GENERAL MECHANICAL NOTES:

1. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEM AND WORK INCLUDED. CERTAIN COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES ARE SHOWN BUT MUST BE PROVIDED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND DETAILS. IT IS THE INTENT OF DRAWINGS AND SPECIFICATIONS O CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK REQUIRED AND TO TURN OVER COMPLETE AND OPERABLE SYSTEM TO THE OWNER.
2. DO NOT SCALE DRAWINGS.
3. ARRANGEMENT OF EQUIPMENT AND ROUTING OF DUCT, ETC. INDICATED ON THE DRAWINGS MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS CAUSING ON SITE REVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL VERIFY, PRIOR TO PROCEEDING , THAT CONDITIONS ON THE PROJECT HAVE NOT CAUSED SUCH MODIFICATIONS OF THE WORK. PRIOR TO INSTALLATION OF ANY OF THE WORK. IF CONDITION ARISE CAUSING SUCH MODIFICATION TO THE WORK, THE CONTRACTOR SHALL MAKE SUCH MODIFICATIONS WITHOUT CHANGE TO THE CONTRACT. IF AFTER VERIFICATION AND INSTALLATION OF THE WORK, SUCH CONDITION ARISE REQUIRE MODIFICATION, THE CONTRACTOR SHALL CONTACT THE ARCHITECT FOR DIRECTION. ANY MODIFICATION REQUIRED TO WORK AFTER INSTALLATION CAUSED BY THE CONTRACTOR'S FAILURE TO VERIFY THE SITE CONDITIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE DUE FROM THE OWNER FOR THE FAILURE.
4. MECHANICAL CONTRACTOR SHALL PROVIDE ALL STARTERS AND CONTROLS FOR ALL EQUIPMENT THEY FURNISH. THE ELECTRICAL CONTRACTOR WILL INSTALL AND PROVIDE POWER WIRING FOR SAID DEVICES. THE INSTALLATION OF ALL CONTROLS AND WIRING, WHETHER LOW VOLTAGE (UNDER 100 VOLTS) OR LINE VOLTAGE (OVER 100 VOLTS) IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR, AND SHALL BE INCLUDED IN THE MECHANICAL CONTRACTOR'S WORK. HOWEVER, ALL CONTROL WIRING OVER 100 VOLTS WILL BE INSTALLED BY ELECTRICAL SECTION UNDER SUPERVISION OF THE CONTROL CONTRACTOR. REFER TO THE SPECIFICATIONS FOR ADDITION DETAILS.
5. ALL SLEEVES, OPENINGS, CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF MECHANICAL WORK IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. CUTTING AND PATCHING WORK WILL BE COMPLETED BY THE GENERAL CONSTRUCTION CONTRACTOR SECTION. THE MECHANICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL INFORMATION TO THE GENERAL CONTRACTOR REQUIRED FOR THE WORK. REFER TO THE SPECIFICATIONS FOR ADDITIONAL DETAILS.
6. DUCT SIZES SHOWN ON THE DRAWING ARE INTERNAL FREE AREA SIZES. DUCT SIZES MUST BE INCREASED TO ALLOW FOR THE LINING AS REQUIRED WITHIN SPECIFICATIONS. DUCTWORK INTERIOR BEHIND ALL GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK. FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
7. PROVIDE BALANCING DAMPER AT TAKE OFFS IN ALL LOW PRESSURE DUCTWORK AND TURNING VANES AT ALL 90 DEGREE ELBOWS.
8. ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT LOCAL CODES AND SMACNA DUCT CONSTRUCTION STANDARDS. FAILURE TO COMPLY WILL RESULT IN THE CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.
9. COORDINATE LOCATION OF ALL DEVICE WITH ARCHITECTS DETAILED ELEVATIONS, SECTIONS, REFLECTED CEILING PLAN, AND STRUCTURAL DRAWINGS. LOCATIONS INDICATED ON MECHANICAL DRAWING ARE STRICTLY DIAGRAMMATIC. FAILURE TO COMPLY WITH RESULT IN THE CONTRACTOR CORRECTING THE WORK AT THEIR OWN COSTS.
10. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.
11. COORDINATE ALL EQUIPMENT CLEARANCE WITH OTHER TRADES. FAILURE TO COORDINATE THE WORK WITH OTHER TRADES RESULTING IN CONFLICTS WILL RESULT IN THE CONTRACTOR CORRECTING THE WORK AT THEIR OWN COST.
12. CONTRACTOR TO COORDINATE ACTUAL SIZE & LOCATION OF DUCTWORK WITH RESPECT TO MINIMUM CLEARANCE AT STRUCTURE MEMBERS AND SHAPES. ALL OTHER EXISTING CONDITIONS AND EQUIPMENT BEING INSTALLED IN CEILING AND SHAFTS. FAILURE TO COORDINATE THIS WORK THAT RESULT IN CONFLICT WILL REQUIRE THIS CONTRACTOR TO CORRECT THE WORK AT THEIR OWN COSTS.
13. ALL DUCT IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILING UNLESS OTHERWISE SPECIFICALLY NOTED.
14. ACCESS PANELS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. AND SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR. IT WILL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO INFORM THE GENERAL CONSTRUCTOR SECTION WHERE EACH ACCESS PANEL IS REQUIRED AND ALSO COORDINATE ALL LOCATIONS WITH THE ARCHITECT.
15. PROVIDE FIRE DAMPERS AT ALL DUCTWORK PENETRATING FIRE–RATED WALLS, CEILINGS AND FLOOR EXCEPT WHERE SPECIFICALLY NOTED TO BE ELIMINATED UNDER SPECIFIC INTERNATIONAL BUILDING CODE EXCEPTIONS.
16. ALL HVAC CEILING OR WALL MOUNTED EQUIPMENT SHALL BE SUPPORTED WITH STRUCTURAL STEEL AND THREADED RODS. ALL UNITS SHALL BE ISOLATED FROM BUILDING CONSTRUCTION FOR VIBRATION CONTROL.
17. SEAL ALL DUCTS PENETRATIONS THROUGH WALLS. SEAL ALL TRANSVERSE DUCT SEAMS WITH APPROVED MASTIC. DUCT TAPE WILL NOT BE ALLOWED.
18. USE ONLY RIGID METAL DUCTWORK, UNLESS SHOWN AS FLEXIBLE DUCT ON DRAWINGS. FLEXIBLE DUCT LENGTH SHALL NOT EXCEED 5'–0".
19. BALANCE ALL DUCTS, DIFFUSERS, AND GRILLES TO OBTAIN THE AIR QUANTITIES AS SHOWN ON PLANS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
20. PROVIDE FIRE STOPPING FOR ALL PIPING PENETRATIONS THROUGH FIRE–RATED WALLS.
21. PROVIDE SEALANT FOR ALL PIPING PENETRATIONS THROUGH NON–FIRE RATED WALLS.
22. CONTRACTOR SHALL INSTALL RECIRCULATION HOOD FOR KITCHEN EXHAUST UNLESS DUCTED EXHAUST TO EXTERIOR IS SHOWN ON THE DRAWING.
23. DRYER EXHAUST DUCTS
    (1) EXHAUST DUCTS SHALL BE CONSTRUCTED OF METAL NOT LESS THAN 0.016 INCH (0.4MM) IN THICKNESS, AND BE SUPPORTED AT 4–FOOT INTERVALS AND SECURED IN PLACE. THE EXHAUST DUCTS SHALL NOT BE JOINED WITH SCREWS OR SIMILAR FASTENERS THAT PROTRUDE MORE THAN 1/8 INCH INTO THE INSIDE OF THE DUCT.
    (2) THE MAXIMUM DEVELOPED LENGTH OF THE EXHAUST DUCTS SHALL BE 35 FEET UNLESS OTHERWISE NOTED ON PLAN.
    (3) WHERE NOTED "LONG–VENT TYPE DRYER", CONTRACTOR SHALL PROVIDE THE DRYER WITH EXACT SAME MODEL AS THE PLAN SHOWS AND PROVIDE THE DRYER'S INSTALLATION INSTRUCTION TO THE CODE OFFICIALS PRIOR TO THE CONCEALMENT INSPECTION.

MECHANICAL SPECIFICATIONS:

A. GENERAL:

1. THE ENTIRE INSTALLATION, INCLUDING ALL MATERIAL, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, COUNTY, STATE AND FEDERAL AUTHORITIES, AND SHALL ALSO BE IN COMPLIANCE WITH THE LATEST EDITIONS OF ASHRAE STANDARDS, THE LIFE SAFETY CODE, THE STANDARD BUILDING CODE, UNDERWRITERS LABORATORIES, THE NATIONAL ELECTRICAL CODE, NFPA 70, 90A, 96 & 99, 2017, INTERNATIONAL MECHANICAL CODE (IMC 2018) AND INTERNATIONAL BUILDING CODE (IBC 2018). AIR HANDLING UNITS SHALL COMPLY TO ENERGY EFFICIENT REQUIREMENTS IN ACCORDANCE WITH INTERNATIONAL ENERGY EFFICIENT CODE (IECC 2018).
2. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE A COMPLETE, FINSIFIED, TESTED, ADJUSTED AND OPERATIONAL MECHANICAL SYSTEM. ANY APPARATUS, MATERIAL, WORK OR INCIDENTAL ITEMS REQUIRED TO MAKE THE SYSTEM COMPLETE AND READY FOR OPERATION SHALL BE INCLUDED IN THE MECHANICAL CONTRACTOR'S PROPOSAL WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS
3. THE DRAWING ARE GENERALLY DIAGRAMMATIC. THEY ARE INTENDED TO CONVEY THE SCOPE OF WORK AND TO INDICATE THE GENERAL ARRANGEMENT OF THE EQUIPMENT, DUCT, PIPING, ETC. THE MECHANICAL CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE ANY WORK.
4. THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND LICENSES PERTAINING TO HIS WORK.
5. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINAING MECHANICAL WORK WITH OTHER TRADES SO AS TO PROVIDE THE SYSTEM AS DESCRIBED.
6. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN MECHANICAL PROPOSAL A ONE YEAR GUARANTEE–WARRANTY ON ALL INSTALLED EQUIPMENTS AND MATERIAL THIS GUARANTEE–WARRANTY IS TO INCLUDE ALL LABOR, MATERIAL, PARTS, ETC. NECESSARY TO MAINTAIN THE SYSTEM IN SATISFACTORY OPERATION FOR A PERIOD OF ONE YEAR STARTING FROM THE DATE OF ACCEPTANCE OF THE SYSTEM BY OWNER.

B. DESCRIPTION OF WORK:

THE WORK INCLUDES THE PROVIDING OF ALL LABOR, MATERIAL, EQUIPMENT, ACCESSORIES, SERVICES AND TESTS NECESSARY TO COMPLETE AND MAKE READY FOR OPERATION BY THE OWNER. ALL HVAC WORK, AS SHOWN ON THE DRAWINGS AND HEREINAFTER SPECIFIED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. PROVIDE ALL NEW DUCTWORK, DIFFUSER AND DUCTWORK ACCESSORIES.
2. COORDINATE WITH ELECTRICAL CONTRACTOR WITH ALL STARTERS, DISCONNECT SWITCH, WIRE AND OTHER REQUIRED.
3. BALANCE AND TEST THE SYSTEM PER SPEC.
4. COORDINATE CUTTING AND PATCHING WITH GC.

C. SHOP DRAWINGS:

1. THE MECHANICAL CONTRACTOR SHALL PREPARE THREE (3) SETS OF AS–BUILT DRAWING OF THE PROJECT. THE THREE (3) SET SHALL BE GIVEN TO OWNER AT THE COMPLETION OF THE PROJECT.
2. THE MECHANICAL CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND EQUIPMENT SPECIFICATIONS OF ENTIRE SYSTEM (INCLUDING THE DUCTWORK DISTRIBUTION SYSTEM) BEFORE PROCEEDING WITH ANY WORK.
3. SUBMITTAL SHEETS ARE REQUIRED FOR ALL DIFFUSER AND OTHER DUCT TERMINAL DEVICES FOR APPROVAL PRIOR TO INSTALLATION.

D. DUCT WORK:

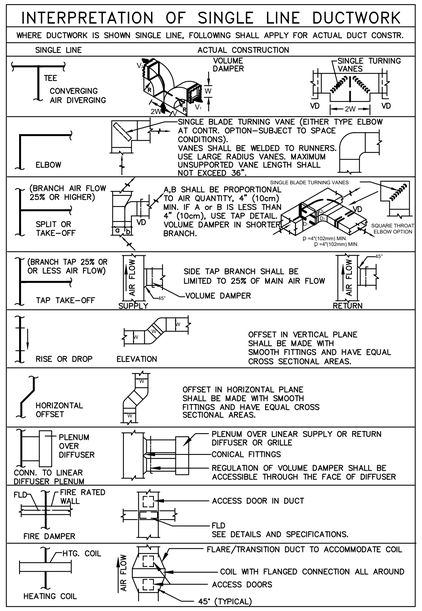
1. ALL DUCTWORK SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND THE SMACNA "HVAC DUCT CONSTRUCTION STANDARD – METAL AND FLEXIBLE" MANUAL, USING PRIME SHEET OF GALVANIZED STEEL PROVIDE SEAL CLASS "C" ON ALL TRANSVERSE JOINTS UNLESS SUPERSEDED BY MORE STRINGENT LOCAL CODES.
2. CHANGE IN DIRECTION ELBOWS SHALL HAVE AN INSIDE RADIUS OF NOT LESS THAN THE WIDTH OF DUCT. WHERE SQUARE ELBOWS ARE NECESSARY PROVIDE SIGNLE THICKNESS TURNING VANE A MAXIMUM OF 3" ON CENTER.
3. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL FIRE DAMPERS AS REQUIRED BY CODES HAVING JURISDICATION. ALL FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF THE BOARD OF FIRE UNDERWRITERS. THE LOCAL FIRE MARSHALL; AND SHALL BE LABELED AND APPROVED BY UNDERWRITER LABORATORIES. ALL FIRE DAMPERS SHALL BE TYPE "B", WITH DAMPERS OUT OF THE AIR STREAM.
4. ALL BRANCHES AND TAKE–OFFS SHALL BE EQUIPPED WITH MANUAL VOLUME CONTROLLING DEVICES HAVING AN INDICATING AND LOCKING DEVICE.
5. SUPPORT HORIZONTAL DUCTS WITH HANGERS SECURED TO BAR JOISTS OR STRUCTUREAL STEEL ABOVE AT INTERVALS NOT TO EXCEED 8'–0".
6. ALL SUPPLY, OA AND CONCEALED RETURN DUCTWORK SHALL BE INSULATED. EXTERNAL WRAP SHALL BE ACCORDING TO MECHANICAL INSULATION SCHEDULE SHOWN BELLOW. INTERNAL LINER SHALL BE 1" THICK, 1.5# DENSITY, WHERE DUCT LINING IS SHOWN ON THE DRAWINGS. IT SHALL BE COATED AND SEALED, AND SHALL MEET ASTM C1071. THESE LININGS (INCLUDING COATINGS, ADHESIVES, AND EXTERIOR SURFACE INSULATION ON PIPES AND DUCTS IN SPACES USED AS AIR SUPPLY PLENUMS) SHALL HAVE A FLAME–SPREAD RATING OF 25 OR LESS AND A SMOKE–DEVELOPED RATING OF 50 OR LESS, AS DETERMINED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH NFPA 255. IF EXISTING LINED DUCTWORK IS REWORKED IN A RENOVATION PROJECT, THE LINER SEMS AND PUNCTURES SHALL BE RESEALED. REFER TO H4.00 FOR OTHER REQUIREMENTS FOR DUCT AND INSULATION.
7. ALL DUCTWORK IS TO INSTALLED IN ACCORDANCE WITH LOCAL BUILDING DEPARTMENT REQUIREMENT AND LOCAL CODES.

E. BALANCING AND ADJUSTING:

THE MECHANICAL CONTRACTOR SHALL PROVIDE COMPLETE BALANCING OF ALL SYSTEMS.

INTERPRETATION OF SINGLE LINE DUCTWORK

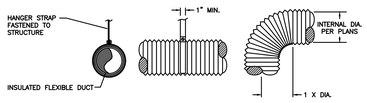
WHERE DUCTWORK IS SHOWN SINGLE LINE, FOLLOWING SHALL APPLY FOR ACTUAL DUCT CONSTR.



SYMBOL	DESCRIPTION
S S	NEW DUCT WORK
	FLEXIBLE DUCT
	SUPPLY AIR DUCT WORK UP THRU PLAN RETURN AIR OR EXHAUST DUCT WORK UP THRU PLAN
S S	DUCT WORK TRANSITION
	SUPPLY AIR DEVICE
	RETURN/EXHAUST AIR DEVICE
T	WALL MOUNTED THERMOSTAT
S.D.	DUCT SMOKE DETECTOR
	CONNECT NEW TO EXIST
FSD	FIRE SMOKE DAMPER
FD	FIRE DAMPER

ABBREVIATIONS:

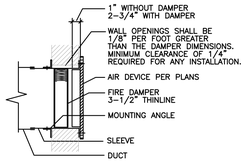
ABV	ABOVE
ABV CLG	ABOVE CEILING
COND	CONDENSATE
DN	DOWN
EA	EXHAUST AIR
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
SA	SUPPLY AIR
SG	SUPPLY GRILLE
TT CLG	TIGHT TO CEILING
TT FLR	TIGHT TO FLOOR
VD	VOLUME DAMPER



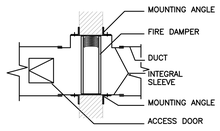
NOTES:

1. STRAP HANGERS SHALL BE SPACED NO MORE THAN 3'–0" APART.
2. MAXIMUM PERMISSIBLE SAG OF FLEXIBLE DUCT SHALL BE 1/2" PER FOOT OF SPACING BETWEEN HANGERS.
3. INSTALLATION OF ALL FLEXIBLE DUCT SHALL BE IN ACCORDANCE WITH SMACNA & ASHRAE STANDARDS.

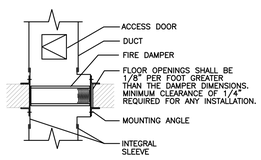
1 MCS FLEXIBLE DUCT DETIAL
SCALE: NONE



VERTICAL MOUNTING AT RETURN GRILLE



VERTICAL MOUNTING



HORIZONTAL MOUNTING

NOTES

1. SLEEVES, MOUNTING ANGLES, GAUGES AND SIZE SHALL BE AT LEAST EQUAL TO REQUIREMENTS OF SMACNA AND FIRE OR FIRE/SMOKE DAMPER MANUFACTURER LISTING.
2. INSTALL ALL FIRE DAMPERS, FIRE/SMOKE DAMPERS AND SMOKE DAMPERS PER MANUFACTURERS INSTRUCTIONS

2 MCS FIRE DAMPER INSTALLATION DETAIL
SCALE: NONE

L&I STAMP AREA

CONSULTANT:
HUTEC ENGINEERING
HUTEC.ENG@GMAIL.COM
T 267 800 3540
304 MASTER ST, 1ST FLOOR
PHILADELPHIA, PA 19122

REVISIONS

NO.	DATE	REVISIONS/SUBMISSIONS
0.	7/15/2022	ISSUE FOR PRICING

SEAL:

PROJECT:

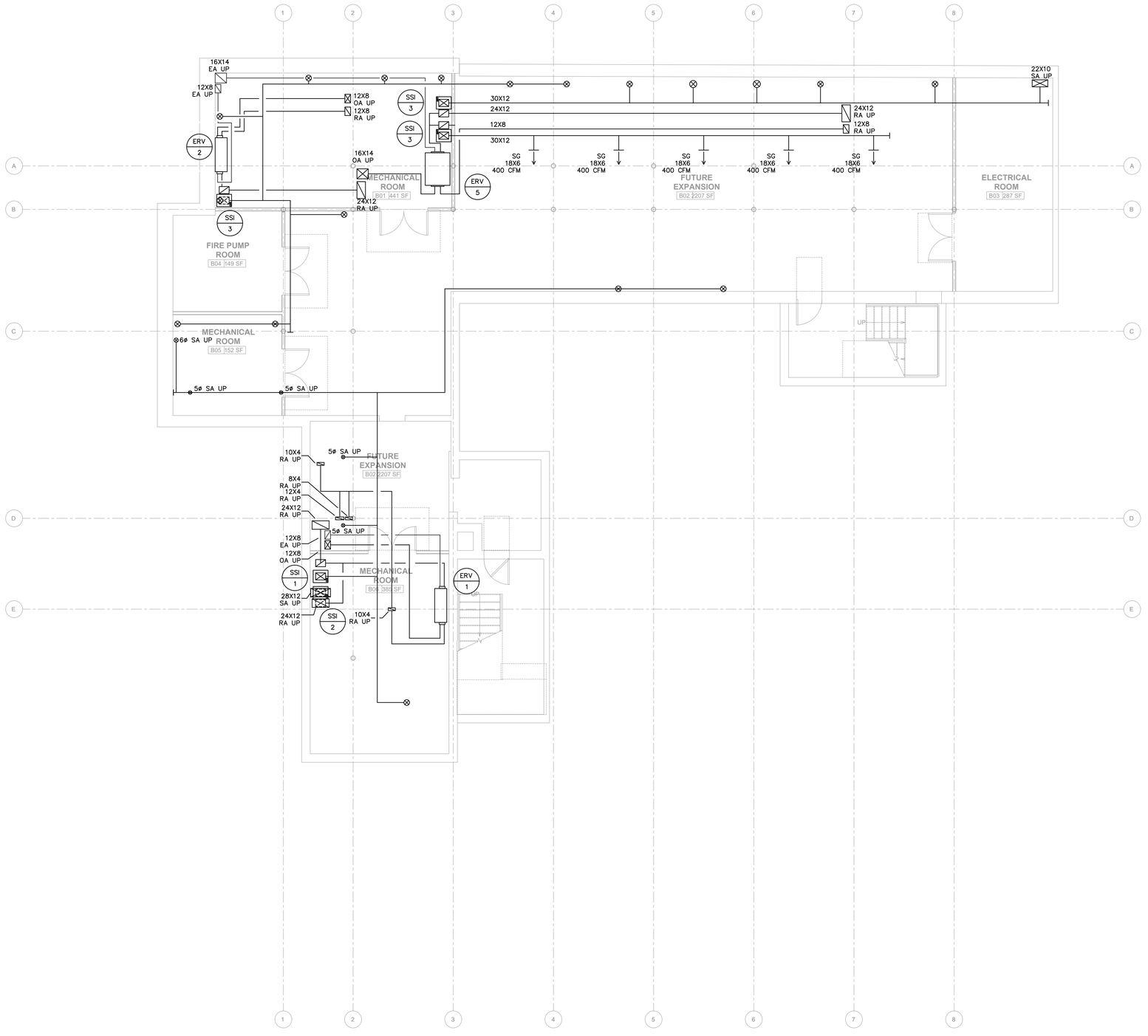
SCHOOL

171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:

MECHANICAL
COVER SHEET

MCS



L&I STAMP AREA

1 BASEMENT MECHANICAL PLAN
M100 SCALE:3/16"=1'-0"

CONSULTANT:
HUTEC ENGINEERING
HUTEC.ENG@GMAIL.COM
T 267 800 3540
304 MASTER ST, 1ST FLOOR
PHILADELPHIA, PA 19122

REVISIONS

NO.	DATE	REVISIONS/SUBMISSIONS
0.	7/15/2022	ISSUE FOR PRICING

CONTRACTOR IS RESPONSIBLE FOR CHECKING & VERIFYING ALL CONDITIONS PRIOR TO & DURING CONSTRUCTION. ANY INCONSISTENCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER FOR RESOLUTION OR VERIFICATION. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF ANY INCONSISTENCIES BETWEEN THESE PLANS AND ANY GOVERNING BUILDING CODES OR ORDINANCES. CONTRACTOR SHALL CHECK WITH THE ENGINEER (10) DAY PRIOR TO START OF CONSTRUCTION FOR ADDENDUMS OR BULLETINS.

SEAL:

PROJECT:

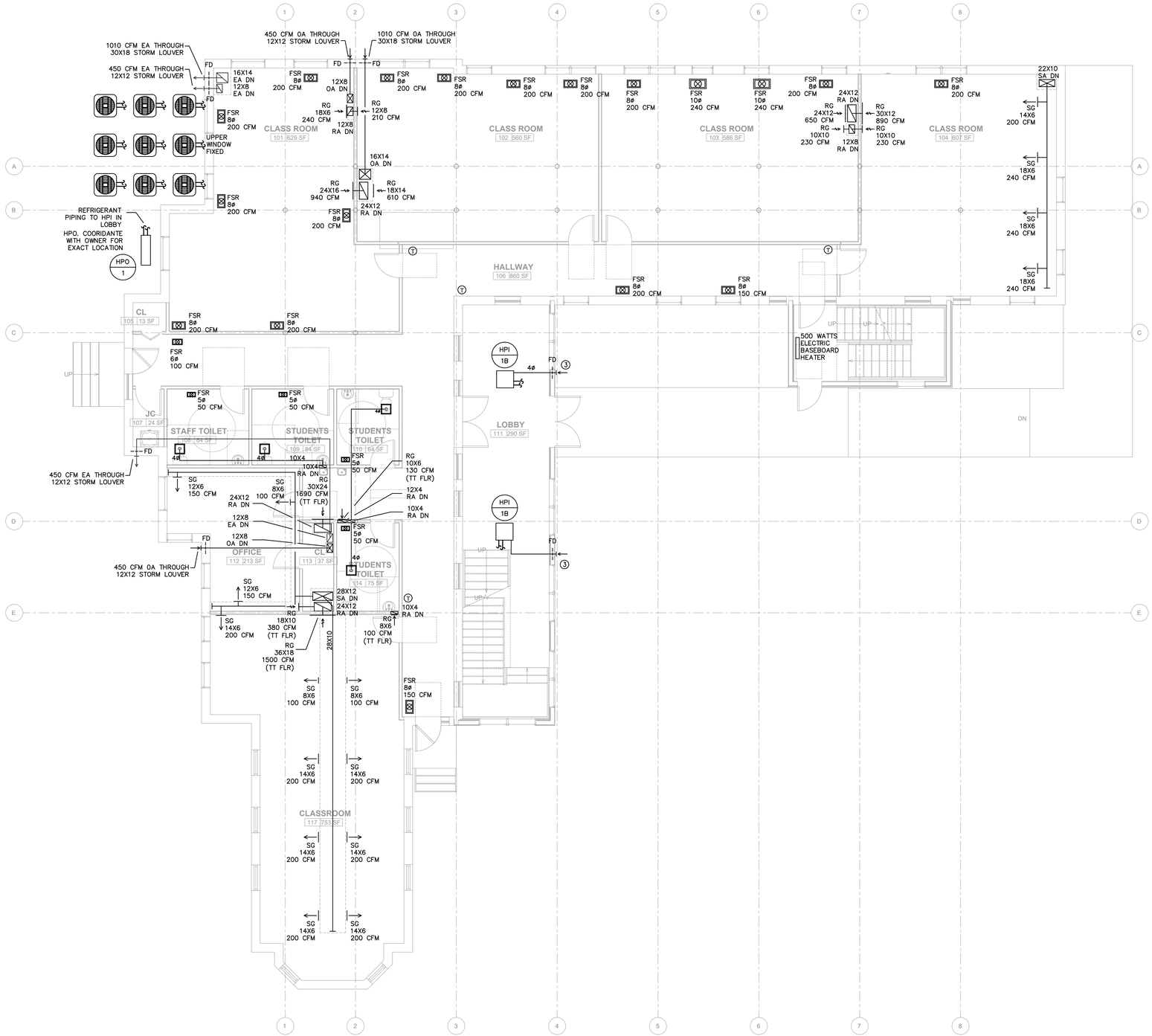
SCHOOL

171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:

MECHANICAL PLAN

M100



L&I STAMP AREA

1 M101 1ST FLOOR MECHANICAL PLAN
SCALE:3/16"=1'-0"

CONSULTANT:

HUTEC ENGINEERING

HUTEC.ENG@GMAIL.COM
T 267 800 3540

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PHILADELPHIA, PA 19122

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SEAL:

PROJECT:

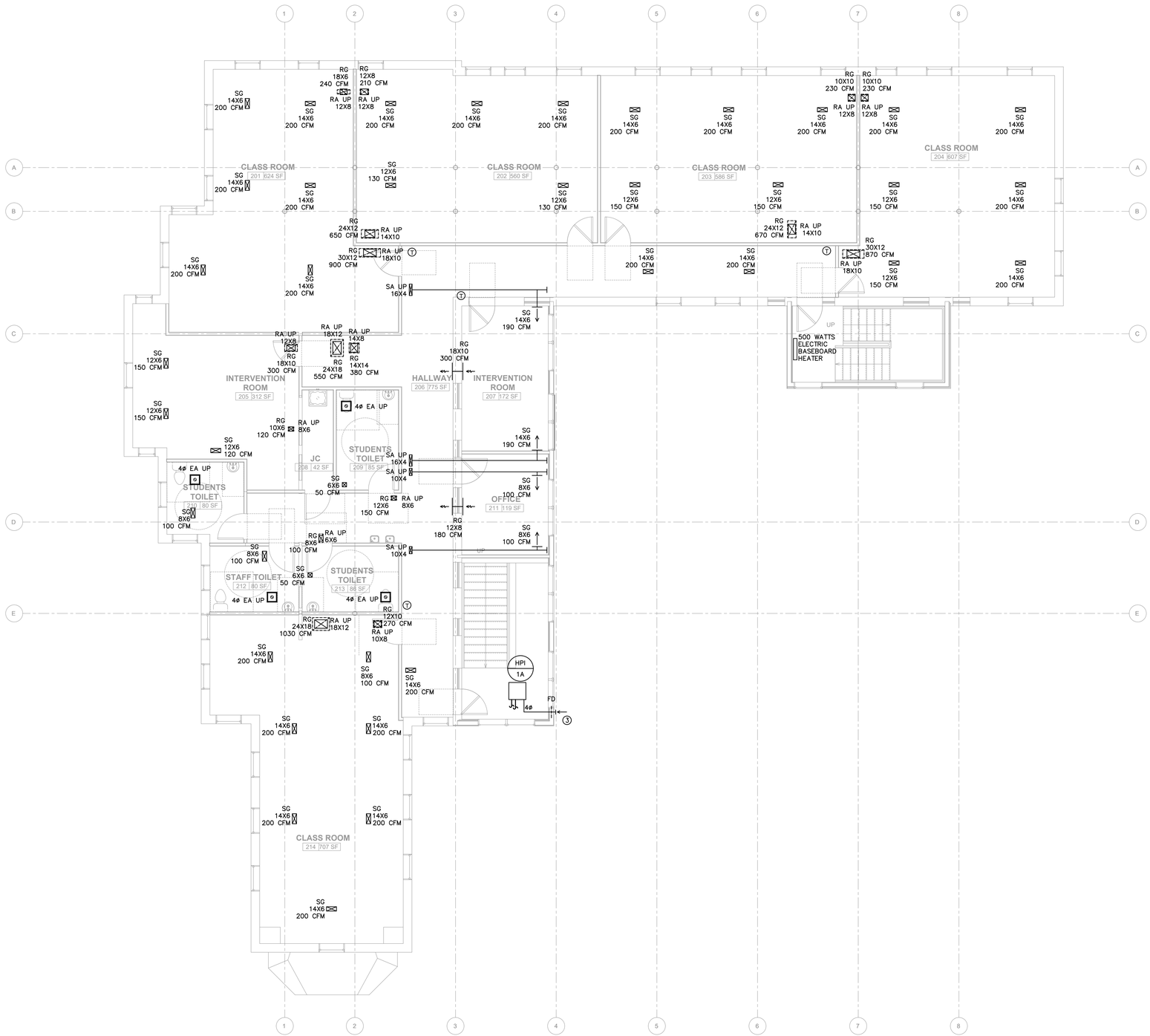
SCHOOL

171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:

MECHANICAL PLAN

M101



L&I STAMP AREA

1 M102 2ND FLOOR MECHANICAL PLAN
SCALE: 3/16"=1'-0"

CONSULTANT:

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PHILADELPHIA, PA 19122

REVISIONS

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SEAL:

PROJECT:

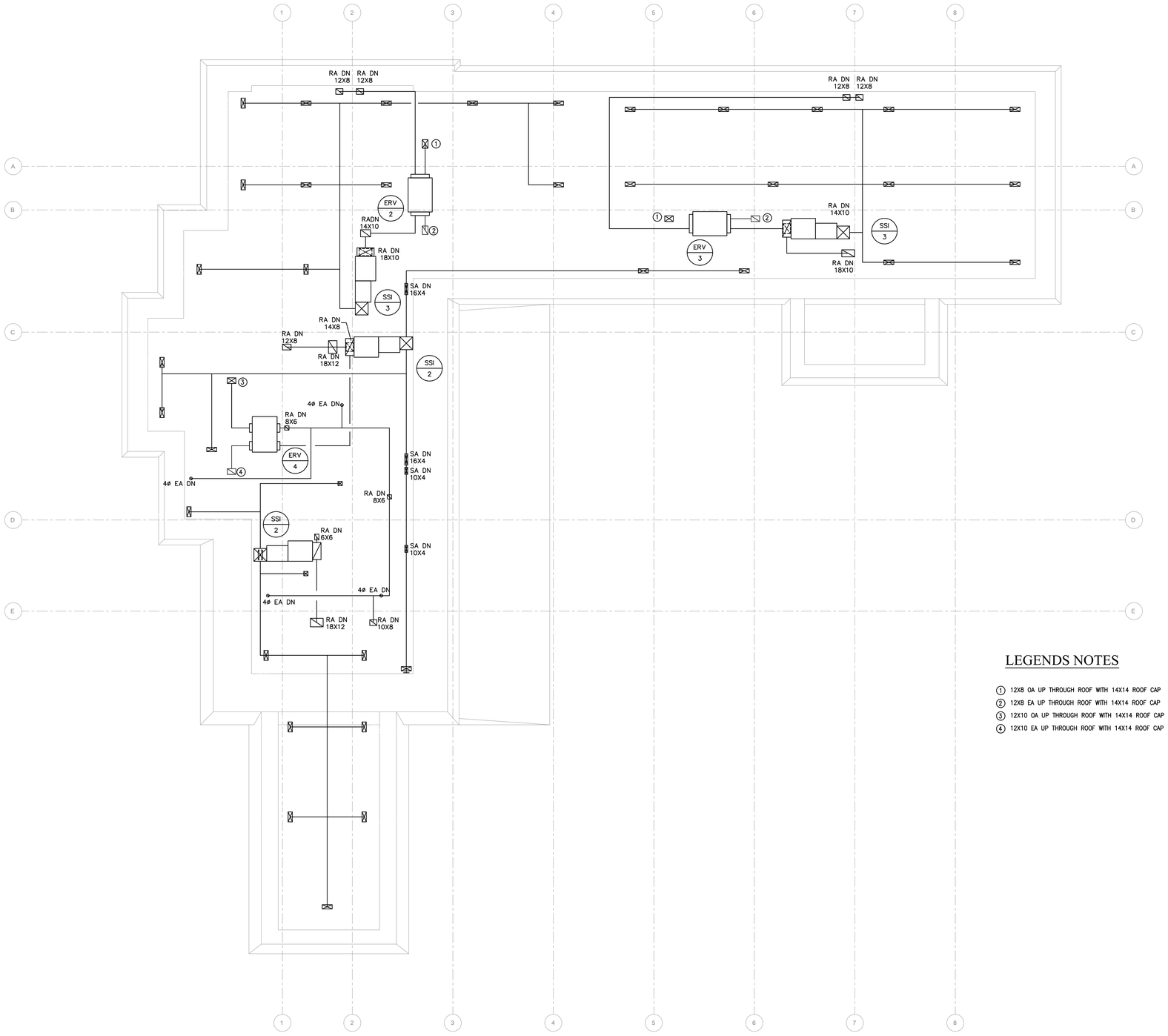
SCHOOL

171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:

MECHANICAL PLAN

M102



LEGENDS NOTES

1. 12X8 OA UP THROUGH ROOF WITH 14X14 ROOF CAP
2. 12X8 EA UP THROUGH ROOF WITH 14X14 ROOF CAP
3. 12X10 OA UP THROUGH ROOF WITH 14X14 ROOF CAP
4. 12X10 EA UP THROUGH ROOF WITH 14X14 ROOF CAP

L&I STAMP AREA

1 M103 ATTIC MECHANICAL PLAN
SCALE: 3/16"=1'-0"

CONSULTANT:
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304 MASTER ST, 1ST FLOOR
PHILADELPHIA, PA 19122

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SEAL:

PROJECT:

SCHOOL

171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:

MECHANICAL PLAN

M103

SPLIT SYSTEM UNIT SCHEDULE

SSI-INDOOR SECTION
SSO-OUTDOOR SECTION

No.	Indoor Section							Outdoor Section								Manufacturer & Model No.	Remark
	SA (CFM)	ESP ("WG)	Gas Heating		Electrical Data			Cooling Capacity			Electrical Data						
			MBH	AFLU (%)	MCA	Volts	Phase	Total BTUH	Sensible BTUH	SEER	Compressor RLA	MCA	MOP	Volts	Phase		
1	1000	0.5	60	96	7.8	115	1	30,000	21,789	16	12.8	17.0	25	208/230	1	GOODMAN GSX160301F (OUTDOOR) GOODMAN GMVC960603BNA (INDOOR)	1,2
2 (TYP. 3)	1600	0.5	100	96	14.4	115	1	48,000	34,182	16	17.9	23.7	40	208/230	1	GOODMAN GSX160481F (OUTDOOR) GOODMAN GMVM961005CNA (INDOOR)	1,2
3 (TYP. 5)	2000	0.5	120	96	14.4	115	1	60,000	40,500	16	21.4	29.6	50	208/230	1	GOODMAN GSX160601F (OUTDOOR) GOODMAN GMVM961205DNA (INDOOR)	1,2

REMARK 1: REFRIGERANT PIPING SHALL BE SIZED AS RECOMMENDED BY UNIT MANUFACTURER
2: PROVIDE WITH PROGRAMMABLE THERMOSTAT

ENERGY RECOVERY VENTILATOR SCHEDULE

ERV

No.	OA (CFM)	EA (CFM)	ESP ("WG)	Motor Quantity	HP	Electrical Data			Cooling		Heating		Filter	Manufacturer & Model No.
						FLA	Volts	Phase	Supply Temp	Recovery Efficiency	Supply Temp	Recovery Efficiency		
1	370	370	0.9	1	0.6	7.2	115	1	95°F	58%	32°F	69%	MERV 8, PLEATED	S&P TRC500V
2 (TYP. 2)	450	450	0.65	1	0.6	7.2	115	1	95°F	55%	32°F	65%	MERV 8, PLEATED	S&P TRC500V
3	460	460	0.65	1	0.6	7.2	115	1	95°F	55%	32°F	65%	MERV 8, PLEATED	S&P TRC500V
4	540	540		1	0.75	9.0	115	1	95°F		32°F		MERV 8, PLEATED	S&P TRC800V
5	1010	1010	1.0	2	1.0	6.5	120	1	95°F	53%	32°F	64%	(4) MERV 8, PLEATED	S&P TRC1200V

MINI-SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

HPI-INDOOR SECTION
HPO-OUTDOOR SECTION

System No.	Indoor Section							Outdoor Section									Remark
	Tag	SA (CFM)	OA (CFM)	Electrical Data			Manufacturer & Model No.	Heating	Cooling @ 95°F DB Ambient			Electrical Data				Manufacturer & Model No.	
				FLA	Volts	Phase		@ 17°F BTUH	@ 47°F BTUH	Rated BTUH	Input Watts	SEER	MCA	MOP	Volts	Phase	
1	A	330	–	0.24	208/230	1	MITSUBISHI SLZ-KF12NA	24,400	45,000	40,500	4,403	19.7	32.5	40	208/230	1	MITSUBISHI MXZ-5C42NA2 (MULTI-ZONE)	1,2
	B (TYP. 2)	400	–	0.32	208/230	1	MITSUBISHI SLZ-KF15NA											

FAN SCHEDULE

F

No.	CFM	Available SP " WG	Electrical Data			Accessories						Manufacturer & Model No.	Remarks
			HP	Volts	Phase	Damper	Dis Sw	Screen	Curb	Function	Control		
1 (TYP. 8)	50	.25	7.5 WATTS	120	1	BDD	YES	–	–	BATHROOM EXHAUST	TIMER	PANASONIC FV-0510VS1	1,2

REMARKS: 1. SET TIMER TO BE AT OPERABLE FOR MINIMUM 2 HOUR DURING EVERY 4-HOUR PERIOD.

MECHANICAL INSULATION SCHEDULE

System	Application	Temperature Range	Location	Insulation Type	Thickness/R-Value	Lined or Wrapped	Vapor Barrier	Finish
AIR DISTRIBUTION	SUPPLY AIR	50°F – 120°F	INDOOR UNCONDITIONED SPACE	FIBERGLASS	1-1/2"/ R=6	WRAPPED	NO	FOIL
AIR DISTRIBUTION	RETURN	60°F – 90°F	INDOOR UNCONDITIONED SPACE	FIBERGLASS	1-1/2"/ R=6	WRAPPED	NO	FOIL
SPLIT SYSTEM	REFRIGERANT LIQUID <1.5"	BELOW AMBIENT	INDOOR/OUTDOOR	CLOSED CELL ELASTOMERIC	1"	–	YES	PAINT OUTDOOR WHITE
SPLIT SYSTEM	REFRIGERANT SUCTION <1.5"	ABOVE AMBIENT	INDOOR/OUTDOOR	CLOSED CELL ELASTOMERIC	1"	–	YES	PAINT OUTDOOR WHITE

NOTES: 1. EXCLUDES FACTORY INSULATED EQUIPMENT.

AIR DEVICE SCHEDULE

AD/Type/Pattern

TAG NO.	Fuction	Damper	Description	Finish	Manufacturer & Model No.	REMARKS
SG	SUPPLY	VD	WALL SUPPLY DIFFUSER	PER ARCHITECT	KRUEGER 800 SERIES	–
FSR	SUPPLY	VD	FLOOR SUPPLY GRILLE	PER ARCHITECT	KRUEGER 1800	–
RG	RETURN	–	RETURN GRILLE	PER ARCHITECT	KRUEGER AFCS80	–

VENTILATION SCHEDULE

Space		Area (S.F.)	Occupant Load	Ventilation Basis	Required OA CFM
BASEMENT	EXPANSION	1480	37	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	550
1ST FLOOR	LOBBY	490	20	5 OA CFM/PERSON + 0.06 OA CFM/S.F.	130
	CORRIDOR	860	–	0.06 OA CFM / S.F.	60
	CLASS 101	630	16	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	240
	CLASS 102	560	14	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	210
	CLASS 103	586	15	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	230
	CLASS 104	606	15	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	230
	CLASS 117	753	19	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	290
	OFFICE 112	213	1	5 OA CFM/PERSON + 0.06 OA CFM/S.F.	20
2ND FLOOR	CORRIDOR	775	–	0.06 OA CFM / S.F.	50
	STAIRWAY	184	–	0.06 OA CFM / S.F.	20
	CLASS 201	630	16	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	240
	CLASS 202	560	14	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	210
	CLASS 203	586	15	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	230
	CLASS 204	606	15	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	230
	CLASS 214	707	18	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	270
	INTERVENTION 205	312	8	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	120
	INTERVENTION 207	172	5	10 OA CFM/PERSON + 0.12 OA CFM/S.F.	80
	OFFICE 211	119	1	5 OA CFM/PERSON + 0.06 OA CFM/S.F.	20

1. BASED ON IMC 2018.

L&I STAMP AREA

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REVISIONS

NO.	DATE	REVISIONS/SUBMISSIONS
0.	7/15/2022	ISSUE FOR PRICING

SEAL:

PROJECT:
SCHOOL
171 Penn Blvd
East Lansdowne, PA

DRAWING TITLE:
MECHANICAL EQUIPMENT SCHEDULES

M200