

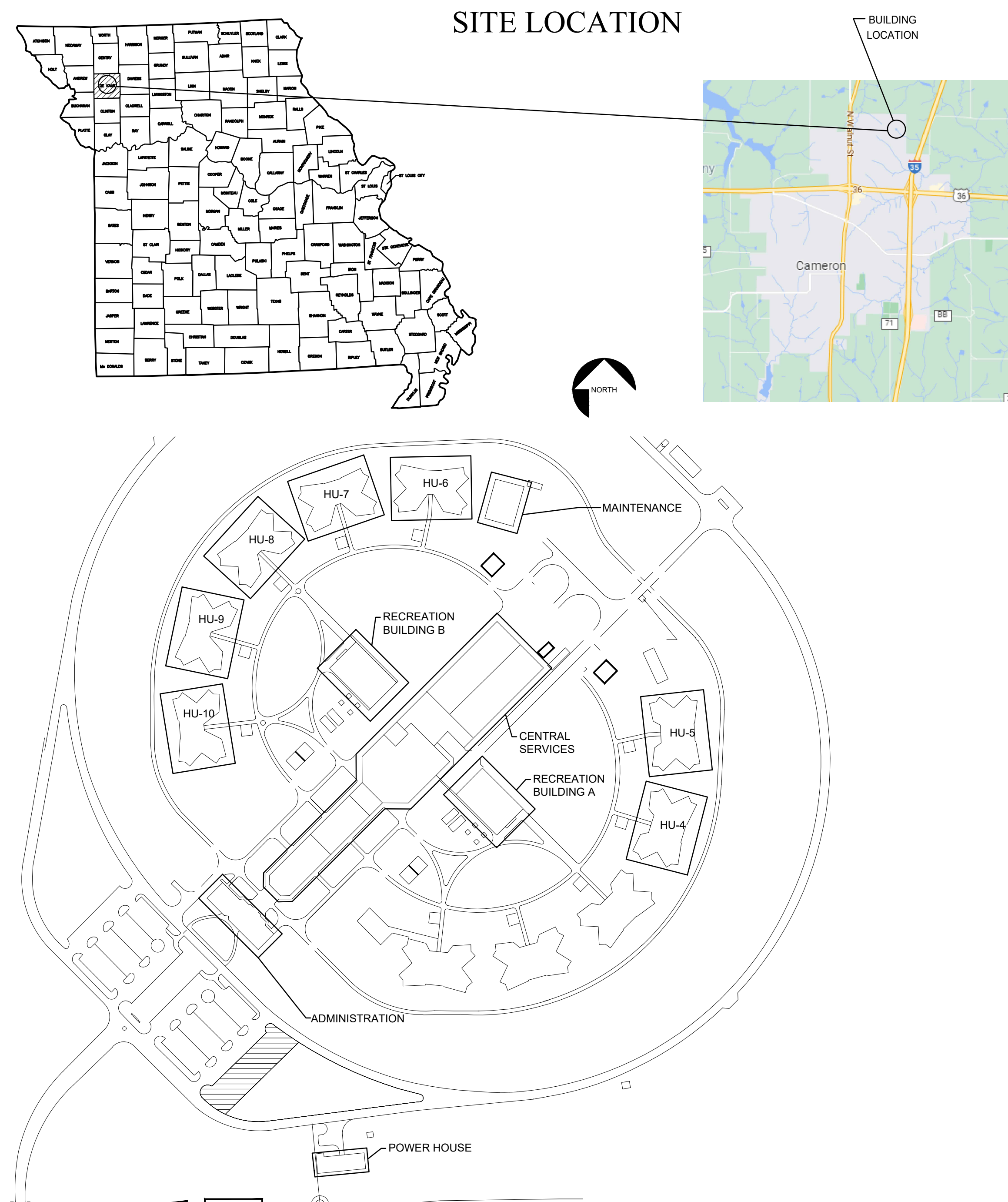
FACILITY HEATING REPLACEMENTS

WESTERN MISSOURI CORRECTIONAL CENTER

CAMERON, MISSOURI

SHEET INDEX:

| | |
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SITE LOCATION

DESIGNER: LANKFORD FENDLER + ASSOCIATES
 ALEX MALYAROV
 ALEXM@LANKFORDFENDLER.COM
 816-221-1411

PROJECT NUMBER: C2316-01

SITE NUMBER: 7011
ASSET NUMBER: 9327011021 9327011029
 9327011022 9327011035
 9327011023 9327011036
 9327011024 9327011037
 9327011025 9327011040
 9327011026
 9327011027
 9327011028

OWNER: STATE OF MISSOURI
 MICHAEL L. PARSON,
 GOVERNOR
 DEPARTMENT OF CORRECTIONS

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES MANAGEMENT,
 DESIGN AND CONSTRUCTION



+ associates

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UPDATE FACILITY
HEATING, MULTIPLE
ASSETS

WESTERN MISSOURI
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609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011028

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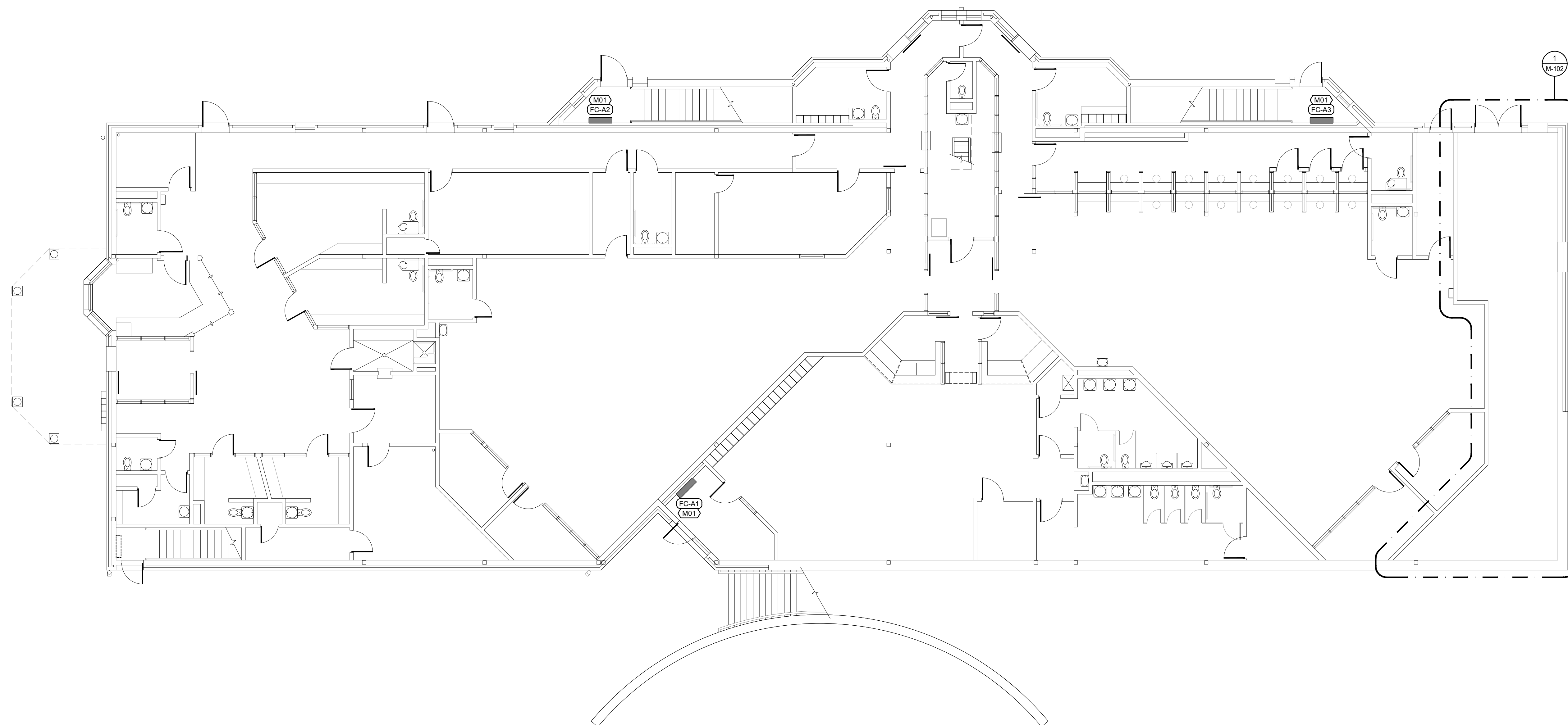
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
ADMINISTRATION
BUILDING - 1ST FLOOR

SHEET NUMBER:

M-100

2 OF 18 SHEETS
04/05/2024



FIRST FLOOR ADMINISTRATION PLAN-MECHANICAL
SCALE: 1/8"=1'-0"

FLOOR PLAN NOTES

1. REPLACE EXISTING FAN COIL WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 4 FOR ADDITIONAL INFORMATION.



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SITE # 7011
ASSET # 9327011028

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DATE: _____
REVISION: _____
DATE: _____

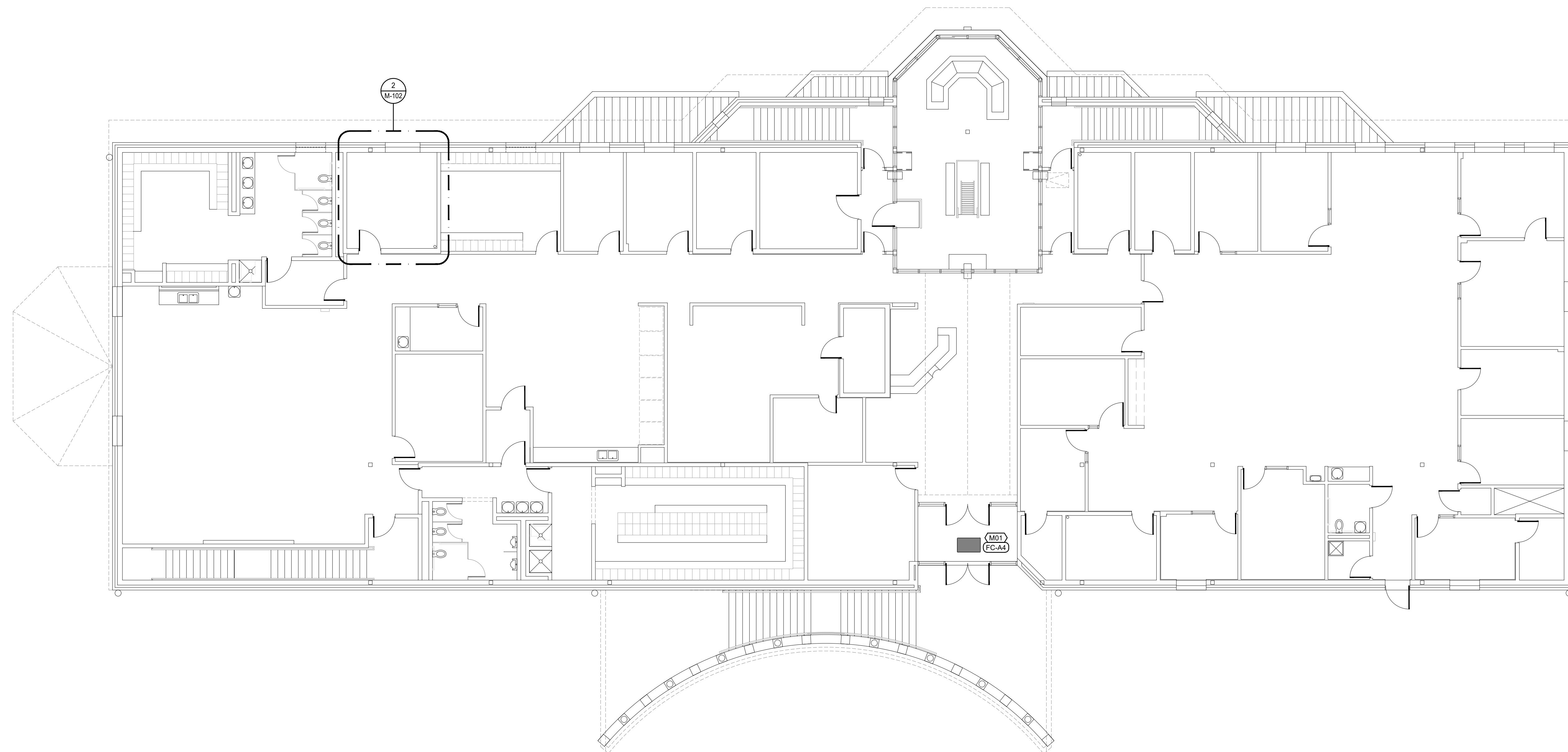
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
ADMINISTRATION
BUILDING - 2ND FLOOR

SHEET NUMBER:

M-101

3 OF 18 SHEETS
04/05/2024

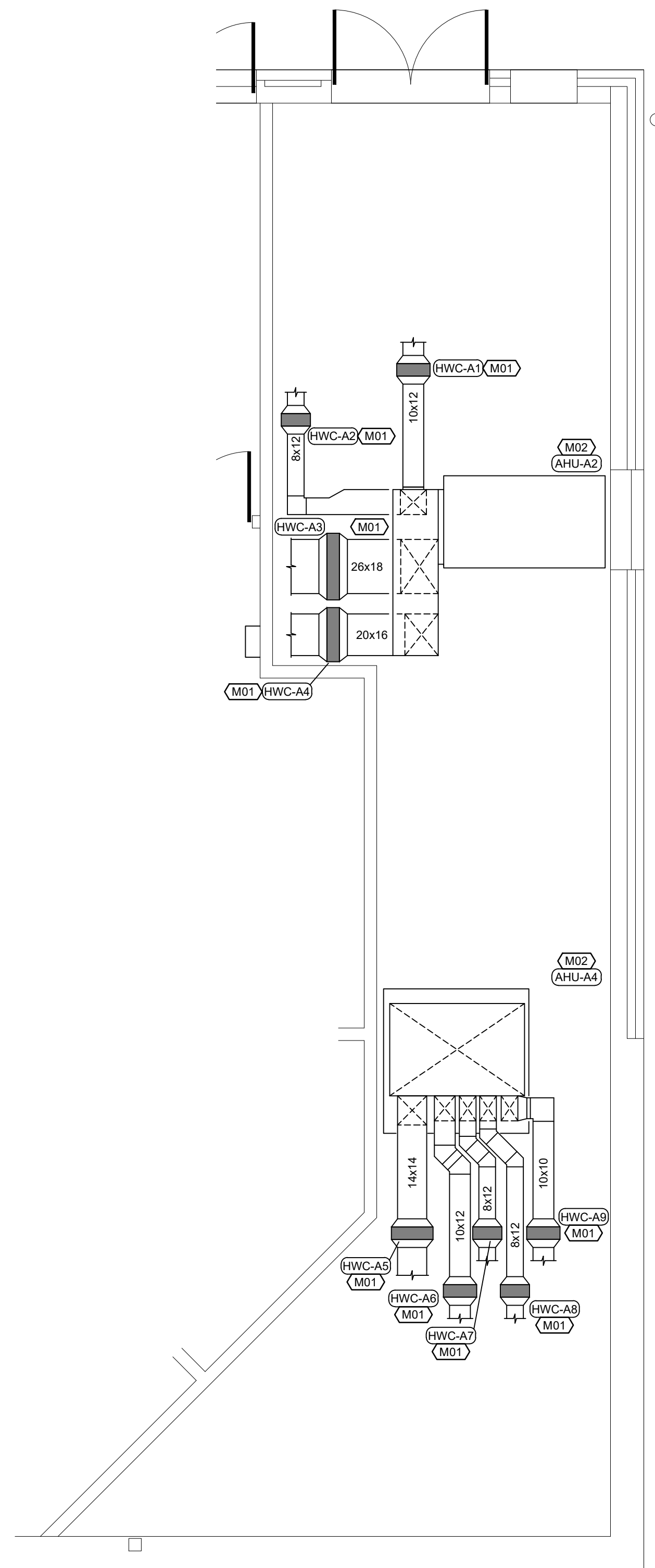


SECOND FLOOR ADMINISTRATION PLAN-MECHANICAL

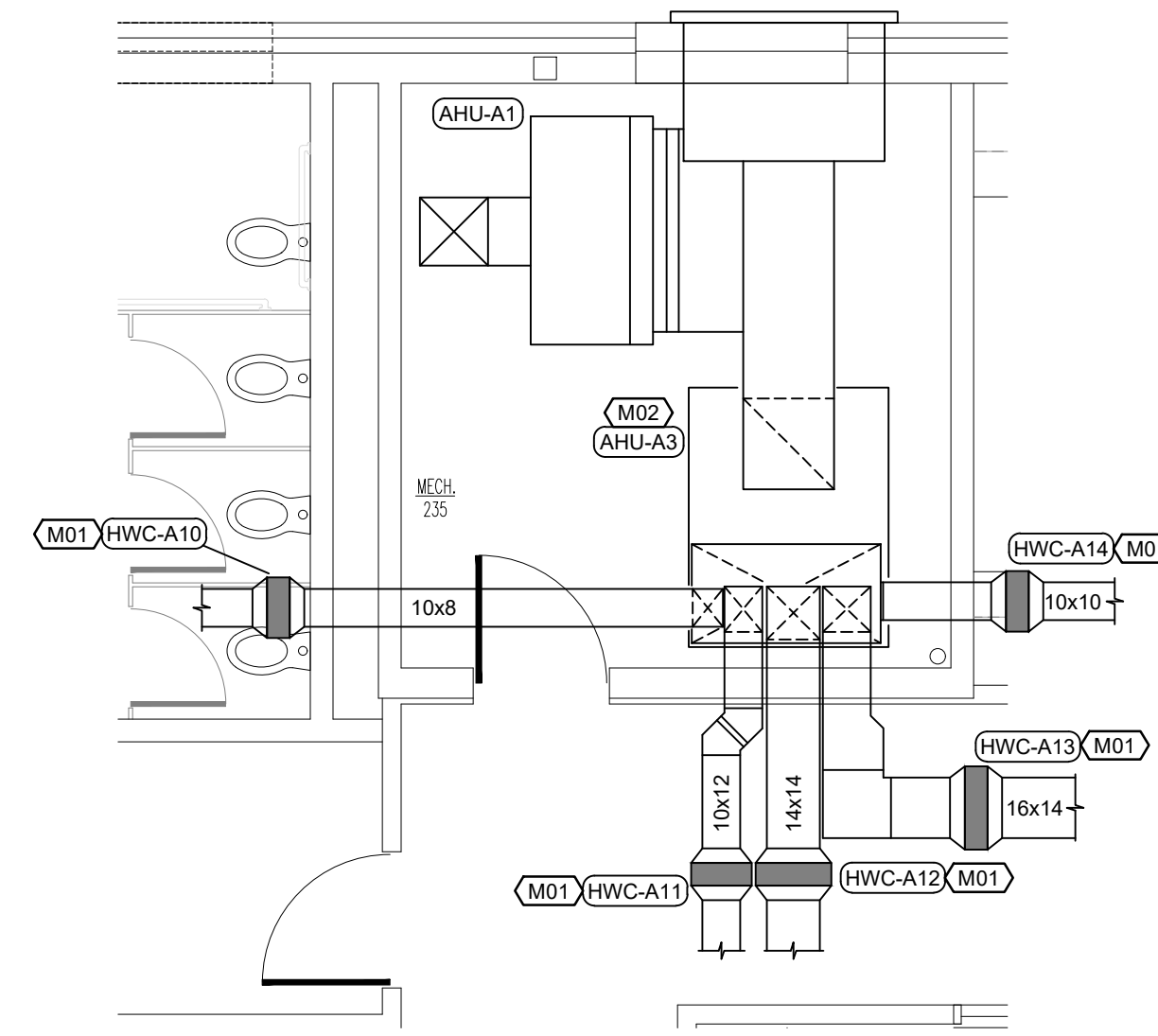
SCALE: 1/8"=1'-0"

MECH FLOOR PLAN NOTES

1. REPLACE EXISTING FAN COIL WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 4 FOR ADDITIONAL INFORMATION.



1-ENLARGED MECHANICAL 113
FIRST FLOOR PLAN-MECHANICAL
 SCALE: 1/4"=1'-0"



2-ENLARGED SECOND
FLOOR PLAN-MECHANICAL
 SCALE: 1/4"=1'-0"

FLOOR PLAN NOTES

1. REPLACE EXISTING DUCT HOT WATER COIL (SPECIFICATION 238216.11) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 8 FOR ADDITIONAL INFORMATION.
2. EXISTING AIR HANDLING UNIT TO REMAIN.



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 SITE # 7011
 ASSET # 9327011028

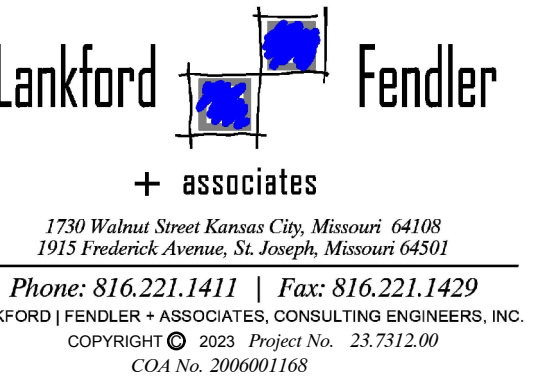
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 DATE: _____
 REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
 ENLARGED MECHANICAL
 PLANS ADMINISTRATION
 BUILDING

SHEET NUMBER:

M-102



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UPDATE FACILITY
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CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011037

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
MAINTENANCE
BUILDING

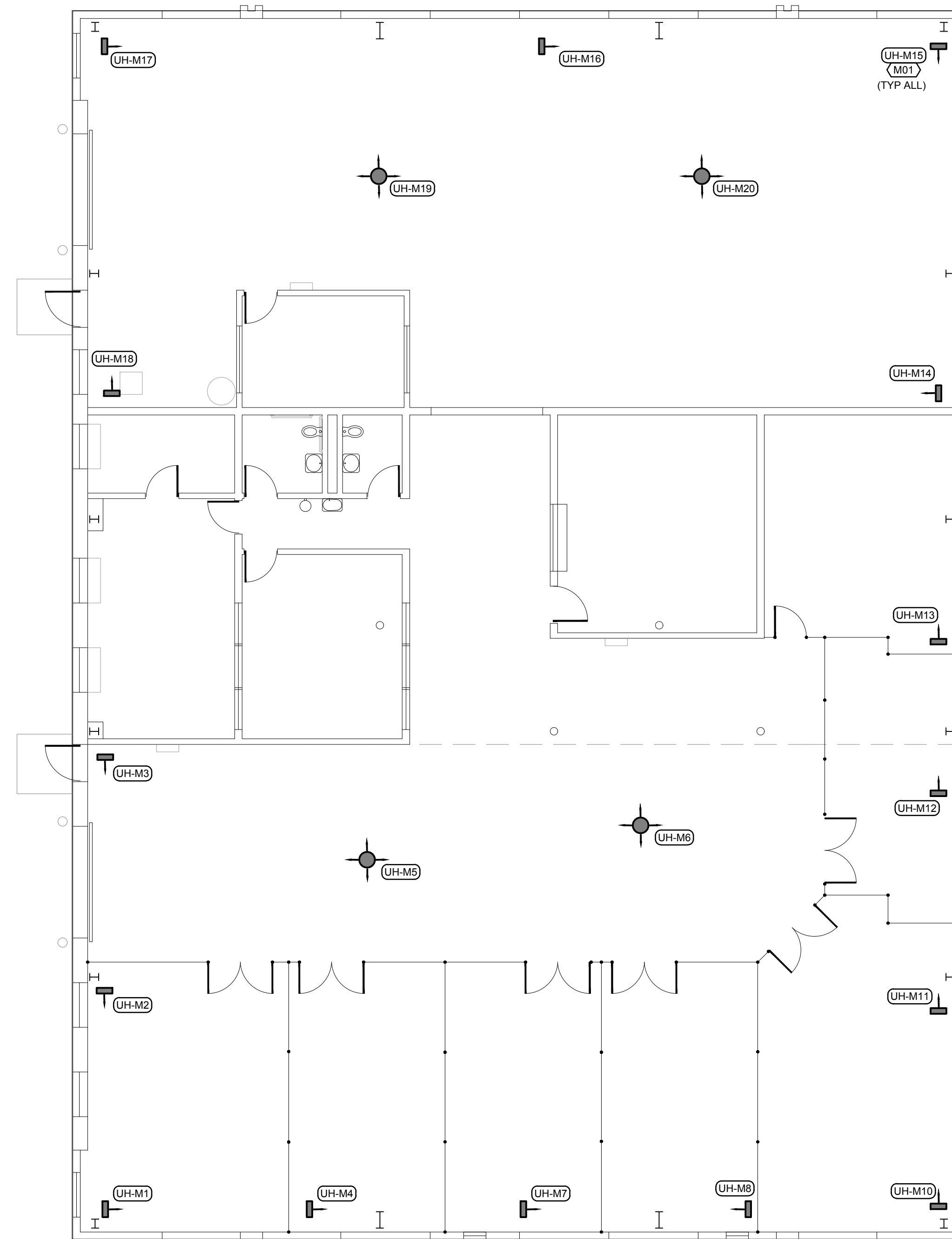
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M-103

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04/05/2024

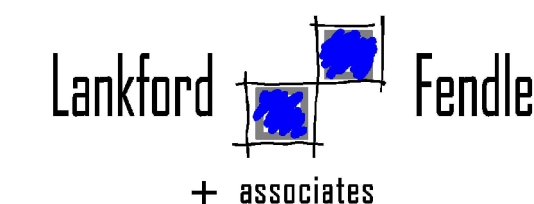
FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.



MAINTENANCE BUILDING FLOOR PLAN-MECHANICAL

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



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PROJECT # C2316-01
SITE # 7011
ASSET # 9327011040

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DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
POWER HOUSE

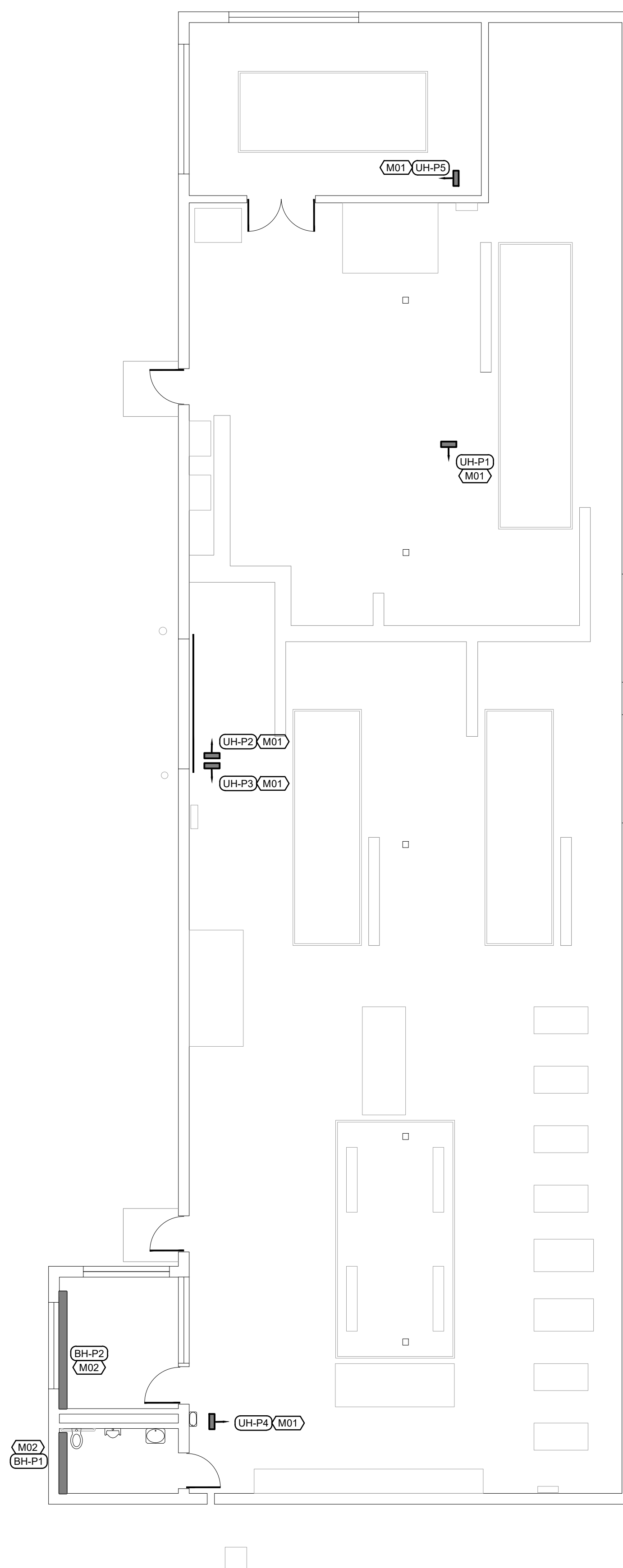
SHEET NUMBER:

M-104

6 OF 18 SHEETS
04/05/2024

FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.
2. REPLACE EXISTING BASEBOARD HEATER (SPECIFICATION 238233) WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 4 FOR ADDITIONAL INFORMATION.



POWER HOUSE FLOOR PLAN-MECHANICAL
SCALE: 1/8"=1'-0"



+ associates

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SITE # 7011
ASSET # 9327011035

REVISION: _____
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REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
RECREATION BUILDING A

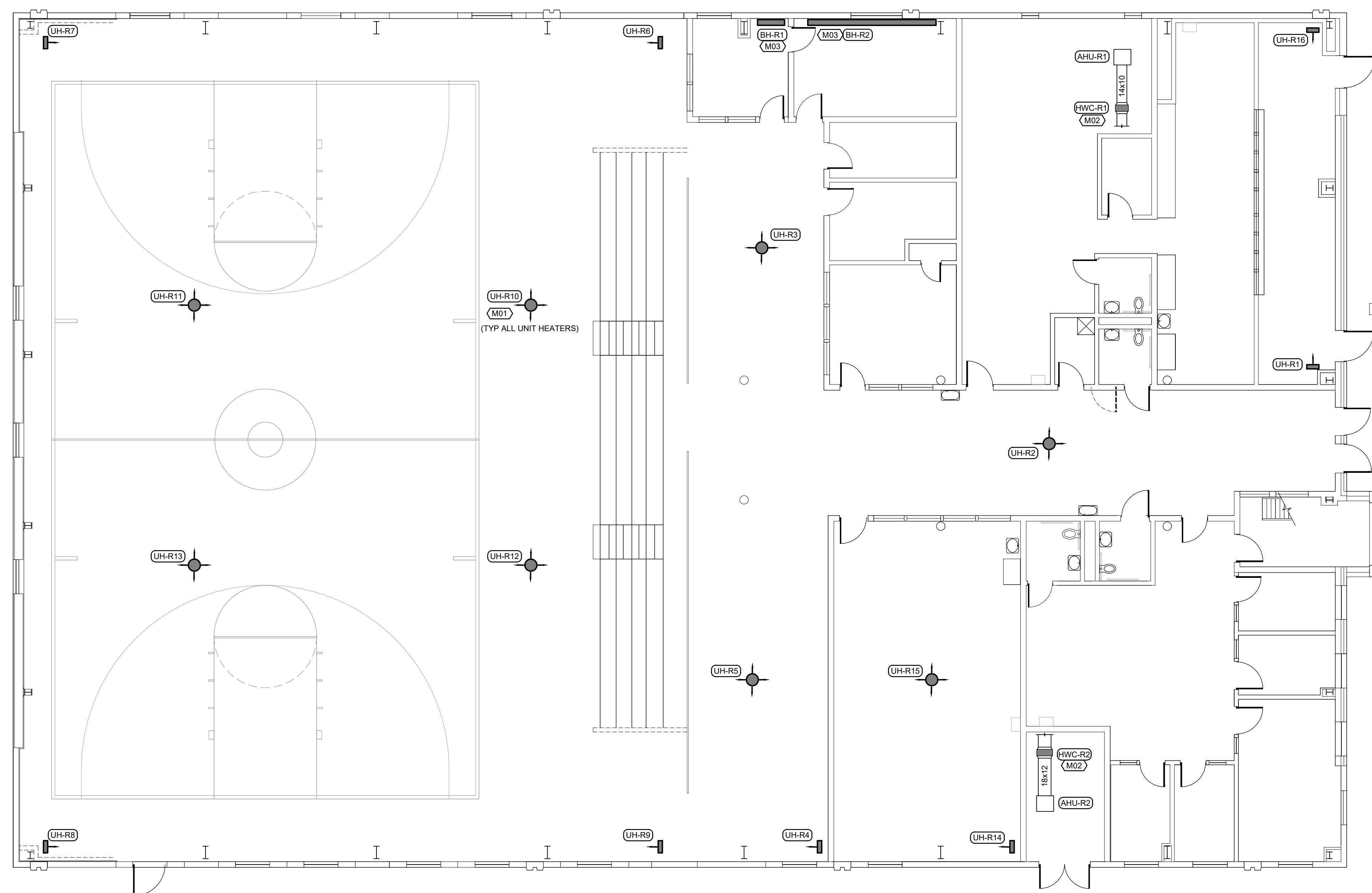
SHEET NUMBER:

M-105

7 OF 18 SHEETS
04/05/2024

FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.
2. REPLACE EXISTING DUCT HEATING HOT WATER COIL (SPECIFICATION 238216.11) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 8 FOR ADDITIONAL INFORMATION.
3. REPLACE EXISTING CONVECTIVE BASEBOARD HEATER (SPECIFICATION 238233) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 7 FOR ADDITIONAL INFORMATION.



RECREATION BUILDING A FLOOR PLAN-MECHANICAL
SCALE: 1/8"=1'-0"



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SITE # 7011
ASSET # 9327011036

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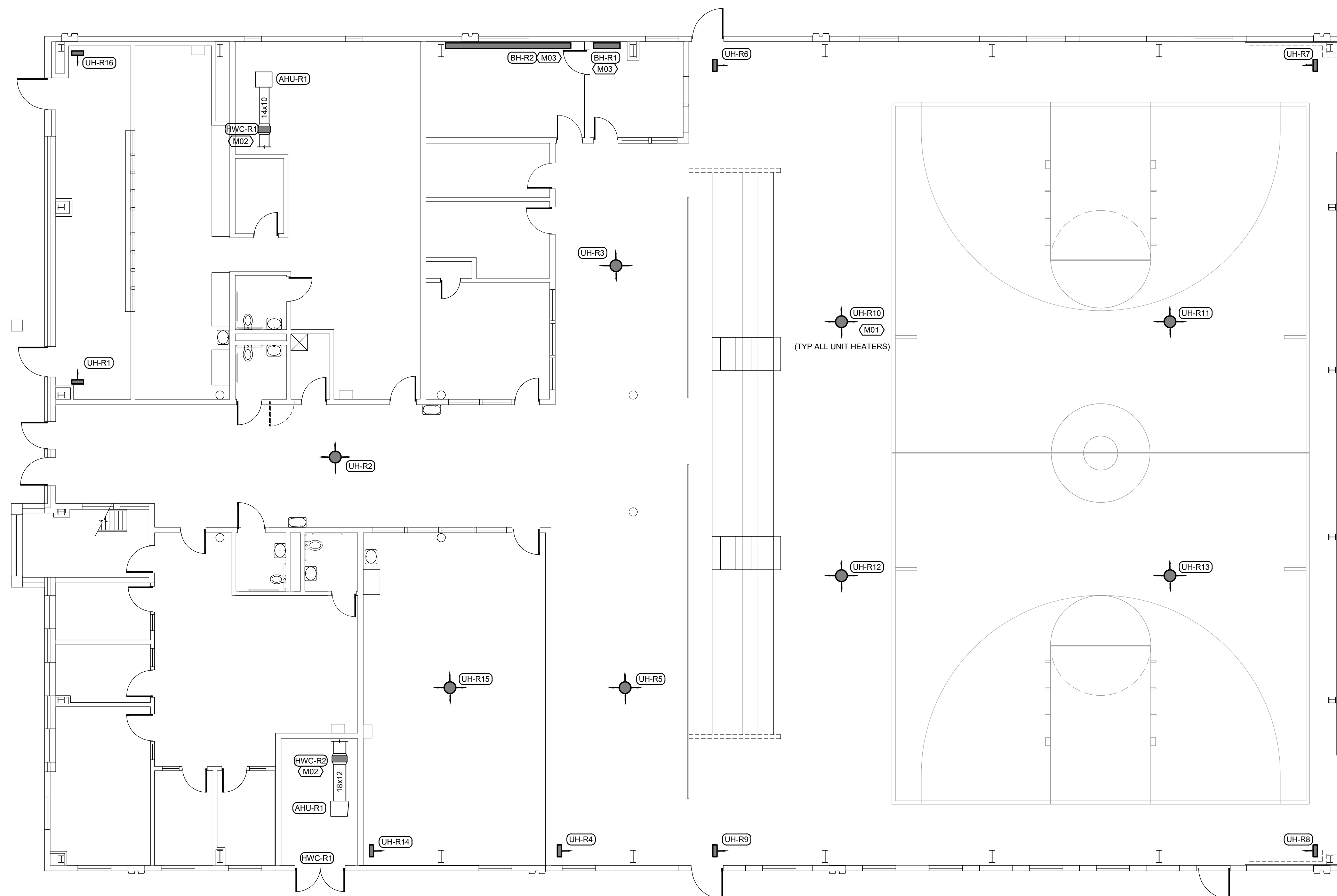
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
RECREATION BUILDING B
(ALTERNATE NO. 2)

SHEET NUMBER:

M-106

8 OF 18 SHEETS
04/05/2024

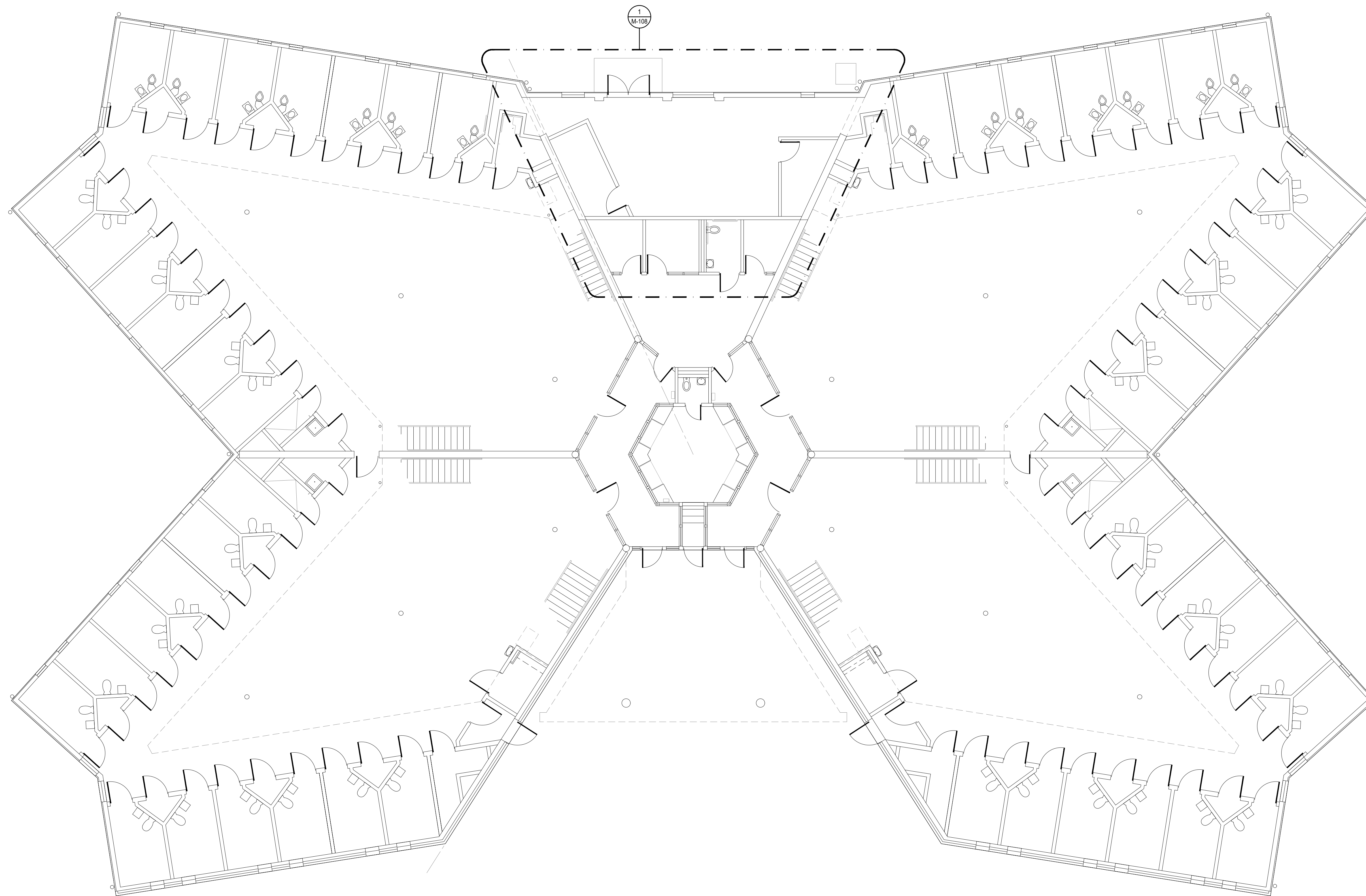


FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238230.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.
2. REPLACE EXISTING DUCT HEATING HOT WATER COIL (SPECIFICATION 238216.11) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 8 FOR ADDITIONAL INFORMATION.
3. REPLACE EXISTING CONVECTIVE BOARD HEATER (SPECIFICATION 238233) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 7 FOR ADDITIONAL INFORMATION.

RECREATION BUILDING B (ALTERNATE NO. 2) FLOOR PLAN-MECHANICAL

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



HOUSING UNIT 1 THRU 5, 6 THRU 8 (ALTERNATE NO. 1), 9 & 10 (ALTERNATE NO. 2) FLOOR PLAN-MECHANICAL
 SCALE: 1/8"=1'-0"



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PROJECT # C2316-01
 SITE # 7011
 ASSET # 9327011021-027

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 DATE: _____
 REVISION: _____
 DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
 MECHANICAL PLAN
 HOUSING UNITS
 4 & 5, 6 THRU 8
 (ALTERNATE NO. 1), 9 &
 10 (ALTERNATE NO. 2)

SHEET NUMBER:

M-107

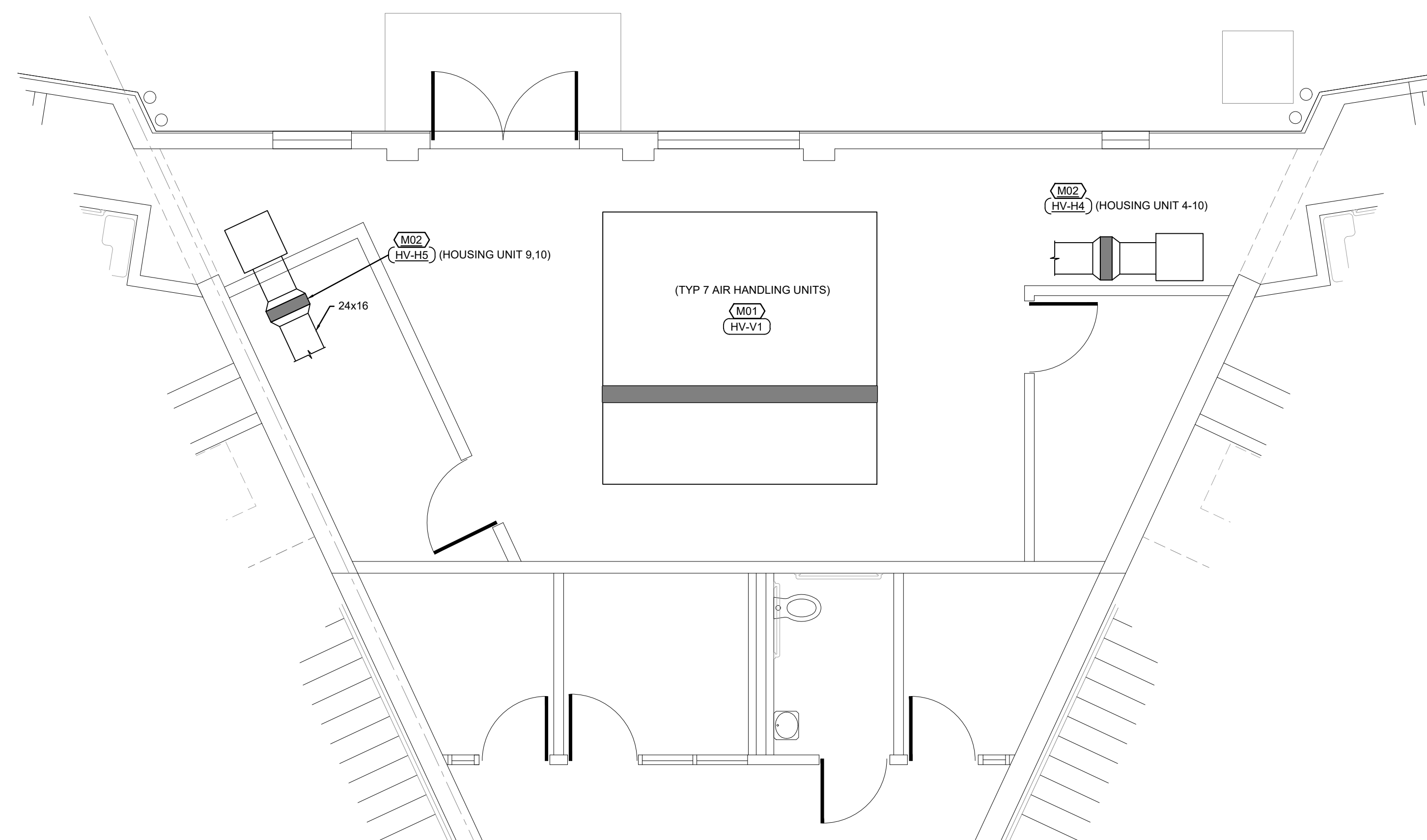


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M## FLOOR PLAN NOTES

1. REPLACE EXISTING HOT WATER COIL (SPECIFICATION 238216.11) IN AIR HANDLING UNIT WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 1 FOR ADDITIONAL INFORMATION.
2. REPLACE EXISTING DUCT HOT WATER COIL (SPECIFICATION 238216.11) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 8 FOR ADDITIONAL INFORMATION. CONFIRM EXISTING UNIT AIRFLOW IN HEATING MODE PRIOR TO ORDERING NEW COIL.



1 - ENLARGED FLOOR PLAN-MECHANICAL

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

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SITE # 7011
ASSET # 9327011021-027

REVISION: _____
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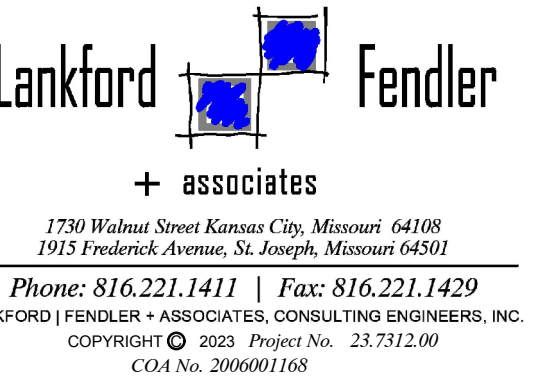
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL ENLARGED
FLOOR PLAN HOUSING
UNITS 4 & 5, 6 THRU 8
(ALTERNATE NO. 1), 9 &
10 (ALTERNATE NO. 2)

SHEET NUMBER:

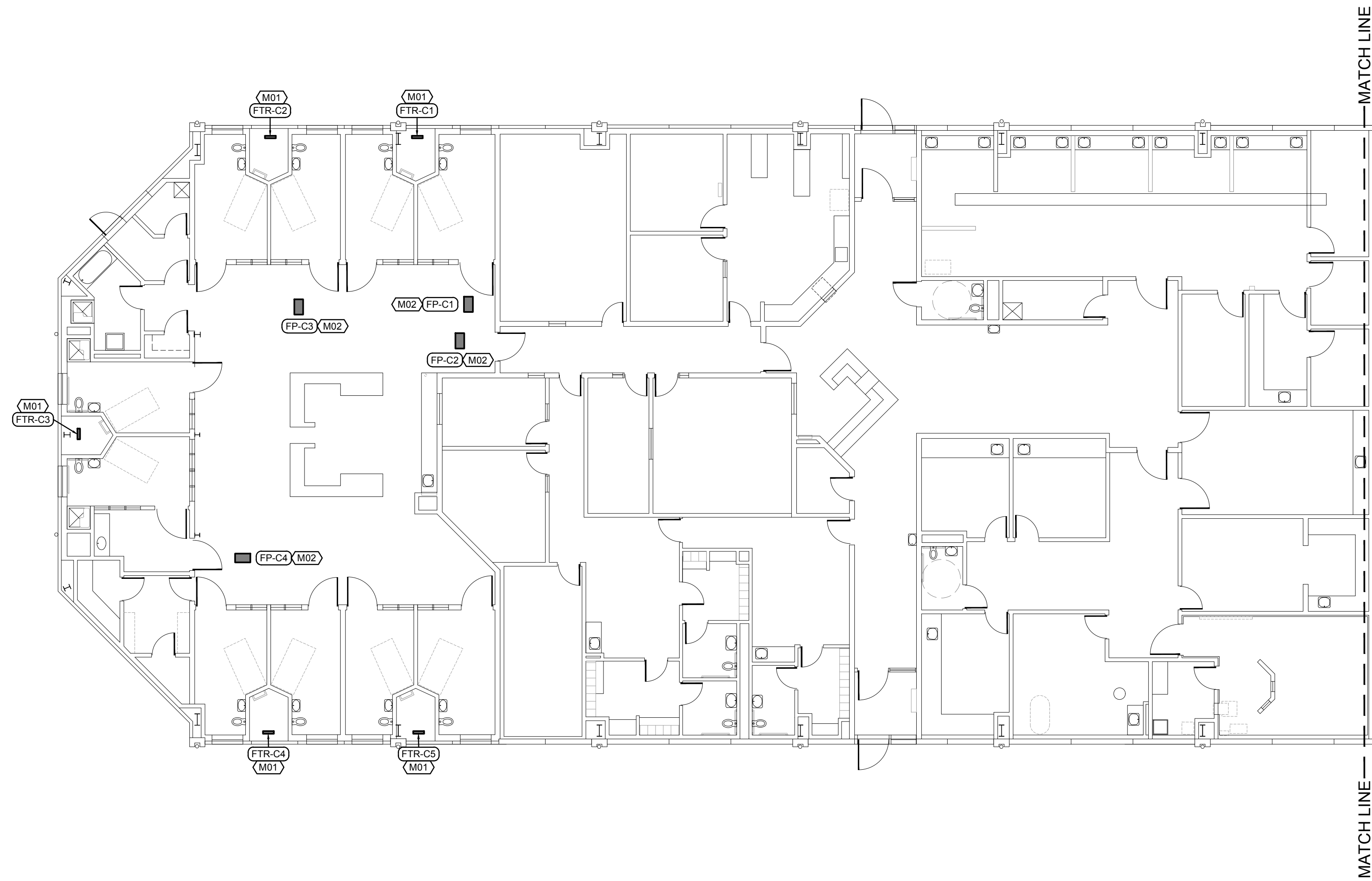
M-108

10 OF 18 SHEETS
04/05/2024

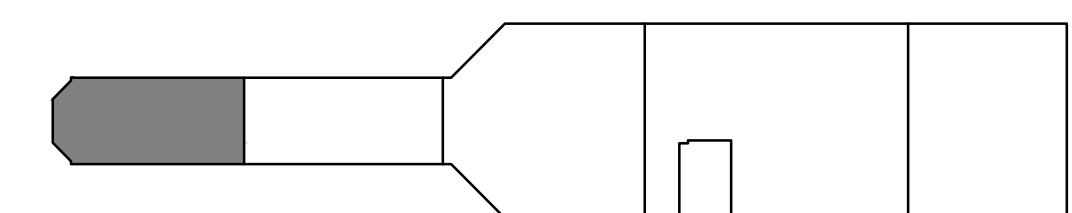


FLOOR PLAN NOTES

1. REPLACE EXISTING FINNED TUB RADIATOR (SPECIFICATION 238236) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 7 FOR ADDITIONAL INFORMATION
2. REPLACE EXISTING FAN POWERED BOX (SPECIFICATION 238219) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. REPLACE HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 2 FOR ADDITIONAL INFORMATION.



ENLARGED FLOOR PLAN-MECHANICAL
SCALE: 3/32"=1'-0"



CENTRAL SERVICES KEY PLAN
NO SCALE

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PROJECT # C2316-01
SITE # 7011
ASSET # 9327011029

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DATE: _____
REVISION: _____
DATE: _____

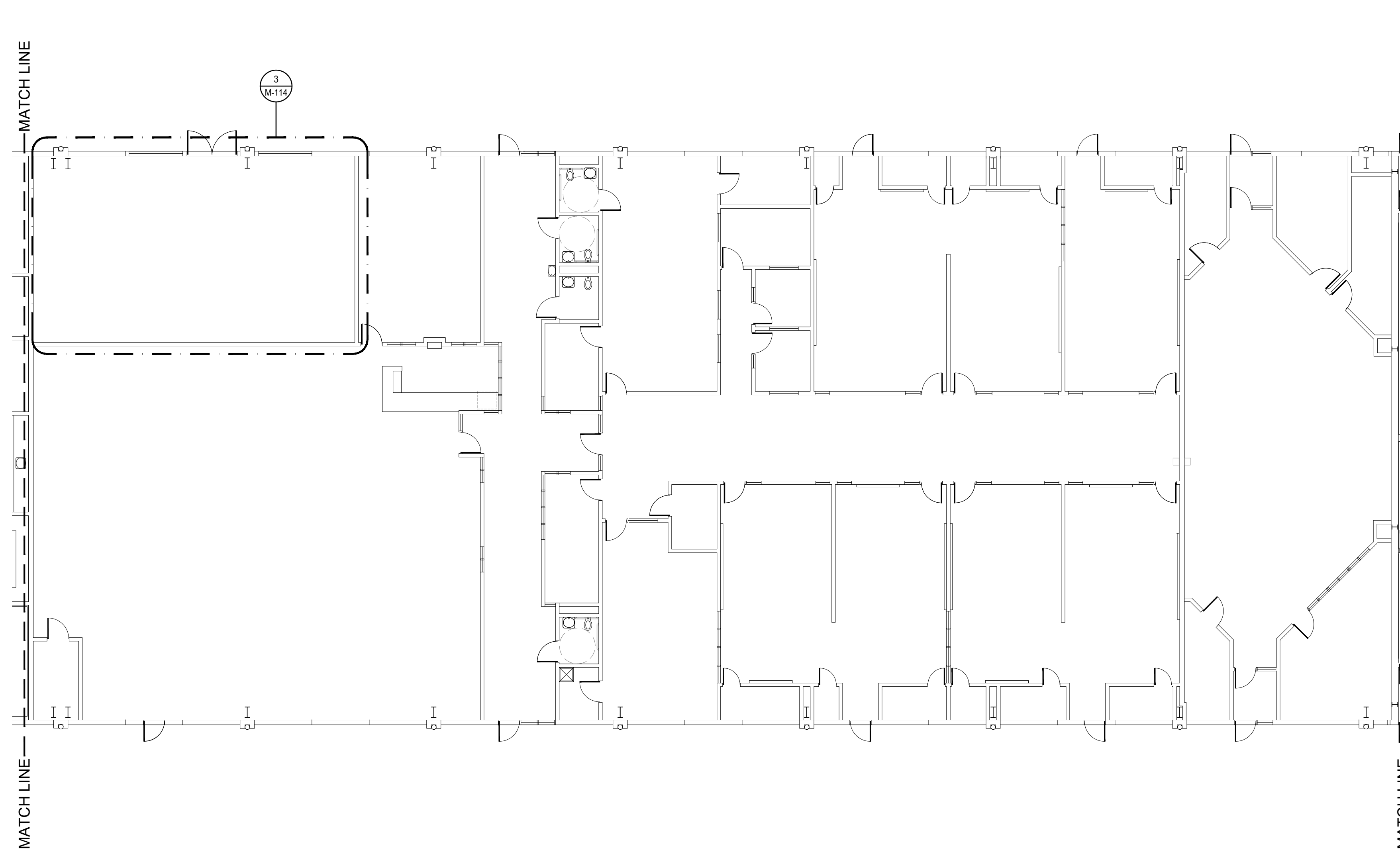
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
CENTRAL SERVICES
BUILDING

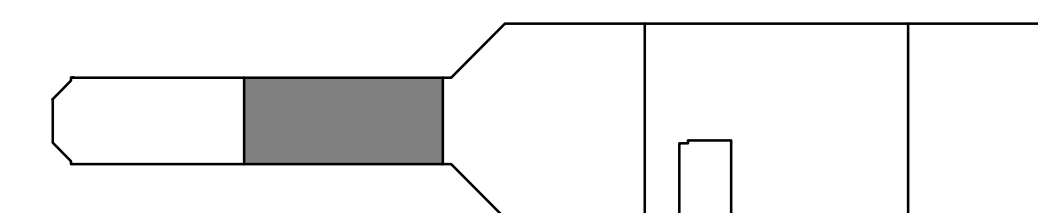
SHEET NUMBER:

M-109

11 OF 18 SHEETS
04/05/2024



ENLARGED FLOOR PLAN-MECHANICAL
 SCALE: 3/32"=1'-0"



CENTRAL SERVICES KEY PLAN
 NO SCALE

STATE OF MISSOURI
 MICHAEL L. PARSON,
 GOVERNOR



Lankford + Fendler
 + associates
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PROJECT # C2316-01
 SITE # 7011
 ASSET # 9327011029

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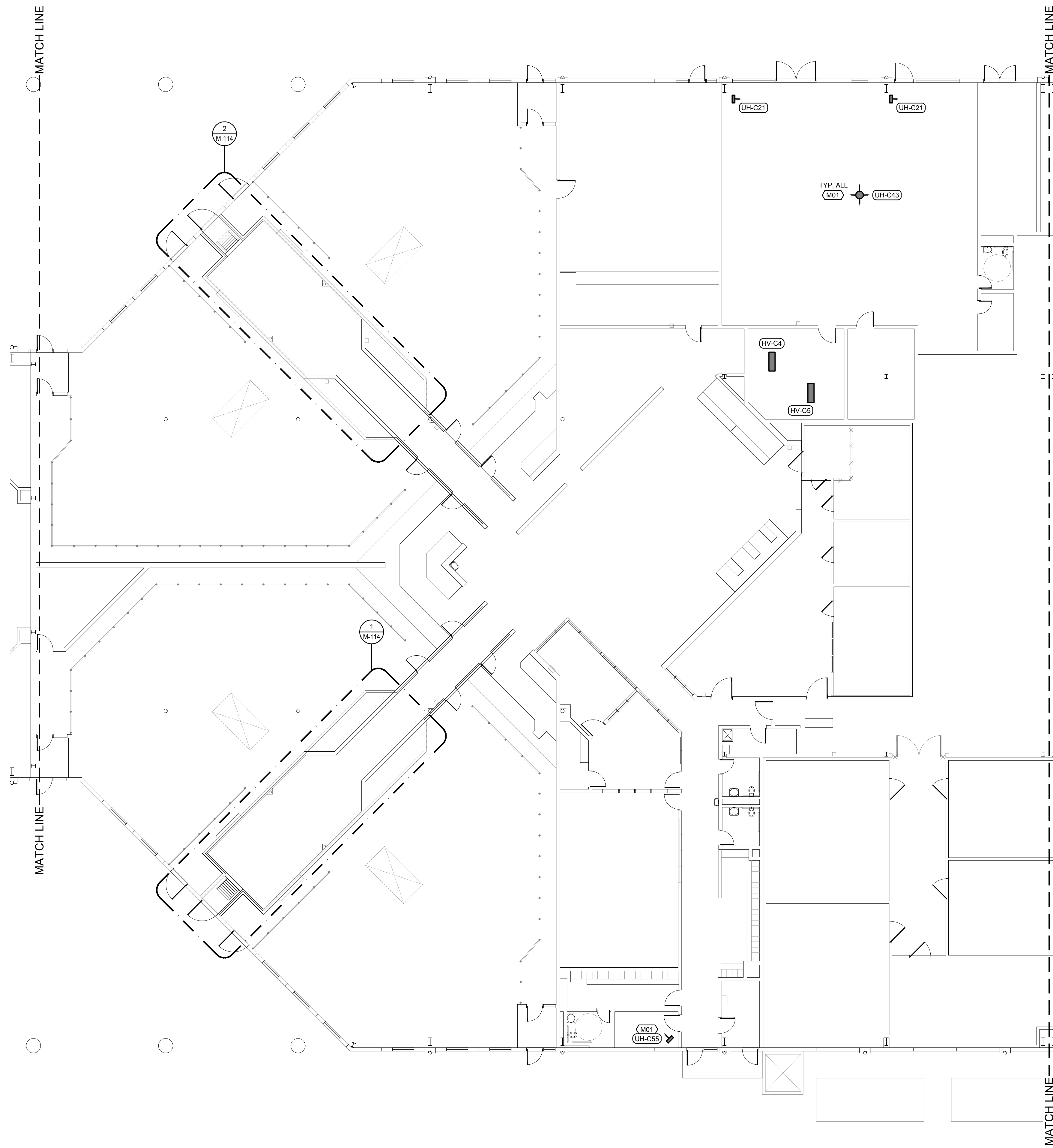
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SHEET TITLE:
 MECHANICAL PLAN
 CENTRAL SERVICES
 BUILDING

SHEET NUMBER:

M-110

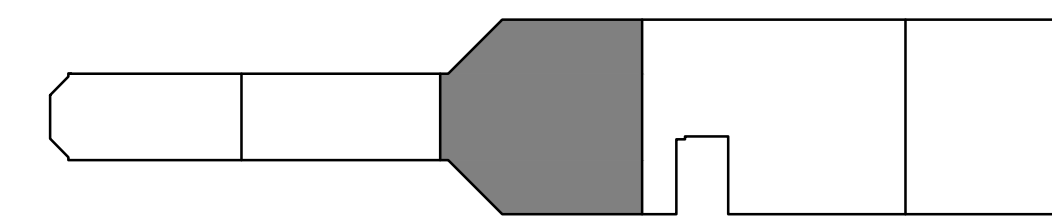
12 OF 18 SHEETS
 04/05/2024



ENLARGED FLOOR PLAN-MECHANICAL
SCALE: 3/32"=1'-0"

FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239-16) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.



CENTRAL SERVICES KEY PLAN
NO SCALE

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



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+ associates
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OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

UPDATE FACILITY
HEATING, MULTIPLE
ASSETS

WESTERN MISSOURI
CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011029

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

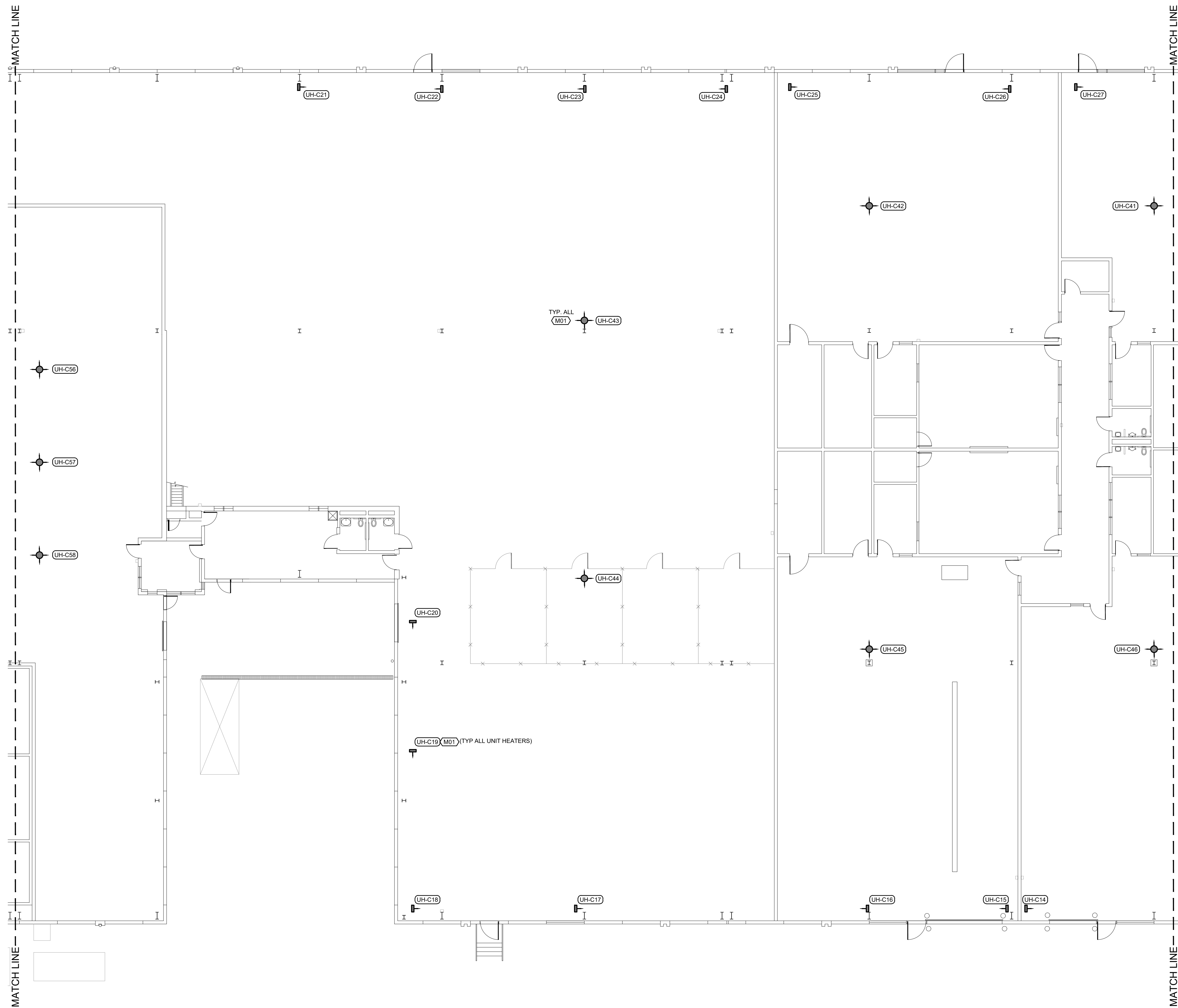
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
CENTRAL SERVICES
BUILDING

SHEET NUMBER:

M-111

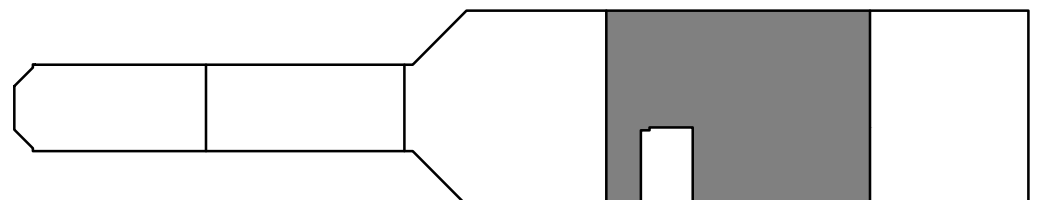
13 OF 18 SHEETS
04/05/2024



FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.

ENLARGED FLOOR PLAN-MECHANICAL
SCALE: 3/32"=1'-0"



CENTRAL SERVICES KEY PLAN
NO SCALE



Lankford + Fendler
+ associates
1739 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
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UPDATE FACILITY
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WESTERN MISSOURI
CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011029

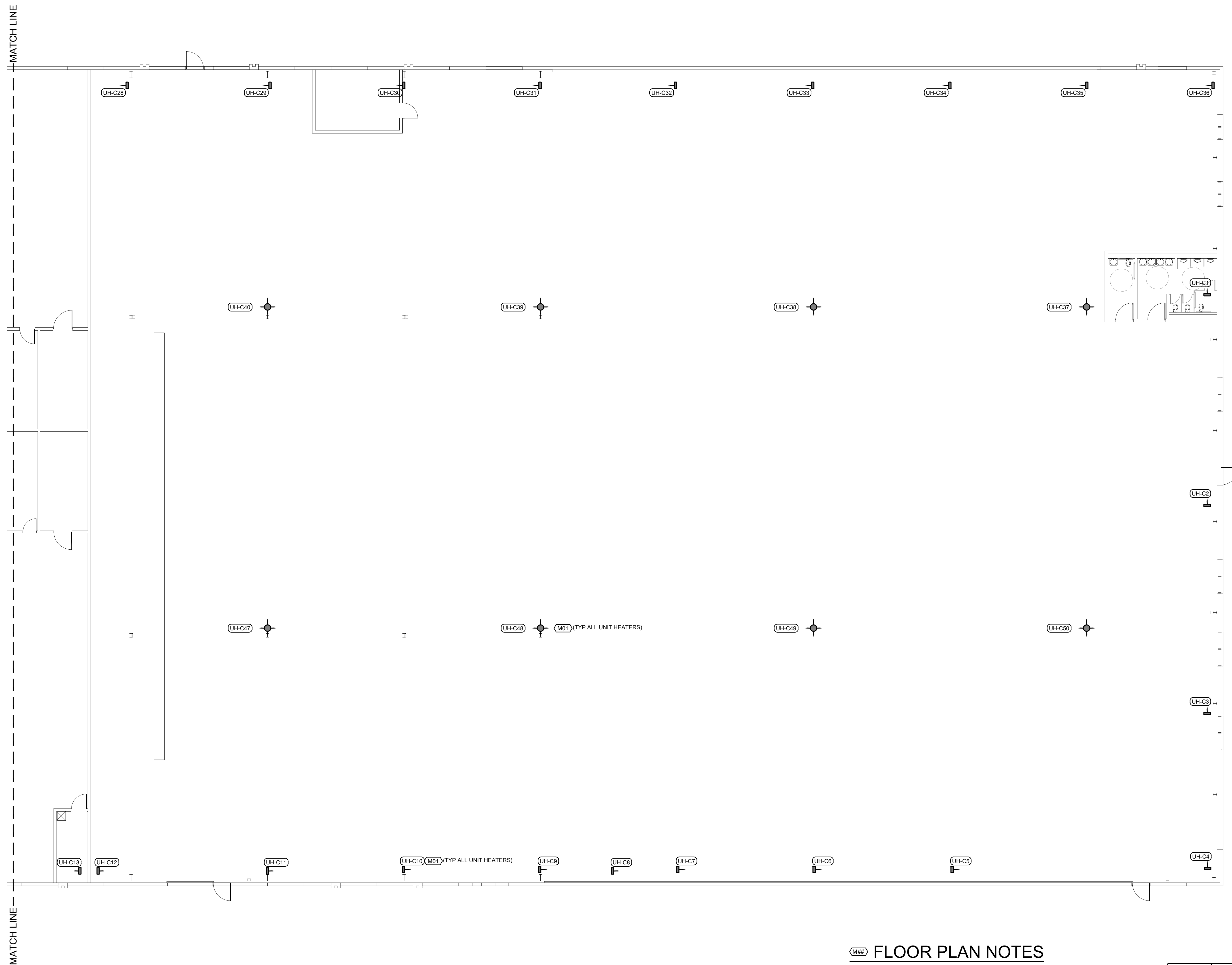
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| DATE: | _____ |

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
CENTRAL SERVICES
BUILDING

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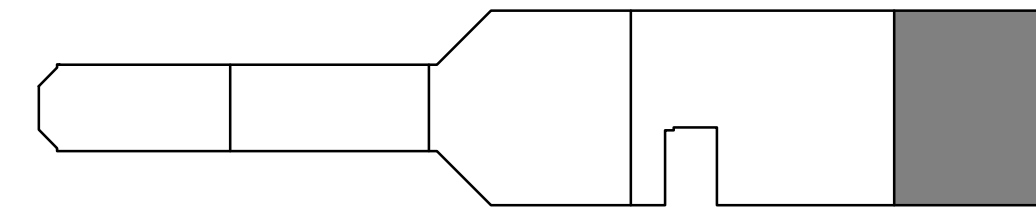
M-112



ENLARGED FLOOR PLAN-MECHANICAL
SCALE: 3/32"=1'-0"

FLOOR PLAN NOTES

1. REPLACE EXISTING UNIT HEATER (SPECIFICATION 238239.16) WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND DIELECTRIC FITTINGS WITH NEW. MATCH EXISTING HOT WATER PIPE SIZE AND PROVIDE NEW INSULATED PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 6 FOR ADDITIONAL INFORMATION.



CENTRAL SERVICES KEY PLAN
NO SCALE

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



Lankford + Fendler
+ associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
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UPDATE FACILITY
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WESTERN MISSOURI
CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011029

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL PLAN
CENTRAL SERVICES
BUILDING

SHEET NUMBER:

M-113

15 OF 18 SHEETS
04/05/2024



+ associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
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UPDATE FACILITY
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609 East Pence Road
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PROJECT # C2316-01
SITE # 7011
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REVISION: _____
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DATE: _____
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DATE: _____

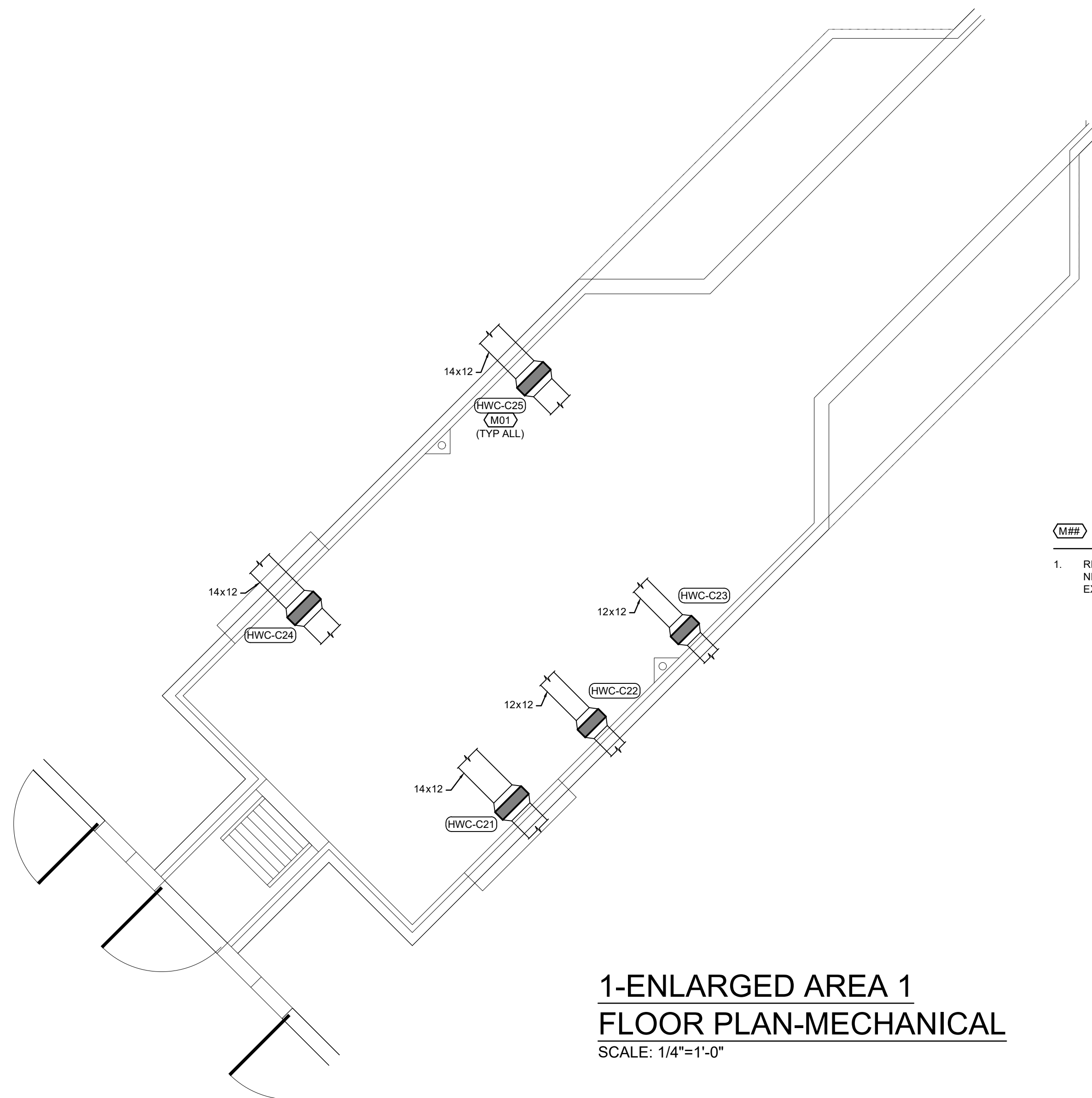
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL
ENLARGED PLANS
CENTRAL SERVICES
BUILDING

SHEET NUMBER:

M-114

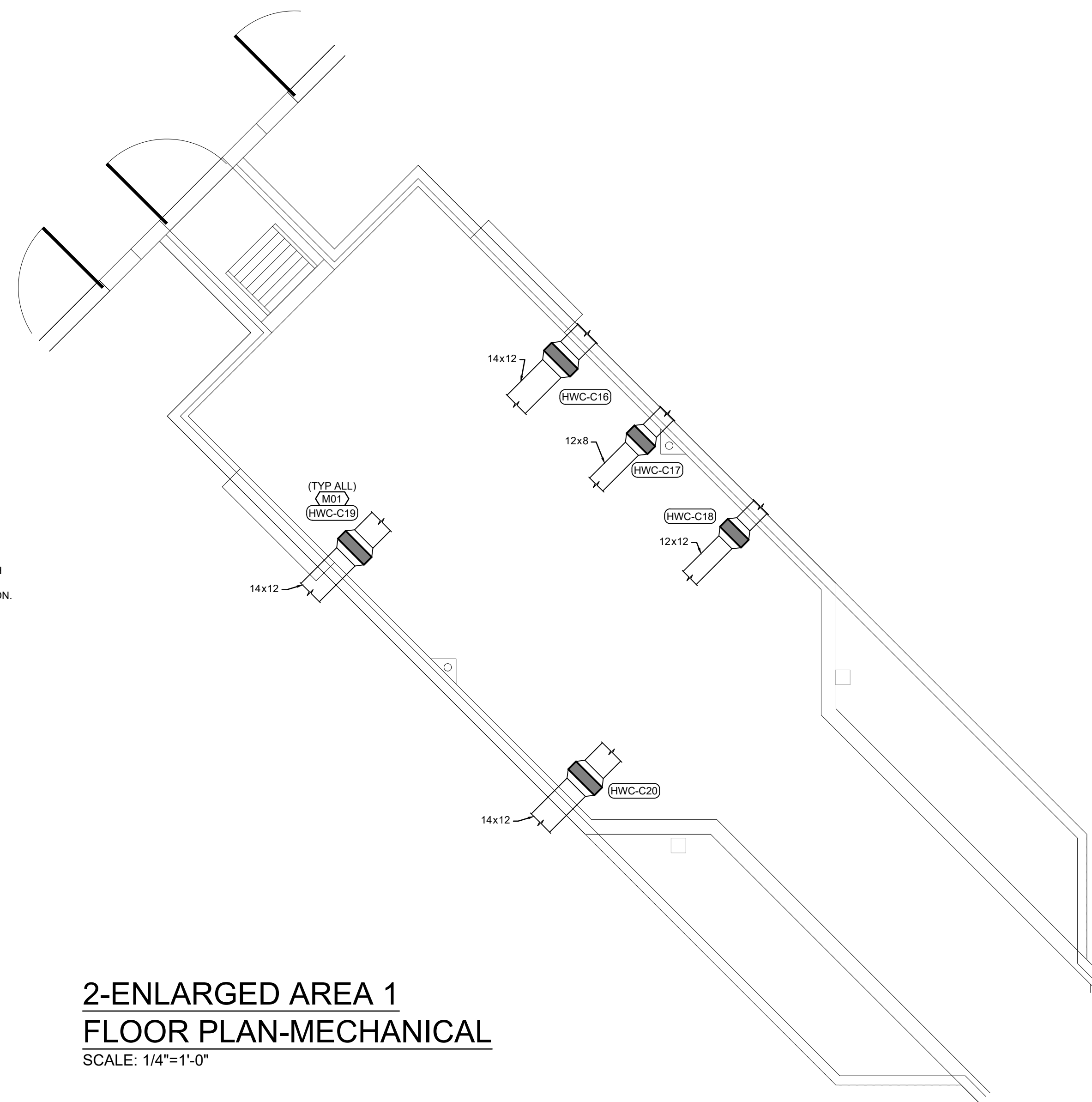
16 OF 18 SHEETS
04/05/2024



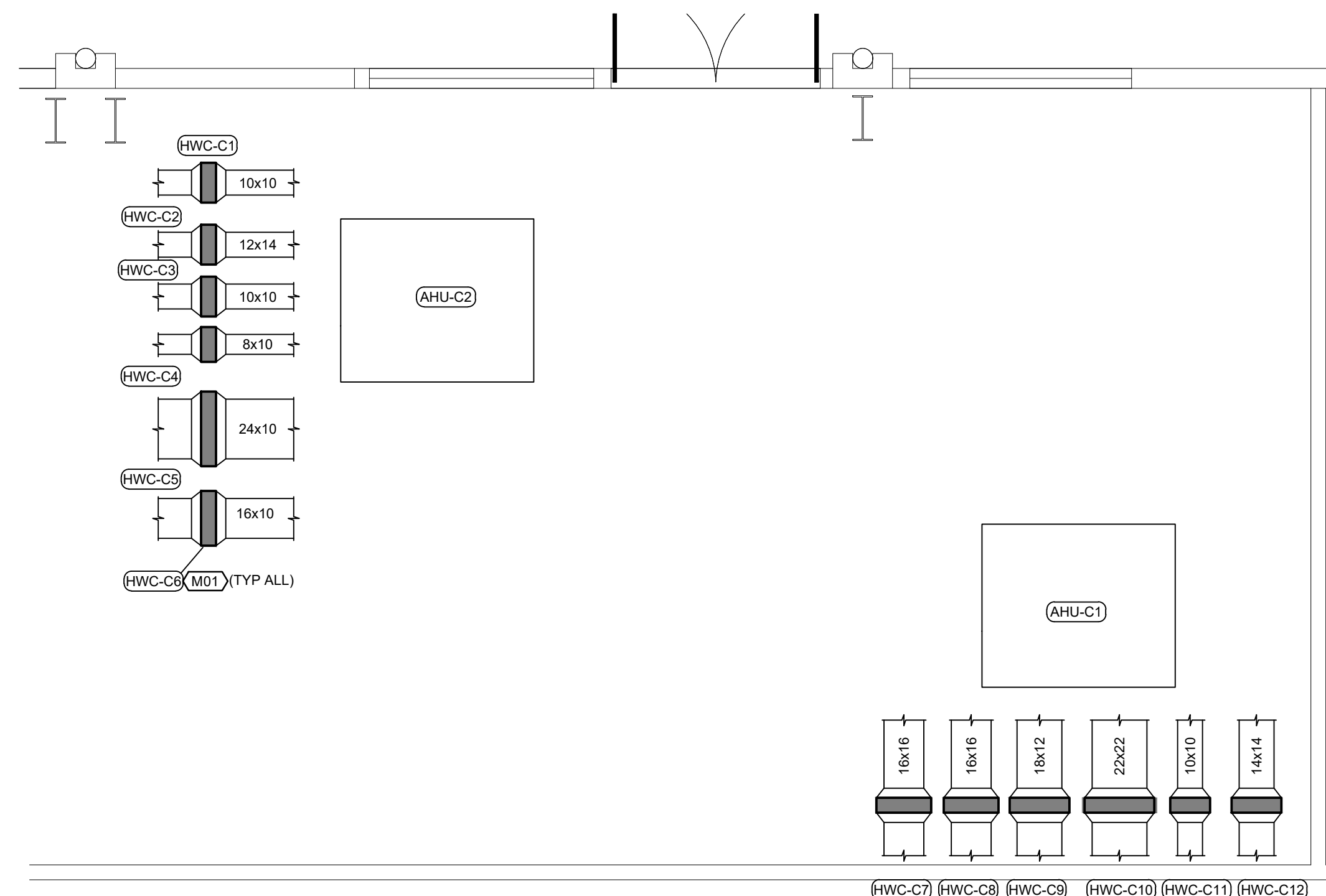
**1-ENLARGED AREA 1
FLOOR PLAN-MECHANICAL**
SCALE: 1/4"=1'-0"

M## FLOOR PLAN NOTES

1. REPLACE EXISTING DUCT HEATING HOT WATER COIL (SPECIFICATION 238216.11) WITH NEW. REPLACE ALL ASSOCIATED VALVES WITH NEW AND PIPING AS NEEDED. MATCH EXISTING CONDITION. REFER TO SHEET M-200 DETAIL 8 FOR ADDITIONAL INFORMATION.



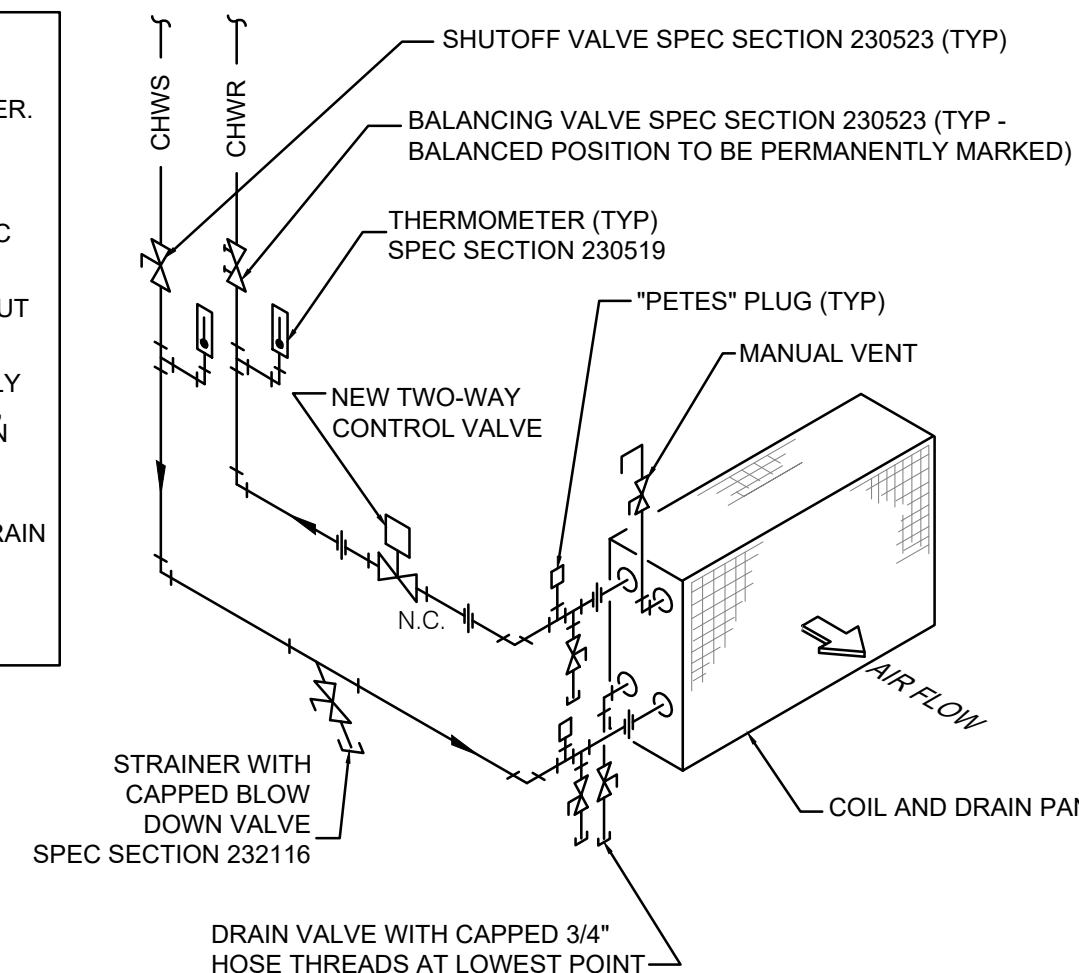
**2-ENLARGED AREA 1
FLOOR PLAN-MECHANICAL**
SCALE: 1/4"=1'-0"



**3-ENLARGED MECHANICAL 68
FLOOR PLAN-MECHANICAL**
SCALE: 1/4"=1'-0"

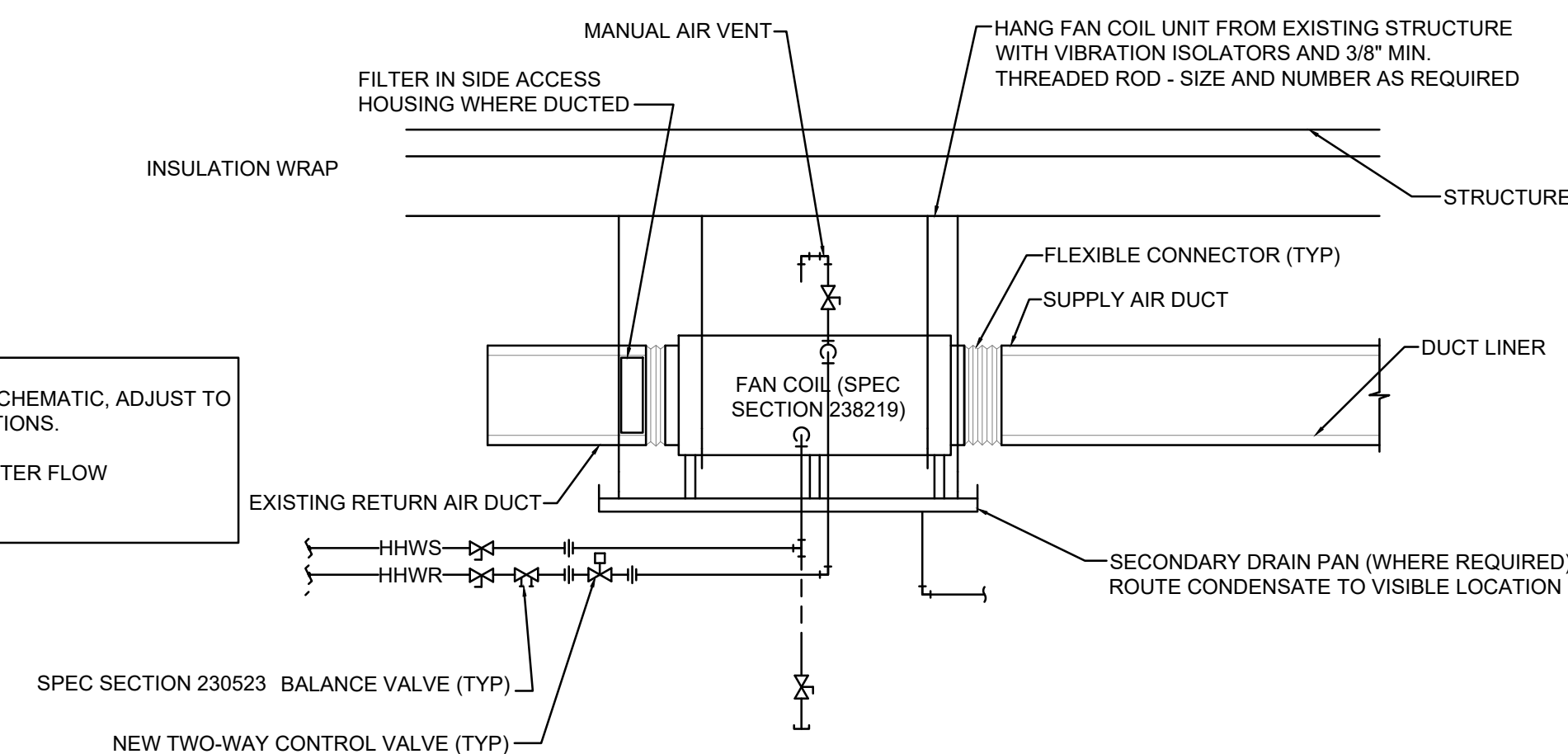


- NOTES**
1. PROVIDE DIELECTRIC UNIONS SPEC SECTION 232113 OR FLANGES WHERE PIPING AND APPENDAGE MATERIALS DIFFER.
 2. INSTALL CONTROL VALVE SPEC SECTION 230523 BETWEEN UNIONS OR FLANGES AS REQUIRED.
 3. WHEN TAPPED INTO TOP OF MAINS, PROVIDE AIR VENT SPEC SECTION 232116.
 4. UNION SHALL BE PLACED SO COIL CAN BE REMOVED WITHOUT RELOCATION OR REMOVAL OF PIPING.
 5. FOR MULTIPLE COILS PROVIDE SHUT-OFF VALVES ON SUPPLY AND RETURN LINES TO EACH COIL SECTION INSTALL PIPING, UNIONS AND/OR FLANGED CONNECTIONS SO THAT COIL CAN BE REMOVED WITHOUT DISTURBING PIPING.
 6. INSTALL UNIONS FOR PIPING 2" & SMALLER AND FLANGED CONNECTIONS FOR PIPING 2 1/2" & LARGER, PROVIDE 3/4" DRAIN VALVE WITH HOSE CONNECTION FOR ALL COILS OVER 6 SF FACE AREA.



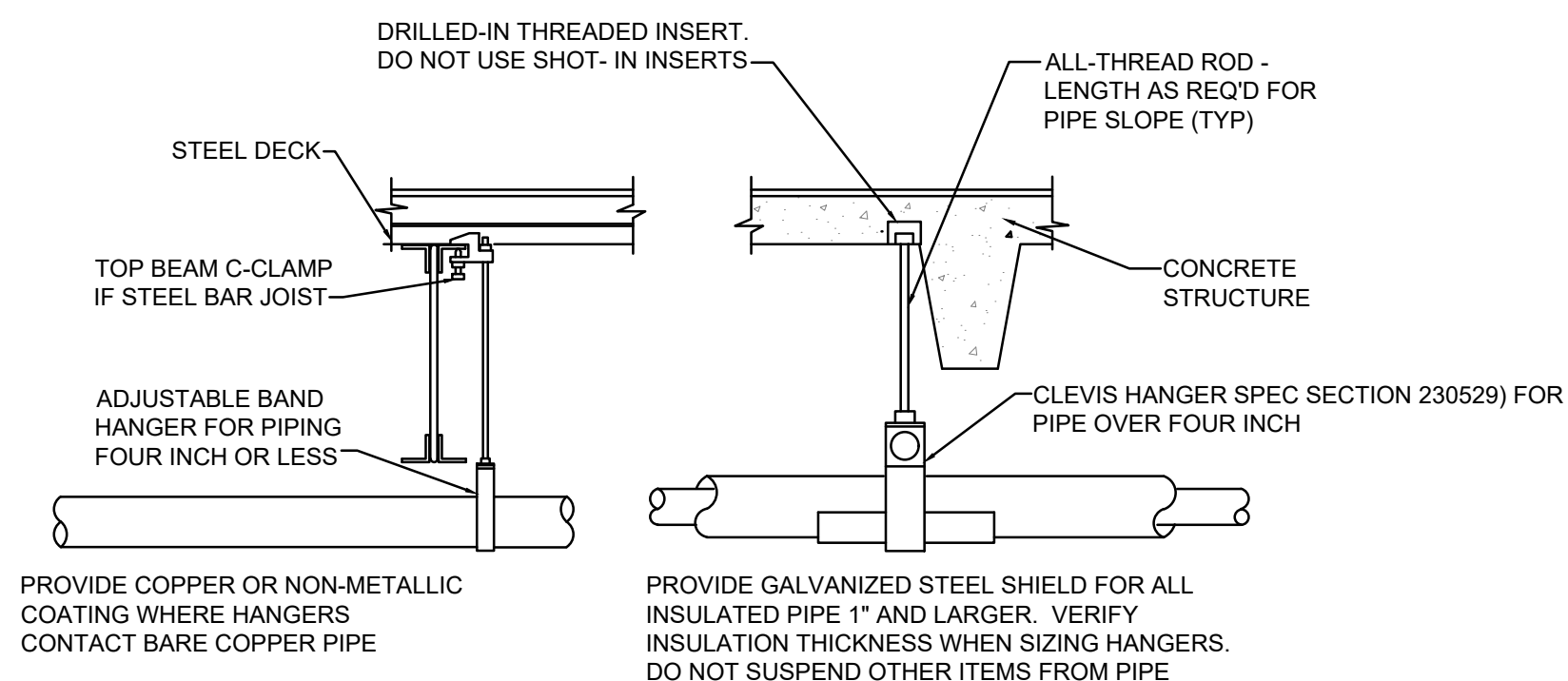
1 AHU HHW COIL PIPING DETAIL
NO SCALE 2-WAY CONTROL VALVE

- NOTES**
1. ARRANGEMENT SHOWN IS SCHEMATIC, ADJUST TO SUIT EXISTING FIELD CONDITIONS.
 2. PIPING SHOWN IS FOR COUNTER FLOW ARRANGEMENT.

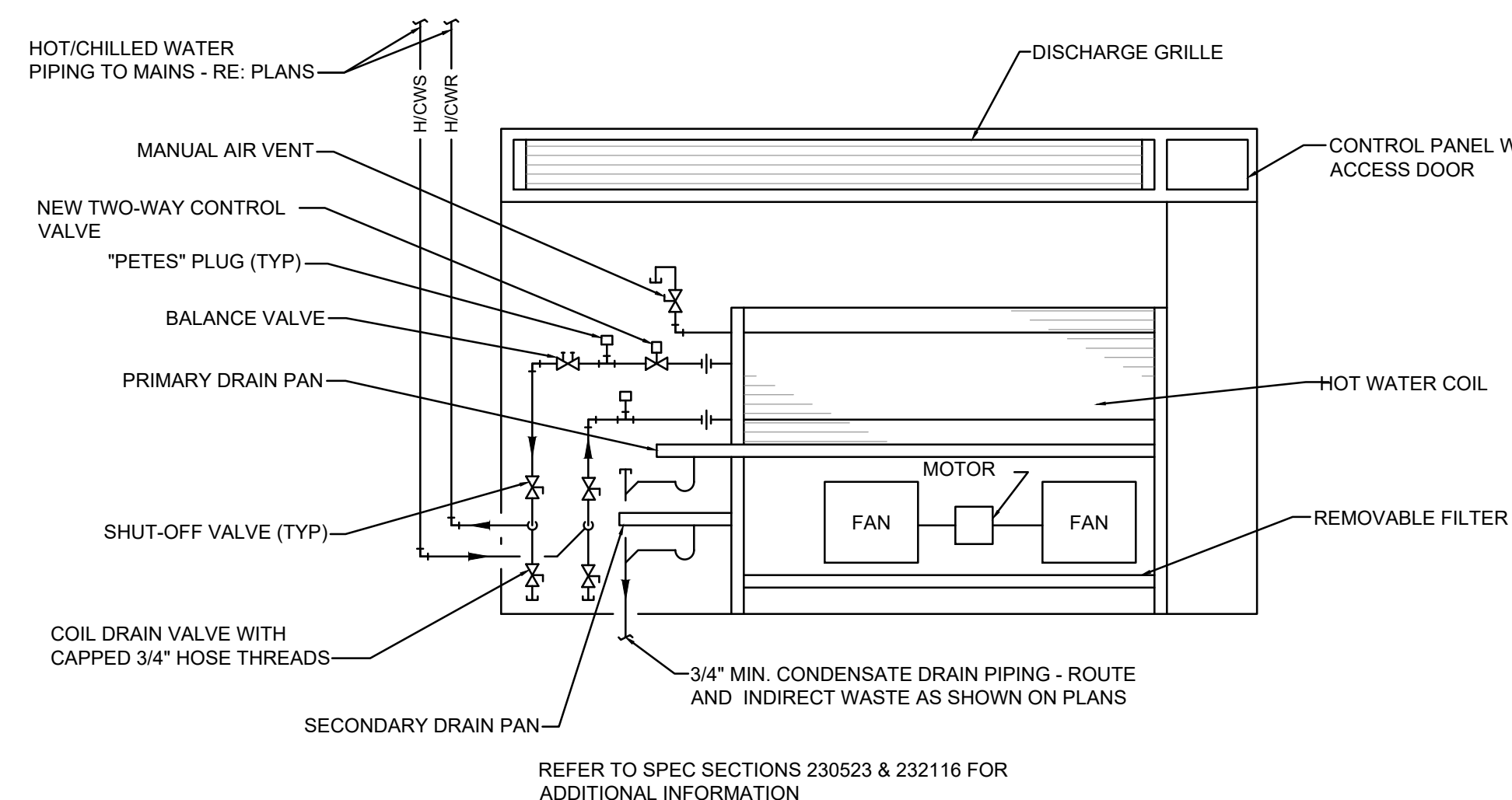


2 HORIZONTAL PIPE FAN COIL UNIT PIPING DETAIL
NO SCALE

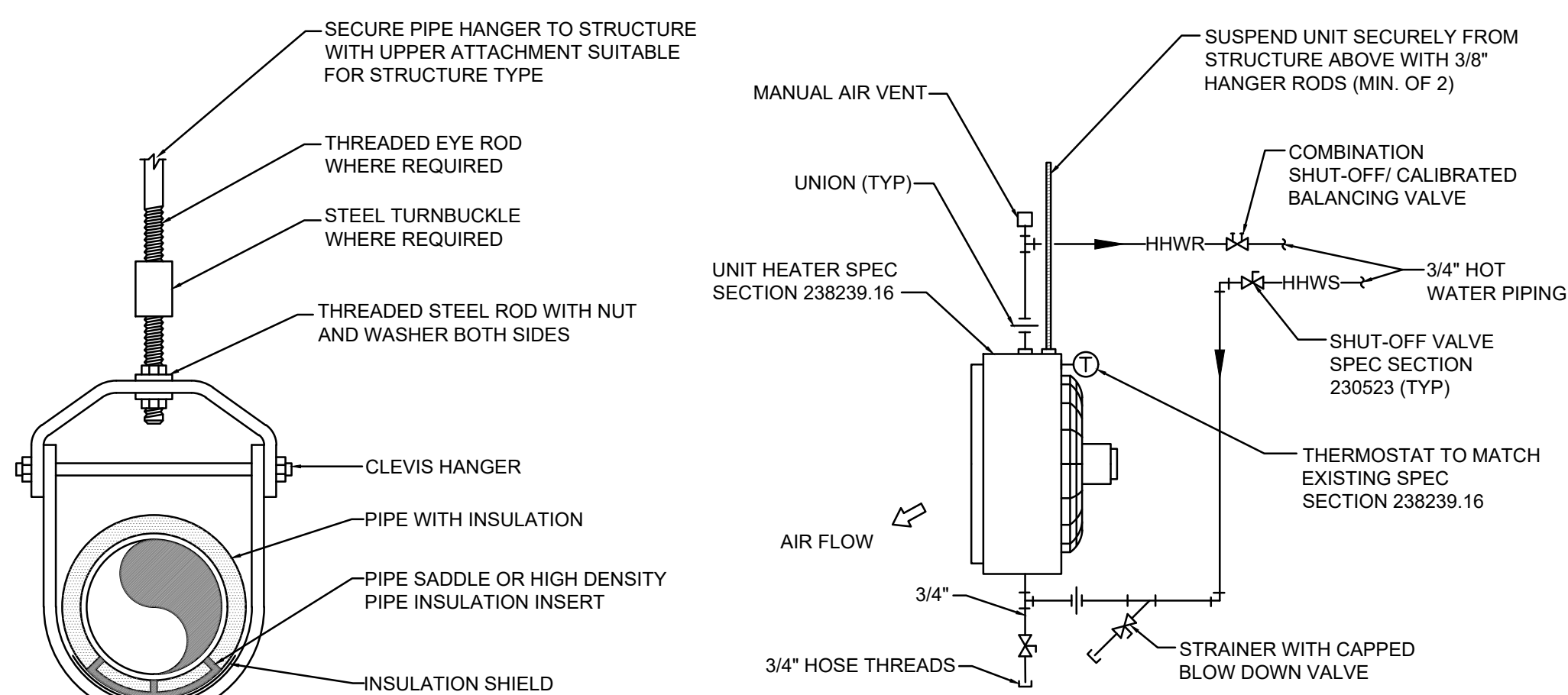
PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZOID HANGERS (SPEC SECTION 230529) MAY BE USED FOR MULTIPLE PARALLEL PIPES. SLOPE ALL WATER PIPING SLIGHTLY TOWARD DRAINABLE LOCATIONS. HANGER SPACING FOR PIPE SIZE: COPPER: 4\"/>



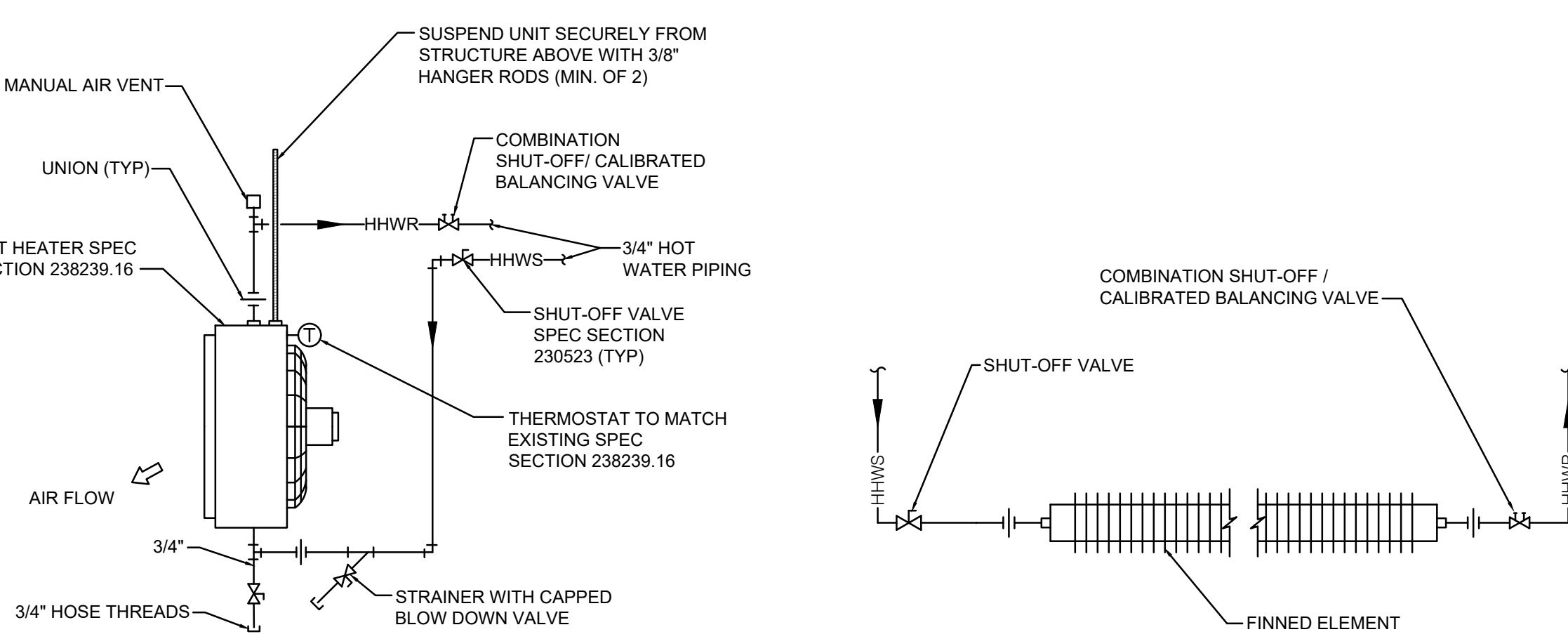
3 PIPE HANGER DETAIL
NO SCALE



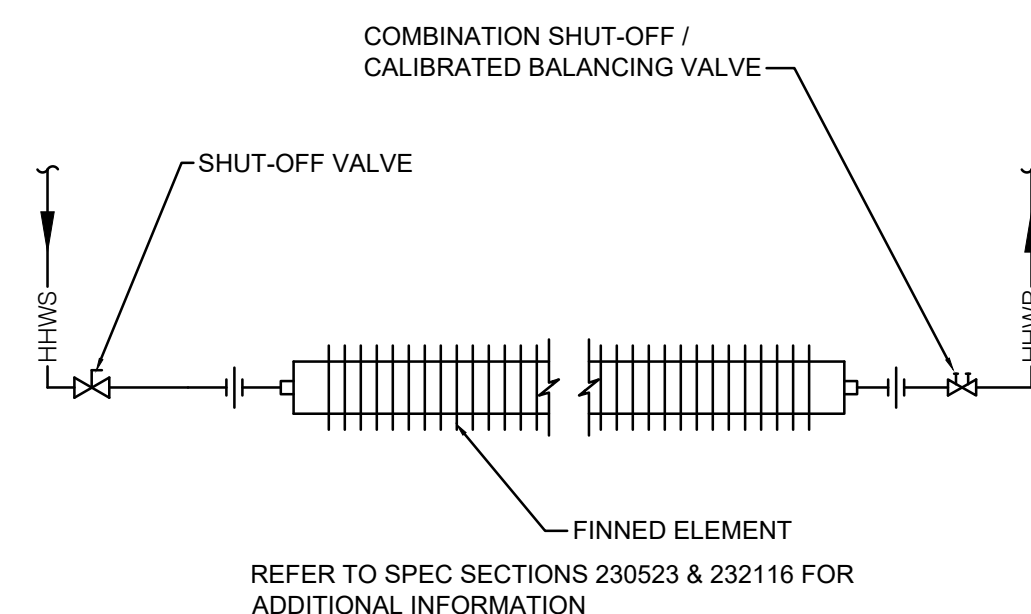
4 FLOOR MOUNTED FAN COIL UNIT PIPING DETAIL
NO SCALE 2-WAY CONTROL VALVE



5 INSULATED CLEVIS PIPE HANGER DETAIL
NO SCALE

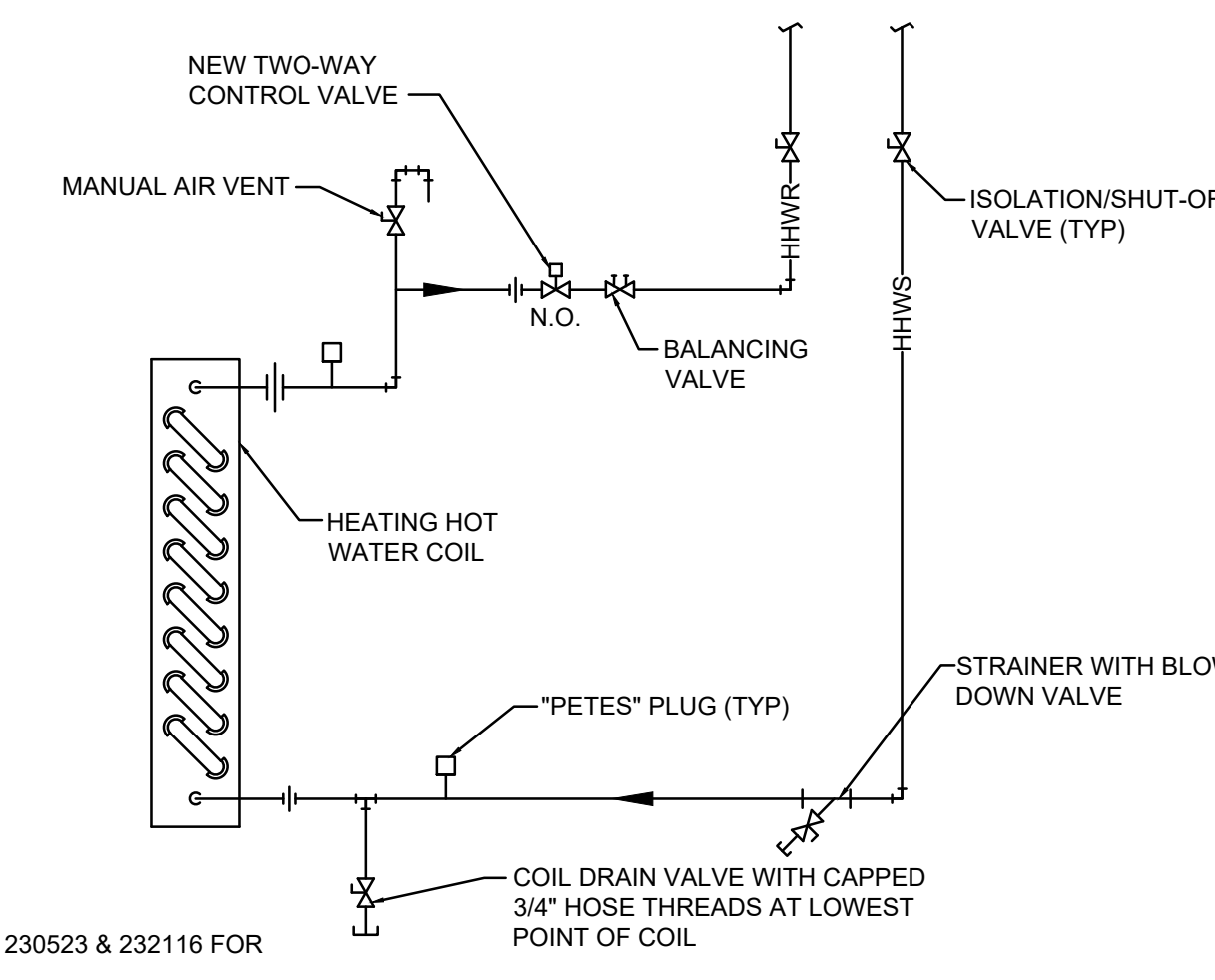


6 HOT WATER UNIT HEATER PIPING DETAIL
NO SCALE



7 HOT WATER FIN TUBE PIPING DETAIL
NO SCALE

- NOTES**
1. PROVIDE DIELECTRIC UNIONS OR FLANGES WHERE PIPING AND APPENDAGE MATERIALS DIFFER
 2. INSTALL CONTROL VALVE BETWEEN UNIONS OR FLANGES AS REQUIRED
 3. INSTALL CONCENTRIC REDUCERS BOTH SIDES OF CONTROL AND BALANCE VALVE IF REQUIRED AS SHOWN
 4. NORMALLY USE MANUAL AIR VENT; AUTOMATIC VENT ACCEPTABLE ONLY WITH BLADDER COMPRESSION TANK
 5. WHEN TAPPED INTO TOP OF MAINS, AIR VENT REQUIRED
 6. ARRANGEMENT SHOWN FOR HOT WATER COIL WITH FULL FLOW THROUGH COIL ON FAILURE



8 2-WAY HOT WATER COIL PIPING DETAIL
NO SCALE

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION

UPDATE FACILITY
HEATING, MULTIPLE
ASSETS

WESTERN MISSOURI
CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011021-29
9327011035-37
9327011040

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL DETAILS

SHEET NUMBER:

M-200

17 OF 18 SHEETS
04/05/2024



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UPDATE FACILITY
HEATING, MULTIPLE
ASSETS

WESTERN MISSOURI
CORRECTIONAL CENTER
609 East Pence Road
Cameron, MO 64429

PROJECT # C2316-01
SITE # 7011
ASSET # 9327011021-29
9327011035-37
9327011040

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____

ISSUE DATE: 04/05/2024

SHEET TITLE:
MECHANICAL NOTES,
SCHEDULES, AND
SYMBOLS

SHEET NUMBER:

M-201

18 OF 18 SHEETS
04/05/2024

HYDRONIC UNIT HEATER SCHEDULE

| MARK NO. | MANUFACTURER | MODEL | TYPE | PERFORMANCE | | | | | | | | | | ELECTRICAL | | |
|------------------------|--------------|--------|------------|----------------|-------------|----------|----------|----------|----------|------------|----------|------------------------|-------|------------|-------|----|
| | | | | AIR FLOW (CFM) | TOTAL (MBH) | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | FLOW (GPM) | WPD (FT) | BRANCH PIPE SIZE (IN.) | NOTES | VOLT | PHASE | HZ |
| UH-C1 THRU C36 | MOODINE | HSB 18 | HORIZONTAL | 340 | 11,830 | 65 | 95 | 190 | 60 | 1.2 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-C37 THRU C50 | MOODINE | V 59 | VERTICAL | 1190 | 43,092 | 65 | 95 | 190 | 60 | 4.4 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-M1, M2 | MOODINE | HSB 18 | HORIZONTAL | 340 | 4,850 | 65 | 95 | 190 | 60 | 0.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M3 | MOODINE | HSB 18 | HORIZONTAL | 340 | 9,700 | 65 | 95 | 190 | 60 | 1 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M4 | MOODINE | HSB 18 | HORIZONTAL | 340 | 4,850 | 65 | 95 | 190 | 60 | 0.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M5, M6 | MOODINE | V 42 | VERTICAL | 950 | 12,315 | 65 | 95 | 190 | 60 | 1.3 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-M7, M8 | MOODINE | HSB 18 | HORIZONTAL | 340 | 4,850 | 65 | 95 | 190 | 60 | 0.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M9 | MOODINE | V 42 | VERTICAL | 950 | 12,315 | 65 | 95 | 190 | 60 | 1 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-M10 THRU M13 | MOODINE | HSB 18 | HORIZONTAL | 340 | 4,850 | 65 | 95 | 190 | 60 | 0.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M14 | MOODINE | HSB 18 | HORIZONTAL | 340 | 9,700 | 65 | 95 | 190 | 60 | 1 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M15 THRU M18 | MOODINE | HSB 18 | HORIZONTAL | 340 | 4,850 | 65 | 95 | 190 | 60 | 0.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-M19, M20 | MOODINE | V 42 | VERTICAL | 950 | 12,315 | 65 | 95 | 190 | 60 | 1.3 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-R1, 44 R13, R14 R16 | MOODINE | V 42 | VERTICAL | 950 | 12,315 | 65 | 95 | 190 | 60 | 1.3 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-R2, R3, R9 THRU R12 | MOODINE | V 42 | VERTICAL | 950 | 16,715 | 65 | 95 | 190 | 60 | 1.8 | 0.4 | 3/4" | 1.3 | 120 | 1 | 60 |
| UH-R5 THRU R8 | MOODINE | HSB 18 | HORIZONTAL | 340 | 20,925 | 65 | 95 | 190 | 60 | 2.2 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-R15 | MOODINE | HSB 18 | HORIZONTAL | 340 | 9,460 | 65 | 95 | 190 | 60 | 1 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |
| UH-P1 THRU P5 | MOODINE | - | HORIZONTAL | 340 | 50,000 | 65 | 95 | 190 | 60 | 2.5 | 0.4 | 3/4" | 1.2,3 | 120 | 1 | 60 |

NOTES:
1. ACCEPTABLE ALTERNATE MANUFACTURERS ARE TRANE, STERLING AND DAYTON
2. FRONT TOE SPACE INLET AND TOP BAR GRILLE OUTLET.
3. PROVIDE WITH INTEGRAL DISCONNECT SWITCH AND THERMOSTAT TO MATCH EXISTING CONDITION

FAN COIL UNIT SCHEDULE

| MARK | MANUFACTURER | MODEL | ARRANGEMENT | SUPPLY FAN | | HEATING COIL-HYDRONIC | | | | | | ELECTRICAL | | | |
|---------------|--------------|----------|-------------|-------------|---------------|-----------------------|----------|----------|----------|----------|-----|------------|------|-------|----|
| | | | | AIRFLOW CFM | ESP (IN W.G.) | TOTAL MBH | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | GPM | NOTES | VOLT | PHASE | HZ |
| FC-A1, A2, A3 | DAKIN | FHVC102A | VERTICAL | 200 | 0.125 | 2590 | 65 | 84 | 190 | 160 | 0.5 | 1.2,3 | 120 | 1 | 60 |
| FC-A4 | DAKIN | FHVC102A | HORIZONTAL | 200 | 0.25 | 2590 | 65 | 84 | 190 | 160 | 0.5 | 1.2,3 | 120 | 1 | 60 |

NOTES:
1. ACCEPTABLE ALTERNATE MANUFACTURERS ARE TRANE AND CARRIER
2. PROVIDE WITH DISCONNECT.
3. PROVIDE WITH FRONT INLET AND BACK OUTLET CONNECTION

FAN POWERED BOX SCHEDULE

| MARK | MANUFACTURER | MODEL | ABS. MIN OA CFM | SUPPLY FAN | | HEATING COIL-HYDRONIC | | | | | | ELECTRICAL | | | |
|-------|--------------|-----------|-----------------|-------------|---------------|-----------------------|----------|----------|----------|----------|------|------------|------|-------|----|
| | | | | AIRFLOW CFM | ESP (IN W.G.) | TOTAL MBH | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | GPM | NOTES | VOLT | PHASE | HZ |
| FP-C1 | DAKIN | MOFV1-500 | 200 | 400 | 0.25 | 9302 | 57.5 | 90 | 190 | 160 | 0.96 | 1.2,3 | 120 | 1 | 60 |
| FP-C2 | DAKIN | MOFV1-500 | 200 | 1215 | 0.25 | 17607 | 52.6 | 80 | 190 | 160 | 1.82 | 1.2,3 | 120 | 1 | 60 |
| FP-C3 | DAKIN | MOFV1-500 | 200 | 240 | 0.25 | 5733 | 60.6 | 90 | 190 | 160 | 0.59 | 1.2,3 | 120 | 1 | 60 |
| FP-C4 | DAKIN | MOFV1-500 | 200 | 260 | 0.25 | 6627 | 60.1 | 90 | 190 | 160 | 0.68 | 1.2,3 | 120 | 1 | 60 |

NOTES:
1. ACCEPTABLE ALTERNATE MANUFACTURERS ARE TRANE, AND CARRIER.
2. PROVIDE 1" PANEL THROUGHWAY AIR FILTERS.
3. PROVIDE FACTORY MOUNTED DISCONNECT INSTALLED ON SERVICE SIDE OF UNIT.

HOT WATER COILS SCHEDULE

| MARK NO. | MANUFACTURER | MODEL | AIR FLOW (CFM) | SIZE (IN) | PERFORMANCE | | | | | | | | | | NOTES |
|-----------|---------------|---------|----------------|-----------|-------------|----------|----------|----------|----------|------------|--------------|------------------------|-------|--|-------|
| | | | | | TOTAL (MBH) | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | FLOW (GPM) | MAX WPD (FT) | BRANCH PIPE SIZE (IN.) | | | |
| HWC-A1 | USA COIL & AR | CW12GFP | 650 | 21x15 | 23,550 | 58.4 | 90 | 190 | 160 | 1.6 | 10 | 3/4 | 1.2,3 | | |
| HWC-A2 | USA COIL & AR | CW12GFP | 475 | 21x16 | 16,210 | 58.4 | 90 | 190 | 160 | 1.1 | 10 | 3/4 | 1.2,3 | | |
| HWC-A3 | USA COIL & AR | CW12GFP | 4,685 | 41x22 | 159,890 | 58.4 | 90 | 190 | 160 | 10.7 | 10 | 1-1/4 | 1.2,3 | | |
| HWC-A4 | USA COIL & AR | CW12GFP | 2,905 | 30x22 | 99,150 | 58.4 | 90 | 190 | 160 | 6.6 | 10 | 1 | 1.2,3 | | |
| HWC-A5 | USA COIL & AR | CW12GFP | 1,075 | 22x15 | 25,775 | 67.8 | 95 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-A6 | USA COIL & AR | CW12GFP | 380 | 12x9 | 9,110 | 67.8 | 95 | 190 | 160 | 0.6 | 10 | 3/4 | 1.2,3 | | |
| HWC-A7 | USA COIL & AR | CW12GFP | 465 | 12x9 | 11,150 | 67.8 | 95 | 190 | 160 | 0.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-A8 | USA COIL & AR | CW12GFP | 120 | 12x8 | 2,880 | 67.8 | 95 | 190 | 160 | 0.2 | 10 | 3/4 | 1.2,3 | | |
| HWC-A9 | USA COIL & AR | CW12GFP | 475 | 12x9 | 11,330 | 67.8 | 95 | 190 | 160 | 0.8 | 10 | 3/4 | 1.2,3 | | |
| HWC-A10 | USA COIL & AR | CW12GFP | 400 | 10x8 | 15,810 | 53.4 | 95 | 190 | 160 | 1.1 | 10 | 3/4 | 1.2,3 | | |
| HWC-A11 | USA COIL & AR | CW12GFP | 1,335 | 21x15 | 52,770 | 53.4 | 95 | 190 | 160 | 3.5 | 10 | 3/4 | 1.2,3 | | |
| HWC-A12 | USA COIL & AR | CW12GFP | 640 | 15x12 | 25,300 | 53.4 | 95 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-A13 | USA COIL & AR | CW12GFP | 1,390 | 20x15 | 25,300 | 53.4 | 95 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-A14 | USA COIL & AR | CW12GFP | 405 | 10x10 | 16,010 | 53.4 | 95 | 190 | 160 | 1.1 | 10 | 3/4 | 1.2,3 | | |
| HWC-C1 | USA COIL & AR | CW12GFP | 570 | 15x12 | 13,300 | 63.4 | 85 | 190 | 160 | 0.9 | 10 | 3/4 | 1.2,3 | | |
| HWC-C2 | USA COIL & AR | CW12GFP | 1,575 | 24x16 | 36,745 | 63.4 | 85 | 190 | 160 | 2.4 | 10 | 3/4 | 1.2,3 | | |
| HWC-C3 | USA COIL & AR | CW12GFP | 740 | 15x12 | 17,255 | 63.4 | 85 | 190 | 160 | 1.2 | 10 | 3/4 | 1.2,3 | | |
| HWC-C4 | USA COIL & AR | CW12GFP | 470 | 12x10 | 10,985 | 63.4 | 85 | 190 | 160 | 0.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C5 | USA COIL & AR | CW12GFP | 1,355 | 22x15 | 31,610 | 63.4 | 85 | 190 | 160 | 2.1 | 10 | 3/4 | 1.2,3 | | |
| HWC-C6 | USA COIL & AR | CW12GFP | 1,120 | 18x16 | 26,130 | 63.4 | 85 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C7 | USA COIL & AR | CW12GFP | 2,005 | 24x16 | 74,490 | 55.6 | 90 | 190 | 160 | 5.0 | 10 | 1 | 1.2,3 | | |
| HWC-C8 | USA COIL & AR | CW12GFP | 1,475 | 22x16 | 54,800 | 55.6 | 90 | 190 | 160 | 3.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C9 | USA COIL & AR | CW12GFP | 2,000 | 22x18 | 74,305 | 55.6 | 90 | 190 | 160 | 5.0 | 10 | 1 | 1.2,3 | | |
| HWC-C10 | USA COIL & AR | CW12GFP | 4,840 | 42x24 | 179,815 | 55.6 | 90 | 190 | 160 | 12.0 | 10 | 1-1/4 | 1.2,3 | | |
| HWC-C11 | USA COIL & AR | CW12GFP | 850 | 18x12 | 31,580 | 55.6 | 90 | 190 | 160 | 2.1 | 10 | 3/4 | 1.2,3 | | |
| HWC-C12 | USA COIL & AR | CW12GFP | 1,550 | 20x15 | 61,300 | 55.6 | 90 | 190 | 160 | 4.1 | 10 | 1 | 1.2,3 | | |
| HWC-C16 | USA COIL & AR | CW12GFP | 740 | 15x12 | 17,255 | 63.4 | 85 | 190 | 160 | 1.2 | 10 | 3/4 | 1.2,3 | | |
| HWC-C17 | USA COIL & AR | CW12GFP | 465 | 12x10 | 11,150 | 67.8 | 95 | 190 | 160 | 0.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C18 | USA COIL & AR | CW12GFP | 570 | 15x12 | 13,300 | 63.4 | 85 | 190 | 160 | 0.9 | 10 | 3/4 | 1.2,3 | | |
| HWC-C19 | USA COIL & AR | CW12GFP | 1,120 | 18x12 | 26,130 | 55.6 | 90 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C20 | USA COIL & AR | CW12GFP | 1,120 | 18x15 | 26,130 | 55.6 | 90 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C21 | USA COIL & AR | CW12GFP | 1,120 | 18x16 | 26,130 | 55.6 | 90 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C22 | USA COIL & AR | CW12GFP | 465 | 12x10 | 11,150 | 55.6 | 90 | 190 | 160 | 0.7 | 10 | 3/4 | 1.2,3 | | |
| HWC-C23 | USA COIL & AR | CW12GFP | 570 | 15x12 | 13,300 | 63.4 | 85 | 190 | 160 | 0.9 | 10 | 3/4 | 1.2,3 | | |
| HWC-C24 | USA COIL & AR | CW12GFP | 570 | 15x12 | 13,300 | 63.4 | 85 | 190 | 160 | 0.9 | 10 | 3/4 | 1.2,3 | | |
| HWC-C25 | USA COIL & AR | CW12GFP | 670 | 15x12 | 13,300 | 63.4 | 85 | 190 | 160 | 0.9 | 10 | 3/4 | 1.2,3 | | |
| HWC-R1 | USA COIL & AR | CW12GFP | 750 | 20x16 | 27,054 | 56.6 | 90 | 190 | 160 | 1.8 | 10 | 3/4 | 1.2,3 | | |
| HWC-R2 | USA COIL & AR | CW12GFP | 1,400 | 20x16 | 35,834 | 66.3 | 90 | 190 | 160 | 2.4 | 10 | 3/4 | 1.2,3 | | |
| HWC-H1 | USA COIL & AR | CW12GFP | 885 | 14x12 | 37,810 | 40.4 | 85 | 190 | 160 | 2.5 | 10 | 3/4 | 1.2,3 | | |
| HWC-H2 | USA COIL & AR | CW12GFP | 660 | 14x12 | 14,270 | 61.4 | 85 | 190 | 160 | 1.0 | 10 | 3/4 | 1.2,3 | | |
| HV-C1, C2 | USA COIL & AR | CW12GFP | 4,630 | 42x36 | 82,256 | 65 | 95 | 190 | 160 | 5.5 | 10 | 1 | 1.2,3 | | |
| HV-C3 | USA COIL & AR | CW12GFP | 2,520 | 36x36 | 38,510 | 65 | 95 | 190 | 160 | 2.6 | 10 | 3/4 | 1.2,3 | | |
| HV-C4 | USA COIL & AR | CW12GFP | 2,560 | 78x36 | 38,510 | 65 | 95 | 190 | 160 | 2.6 | 10 | 3/4 | 1.2,3 | | |
| HV-C5 | USA COIL & AR | CW12GFP | 2,520 | 64x36 | 38,510 | 65 | 95 | 190 | 160 | 2.6 | 10 | 3/4 | 1.2,3 | | |
| HV-V1 | USA COIL & AR | CW12GFP | 20,000 | 114x60 | 782,000 | 51.8 | 80 | 190 | 160 | 52.1 | 10 | 2 | 1.2,3 | | |
| HV-H1 | USA COIL & AR | CW12GFP | 1,300 | 24x12 | 25,775 | 67.8 | 95 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |
| HV-H2 | USA COIL & AR | CW12GFP | 1,300 | 18x12 | 25,775 | 67.8 | 95 | 190 | 160 | 1.7 | 10 | 3/4 | 1.2,3 | | |

NOTES:
1. ACCEPTABLE ALTERNATE MANUFACTURERS ARE CARRIER, COIL COMPANY, LLC, MOODINE, AND TRANE
2. FIELD VERIFY CORRECT COIL HAND AND SIZE PRIOR TO ORDERING.
3. PROVIDE AIR BALANCE REPORT FOR EACH HOT WATER COIL PRIOR TO PUTTING SUBMITTAL TOGETHER.

BOARD HEATER SCHEDULE

| MARK NO. | MANUFACTURER | MODEL | TYPE | PERFORMANCE | | | | | | | | | | NOTES |
|----------|--------------|--------|-----------|-------------|----------|----------|----------|----------|------------|----------|------------------------|-------|--|-------|
| | | | | TOTAL (MBH) | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | FLOW (GPM) | WPD (FT) | BRANCH PIPE SIZE (IN.) | | | |
| BH-P1 | MOODINE | ETT024 | BASEBOARD | 5,800 | 60 | 95 | 190 | 160 | 0.6 | 5 | 3/4 | 1.2,3 | | |
| BH-P2 | MOODINE | ETT024 | BASEBOARD | 6,200 | 65 | 95 | 190 | 160 | 1.25 | 5 | 3/4 | 1.2,3 | | |
| BH-P2A | MOODINE | ETT024 | BASEBOARD | 6,200 | 65 | 95 | 190 | 160 | 1.25 | 5 | 3 | | | |