

ABBREVIATIONS table listing symbols and descriptions for HVAC components like ABV, AC, ACCEPT, etc.

GENERAL table listing symbols and descriptions for general HVAC components like NEW WORK, EXISTING WORK, etc.

HVAC LEGEND table listing symbols and descriptions for valves, gauges, and ductwork components like BALL VALVE, SOLENOID CONTROL VALVE, etc.

DUCTWORK table listing symbols and descriptions for ductwork components like ACCESS DOOR, FLEXIBLE CONNECTION, etc.

HVAC DRAWING LIST table listing mechanical legend and abbreviations with their corresponding descriptions.

ALL - HOURS OF CONSTRUCTION - All development activity and heavy equipment operation is restricted to 7:00 a.m. to 6:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. Saturday. Other restrictions on Saturday include: no working in the right-of-way, no work requiring inspection, and no trucking into or out of the site; however, light grading work on-site on Saturday is allowed. NO development activity or heavy equipment operation may occur on Sundays or the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

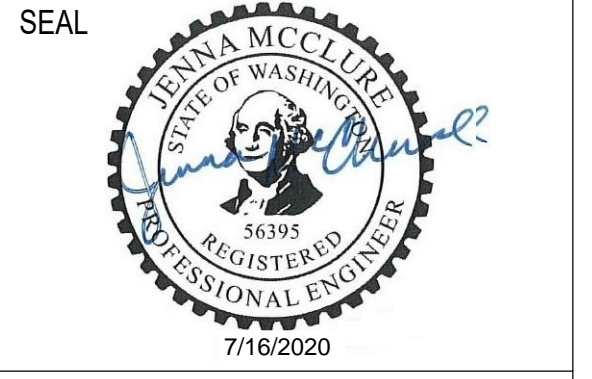
MUST REMAIN ON JOB SITE

PROJECT
KIRKLAND URBAN SOUTH
200 PETER KIRK LN.
KIRKLAND, WA

OWNER
CONSULTANT
GLUMAC
1901 8th Ave., Suite 2210
Seattle, WA 98101
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T 206.293.1910 F 206.293.2866

ISSUED table with columns for MARK, DATE, and DESCRIPTION.

PROJECT NO. CBRE03.18.095
DRAWN BY NJJM
ISSUE DATE 01/21/2020



SHEET TITLE / NUMBER
MECHANICAL LEGEND AND ABBREVIATIONS

M0.0

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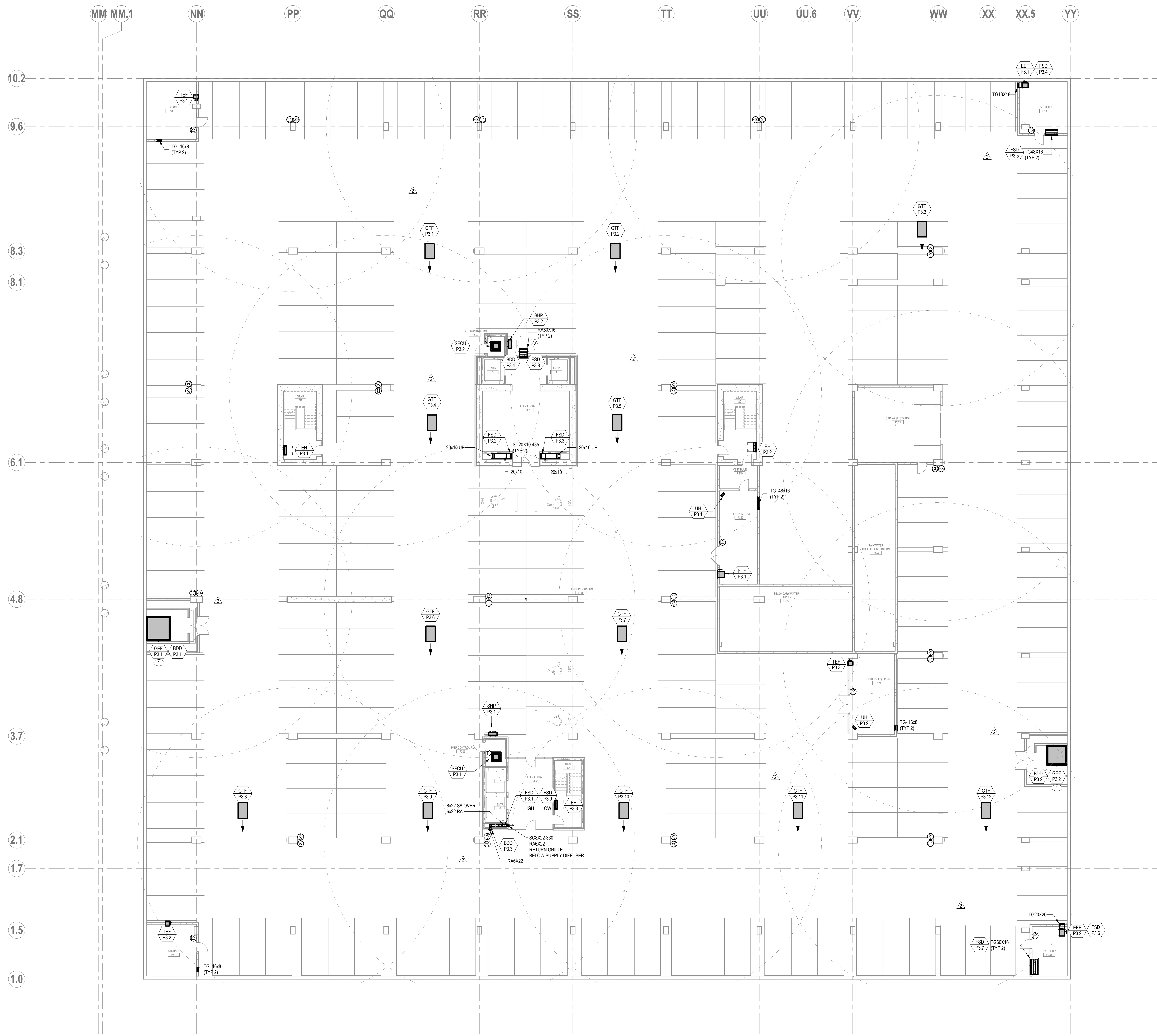
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	12/20/2019	CD PROGRESS SET
	01/17/2020	50% CD SET
	02/26/2020	90% CD SET
2	07/10/2020	GARAGE PERMIT RESUB

SHEET NOTES

- PROVIDE A MINIMUM CLEARANCE OF 8' ABOVE FINISHED FLOOR IN PARKING GARAGE (COORD. W/ ARCH).
- PARKING GARAGE TO BE EXHAUSTED PER WSEC WITH VARIABLE SPEED FANS CONTROLLED BY CO AND NO2 SENSORS.
- ROUTE REFRIGERANT PIPING FROM FCU TO AC. INSTALL PER MANUFACTURER'S INSTRUCTION AND CONCEALED IN OCCUPIED SPACES.
- IN GWB CEILINGS VOLUME DAMPERS SHALL BE REMOTE ACTUATED. CORRIDOR GRILLS AND DIFFUSERS SHALL HAVE OBD'S. PROVIDE MANUAL VOLUME DAMPERS IN EXPOSED AREAS.

KEYED NOTES

- GARAGE EXHAUST FAN (GEF-P3.X) MOUNT VFD WITHIN FANS SIGHT LINES AND VERTICALLY IN FAN FROM WALL. COORDINATE FINAL LOCATION WITH REQUIRED GARAGE CLEARANCES.



1 LEVEL P3 FLOOR PLAN - HVAC
 SCALE: 3/32" = 1'-0"



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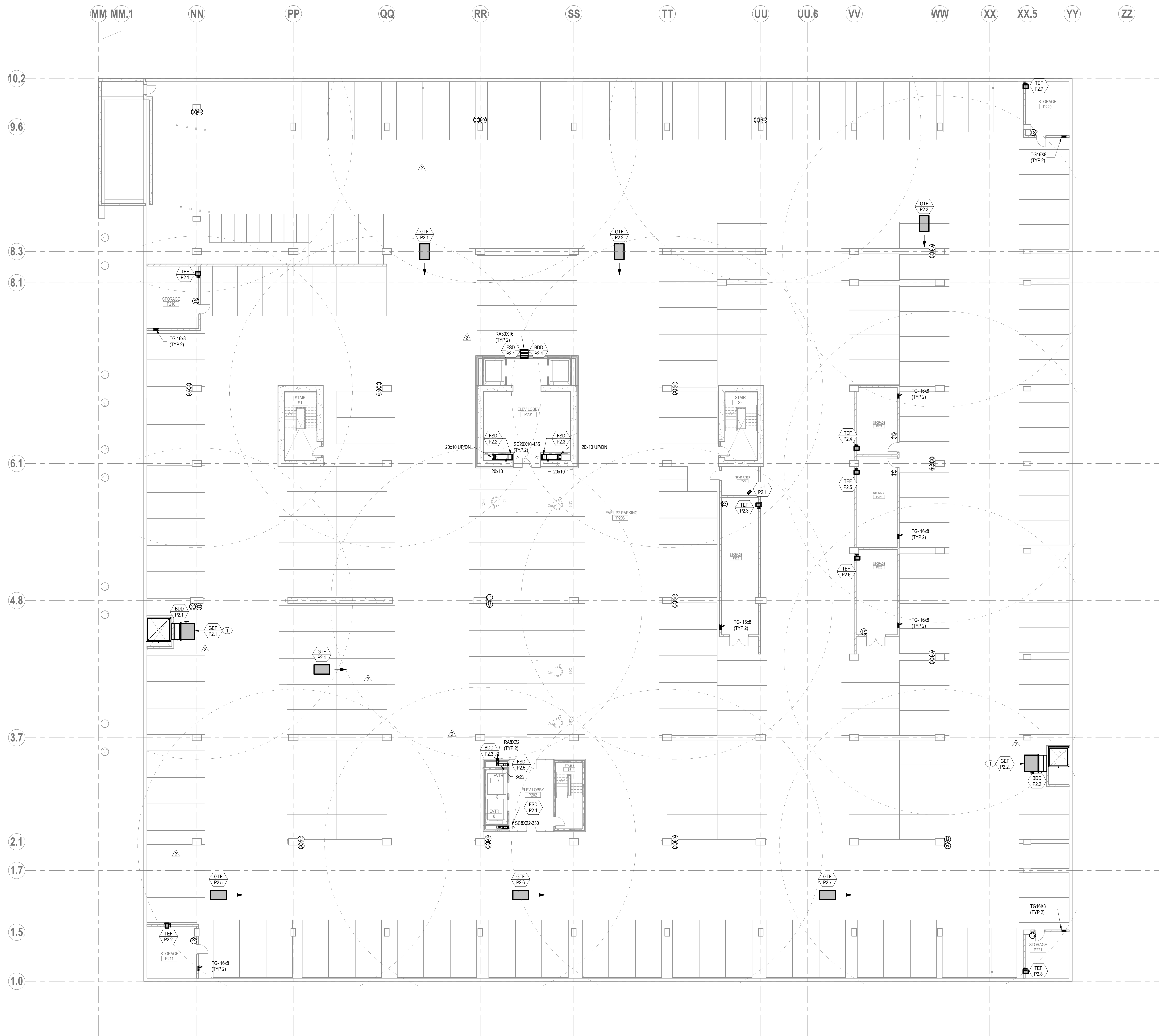
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	02/20/2020	90% CD SET
2	07/10/2020	GARAGE PERMIT RESUB

SHEET NOTES

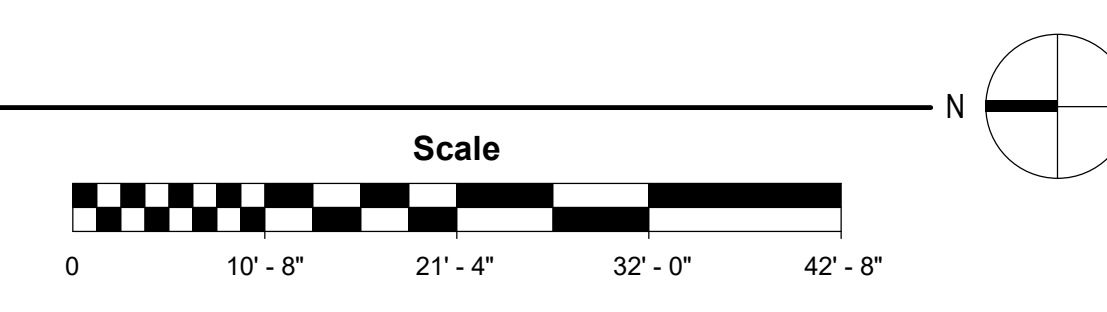
- PROVIDE A MINIMUM CLEARANCE OF 8' ABOVE FINISHED FLOOR IN PARKING GARAGE (COORD. W/ ARCH).
- PARKING GARAGE TO BE EXHAUSTED PER WSEC WITH VARIABLE SPEED FANS CONTROLLED BY CO AND NO2 SENSORS.
- ROUTE REFRIGERANT PIPING FROM FCU TO AC. INSTALL PER MANUFACTURER'S INSTRUCTION AND CONCEALED IN OCCUPIED SPACES.
- IN GWB CEILINGS VOLUME DAMPERS SHALL BE REMOTE ACTUATED. CORRIDOR GRILLS AND DIFFUSERS SHALL HAVE OBD'S. PROVIDE MANUAL VOLUME DAMPERS IN EXPOSED AREAS.

KEYED NOTES

- GARAGE EXHAUST FAN (GEF-P2.X); MOUNT VFD WITHIN FANS SIGHT LINES AND VERTICALLY IN FAN FROM WALL. COORDINATE FINAL LOCATION WITH REQUIRED GARAGE CLEARANCES.



1 LEVEL P2 FLOOR PLAN - HVAC
 SCALE: 3/32" = 1'-0"



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	01/17/2020	50% CD SET
	02/26/2020	90% CD SET
2	07/10/2020	GARAGE PERMIT RESUB

PROJECT NO.	CBRE03.18.095
DRAWN BY	NJUM
ISSUE DATE	07/17/2020

SEAL

SHEET TITLE / NUMBER
**LEVEL P1 FLOOR
 PLAN - HVAC**

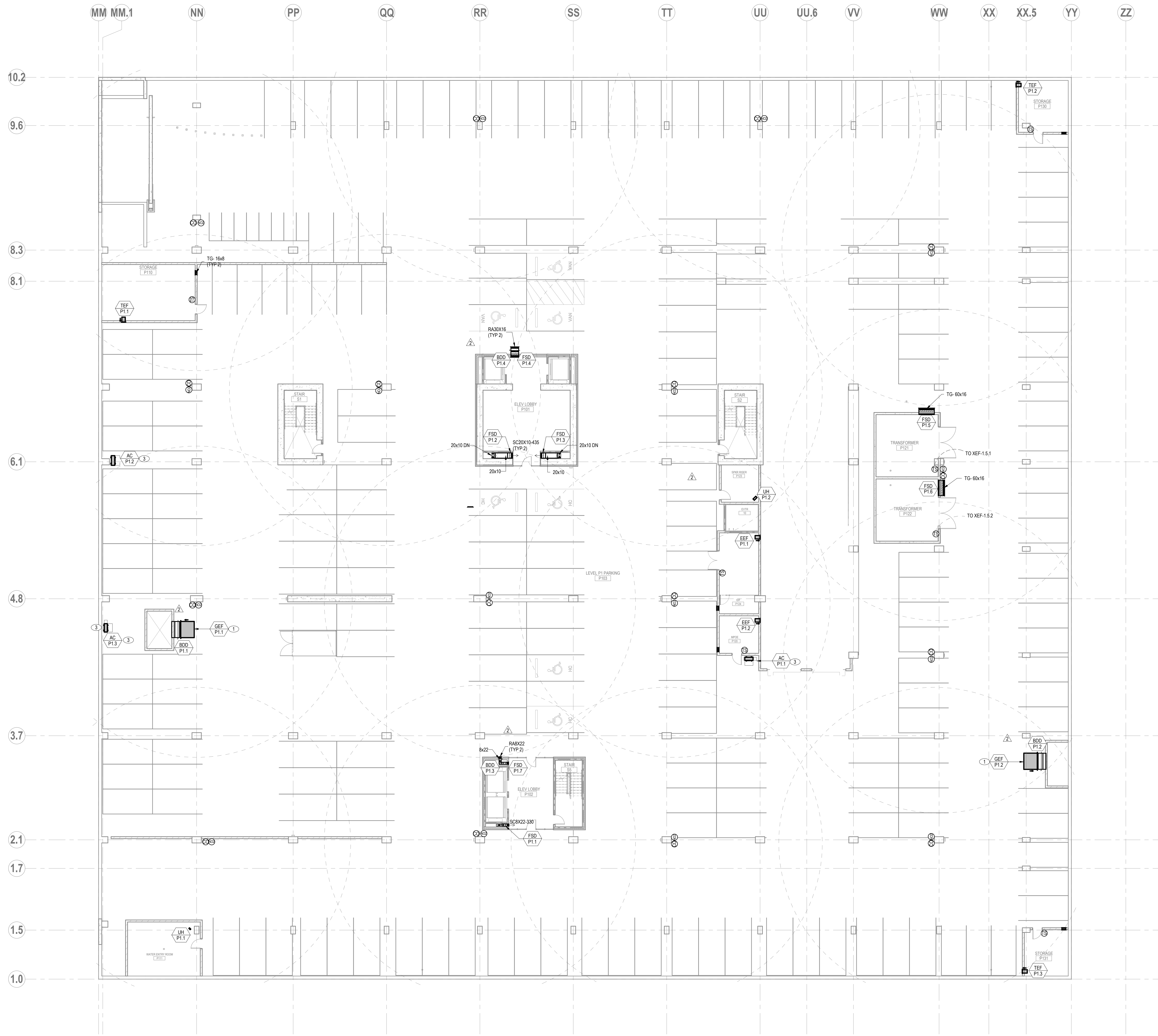
M2.P1

SHEET NOTES

- PROVIDE A MINIMUM CLEARANCE OF 8' ABOVE FINISHED FLOOR IN PARKING GARAGE (COORD. W/ ARCH).
- PARKING GARAGE TO BE EXHAUSTED PER WSEC WITH VARIABLE SPEED FANS CONTROLLED BY CO AND NO2 SENSORS.
- ROUTE REFRIGERANT PIPING FROM FCU TO AC. INSTALL PER MANUFACTURER'S INSTRUCTION AND CONCEALED IN OCCUPIED SPACES.
- IN GWB CEILINGS VOLUME DAMPERS SHALL BE REMOTE ACTUATED. CORRIDOR GRILLS AND DIFFUSERS SHALL HAVE OBD'S. PROVIDE MANUAL VOLUME DAMPERS IN EXPOSED AREAS.

KEYED NOTES

- GARAGE EXHAUST FAN (GEF-P1.X); MOUNT VFD WITHIN FANS SIGHT LINES AND VERTICALLY IN FAN FROM WALL. COORDINATE FINAL LOCATION WITH REQUIRED GARAGE CLEARANCES.
- MOUNT AC-P1.2 AT 5' ABOVE FINISHED FLOOR.
- MOUNT HIGH ON WALL WITH DRAIN PAN.



1 LEVEL P1 FLOOR PLAN - HVAC
 SCALE: 3/32" = 1'-0"

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SHEET NOTES

- A. PROVIDE A MINIMUM CLEARANCE OF 8' ABOVE FINISHED FLOOR IN PARKING GARAGE (COORD. W/ ARCH).
- B. PARKING GARAGE TO BE EXHAUSTED PER WSEC WITH VARIABLE SPEED FANS CONTROLLED BY CO AND NO₂ SENSORS.
- C. ROUTE REFRIGERANT PIPING FROM FCU TO AC. INSTALL PER MANUFACTURER'S INSTRUCTION AND CONCEAL IN OCCUPIED SPACES.
- D. IN GWB CEILINGS VOLUME DAMPERS SHALL BE REMOTE ACTUATED. CORRIDOR GRILLS AND DIFFUSERS SHALL HAVE OBD'S. PROVIDE MANUAL VOLUME DAMPERS IN EXPOSED AREAS.
- E. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONIC SYSTEMS.

KEYED NOTES

- 1. CAP FOR FUTURE TL.
- 2. TRANSFORMER EXHAUST DUCT TO BE ENCLOSED IN 3 HOUR RATED SOFFIT.
- 3. FIRE SMOKE DAMPER LOCATED IN DUCT DROP.

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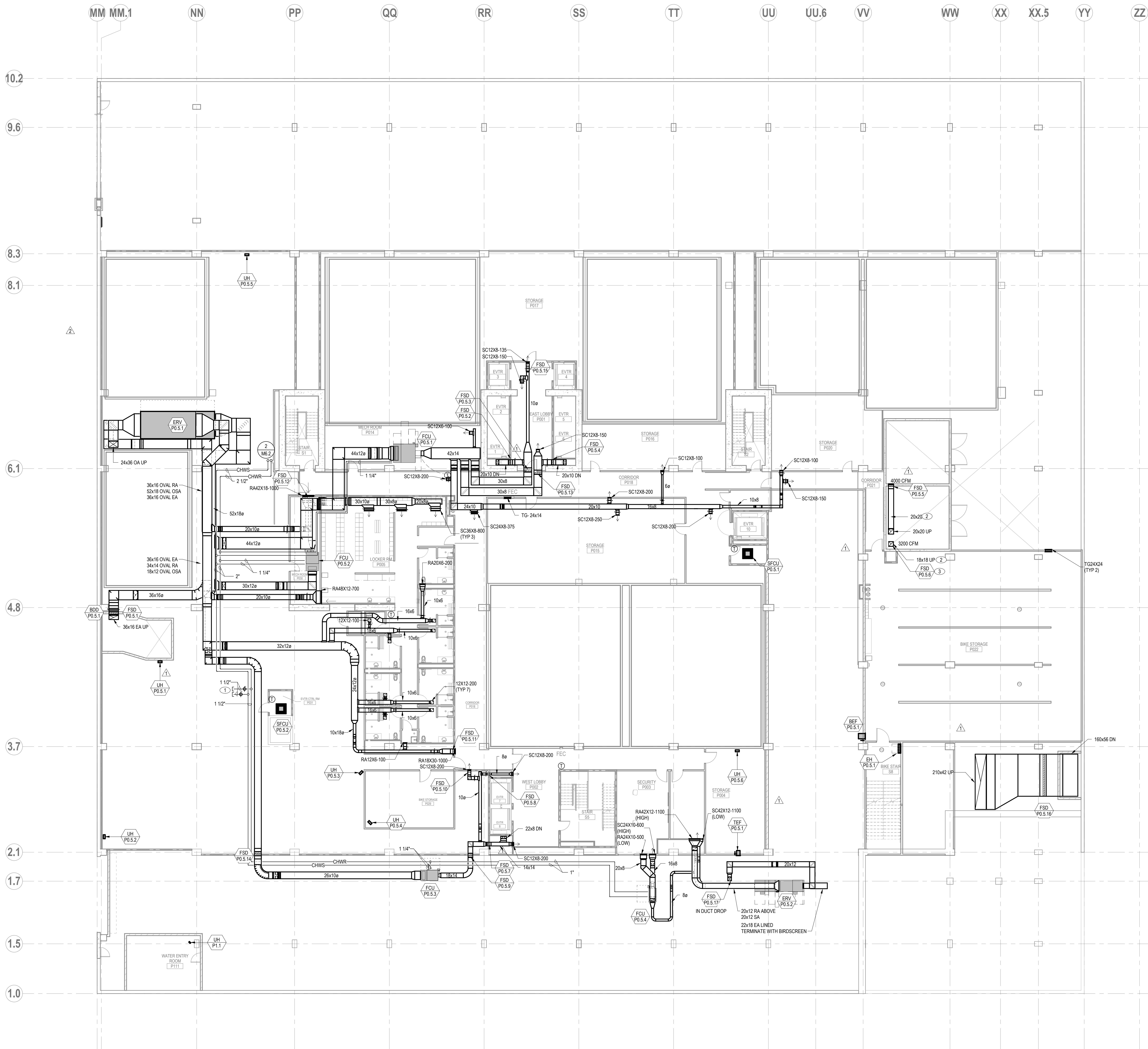
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2	07/10/2020	GARAGE PERMIT RESUB

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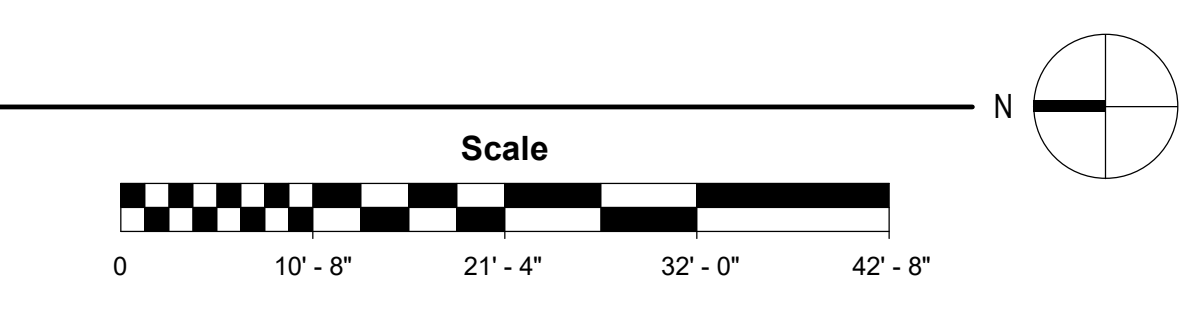
SEAL

SHEET TITLE / NUMBER
LEVEL P0.5 FLOOR PLAN - HVAC

M2.P0.5



1 LEVEL P0.5 FLOOR PLAN - HVAC
 SCALE: 3/32" = 1'-0"



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PROJECT

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ISSUED

MARK	DATE	DESCRIPTION
3	07/17/2020	TOWER PERMIT RESUB
	07/24/2020	ISSUE FOR CONSTRUCTION
	09/03/2020	RFI 019
	11/09/2020	RFI 045
	11/09/2020	RFI 043
	11/19/2020	RFI 032
4	11/19/2020	PERMIT RESUBMITTAL
	12/03/2020	RFI 046
6	01/22/2021	TOWER PERMIT RESUBMITTAL

PROJECT NO. CBRE03.18.095
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ISSUE DATE 01/21/2020



SHEET TITLE / NUMBER
**LEVEL 1 FLOOR
PLAN - HVAC**

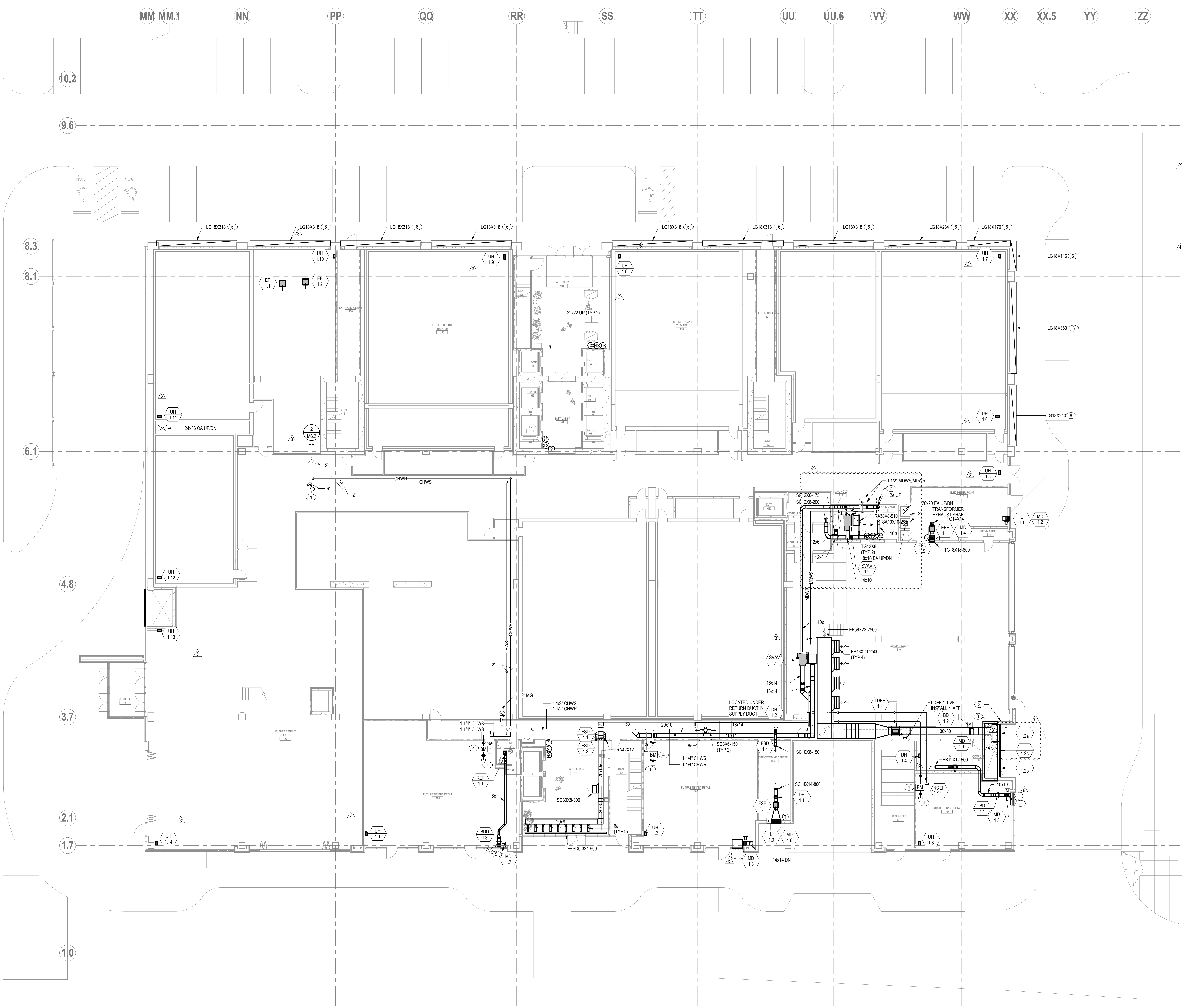
M2.1

SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

1. CAP FOR FUTURE TL.
2. GRILLES TO PROVIDE OUTSIDE AIR FOR FUTURE TL. REFERENCE ARCHITECTURE WALL DETAILS FOR GRILLE LAYOUT.
3. PROPOSED LOCATION OF SLEEVES FOR FUTURE GAS METER MANFOLD TIE IN.
4. 87U METER.
5. 12X16 PLENUM. BLANK OFF UNUSED PORTION OF LOUVER.
6. PLENUM WITH SOFFIT GRILLES ON LEVEL 1 AND 1.5 FOR FUTURE RETAIL. SEE ARCHITECTURAL DETAIL ON 6A8.12 AND WALL SECTIONS WW.7/AS.7 AND QQ.4/AS.8.
7. 1-1/2" MDVSM/DWR UP.
8. PROVIDE 1-HOUR FIRE RATED WRAP AROUND 30X30 DUCT IN SHAFT AND 8X48 PLENUM ATTACHED TO LOUVER L-1.2A.



1 LEVEL 1 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"

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SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

1. PROVIDE 3 HR FIRE WRAP AND CAULK ON EXHAUST DUCT FROM RATED SHAFT TO LOUVER. FAN SHALL BE WRAPPED WITH METAL FAB ROUND PREINSULATED DUCT.
2. CAP FOR FUTURE TI.
3. THERMOSTAT LOCATED ON L1.
4. INSTALL VOLUME DAMPER IN DUCT DROP.
5. CAP 2" GREASE DUCT UP FOR FUTURE TI, FIRE WRAP.
6. CAP 1" DISHWASHER DUCT FOR FUTURE TI.
7. DUCT TERMINATES IN PLENUM WITH SOFFIT GRILLES SHOWN ON LEVEL 1. SEE ARCHITECTURAL DETAIL ON 6/8.12 AND WALL SECTIONS WW 7/AS.7 AND QQ.4/AS.8.
8. 1-1/2" MDWSMDWR, CAP FOR FUTURE TI.
9. 1-1/2" CHWSCHWR, CAP FOR FUTURE TI.
10. 1-1/2" MDWSMDWR DOWN.
11. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.
12. PROVIDE 2" DUCT LINER, K-VALUE 0.24 BTU/(HR*SQ FT*F) AT 75 DEGREES MAXIMUM.
13. BLANK OFF TOP CORNER OF LOUVER, APPROXIMATELY 2'-2" TO MEET 1' CLEARANCE FROM GENERATOR COMBUSTION EXHAUST.
14. PROVIDE SEPARATE 12X12 PLENUM AND DAMPER FOR MAKE UP AIR AND EXHAUST FOR GENERATOR SWITCHGEAR ROOM AND SMOKE CONTROL ROOM.

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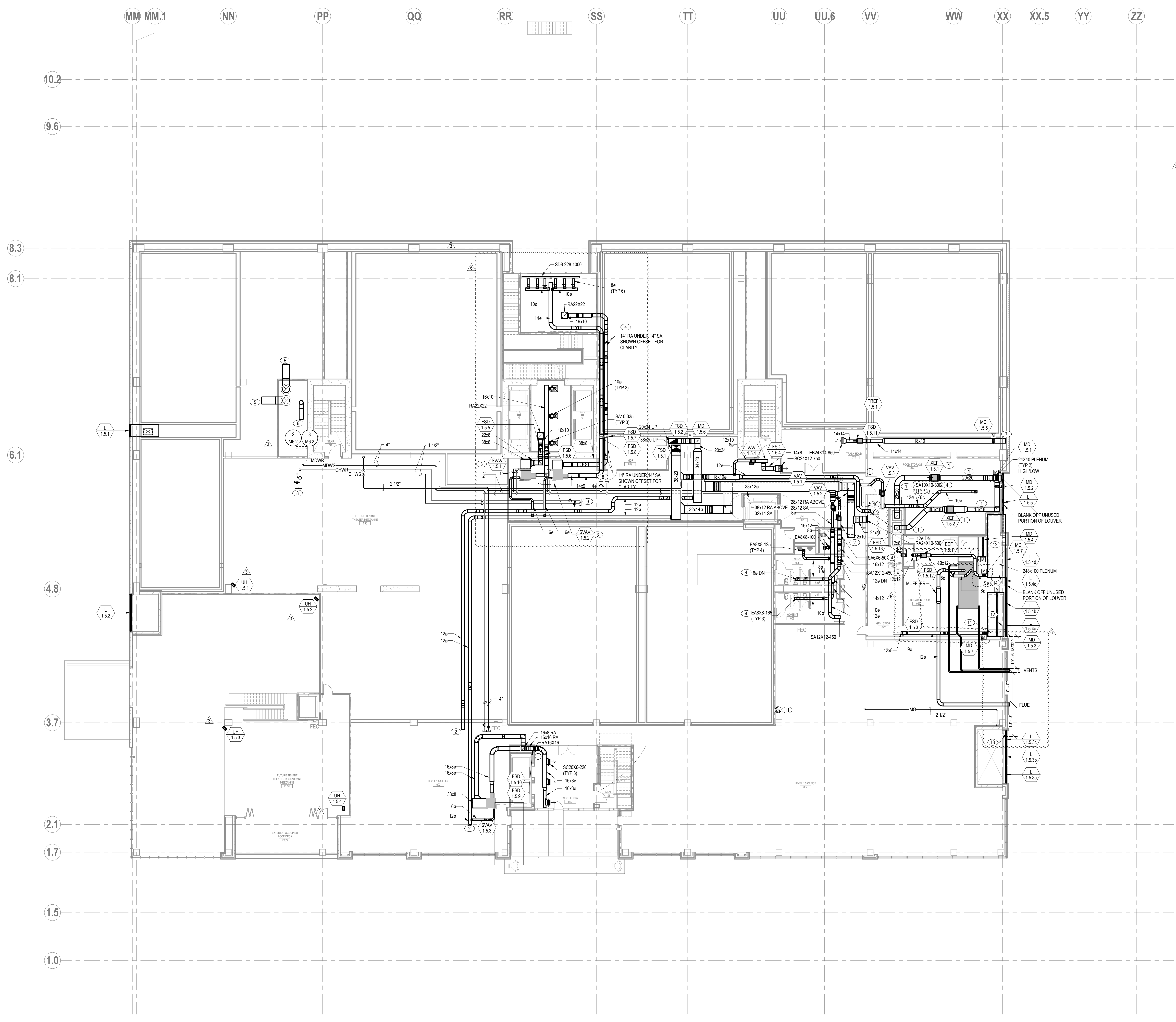
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3	07/17/2020	TOWER PERMIT RESUB
	07/24/2020	ISSUE FOR CONSTRUCTION
	02/23/2021	RFI 046
6	01/22/2021	TOWER PERMIT RESUB/MTAL

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ISSUE DATE 01/21/2020



SHEET TITLE / NUMBER
**LEVEL 1.5 FLOOR
PLAN - HVAC**

M2.1.5



1 LEVEL 1.5 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"

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SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

- 1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. CAP AT OUTSIDE OF SHAFT ON ROOF. DUCTS UP TO ROOF.
- 2. 38X38 DUCT FOR FUTURE GENERAL EXHAUST. CAP OUTSIDE OF SHAFT ON L2. DUCT UP TO ROOF.
- 3. FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF. SERVES L2 FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT. CAP OUTSIDE OF SHAFT ON L2.
- 4. TWO (2) 28" TYPE 1 GREASE DUCTS DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
- 5. TWO (2) 18" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT TO STOP ON LEVEL 2 AND ONE TO STOP ON LEVEL 1.5. CAP DUCT OUTSIDE OF SHAFT ON LEVEL 2.
- 6. CAP FOR FUTURE TL.
- 7. SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
- 8. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.
- 9. VAV CONTROLS BY TL.

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PROJECT

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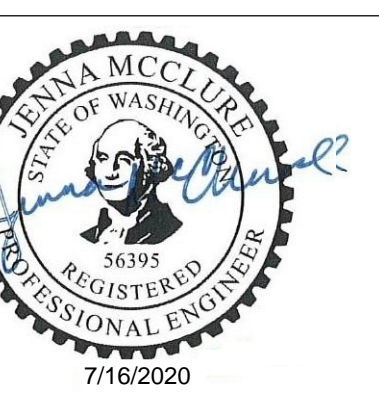
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	02/23/2021	AS-BUILT
	11/09/2020	RFI 047
6	01/22/2021	TOWER PERMIT RESUBMITTAL

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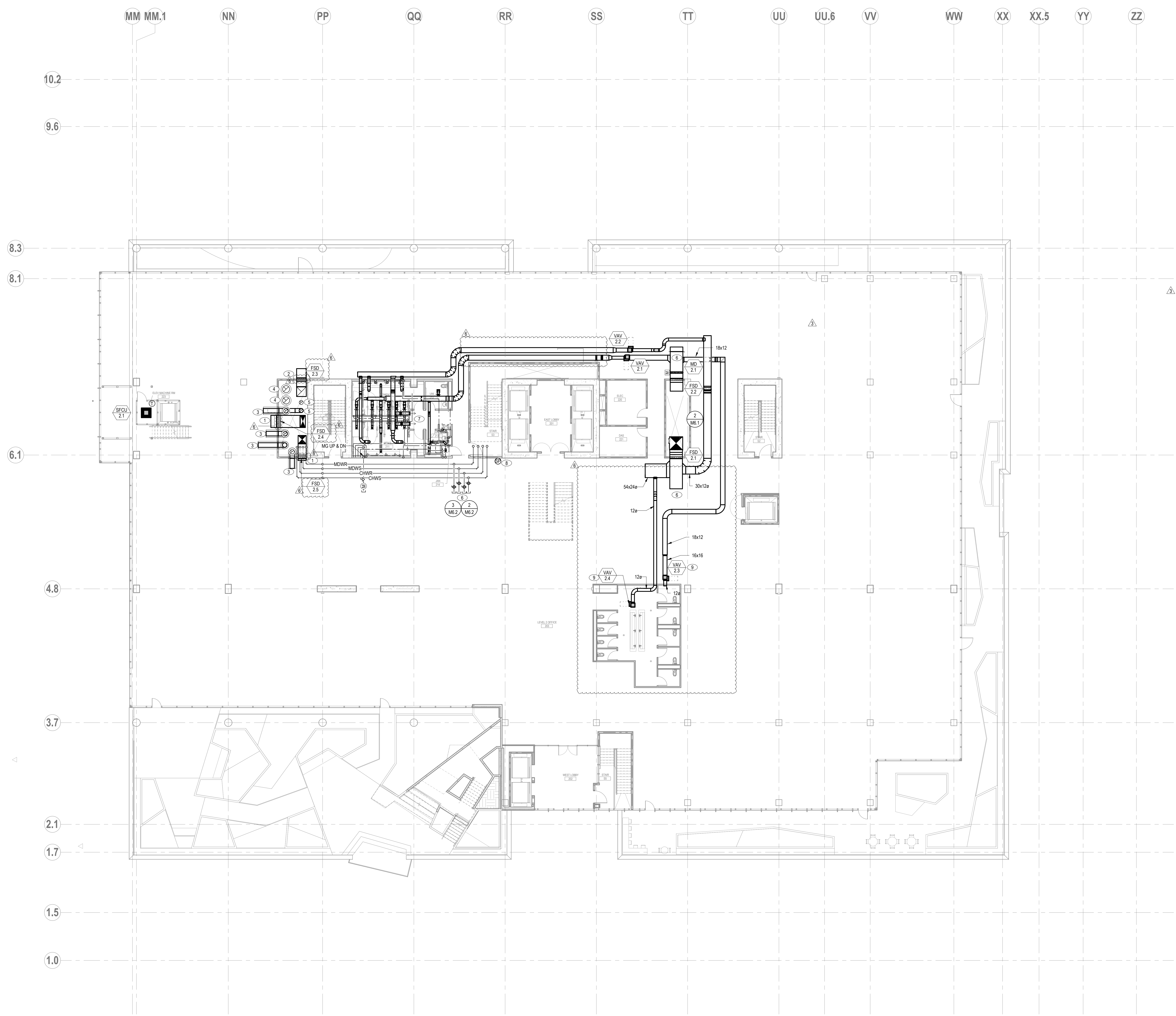
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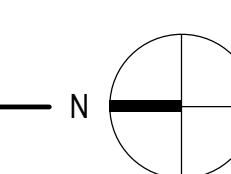
**LEVEL 2 FLOOR
PLAN - HVAC**

M2.2

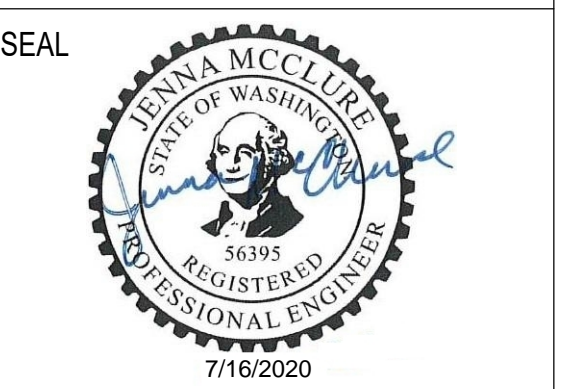


1 LEVEL 2 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"

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02/20/2020	50% CD SET
07/17/2020	TOWER PERMIT RESUB



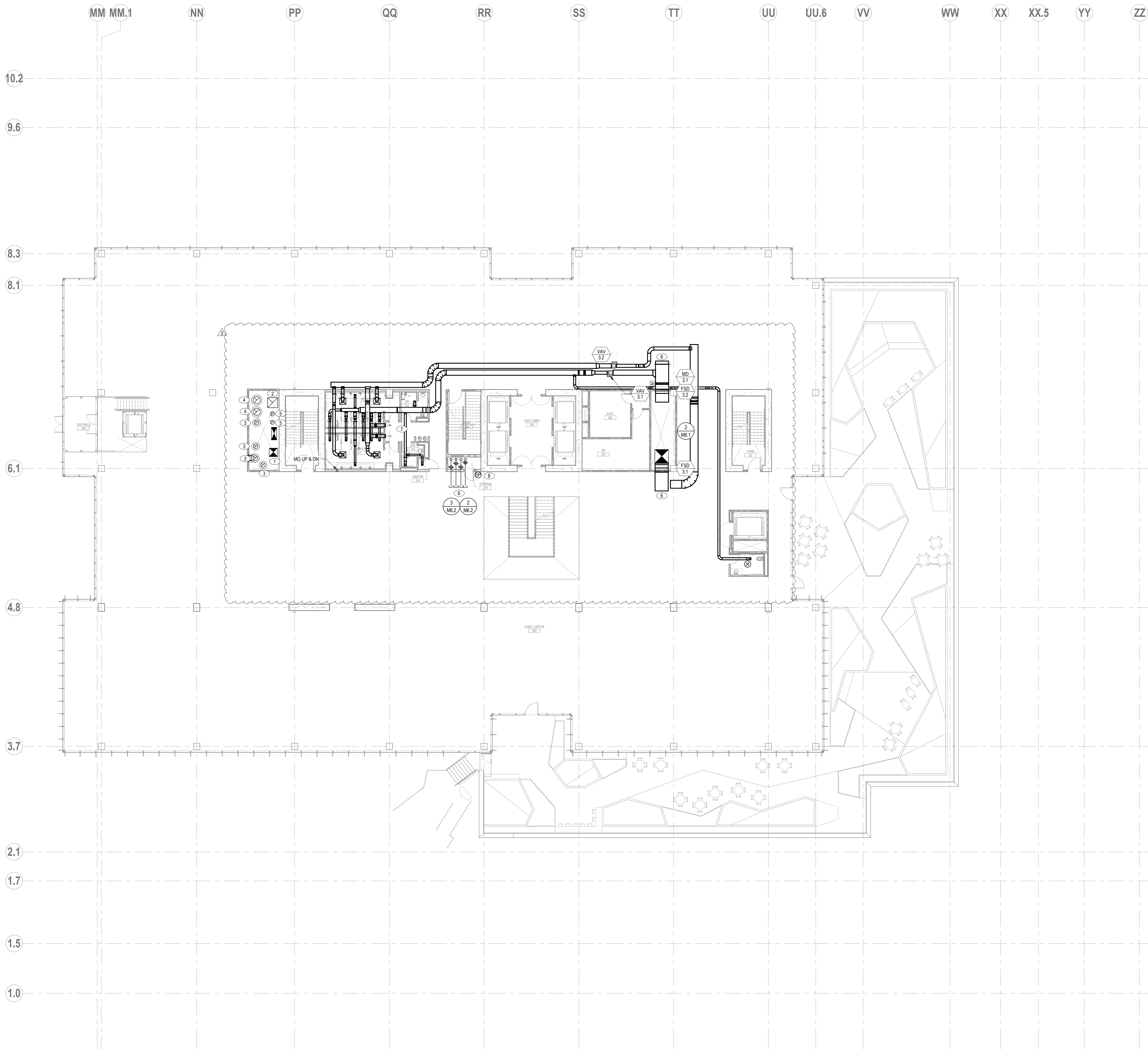
SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

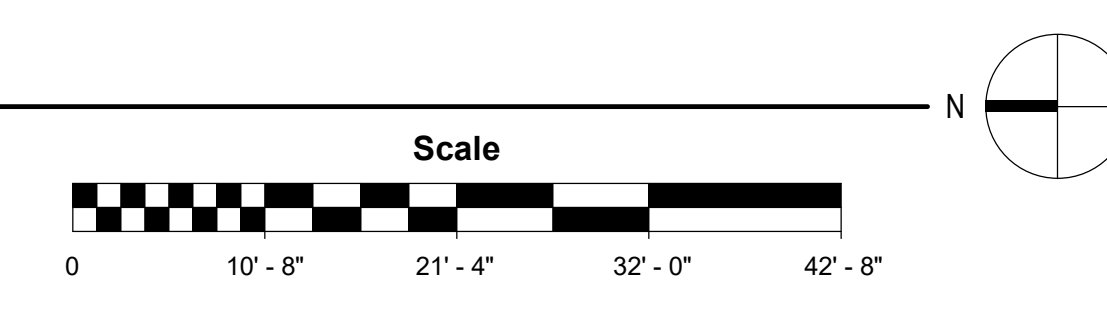
City of Kirkland
 Reviewed by A HAUPT
 03/22/2021

KEYED NOTES

1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. DUCTS UP TO ROOF AND DOWN TO LEVEL 2.
2. 36X36 DUCT FOR FUTURE GENERAL EXHAUST. DUCT UP TO ROOF AND DOWN TO LEVEL 2.
3. FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L2. DUCT TO SERVE FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
4. TWO (2) 28" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
5. TWO (2) 16" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT UP TO ROOF AND DOWN TO LEVEL 2 AND ONE TO UP TO ROOF AND DOWN TO LEVEL 1.5.
6. CAP FOR FUTURE TL.
7. SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
8. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.



1 LEVEL 3 FLOOR PLAN - HVAC
 SCALE: 3/32" = 1'-0"



7/24/2020 5:13:50 AM

SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. DUCTS UP TO ROOF AND DOWN TO LEVEL 2.
2. 38X38 DUCT FOR FUTURE GENERAL EXHAUST. DUCT UP TO ROOF AND DOWN TO LEVEL 2.
3. FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L2. DUCT TO SERVE FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
4. TWO (2) 28" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
5. TWO (2) 16" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT UP TO ROOF AND DOWN TO LEVEL 2 AND ONE TO UP TO ROOF AND DOWN TO LEVEL 1.5.
6. CAP FOR FUTURE TI.
7. SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
8. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.

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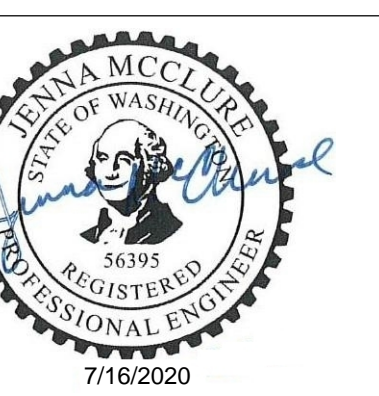
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ISSUE DATE 07/17/2020

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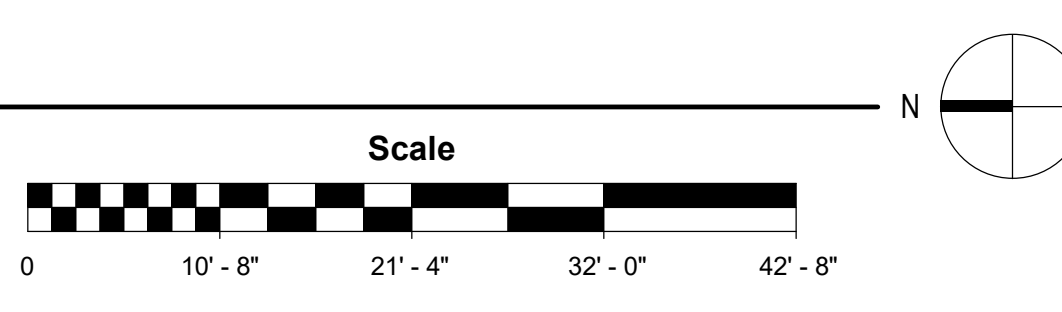


SHEET TITLE / NUMBER
**LEVEL 4 FLOOR
PLAN - HVAC**

M2.4



1 LEVEL 4 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"



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PROJECT

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	02/20/2020	50% CD SET
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SHEET TITLE / NUMBER
**LEVEL 5 FLOOR
PLAN - HVAC**

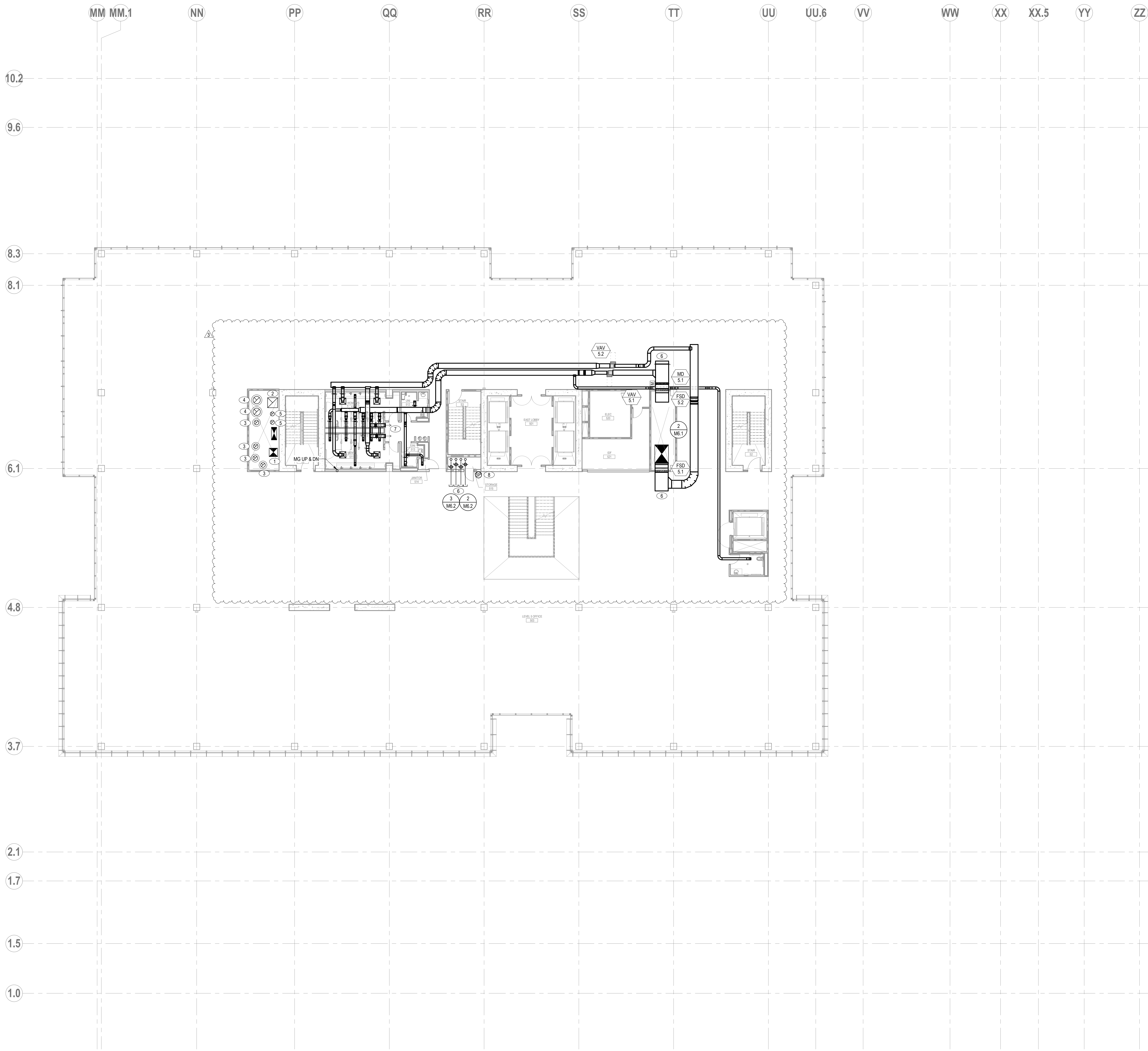
M2.5

SHEET NOTES

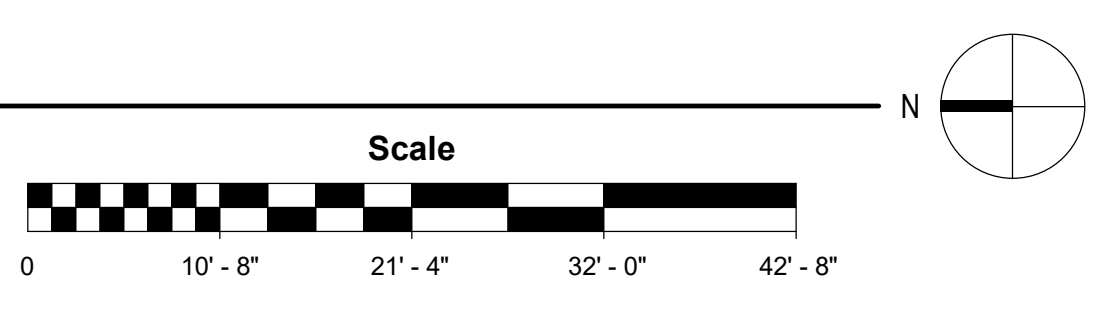
- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. DUCTS UP TO ROOF AND DOWN TO LEVEL 2.
2. 38X38 DUCT FOR FUTURE GENERAL EXHAUST. DUCT UP TO ROOF AND DOWN TO LEVEL 2.
3. FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L2. DUCT TO SERVE FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
4. TWO (2) 28" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
5. TWO (2) 16" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT UP TO ROOF AND DOWN TO LEVEL 2 AND ONE TO UP TO ROOF AND DOWN TO LEVEL 1.5.
6. CAP FOR FUTURE TI.
7. SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
8. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.



1 LEVEL 5 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"



7/24/2020 5:13:55 AM

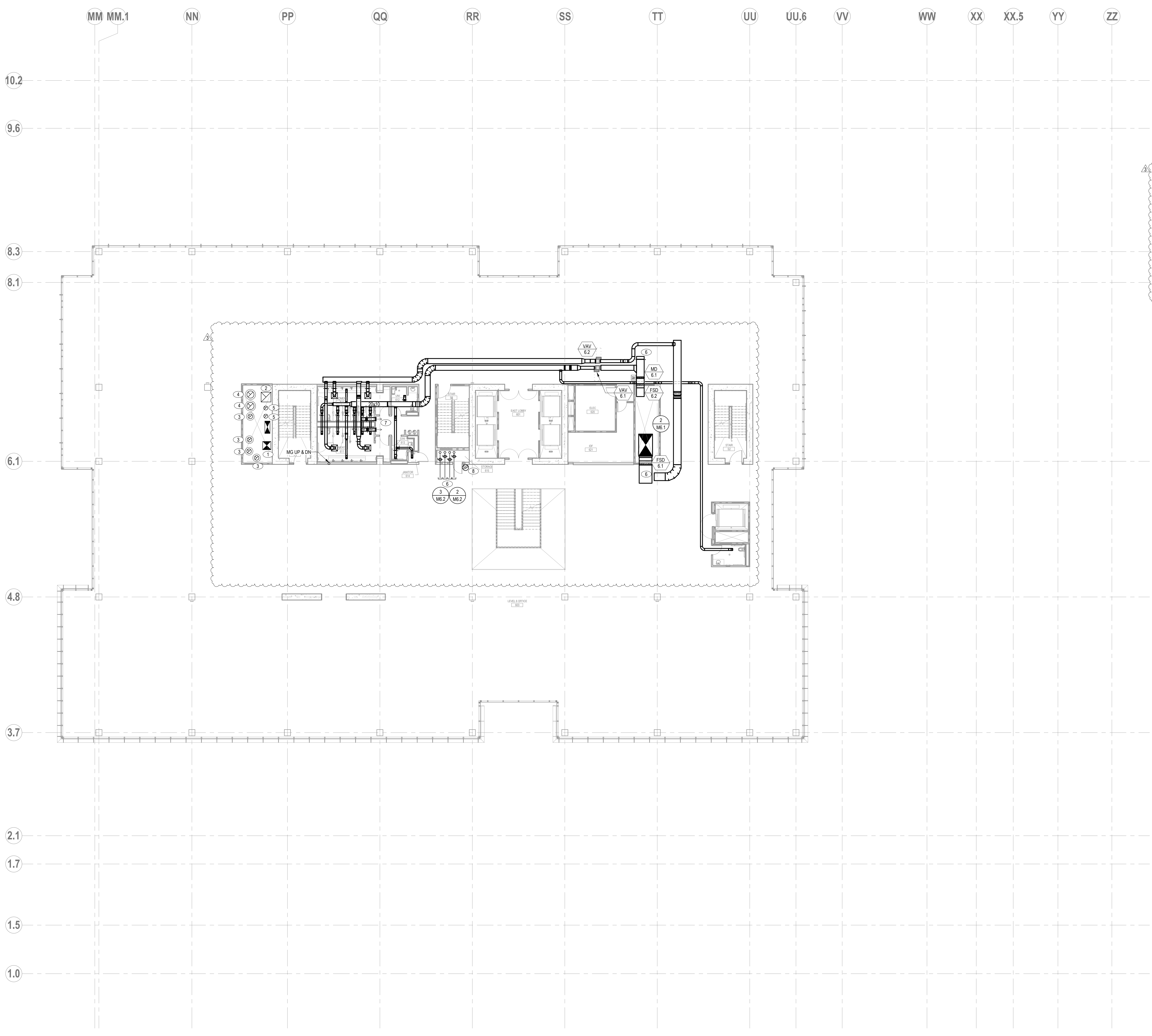


SHEET NOTES

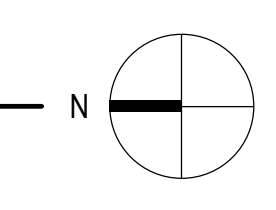
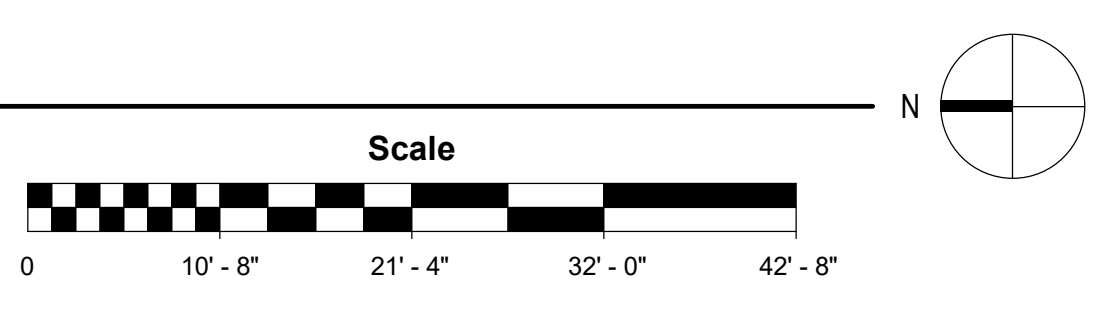
- THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

- ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. DUCTS UP TO ROOF AND DOWN TO LEVEL 2.
- 30X30 DUCT FOR FUTURE GENERAL EXHAUST. DUCT UP TO ROOF AND DOWN TO LEVEL 2.
- FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L2. DUCT TO SERVE FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
- TWO (2) 28" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
- TWO (2) 16" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT UP TO ROOF AND DOWN TO LEVEL 2 AND ONE TO UP TO ROOF AND DOWN TO LEVEL 1.5.
- CAP FOR FUTURE TI.
- SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
- SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.



1 LEVEL 6 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"



7/24/2020 5:13:58 AM

SHEET NOTES

- A. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SIZED BY THE CONTRACTOR OR VENDOR.
- B. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONG SYSTEMS.

KEYED NOTES

1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. DUCTS UP TO ROOF AND DOWN TO LEVEL 2.
2. 38X38 DUCT FOR FUTURE GENERAL EXHAUST. DUCT UP TO ROOF AND DOWN TO LEVEL 2.
3. FOUR (4) 18" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L2. DUCT TO SERVE FUTURE KITCHEN GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
4. TWO (2) 28" TYPE 1 GREASE DUCTS UP TO ROOF AND DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT.
5. TWO (2) 16" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT UP TO ROOF AND DOWN TO LEVEL 2 AND ONE TO UP TO ROOF AND DOWN TO LEVEL 1.5.
6. CAP FOR FUTURE TL.
7. 36X24 STAIR RELIEF DUCT UP. TERMINATE WITH BIRDSCREEN.
8. 36X20 STAIR PRESSURIZATION DUCT UP. TERMINATE WITH BIRDSCREEN.
9. SEE SIZING ON LEVEL 7 FOR RESTROOMS. TYPICAL FOR FLOORS 2-7.
10. 6" CHWS/CHWR UP TO DOAS ON ROOF.
11. SPACE STATIC PRESSURE SENSOR. USE MOTORIZED DAMPER IN RETURN DUCT TO BALANCE EACH FLOOR'S PRESSURE.
12. PIPING SHOWN OFFSET FOR CLARITY. PIPING SHALL NOT RUN IN VAV ACCESS AREA.
13. VAV CONTROLS BY TL.

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PROJECT

**KIRKLAND
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SOUTH**
200 PETER KIRK LN.
KIRKLAND, WA

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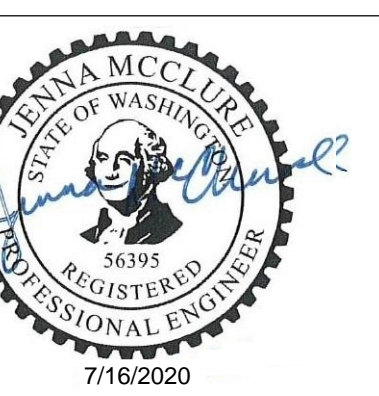
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	11/22/2019	PROGRESS SET
	12/20/2019	CD PROGRESS SET
	01/17/2020	50% CD SET
	02/20/2020	50% CD SET
3	07/17/2020	TOWER PERMIT RESUB
	07/24/2020	ISSUE FOR CONSTRUCTION
	10/23/2020	AS-BUILT
	12/03/2020	RFI 046
6	01/22/2021	TOWER PERMIT RESUBMITTAL

PROJECT NO. CBRE03.18.095

DRAWN BY NJUM

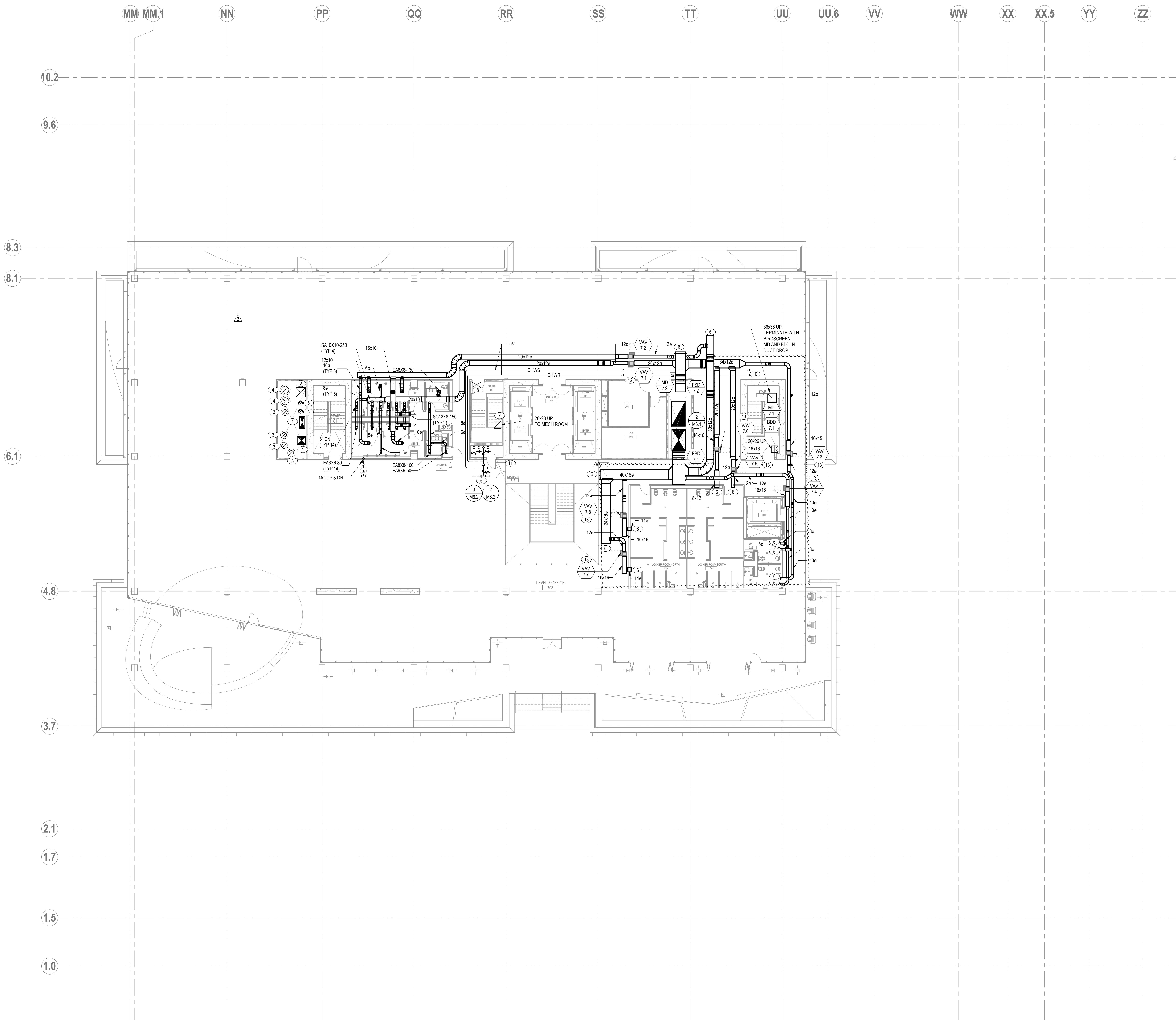
ISSUE DATE 01/21/2020

SEAL



SHEET TITLE / NUMBER
**LEVEL 7 FLOOR
PLAN - HVAC**

M2.7



1 LEVEL 7 FLOOR PLAN - HVAC
SCALE: 3/32" = 1'-0"

1/21/2021 6:42:28 PM

SHEET NOTES

- A. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
- B. THE REFRIGERANT PIPING SHALL BE DESIGNED AND SEIZED BY THE CONTRACTOR OR VENDOR.
- C. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- D. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
- E. AIR VENTS SHALL BE INSTALLED AT ALL HIGH POINTS IN HYDRONIC SYSTEMS.
- F. INSULATE AND ELECTRICAL HEAT TRACE ALL HYDRONIC WATER SUPPLY AND RETURN PIPING, DRAIN, AND OVERFLOW PIPING AND ICW MAKE-UP WATER PIPING.

KEYED NOTES

- 1. ONE (1) 32X32 AND ONE (1) 48X20 DUCT FOR FUTURE MAKE UP AIR UNITS. CAP AT OUTSIDE OF SHAFT ON ROOF. DUCTS DOWN TO LEVEL 2.
- 2. 38X38 DUCT FOR FUTURE GENERAL EXHAUST. CAP OUTSIDE OF SHAFT ON ROOF. DUCT DOWN TO LEVEL 2.
- 3. FOUR (4) 18" TYPE 1 GREASE DUCTS DOWN TO L2 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT. CAP OUTSIDE OF SHAFT ON ROOF.
- 4. TWO (2) 28" TYPE 1 GREASE DUCTS DOWN TO L1.5 FUTURE KITCHEN TO SERVE GREASE HOODS. FIRE WRAP DUCTS IN SHAFT. CAP OUTSIDE OF SHAFT ON ROOF.
- 5. TWO (2) 18" DUCT TO SERVE FUTURE DISHWASHERS. ONE DUCT TO STOP ON LEVEL 2 AND ONE TO STOP ON LEVEL 1.5. CAP DUCTS OUTSIDE OF SHAFT ON ROOF.
- 6. STAR RELIEF. TERMINATE WITH BIRDSCREEN.

PROJECT

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MARK	DATE	DESCRIPTION
	09/27/2019	100% DD SET
	11/22/2019	PROGRESS SET
	12/20/2019	CD PROGRESS SET
	01/17/2020	50% CD SET
	02/20/2020	50% CD SET
3	07/17/2020	TOWER PERMIT RESUB
	07/24/2020	ISSUE FOR CONSTRUCTION
	12/23/2020	RFI SET
6	01/22/2021	TOWER PERMIT RESUB/MTAL

PROJECT NO. CBRE03.18.095

DRAWN BY NJUM

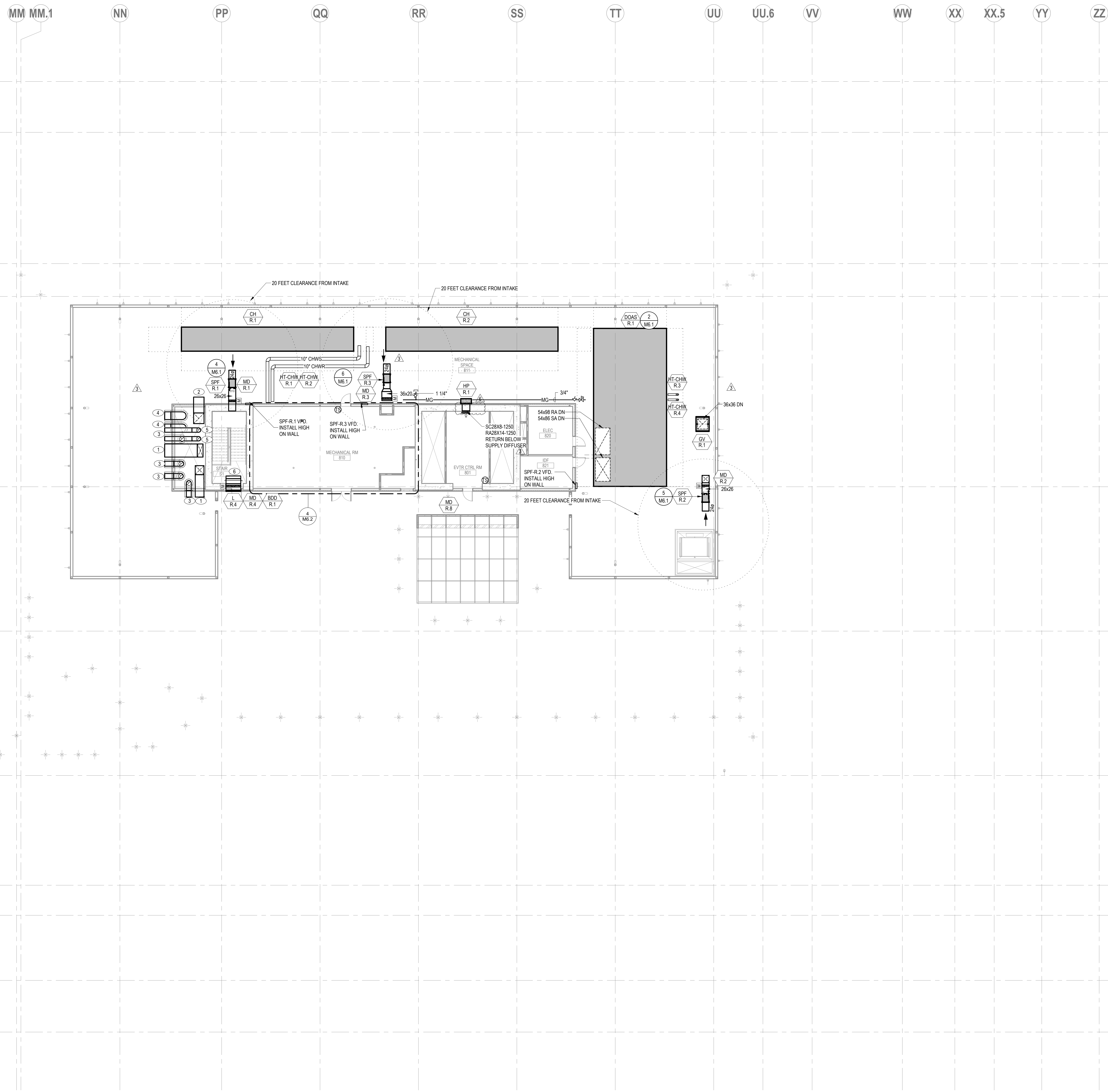
ISSUE DATE 01/21/2020

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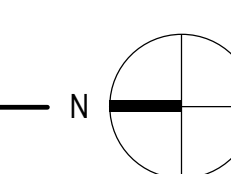


SHEET TITLE / NUMBER
**ROOF FLOOR
PLAN - HVAC**

M2.8



1 ROOF PLAN - HVAC
SCALE: 3/32" = 1'-0"



1/21/2021 6:50:22 PM

PROJECT

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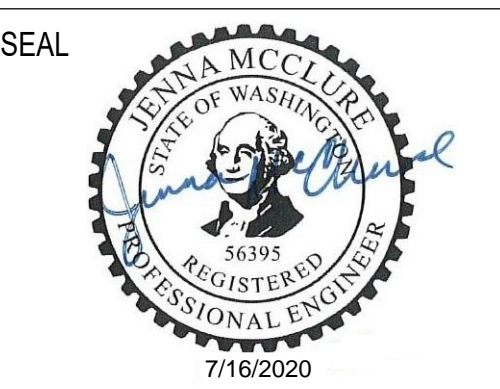
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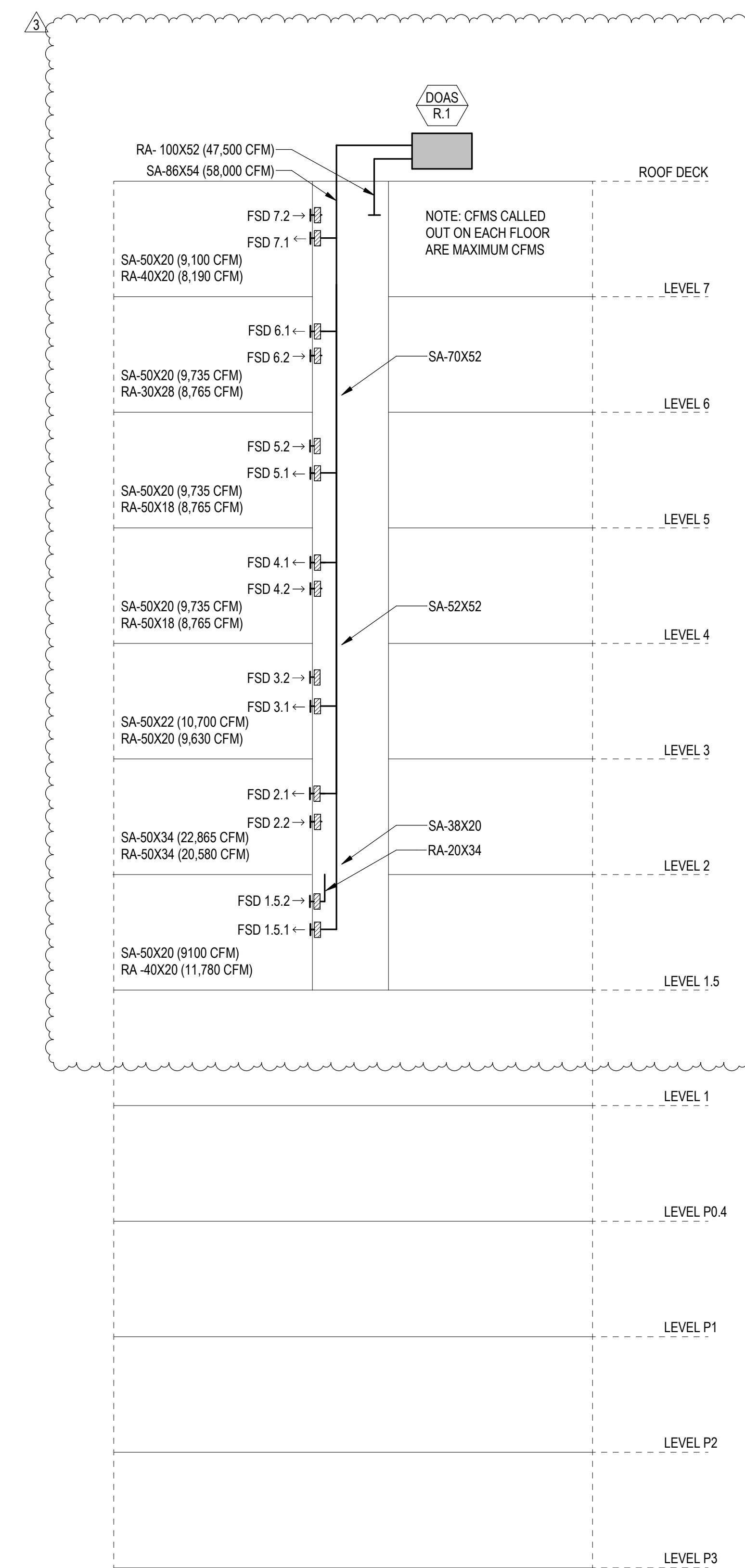
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	01/17/2020	50% CD SET
	02/26/2020	50% CD SET
3	07/17/2020	TOWER PERMIT RESUB

PROJECT NO. CBRE03.18.095
 DRAWN BY NJUM
 ISSUE DATE 07/17/2020



SHEET TITLE / NUMBER
MECHANICAL
RISERS

M6.1



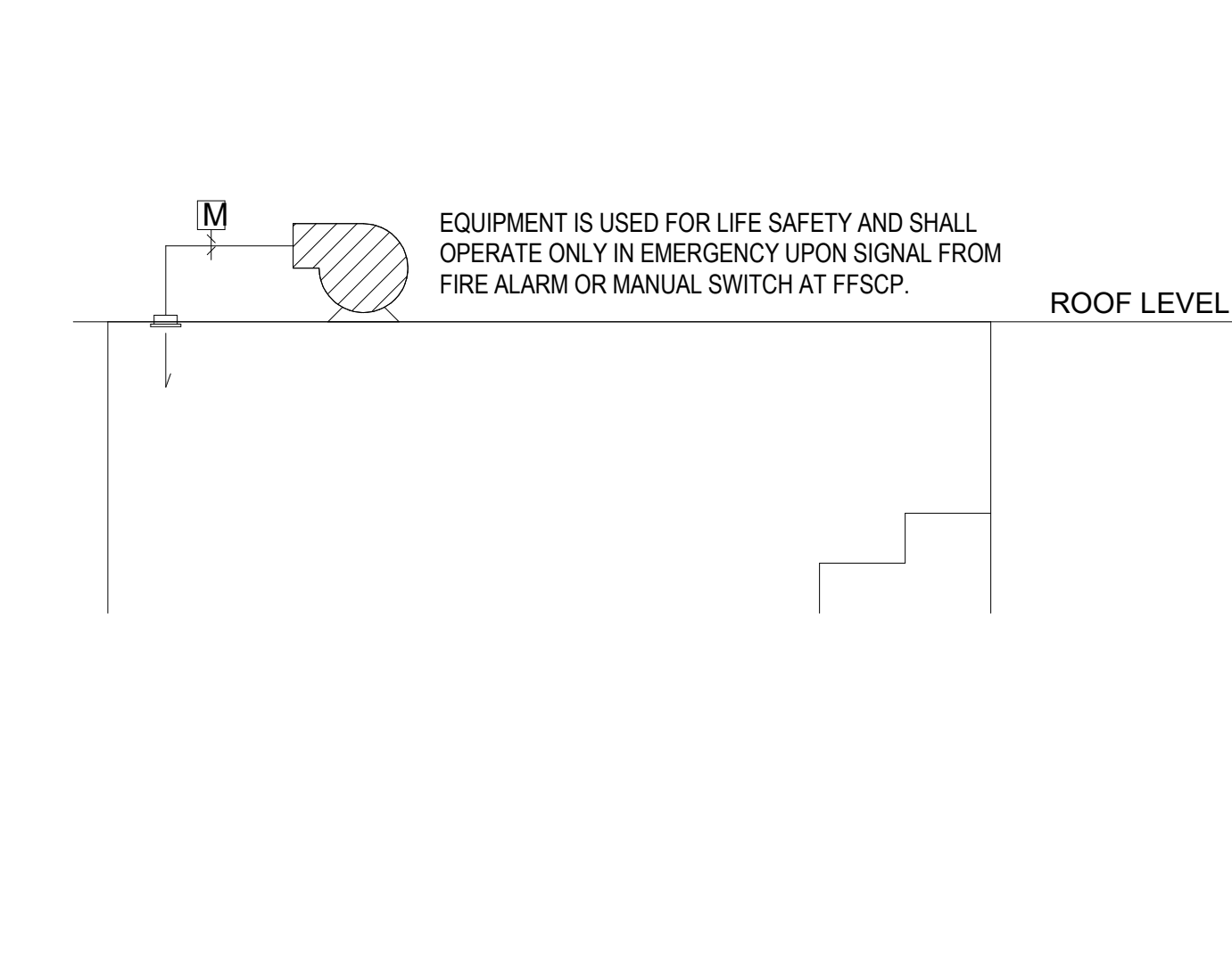
2 DOAS RISER
SCALE: NONE

LIFE SAFETY SEQUENCE OF OPERATION

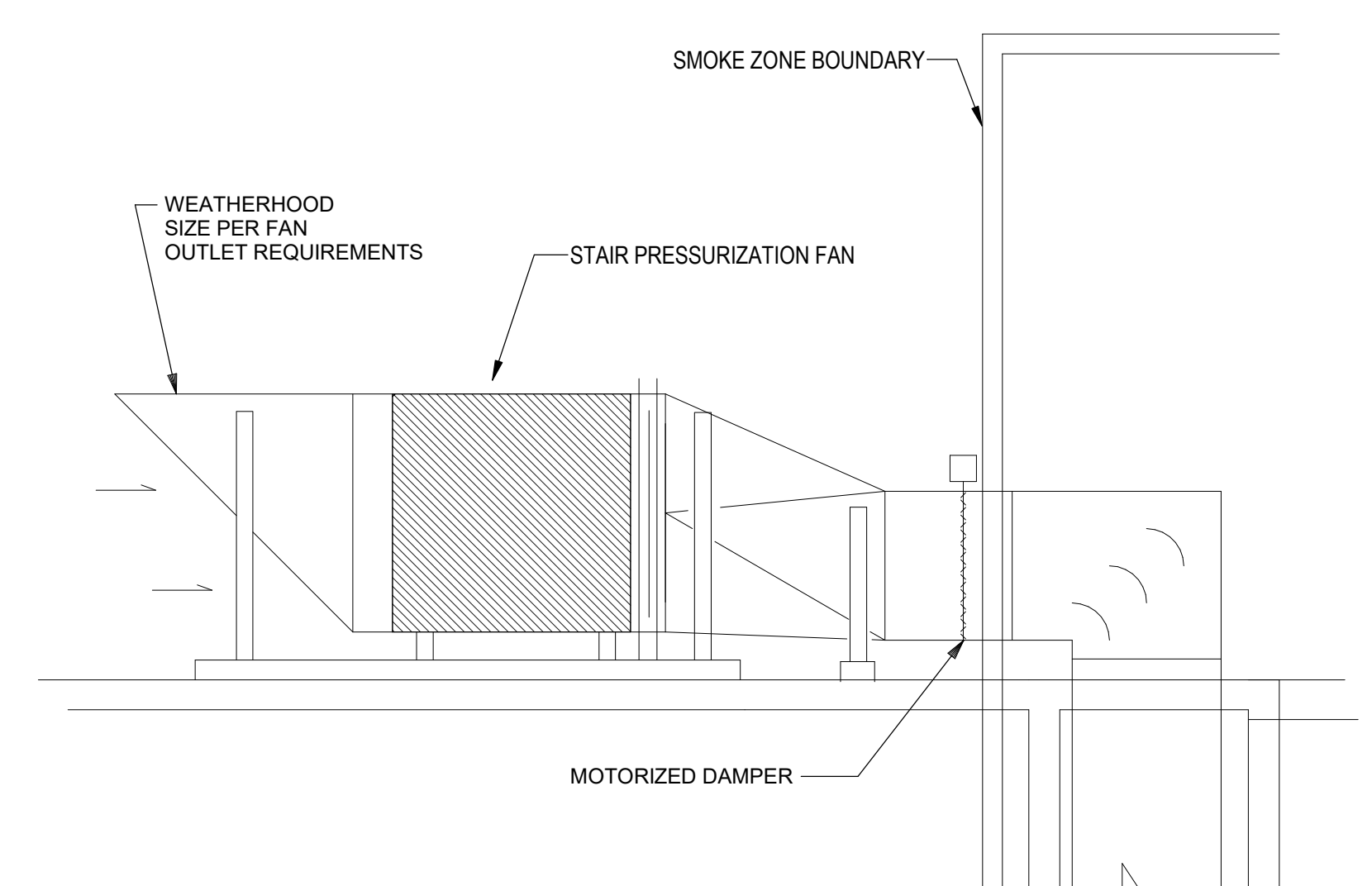
PRESSURIZATION FANS - LIFE SAFETY:
 OPERATE AUTOMATICALLY UPON ACTIVATION OF ANY FIRE ALARM INITIATING DEVICE (SPRINKLER WATERFLOW, SPRINKLER PRESSURE ALARM, AREA SMOKE DETECTOR, MANUAL PULL STATION) AND OPERATE MANUALLY FROM THE FIREFIGHTERS' SMOKE CONTROL PANEL. FIRE/SMOKE DAMPERS WILL OPEN/CLOSE BASED ON SELECTED ALARM AREA. PRESSURE DIFFERENTIAL SWITCHES SHALL BE USED FOR POSITIVE CONFIRMATION OF STAIRWELL SHAFT PRESSURIZATION SYSTEMS. MC TO PROVIDE AND INSTALL. FIRE ALARM CONTRACTOR TO CONNECT.

SMOKE CONTROL NOTES

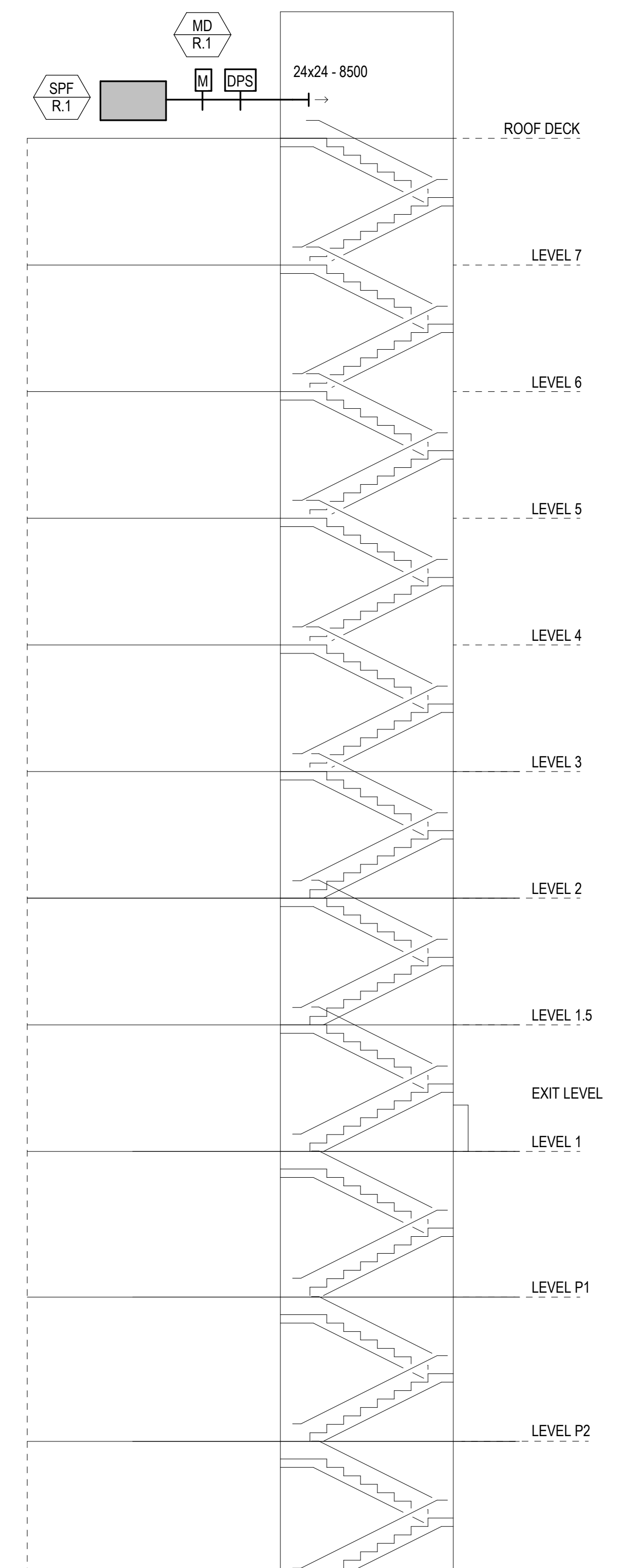
- FANS TO BE UTILIZED IN LIFE SAFETY SMOKE CONTROL SYSTEM SHALL COMPLY WITH IBC 909.10.5 AND 909.18.5. LOADING DOCK FAN SHALL INCLUDE HIGH TEMPERATURE RATINGS, SMOKE PROOF BEARINGS, AND MULTIPLE FAN BELTS. VFD SHALL BE USED FOR SYSTEM BALANCING PER THE SMOKE CONTROL PLAN.
- PROVIDE NORMALLY CLOSED MOTORIZED DAMPER WITH END SWITCH. DAMPER SHALL FAIL OPEN. BLADE POSITION SWITCHES REQUIRED FOR FULLY-OPEN AND FULLY-CLOSED POSITION. DAMPER TO OPEN UPON SIGNAL OF FIRE ALARM.
- AIR INLET AND TERMINATION SHALL COMPLY WITH IBC 909.10.3.
- AIRFLOW SHALL BE MONITORED VIA CURRENT TRANSDUCER AND POWER DOWNSTREAM OF THE DISCONNECT SHALL BE MONITORED PER IBC 909.12.



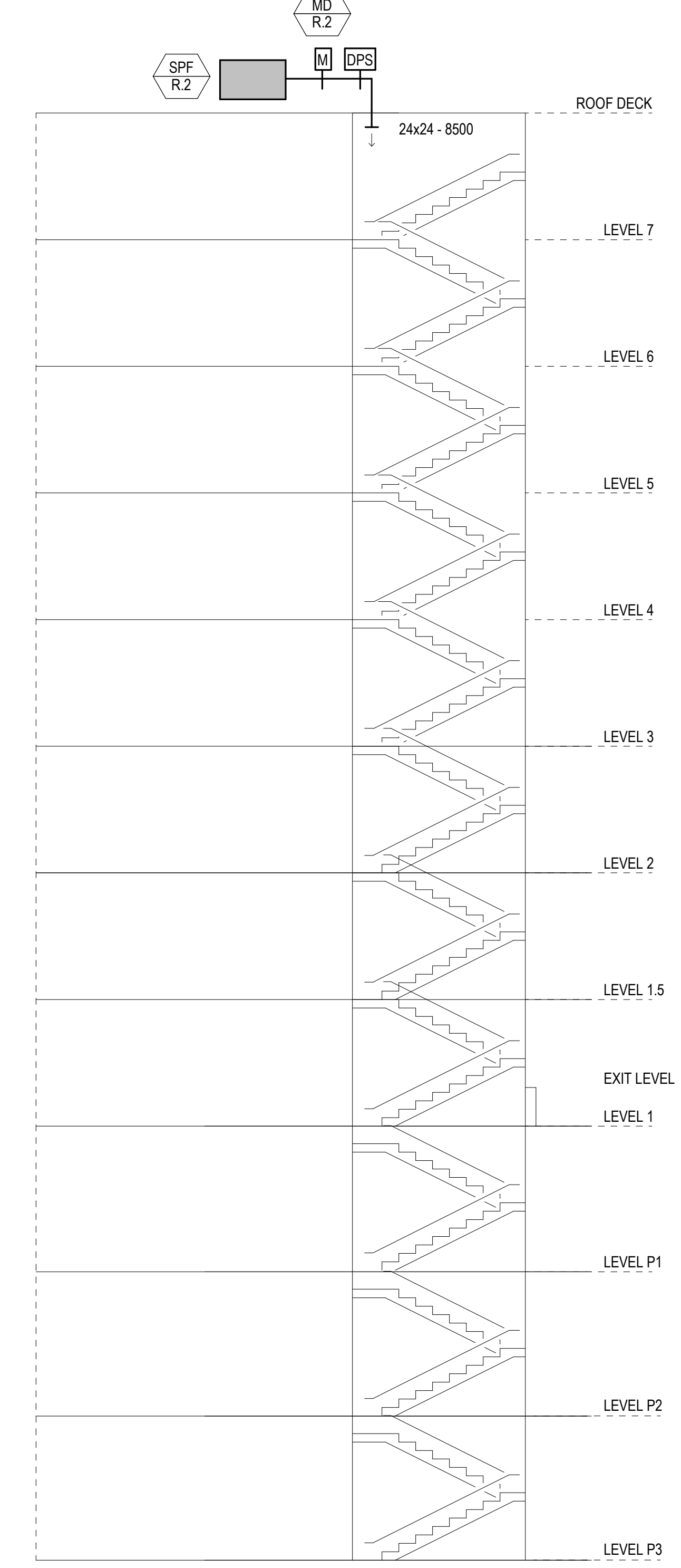
1 STAIR PRESSURIZATION
SCALE: NONE



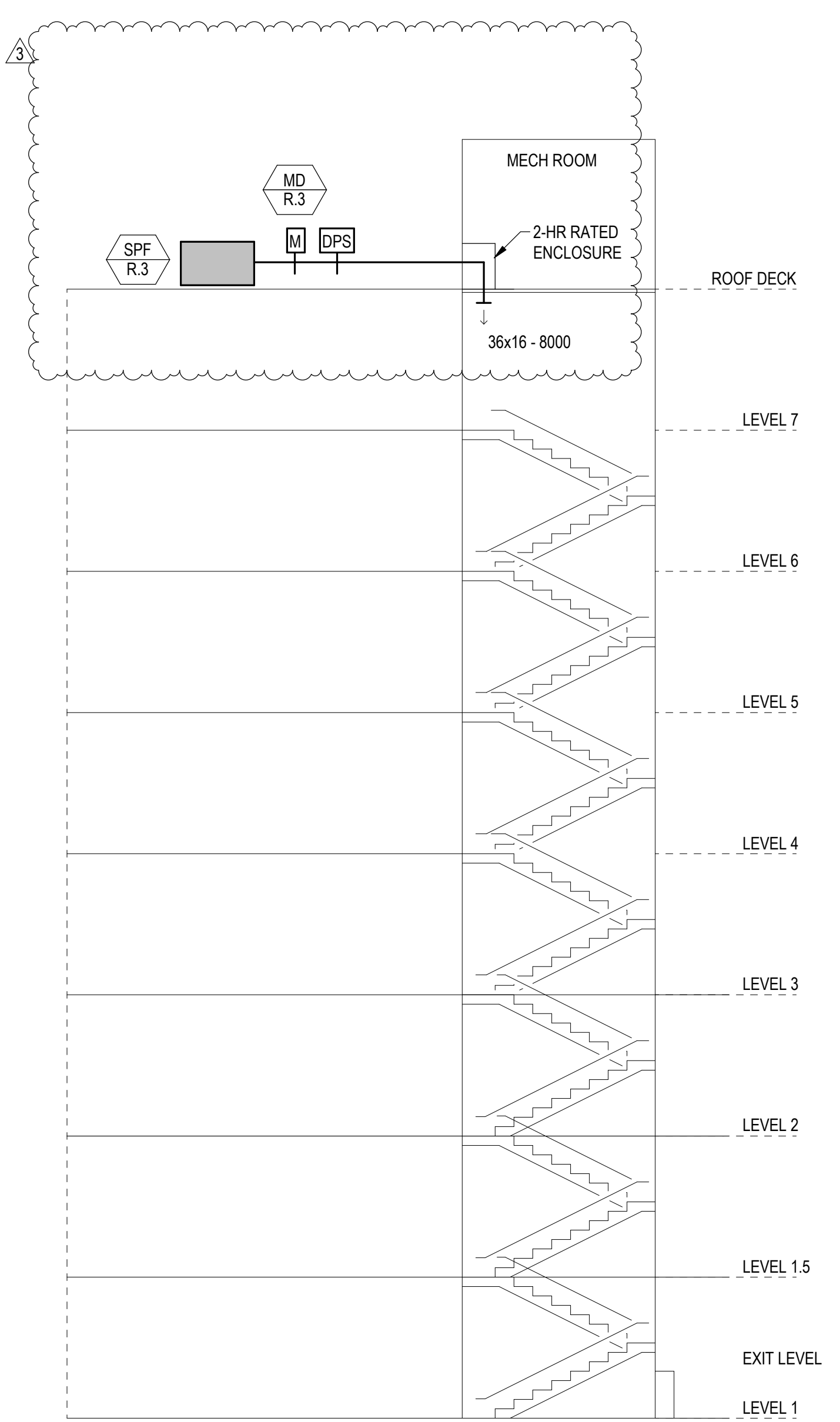
3 STAIR PRESSURIZATION FAN
SCALE: NONE



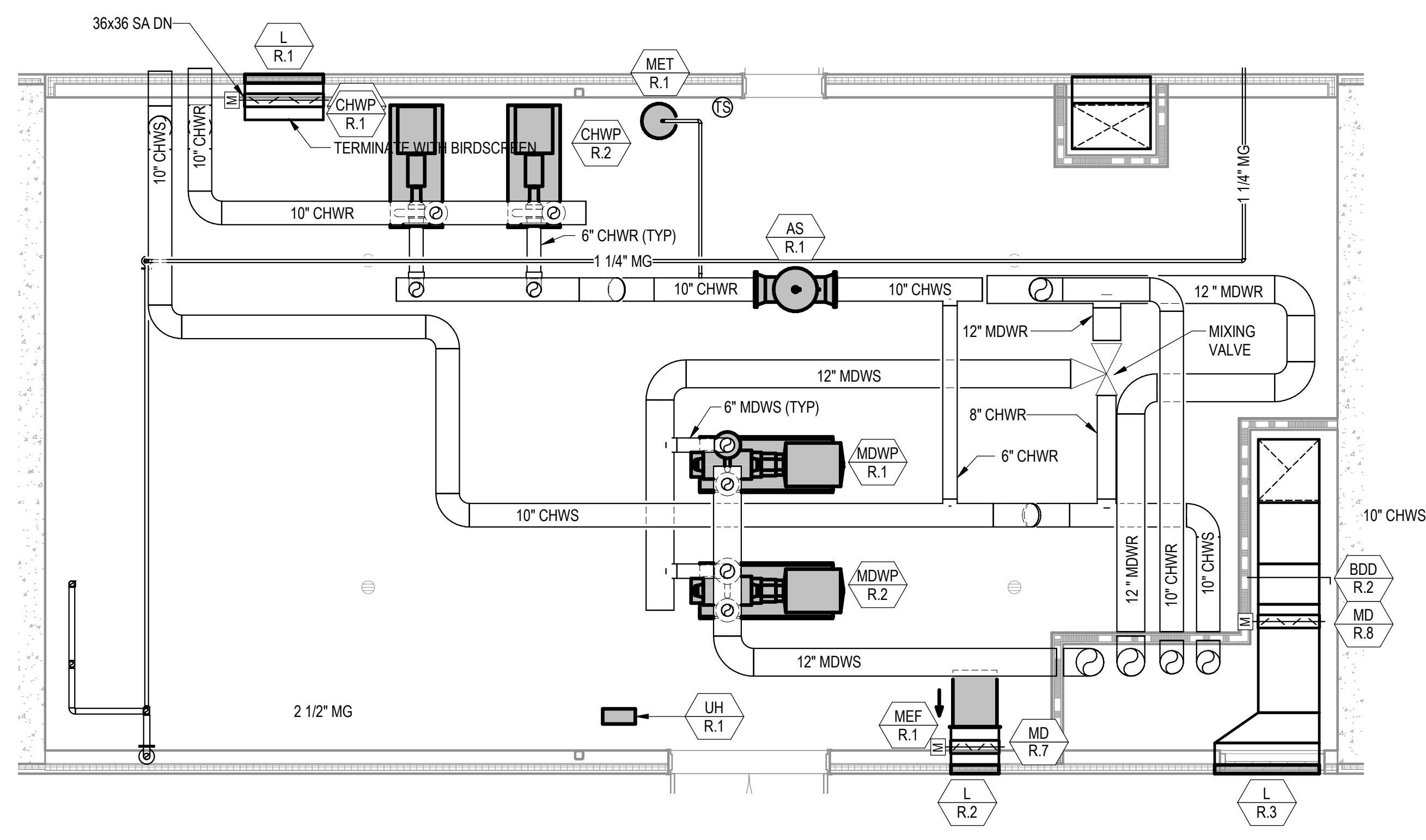
4 STAIR PRESSURIZATION 1
SCALE: NONE



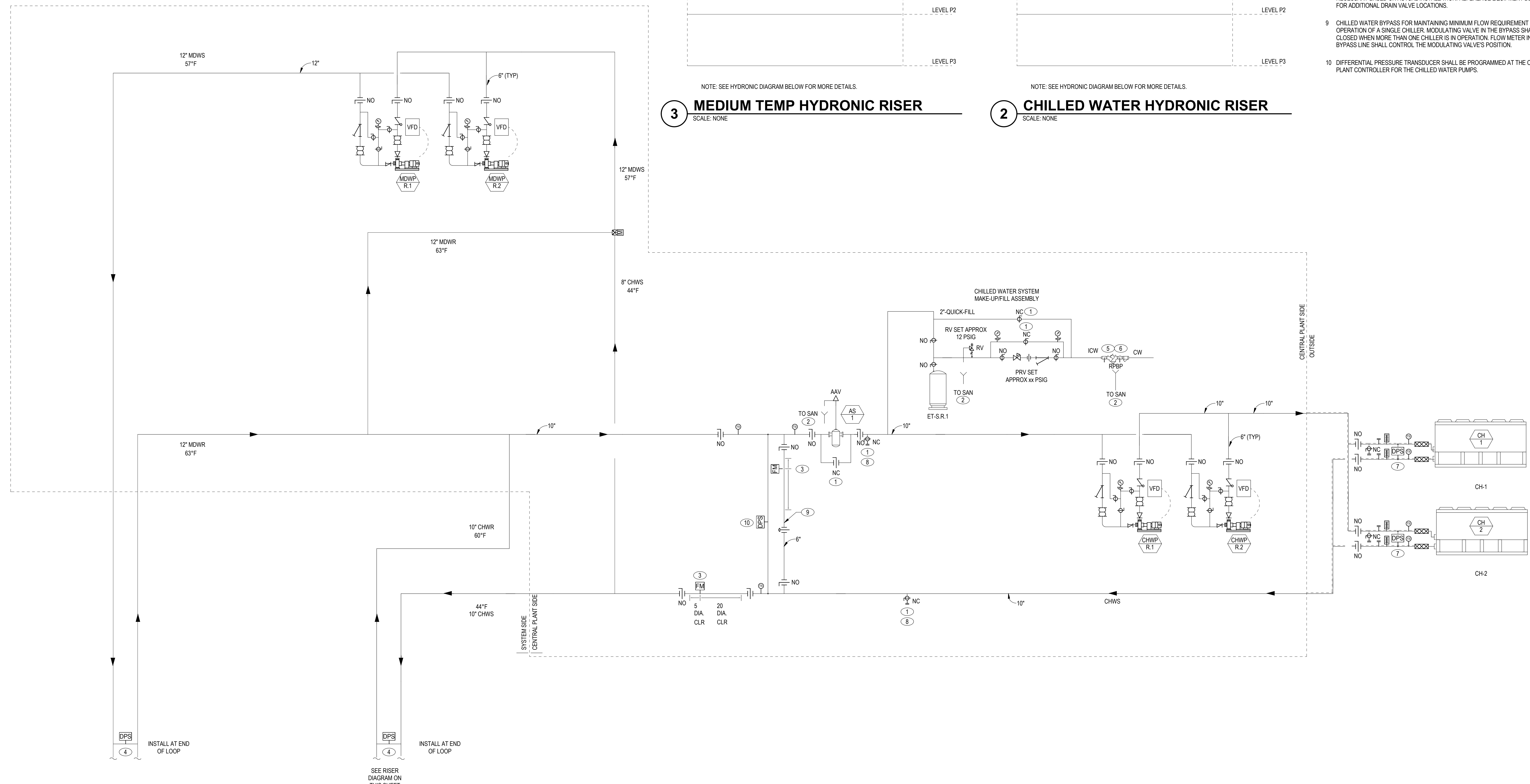
5 STAIR PRESSURIZATION 2
SCALE: NONE



6 STAIR PRESSURIZATION 3
SCALE: NONE



4 MECHANICAL HVAC ROOM - ENLARGED VIEW
 SCALE: 1/4" = 1'-0"
 Scale 0 4'-0" 8'-0" 12'-0" 16'-0"



1 HYDRONIC DIAGRAM
 SCALE: NONE

3 MEDIUM TEMP HYDRONIC RISER
 SCALE: NONE

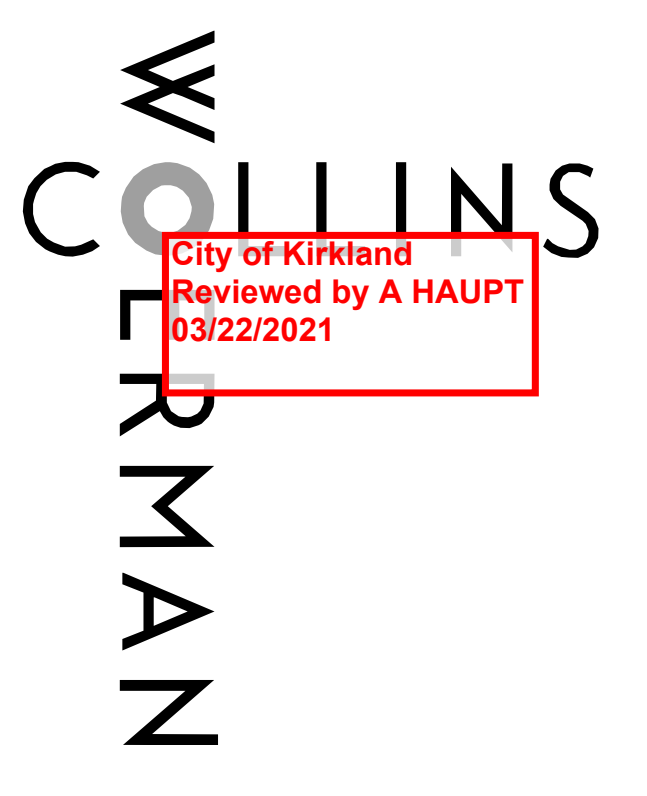
2 CHILLED WATER HYDRONIC RISER
 SCALE: NONE

SHEET NOTES

- A. INSULATE AND ELECTRICALLY HEAT TRACE ALL HYDRONIC WATER SUPPLY AND RETURN PIPING, DRAIN AND OVERFLOW PIPING AND ICW MAKE-UP WATER PIPING.
- B. EXTEND ALL VALVE HANDLES, VALVE ACTUATORS, AND TEST TEES (PET'S PLUS) OUTSIDE OF PIPE INSULATION.
- C. VERIFY ALL EQUIPMENT CONNECTION SIZES/TYPES WITH FINAL APPROVED EQUIPMENT SUBMITTALS PRIOR TO FABRICATION AND INSTALLATION. PROVIDE INCREASERS/REDUCERS AT EQUIPMENT CONNECTIONS AS MAY BE REQUIRED.
- D. PROVIDE ALL DDC CONTROLS/WIRING DEVICES FOR A COMPLETE AND OPERATIONAL SYSTEM. DDC DESIGNATIONS SHOWN ON THESE DRAWINGS ARE SCHEMATIC AND INTENDED TO SHOW GENERAL SYSTEM DESIGN INTENT AND OUTLINE OF INTERCONNECTIONS ONLY.
- E. CONTRACTOR AND CONTROLS CONTRACTOR TO PROVIDE AND COORDINATE LINE-VOLTAGE WIRING, POWER, AND CIRCUITING AT ELECTRICAL PANELBOARDS FOR ALL CONTROLS DEVICES AND DEVICE MOTOR OPERATORS. COORDINATE SIZE AND QUANTITY OF CIRCUIT BREAKERS REQUIRED WITH DIVISION 26 PRIOR TO INSTALLATION AND FABRICATION. REFERENCE ELECTRICAL AND MECHANICAL DOCUMENTS FOR INDICATION OF WHICH SYSTEMS ARE TO BE ON EMERGENCY OR STANDBY POWER. COORDINATE WITH EMERGENCY OR STANDBY POWER SOURCE WITH DIVISION 26.
- F. CHILLER CONNECTIONS IN THIS DIAGRAM ARE SHOWN FOR CLARITY ONLY. ACTUAL LOCATIONS OF CHILLER CONNECTION AND INSTALLATION MAY VARY.
- G. PROVIDE 3/4" DRAIN VALVE WITH HOSE END CONNECTION AND CAP WITH CHAIN AT ALL PIPING CONNECTIONS TO EQUIPMENT.

KEYED NOTES

1. PROVIDE ENGRAVED PLASTIC TAG AT NORMALLY CLOSED VALVE STATING "VALVE TO REMAIN CLOSED DURING OPERATION."
2. PIPE AUTOMATIC AIR VENT AND RELIEF VALVE OUTLET TO DRAIN, FULL SIZE, WITH INDIRECT TERMINATION, SLOPE PIPING TO DRAIN.
3. LOCATE FLOW METER IN STRAIGHT PIPING WITH (20) PIPE DIAMETERS UPSTREAM AND (5) DIAMETERS DOWNSTREAM, CLEAR OF OBSTRUCTIONS, VALVES, AND BENDS. COORDINATE SPECIFIC REQUIREMENTS WITH ACTUAL FLOW METER PURCHASED.
4. DIFFERENTIAL PRESSURE SENSOR TO BE LOCATED AT ROOF MAKE-UP WATER ASSEMBLY TO BE LOCATED AT THE DIFFERENTIAL PRESSURE SENSOR.
5. REFER TO PLUMBING DRAWINGS FOR LOCATION OF MAKE-UP WATER CONNECTION/BACKFLOW PREVENTION DEVICE.
6. PROVIDE A SEPARATE MAKE-UP WATER/BACKFLOW PREVENTION STATION FOR EACH HYDRONIC SYSTEM.
7. INDUSTRIAL DIFFERENTIAL PRESSURE TRANSDUCER WIRED TO CHILLER AND DDC CONTROL SYSTEM TO VERIFY "PROOF OF FLOW" PRIOR TO ENERGIZING CHILLER.
8. PROVIDE 3/4" HOSE END DRAIN VALVES AT SYSTEMS LOW POINTS. REPRESENTATIVE LOCATIONS ARE SHOWN, CONTRACTOR TO PROVIDE OTHERS AS NECESSARY BASED ON ACTUAL INSTALLATION. REFERENCE EQUIPMENT DETAILS FOR ADDITIONAL DRAIN VALVE LOCATIONS.
9. CHILLED WATER BYPASS FOR MAINTAINING MINIMUM FLOW REQUIREMENT FOR OPERATION OF A SINGLE CHILLER. MODULATING VALVE IN THE BYPASS SHALL BE CLOSED WHEN MORE THAN ONE CHILLER IS IN OPERATION. FLOW METER IN BYPASS LINE SHALL CONTROL THE MODULATING VALVE'S POSITION.
10. DIFFERENTIAL PRESSURE TRANSDUCER SHALL BE PROGRAMMED AT THE CENTRAL PLANT CONTROLLER FOR THE CHILLED WATER PUMPS.



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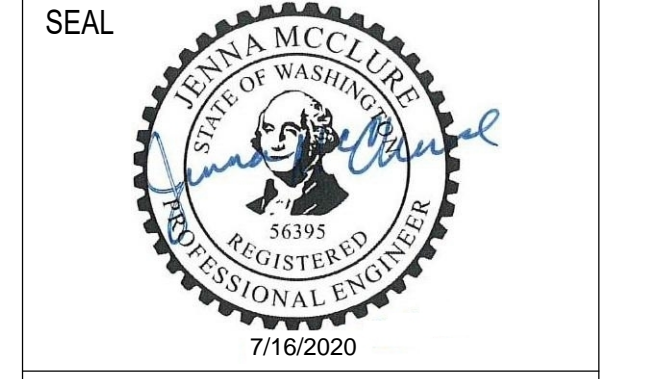
PROJECT
KIRKLAND URBAN SOUTH
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ISSUED

MARK	DATE	DESCRIPTION
	09/27/2019	100% DD SET
	11/22/2019	PROGRESS SET
	12/20/2019	CD PROGRESS SET
	01/17/2020	50% CD SET
	03/22/2020	90% CD SET
3	07/17/2020	TOWER PERMIT RESUB

PROJECT NO. CBRE03.18.095
 DRAWN BY NJUM
 ISSUE DATE 07/17/2020

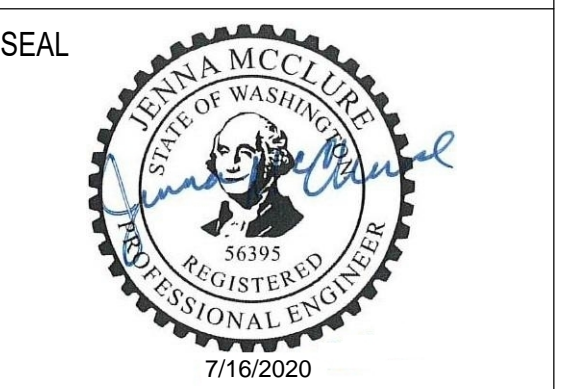


SHEET TITLE / NUMBER
HYDRONIC DIAGRAM

M6.2

7/24/2020 5:14:20 AM

MARK	DATE	DESCRIPTION
	11/06/2019	SMOKE CONTROL
	11/20/2019	PROGRESS SET
	12/20/2019	CD PROGRESS SET
	01/17/2020	50% CD SET
	02/20/2020	90% CD SET
3	07/17/2020	TOWER PERMIT RESUB



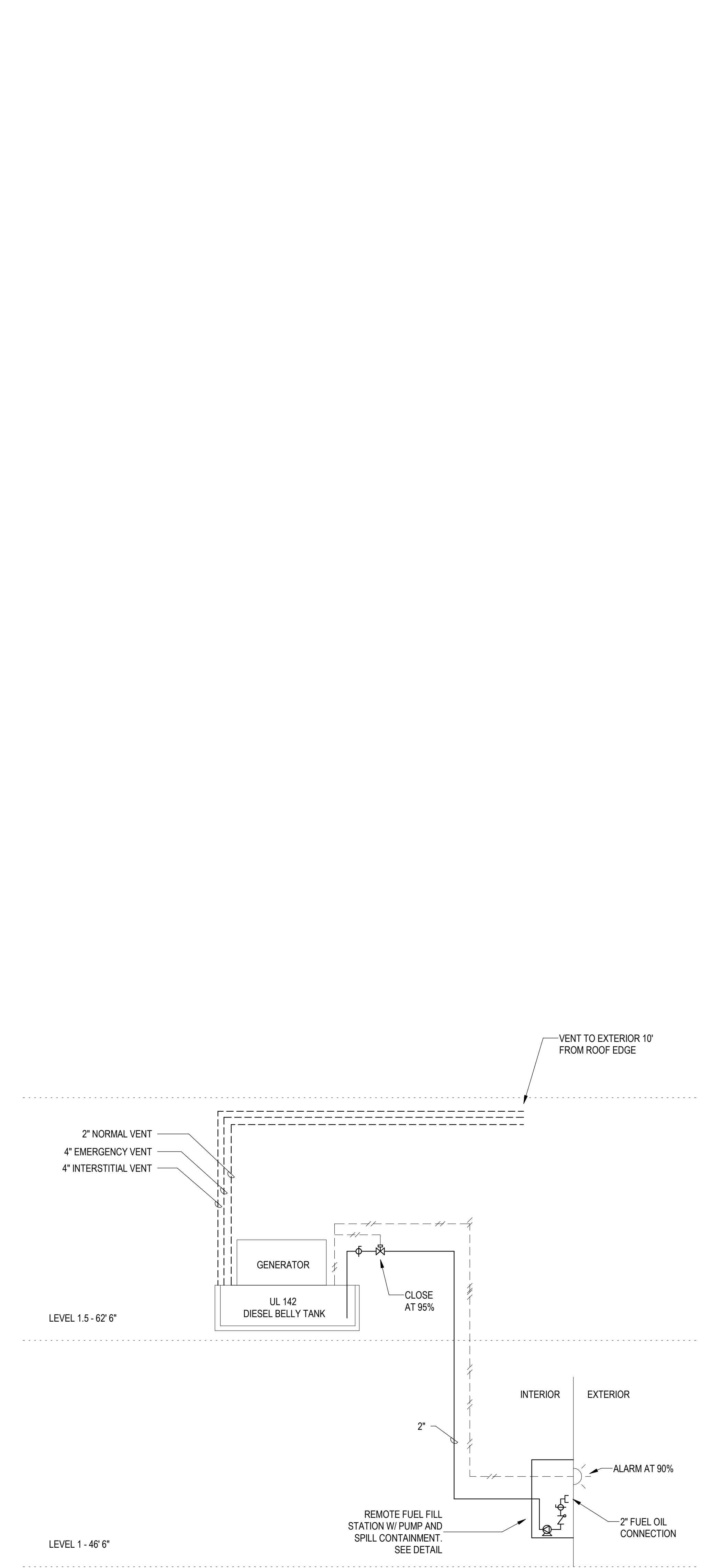
SUB METER SCHEDULE - NATURAL GAS					
LEVEL	TAG	MAKE	MODEL	LOCATION	SYSTEM SERVING
LEVEL 1					
LEVEL 1	M-G-M1	PSE		GAS ALCOVE	HOUSE METER - COORD W/ UTILITY
LEVEL 3					
LEVEL 3	M-G-3.1	ONICON	F-5500	CORE	FUTURE KITCHEN
LEVEL 7					
LEVEL 7	M-G-7.1	ONICON	F-5500	CORE	FUTURE KITCHEN
ROOF					
ROOF	M-G-R.1	ONICON	F-5500	ROOF	MECHANICAL GAS HEATING
ROOF	M-G-R.3	ONICON	F-5500	MECHANICAL ROOM	DOMESTIC HOT WATER HEATER
ROOF	M-G-R.2	ONICON	F-5500	MECHANICAL ROOM	DOMESTIC HOT WATER HEATER

NOTES:
 1. COORDINATE SUB METERS WITH BUILDING BMS SYSTEM, COORD W/ CONTROLS.

REGULATOR SCHEDULE - NATURAL GAS								
LEVEL	TAG	LOCATION	SYSTEM SERVING	MAKE	MODEL	LOAD (CFH)	PRESSURE IN (PSI)	PRESSURE OUT (WC)
ROOF								
ROOF	GR-R.1	MECHANICAL ROOM	GAS WATER HEATER	MAXITROL	325	399	2	10
ROOF	GR-R.2	MECHANICAL ROOM	GAS WATER HEATER	MAXITROL	325	399	2	10
ROOF	GR-R.3	MECHANICAL ROOM	DOAS	MAXITROL	325	1,410	2	10

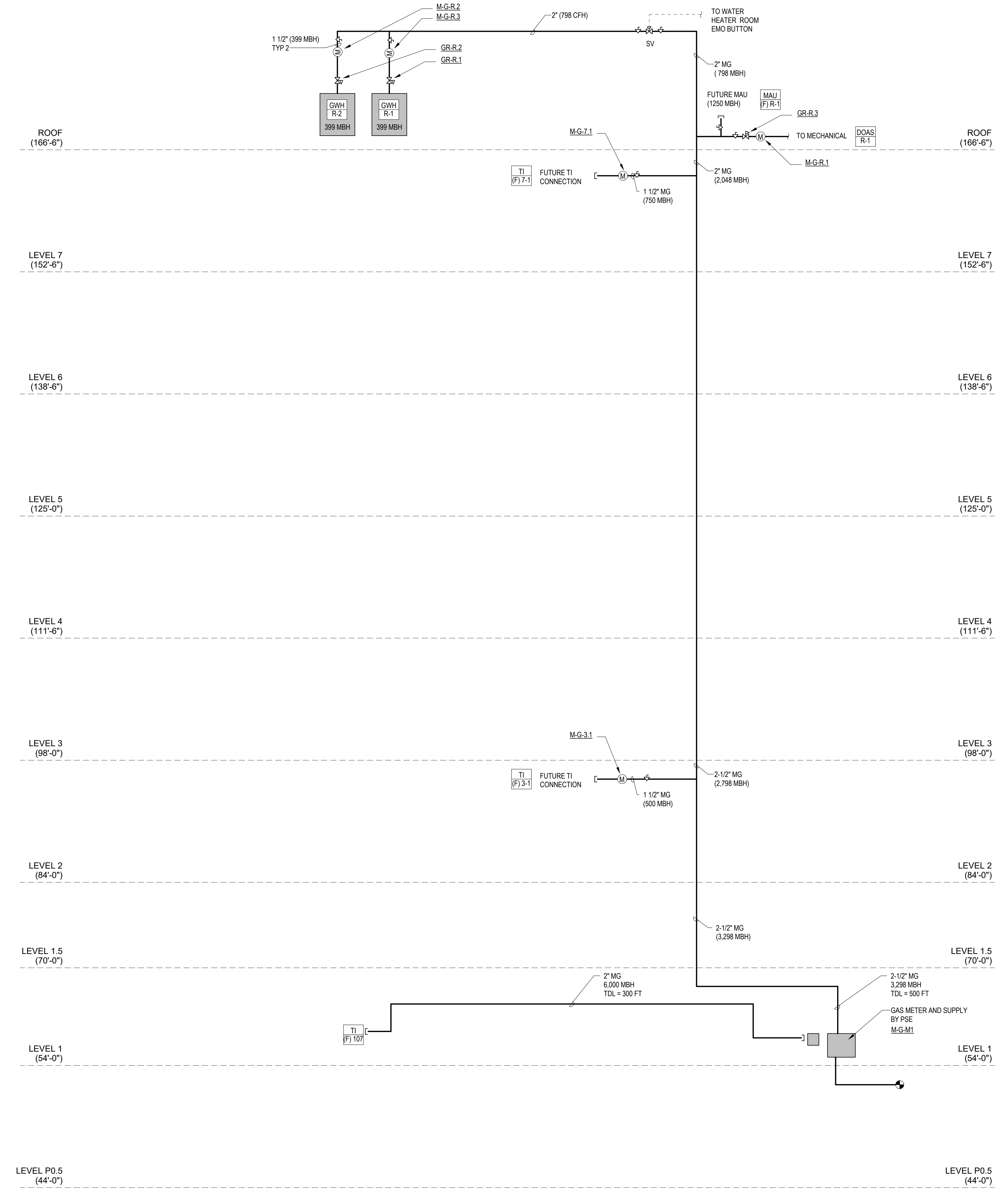
MEDIUM PRESSURE NATURAL GAS SIZING		LOW PRESSURE NATURAL GAS SIZING	
SIZE	MAX CFH (MBH)	SIZE	MAX CFH (MBH)
3/4"	281	3/2"	199
1"	530	3/4"	353
1 1/4"	1,088	1"	664
1 1/2"	1,631	1-1/4"	1,364
2"	3,143	1-1/2"	2,043
2 1/2"	5,011	2"	3,935
3"	8,861	2-1/2"	6,272
4"	18,129	10" W.C. BASED ON 50 FT 2" LOSS	

GAS LOAD SCHEDULE			
EQUIPMENT	TAG	EQUIPMENT NAME	LOAD (MBH)
FUTURE METER			
TI	(F) 107	RETAIL TENANT	6000
HOUSE METER			
DOAS	R-1	MECHANICAL	1,410
GWH	R-1	GAS WATER HEATER	399
GWH	R-2	GAS WATER HEATER	399
MAU	(F) R-1	FUTURE MAKE UP AIR UNIT	1250
FUTURE TI CONNECTION			
TI	(F) 7-1	FUTURE TI	750
TI	(F) 3-1	FUTURE TI	500



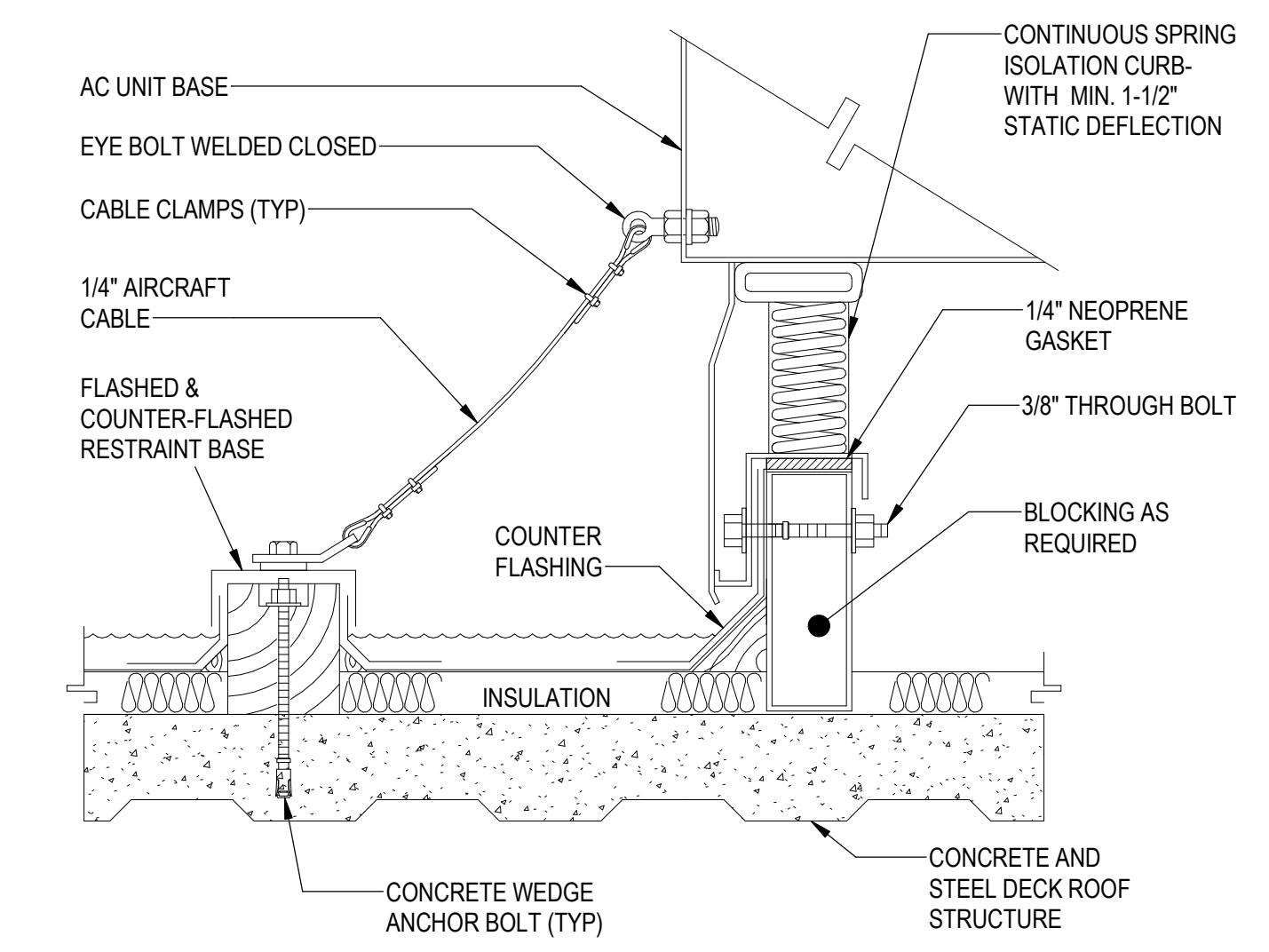
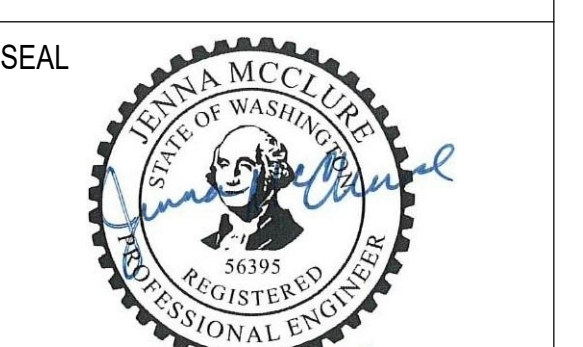
NOTES:
 1. ALARM AT 90% FILL.
 2. ALARM AND AUTOMATIC SHUT OFF AT 95% FILL.
 3. LEVEL SIGNAL PROVIDED BY DIVISION 26.

2 PLUMBING - FUEL OIL RISER DIAGRAM
 SCALE: 1/8" = 1'-0"

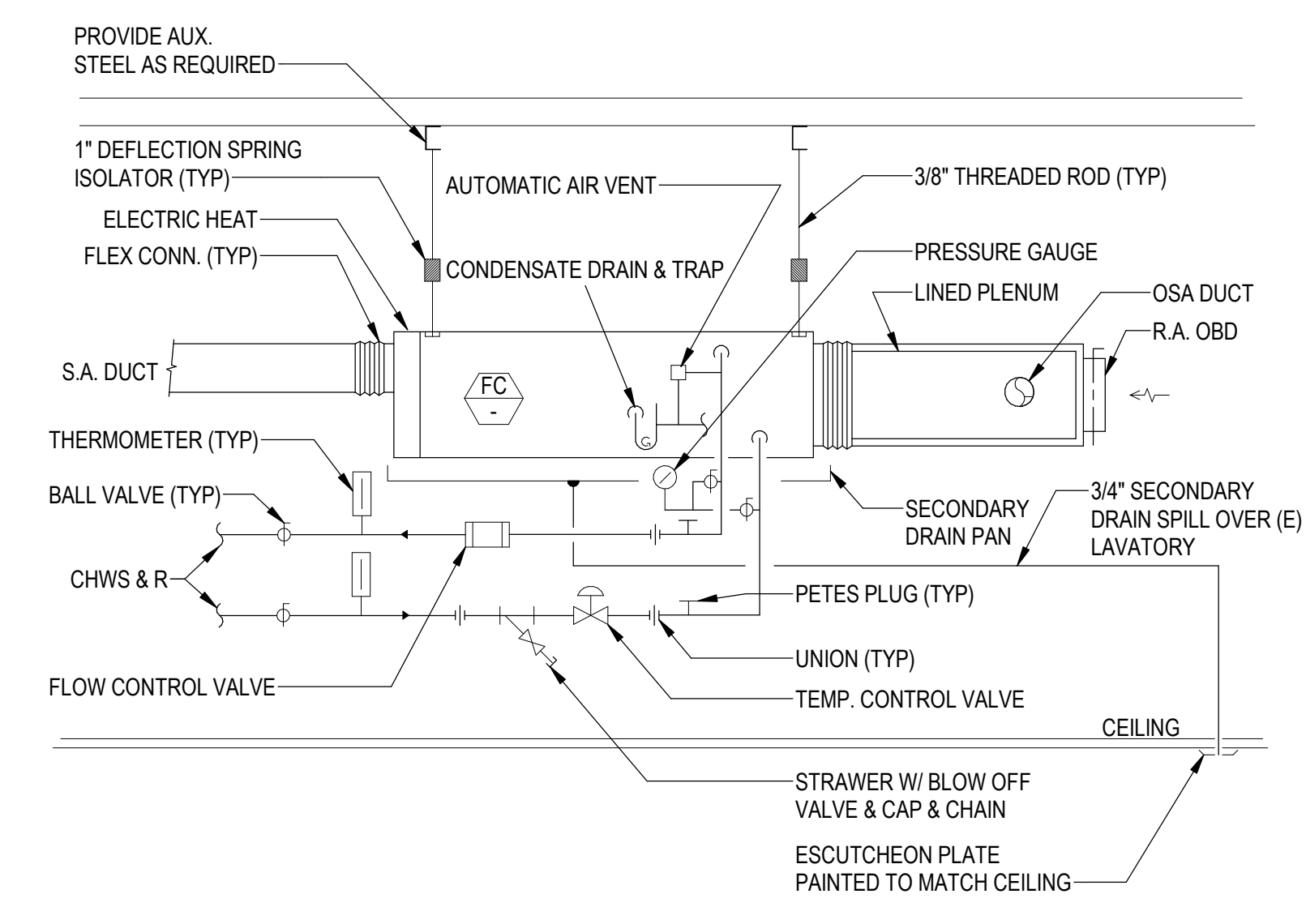


1 PLUMBING - FUEL GAS RISER DIAGRAM
 SCALE: 1/8" = 1'-0"

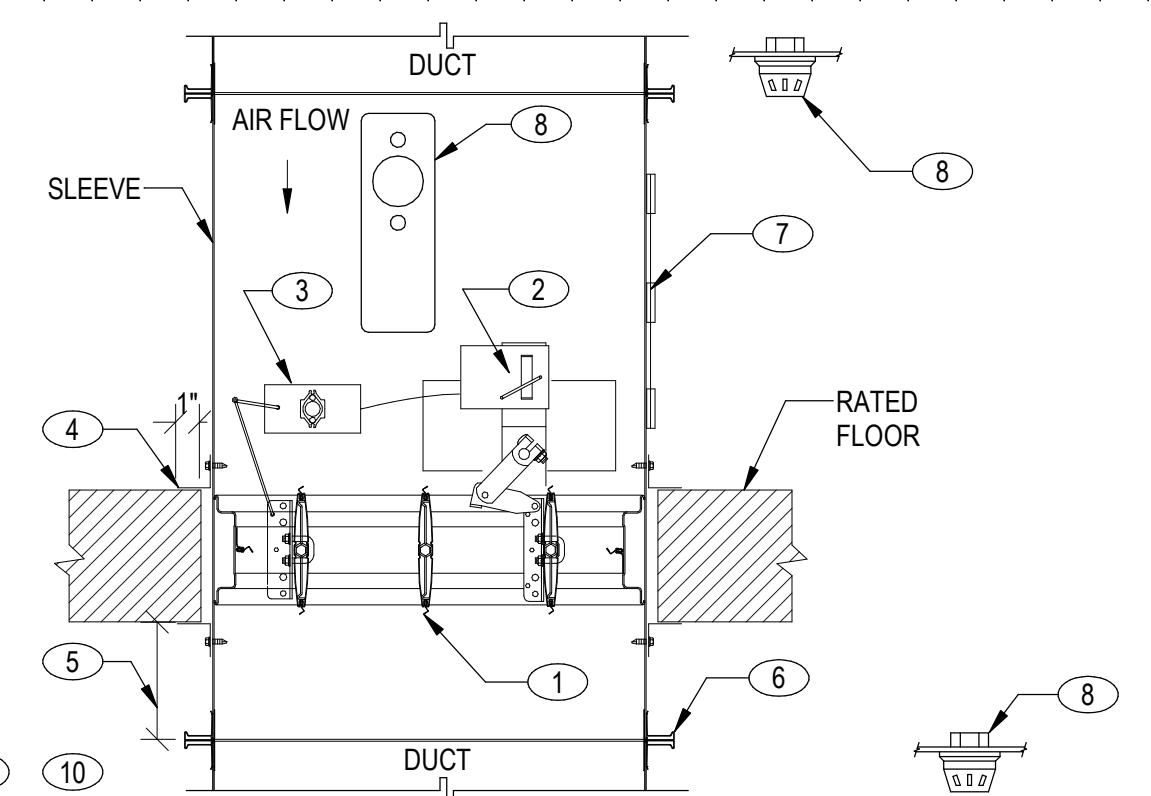
MARK	DATE	DESCRIPTION
3	07/17/2020	TOWER PERMIT RESUB



- NOTES:
1. SEISMIC RESTRAINT ASSEMBLY SHALL BE INSTALLED DIAGONALLY AT EACH CORNER FOR SMALL UNITS OR ON ALL SIDES OF LARGE UNIT. THREE ASSEMBLIES AT LONG SIDES AND ONE AT SHORT SIDES.
 2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.
 3. ALL ANCHORING AND SEISMIC RESTRAINTS SHALL BE REVIEWED BY STRUCTURAL ENGINEER.
 4. FLASHING AND COUNTER FLASHING SHALL BE COORDINATED W/ ROOFING CONTRACTOR. THE WORK SHALL NOT VOID THE ROOF WARRANTY.
 5. ROOFTOP EQUIPMENT SHALL BE INSTALLED ON ROOF IN THE LOCATION WITH ADEQUATE STRENGTH TO SAFELY SUPPORT THE ENTIRE WEIGHT OF THE UNIT AND SERVICE PERSONNEL. CARE SHALL BE TAKEN NOT TO DAMAGE THE ROOF. COORDINATE WITH STRUCTURAL ENGINEER.



- NOTES:
1. INSTALL UNIT AS HIGH AS POSSIBLE.
 2. REFER TO PLANS FOR SIZES AND CONTINUATION.

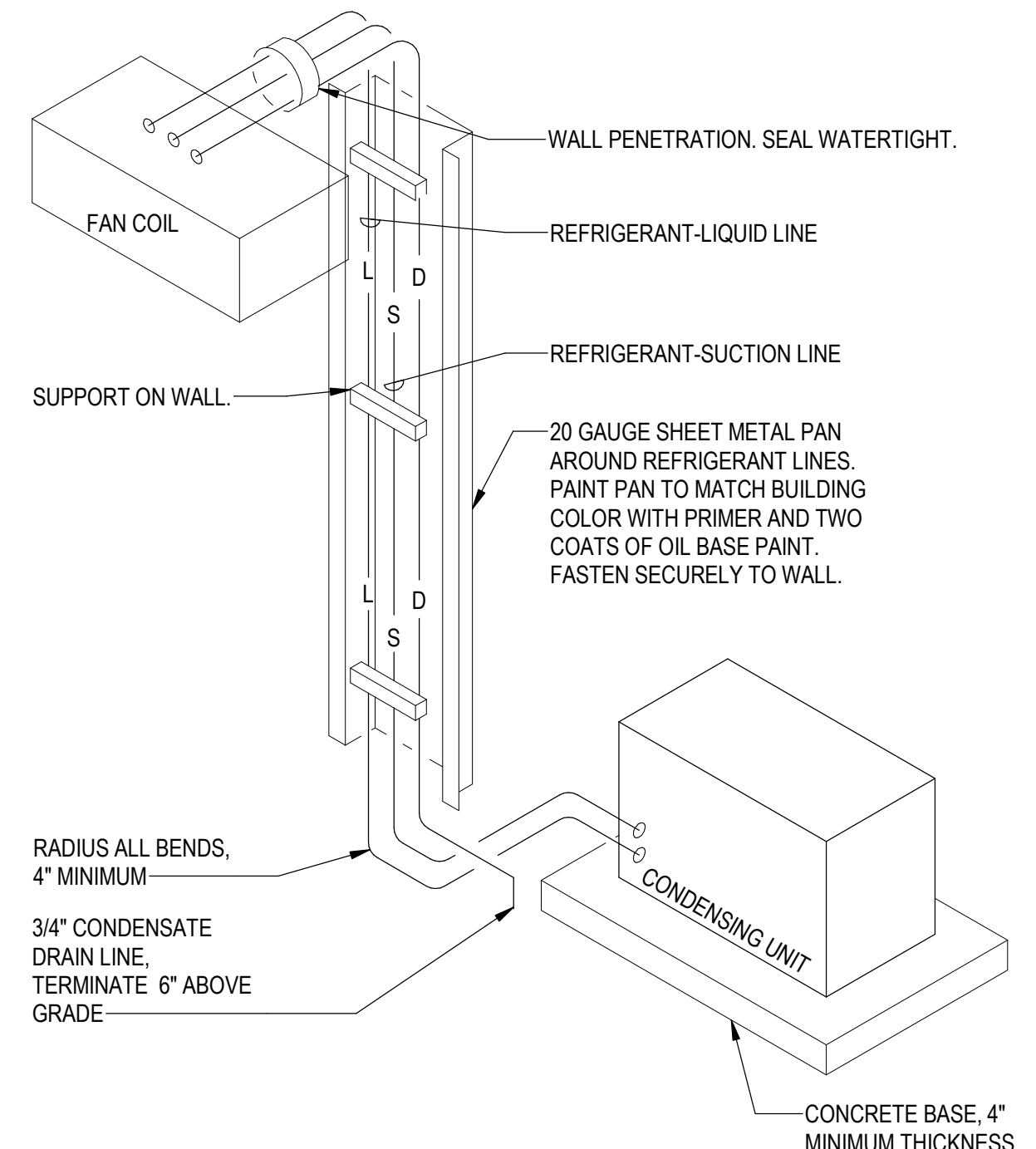


- NOTES:
1. DAMPER BLADES
 2. ELECTRIC ACTUATOR MOTOR INTERLOCKED WITH SMOKE DETECTOR OR FIRE ALARM SYSTEM. COORDINATE WITH ELECTRICAL DESIGN FOR POWER, CONTROL WIRING AND SEQUENCE OF OPERATION.
 3. ELECTRIC RESETTABLE FUSIBLE LINK CLOSURES AND LOCKS THE DAMPER WHEN TEMPERATURE EXCEEDS PRESET TEMPERATURE. DAMPER MAY BE RESET BY PRESSING RESET BUTTON. INTEGRAL DAMPER BLADE INDICATOR SWITCH FOR REMOTE MONITORING OF OPEN AND CLOSED POSITIONS.
 4. STEEL RETAINING ANGLES, MINIMUM 1-1/2"x1-1/2"x0.067" FASTENED TO FIRE DAMPER SLEEVE. ANGLES SHALL BE INSTALLED ON ALL FOUR SIDES OF DAMPER AND ON EACH SIDE OF THE WALL. FASTEN ANGLE TO SLEEVE WITH #10 SHEET METAL SCREWS (MINIMUM). ANGLE GAUGE AND FASTENING METHOD AS PERMITTED AS A CONDITION OF DAMPER LISTING. REFER TO MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. MINIMUM 1" ANGLE OVERLAP ON ALL SIDES OF PARTITION WALL.
 5. DAMPER SLEEVE ON OPPOSITE SIDE OF WALL FROM ACTUATOR MUST BE MINIMUM 3" AND MAXIMUM OF 6" LONG.
 6. DUCT CONNECTION AS PERMITTED AS A CONDITION OF DAMPER LISTING. FLANGED BREAK-AWAY STYLE DUCT/SLEEVE CONNECTIONS ARE SHOWN.
 7. ACCESS DOOR SHOWN ON BOTTOM OF SLEEVE FOR ACCESS TO FIRE DAMPER BLADES. PANEL TO BE HINGED WITH AIRTIGHT SEAL. ACCESS SIZE MUST BE MINIMUM OF 12" BY 12" OR THE WIDTH OF DUCT IF SMALLER THAN 12" WIDE. ACCESS PANEL MUST BE LABELED WITH THE WORDS, "FIRE DOOR - DO NOT OBSTRUCT" IN LETTERS NO LESS THAN 1" IN HEIGHT. EXTERNAL INSULATION SHALL NOT CONCEAL ACCESS UNLESS A LABEL IS ATTACHED TO THE INSULATION WHICH INDICATES THE EXACT LOCATION OF THE OPENING.
 8. DUCT SMOKE DETECTOR MOUNTED IN SLEEVE ON OPPOSITE SIDE FROM ACTUATOR WITHIN FIVE FEET OF DAMPER. OR, AREA SMOKE DETECTORS CONNECTED TO CENTRAL FIRE ALARM SYSTEM. SMOKE DETECTORS SHALL BE ADDRESSABLE AND UNIQUELY TAGGED.
 9. LOCATE 3/4" HIGH WHITE PLASTIC LAMINATE SIGNS WITH 3/8" HIGH BLACK LETTERING WITH THE INITIALS "FSD" AND UNIQUE NUMBER ON THE WALL DAMPER ACCESS PANEL. ATTACH WITH EPOXY ADHESIVE.
 10. FIRE SMOKE DAMPER DETAIL FOR REFERENCE ONLY. FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED. INSTALL PER MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO INSPECTION AUTHORITIES.
 11. UL 555 & 555S COMPLIANT. LISTINGS: RUSKINR5531, GREENHECKR13317, POTTORFFR11767, NALORR9492, CESCORR6462.
 12. REFER TO SPECIFICATION SECTION 233113 FOR ADDITIONAL REQUIREMENTS.

9 FSD FLOOR AIRFOIL BLADE
 SCALE: NONE

6 FAN COIL UNIT
 SCALE: NONE

3 CURB DETAIL-CONC SEISMIC
 SCALE: NONE



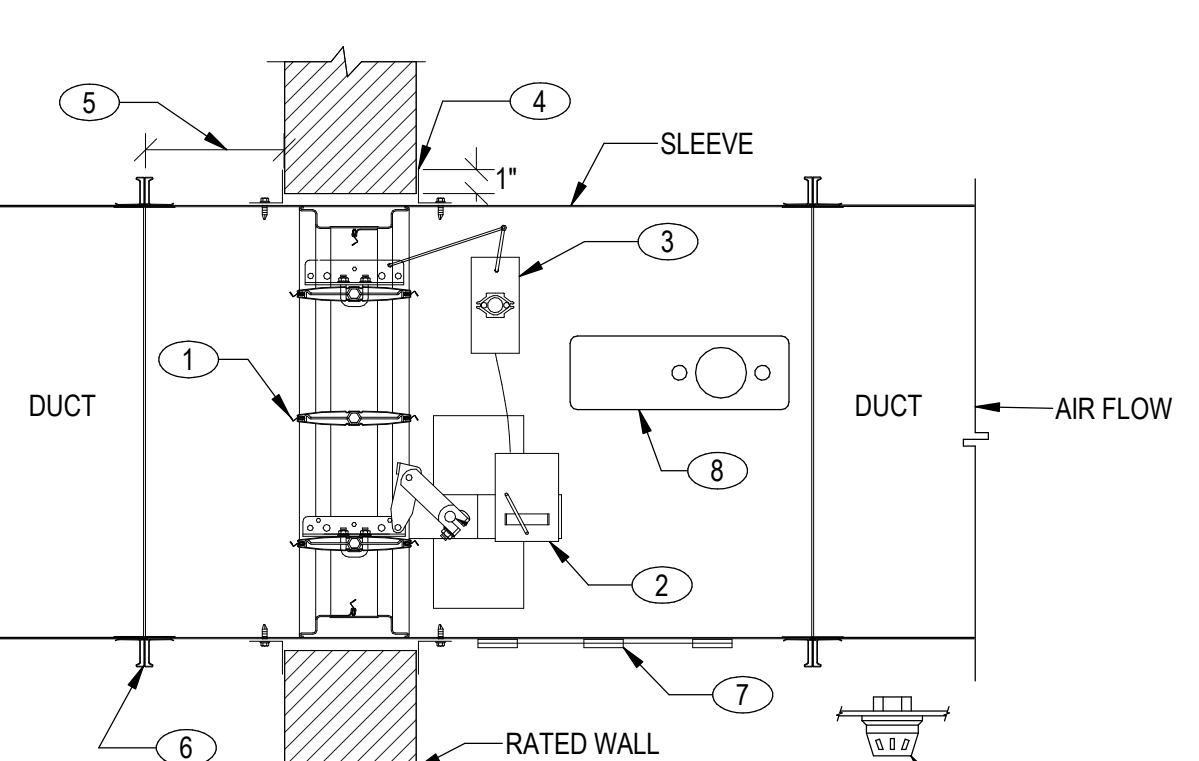
- NOTES:
1. USE PRE-CHARGED LINE SETS. LENGTHS ARE TO BE KEPT AS SHORT AS POSSIBLE. COILING OF LINES THAT ARE TOO LONG WILL NOT BE ACCEPTABLE.

11 SPLIT SYSTEM REFRIGERANT PIPING SCHEMATIC
 SCALE: NONE

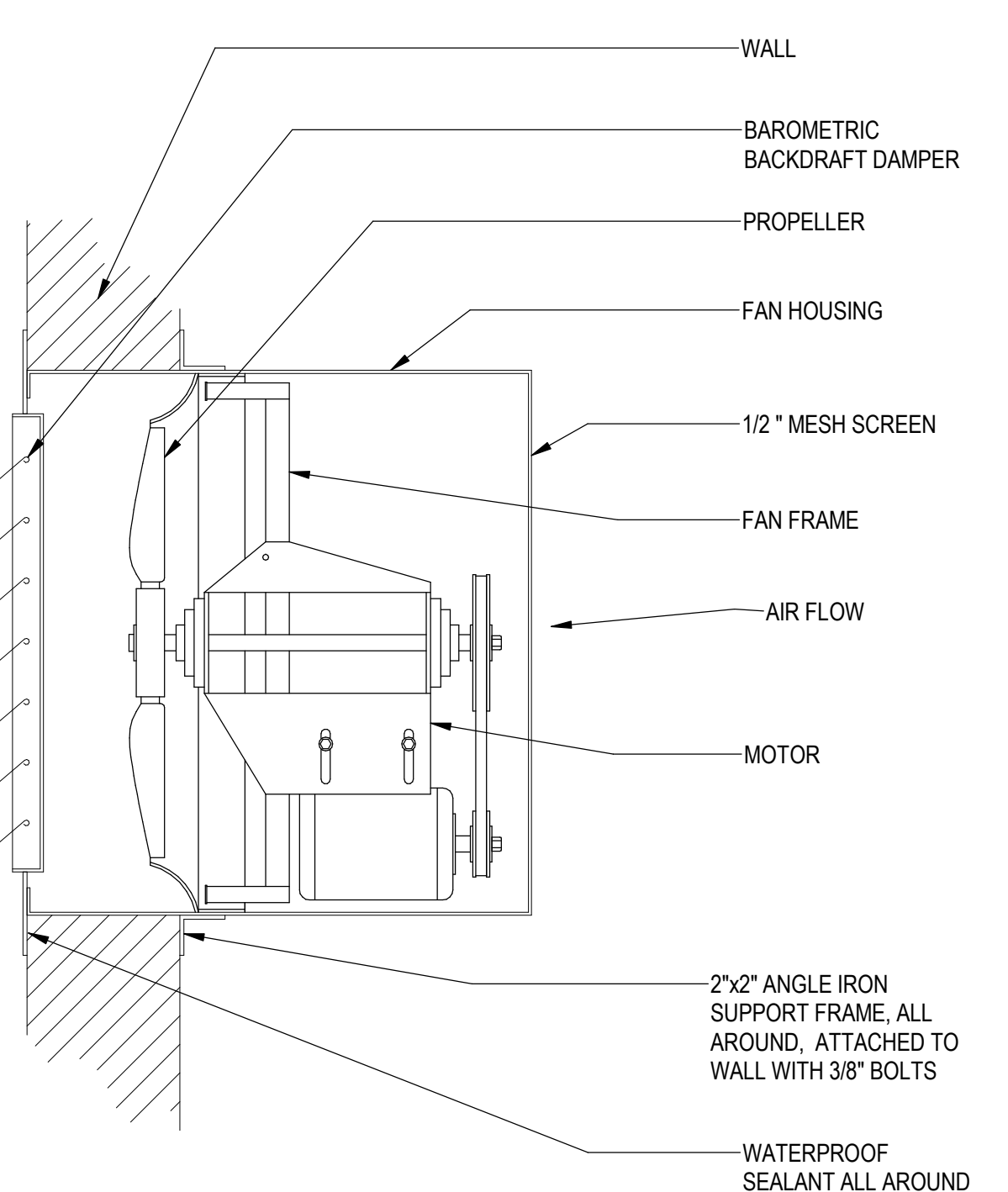
8 FSD WALL GRILLE ACCESS
 SCALE: NONE

5 STAIRWELL RELIEF VENT-CONCRETE ROOF
 SCALE: NONE

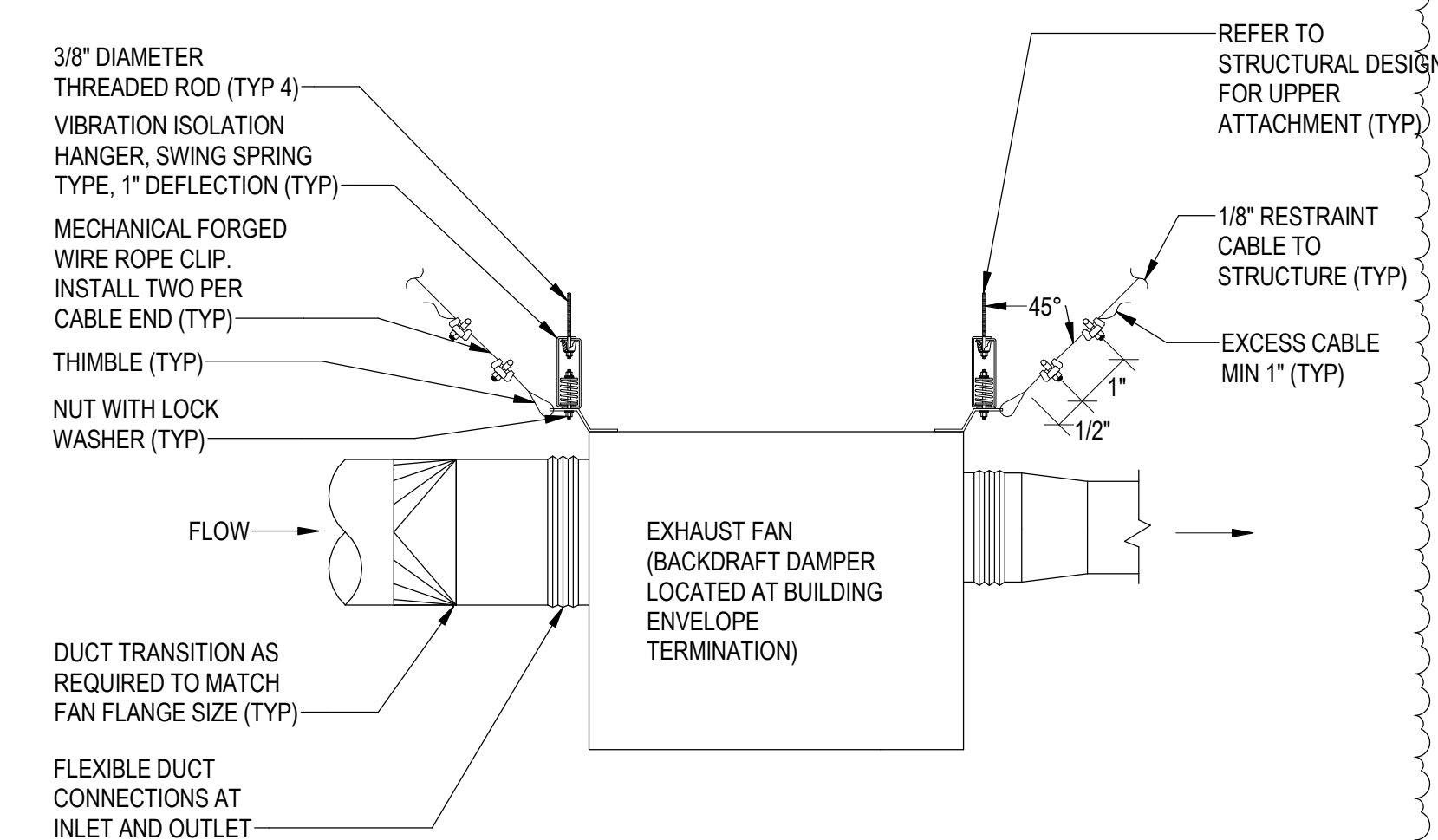
2 EXHAUST FAN-CEILING MOUNTED
 SCALE: NONE



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 10. FIRE SMOKE DAMPER DETAIL FOR REFERENCE ONLY. FIRE DAMPER SHALL BE STATE FIRE MARSHAL APPROVED. INSTALL PER MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS WHICH SHALL BE MADE AVAILABLE TO INSPECTION AUTHORITIES.
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 12. REFER TO SPECIFICATION SECTION 233113 FOR ADDITIONAL REQUIREMENTS.



- NOTES:
1. PROVIDE BACKDRAFT DAMPER IN DUCTWORK AT BUILDING ENVELOPE TERMINATION.
 2. TRANSITION DUCT CONNECTION AS REQUIRED TO MATCH FAN COLLARS.
 3. REFER TO STRUCTURAL DESIGN FOR ATTACHMENT REQUIREMENTS AND ADDITIONAL SUPPORT OPTIONS.
 4. REFER TO PLANS FOR SIZES AND LOCATIONS.



- NOTES:
1. PROVIDE BACKDRAFT DAMPER IN DUCTWORK AT BUILDING ENVELOPE TERMINATION.
 2. TRANSITION DUCT CONNECTION AS REQUIRED TO MATCH FAN COLLARS.
 3. REFER TO STRUCTURAL DESIGN FOR ATTACHMENT REQUIREMENTS AND ADDITIONAL SUPPORT OPTIONS.

10 FSD WALL ROUND
 SCALE: NONE

7 FSD WALL AIRFOIL BLADE
 SCALE: NONE

4 SIDEWALL PROPELLER EXHAUST FAN
 SCALE: NONE

1 EXHAUST FAN INLINE
 SCALE: NONE

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PROJECT

**KIRKLAND
URBAN
SOUTH**
200 PETER KIRK LN.
KIRKLAND, WA

OWNER

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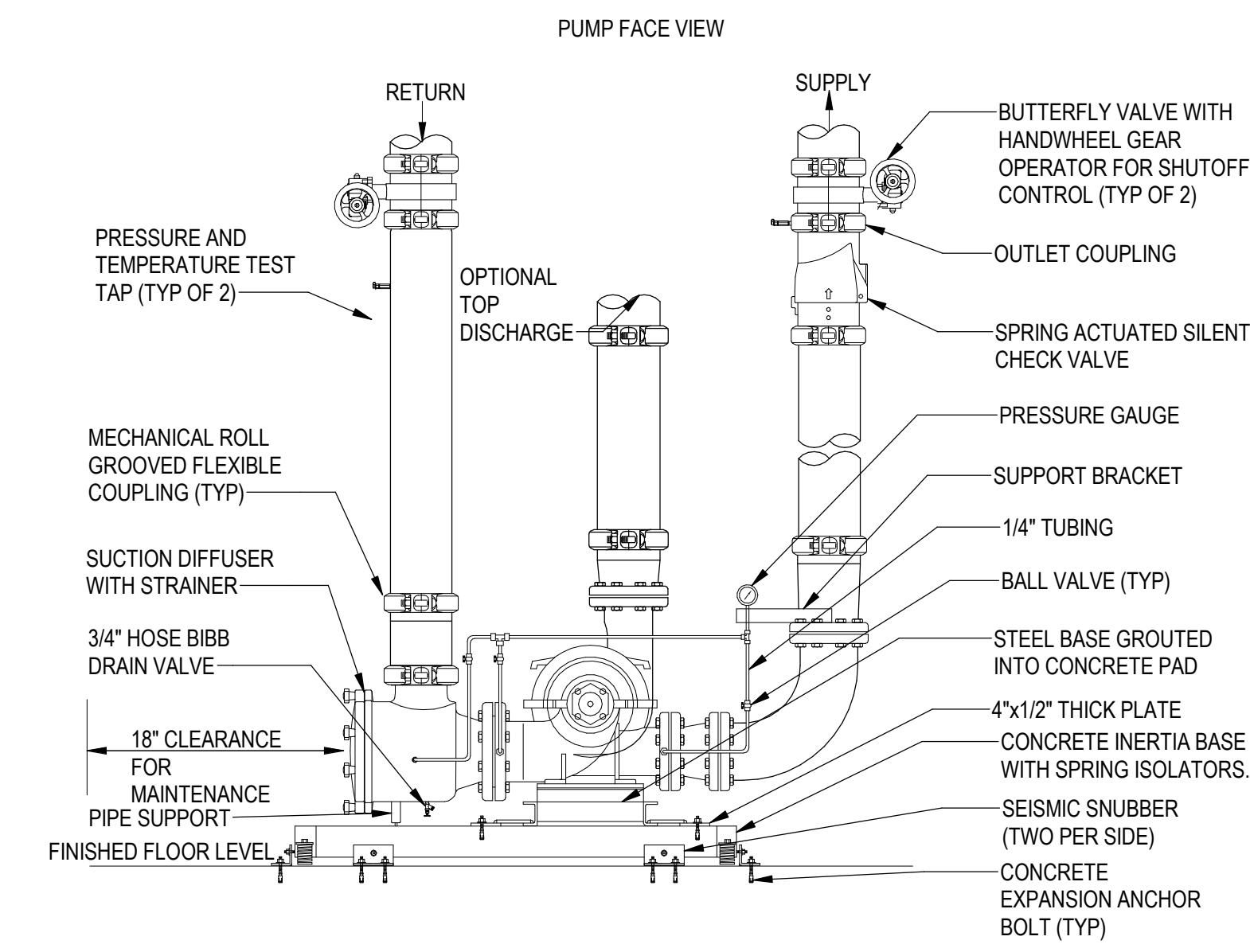
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3 07/17/2020 TOWER PERMIT RESUB

PROJECT NO. CBRE03.18.095
DRAWN BY NJUM
ISSUE DATE 07/17/2020



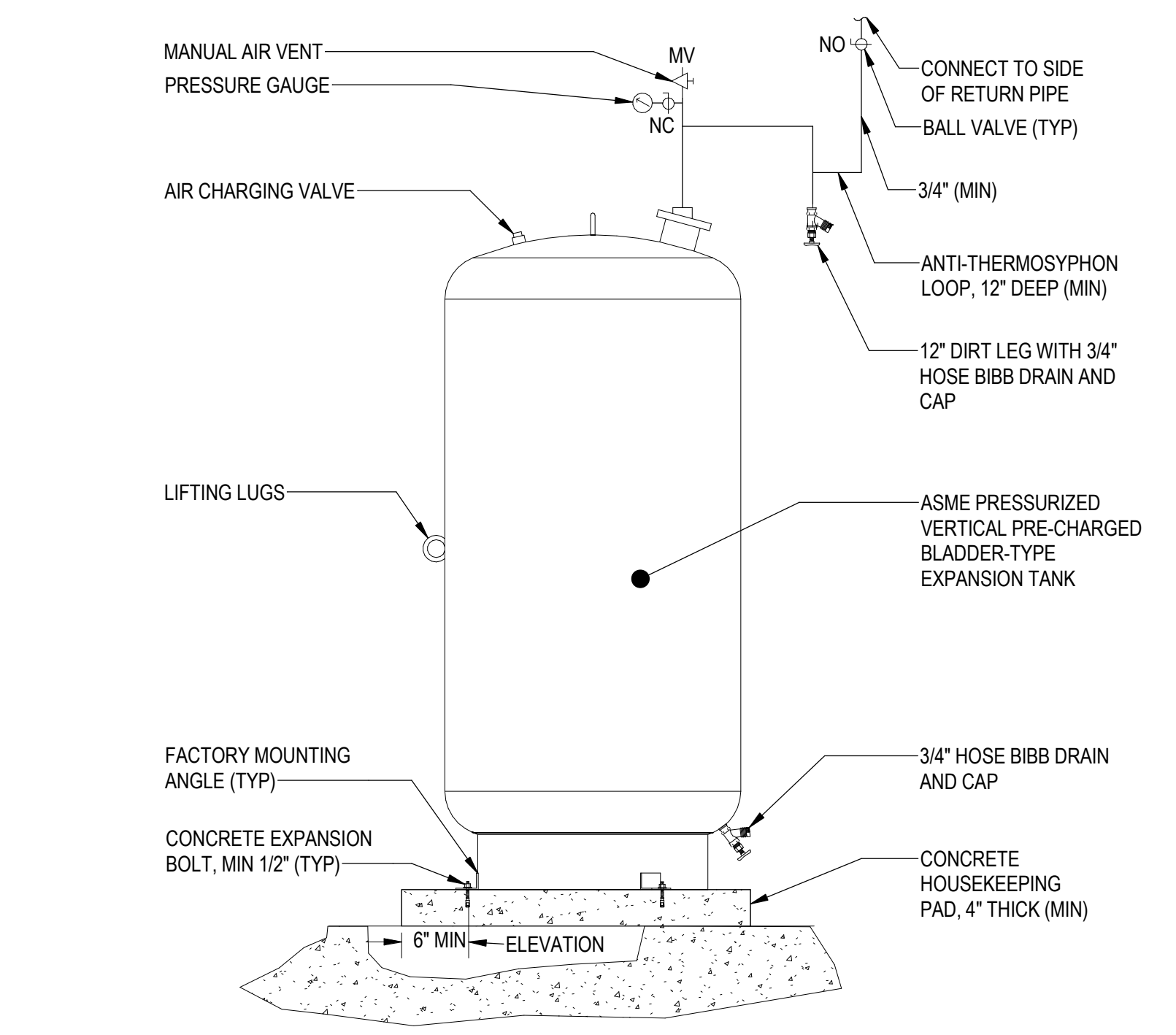
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DETAILS**

M9.6



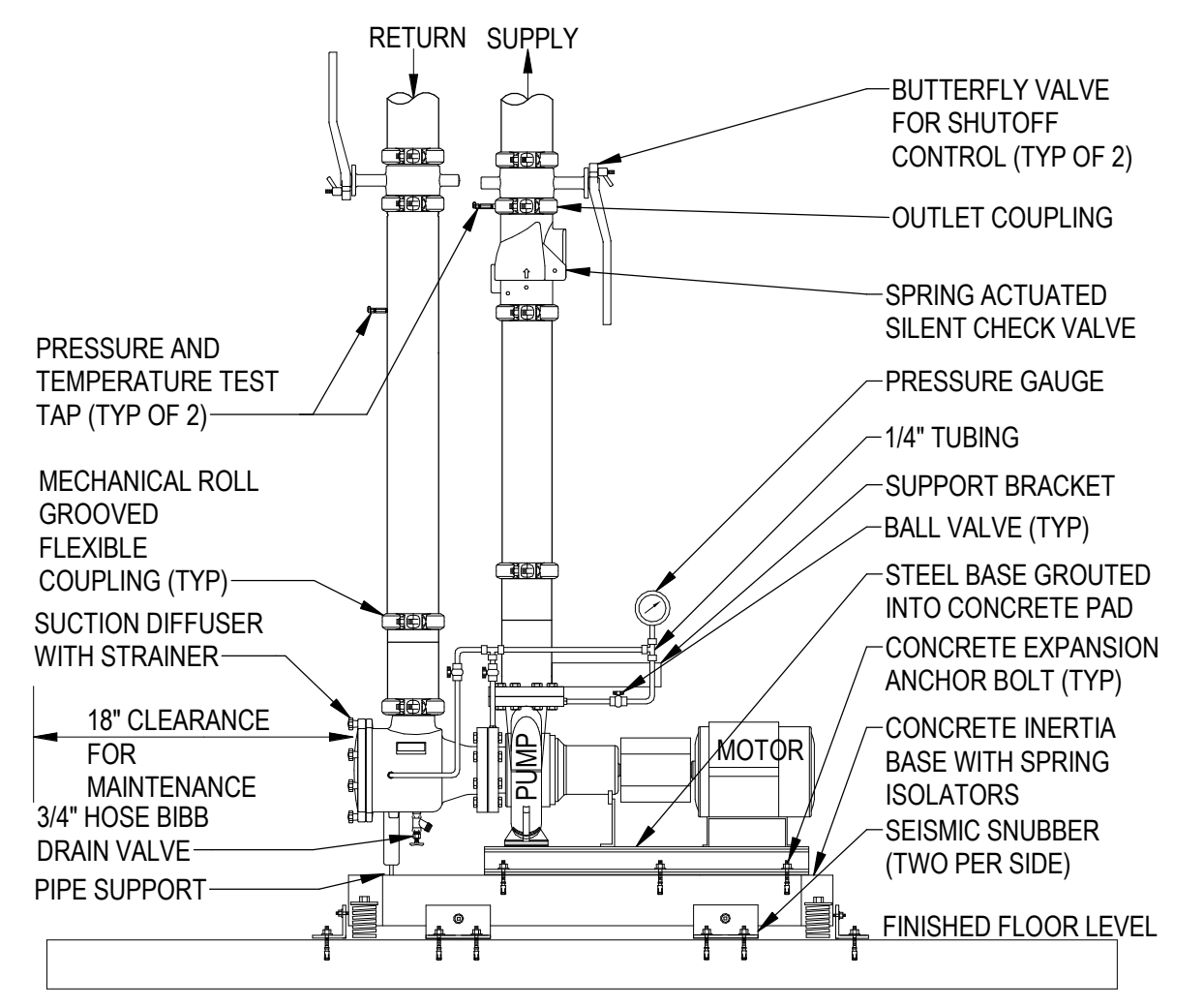
- NOTES:
1. INSULATE ALL FITTINGS, VALVES, STRAINER, CHECK VALVE, PIPE AND PUMP IMPELLER. EXTEND MEASUREMENT PORTS TO EXTERIOR OF INSULATION.
 2. PROVIDE CONCRETE PAD, 4" HIGH (MINIMUM), WITH DIMENSIONS AS NECESSARY TO SUPPORT PUMP.
 3. REMOVE FINE MESH STRAINER PRIOR TO FINAL WATER BALANCE.
 4. PROVIDE MINIMUM THREE FLEXIBLE MECHANICAL COUPLINGS ON EACH SIDE OF PUMP FOR VIBRATION ISOLATION. USE MECHANICAL VIBRATION ISOLATOR IF PIPE JOINTS ARE FLANGED OR WELDED.
 5. MAINTAIN MINIMUM FIVE TIMES PIPE DIAMETER STRAIGHT LENGTH PRIOR TO CHECK VALVE.
 6. TRIPLE DUTY VALVES NOT ALLOWED.
 7. COORDINATE ANCHORAGE REQUIREMENTS WITH STRUCTURAL DESIGN.

6 SPLIT CASE PUMP W INERTIA BASE
SCALE: NONE



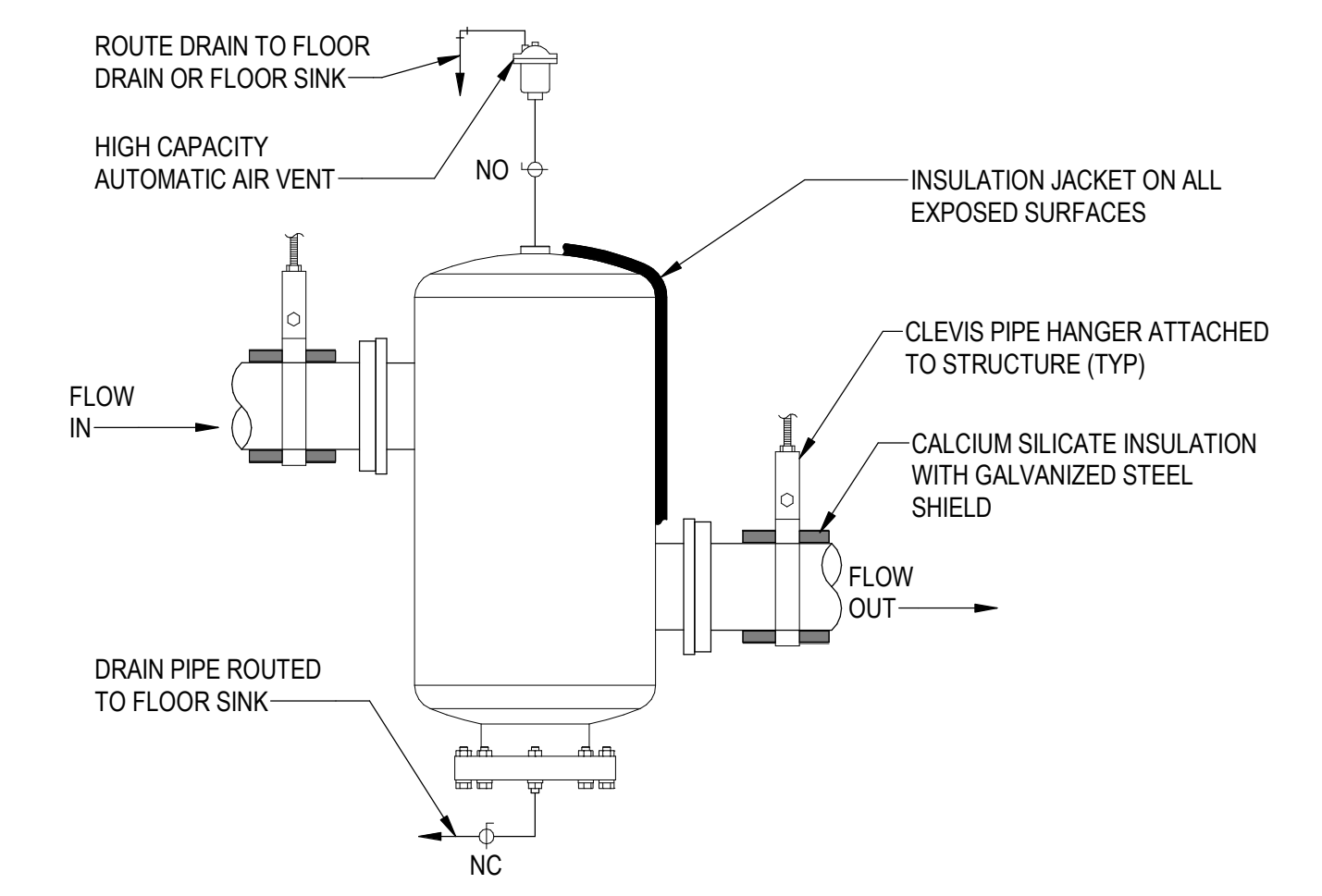
- NOTES:
1. COORDINATE WITH STRUCTURAL DESIGN FOR CONCRETE ATTACHMENT.
 2. TANK INSULATION IS NOT REQUIRED WHEN USING AN ANTI-THERMOSYPHON LOOP.
 3. PRE-CHARGE TANK AS SCHEDULED.

3 EXPANSION TANK
SCALE: NONE



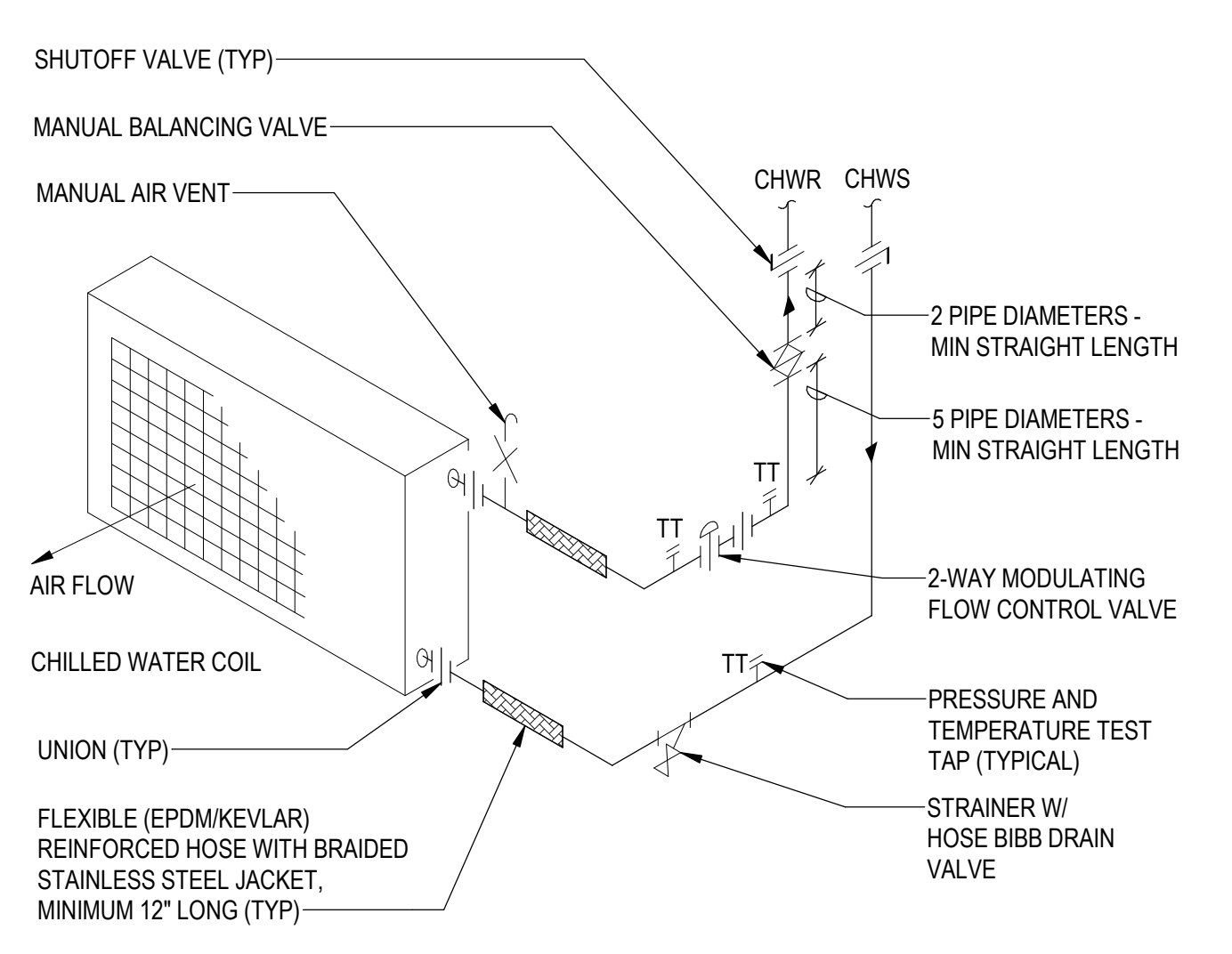
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 5. MAINTAIN MINIMUM FIVE TIMES PIPE DIAMETER STRAIGHT LENGTH PRIOR TO CHECK VALVE.
 6. TRIPLE DUTY VALVES NOT ALLOWED.
 7. COORDINATE ANCHORAGE REQUIREMENTS WITH STRUCTURAL DESIGN.

5 BASE MOUNTED END SUCTION PUMP W INERTIA BASE
SCALE: NONE



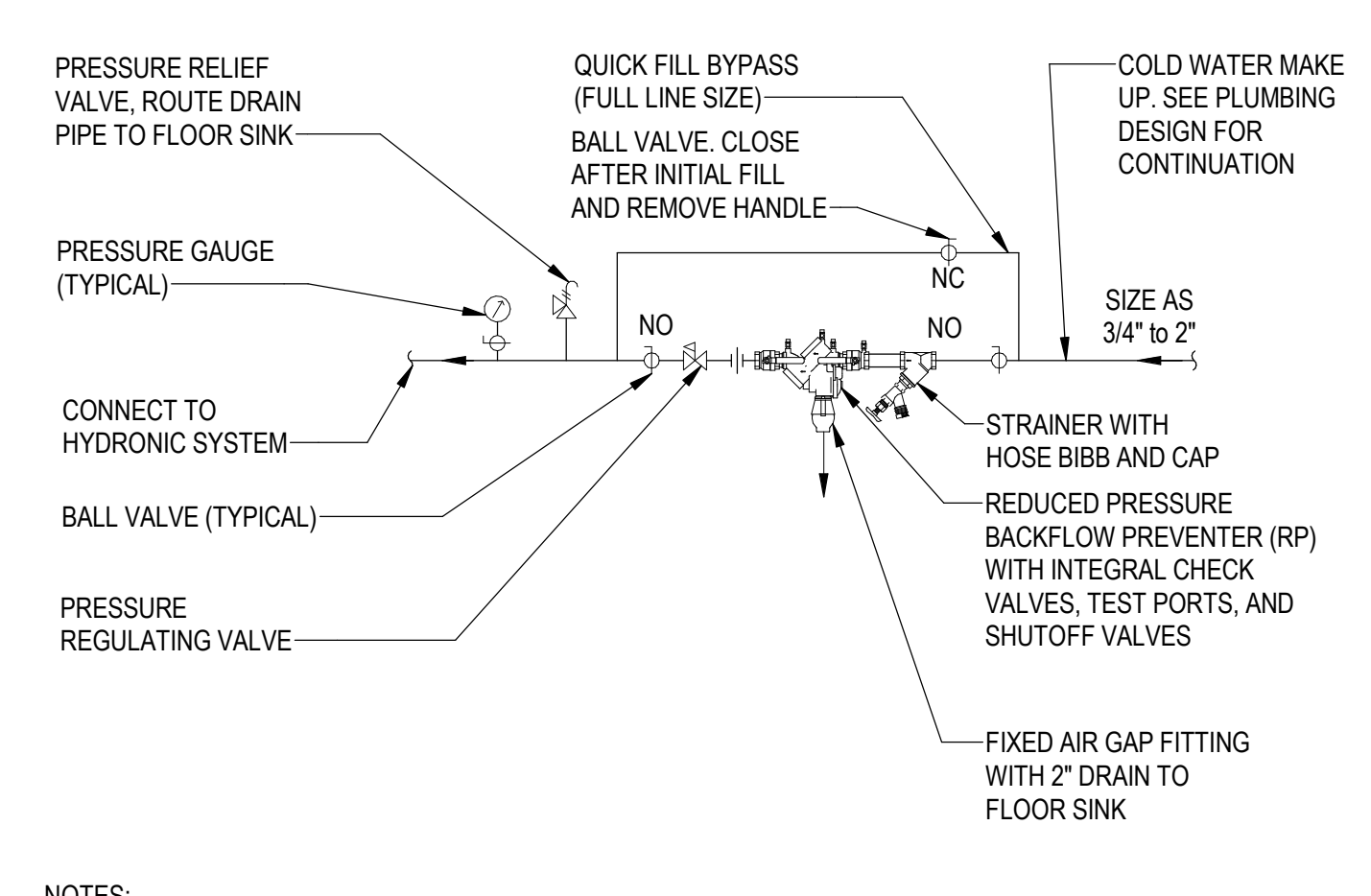
- NOTES:
1. INSULATE ALL SURFACES OF AIR SEPARATOR AND PIPING. REFER TO SPECIFICATION.
 2. INSTALL HIGH CAPACITY AUTOMATIC AIR VENT ON TOP OF AIR SEPARATOR AND ROUTE DRAIN LINE TO FLOOR SINK.
 3. COORDINATE WITH STRUCTURAL DESIGN FOR ATTACHMENT REQUIREMENTS TO STRUCTURE.

2 AIR SEPARATOR
SCALE: NONE



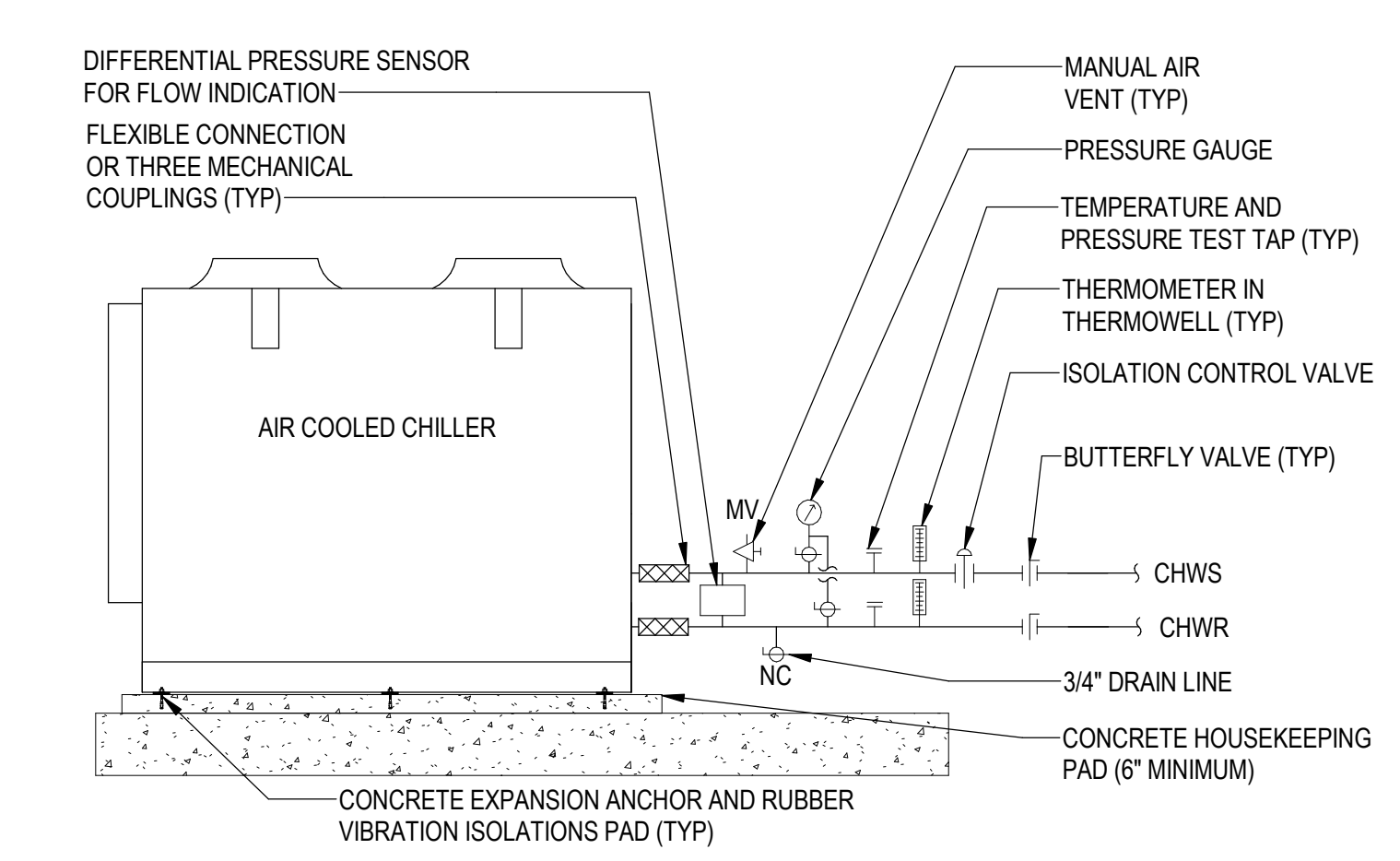
- NOTES:
1. WATER SHALL BE PIPED COUNTER FLOW TO AIRFLOW, SUPPLY AT BOTTOM.
 2. LOCATE PIPING TO CLEAR ACCESS DOORS.
 3. SHUTOFF VALVES TO BE BALL TYPE FOR SIZE 2" AND BELOW, AND BUTTERFLY FOR 2-1/2" AND ABOVE.
 4. INSULATE PIPING, VALVES AND FITTINGS FROM PIPES MAINS TO COIL CONNECTIONS.
 5. MULTIPLE DUTY VALVES ARE NOT ALLOWED.
 6. MOUNT STRAINER AT LOW POINT. IF NOT POSSIBLE, PROVIDE SEPARATE DRAIN VALVE.
 7. INSTALL ANCHORS AND SUPPORTS TO ALLOW COIL MOVEMENT IN ALL DIRECTIONS WITH MINIMAL PIPE STRESS.
 8. REFER TO SPECIFICATIONS FOR ADDITIONAL VALVE REQUIREMENTS.

7 CHILLED WATER COIL 2-WAY
SCALE: NONE



- NOTES:
1. INSULATE DOMESTIC COLD WATER PIPING AND FITTINGS IF REQUIRED TO PREVENT CONDENSATION.
 2. PROVIDE DRAIN LINES, MINIMUM 1/2", FROM VENTS AND RELIEF VALVES AND ROUTE TO NEAREST FLOOR SINK.
 3. SET PRESSURE REGULATOR TO A MINIMUM OF 4 PSI GREATER STATIC HEAD AT HIGH POINT OF SYSTEM. REFER TO EXPANSION TANK SCHEDULE FOR PRESSURE SETTINGS.

4 MAKEUP WATER RP DEVICE
SCALE: NONE



- NOTES:
1. MAINTAIN MANUFACTURER REQUIRED CLEARANCES.
 2. ALL SENSORS AND THERMOSTATS SHALL BE LOCATED 7" AFF (MAX) AND EASILY READABLE FROM STANDING POSITION.
 3. FOR PIPE SIZES & CONTINUATION SEE DRAWINGS.
 4. INSULATE ALL CHILLED WATER PIPING AND FITTINGS PER SPECIFICATIONS.
 5. DIFFERENTIAL PRESSURE MAY BE CALIBRATED TO BAS FOR FLOW RATES.
 6. COORDINATE ANCHORAGE REQUIREMENTS WITH STRUCTURAL DESIGN.
 7. COORDINATE SHUTOFF VALVES WITH PUMP.
 8. PROVIDE THERMOWELLS AND PIPE TAP FITTINGS AS REQUIRED FOR CONTROL SYSTEM DEVICES.
 9. PROVIDE ADDITIONAL FLOW SWITCHES OR PRESSURE SENSORS AS REQUIRED BY CHILLER MANUFACTURER FOR WATER FLOW PROOF CONNECTED DIRECTLY TO CHILLER CONTROL PANEL.

1 AIR COOLED CHILLER
SCALE: NONE