) DIGITAL SCROLL 1ST STAGE, ON/OFF SECOND	MERV 8	3400	ENGINEERED AIR FWA42/C/OMV	NOTE B, NEW HW CONTROL VALVE TO BE 3-WAY			
RTU-19	DATA ROOM COOLING	0	725	0.5	11X10	825	0.25	-	-	-	-	-	78/60	54.2	-	95	-	-	-	-	-	-	-	-	13.8	20	208/1	1	MERV 8	444	TRANE 4TCC3024A1000A	14" ROOF CURB UNIT MOUNTED DISCONNECT CONTRACTOR TO FIELD VERIFY MOTOR HP PRIOR TO ORDERING VFDs			
RTU-21	1994 GYM	-	-	-	-	-	30					20		EXISTING UNIT TO GET NEW DDC CONTROLS AND VFDs. INSTALL VFDs IN MECH ROOM SPACE BELOW. VFDs FURNISH BY MC. INSTALL BY EC.										135										NEW HW CONTROL VALVE TO BE 3-WAY	CONTRACTOR TO FIELD VERIFY MOTOR HP PRIOR TO ORDERING VFDs
(E) H&V-2	1962 GYM	-	-	-	-	-	10							EXISTING UNIT TO GET NEW DDC CONTROLS AND VFDs. INSTALL VFDs IN MECH ROOM SPACE. VFDs FURNISH BY MC. INSTALL BY EC. REFER TO M4.2 FOR REFURBISH DETAILS.										40											CONTRACTOR TO FIELD VERIFY MOTOR HP PRIOR TO ORDERING VFDs
(E) H&V-3	COMMONS	-	-	-	-	-	5							EXISTING UNIT TO GET NEW DDC CONTROLS AND VFDs. INSTALL VFDs IN MECH ROOM SPACE. VFDs FURNISH BY MC. INSTALL BY EC. REFER TO M4.2 FOR REFURBISH DETAILS.										15											CONTRACTOR TO FIELD VERIFY MOTOR HP PRIOR TO ORDERING VFDs
(E) H&V-4	AUDITORIUM	-	-	-	-	-	7.5							EXISTING UNIT TO GET NEW DDC CONTROLS AND VFDs. INSTALL VFDs IN MECH ROOM SPACE. VFDs FURNISH BY MC. INSTALL BY EC. REFER TO M4.2 FOR REFURBISH DETAILS.										30											CONTRACTOR TO FIELD VERIFY MOTOR HP PRIOR TO ORDERING VFDs
GENERAL NOTES:																																			
A:		INCLUDE 14" ROOF CURB WITH HWS/R PIPE DOGHOUSE, UNIT MOUNTED DISCONNECT, RETURN AIR SMOKE DETECTOR, HOOD AND HAIL GUARD. VFD MOUNTED IN UNIT. UNIT CURB WILL BE SHIMMED TO SIT LEVEL ON SLOPED CONCRETE PAD. CURB SHALL FOLLOW DOGHOUSE																																	
B:		INCLUDE UNIT MOUNTED DISCONNECT, RETURN AIR SMOKE DETECTOR, HOOD AND HAIL GUARD. VFD MOUNTED IN UNIT. INCLUDE HWS/R PIPE DOGHOUSE, DOGHOUSE MAY OVERHANG EXISTING ROOF CURB. INSULATE EXPOSED PIPE WITH FIBERGLASS INSULATION AND ALUMINUM JACKET																																	
C:																																			
D:																																			

ENERGY RECOVERY VENTILATOR SCHEDULE																																
MARK	AREA SERVED	TYPE	AIR DELIVERY CAPACITY								SUMMER WHEEL CONDITIONS				WINTER CONDITIONS				HEATING COIL						ELECTRICAL			FILTER DATA		MANUFACTURER & MODEL #	ACCESSORIES	REMARKS
			OUTDOOR AIR FAN				EXHAUST FAN				OUTDOOR AIR		EXHAUST AIR		OUTDOOR AIR		EXHAUST AIR		AIR CONDITIONS		WATER CONDITIONS				MOCP	MCA	VOLT/PH	TYPE (Q&AEXH)	% EFF.			
			CFM	E.S.P. @ ALT. (IN W.C.)	R.P.M.	MOTOR (HP/BHP)	CFM	E.S.P. @ ALT. (IN W.C.)	R.P.M.	MOTOR (HP/BHP)	E.A.T. DB (°F)	L.A.T. DB (°F)	E.A.T. DB (°F)	L.A.T. DB (°F)	E.A.T. DB (°F)	L.A.T. DB (°F)	E.A.T. DB (°F)	L.A.T. DB (°F)	E.A.T. DB (°F)	L.A.T. DB (°F)	E.W.T. (°F)	L.W.T. (°F)	GPM									
ERV-1	LOCKER ROOM	H&V	15,000	1.75	1278	15	15,000	1.5	1000	15	87.5/58	81.6/55.8	78	81	5	50.2	70	36.2	50.2	75.8	140	110	23.2	80	52.9	480/3	MERV 8	30	ENGA LM15C/HRP/AV		7,300 LBS	
GENERAL NOTES:																																
A.																																
B.																																
C.																																

MAKE-UP AIR UNIT SCHEDULE																			
MARK	AREA SERVED	MIN. OUTSIDE AIR (CFM)	AIR DELIVERY CAPACITY					GAS-FIRED HEATING				VOLT/ PHASE	MCA	FILTER	APPROX. OPER. WEIGHT (LBS)	MANUFACTURER & MODEL #	ACCESSORIES	REMARKS	
			SUPPLY FAN					AIR CONDITIONS		GAS SECTION									
			CFM	E.S.P. @ S.L. (IN W.C.)	E.S.P. @ ALT. (IN W.C.)	WHEEL TYPE	R.P.M.	MOTOR (HP/BHP)	E.A.T. DB (°F)	L.A.T. DB (°F)	INPUT @ S.L. (MBH)								OUTPUT @ ALT. (MBH)
MAU-1	TYPE I HOOD	2,700	2,700	0.6	0.5	FC	860	10.77	-5	76.9	250	196	480/3	-	MERV 8	1,300	GREENHECK IGX-112-H22	COMBINATION ROOF CURB TO MOUNT EF-47 ON SAME ASSEMBLY	NOTE A. B
MAU-2	TYPE II HOOD	2,200	2,200	0.6	0.5	FC	1,299	15.03	-5	78.8	205	163	480/3	-	MERV 8	1,000	GREENHECK IGX-109-H12	COMBINATION ROOF CURB TO MOUNT EF-46 ON SAME ASSEMBLY	NOTE A. B
GENERAL NOTES:																			
MAU-1 AND MAU-2 SHALL BE SUPPLIED WITH AN INVERTER DUTY MOTOR FOR CONTROL BY A VFD. VFD SHALL BE PROVIDED BY MELINK CONTROL SYSTEM. REFER TO CONTROL DIAGRAMS FOR REQUIREMENTS OF INTERFACE AND COMMUNICATION FOR MAU-1 & MAU-2 WITH MELINK VARIABLE VOLUME CONTROLS AND POUDEE SCHOOL BAS																			
A:	WEIGHT DOES NOT INCLUDE CURB, EXHAUST FAN OR OTHER ACCESSORIES. PROVIDE WEIGHT TO CONTRACTOR FOR STRUCTURAL STEEL COORDINATION AT SHOP DRAWING PHASE.																		

WATER HEATER SCHEDULE (GAS-FIRED)											
MARK	TYPE	STORAGE CAPACITY (GAL.)	RECOVERY (GPH)	WATER TEMP. RISE (°F)	INPUT @ S.L. (MBH)	OUTPUT @ ALT. (MBH)	ELECTRICAL		MANUFACTURER & MODEL #	ACCESSORIES	REMARKS
							FLA	VOLT/ PH			
WH-1	CONDENSING DIRECT VENT	100	309	100	199	183	-	120/1	BRADFORD WHITE EF-100T-199E-3NA	4" CONCENTRIC VENT KIT	
GENERAL NOTES:											
A.	PROVIDE ACID NEUTRALIZING TANK ON CONDENSATE DISCHARGE										
B.											

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## MECHANICAL SCHEDULES

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




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DRAWING <b>CWH/CWG</b> COVERED <b>CMR</b> PAGE	SHEET NO.  <div style="font-size: 2em; font-weight: bold;">M7.3</div>	No.	Description	REVISIONS
		1	Addendum #1	
		2	Addendum #3	

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PUMP SCHEDULE											
MARK	SERVICE	TYPE	GPM	TDH (FT)	FLUID	MOTOR			MANUFACTURER & MODEL #	ACCESSORIES	REMARKS
						HP (WATT)	RPM	VOLT/ PH			
P-1	HEAT	PRIMARY	230	10	30% GLYCOL	1.5	1160	480/3	TACO FI2507	-	6.75 INCH IMPELLER, 182T FRAME
P-2	HEAT	PRIMARY	230	10	30% GLYCOL	1.5	1150	480/3	TACO FI 2507	-	6.75 INCH IMPELLER, 182T FRAME
P-3	HEAT	PRIMARY	230	10	30% GLYCOL	1.5	1150	480/3	TACO FI 2507	-	6.75 INCH IMPELLER, 182T FRAME
(E) P-4	HEAT	EXISTING SECONDARY LOOP PUMP	496	143	30% GLYCOL	30	-	-	TACO	PUMPS TO OPERATE IN PARALLEL	PROVIDE NEW VFD FOR EXISTING PUMPS. VFD INSTALL AND WIRING BY EC. FURNISH BY MC
(E) P-5	HEAT	EXISTING SECONDARY LOOP PUMP	496	143	30% GLYCOL	30	-	-	TACO	PUMPS TO OPERATE IN PARALLEL	PROVIDE NEW VFD FOR EXISTING PUMPS. VFD INSTALL AND WIRING BY EC. FURNISH BY MC
GENERAL NOTES:											
A:											
B:											

BOILER SCHEDULE														
MARK	SERVICE	BOILER TYPE	FUEL TYPE	HEATING CAPACITY			L.W.T. (°F)	E.W.T. (°F)	BURNER		VENT TYPE	MANUFACTURER* & MODEL #	ACCESSORIES	REMARKS
				INPUT @ S.L. (MBH)	OUTPUT @ ALT.	MINIMUM A.F.U.E.			HP	VOL/T/ PH				
B-1	HEATING	FIRE TUBE CONDENSING STAINLESS	NG	4,129	3,547	92	140	110	5	480/3	AL29-4C	BUDERUS SB735-1200	FULLY MODULATING POWER FLAME BURNER C4-G-30	PROVIDE SEPARATE 120 VOLT CONNECTION FOR CONTROLS
B-2	HEATING	FIRE TUBE CONDENSING STAINLESS	NG	4,129	3,547	92	140	110	5	480/3	AL29-4C	BUDERUS SB735-1200	FULLY MODULATING POWER FLAME BURNER C4-G-30	PROVIDE SEPARATE 120 VOLT CONNECTION FOR CONTROLS
B-3	HEATING	FIRE TUBE CONDENSING STAINLESS	NG	4,129	3,547	92	140	110	5	480/3	AL29-4C	BUDERUS SB735-1200	FULLY MODULATING POWER FLAME BURNER C4-G-30	PROVIDE SEPARATE 120 VOLT CONNECTION FOR CONTROLS
GENERAL NOTES:														
A:	AFUE LISTED IS AT 110 DEGREE RETURN WATER TEMPERATURE AND 100% FIRE RATING AT SEA LEVEL. OUTPUT IS BASED ON UPSIZED BURNER LISTED IN ACCESSORIES.													
B:														

PLUMBING FIXTURE SCHEDULE							
SYMBOL	TYPE	A.D.A.	FINISH	MANUFACTURER & MODEL #	FAUCET TRIM MFR. & MODEL #	ACCESSORIES	REMARKS
	WATER CLOSET	YES	WHITE	KOHLER K-4405	SLOAN 111-1.28	-	-
	WATER CLOSET	NO	WHITE	KOHLER K-4406	SLOAN 111-1.28	-	-
	URINAL	YES	WHITE	KOHLER K-4904-ET	SLOAN 186-0.125	-	-
	FLOOR SINK	N/A	NICKEL BRONZE	ZURN Z1900	-	-	FIXTURE CONNECTION 2" UNO, 3/4 GRATE
	FUNNEL DRAIN	N/A	CAST IRON	ZURN Z328	-	-	-
GENERAL NOTES:							
A:							
B:							

MISCELLANEOUS MECHANICAL EQUIPMENT SCHEDULE								
MARK	SERVICE	TYPE	CAPACITY	ELECTRICAL		MANUFACTURER* & MODEL #	ACCESSORIES	REMARKS
				HP	VOLT/ PH			
H-1	COOKING	TYPE II HOOD	1575 CFM	-	-	GREENHECK GD2	ONE SIDE CONDENSATE BAFFLE, GUTTER	HOOD SIZE IS 126X51X30 MOUNT 78" AFF. 30X12 EXHAUST COLLAR
H-2	DISHWASHER	TYPE II HOOD	600 CFM	-	-	GREENHECK GD2	ONE SIDE CONDENSATE BAFFLE, GUTTER	HOOD SIZE IS 36X36X24 MOUNT 78" AFF. 14X12 EXHAUST COLLAR
AS-1	HEATING WATER	TANGENTIAL	1,000 GPM	-	-	BELL & GOSSETT R8	AUTOMATIC AIR VENT, BLOWDOWN VALVE	
AF-1	CERAMICS	AIR CLEANER	1100 CFM	1/6	120/1	BAILEY AIR CLEANING SYSTEMS MODEL 750H	PROVIDE ACOUSTIC DIFFUSER "SILENCER"	REMOTE SPEED CONTROL OPTION WIRED BY EC
GENERAL NOTES:								
A:								
B:								

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MECHANICAL SCHEDULES

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MECHANICAL SCHEDULES

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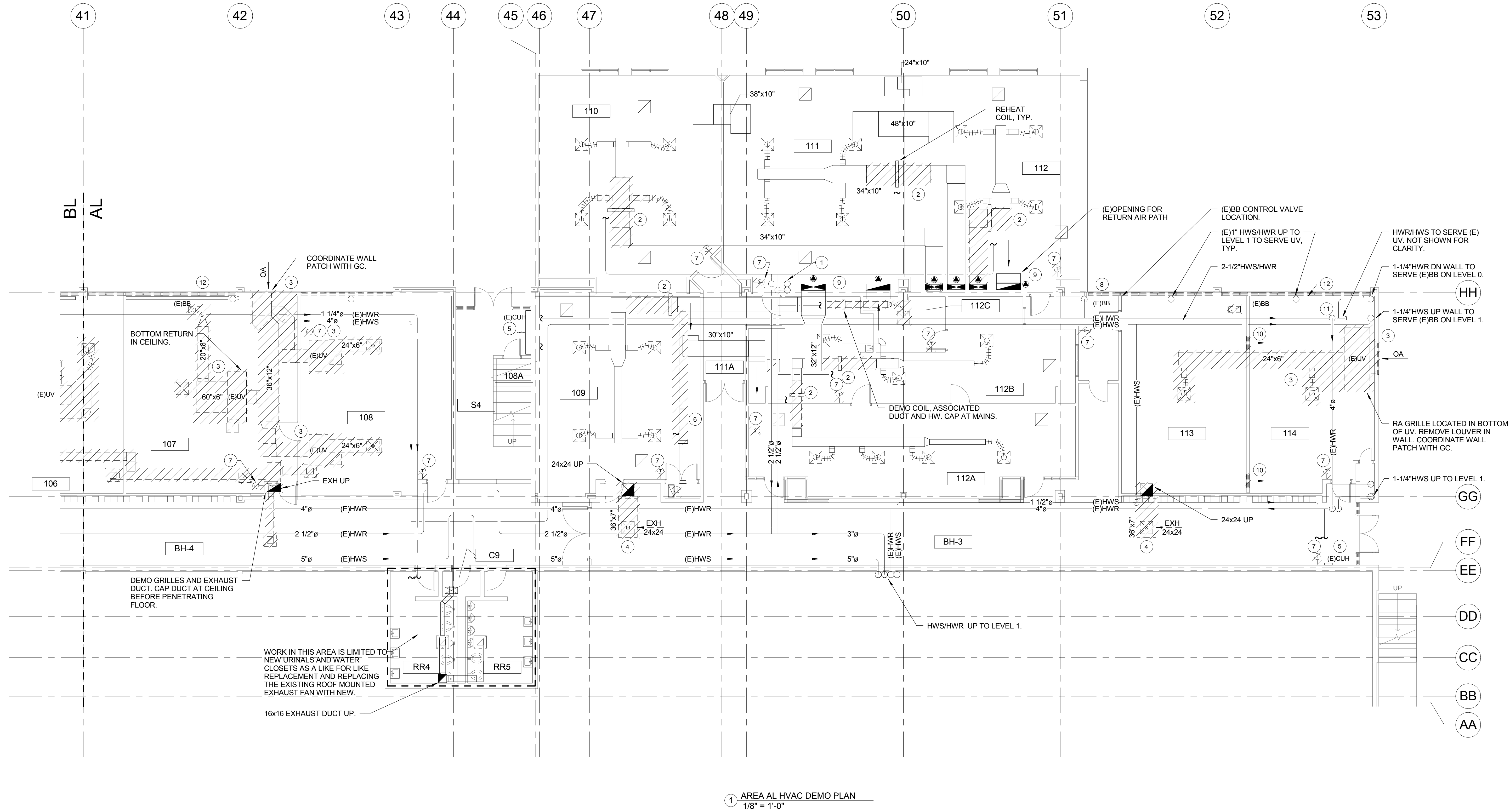
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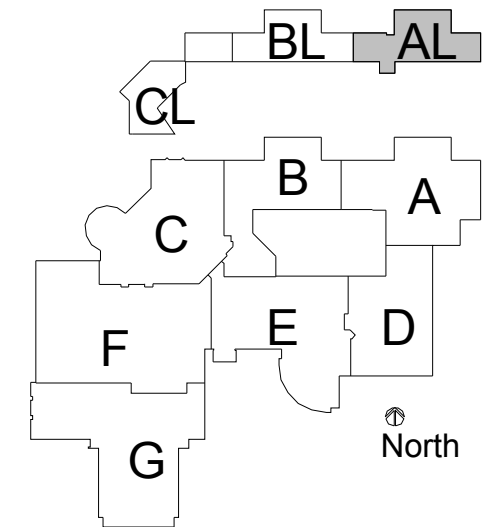
ISSUE FOR BIDDING

No.	Description	Date
1	Addendum #1	1/30/12
2	Addendum #3	2/9/12
CMR		
19 Jan 2012		
REVISIONS		
M7.4		



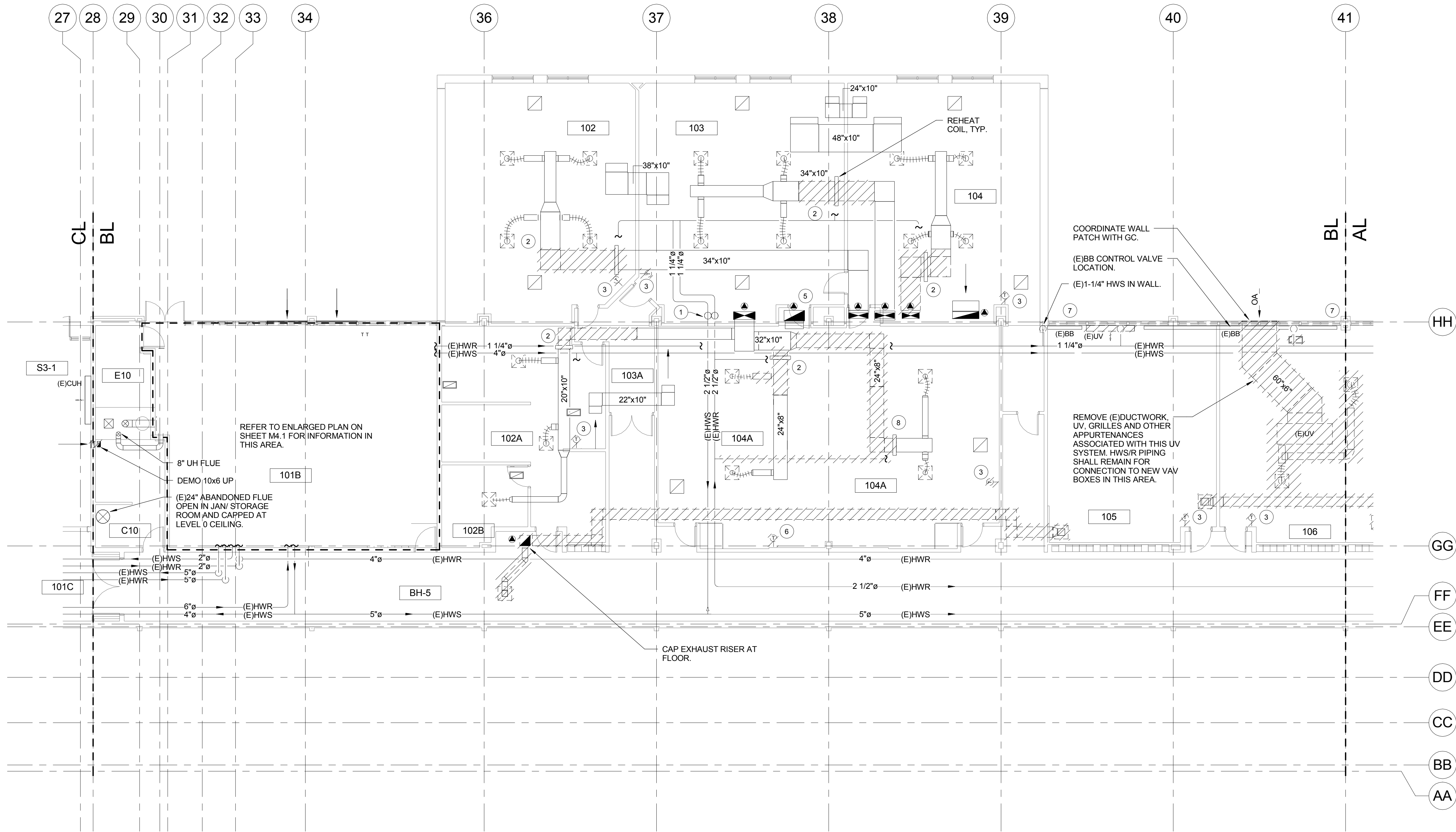
- NOTES:**
- EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
  - (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
  - ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
  - REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.
- FLAG NOTES:**
- 2" HWS/HWR UP TO LEVEL 1.
  - REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
  - REMOVE (E) DUCTWORK, UNIT VENTILATOR, GRILLES AND OTHER APPURTENANCES, SUCH AS LOUVERS, ASSOCIATED WITH THIS UV SYSTEM. HWS/HWR PIPING SHALL REMAIN FOR CONNECTION TO NEW VAV BOXES IN THIS AREA.
  - DEMO GRILLE, CAP DUCT.
  - EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
  - REMOVE (E)HOT WATER RE-HEAT COIL AND DUCT BACK TO MAIN AND CAP. DUCTWORK DOWNSTREAM OF COIL WILL BE RE-USED AND CONNECTED TO NEW VAV BOX.
  - REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
  - EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) BASEBOARD HEATERS.
  - FIRE DAMPER AT FIRST FLOOR PENETRATION, TYP.
  - DEMO TRANSFER GRILLE AND PATCH WALL. COORDINATE PATCHING WITH ARCHITECT.
  - CONTRACTOR SHALL NOTIFY ENGINEER WHEN CEILINGS ARE REMOVED IN THIS AREA IN ORDER TO ENSURE PROPER CONNECTIONS INTO EXISTING PIPES.
  - ACCESS PIPE FROM UNDER CABINETS. DRAIN PIPE AND CAP ABOVE CEILING. ABANDON BB IN PLACE.

1 AREA AL HVAC DEMO PLAN  
1/8" = 1'-0"



No.	Description	Date
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1 AREA BL HVAC DEMO PLAN  
1/8" = 1'-0"

NOTES:

- EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
- (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
- ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
- (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
- REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.

FLAG NOTES:

- 2" HWS/HWR UP TO LEVEL 1.
- REMOVE (E) HOT WATER RE-HEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX RE-HEAT COIL.
- REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
- EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E)BASEBOARD HEATERS.
- FIRE DAMPER AT FIRST FLOOR PENETRATION, TYP.
- REMOVE (E)PNEUMATIC THERMOSTAT AND COORDINATE PATCHING WITH ARCHITECT.
- ACCESS PIPE FROM UNDER CABINETS. DRAIN PIPE AND CAP ABOVE CEILING. ABANDON B6 IN PLACE.
- REMOVE (E)HOT WATER RE-HEAT COIL AND DUCT BACK TO MAIN AND CAP. DUCTWORK DOWNSTREAM OF COIL WILL BE RE-USED AND CONNECTED TO NEW VAV BOX.

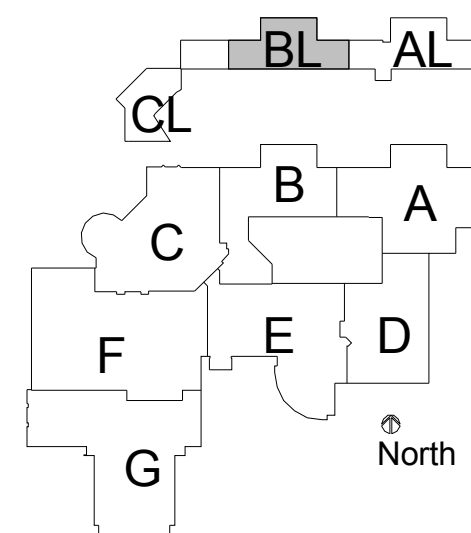
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AREA BL HVAC DEMO PLAN

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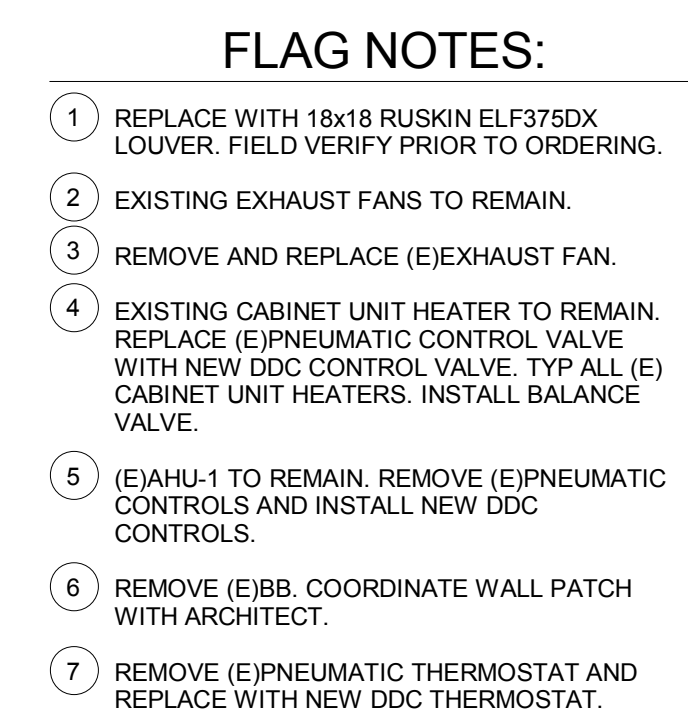


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ISSUE FOR BIDDING

No.	Description	Date
1	CWN/CGW	19 Jan 2012
2	CMR	
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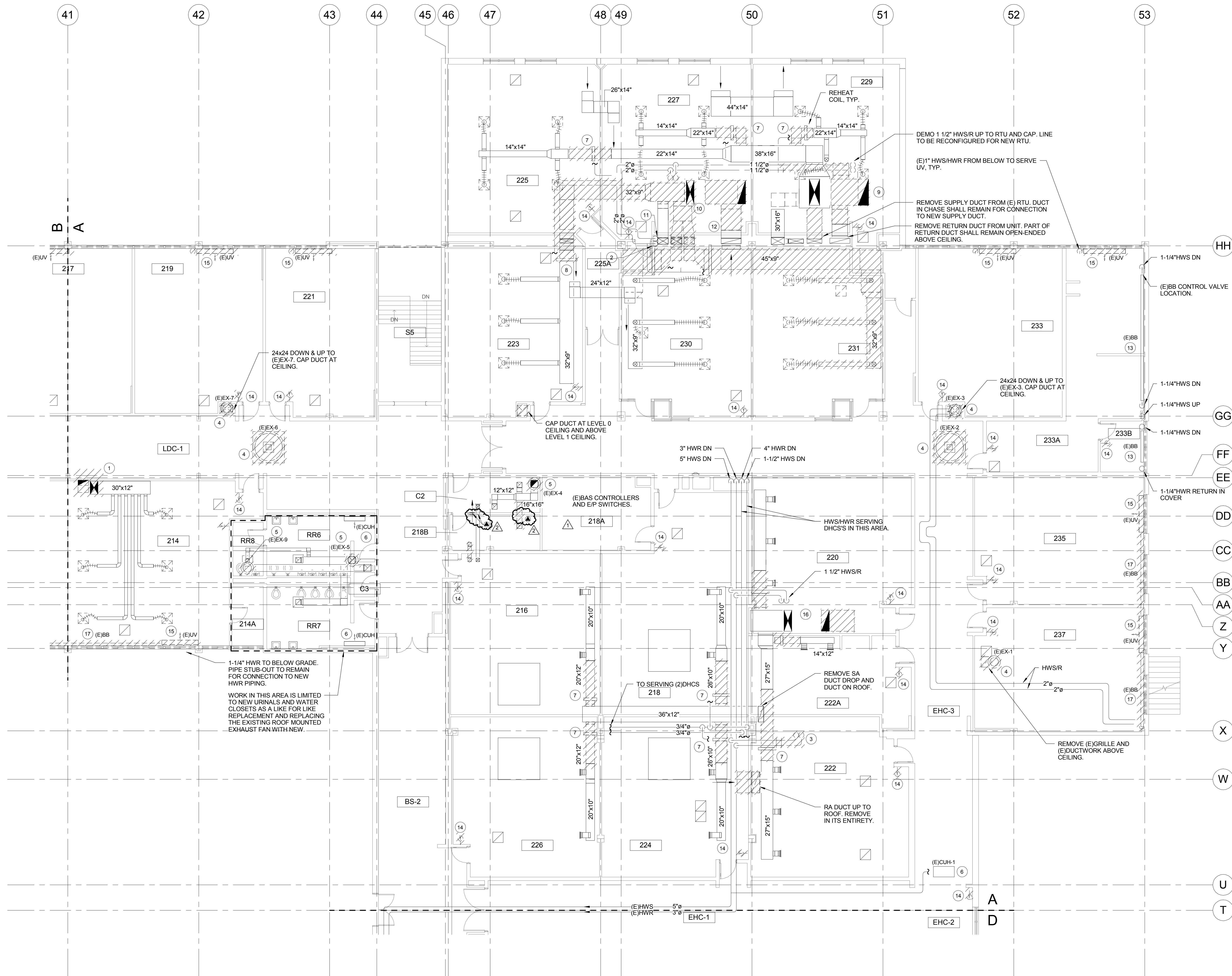


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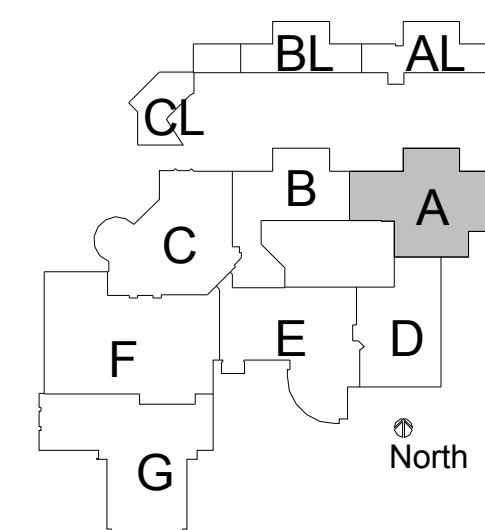
<b>ISSUE FOR BIDDING</b>		<b>REVISIONS</b>
No.	Description	Date
DRAWINGS <b>CWH/CGW</b> REQUIRED BY <b>CMR</b> DATE _____ PROJECT NO. _____		SHEET NO.  <b>MD1.3</b>



1 AREA A HVAC DEMO PLAN  
1/8" = 1'-0"

- NOTES:**
- EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
  - (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
  - ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
  - REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.

- FLAG NOTES:**
- REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU.
  - 2" HWS/HWR DN TO LEVEL 0.
  - 1-1/4" HWS/R UP TO RTU. PIPING TO BE DISCONNECTED AND DEMOED BACK TO MAIN.
  - DEMO FAN AND CURB. REMOVE POWER. REFER TO ARCHITECT'S PLANS FOR ROOF PATCH DETAIL.
  - REMOVE AND REPLACE (E)EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
  - EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
  - REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
  - REMOVE (E) HOT WATER REHEAT COIL. REMOVE ASSOCIATED DUCTWORK AND HOT WATER PIPING BACK TO RESPECTIVE MAINS. REHEAT COIL WILL NOT BE REPLACED WITH A VAV BOX. ASSOCIATED SUPPLY DIFFUSER TO REMAIN FOR CONNECTION TO NEW DUCTWORK.
  - REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU. HWS/R PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWS/R WILL BE RECONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
  - REMOVE (E) RTU. ASSOCIATED DUCTWORK AND REHEAT COILS AS SHOWN. HOT WATER PIPING TO RTU AND REHEAT COILS SHALL BE DISCONNECTED AND REMOVED BACK TO MAIN. ASSOCIATED BRANCH DUCTS SHALL REMAIN FOR CONNECTION TO NEW DUCTWORK. RETURN GRILLES SHALL REMAIN.
  - (E) 24x14 DUCT DOWN. TRANSITIONS TO 46x12 IN CHASE DOWN TO LOWER LEVEL. DEMO 24x14 DUCT FROM RTU. DUCT IN CHASE TO REMAIN AND BE REUSED.
  - (E) 42x16 DUCT FROM RTU. DUCT GOES DOWN CHASE AND IS OPEN-ENDED INTO CEILING SPACE. DUCT SHALL BE REMOVED FROM RTU TO CHASE. DUCT IN CHASE SHALL REMAIN TO BE REUSED.
  - EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) BASEBOARD HEATERS. INSTALL BALANCE VALVE.
  - REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
  - (E)UV TO BE REMOVED. CAP/DEMO ASSOCIATED PIPING AT FLOOR BELOW (OR CEILING ABOVE) AND COORDINATE PATCHING WITH ARCHITECT, TYP.
  - REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU. DEMO HWS/HWR PIPING AND HEATING COIL LOCATED ABOVE CEILING. HWS/HWR WILL BE EXTENDED TO NEW HEATING COIL IN RTU.
  - REMOVE (E) BASEBOARD. REMOVE VALVES AND PIPING BACK TO MAIN. COORDINATE WALL PATCH WITH ARCHITECT.



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No. 1  
Description  
Addendum #1  
ASI #01

Date  
1/30/12  
4/19/12

CMR  
19 Jan 2012

REVISIONS  
MD1.4

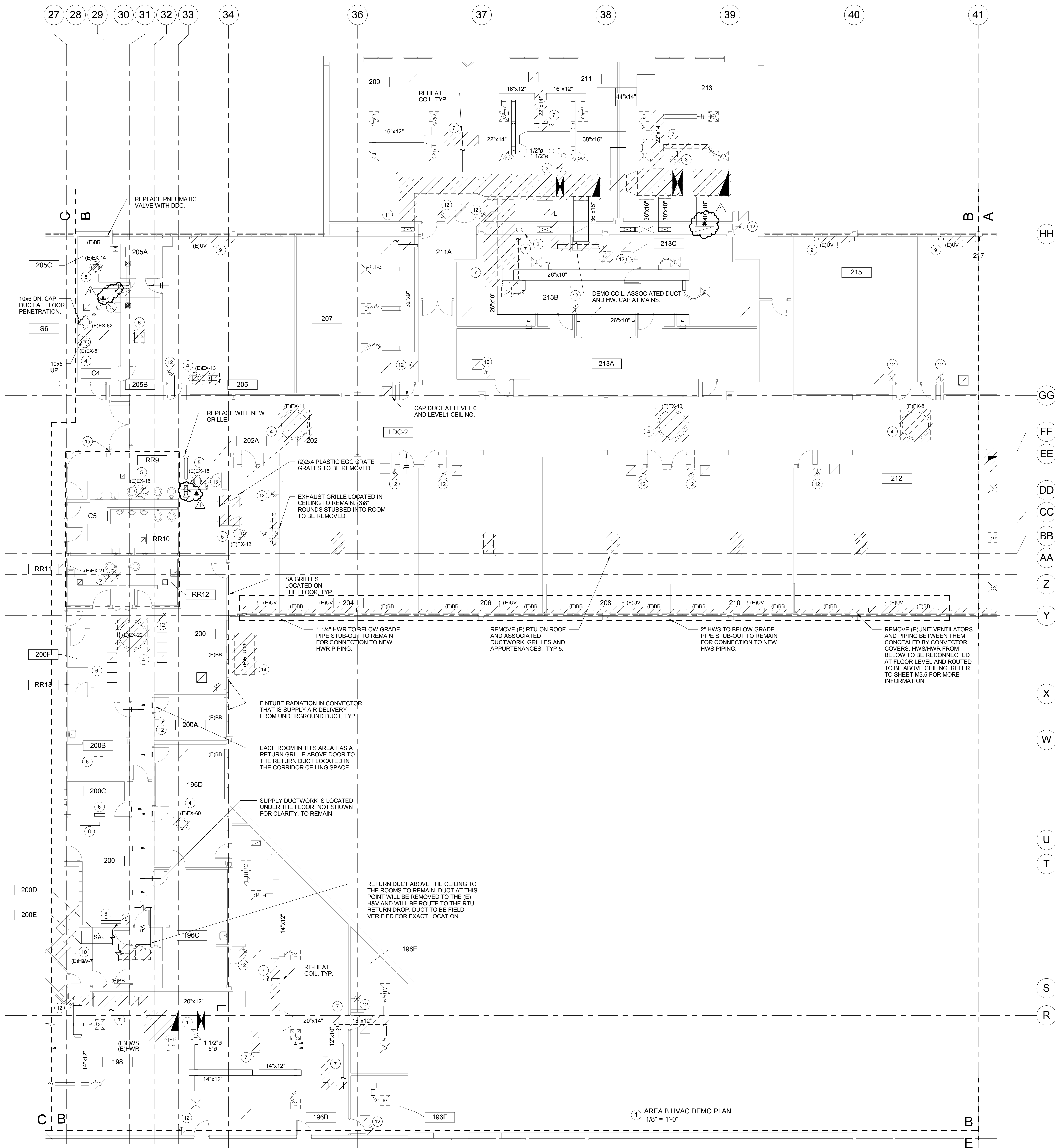
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AREA A HVAC DEMO PLAN

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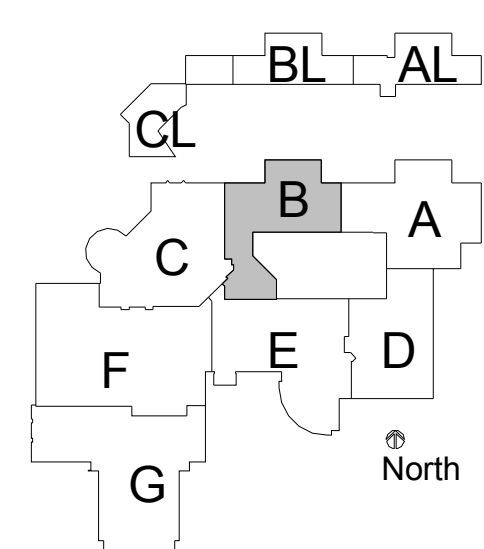




- NOTES:**
- EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY. TYP.
  - (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
  - ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
  - REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.

- FLAG NOTES:**
- REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU. HWS/R PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWS/R WILL BE RECONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
  - 2" HWS/HWR DN TO LEVEL 0.
  - REMOVE (E) RTU AND ASSOCIATED DUCTWORK AS SHOWN. HOT WATER PIPING TO RTU SHALL BE DISCONNECTED AND REMOVED BACK TO MAIN.
  - DEMO FAN, DAMPER, PNEUMATIC ACTUATOR AND CURB. REMOVE POWER. REFER TO ARCHITECT'S PLANS FOR ROOF PATCH DETAIL.
  - REMOVE AND REPLACE (E)EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
  - (E)FLOOR SUPPLY DIFFUSER TO REMAIN.
  - REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
  - DEMO EXISTING SPLIT SYSTEM FOR IT ROOM. NEW RTU TO BE INSTALLED.
  - (E)UV TO BE REMOVED. CAP/DEMO ASSOCIATED PIPING AND COORDINATE PATCHING WITH ARCHITECT. TYP.
  - REMOVE (E) H&V UNIT AND HWS/R CONNECTIONS BACK TO MAIN. UNDERGROUND SUPPLY DUCTWORK WILL BE REUSED AND CONNECTED TO NEW VAV BOX FOR THIS AREA.
  - REMOVE (E) HOT WATER REHEAT COIL AND HWS/R PIPING CONNECTIONS. REMOVE DUCTWORK UPSTREAM OF COIL AS SHOWN FOR PLACEMENT OF NEW VAV BOX.
  - REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
  - REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW LINE VOLTAGE THERMOSTAT.
  - DEMO DUCTWORK ASSOCIATED WITH RTU-25. COORDINATE WINDOW PATCHING WITH ARCHITECT.
  - WORK IN THIS AREA IS LIMITED TO NEW URINALS AND WATER CLOSETS AS A LIKE FOR LIKE REPLACEMENT AND REPLACING THE EXISTING ROOF MOUNTED EXHAUST FAN WITH NEW.

1 AREA B HVAC DEMO PLAN  
1/8" = 1'-0"



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AREA B HVAC DEMO PLAN

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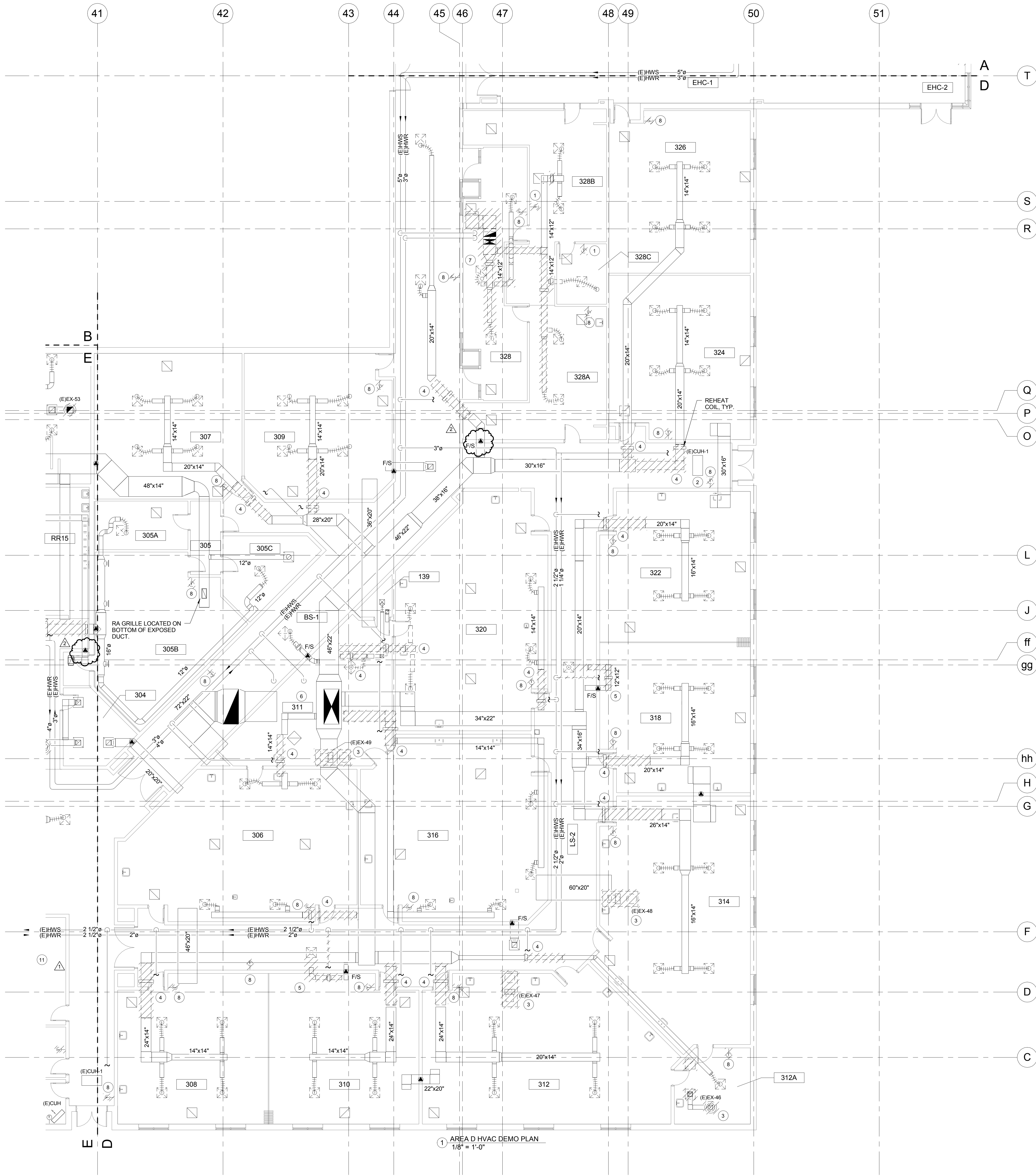
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1 AREA D HVAC DEMO PLAN  
1/8" = 1'-0"

NOTES:

1. EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
2. (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
3. ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
4. (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
5. REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.

FLAG NOTES:

- 1 REMOVE (E)PNEUMATIC THERMOSTAT AND COORDINATE PATCHING WITH ARCHITECT.
- 2 EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
- 3 REMOVE AND REPLACE (E)EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
- 4 REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
- 5 REMOVE (E) HOT WATER REHEAT COIL AND ASSOCIATED HOT WATER PIPING BACK TO RESPECTIVE MAINS. REHEAT COIL WILL NOT BE REPLACED WITH A VAV BOX. ASSOCIATED DUCT WITH FIRE-SMOKE DAMPER TO REMAIN FOR CONNECTION BETWEEN NEW VAV AND (E) DIFFUSER IN CORRIDOR.
- 6 REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU. 2" HWS/R PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWS/R WILL BE RECONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
- 7 REMOVE (E) RTU. ASSOCIATED DUCTWORK AND REHEAT COILS AS SHOWN. 1" HWS/R PIPING TO RTU AND REHEAT COILS SHALL BE DISCONNECTED AND REMOVED BACK TO MAIN. SUPPLY AND RETURN GRILLES AND ASSOCIATED BRANCH DUCTS SHALL REMAIN FOR CONNECTION TO NEW DUCTWORK. CAP CURB.
- 8 REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.

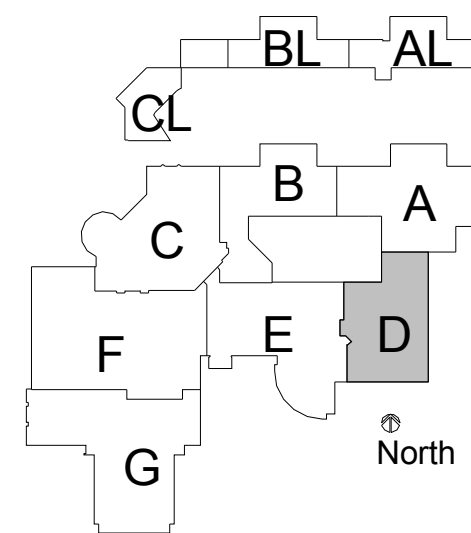
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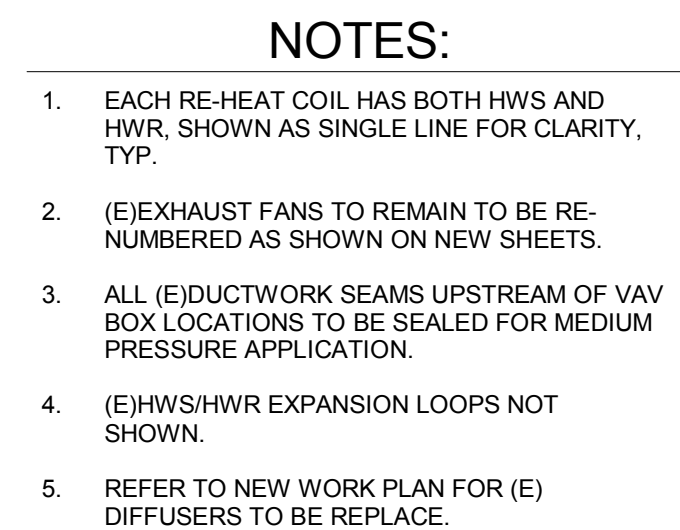
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19 Jan 2012		

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- 1 2HW5HSWR UP TO RTU LOCATED ON ROOF. PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWSR WILL BE DISCONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
- 2 1) UNIT CURRENTLY DOES NOT BLOW HOT AIR. DIAGNOSE AND REPAIR.
- 3 2) REMOVE AND REPLACE (E) EXHAUST FAN. EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E) PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS.
- 4 3) REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 4 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
- 5 4) REMOVE (E) HOT WATER REHEAT COIL. REMOVE ASSOCIATED DUCTWORK AND HOT WATER CONNECTION TO REHEAT COIL. MAINS REHEAT COIL WILL NOT BE REPLACED WITH A VAV BOX. ASSOCIATED SUPPLY DIFFUSER TO BE REMOVED FOR CONNECTION TO NEW DUCTWORK.
- 6 5) REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED. RE CONNECTION TO NEW RTU. EXISTING PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWSR WILL BE DISCONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
- 7 6) EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E) PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. INSTALL BALANCE VALVE.
- 8 7) REMOVE (E) HOT WATER REHEAT COIL AND ASSOCIATED DUCTWORK AS SHOWN. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
- 9 8) REMOVE (E) PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
- 10 9) EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E) PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
- 11 10) (E)BAS CONTROLLERS AND E/P SWITCHES.

A map of the study area showing the location of the study site (E) relative to other regions (A, B, C, D, F, G, CL, BL, AL). The map includes a north arrow.

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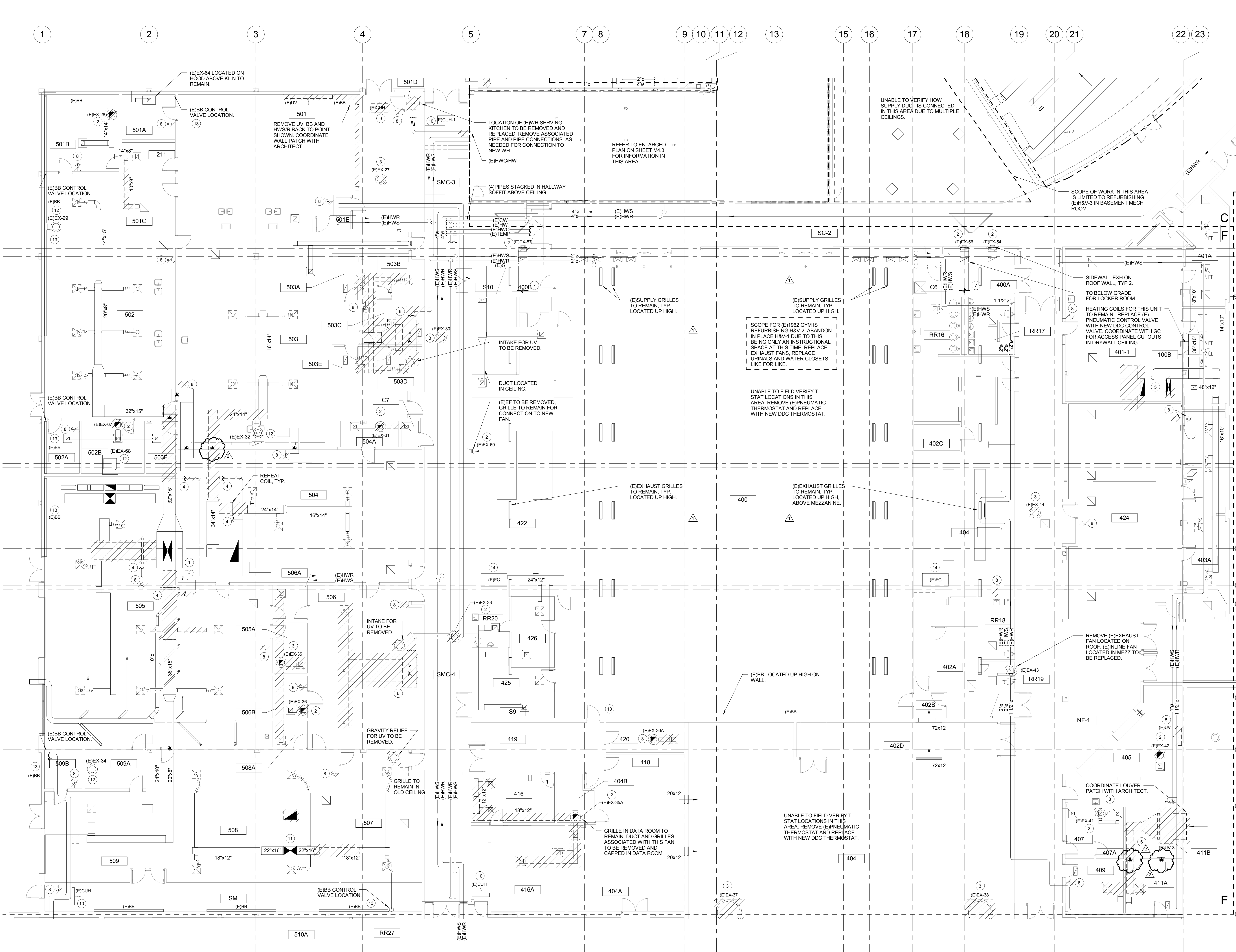
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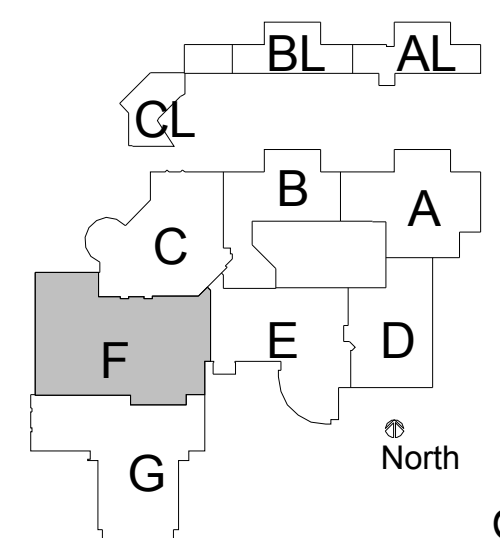
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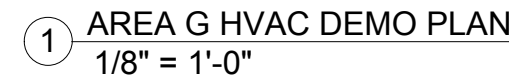


- NOTES:**
- EACH RE-HEAT COIL HAS BOTH HWS AND HWR, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
  - (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
  - ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
  - (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
  - REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACED.
- FLAG NOTES:**
- REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU. 1" HWS/R PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWS/R WILL BE RECONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
  - REMOVE AND REPLACE (E)EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
  - DEMO (E)EXHAUST FAN AND CURB. REMOVE POWER. REFER TO ARCHITECT'S PLANS FOR ROOF PATCH DETAILS.
  - REMOVE (E) HOT WATER REHEAT COIL AND APPROXIMATELY 8 FT OF DUCTWORK FOR INSTALLATION OF NEW VAV BOX. HOT WATER PIPING CONNECTION TO BE REMOVED AND RECONNECTED TO NEW VAV BOX REHEAT COIL.
  - REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AS NEEDED FOR CONNECTION TO NEW RTU. REMOVE RETURN DUCT. 2" HWS/R PIPING TO BE DISCONNECTED AND DEMOED AS NEEDED FOR REMOVAL OF RTU. HWS/R WILL BE RECONNECTED TO NEW RTU IN APPROXIMATE LOCATION.
  - REMOVE (E) UNIT VENTILATOR. ASSOCIATED DUCTWORK AND HEATING COILS AS SHOWN. HOT WATER PIPING TO UV SHALL BE DISCONNECTED AND REMOVED BACK TO MAIN. SUPPLY AND RETURN GRILLES AND ASSOCIATED BRANCH DUCTS SHALL BE REMOVED.
  - DUCTWORK LOCATED UNDERGROUND, NOT SHOWN FOR CLARITY. DUCTWORK EXHAUSTS LOCKERS IN LOCKER ROOM AND SHALL REMAIN.
  - REMOVE (E)PNEUMATIC THERMOSTAT AND REPLACE WITH NEW DDC THERMOSTAT.
  - EXISTING CABINET UNIT HEATER LOCATED ABOVE CEILING NOT IN USE, TO BE REMOVED.
  - EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
  - REMOVE (E) RTU. REMOVE ASSOCIATED DUCT CONNECTIONS AND DROPS AS NEEDED FOR CONNECTION TO NEW RTU.
  - (E)EXHAUST FAN TO REMAIN.
  - EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) BASEBOARD HEATERS NOT BEING REMOVED. INSTALL BALANCE VALVE.
  - (E)FEN COIL TO REMAIN. INSTALL DDC CONTROL VALVE AND BALANCE VALVE IN RETURN PIPING.



1 AREA F HVAC DEMO PLAN  
1/8" = 1'-0"



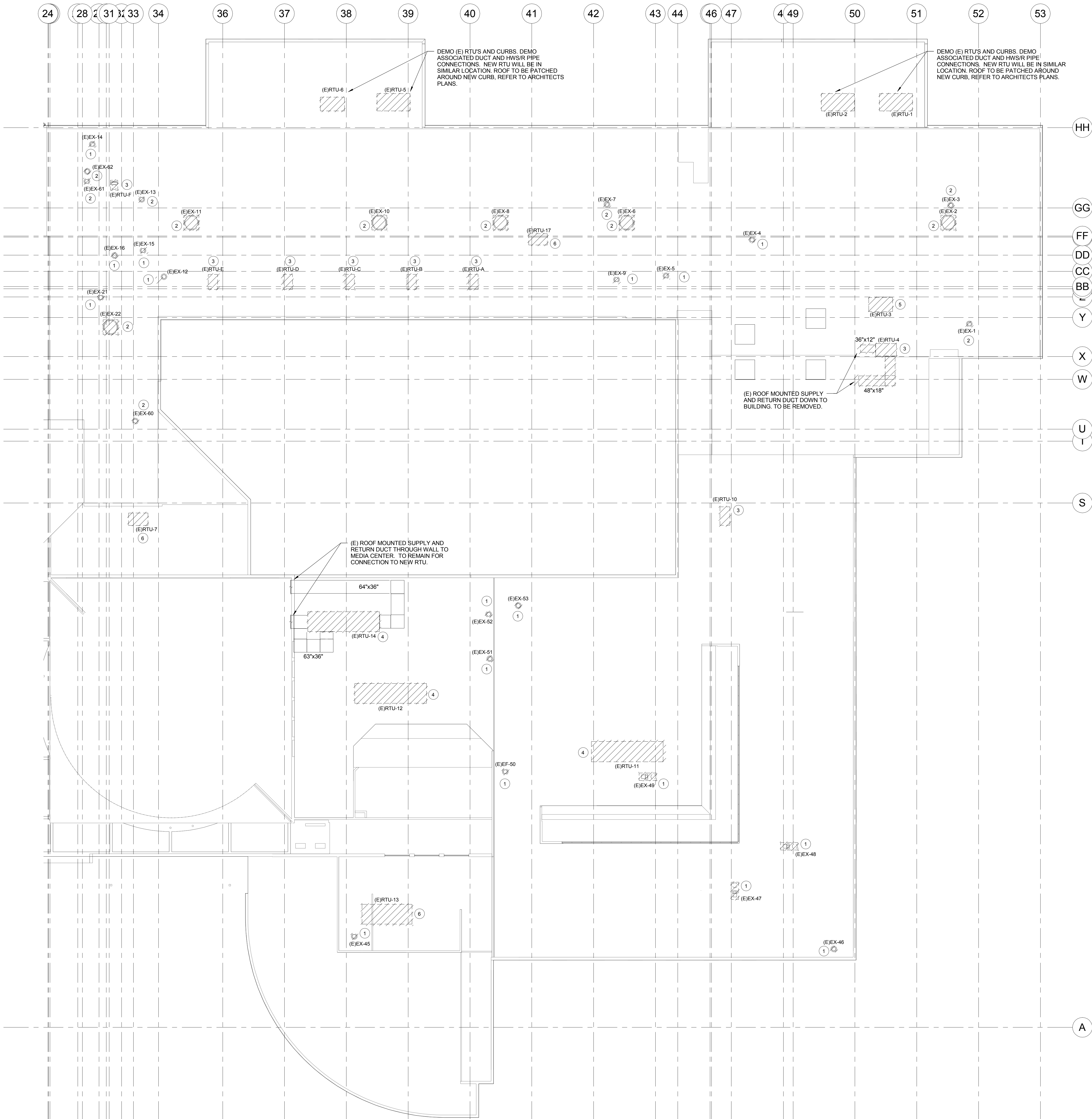


1. EACH RE-HEAT COIL HAS BOTH HWS AND HW/R, SHOWN AS SINGLE LINE FOR CLARITY, TYP.
2. (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
3. ALL (E)DUCTWORK SEAMS UPSTREAM OF VAV BOX LOCATIONS TO BE SEALED FOR MEDIUM PRESSURE APPLICATION.
4. (E)HWS/HWR EXPANSION LOOPS NOT SHOWN.
5. REFER TO NEW WORK PLAN FOR (E) DIFFUSERS TO BE REPLACE.

- (1) DEMO TWO (E)JCURL CUMPS IN THIS ROOM. RECONNECT SUMP AND RETURN PUMP FOR CONTINUOUS FLOW TO (E)JCURLS AND PIPE BEING REMOVED.
- (2) REMOVE AND REPLACE (E)XHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)JCURL CAN BE USED PRIOR TO ORDERING. COORDINATE WITH (E)JCURL WITH GC.
- (3) (E) HAV UNIT TO BE REMOVED. REMOVE HOT WATER PIPING AND DUCTWORK CONNECTIONS. DUCTWORK UPSTREAM OF HAV UNIT TO REMAIN. DUCTWORK AND GRILL DOWNSTREAM OF HAV UNIT TO BE REMOVED ENTIRELY.
- (4) (E) LOUVER TO OUTSIDE TO BE REMOVED. DUCTWORK SHALL REMAIN FOR CONNECTION TO EXISTING DUCTWORK AND RTU WHICH WILL BE ON THE ROOF.
- (5) (E) UNIT VENTILATOR, LOUVER, HOT WATER AND APPURTENANCES TO BE REMOVED. REMOVE HOT WATER BACK TO NEAREST POINT ON MAIN.
- (6) 3-WAY VALVE LOCATED IN THIS ROOM FOR FERTILIZER SHALL BE REPLACED WITH 2-WAY DDC VALVE.
- (7) REMOVE (E)PNEUMATIC THERMOSTAT AND EXISTING WITH NEW DDC THERMOSTAT.
- (8) EXISTING CABINET UNIT HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) CABINET UNIT HEATERS. INSTALL BALANCE VALVE.
- (9) EXISTING BASEBOARD HEATER TO REMAIN. REPLACE (E)PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. TYP ALL (E) BASEBOARD HEATERS. INSTALL BALANCE VALVE.
- (10) REPEAT COIL TO REMAIN. REPLACE (E) PNEUMATIC CONTROL VALVE WITH NEW DDC CONTROL VALVE. COORDINATE WITH GC FOR ACCESS PANEL CUTOUTS IN DRYWALL CEILING.
- (11) (E)BAS CONTROLLERS AND E/P SWITCHES



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NOTES:

- (E) EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
- (E) SLEEPERS USED TO SUPPORT CONDENSING UNITS FOR RTUS TO BE REMOVED. REFER TO ARCHITECTS PLANS FOR ROOF PATCH DETAILS.

FLAG NOTES:

- REMOVE AND REPLACE (E) EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E) CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
- DEMO (E) FAN AND CURB. REMOVE POWER. REFER TO ARCHITECTS PLANS FOR ROOF PATCH DETAIL.
- DEMO (E) RTU, DUCT CONNECTIONS AND ASSOCIATED HW/SR PIPING. DEMO (E) CURB. REFER TO ARCHITECTS PLANS FOR ROOF PATCH DETAILS.
- DEMO (E) RTU, DUCT CONNECTIONS AND ASSOCIATED HW/SR PIPING. (E) CURB TO REMAIN FOR REUSE WITH NEW RTU. DUCTS AND HW/SR TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.
- DEMO (E) RTU, DUCT CONNECTIONS AND ASSOCIATED HW/SR PIPING. (E) STRUCTURAL BEAMS ON ROOF TO REMAIN. DUCTS AND HW/SR TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.
- DEMO (E) RTU, DUCT CONNECTIONS AND ASSOCIATED HW/SR PIPING. (E) CURB TO BE REMOVED FOR INSTALLATION OF LARGER CURB FOR NEW UNIT. DUCTS AND HW/SR TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.

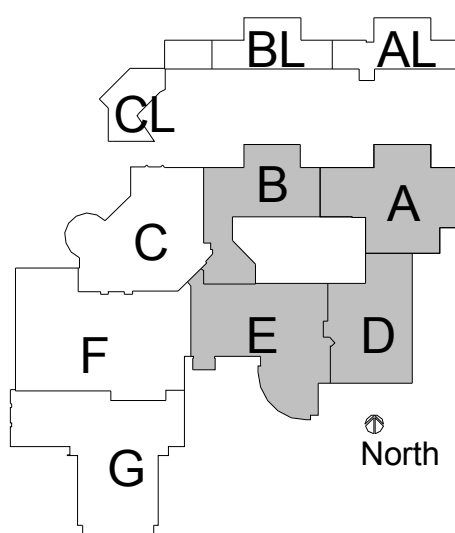
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MECHANICAL DEMO ROOF PLAN

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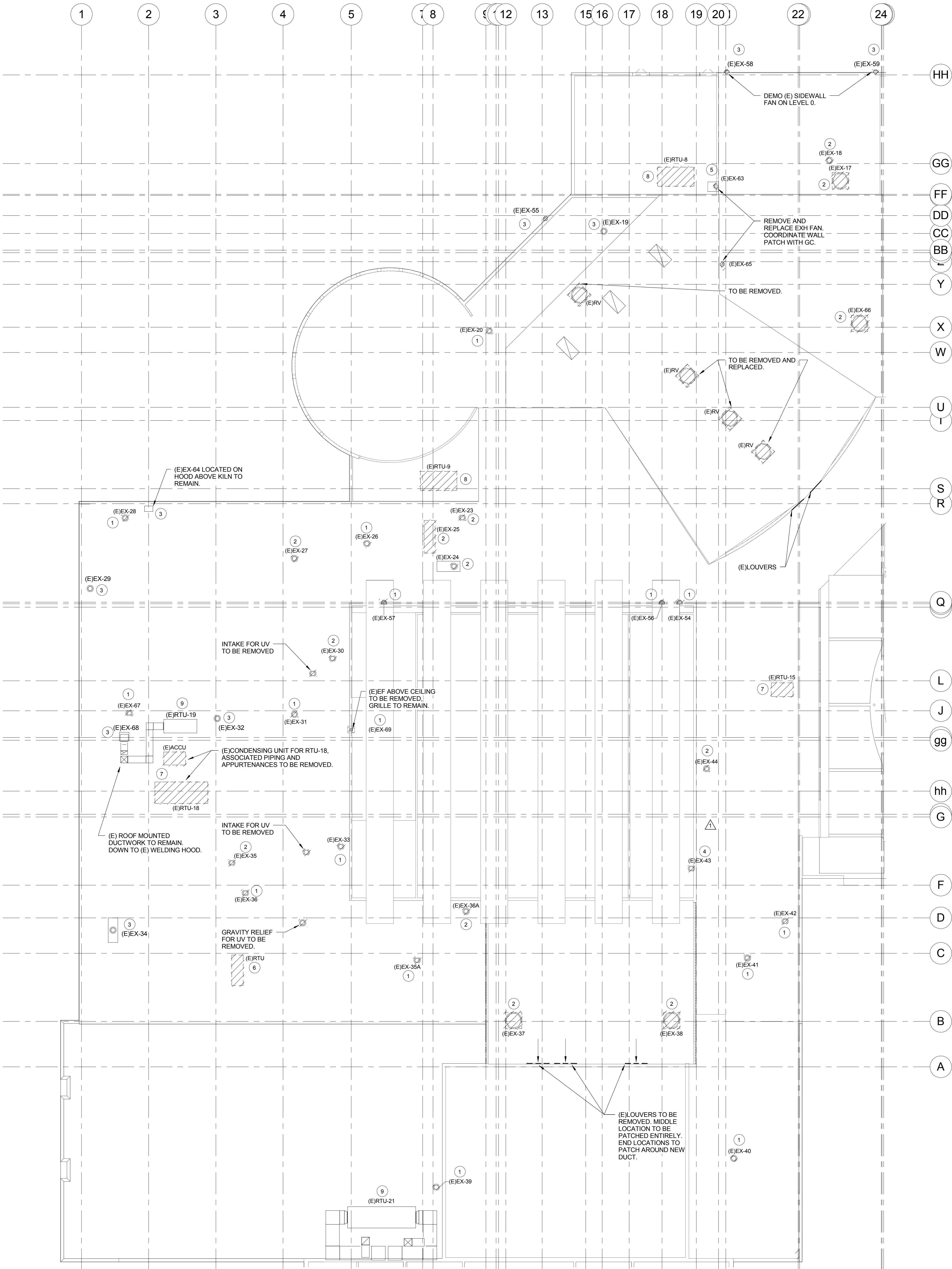
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NOTES:

- (E)EXHAUST FANS TO REMAIN TO BE RE-NUMBERED AS SHOWN ON NEW SHEETS.
- (E) SLEEPERS USED TO SUPPORT CONDENSING UNITS FOR RTUS TO BE REMOVED. REFER TO ARCHITECTS PLANS FOR ROOF PATCH DETAILS.

FLAG NOTES:

- REMOVE AND REPLACE (E) EXHAUST FAN. BID SHALL INCLUDE NEW ROOF CURB. CONTRACTOR TO VERIFY IF (E)CURB CAN BE USED PRIOR TO ORDERING. COORDINATE ROOF WORK WITH GC.
- DEMO (E) FAN AND CURB. REMOVE POWER. REFER TO ARCHITECTS PLANS FOR ROOF PATCH DETAIL.
- (E)EXHAUST FAN TO REMAIN. EXHAUST FAN SHALL BE RENUMBERED ON NEW SHEETS.
- REMOVE (E)EXHAUST FAN LOCATED ON ROOF. (E)INLINE FAN LOCATED IN MEZZ TO BE REPLACED. DUCTWORK TO ROOF WILL TERMINATE ON ROOF WITH GRAVITY VENTILATOR. REFER TO SHEET M2.12.
- REMOVE AND REPLACE (E)EXHAUST FAN. (E) SIDEWALL EXHAUST FAN LOCATED ON LEVEL 0, NOT ROOF. SHOWN FOR CLARITY.
- DEMO (E) RTU. DUCT CONNECTIONS AND ASSOCIATED GAS PIPING BACK TO MAIN. (E) CURB TO REMAIN FOR REUSE WITH NEW RTU. DUCTS TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.
- DEMO (E) RTU. DUCT CONNECTIONS AND ASSOCIATED HWS/R PIPING. (E) STRUCTURAL BEAMS ON ROOF TO REMAIN. DUCTS AND HWS/R TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.
- DEMO (E) RTU. DUCT CONNECTIONS AND ASSOCIATED HWS/R PIPING. (E) CURB TO BE REMOVED FOR INSTALLATION OF LARGER CURB FOR NEW UNIT. DUCTS AND HWS/R TO BE RECONFIGURED FOR CONNECTION TO NEW RTU.
- (E)RTU TO REMAIN. REFURBISH WITH NEW DDC CONTROLS.

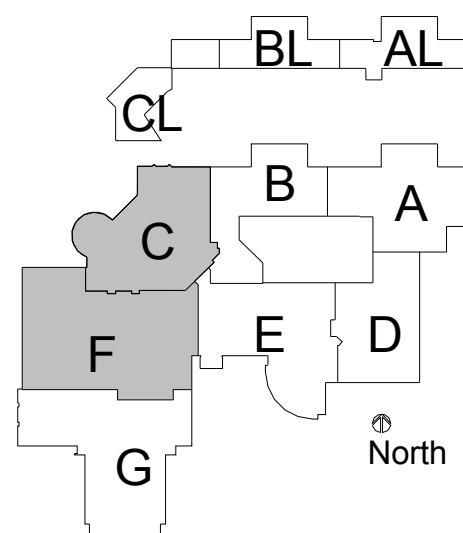
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