

777 Old Saw Mill River Road
Tarrytown, NY 10591-6707
T: 914.847.7400
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www.regeneron.com

Building #17
Campus Expansion Child
Day-care Center

899 Old Saw Mill River Road
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

Architect

GenSLER

1700 Broadway, Suite 400
New York, NY 10019
(212) 492-1400 Phone
(212) 492-1472 Fax

Structural Engineer

Thornton Tomasetti
120 Broadway, 15th Floor
New York, NY 10271
(917) 661-7800 Phone
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MEP / IT / Security Engineer

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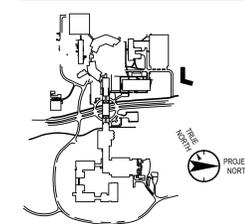
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Landscape Architect

Langan
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(212) 479-5400 Phone
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Key Plan



No. Date Description

0	05/20/2022	ISSUED FOR PERMIT
1	06/22/2022	100% CONSTRUCTION DOCUMENTS
2	07/01/2022	100% CONSTRUCTION DOCUMENTS-1

Plot Date: 07/01/2022

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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Mechanical Drawn By: BC

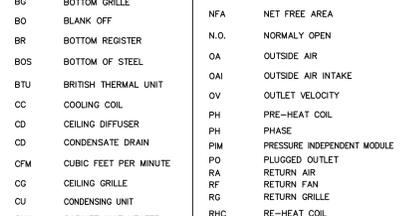
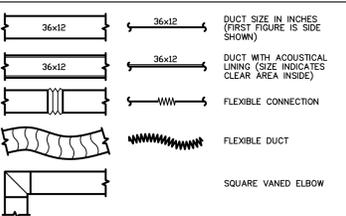
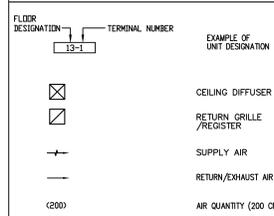
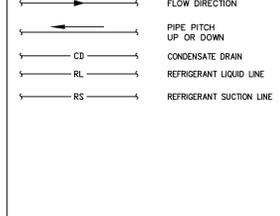
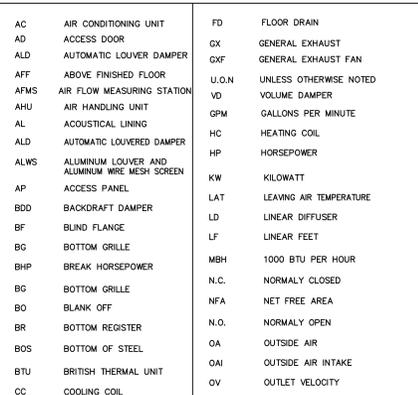
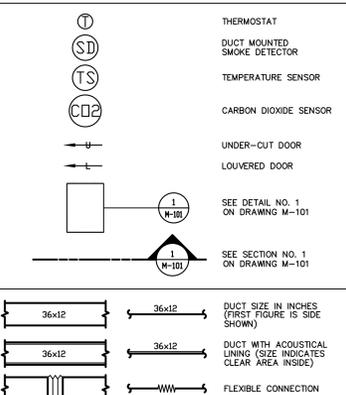
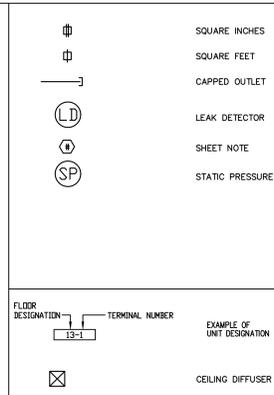
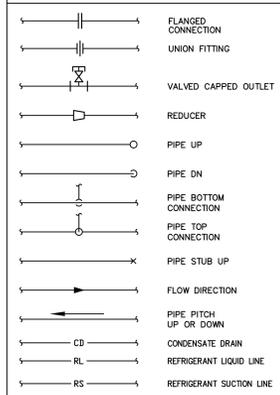
MECHANICAL
SYMBOLS,
ABBREVIATIONS, AND
DRAWING LIST

Scale: NTS Floor:

M-000

KEY OF SYMBOLS AND ABBREVIATIONS

NOTE: THE KEY OF SYMBOLS INDICATED IS FOR CONVENIENCE ONLY AND ITEMS INDICATED ARE NOT NECESSARILY WITHIN THE SCOPE OF THE WORK.



HVAC GENERAL NOTES:

- CONTRACTOR, WITH OWNER, SHALL PAY ALL FEES AND OBTAIN ALL PERMITS REQUIRED BY LOCAL AND STATES CODES.
- WHERE PIPING, LIGHTS AND DUCTWORK CONFLICT, DUCTWORK SHALL BE COORDINATED IN THE FIELD TO SUIT CONDITIONS.
- ALL DUCTWORK TO BE KEPT AS HIGH AS POSSIBLE SO AS TO MAINTAIN CEILING HEIGHTS SHOWN ON ARCHITECTURAL DRAWINGS.
- ACCESS IS REQUIRED BELOW ALL DAMPERS, VALVES, AND EQUIPMENT. ACCESS DOORS TO BE PROVIDED IN GYPSUM CEILINGS AS REQUIRED.
- FOR EXACT LOCATION OF CEILING DIFFUSERS AND REGISTERS REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN.
- FOR EXACT LOCATION AND ARRANGEMENT OF ROOM THERMOSTATS AND EXHAUST FAN SWITCHES, SEE THE ARCHITECT'S DRAWINGS. IF NONE IS SHOWN, THERMOSTAT/SWITCH SHALL BE NEXT TO THE LIGHT SWITCH, MAINTAINING A DISTANCE FROM THE LIGHT SWITCHES.
- DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
- DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER LATEST EDITION OF THE SMACNA DUCT CONSTRUCTION STANDARDS.
- MOUNT THERMOSTAT ABOVE FINISHED FLOOR PER ARCHITECT. PROVIDE THERMOSTAT WITH HEAVY GUARDS OR LOCKABLE COVER APPROVED BY ARCH-ENGINEER IN COMMON PUBLIC OR UNSUPERVISED AREA.
- FOR EXACT LOCATION OF THERMOSTATS, GRILLES, AND DIFFUSERS REFER TO ARCHITECT DRAWINGS. ALL GRILLES AND DIFFUSERS PAINTED TO MATCH ADJACENT COLORS. COLORS TO BE APPROVED BY ARCH-OWNER.
- ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE GALV. SHEET METAL UNLESS OTHERWISE SPECIFIED IN THE SPECS OR DWGS. WHERE BRANCH DUCTS ARE SERVING "WET" AREAS, ALUMINUM DUCT MATERIAL SHALL BE PROVIDED.
- ALL STRAP HANGER & SUPPORTS FOR FLEXIBLE DUCTWORK SHALL BE SIZES & INSTALLED IN ACCORDANCE W/SMACNA STANDARDS, BUT NOT LESS THAN 1-1/2" WIDE.
- PROVIDE MINIMUM OF R-6 ON DUCTWORK ABOVE CEILING. ALL FLEXIBLE DUCTWORK SHALL BE ALL METAL CONSTRUCTION CONSISTING OF A CORE STANDARD TRIPLE LOCK METAL FLEXIBLE DUCTING FOR STRENGTH AND AIRTIGHTNESS.
- UNITS OVER 2,000 CFM SHALL HAVE SMOKE DETECTORS ON THE SUPPLY AND RETURN DUCTWORK PER MECHANICAL CODE SECTION 606.2.
- ALL EXTERIOR INSULATED DUCTWORK SHALL HAVE POLYISOCYANURATE BOARD WITH EPDM COVER ON DUCTWORK.
- PROVIDE VOLUME DAMPERS IN LOW PRESSURE DUCTWORK FOR ALL SUPPLY, RETURN, AND EXHAUST OUTLETS. PROVIDE VOLUME DAMPERS (VD) AT EVERY DUCTWORK BRANCH, TAP AND SPLIT. DO NOT INSTALL VOLUME DAMPERS ON MEDIUM PRESSURE DUCTWORK.
- PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - AUTOMATIC DAMPERS
- PROVIDE INSULATED CONDENSATE DRAIN TO NEAREST FLOOR DRAIN FOR ALL AC UNITS. PROVIDE CONDENSATE PUMP WITH A MIN.CAPACITY OF 2070H@200GPH, 115V/1/60, 67 FLUID IN. RESERVOIR, COMPLETE VALVE PACKAGE AND ACCESSORIES IF THE CONDENSATE CAN NOT BE DRAINED BY GRAVITY.
- ALL MOTOR STARTERS LOCATED OUTDOORS OR EXPOSED TO WET OR DAMP CONDITIONS SHALL BE NEMA TYPE 4.
- ALL COILS AND FILTERS SHALL BE INSTALLED ON TRACKS FOR EASY REMOVAL. INSTALLATIONS THAT REQUIRE DISASSEMBLY OF THE UNIT OR FLENUM FOR COIL REMOVAL ARE NOT ACCEPTABLE.

COMMISSIONING NOTES

OWNER SHALL ENGAGE A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY TO PROVIDE COMMISSIONING SERVICES IN COMPLIANCE WITH 2020 EECNYS. THE SPECIFICATIONS SHALL BE PROVIDED BY A COMMISSIONING AGENT TO BE SUBMITTED WITH DESIGN DOCUMENTS FOR BID.

SYSTEMS AND ASSOCIATED CONTROLS TO BE COMMISSIONED:

- HEATING, COOLING, AIR HANDLING AND DISTRIBUTION, VENTILATION, EXHAUST SYSTEMS, AND THEIR RELATED AIR QUALITY MONITORING SYSTEMS.
- AIR, WATER, AND OTHER ENERGY RECOVERY SYSTEMS.
- MANUAL OR AUTOMATIC CONTROLS, WHETHER LOCAL OR REMOTE, ON ENERGY USING SYSTEMS INCLUDING BUT NOT LIMITED TO TEMPERATURE CONTROLS, SETBACK SEQUENCES, AND OCCUPANCY BASED CONTROL, INCLUDING ENERGY MANAGEMENT FUNCTIONS OF THE BUILDING MANAGEMENT SYSTEM.
- PLUMBING, INCLUDING INSULATION OF PIPING AND ASSOCIATED VALVES, DOMESTIC AND PROCESS WATER PUMPING, AND MIXING SYSTEMS.
- MECHANICAL HEATING SYSTEMS AND SERVICE WATER HEATING SYSTEMS.
- REFRIGERATION SYSTEMS.
- RENEWABLE ENERGY AND ENERGY STORAGE SYSTEMS.
- OTHER SYSTEMS, EQUIPMENT AND COMPONENTS THAT ARE USED FOR HEATING, COOLING OR VENTILATION AND THAT AFFECT ENERGY USE.

COMMISSIONING PLAN SHALL FOLLOW ALL NECESSARY STEPS AS PER 2020 EECNYS.

TRAINING AND MANUALS:

UPON COMPLETION OF THE JOB, ALL APPLICABLE OPERATING AND SPECIFICATION MANUALS TO BE DELIVERED TO THE BUILDING STAFF. CONTRACTOR SHALL PROVIDE TRAINING FOR THE BUILDING MAINTENANCE STAFF TO ASSURE THAT THE SYSTEM IS MAINTAINED AND OPERATED PROPERLY.

ENERGY CODE NOTES

1. THE MAXIMUM AIR LEAKAGE RATE FOR ALL TYPES OF FENESTRATION ASSEMBLIES AND THEIR TEST PROCEDURE, FROM AN INDEPENDENT AND ACCREDITED LABORATORY, SHALL FOLLOW SECTION C402.5.2 AND TABLE 402.5.2 OF THE EECNYS.

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CODE OF NYS

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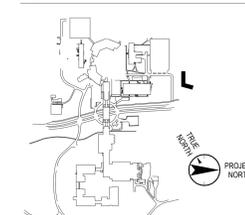
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Professional Seal and Signature

Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Mechanical Drawn By: BC
MECHANICAL 1ST FLOOR
DUCTWORK PLAN

Scale: 1/8" = 1'-0" Floor: 1ST

M-100

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATION ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CODE OF NYS

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AC UNIT RETURN AIR NOTES:
1. PROVIDE SPACE FOR MANUFACTURER PROVIDED FILTER KIT FOR MERV 14 FILTER.
2. PROVIDE THE FOLLOWING SIZES FOR RETURN PLENUM AND RETURN AIR DUCT THAT FACES ROOF. COORDINATE WITH EQUIPMENT MANUFACTURER.

0.5 TON: (899-AC-1-02F, 899-AC-1-03C)
20x8 PLENUM, 18x8 RETURN AIR DUCT

0.75 TON: (899-AC-1-01E, 899-AC-1-02G)
20x8 PLENUM, 18x8 RETURN AIR DUCT

1.0 TON: (899-AC-1-01G, 899-AC-1-02E, 899-AC-1-03E, 899-AC-1-04G, 899-AC-1-05E, 899-AC-1-05F)
24x8 PLENUM, 22x8 RETURN AIR DUCT

1.25 TON: (899-AC-1-01F)
36x10 PLENUM, 34x10 RETURN AIR DUCT

1.5 TON: (899-AC-1-01A, 899-AC-1-01B, 899-AC-1-02A, 899-AC-1-02B, 899-AC-1-04A)
38x12 PLENUM, 36x10 RETURN AIR DUCT

2.0 TON: (899-AC-1-01C, 899-AC-1-01D, 899-AC-1-02C, 899-AC-1-02D, 899-AC-1-03B, 899-AC-1-03D)
38x12 PLENUM, 36x10 RETURN AIR DUCT

2.5 TON: (899-AC-1-04B, 899-AC-1-04C, 899-AC-1-04E, 899-AC-1-05A, 899-AC-1-05C)
54x12 PLENUM, 52x12 RETURN AIR DUCT

4.0 TON: (899-AC-1-03A)
54x12 PLENUM, 52x12 RETURN AIR DUCT

SHEET NOTES:
1. DOAS SUPPLY AND RETURN DUCTWORK (INCLUDING BYPASS DUCT), TO BE PROVIDED WITH 1.5" INTERNAL ACOUSTICAL LINING FOR 25 FEET, IN ALL DIRECTIONS, FROM ROOF PENETRATION FOR NOISE ATTENUATION AND FOR A MINIMUM OF R-6 INSULATION. THE REMAINDER OF THE SUPPLY AND RETURN DUCTWORK FROM THE DOAS IS TO BE EXTERNALLY INSULATED.
2. TRANSFER DUCTS TO BE PROVIDED WITH 1" INTERNAL ACOUSTICAL LINING.
3. AC SUPPLY AND RETURN AIR DUCTWORK TO BE PROVIDED WITH EXTERNAL INSULATION PER SPECIFICATION AND CODE. (NO ACOUSTICAL LINING)
4. DRAWINGS SHOW CLEAR INSIDE DIMENSIONS.
5. ACOUSTICALLY WRAP AT ROOF PENETRATIONS, (EXCLUDING LAUNDRY).
6. ALL TRANSFER DUCTS AND RETURN AIR OPENINGS ARE TO BE PROVIDED WITH WIRE MESH SCREENS (WMS)

CODE NOTES:
1) WHEREVER REQUIRED AND ACCEPTED: FLEXIBLE AIR DUCT AND/OR FLEXIBLE AIR CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181, LISTED AND LABELED AS CLASS 0 OR CLASS 1, AND SHALL BE INSTALLED PER REQUIREMENTS OF THEIR LISTING, THE MANUFACTURER INSTALLATION INSTRUCTIONS, SPECIFICATION SECTION 233300, AND THE MCNYS CODE SECTIONS 603.6.1, 603.6.2, AND 304.1.

SHEET DIFFUSER NOTES:
1. CR-2 RETURN GRILLES TO HAVE 15" NECK FOR UP TO 750 CFM OF RETURN AT NC OF 20. THESE RETURN GRILLE ARE TO BE DISCRETELY TAGGED TO NOTE TO MAINTENANCE STAFF RETURN AIR FUNCTION.
2. CD-5 IN CORRIDOR TO HAVE 8" NECK AND BE PROVIDED WITH MODEL DB BAFFLES FOR 2-DIRECTIONAL AIR FLOW.
3. INACTIVE LINEARS TO SERVE AS RETURN AIR PATHWAYS.



LAUNDRY EXHAUST TO BE PROVIDED WITH A BACKDRAFT DAMPER PER MCNYS CODE SECTION 504.4, AND TO BE PROVIDED WITH PROTECTIVE SHIELD PLATES WHERE SUBJECT TO PENETRATION FROM NAILS OR SCREWS PER MCNYS CODE SECTION 504.7

BALANCING DAMPERS OVER INACCESSIBLE CEILING TO UTILIZE CORD OPERATED DAMPER AS NOTED ON DRAWING M-501 AND IN SPECIFICATIONS, (TYPICAL)

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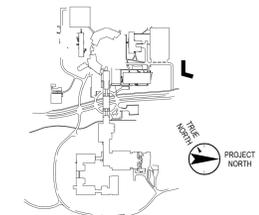
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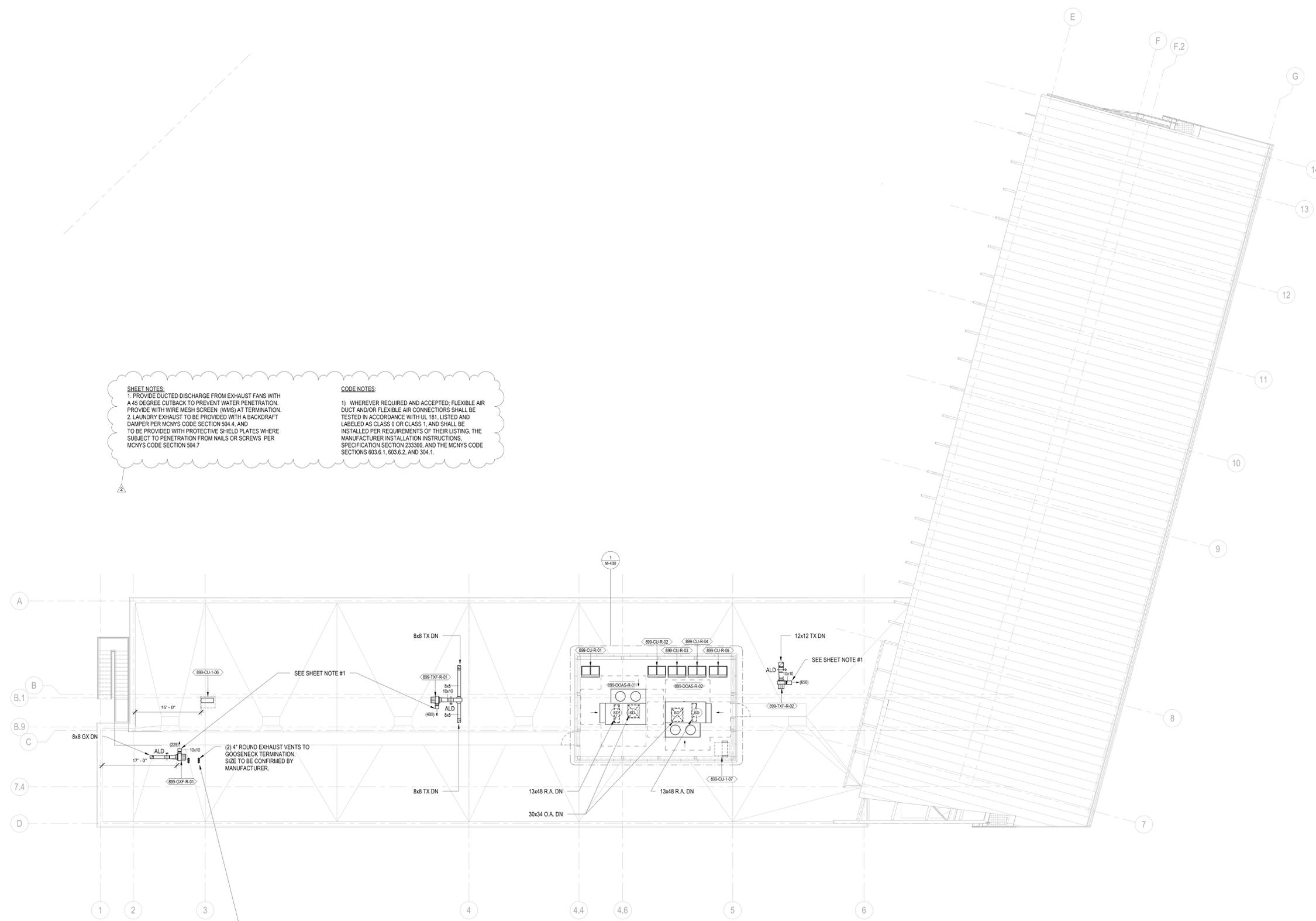
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Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Mechanical Drawn By: BC

**MECHANICAL ROOF
DUCTWORK PLAN**

Scale: 1/8" = 1'-0" Floor: ROOF

M-101



SHEET NOTES:
1. PROVIDE DUCTED DISCHARGE FROM EXHAUST FANS WITH A 45 DEGREE CUTBACK TO PREVENT WATER PENETRATION. PROVIDE WITH WIRE MESH SCREEN (WMS) AT TERMINATION.
2. LAUNDRY EXHAUST TO BE PROVIDED WITH A BACKDRAFT DAMPER PER MCNYS CODE SECTION 504.4 AND TO BE PROVIDED WITH PROTECTIVE SHIELD PLATES WHERE SUBJECT TO PENETRATION FROM NAILS OR SCREWS PER MCNYS CODE SECTION 504.7

CODE NOTES:
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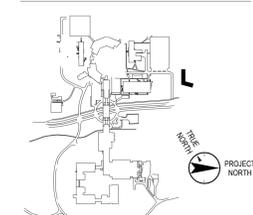
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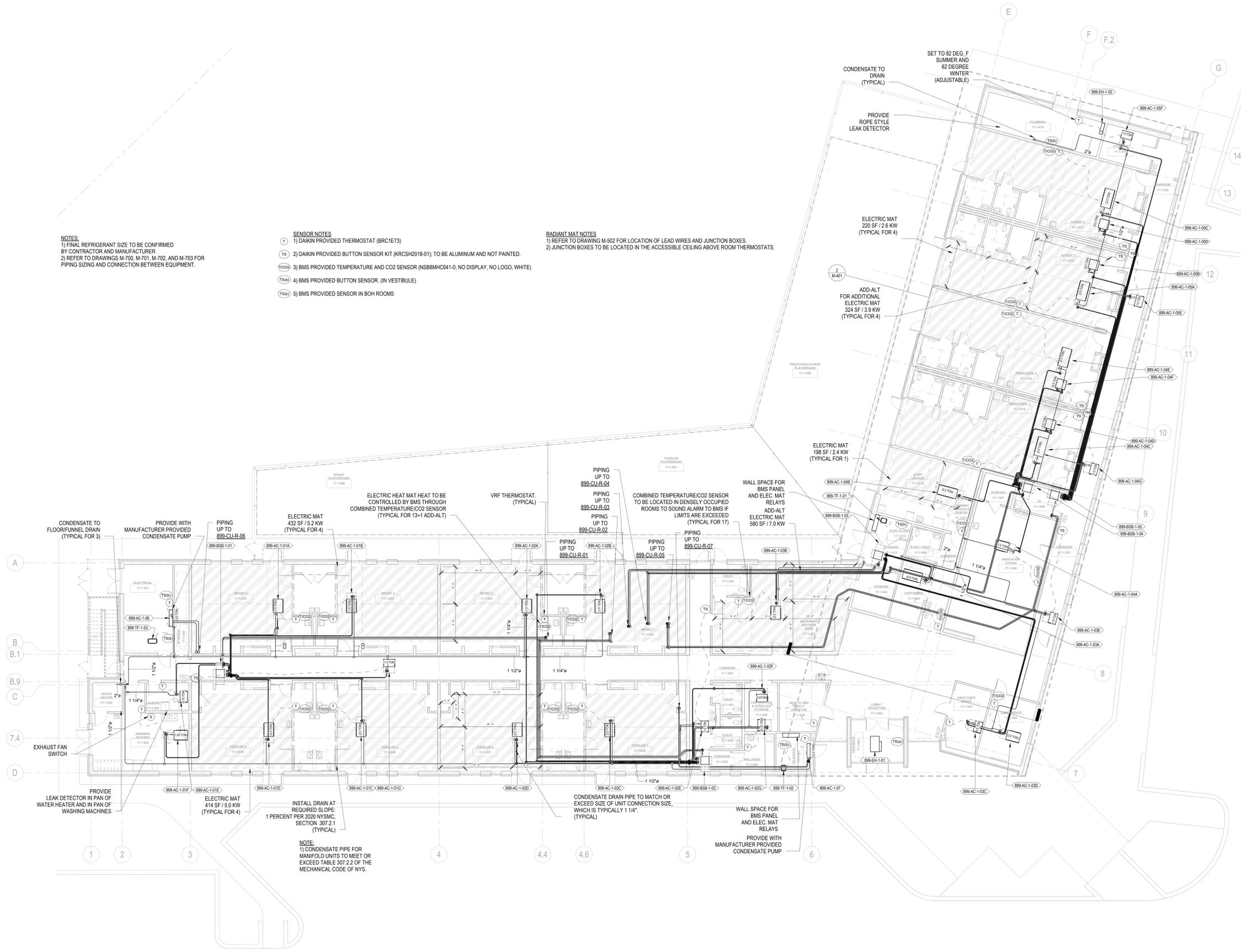
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Vendor Name: GENSLER
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Discipline: Mechanical Drawn By: BC
MECHANICAL 1ST FLOOR
PIPING PLAN

Scale: 1/8" = 1'-0" Floor: 1ST

M-150



NOTES:
1) FINAL REFRIGERANT SIZE TO BE CONFIRMED BY CONTRACTOR AND MANUFACTURER
2) REFER TO DRAWINGS M-700, M-701, M-702, AND M-703 FOR PIPING SIZING AND CONNECTION BETWEEN EQUIPMENT.

- SENSOR NOTES**
- (T) 1) DAIKIN PROVIDED THERMOSTAT (BRC1E73)
 - (TS) 2) DAIKIN PROVIDED BUTTON SENSOR KIT (KRCSH2018-01), TO BE ALUMINUM AND NOT PAINTED.
 - (TIC02) 3) BMS PROVIDED TEMPERATURE AND CO2 SENSOR (NSB8MH041-0; NO DISPLAY, NO LOGO, WHITE)
 - (TS80) 4) BMS PROVIDED BUTTON SENSOR (IN VESTIBULE)
 - (TS80) 5) BMS PROVIDED SENSOR IN BOH ROOMS

- RADIANT MAT NOTES**
- 1) REFER TO DRAWING M-502 FOR LOCATION OF LEAD WIRES AND JUNCTION BOXES.
 - 2) JUNCTION BOXES TO BE LOCATED IN THE ACCESSIBLE CEILING ABOVE ROOM THERMOSTATS.

ELECTRIC HEAT MAT HEAT TO BE CONTROLLED BY BMS THROUGH COMBINED TEMPERATURE/CO2 SENSOR (TYPICAL FOR 13-1 ADD-ALT)

COMBINED TEMPERATURE/CO2 SENSOR TO BE LOCATED IN DENSELY OCCUPIED ROOMS TO SOUND ALARM TO BMS IF LIMITS ARE EXCEEDED (TYPICAL FOR 17)

INSTALL DRAIN AT REQUIRED SLOPE: 1 PERCENT PER 2020 NYSMC, SECTION 307.2.1 (TYPICAL)

NOTE:
1) CONDENSATE PIPE FOR MANIFOLD UNITS TO MEET OR EXCEED TABLE 307.2.2 OF THE MECHANICAL CODE OF NYS.

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www.regeneron.com

Building #17
Campus Expansion Child
Day-care Center

899 Old Saw Mill River Road
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

Architect
Gensler
1700 Broadway, Suite 400
New York, NY 10019
(212) 492-1400 Phone
(212) 492-1472 Fax

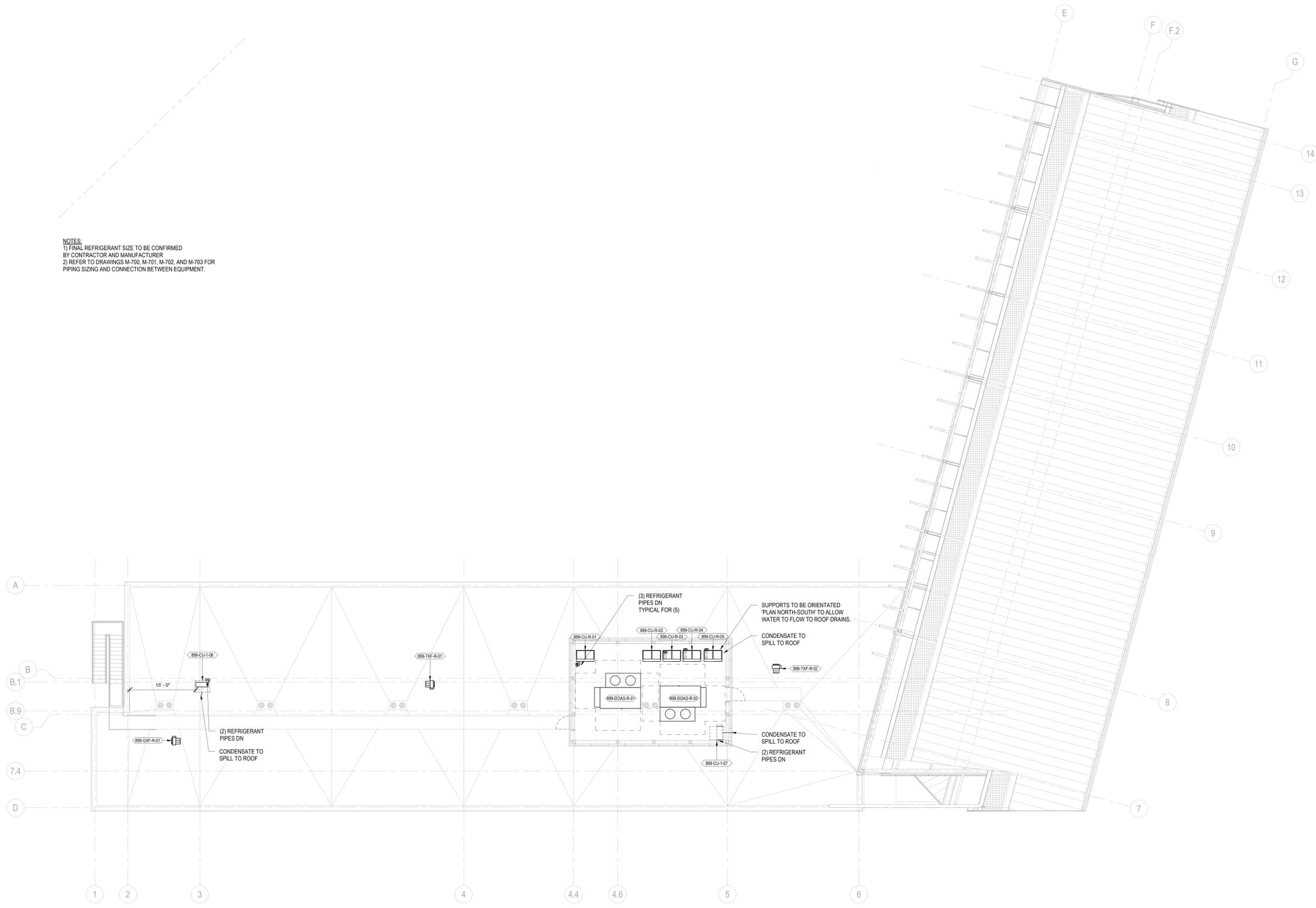
Structural Engineer
Thornton Tomasetti
120 Broadway, 15th Floor
New York, NY 10271
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(917) 661-7801 Fax

MEP / IT / Security Engineer
Cosentini Associates
498 Seventh Avenue
New York, NY 10018
(212) 615-3600 Phone
(212) 615-3700 Fax

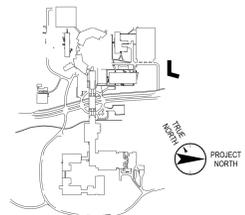
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(914) 273-5225 Phone
(914) 273-2102 Fax

Landscape Architect
Langan
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
(212) 479-5400 Phone
(212) 479-5444 Fax

NOTES:
1) FINAL REFRIGERANT SIZE TO BE CONFIRMED BY CONTRACTOR AND MANUFACTURER
2) REFER TO DRAWINGS M-700, M-701, M-702, AND M-703 FOR PIPING SIZING AND CONNECTION BETWEEN EQUIPMENT.



Key Plan



No.	Date	Description
0	06.20.2022	ISSUED FOR PERMIT
1	06.23.2022	100% CONSTRUCTION DOCUMENTS
2	07.01.2022	100% CONSTRUCTION DOCUMENTS-1

Plot Date: 07.01.2022

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Professional Seal and Signature

Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Mechanical Drawn By: BC
MECHANICAL ROOF PIPING PLAN

Scale: 1/8" = 1'-0" Floor: ROOF

M-151

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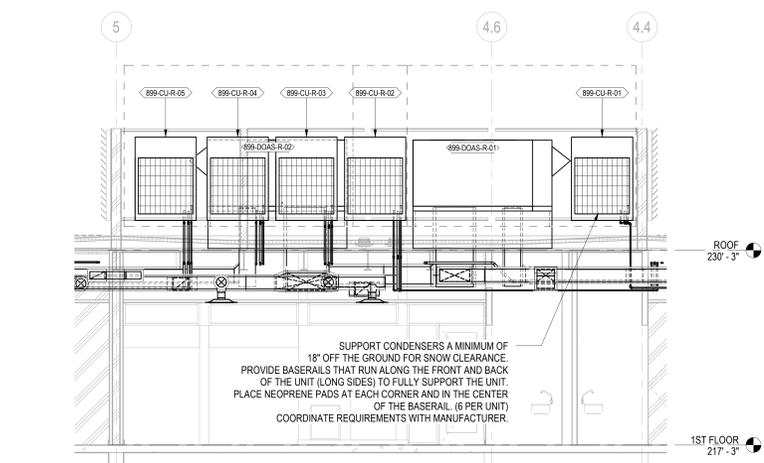
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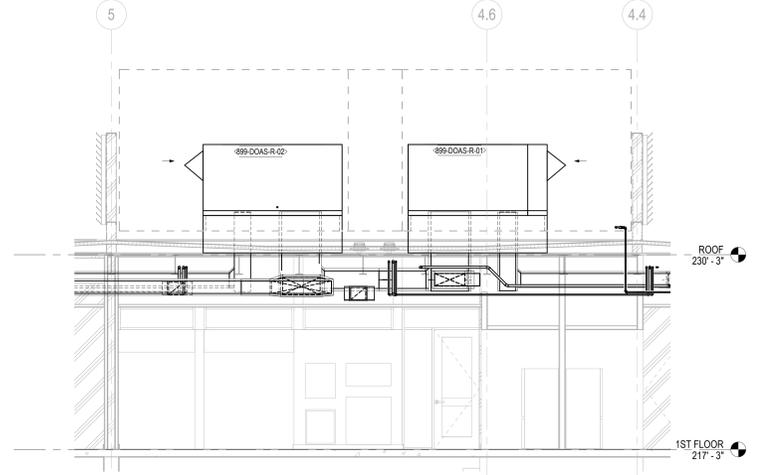
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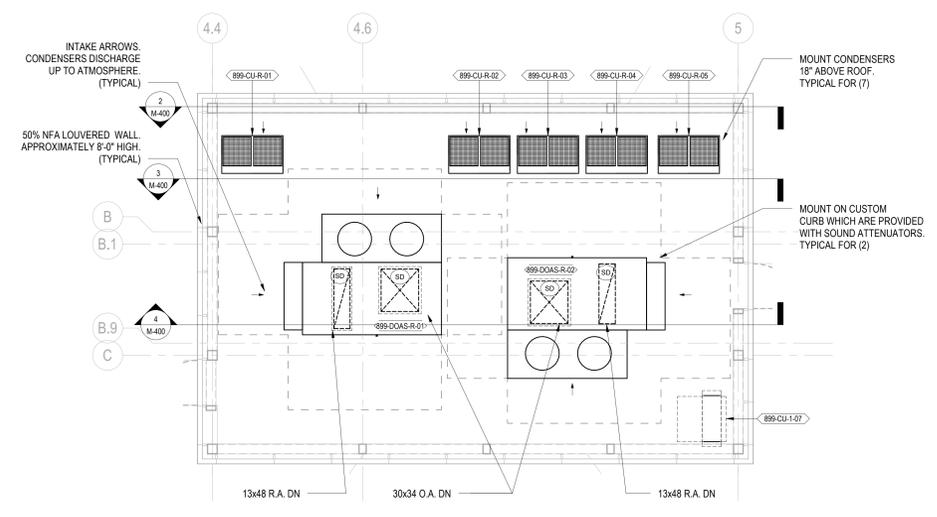
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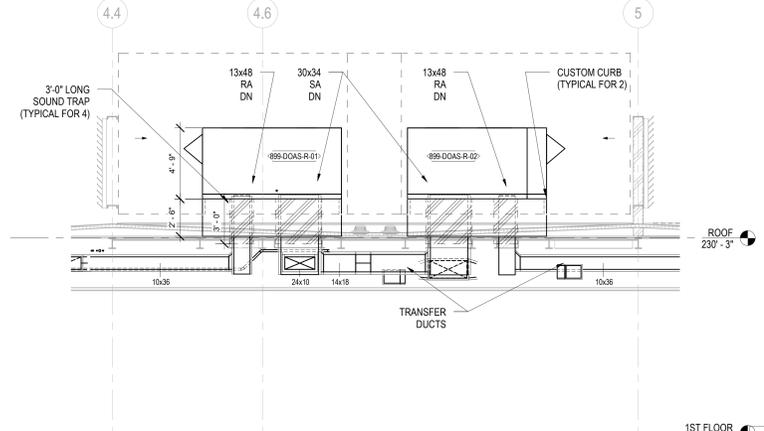
2 Roof Section #1
1/4" = 1'-0"



3 Roof Section #2
1/4" = 1'-0"



1 ROOF MECHANICAL PLAN - Callout
1/4" = 1'-0"



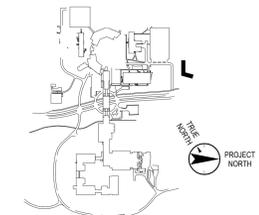
4 Roof Section #3
1/4" = 1'-0"

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Professional Seal and Signature

Vendor Name: GENSLER
Vendor Project No.: 006.3608.000
Discipline: Mechanical Drawn By: BC
MECHANICAL ENLARGED VIEWS SHEET 1

Scale: 1/4" = 1'-0" Floor: ROOF

M-400

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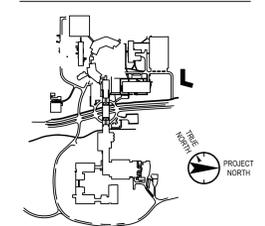
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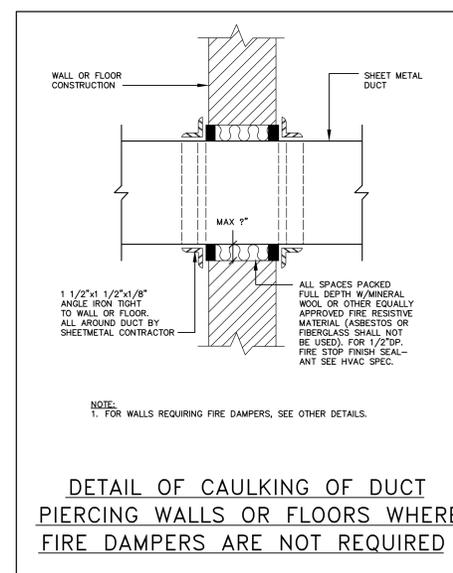
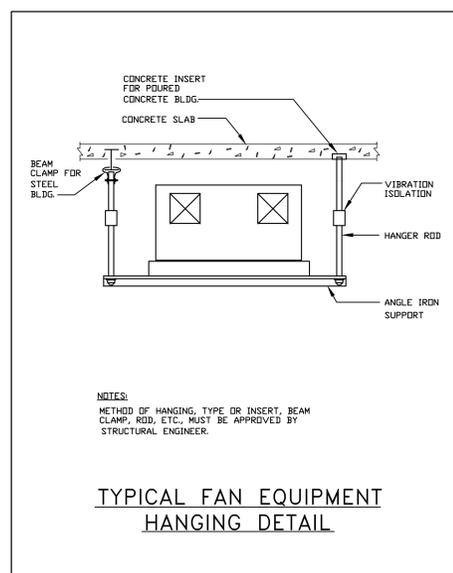
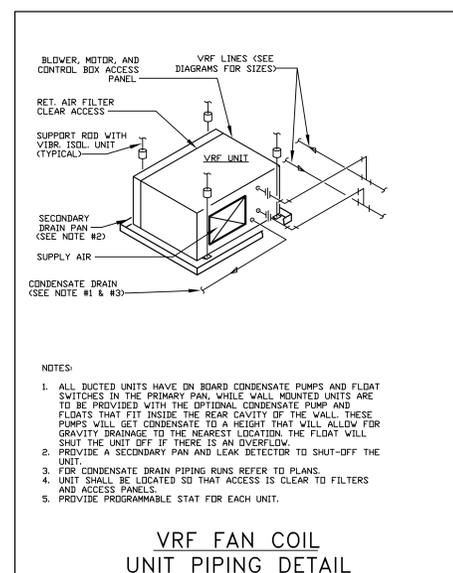
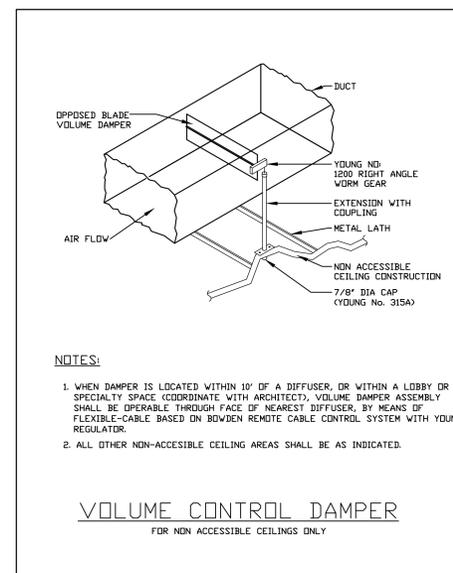
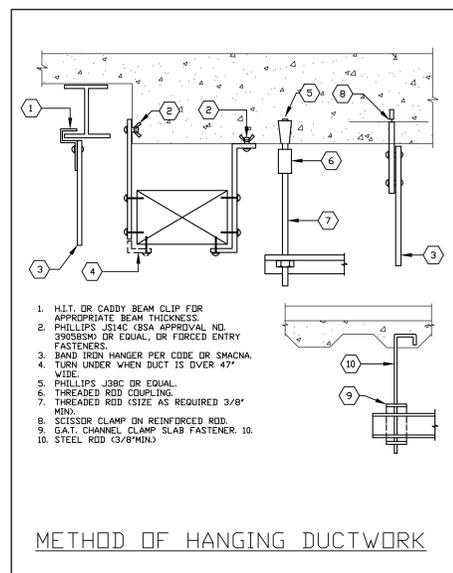
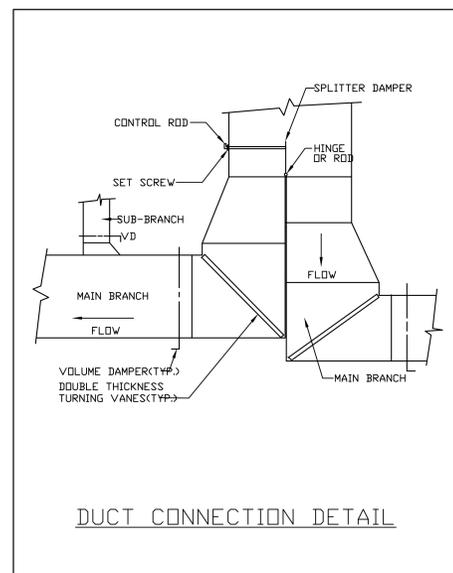
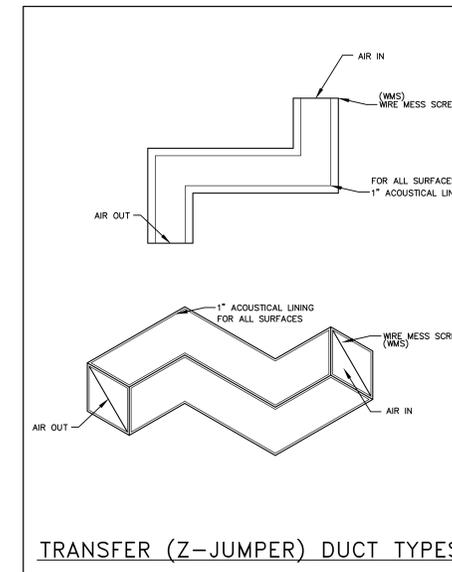
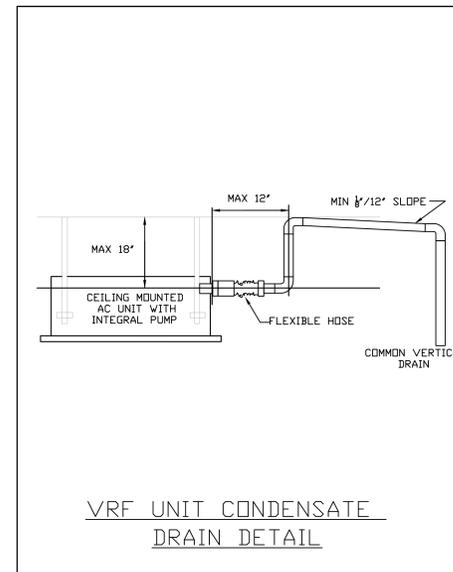
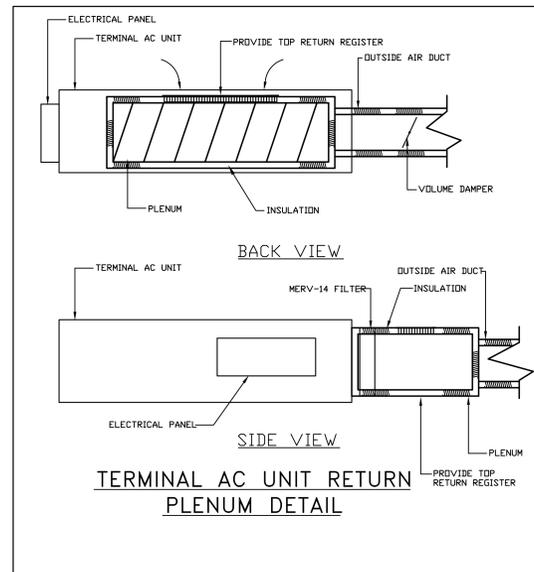
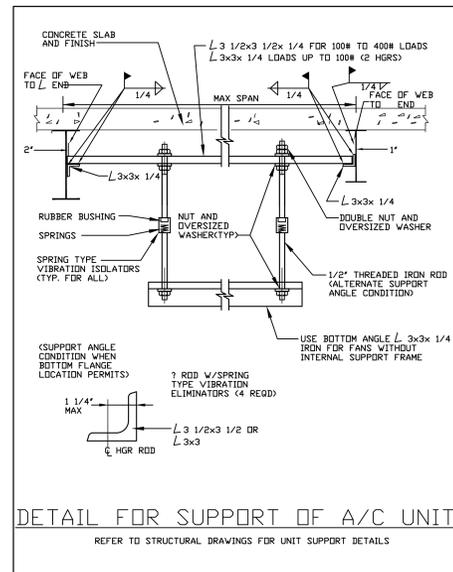
Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Mechanical Drawn By: BC

MECHANICAL
DETAILS
SHEET 1

Scale: NTS Floor:

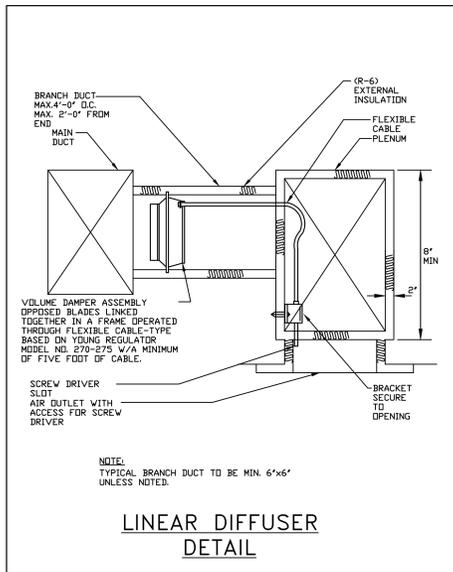
M-500



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Titus Submittal AGR-35-AA-S 11-3-17

Air Balancing Devices
Opposed Blade Damper • Duct Mounted • Remote Cable Operated For Square and Rectangular Necks

Model: AGR-35-AA-S

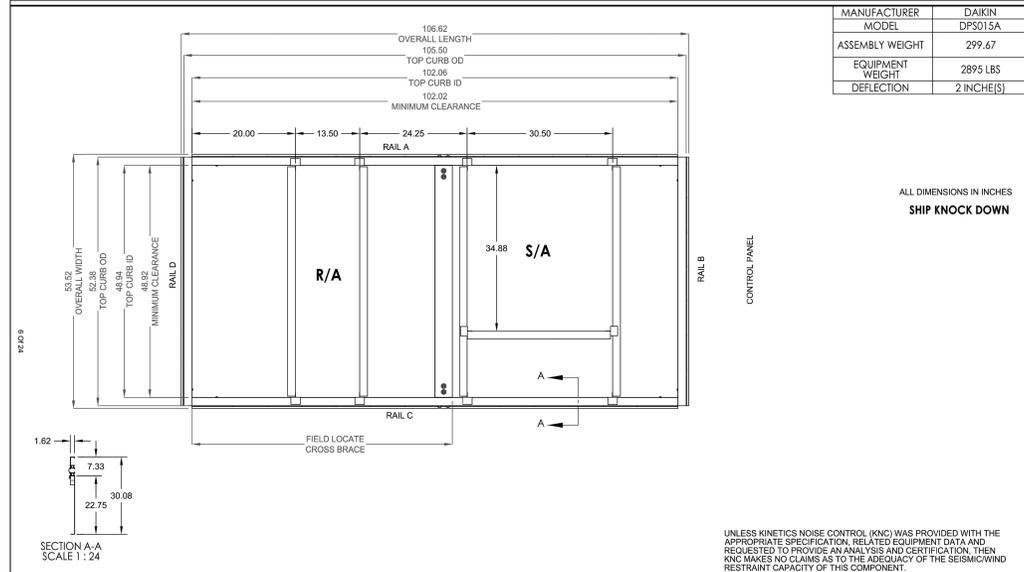
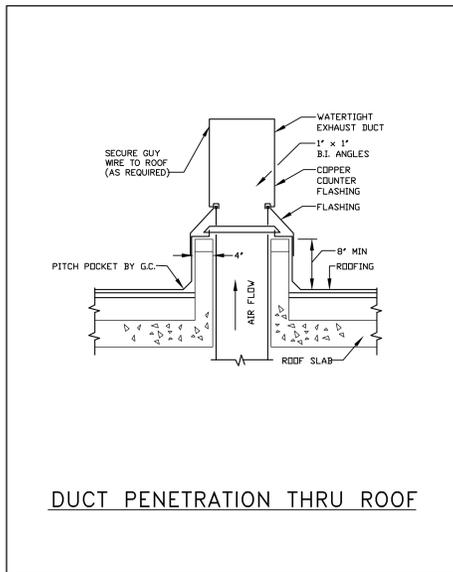
Available Sizes:
Size 6" x 4" to 48" x 18"
Maximum 1-piece size: 48" x 18"
Standard Finish: 04 MS

General Description

- The AGR-35-AA-S is a remote, cable operated damper for duct mount applications.
- Remote strap-in cable assembly including mounting hardware is shipped loose for field mounting.
- Available cable lengths: 2 feet to 12 feet in 2-foot increments.
- Cable operated opposed blades make or volume with minimal air disturbance.
- Type 2 remote cable operator.
- Dampers require one to three cables based on width. Sizes 6-18 inches require one cable, 18-32 inches require two cables, and 34-48 inches require three cables.
- Material is heavy duty extruded aluminum with interpenetrating steel parts.

NOTE: PROVIDE FOR SQUARE DIFFUSERS WHERE VOLUME DAMPERS ARE ABOVE INACCESSIBLE CEILINGS.

This submittal is meant to demonstrate general dimensions of the product. The drawings are not meant to detail any aspect of the product. Drawings are not to scale. This drawing is for informational purposes only. It is not intended to be used for construction without written consent from the manufacturer.



BY	REVISIONS	DATE	DESIGNED BY	SUBMITTAL	TITLE	PROJECT	DATE	JOB NAME	FO	REP	KNC
RYB							05/21/20	Daycare Center - Cosentini	BMCR	Vibration Products	83900

8 OF 24

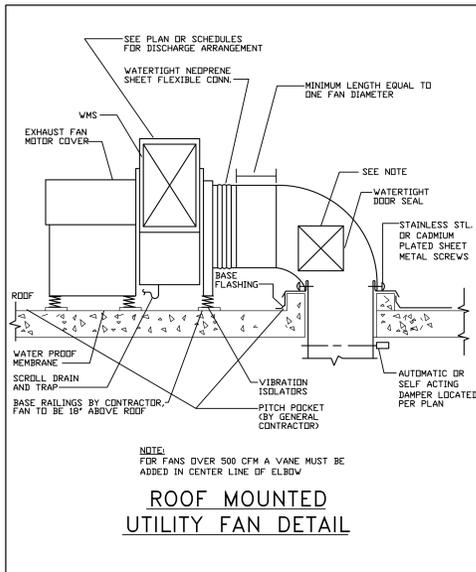
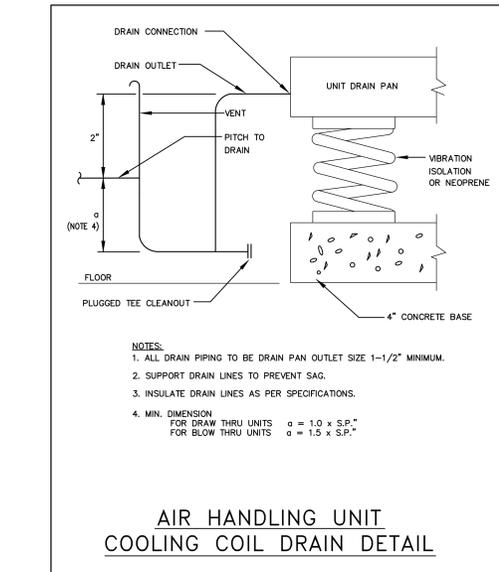
SPECIFICATIONS

- SPRING ISOLATORS ARE COMPUTER SELECTED AND LOCATED TO PROVIDE A NOMINAL 2.00 INCH (50 mm) STATIC DEFLECTION.
- SPRING ISOLATORS HAVE A MINIMUM K_{SPR} OF 1.0.
- SPRING ISOLATORS ARE SAFE AT ISOLATING LOADS.
- SPRING ISOLATORS ARE POWDER COATED.
- ALL UNITS SUPPLIED WITH A TROUBLESHOOTING PACKAGE FOR LEVELING EQUIPMENT, IF REQUIRED, DURING INSTALLATION.

RATED LOAD (LBS)	RATED DEF. (Inch)	SPRING FR. HT. (Inch)	SPRING O. D. (Inch)	SPRING COLOR CODE
3014	2.00/50	3.75/95	1.46/37	GRAY
6500	2.00/50	3.75/95	1.46/37	BLUE
12055	2.00/50	3.75/95	1.46/37	GREEN
20593	2.00/50	3.75/95	1.46/37	BLACK

Typical Section Showing Spring Isolator

Model: KSCSR 2.2 2" DEFL ISOLATION CURB
By: KR
Date: 1/4/22
S-88.851



Rectangular Silencer Submittal Info Page 1 of 2

Project Details

Project Number: 183900
Project Name: Daycare Center - Cosentini
Project Date: December 20, 2021
Customer: Vibration Products
Revision Number:
Revision Date:

Silencer Dimension (in)

Tag: AHU-R-2 - SA
Model: 29.5KCRS-F73 - 36 x 29.5 x 34
Quantity: 1
System: SUPPLY
Width: 29.5
Height: 34
Length: 36
RS Type: 3
Unit Size: 29.5

Configuration Rectangular
Face Velocity (fpm): 574
Flow Volume (cfm): 4,000
Pressure drop (in wg): 0.02

Silencer Module Dimension (in) / Weight (lb)

Number of Pieces: 1
M: 29.5
N: 34
L: 36
Weight each: 92

Dynamic Insertion Loss

Hz	dB	Hz	dB
63	2	63	43
125	7	125	38
250	12	250	31
500	18	500	28
1000	23	1000	30
2000	28	2000	31
4000	33	4000	29
8000	38	8000	27

Airflow Generated Noise

AMCA MEMBER

Silencer Construction Options

Casing Thickness: 22 Gauge
Perforated Lining Thickness: 22 Gauge
Material: Galvanized Steel
Acoustic Media: Fiberglass (Standard)
Media Covering: None
Inlet Connection: 2" Slip Connection (S&S)
Inlet Attachment Method: Unattached
Outlet Connection: 2" Slip Connection (S&S)
Outlet Attachment Method: Unattached
Seams Locked: Yes

1. Silencer dimensions to be confirmed by customer prior to fabrication.
2. The installed silencer pressure drop may be higher due to system effects caused by the location of duct elements upstream and downstream of the silencer.
3. Tolerances are ±1/4" on all silencer units. If silencers are banked or paired, the compounded tolerance needs to be allotted by the contractor.
4. Silencer acoustic and aerodynamic performance data are in accordance with ASTM E477-13.
5. Flame spread/smoke developed indexes in accordance with ASTM E84, NFPA Standard 255, UL 723, or UL 910.
6. Tested data tolerances are in accordance with AMCA 1011-03.
7. KINETICS NOISE CONTROL certifies that the silencer(s) shown herein is (or are) licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 1011 and comply with the requirements of the AMCA Certified Rating Program. AMCA Certified Ratings Seal applies to dynamic insertion loss, airflow generated noise, and pressure drop.

Rectangular Silencer Submittal Info Page 2 of 2

Project Details

Project Number: 183900
Project Name: Daycare Center - Cosentini
Project Date: December 20, 2021
Customer: Vibration Products
Revision Number:
Revision Date:

Silencer Dimension (in)

Tag: AHU-R-2 - SA
Model: 12.5KCRS-F73 - 36 x 12.5 x 47.5
Quantity: 1
System: RETURN
Width: 12.5
Height: 47.5
Length: 36
RS Type: 3
Unit Size: 12.5

Configuration Rectangular
Face Velocity (fpm): 729
Flow Volume (cfm): 3,000
Pressure drop (in wg): 0.04

Silencer Module Dimension (in) / Weight (lb)

Number of Pieces: 1
M: 12.5
N: 47.5
L: 36
Weight each: 86

Dynamic Insertion Loss

Hz	dB	Hz	dB
63	2	63	45
125	5	125	41
250	11	250	39
500	20	500	41
1000	28	1000	44
2000	33	2000	44
4000	38	4000	41
8000	43	8000	38

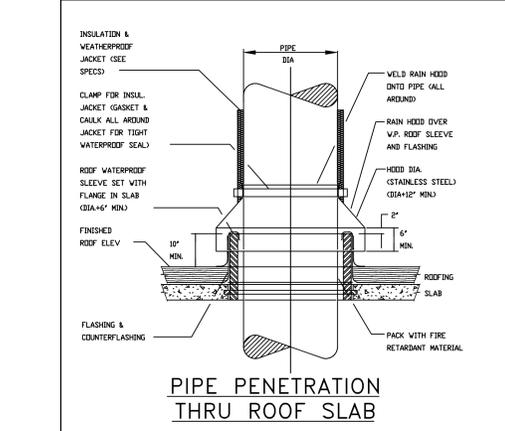
Airflow Generated Noise

AMCA MEMBER

Silencer Construction Options

Casing Thickness: 22 Gauge
Perforated Lining Thickness: 22 Gauge
Material: Galvanized Steel
Acoustic Media: Fiberglass (Standard)
Media Covering: None
Inlet Connection: 2" Slip Connection (S&S)
Inlet Attachment Method: None
Outlet Connection: 2" Slip Connection (S&S)
Outlet Attachment Method: None
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REAL ESTATE & FACILITIES MANAGEMENT

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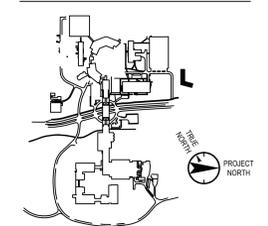
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Key Plan



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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Mechanical
Drawn By: BC

MECHANICAL
DETAILS
SHEET 2

Scale: NTS
Floor:

M-501

777 Old Saw Mill River Road
Tarrytown, NY 10591-6707
T: 914.847.7400
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www.regeneron.com

Building #17
Campus Expansion Child Day-care Center

899 Old Saw Mill River Road
Mount Pleasant, NY 10591

Project No. B17-DAYCARE

Architect

Gensler
1700 Broadway, Suite 400
New York, NY 10019
(212) 492-1400 Phone
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Structural Engineer

Thornton Tomasetti
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MEP / IT / Security Engineer

Cosentini Associates
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(212) 615-3600 Phone
(212) 615-3700 Fax

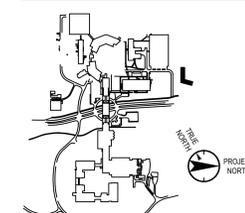
Civil Engineer

JMC
120 Bedford Road
Armonk, NY 10504
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Landscape Architect

Langan
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
(212) 479-5400 Phone
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Key Plan



No.	Date	Description
0	05/20/2022	ISSUED FOR PERMIT
1	06/22/2022	100% CONSTRUCTION DOCUMENTS
2	07/01/2022	100% CONSTRUCTION DOCUMENTS-1

Plot Date: 07/01/2022

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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Mechanical Drawn By: BC

MECHANICAL EQUIPMENT SCHEDULE SHEET #2

Scale: NTS Floor:

M-601

UNIT TAG	CONNECTED WITH	LOCATION	AMBIENT AIR TEMP. (°F) DB	NOMINAL TONNAGE	DESCRIPTION	COOLING CAP. (MBH)	AMBIENT AIR TEMP. (°F) DB	HEATING CAP. (MBH)	CONNECTION RATIO (%)	ELECTRICAL DATA				REFRIGERANT CHARGE		OPERATING WEIGHT (LBS)	MODEL #	VIBRATION ISOLATION		SYSTEM COMPLIANCE CHECK W/INYS MC 1102.1				REMARKS					
										V/Hz	MCA	MOP	RLA	EER	IEER			COP (47 F)	COP (17 F)	SCHE	FACTORY CHARGE (LBS)	ADDITIONAL CHARGE (LBS)	TYPE		DEFLECTION (IN.)	REFRIG. TYPE	REFRIG. CLASS	ALLOW. REFR. (LBS/1000) (CU.FT.)	MINIMUM ALLOWABLE VOLUME OF SPACE (CU.FT.)
899-CU-R-01	899-AC-1-01A TO 899-AC-1-01G	ROOF	95	10	AIR COOLED HEAT RECOVERY	100.5	0	81.1	100%	460/3/60	21.1	25	12.8	13.2	25.5	3.81	2.54	26	25.8	19.7	750	REYQ120XA YDA	SEE SPECS	R410A	A1	26/2 = 13	3,500		
899-CU-R-02	899-AC-1-02A TO 899-AC-1-02G	ROOF	95	10	AIR COOLED HEAT RECOVERY	100.1	0	81.1	93%	460/3/60	21.1	25	12.8	13.2	25.5	3.81	2.54	26	25.8	19.7	750	REYQ120XA YDA	SEE SPECS	R410A	A1	26/2 = 13	3,500		
899-CU-R-03	899-AC-1-03A TO 899-AC-1-03E	ROOF	95	10	AIR COOLED HEAT RECOVERY	100.1	0	81.1	95%	460/3/60	21.1	25	12.8	13.2	25.5	3.81	2.54	26	25.8	19.7	750	REYQ120XA YDA	SEE SPECS	R410A	A1	26/2 = 13	3,500		
899-CU-R-04	899-AC-1-04A TO 899-AC-1-04G	ROOF	95	10	AIR COOLED HEAT RECOVERY	109.7	0	81.1	110%	460/3/60	21.1	25	12.8	13.2	25.5	3.81	2.54	26	25.8	19.7	750	REYQ120XA YDA	SEE SPECS	R410A	A1	26/2 = 13	3,500		
899-CU-R-05	899-AC-1-05A TO 899-AC-1-05F	ROOF	95	8	AIR COOLED HEAT RECOVERY	80.1	0	76.3	100%	460/3/60	21.1	25	10.5	14.6	27.8	4.23	2.63	26.4	25.8	19.7	750	REYQ96XA YDA	SEE SPECS	R410A	A1	26/2 = 13	3,500		

- NOTES:
1. PROVIDE VIBRATION ISOLATORS.
 2. PROVIDE DISCONNECT SWITCHES.
 3. PROVIDE LOW AMBIENT BAFFLE KIT - ZABGP04A.
 4. MANUFACTURER MUST BE CERTIFIED, LISTED, AND LABELED PER AHRJ 1230.
 5. SYSTEM RATING DATA BASED ON DESIGN AMBIENT CONDITIONS FOR COOLING AND FOR HEATING.
 6. SUBMITTED PERFORMANCE DATA MUST BE FULLY DE-RATED FOR ALL COMPONENTS AND ACCESSORIES, INCLUDING BUT NOT LIMITED TO, LINE LENGTH, VERTICAL SEPARATION, CONNECTION RATIO, DESIGN CONDITIONS, CONDENSER COIL COATING.
 7. CONDENSING UNITS MUST HAVE FULLY MODULATING INVERTER COMPRESSORS.
 8. CONDENSING UNITS MUST HAVE AUTO CHANGEOVER FUNCTIONS.
 9. DEMAND LIMITING RELAY CONTACT MUST BE PROVIDED.
 10. EEV ACTUATORS MUST BE REMOVABLE FROM VALVE BODY WITHOUT DISTURBING THE REFRIGERANT SYSTEM.
 11. AC THERMOSTATS MUST PROVIDE +/- 1 DEGREE DEAD-BAND SETPOINT AND CONTROL CAPABILITY.
 12. SYSTEM SHALL BE PROVIDED WITH TOUCH MANAGER CONTROLLER WITH WEB BASED SOFTWARE FOR DISPLAYING UP TO 8 BINNET SYSTEMS WITH 128 INDOOR UNITS PER SYSTEM PC BY OTHERS.
 13. MANUFACTURERS SUBMITTAL MUST INCLUDE REFRIGERANT PIPING DIAGRAM WITH PIPE DIAMETERS, LENGTHS, AND REFRIGERANT VOLUME.
 14. SUBSTITUTE MANUFACTURER SHALL BE RESPONSIBLE FOR ADDITIONAL PIPING AND REFRIGERANT.
 15. CONTRACTOR TO VERIFY PIPING DIMENSIONS.
 16. INSTALLING CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURERS CERTIFIED INSTALLATION CLASS WITHIN PAST 36 MONTHS.
 17. CONTRACTOR TO FURNISH AND INSTALL INSULATION ON REFRIGERANT PIPING.
 18. MANUFACTURERS REPRESENTATIVE MUST HAVE LOCAL STOCK OF PARTS AND FACTORY CERTIFIED TECHNICIAN ON STAFF.
 19. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF ONGOING INSTALLATION TRAINING AT THEIR LOCAL FACILITY FOR AT LEAST THE PAST 5 YEARS.
 20. MANUFACTURERS REPRESENTATIVE SHALL PROVIDE PROOF OF CONTINUOUS SALES AND SUPPORT OF THEIR PRODUCTS FOR AT LEAST 15 YEARS.
 21. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIRECT COSTS AND OPERATING COSTS INCREASES FOR 20 YEARS ASSOCIATED WITH ANY DEVIATIONS RESULTING FROM CHANGES IN DESIGN.
 22. MANUFACTURER MUST PROVIDE 10 YEARS PARTS WARRANTY ON ALL A/C'S, CONDENSING UNITS, AND MODE CHANGEOVER DEVICES. WARRANTY CONDITIONS MUST BE CLARIFIED DURING SUBMITTAL PHASE.
 23. 3-PHASE AIR COOLED CONDENSING UNITS MUST HAVE PUBLISHED PERFORMANCE DATA WITH 200% INDOOR CONNECTED CAPACITY.
 24. CONDENSING UNITS MUST BE FURNISHED WITH PROTECTIVE COIL COATING TO WITHSTAND ASTM B117 SALT SPRAY TEST FOR A MINIMUM OF 1000 HOURS. PERFORMANCE OF SYSTEM MUST BE DE-RATED FOR COIL COATING.
 25. MANUFACTURER MUST CERTIFY AND SUBMIT SYSTEM PERFORMANCE AT EXTREME CONDITIONS OF 122 DEGREES FOR AMBIENT IN COOLING MODE AND -13 DEGREES FWH IN HEATING MODE.
 - INSTALLING CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED MANUFACTURERS CERTIFIED INSTALLATION CLASS WITHIN PAST 36 MONTHS.

UNIT TAG	CONNECTED WITH	LOCATION	SERVICE	TYPE	NOMINAL TONS	NOMINAL CAPACITY		CORRECTED CAPACITY			ENTERING (RETURN) AIR TEMPERATURE			OUTSIDE AIR (CFM)	FAN AIRFLOW (CFM DESIGN/ (CFM HH-HLL)	MAX STATIC PRESS. (IN.W.G.)	POWER					OPERATING WEIGHT (LBS)	DIMENSION (W"xH"xD")	MODEL	VIBRATION ISOLATION		REMARKS
						TOTAL COOLING (MBH)	HEATING (MBH)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEATING (MBH)	COOLING DB	COOLING WB	HEATING DB				VOLTS	PHASE	HZ	MCA	MOP				TYPE	DEFLECTION (IN.)	
						MANUFACTURER "DAIKIN" OR APPROVED EQUAL																					
899-AC-1-01A		1ST FLOOR (SOUTH)	INFANT (ROOM #4)	HORIZONTAL	1.5	18.0	20.0	15.5	13.2	20	75	63	70	275	600 635/580/530	0.8	208	1	60	1.6	15	79.4	39.4 x 11.8 x 27.6	FXMQ18PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01B		1ST FLOOR (SOUTH)	INFANT (ROOM #3)	HORIZONTAL	1.5	18.0	20.0	15.5	13.2	20	75	63	70	275	600 635/580/530	0.8	208	1	60	1.6	15	79.4	39.4 x 11.8 x 27.6	FXMQ18PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01C		1ST FLOOR (SOUTH)	TODDLER (ROOM #3)	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	275	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01D	899-CU-R-01	899-BSB-1-01	TODDLER (ROOM #4)	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	275	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01E		1ST FLOOR (SOUTH)	LAUNDRY	HORIZONTAL	0.75	9.5	10.5	8.5	6.1	10.6	75	63	70	50	315 315/265/230	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ09TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01F		1ST FLOOR (SOUTH)	WARMING KITCHEN	HORIZONTAL	1.25	15.0	17.0	12.9	10.2	16.5	75	63	70	110	550 560/530/500	0.8	208	1	60	1.5	15	79.4	39.4 x 11.8 x 27.6	FXMQ15PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-01G		1ST FLOOR (SOUTH)	INTERIOR CORRIDOR (NORTH)	HORIZONTAL	1	12.0	13.5	10.5	8.4	13.6	75	63	70	175	335 335/280/250	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ12TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02A		1ST FLOOR (SOUTH)	INFANT (ROOM #2)	HORIZONTAL	1.5	18.0	20.0	15.5	13.2	20	75	63	70	275	600 635/580/530	0.8	208	1	60	1.6	15	79.4	39.4 x 11.8 x 27.6	FXMQ18PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02B		1ST FLOOR (SOUTH)	INFANT (ROOM #1)	HORIZONTAL	1.5	18.0	20.0	15.5	13.2	20	75	63	70	275	600 635/580/530	0.8	208	1	60	1.6	15	79.4	39.4 x 11.8 x 27.6	FXMQ18PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02C		1ST FLOOR (SOUTH)	TODDLER (ROOM #2)	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	275	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02D	899-CU-R-02	899-BSB-1-02	TODDLER (ROOM #1)	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	275	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02E		1ST FLOOR (SOUTH)	INTERIOR CORRIDOR (SOUTH)	HORIZONTAL	1	12.0	13.5	10.5	8.4	13.6	75	63	70	175	335 335/280/250	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ12TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02F		1ST FLOOR (SOUTH)	HEALTH OFFICE/ STROLLER STORAGE	HORIZONTAL	0.5	5.8	6.5	5.2	4.3	6.5	75	63	70	35	275 280/265/230	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ05TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-02G		1ST FLOOR (SOUTH)	WELLNESS/ CORRIDOR	HORIZONTAL	0.75	9.5	10.5	8.5	6.1	10.6	75	63	70	30	315 315/265/230	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ09TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-03A		1ST FLOOR (CENTER)	LOBBY/RECEPTION	HORIZONTAL	4	48	54	41.3	30.5	54	75	63	70	300	1,375 1,375/1,165/980	0.8	208	1	60	3.4	15	101.4	55.1 x 11.8 x 27.6	FXMQ48PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-03B		1ST FLOOR (CENTER)	MOVEMENT MATTERS ZONE	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	300	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-03C	899-CU-R-03	899-BSB-1-03	DIRECTOR OFFICE/ LOBBY	HORIZONTAL	0.5	5.8	6.5	5.2	4.3	6.5	75	63	70	45	275 280/265/230	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ05TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-03D		1ST FLOOR (CENTER)	CONFERENCE ROOM/ LOBBY	HORIZONTAL	2	24.0	27.0	20.6	16.0	27.0	75	63	70	75	675 690/620/565	0.8	208	1	60	1.8	15	79.4	39.4 x 11.8 x 27.6	FXMQ24PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-03E		1ST FLOOR (CENTER)	PERIMETER CORRIDOR (WEST)	HORIZONTAL	1	12.0	13.5	10.5	8.4	13.6	75	63	70	75	335 335/280/250	0.6	208	1	60	0.8	15	55.0	21.7 x 9.6 x 31.5	FXSQ12TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-04A		1ST FLOOR (SOUTH)	INNOVATION STUDIO	HORIZONTAL	1.5	18.0	20.0	15.5	13.2	20	75	63	70	325	600 635/580/530	0.8	208	1	60	1.6	15	79.4	39.4 x 11.8 x 27.6	FXMQ18PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-04B		1ST FLOOR (SOUTH)	STAFF/CLERK COPY AREA/ STORAGE	HORIZONTAL	2.5	30.0	34.0	25.8	20.1	34	75	63	70	215	1,075 1,095/950/810	0.8	208	1	60	2.8	15	101.4	55.1 x 11.8 x 27.6	FXMQ30PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-04C		1ST FLOOR (SOUTH)	PRESCHOOL #1	HORIZONTAL	2.5	30.0	34.0	25.8	20.1	34	75	63	70	375	1,075 1,095/950/810	0.8	208	1	60	2.8	15	101.4	55.1 x 11.8 x 27.6	FXMQ30PBVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1)	
899-AC-1-04D	899-CU-R-04	899-BSB-1-04	PRESCHOOL #1	CASSETTE	0.5	5	4.3	6.5	75	63	70	0	300			208	1	60	0.3	15	35	22.6 x 10.2 x 22.6	FXZQ05TAVJU	PER SPECIFICATIONS	SEE NOTES BELOW, OPTIONS: BRC1E73 (1), BYFQ60C3W1W (1)		
899-AC																											

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Project No. B17-DAYCARE

Architect

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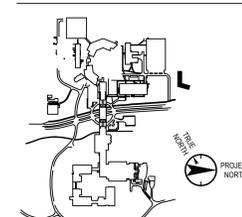
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Landscape Architect

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Key Plan



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0	05/20/2022	ISSUED FOR PERMIT
1	06/22/2022	100% CONSTRUCTION DOCUMENTS
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Plot Date: 07/01/2022

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Professional Seal and Signature

Vendor Name: COSENTINI

Vendor Project No.: 210104

Discipline: Mechanical

Drawn By:

MECHANICAL

RISER

DIAGRAM

Scale: NTS

Floor:

M-700

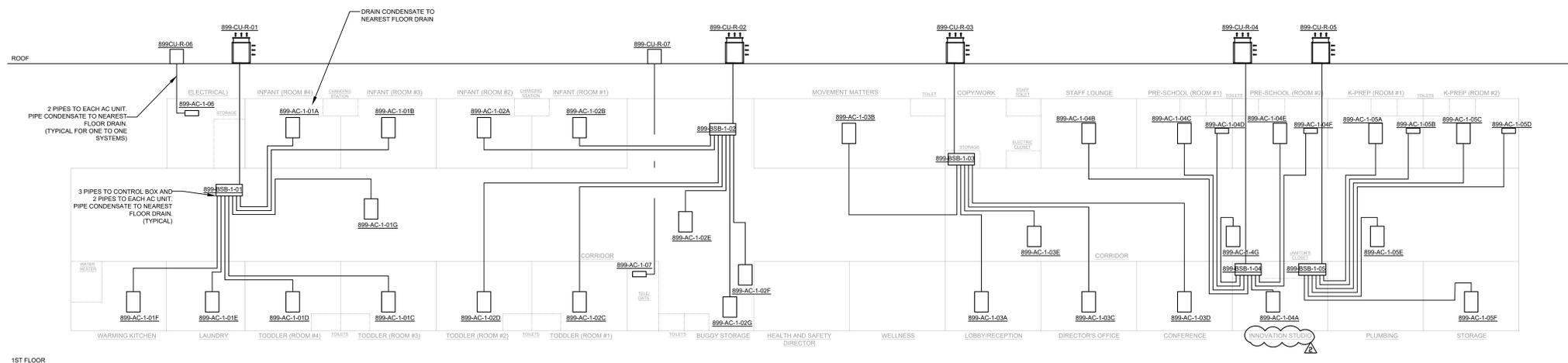
NOTE:
REFER TO DRAWING M-701 TO M-703 FOR ADDITIONAL VRF PIPING AND WIRING DETAILS

MCNYS NOTES:

- 1) ALL REFRIGERANT PIPING TO FOLLOW MCNYS CODE SECTION 1107 AND BOOK SPECIFICATION SECTION 232300

ECCCNYS NOTES:

- 1) ALL HVAC PIPING TO BE INSULATED TO FOLLOW SECTION C403.11.3 AND TABLE C403.11.3 OF THE ECCCNYS CODE. ALSO REFER TO BOOK SPECIFICATION SECTION 230719



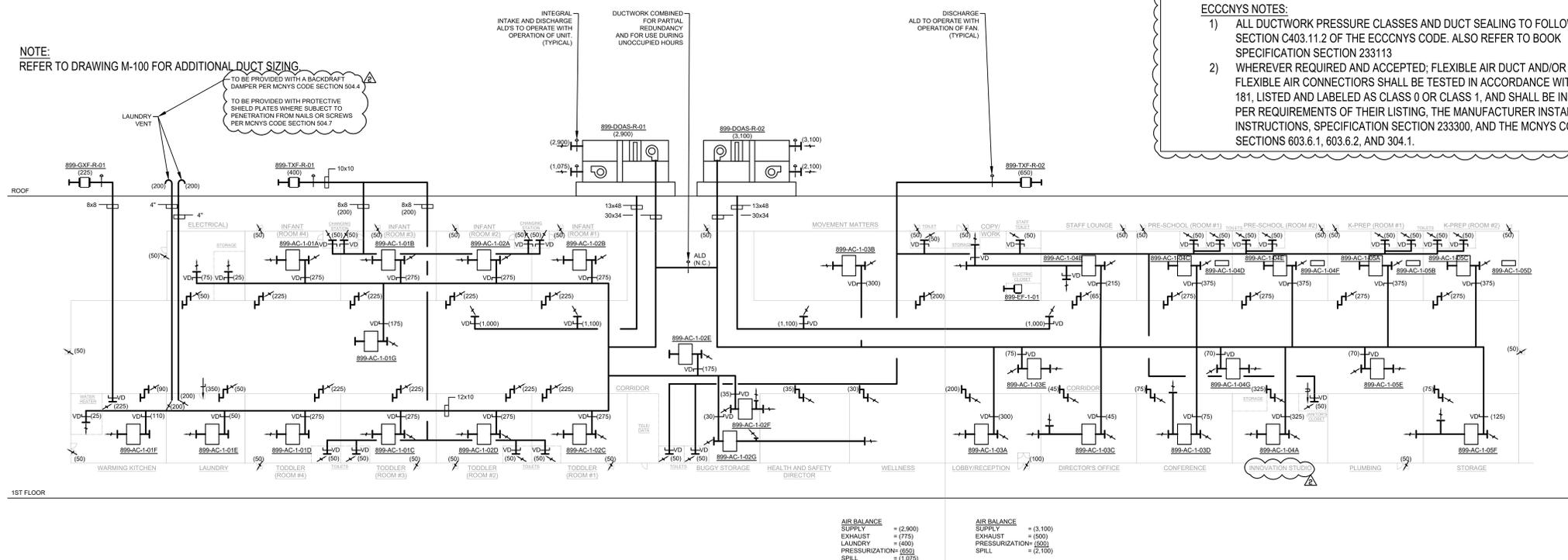
REFRIGERANT RISER DIAGRAM

NOTE:
REFER TO DRAWING M-100 FOR ADDITIONAL DUCT SIZING

TO BE PROVIDED WITH A BACKDRAFT DAMPER PER MCNYS CODE SECTION 904.4
TO BE PROVIDED WITH PROTECTIVE SHIELD PLATES WHERE SUBJECT TO PENETRATION FROM NAILS OR SCREWS PER MCNYS CODE SECTION 904.7

ECCCNYS NOTES:

- 1) ALL DUCTWORK PRESSURE CLASSES AND DUCT SEALING TO FOLLOW SECTION C403.11.2 OF THE ECCCNYS CODE. ALSO REFER TO BOOK SPECIFICATION SECTION 233113
- 2) WHEREVER REQUIRED AND ACCEPTED; FLEXIBLE AIR DUCT AND/OR FLEXIBLE AIR CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181, LISTED AND LABELED AS CLASS 0 OR CLASS 1, AND SHALL BE INSTALLED PER REQUIREMENTS OF THEIR LISTING, THE MANUFACTURER INSTALLATION INSTRUCTIONS, SPECIFICATION SECTION 233300, AND THE MCNYS CODE SECTIONS 603.6.1, 603.6.2, AND 304.1.



AIR BALANCE
SUPPLY = (2,900)
EXHAUST = (1,775)
LAUNDRY = (400)
PRESSURIZATION = (650)
SPILL = (1,075)

AIR BALANCE
SUPPLY = (3,100)
EXHAUST = (500)
PRESSURIZATION = (500)
SPILL = (2,100)

AIR RISER DIAGRAM

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 ENERGY CONSERVATION CODE OF NYS

This plan is approved only for work indicated on the application specification sheet. All other matters shown are not to be relied upon, or to be considered as either being approved or in accordance with applicable codes.

Alterations or additions to this engineering document by an unlicensed person is a violation of Chapter 16, Title VIII, Article 145 § 7209.2 of the New York State Education Law.

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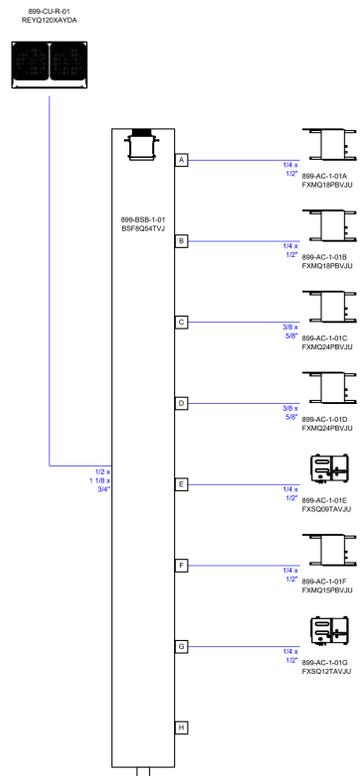
Civil Engineer

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(914) 273-2102 Fax

Landscape Architect

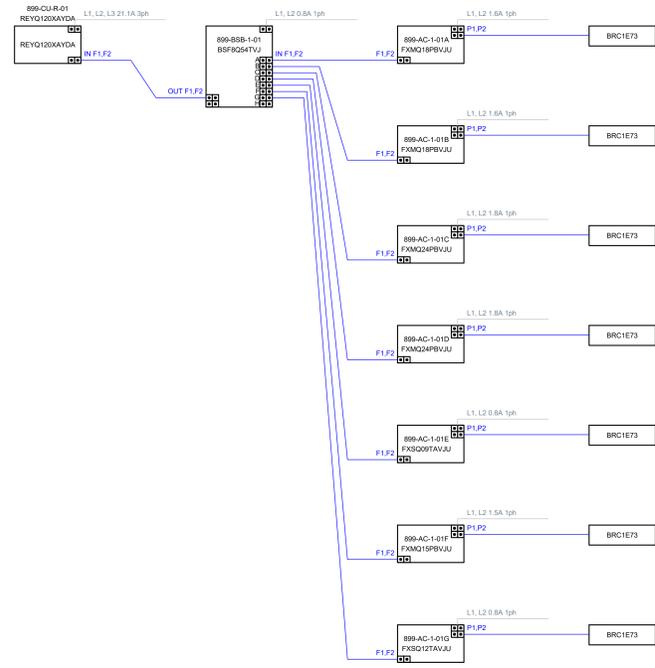
Langan
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
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(212) 479-5444 Fax

Client	USA
Project	Daycare center
Title	Piping schematics CUR-1 Air cooled heat recovery VRF-VV-X-A REYQ120XAYDA
Date	04/26/2022
Drawing No	

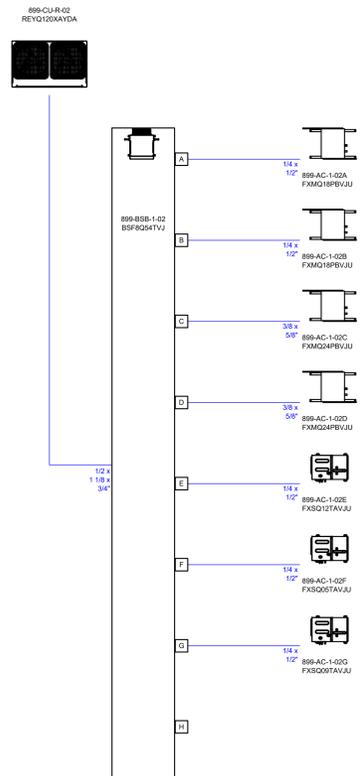


NOTE:
FINAL REFRIGERANT SIZE TO BE CONFIRMED
BY CONTRACTOR AND MANUFACTURER

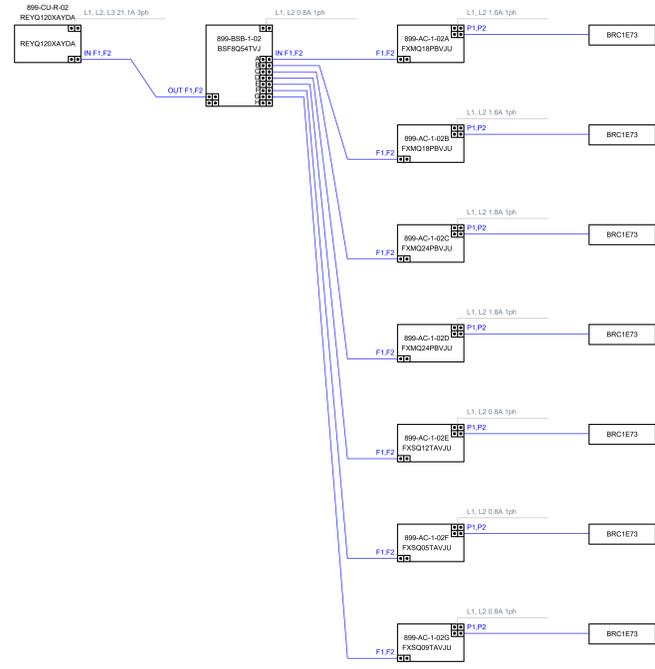
Client	USA
Project	Daycare center
Title	Wiring schematics CUR-1 Air cooled heat recovery VRF-VV-X-A REYQ120XAYDA
Date	04/26/2022
Drawing No	



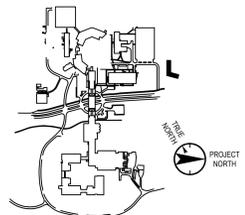
Client	USA
Project	Daycare center
Title	Piping schematics CUR-2 Air cooled heat recovery VRF-VV-X-A REYQ120XAYDA
Date	04/26/2022
Drawing No	



Client	USA
Project	Daycare center
Title	Wiring schematics CUR-2 Air cooled heat recovery VRF-VV-X-A REYQ120XAYDA
Date	04/26/2022
Drawing No	



Key Plan



No.	Date	Description
0	05.20.2022	ISSUED FOR PERMIT
1	06.22.2022	100% CONSTRUCTION DOCUMENTS
2	07.01.2022	100% CONSTRUCTION DOCUMENTS-1

Plot Date: 07.01.2022

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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Drawn By:

MECHANICAL
VRF DIAGRAM
SHEET 1

Scale: NTS Floor:

M-701

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Building #17
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Project No. B17-DAYCARE

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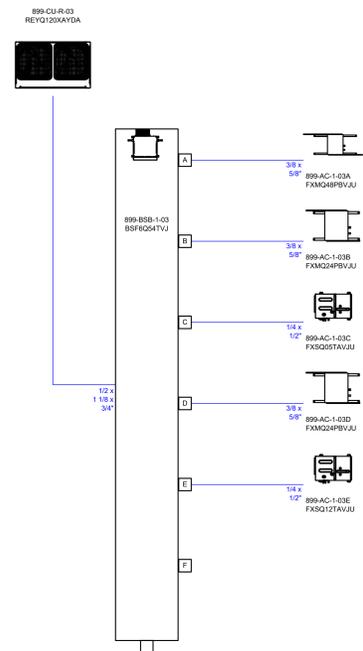
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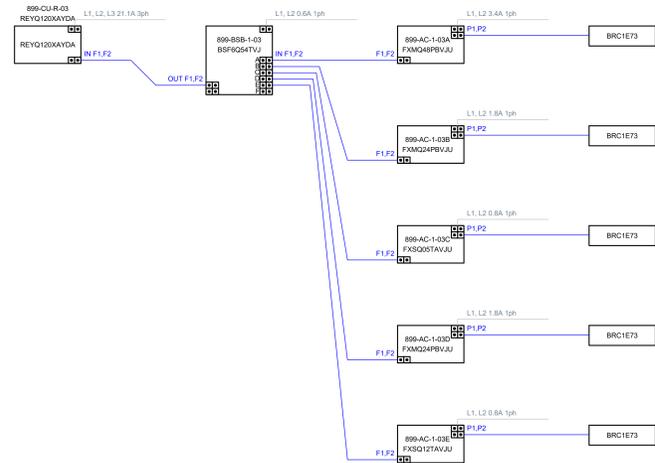
Landscape Architect

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21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
(212) 479-5400 Phone
(212) 479-5444 Fax

Client	USA
Project	Daycare center
Title	Piping schematics CUR-4 Air cooled heat recovery VRF-VX-A REYQ120XAYDA
Date	04/26/2022
Drawing No	

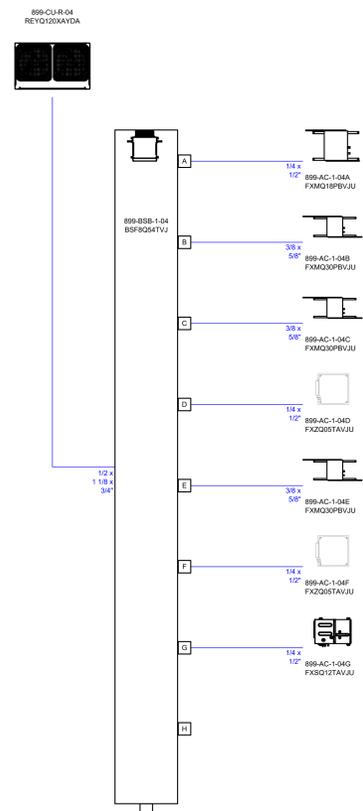


Client	USA
Project	Daycare center
Title	Wiring schematics CUR-4 Air cooled heat recovery VRF-VX-A REYQ120XAYDA
Date	04/26/2022
Drawing No	

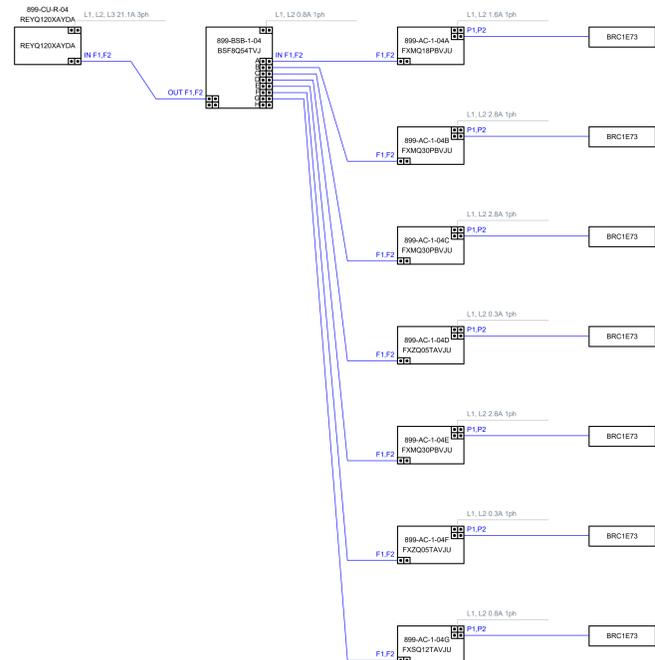


NOTE:
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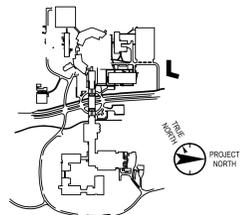
Client	USA
Project	Daycare center
Title	Piping schematics CUR-4 Air cooled heat recovery VRF-VX-A REYQ120XAYDA
Date	04/26/2022
Drawing No	



Client	USA
Project	Daycare center
Title	Wiring schematics CUR-4 Air cooled heat recovery VRF-VX-A REYQ120XAYDA
Date	04/26/2022
Drawing No	



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Plot Date: 07.01.2022

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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Drawn By:

MECHANICAL
VRF DIAGRAM
SHEET 2

Scale: NTS Floor:

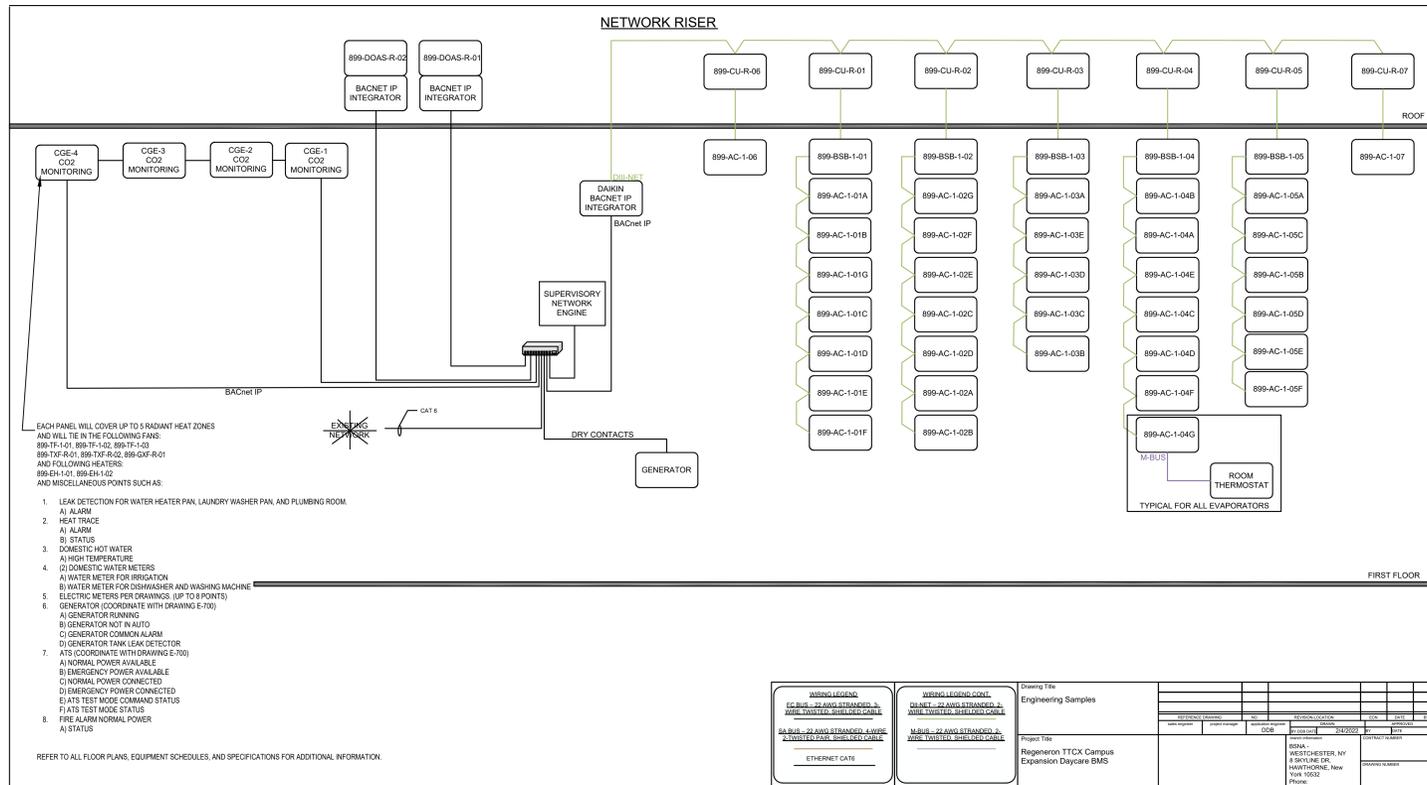
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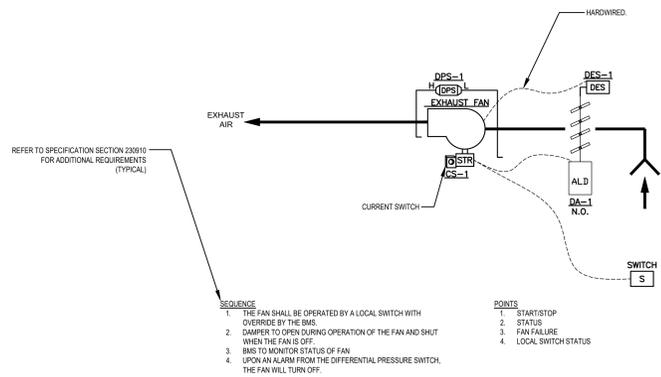
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M-702

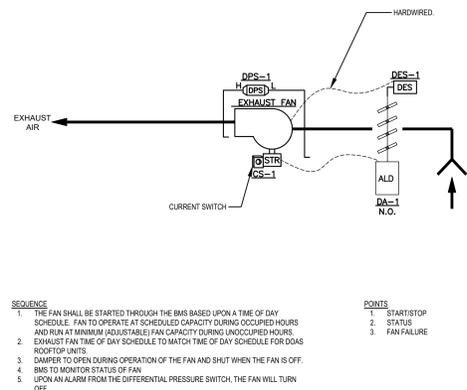
BMS ARCHITECTURE DRAWING



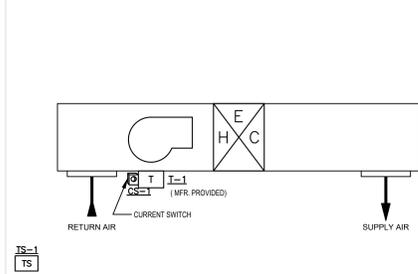
GENERAL EXHAUST FAN CONTROL DIAGRAM
TYPICAL FOR
(899-GXF-R-01) - WARMING KITCHEN



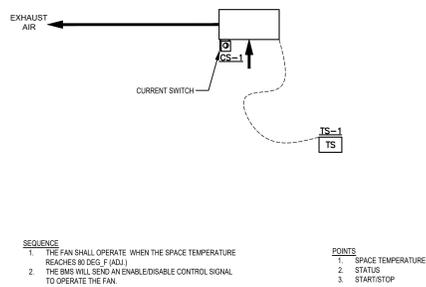
EXHAUST FAN CONTROL DIAGRAM
TYPICAL FOR
(899-TXF-R-01 AND 899-TXF-R-02) - BUILDING TOILET EXHAUST



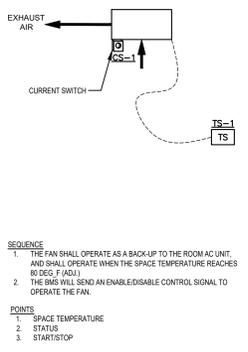
ELECTRIC HEATER CONTROL DIAGRAM
TYPICAL FOR (899-EH-1-01) - LOBBY VESTIBULE



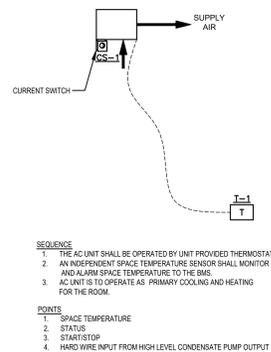
TRANSFER FAN CONTROL DIAGRAM
TYPICAL FOR
(899-TF-1-01) - ELECTRIC CLOSET



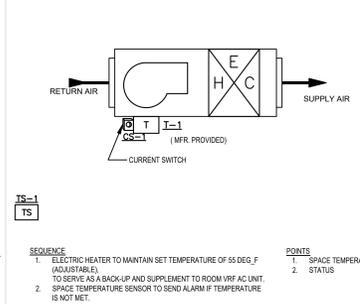
TRANSFER FAN CONTROL DIAGRAM
TYPICAL FOR
(899-TF-1-02, 899-TF-1-03) - ELEC. ROOM AND TEL DATA ROOM



AC UNIT CONTROL DIAGRAM
TYPICAL FOR
(899-AC-1-06, 899-AC-1-07) - ELEC. ROOM AND TEL DATA ROOM



ELECTRIC HEATER CONTROL DIAGRAM
TYPICAL FOR (899-EH-1-02) - PLUMBING ROOM



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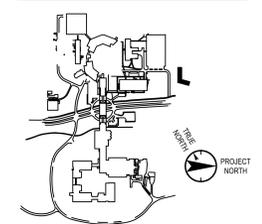
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Professional Seal and Signature

Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Drawn By:

MECHANICAL CONTROL DIAGRAM SHEET 1

Scale: NTS Floor:

M-704

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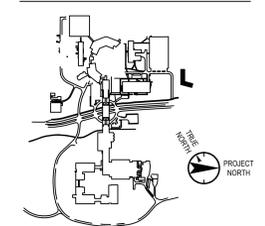
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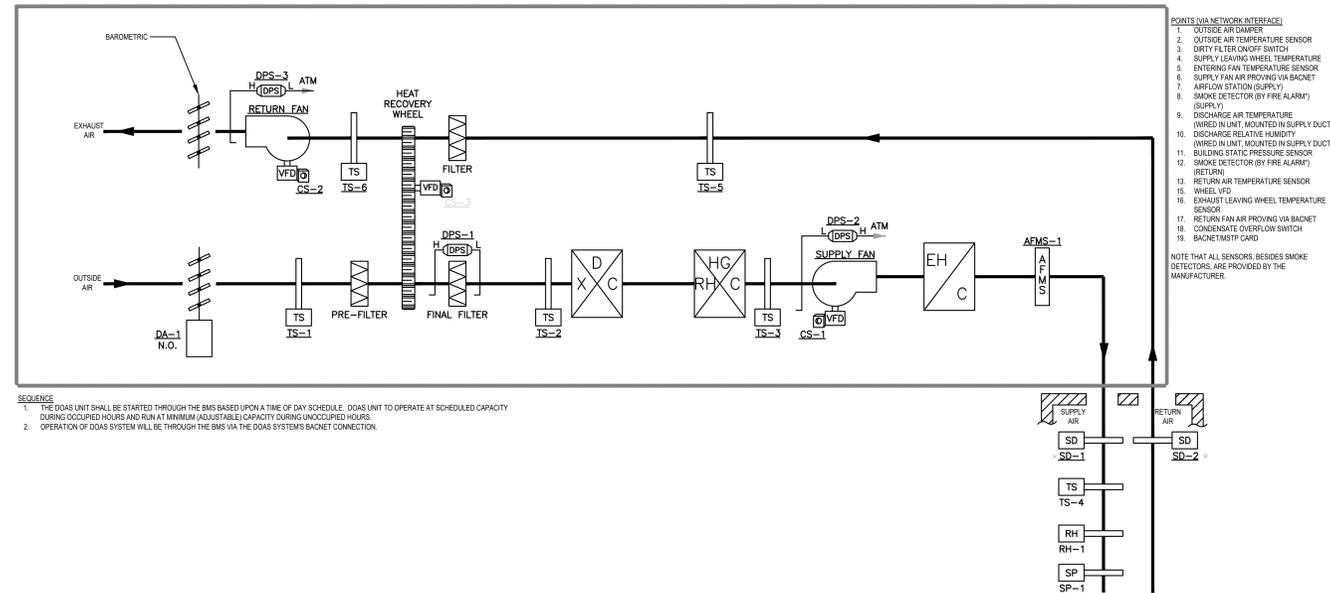
Vendor Name: COSENTINI
Vendor Project No.: 210104
Discipline: Mechanical Drawn By: BC

MECHANICAL
CONTROL DIAGRAM
SHEET 2

Scale: NTS Floor:

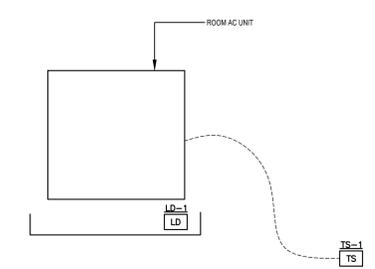
M-705

DOAS CONTROL DIAGRAM
TYPICAL FOR BUILDING VENTILATION AND UNITS:
(899-DOAS-R-01 AND 899-DOAS-R-02)



- SEQUENCE**
1. THE DOAS UNIT SHALL BE STARTED THROUGH THE BMS BASED UPON A TIME OF DAY SCHEDULE. DOAS UNIT TO OPERATE AT SCHEDULED CAPACITY DURING OCCUPIED HOURS AND RUN AT MINIMUM (ADJUSTABLE) CAPACITY DURING UNOCCUPIED HOURS.
 2. OPERATION OF DOAS SYSTEM WILL BE THROUGH THE BMS VIA THE DOAS SYSTEMS BACNET CONNECTION.

AC CONTROL DIAGRAM
TYPICAL FOR ALL SPACES AND UNITS:
(899-AC-1-01A TO 899-AC-1-01G; 899-AC-1-02A TO 899-AC-1-02G; 899-AC-1-03A TO 899-AC-1-03E; 899-AC-1-04D TO 899-AC-1-04G; 899-AC-1-05A TO 899-AC-1-05F)

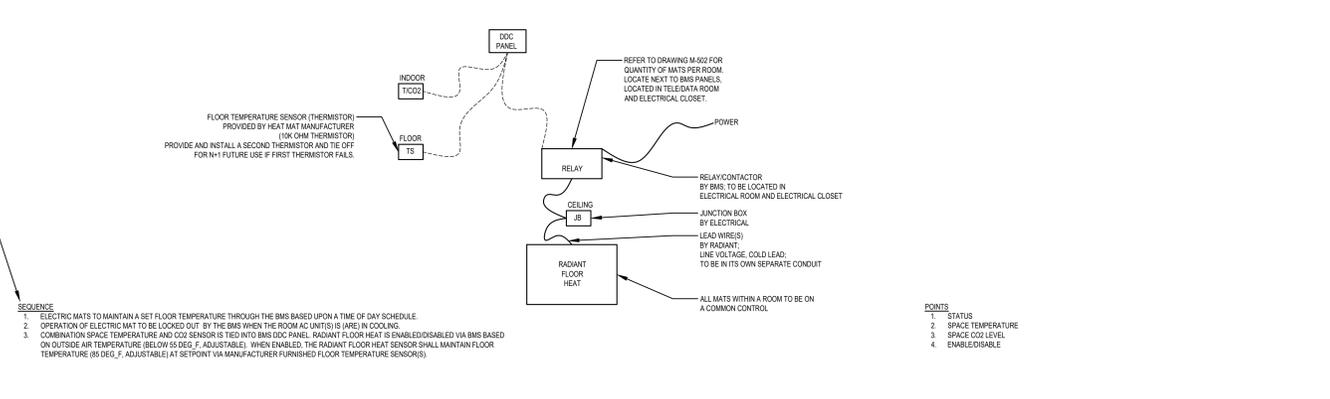


- SEQUENCE**
1. THE VRF AC UNIT SHALL BE STARTED THROUGH THE BMS BASED UPON A TIME OF DAY SCHEDULE. VRF AC UNIT TO OPERATE AT SCHEDULED CAPACITY DURING OCCUPIED HOURS AND RUN AT MINIMUM (ADJUSTABLE) CAPACITY DURING UNOCCUPIED HOURS.
 2. ROOM VRF AC UNIT TO BE CONTROLLED BY MANUFACTURER PROVIDED SPACE THERMOSTAT. OCCUPANT TO HAVE ABILITY TO ADJUST TEMPERATURE +/- 2 DEGS. F. (CASSETTE STYLE UNITS ARE NOT ADJUSTABLE BY THE OCCUPANT).
 3. ROOM VRF UNITS WILL BE CONSTANT VOLUME VARYING TEMPERATURE, TO ENSURE THAT SPACE VENTILATION AIR IS ALWAYS DELIVERED TO THE SPACE.
 4. OPERATION OF VRF SYSTEM WILL BE THROUGH THE BMS VIA THE VRF SYSTEMS BACNET CONNECTION. REFER TO DRAWING M-701 TO M-703.
 5. UPON DETECTION OF A LEAK, THE AC UNIT WILL SHUT OFF AND THE BMS WILL RECEIVE AN ALARM. (THE SECOND LEAK DETECTOR IS WIRED TO THE AC UNIT AND WILL SHUTDOWN THE UNIT.) THE BMS WILL PICK UP STATUS AS AN INTEGRATED POINT.

CU CONTROL DIAGRAM
TYPICAL FOR ALL UNITS:
(899-CU-R-01, 899-CU-R-02, 899-CU-R-03, 899-CU-R-04, 899-CU-R-05, 899-CU-R-06, 899-CU-R-07)

- POINTS (VIA NETWORK INTERFACE)**
1. STATUS (ON/OFF)

ELECTRIC MAT CONTROL DIAGRAM
TYPICAL FOR THE FOLLOWING ROOMS:
(INFANT 1 TO INFANT 4; TODDLER 1 TO TODDLER 4; K-PREP 1 TO K-PREP 2; MOVEMENT MATTERS)



- OVERALL SEQUENCE**
- THE DOAS VENTILATION SYSTEM, VRF SPACE HEATING AND COOLING SYSTEM, AND RADIANT FLOOR HEAT ARE DECOUPLED SYSTEMS THAT WILL BE PROGRAMMED BY THE BMS TO WORK TOGETHER. THE DOAS VENTILATION SYSTEM WILL PROVIDE ROOM NEUTRAL VENTILATION AIR, 70% (ADJ.) AND DEMAND-BASED VENTILATION. THE VRF SYSTEM WILL PROVIDE CONTINUOUS ROOM AIR CIRCULATION AND MAINTAIN SPACE TEMPERATURE BASED ON AN OCCUPANCY SCHEDULE. THE ELECTRIC RADIANT MAT WILL MAINTAIN FLOOR TEMPERATURE AND ACT AS THE 1ST STAGE OF HEAT FOR THE SPACE. THE BMS WILL PREVENT SIMULTANEOUS HEATING AND COOLING.
- A. DOAS PROVIDES VENTILATION AIR PER TIME SCHEDULE WITH SET LEAVING AIR TEMPERATURE AND HUMIDITY**
- 1) THE DOAS UNIT SHALL BE CONTROLLED BY A DDC CONTROLLER FURNISHED, INSTALLED, AND WIRED BY THE DOAS UNIT MANUFACTURER.
 - 2) THE BMS SHALL OPERATE ON A TIME OF DAY SCHEDULE TO PROVIDE CONTINUOUS VENTILATION TO THE SPACE DURING OCCUPANCY. VENTILATION TO OPERATE AT DESIGNED CAPACITY DURING OCCUPIED HOURS AND AT A REDUCED CAPACITY DURING UNOCCUPIED HOURS.
 - 3) THE BMS CONTRACTOR SHALL PROVIDE A DDC POINT TO INDEX THE DOAS SYSTEM INTO A PURGE MODE. THIS WOULD TYPICALLY BE USED AS A PRE OR POST OCCUPANCY EVENT. THE OPERATOR SHALL HAVE THE ABILITY TO SCHEDULE THIS EVENT THROUGH THE BMS SCHEDULING PROGRAM OR BE ABLE TO INITIATE THE EVENT MANUALLY THROUGH THE BMS USER INTERFACE.
 - 4) WHEN THE PURGE MODE IS INITIATED, THE DOAS UNIT SHALL START AND OPERATE FOR A PRESET PERIOD OF TIME. THE UNIT SHALL OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATIONS FOR THE UNIT.
 - 5) IF DURING OCCUPIED MODE, A CO2 SENSOR IN A ROOM IS ALARMED AT THE BMS, THE BMS WILL BE PROGRAMMED TO INCREASE VENTILATION TO MAXIMUM CAPACITY UNTIL THE SYSTEM CAN BE RE-BALANCED TO PREVENT FURTHER CO2 ALARMS.
 - 6) DURING UNOCCUPIED HOURS, ONLY ONE (1) OF THE TWO (2) DOAS UNITS WILL OPERATE (IN A LEAD/LAG SCHEDULE) AND THE A/D WHICH COMBINES THE DUCTED SYSTEMS WILL OPEN TO ALLOW ONE(1) UNIT TO PARTIALLY VENTILATE BOTH WINGS OF THE BUILDING.
- 7) DDC POINTS**
- A) POINTS LISTED ABOVE:
- B. VRF**
- 1) THE VRF UNITS SHALL BE FURNISHED WITH LOCAL CONTROLS FOR STAND-ALONE OPERATION TO MAINTAIN SPACE TEMPERATURE, BASED ON AN OCCUPANCY SCHEDULE.
- C. ELECTRIC RADIANT MAT**
- 1) THE BMS CONTRACTOR SHALL FURNISH AND INSTALL BACNET DDC CONTROLS FOR AUTOMATIC CONTROL OF THE ELECTRIC RADIANT FLOOR HEAT.
 - 2) RADIANT FLOOR HEAT IS ENABLE/DISABLED VIA BMS BASED ON OUTSIDE AIR TEMPERATURE (BELOW 55 DEG. F. ADJUSTABLE). WHEN ENABLED, THE RADIANT FLOOR HEAT SENSOR SHALL MAINTAIN FLOOR TEMPERATURE (85 DEG. F. ADJUSTABLE) AT SETPOINT VIA MANUFACTURER FURNISHED FLOOR TEMPERATURE SENSORS). FLOOR HEAT TEMPERATURE SETPOINT WILL BE RESET BASED ON SCHEDULED OCCUPANCY.
 - 3) THE RADIANT FLOOR HEAT SHALL ALWAYS BE THE FIRST STAGE OF HEAT WITH THE VRF BEING THE SECOND STAGE OF HEAT. THE BMS SHALL PREVENT THE VRF FROM BEING INDEXED TO THE COOLING MODE WHILE THE RADIANT FLOOR HEAT IS ENABLED.
 - 4) THE VRF HEAT SHALL BE USED TO MAINTAIN THE SPACE TEMPERATURE DURING THE UNOCCUPIED PERIODS.
- 5) DDC POINTS**
- a. ZONE SPACE TEMPERATURE W/ HIGH/LOW ALARM
b. ZONE SPACE CO2 W/ HIGH ALARM
c. ZONE RADIANT FLOOR HEAT ENABLE/DISABLE

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