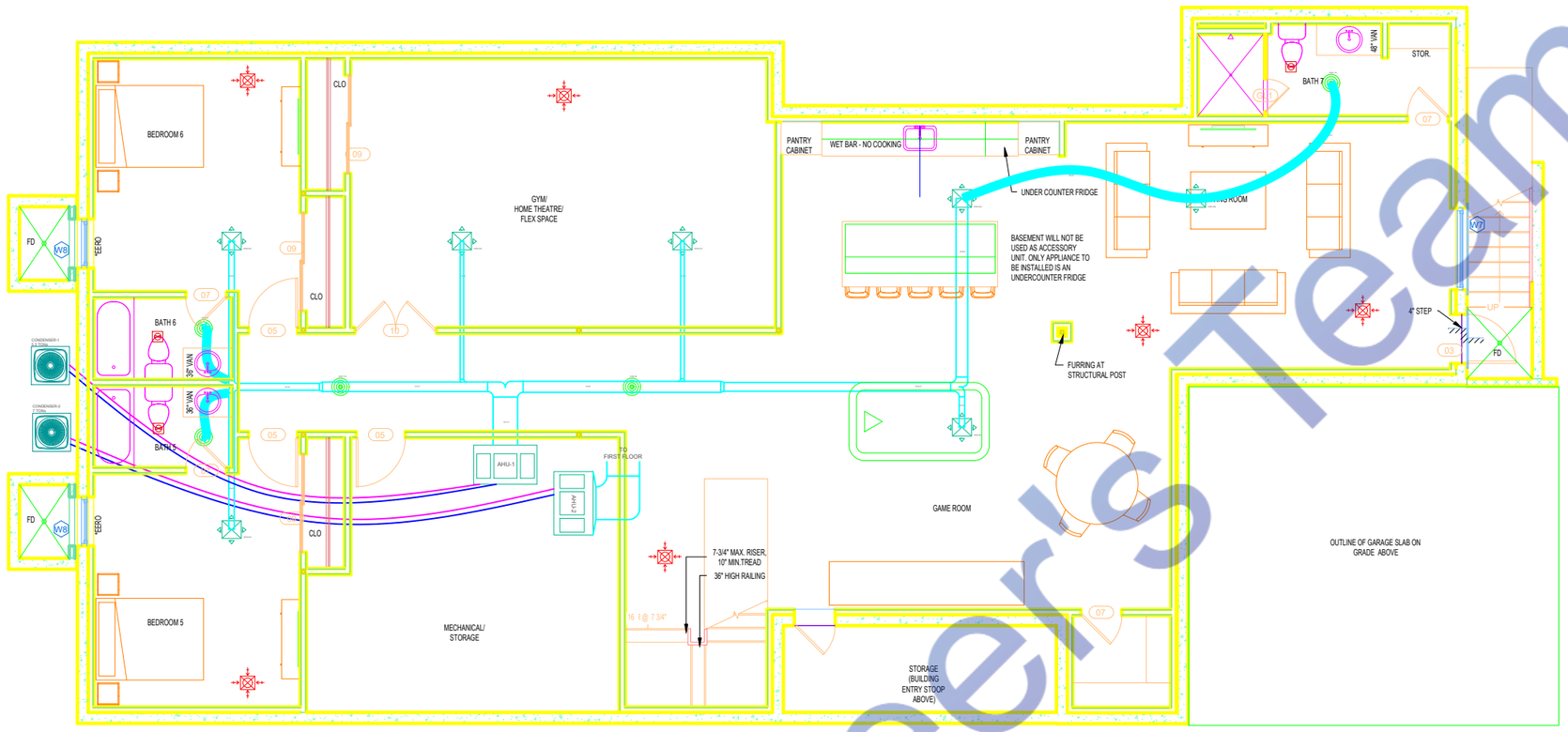

1 FIRST FLOOR PLAN
A101 1/4" = 1'-0"

Note:

This HVAC plan for 8601 Virginia Ave, Annandale, VA 22003, has been developed following all current codes and standards applicable in Virginia to ensure safety, efficiency, and adherence to legal requirements. The codes and standards referenced in this design are as follows:

1. Virginia Uniform Statewide Building Code (USBC) – 2021 Edition. This includes the International Building Code (IBC) and International Residential Code (IRC) guidelines as mandated by the Virginia Department of Housing and Community Development.
2. Virginia Mechanical Code (IMC) – 2021 Edition, which provides the necessary specifications for ventilation, ductwork, heating, and air conditioning systems.
3. Virginia Energy Conservation Code – 2021 Edition, ensuring energy efficiency within the building's HVAC system.
4. National Electrical Code (NEC) – 2020 Edition. This code covers electrical installations within the HVAC system to maintain safe electrical operation.
5. Virginia Plumbing Code (IPC) – 2021 Edition, as it pertains to any plumbing connections within the HVAC system for condensate and other drainage requirements.

These codes collectively ensure that the HVAC design meets the latest safety, structural, and efficiency standards required by the Commonwealth of Virginia and Fairfax County.

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	1600	-	78	1291	115/60/1	HOODMART 28D-1600-FF		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.

Mechanical Legends

- AIR HANDLING UNIT
- OUTDOOR CONDENSER
- SUPPLY AIR DIFFUSER
- EXHAUST AIR DIFFUSER
- KITCHEN CHIMNEY
- EXHAUST FAN
- SUPPLY AIR DUCT

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OWNER:
8601 VIRGINIA AVE NEW HOME
8601 VIRGINIA AVE,
ANNANDALE, VA, 22003

SEAL:

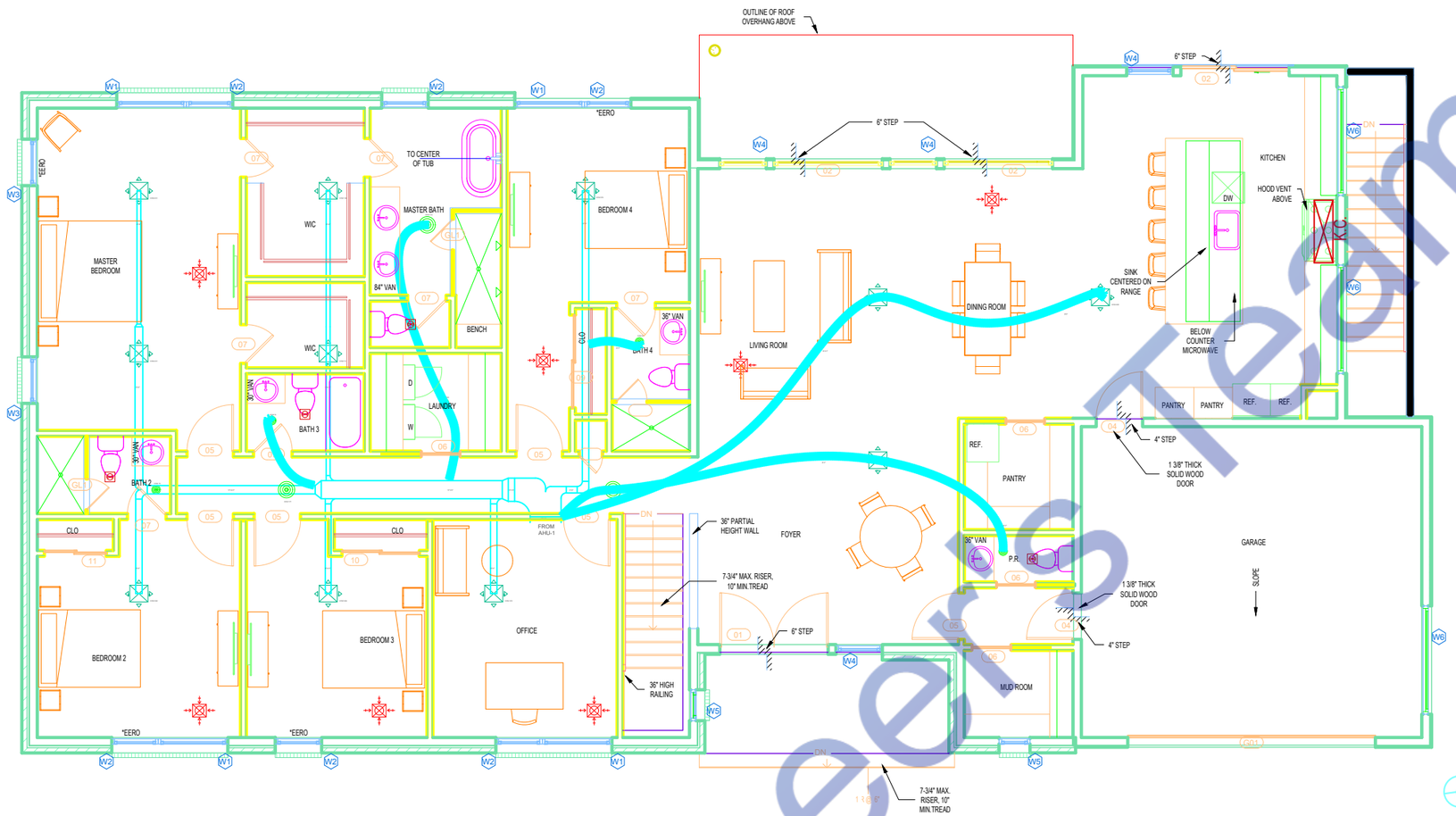
Release for construction

HVAC LAYOUT PLAN

Drawn by: Engr. Al Amin
Checked:
Date: 30, OCT, 24.

H. 1

Scale: 1:100



2 1ST FLOOR PLAN
A102 1/4" = 1'-0"

Note:
Air Handling Unit (AHU) Placement and System Overview

Air Handling Unit 1 (AHU-1) and Air Handling Unit 2 (AHU-2) are strategically located in the mechanical room on the first floor to optimize system functionality and accessibility. The distribution of air is as follows:

1. First Floor Distribution: AHU-1 is designated to supply conditioned air exclusively to the first floor.
2. Second Floor Distribution: AHU-2 is responsible for supplying air to the second floor. Air ducts rise vertically along the wall from AHU-2 to facilitate airflow to the upper level.

The system incorporates both round and square duct configurations. Each duct's size and airflow capacity (measured in CFM) are clearly specified within the design plans. For comprehensive details, please refer to the following documents:

- HVAC System Design PDF: Includes system schematics and specifications.
- HVAC Simulation Report PDF: Provides detailed simulation results and performance analysis.

These documents provide additional insights into the design and operational parameters of the HVAC system.

Mechanical Legends

- AIR HANDLING UNIT
- OUTDOOR CONDENSER
- SUPPLY AIR DIFFUSER
- EXHAUST AIR DIFFUSER
- KITCHEN CHIMNEY
- EXHAUST FAN
- SUPPLY AIR DUCT

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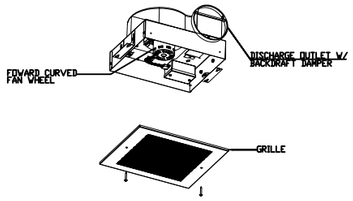
Date:	30, OCT, 24.

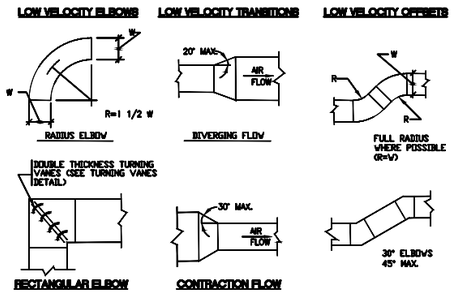
H. 2

Scale: 1:100

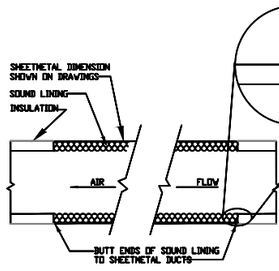


CEILING FAN DETAIL
NOT TO SCALE

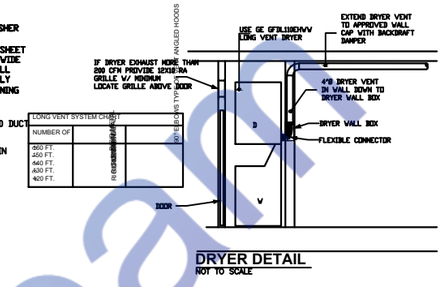
CEILING RADIATION DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH UL 555C



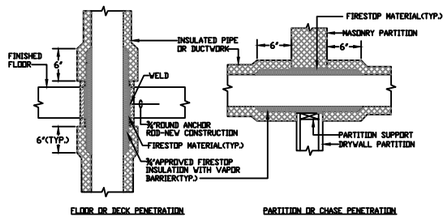
LOW VELOCITY TRANSITIONS, OFFSETS AND ELBOWS
NOT TO SCALE



TYPICAL SOUND LINING DETAIL
NOT TO SCALE



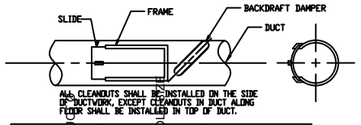
DRYER DETAIL
NOT TO SCALE



NOTE:

APPLICABLE TO PENETRATIONS OF ALL FIRE RATED MEMBRANES, IN ACCORDANCE WITH 2012 IBC 714. REFER UL LISTED FIRE STOPPING SYSTEMS UL-1479, UL-2943

PENETRATION OF FIRE/SMOKE BARRIERS
NOT TO SCALE



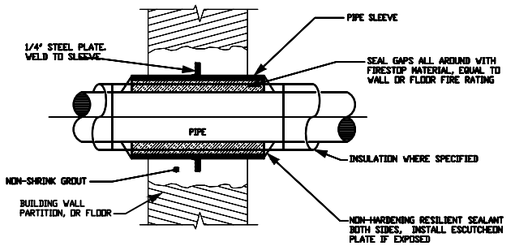
SLIDE SIZE	HOLE SIZE	
4" - 5"	3" X 6"	4" X 8"
6"	4" X 6"	6" X 8"

CLEAN OUT / INSPECTION DETAIL
NO SCALE

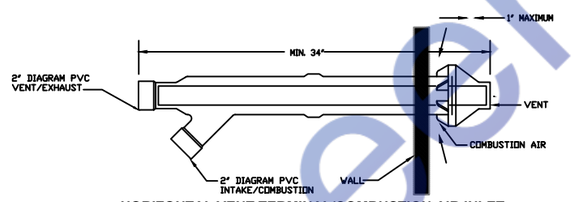
RESIDENTIAL GRILLES & REGISTERS SCHEDULE

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	300RL, BORDER TYPE A
B	REGISTER	SA	51-100	6x6 OR 10X4	6"ø	300RL, BORDER TYPE A
C	REGISTER	SA	101-150	10x6	7"ø	300RL, BORDER TYPE A
D	REGISTER	SA	151-200	12x6	8"ø	300RL, BORDER TYPE A
E	REGISTER	SA	201-250	14x6	9"ø	300RL, BORDER TYPE A
F	RG	RA/EA	0-100	6x6	6x6	350RL, BORDER TYPE A
G	RG	RA/EA	101-200	8x8	8x8	350RL, BORDER TYPE A
H	RG	RA/EA	201-300	10x10	10x10	350RL, BORDER TYPE A
I	RG	RA/EA	301-450	12x12	12x12	350RL, BORDER TYPE A
J	RG	RA/EA	451-600	14x14	14x14	350RL, BORDER TYPE A
K	RG	RA/EA	601-800	16x16	16x16	350RL, BORDER TYPE A
L	RG	RA/EA	801-1100	18x18	18x18	350RL, BORDER TYPE A
M	RG	RA/EA	1101-1300	20x20	20x20	350RL, BORDER TYPE A
N	RG	RA/EA	1301-1600	22x22	22x22	350RL, 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 WHERE MOUNTED IN FLOORS.
4. PROVIDE WITH FIRE DAMPER FOR UL LISTED CEILING
5. PROVIDE ROUND TO SQUARE ADAPTOR BOOT

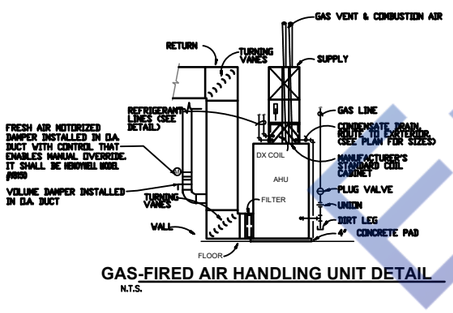


INTERIOR MASONRY WALL AND FLOOR PENETRATION
NOT TO SCALE

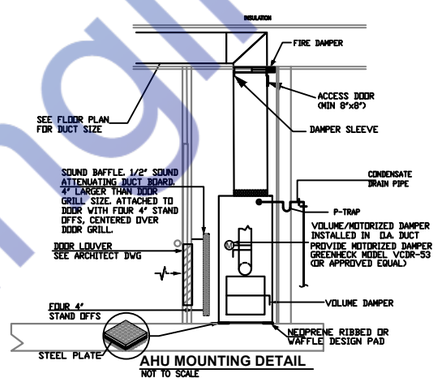


HORIZONTAL VENT TERMINAL/COMBUSTION AIR INLET
NOT TO SCALE

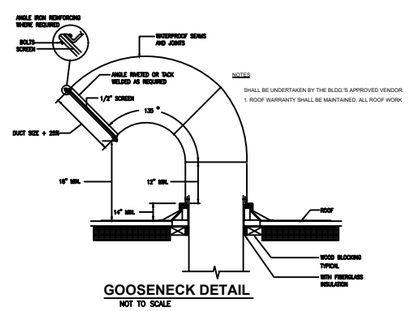
NOTE-PLASTIC PIPE AND FITTINGS USED TO VENT APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S INSTRUCTIONS. PLASTIC PIPE VENTING MATERIALS LISTED AND LABELED IN ACCORDANCE WITH UL 1738 SHALL BE INSTALLED IN ACCORDANCE WITH THE VENT MANUFACTURER'S INSTALLATION INSTRUCTIONS.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



GAS-FIRED AIR HANDLING UNIT DETAIL
N.T.S.



AHU MOUNTING DETAIL
NOT TO SCALE



GOOSENECK DETAIL
NOT TO SCALE

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