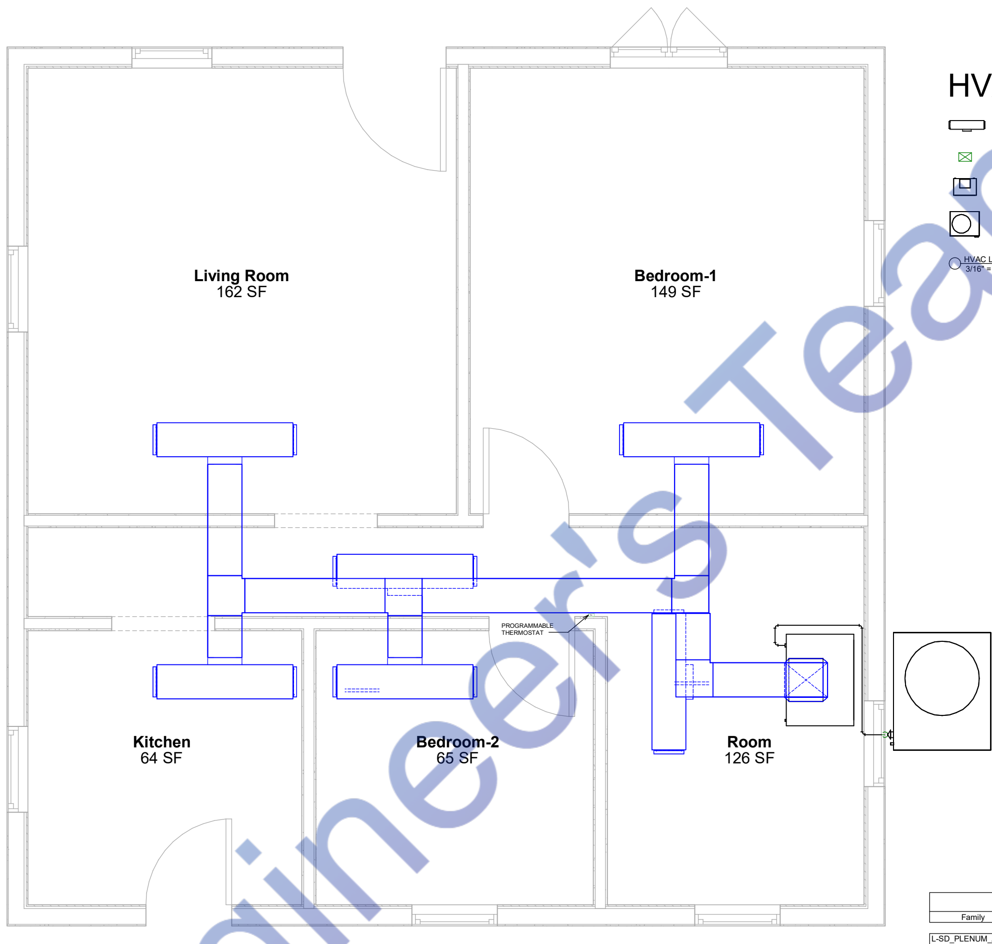
Note:
This HVAC Layout Plan for 1166 NW 104th St, Miami, FL 33150, has been developed in strict adherence to the following updated codes and regulations:

1. Florida Building Code (FBC) - Mechanical, 2020 Edition: Ensures all mechanical installations meet state standards.
2. Miami-Dade County Code of Ordinances, Chapter 8 - Building Code: Addresses local building requirements specific to Miami-Dade County.
3. Florida Statutes, Chapter 489: Mandates that all HVAC contractors obtain necessary permits for installation, removal, or replacement of AC systems.
4. Florida Statutes, Chapter 553.904: Details thermal efficiency standards for new non-residential buildings, including HVAC system design.
5. Florida Building Code - Energy Conservation, Section R405.5.2: Specifies requirements for duct insulation to enhance energy efficiency.
6. Florida Product Approval Codes: Ensures all materials and products used are approved for use in Florida's climate and conditions.

Duct and Insulation Specifications:

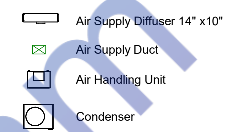
- Supply Duct Material: Galvanized metal ducts will be utilized for their durability and compliance with FBC-M 603.4.1, which requires mechanically fastened round metallic ducts with a minimum of three sheet metal screws or rivets.
- Insulation Type: Fiberglass insulation will be applied to all ducts, in accordance with FBC-M 603.9, ensuring all joints, seams, and connections are properly sealed to prevent air leakage.
- Supply Diffuser Size: Each supply diffuser is specified at 14" x 10" to ensure adequate air distribution throughout the space.

By adhering to these codes and specifications, this HVAC system is designed to provide efficient performance, safety, and compliance with all relevant regulations.



1 - Mech
3/4" = 1'-0"

HVAC Legend



HVAC Legend
3/16" = 1'-0"

EXHAUST FAN SCHEDULE

MARK	SERVING	CFM	SP	WATTS	RPM	VOLTAGE	MAKE MODEL	NOTES	FAN TYPE
EF-1	BATHROOM	50	-	50	460	120/60/1	Broan-NuTone 688		IN-LINE
EF-2	KITCHEN	375	-	78	460	120/60/1	Broan-NuTone BCSQ130SS		IN-LINE

NOTES
1. COMPLETE W/BACKDRAFT DAMPER.
2. PROVIDE THERMOSTATIC CONTROL DEVICES
3. INTERLOCK TO OPERATE WHENEVER RTU'S OPERATE.
4. MAINTAIN A MINIMUM CLEARANCE OF 10'-0" FROM ALL INTAKE AIR FANS AND ALL ROOF TOP UNITS OUTSIDE AIR INTAKE OPENINGS.

Exhaust Fan Schedule
1/4" = 1'-0"

Air Terminal Schedule

Family	Type	Size	Diffuser Material
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5
L-SD_PLENUM_AxB_1_to_8_SLOTS-24_to_72in_2in_increments	14" x 10"	12"/6"-0"ø	METAL-LAMINAIRE-Aluminium 6063T5

Mechanical Equipment Schedule

Family	Type	Model	Count
Air Handling Unit - Split System - Vertical	AHU CBA27UHE, 2.5 Tons	03	1
M_Condenser for VPAC - Air Cooled - 11-26 kW	Condenser ML17XC1, 2.5 Tons		1

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No.	Description	Date

Rafael De La Rosa

1166 NW 104th St
Miami FL 33150

HVAC Layout Plan

Project Number	Project Number
Date	Issue Date
Drawn By	Author
Checked By	Checker

H. 1

Scale As indicated

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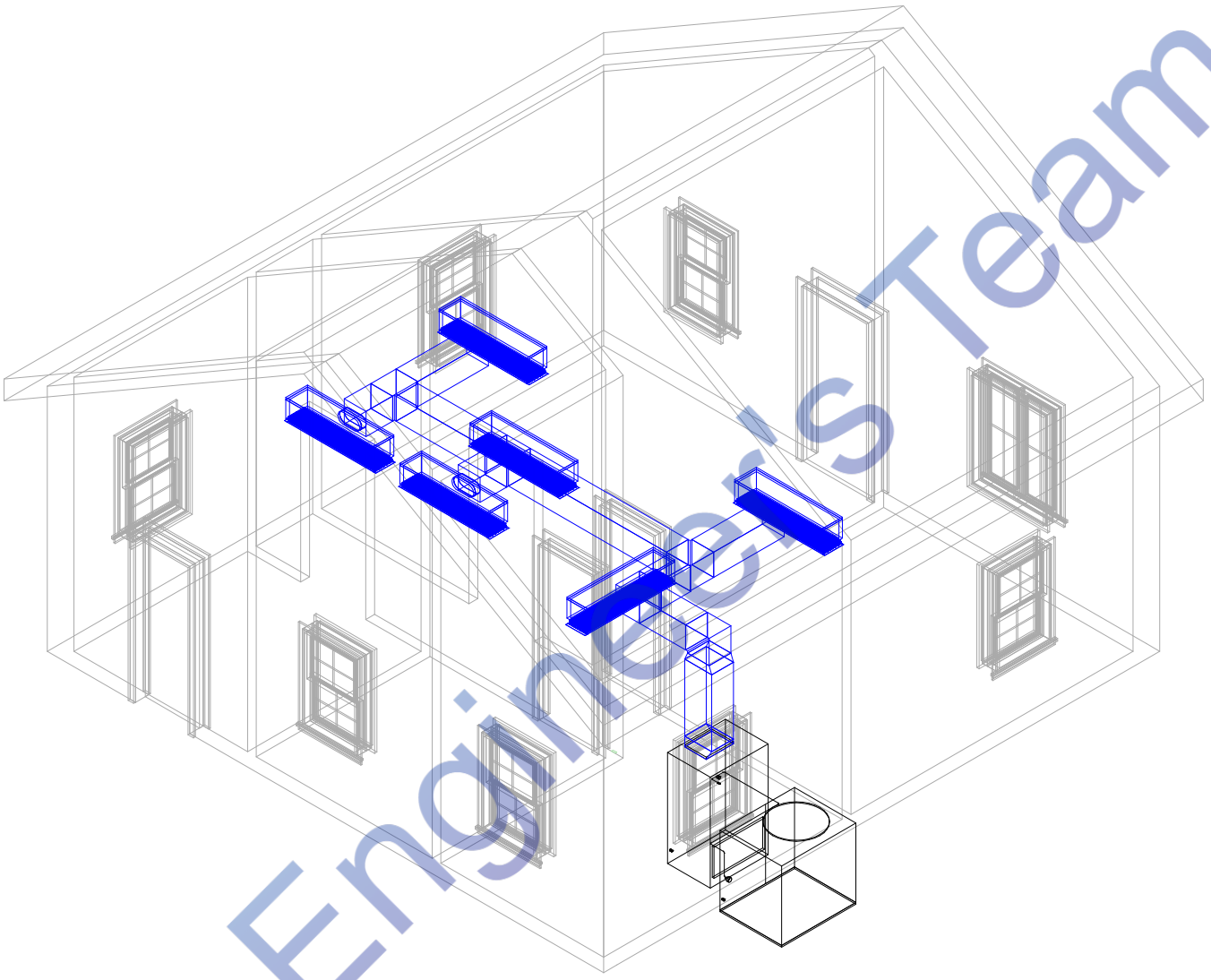

1 (3D)

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No.	Description	Date

Rafael De La Rosa

1166 NW 104th St
Miami FL 33150

3D HVAC Plan

Project Number	Project Number
Date	Issue Date
Drawn By	Author
Checked By	Checker

H. 2

Scale

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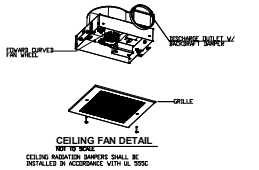
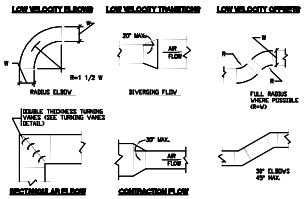


CEILING FAN DETAIL

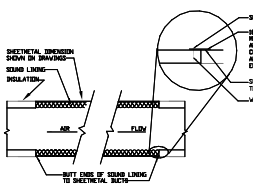
NOT TO SCALE

CEILING RADIATION DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH UL 555C



LOW VELOCITY TRANSITIONS, OFFSETS AND ELBOWS

NOT TO SCALE



TYPICAL SOUND LINING DETAIL

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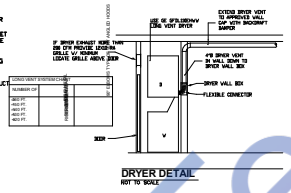

DRYER DETAIL

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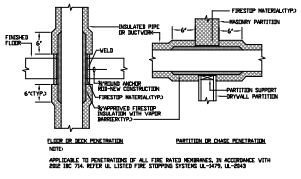
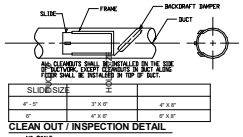


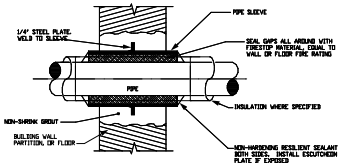
PENETRATION OF FIRE/SMOKE BARRIERS

NOT TO SCALE



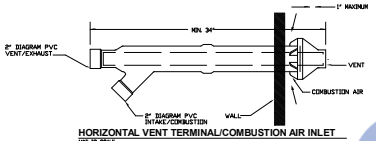
CLEAN OUT / INSPECTION DETAIL

NO SCALE



INTERIOR MASONRY WALL AND FLOOR PENETRATION

NOT TO SCALE



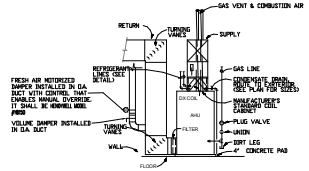
HORIZONTAL VENT TERMINAL/COMBUSTION AIR INLET

NOTE TO SCALE:
NOTE: PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURERS INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. FLUID PVC PIPING SHALL NOT BE USED FOR COMBUSTION GAS VENTING.

RESIDENTIAL GRILLES & REGISTERS SCHEDULE

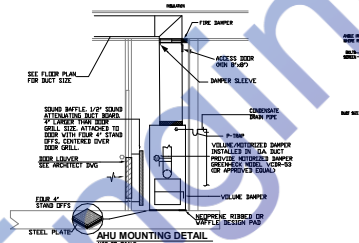
DESIG	TYPE (REFER TO DETAILS)	SERVICE	AIR FLOW RANGE (CFM)	NOMINAL SIZE/ DESCRIPTION (INCH)	INLET/ NECK SIZE (IN)	BASIS OF DESIGN/REMARKS
A	REGISTER	SA	0-50	6x4	4"ø	300PL, BORDER TYPE A
B	REGISTER	SA	51-100	6x6 OR 10x4	6"ø	300PL, BORDER TYPE A
C	REGISTER	SA	101-150	10x6	7"ø	300PL, BORDER TYPE A
D	REGISTER	SA	151-350	12x6	8"ø	300PL, BORDER TYPE A
E	REGISTER	SA	351-750	14x8	9"ø	300PL, BORDER TYPE A
F	RG	RA/EA	0-100	8x8	8x8	350PL, BORDER TYPE A
G	RG	RA/EA	101-200	8x8	8x8	350PL, BORDER TYPE A
H	RG	RA/EA	201-300	10x10	10x10	350PL, BORDER TYPE A
I	RG	RA/EA	301-450	12x12	12x12	350PL, BORDER TYPE A
J	RG	RA/EA	451-600	14x14	14x14	350PL, BORDER TYPE A
K	RG	RA/EA	601-800	18x18	18x18	350PL, BORDER TYPE A
L	RG	RA/EA	801-1100	18x18	18x18	350PL, BORDER TYPE A
M	RG	RA/EA	1101-1300	20x20	20x20	350PL, BORDER TYPE A
N	RG	RA/EA	1301-1600	22x22	22x22	350PL, BORDER TYPE A

NOTES:
1. REFER TO ARCHITECT DRAWINGS FOR TYPE OF CEILING.
2. MODEL NUMBERS IN "BASIS OF DESIGN" ARE TITUS.
3. PROVIDE HEAVY DUTY FRAME AND CORE VALVE MOUNTED IN FLOORS.
4. PROVIDE WITH FIRE DAMPER FOR UL LISTED CEILING.
5. PROVIDE ROUND TO SQUARE ADAPTOR BOOT.



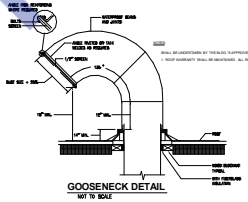
GAS-FIRED AIR HANDLING UNIT DETAIL

N.T.S.



AHU MOUNTING DETAIL

NOT TO SCALE



GOOSENECK DETAIL

NOT TO SCALE

HVAC Installation
1/4" = 1'-0"

Condenser Installation Note:

The installation of the ML17XC1 Condenser Unit must comply with the following specifications to ensure optimal performance, safety, and efficiency:

1. Unit Placement & Clearance:
   - Maintain a minimum clearance of 30 inches from one side adjacent to the control box for servicing.
   - Maintain 36 inches clearance on one side and at least 12 inches on another side, while the last side may have a minimum of 6 inches clearance.
   - Ensure 48 inches of vertical clearance above the unit for proper airflow.
   - Maintain 24 inches of clearance between two adjacent condenser units.

2. Electrical & Power Requirements:
   - Voltage: 208/230V, 1-phase, 60Hz.
   - Maximum Overcurrent Protection (MOCP) varies by model, ranging from 15A to 50A.
   - Minimum Circuit Ampacity (MCA) ranges from 12A to 35.5A, depending on the unit's tonnage.
   - Proper grounding and adherence to National Electrical Code (NEC) and local electrical codes is required.

3. Refrigerant Line Connections:
   - Factory pre-charged with R-410A refrigerant for a standard 15 ft. line set. Additional refrigerant may be required for longer runs.
   - Suction line sizes: 3/4" to 1-1/8" OD depending on unit size.
   - Liquid line size: 3/8" OD for all models.

4. Mounting & Structural Support:
   - The unit should be installed on a level, rigid concrete or non-combustible pad.
   - If needed, Unit Stand-Off Kits (high-density polyethylene feet) should be used to elevate the unit for drainage and airflow.

5. Refrigeration System Components:
   - Equipped with a high-pressure switch and a low-pressure switch for system protection.
   - Includes a scroll compressor with rubber mounts to minimize vibration and noise.
   - Features a Quantum™ Coil with enhanced aluminum alloy tubes for corrosion resistance.

6. Optional Accessories:
   - Crankcase Heater (recommended for low ambient conditions).
   - Low Ambient Kit for operation down to 30°F outdoor temperature.
   - Compressor Hard Start Kit for enhanced starting under low-voltage conditions.

By following these installation guidelines, the ML17XC1 Condenser will operate efficiently, meeting manufacturer and regulatory requirements. Ensure that all work is performed by a licensed HVAC contractor in compliance with Florida Building Codes and local ordinances.

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No.	Description	Date

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HVAC Installation

Project Number	Project Number
Date	Issue Date
Drawn By	Author
Checked By	Checker

H. 3

Scale 1/4" = 1'-0"

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