GENERAL SYMBOLS

BOLD LINES AND TEXT INDICATE PROPOSED WORK

CONTROL SYSTEMS

HOA — HAND/OFF/AUTO SWITCH

HVAC — HVAC CONTROL PANEL

TH — THERMOSTAT (LOCAL SENSOR/NON DDC)

S — ON/OFF SWITCH

CO — CARBON MONOXIDE DETECTION SYSTEM

PIPING SYSTEMS

RL — REFRIGERANT LIQUID

RG — REFRIGERANT GAS

C — COOLING COIL CONDENSATE

VD — VOLUME DAMPER

M — MOTORIZED CONTROL DAMPER

BDD — BACK DRAFT DAMPER

SUPPLY AIRFLOW

EXHAUST AIRFLOW

U — UNDERCUT DOOR

VIBRATION ISOLATOR

SUPPLY DUCT DN

SUPPLY DUCT UP

RETURN DUCT DN

RETURN DUCT UP

EXHAUST DUCT DN

EXHAUST DUCT UP

RETURN REGISTER

SUPPLY DIFFUSER

SUPPLY/EXHAUST GRILLE

WALL MOUNTED CENTRIFUGAL EXHAUST FAN

ROOF MOUNTED CENTRIFUGAL EXHAUST FAN

INLINE FAN

AIR SYSTEMS

RECTANGULAR TO ROUND TRANSITION

OxO — RECTANGULAR DUCT SIZE, FIRST FIGURE IS SIDE SHOWN

O/O — FLAT OVAL SPIRAL DUCT SIZE, FIRST FIGURE IS SIDE SHOWN

O∅ — ROUND SPIRAL DUCT SIZE, FIRST FIGURE IS SIDE SHOWN

R — CHANGE IN DUCT ELEVATION
R=RISE, D=DROP

STANDARD RECTANGULAR BRANCH
CONNECTION W/45° ENTRY COLLAR

STANDARD ROUND
BRANCH CONNECTION

A-CFM
NECK SIZE — DIFFUSER/GRILLE TAG

SUPPLY OUTLET

RETURN OR EXHAUST INLET

TURNING VANES

ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACD	AUTOMATIC CONTROL DAMPER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AMPS	AMPERES
ATCP	AUTOMATIC TEMPERATURE CONTROL PANEL
BDD	BACK DRAFT DAMPER
BOD	BOTTOM OF DUCT
BTU/HR	BRITISH THERMAL UNIT PER HOUR
C	CONDENSATE
CFM	CUBIC FEET PER MINUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE
COMB	COMBUSTION
COP	COEFFICIENT OF PERFORMANCE
CU	CONDENSING UNIT
CUH	HYDRONIC CABINET UNIT HEATER
D	DEPTH
DB	DRY BULB OR DECIBEL
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECUH	ELECTRIC CABINET UNIT HEATER
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ERV	ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
°F	DEGREES FAHRENHEIT
FA	FREE AREA
FD	FIRE DAMPER
FLA	FULL LOAD AMPERES
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
GC	GENERAL CONTRACTOR
GFH	GAS-FIRED UNIT HEATER
H	HUMIDIFIER OR HEIGHT
HI	HIGH
HP	HEAT PUMP OR HORSE POWER
HRU	HEAT RECOVERY UNIT
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
HZ	HERTZ
ID	INSIDE DIAMETER
IH	INFRARED HEATER
IMP	IMPELLER
IN	INCH
IPLV	INTEGRATED PART LOAD VALUE
K	KILO (X1000)
KW	KILOWATT
L	LOUVER OR LENGTH
LB	POUNDS
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
M	MOTORIZED
MAX	MAXIMUM
MBH	THOUSAND BTU/HR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MTR	MOTOR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NOM	NOMINAL
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
PD	PRESSURE DROP
PH	PENTHOUSE OR PHASE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE IN GAUGE
QTY	QUANTITY
RA	RETURN AIR
RG	REFRIGERANT GAS
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SPD	STATIC PRESSURE DROP
SQFT	SQUARE FEET
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
TAG-ID	EQUIPMENT IDENTIFICATION TAG
TOD	TOP OF DUCT
TR	TONS OF REFRIGERANTION
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UD	UNDERCUT DOOR
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
W	WIDTH OR WATTS
WB	WET BULB
WC	WATER COLUMN

MEP COORDINATION NOTES

1. SPARE 120 VOLT POWER CIRCUIT BREAKER(S) PROVIDED BY DIVISION 26 TO BE USED FOR HVAC CONTROLS. 120 VOLT POWER WIRING TO HVAC CONTROLS PROVIDED BY DIVISION 23. COORDINATE WITH DIVISION 26 CONTRACTOR FOR CIRCUIT BREAKER REQUIREMENTS AND LOCATIONS.
2. WIRING AND CONDUIT FOR HVAC CONTROLS SHALL CONFORM TO DIVISION 26 REQUIREMENTS.
3. AREA CLASSIFICATION - REFER TO HVAC AND ELECTRICAL FLOOR PLANS AND DRAWINGS FOR IDENTIFICATION OF AREA CLASSIFICATIONS (I.E. WET, DAMP, CLASSIFIED, ETC.). HVAC CONTROL DEVICES LOCATED IN THESE AREAS SHALL CONFORM TO DIVISION 26 REQUIREMENTS.

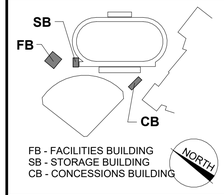
GENERAL NOTES

1. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE ALL REQUIRED MATERIALS, LABOR, EQUIPMENT, AND SERVICES NECESSARY FOR THE INSTALLATION OF THE WORK AS SHOWN ON THESE DRAWINGS OR AS INDICATED IN THE PROJECT SPECIFICATIONS.
3. ALL MATERIALS, METHODS AND EQUIPMENT INSTALLED MUST BE IN COMPLIANCE WITH PROJECT SPECIFICATIONS AND APPLICABLE CODES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT.
5. COORDINATE LOCATIONS OF EQUIPMENT AND SYSTEMS WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATIONS REQUIRED THAT RESULT FROM A LACK OF COORDINATION SHALL BE PERFORMED AT NO ADDITIONAL COST.
6. HVAC DRAWINGS DO NOT SHOW ALL CONDITIONS AND SYSTEMS OF THE BUILDING. CONTRACTOR SHALL USE ALL DRAWINGS AND SPECIFICATIONS OF CONTRACT DOCUMENTS FOR COORDINATION AND SHALL VERIFY FIELD CONDITIONS.
7. COORDINATE NEW DUCTWORK AND PIPING WITH STRUCTURAL STEEL, LIGHTING, AND OTHER UTILITIES. INSTALL ALL REQUIRED OFFSETS AND TRANSITIONS TO PREVENT INTERFERENCE WITH FIELD CONDITIONS. OBTAIN APPROVAL FROM ENGINEER PRIOR TO MAJOR RELOCATIONS OR INSTALLATION SIGNIFICANT OFFSETS (MORE THAN 6 IN A SINGLE PIPING SYSTEM).
8. COORDINATE NEW DUCTWORK AND PIPING WITH STRUCTURAL STEEL, LIGHTING, AND OTHER UTILITIES. INSTALL ALL REQUIRED OFFSETS AND TRANSITIONS TO PREVENT INTERFERENCE WITH FIELD CONDITIONS. OBTAIN APPROVAL FROM ENGINEER PRIOR TO MAJOR RELOCATIONS OR INSTALLATION SIGNIFICANT OFFSETS (MORE THAN 6 IN A SINGLE PIPING SYSTEM).
9. COORDINATE ALL REQUIRED OPENINGS THROUGH WALLS, FLOORS, AND ROOFS WITH GENERAL CONTRACTOR AND OTHER TRADES.
10. INSTALL DUCTWORK AND PIPING AS CLOSE TO THE UNDERSIDE OF DECK AS POSSIBLE UNLESS NOTED OTHERWISE.
11. INSTALL HYDRONIC AND REFRIGERANT PIPING PASSING THROUGH WALLS AND FLOORS IN A SLEEVE. SEAL PENETRATION WITH NON-SHRINK GROUT AND INSULATE PIPE WITHIN SLEEVE. PROVIDE WALL ESCUTCHEONS FOR EXPOSED PIPING PASSING THROUGH WALLS.
12. PROVIDE BALANCE DAMPERS IN ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS AND DUCT MAINS TO PROPERLY BALANCE THE AIR SYSTEM, EXCLUDING GREASE DUCT SYSTEMS OR OTHER DUCT SYSTEMS NOTED IN DETAILS OR SPECIFICATIONS.
13. DO NOT PENETRATE STAIR WALLS WITH ANY UTILITIES OR CONDUIT EXCEPT FOR UTILITIES SPECIFICALLY SERVING THAT STAIR.
14. INSTALL EQUIPMENT AND SUPPORTS IN ACCORDANCE WITH ALL RELEVANT BUILDING CODES. ALL EQUIPMENT SHALL BE SUPPORTED FROM STRUCTURAL MEMBERS. SUPPORT FROM DECKING WILL NOT BE ACCEPTED.
15. PROVIDE FLEXIBLE JOINTS ON ALL PIPING AND DUCTWORK WHERE PENETRATING BUILDING EXPANSION JOINTS.
16. PROVIDE FLEXIBLE CONNECTION BETWEEN MECHANICAL EQUIPMENT AND DUCTWORK OR PIPING SYSTEMS.
17. COORDINATE EXACT DIFFUSER/REGISTER/GRILLE PLACEMENT WITH LIGHTING, SPRINKLERS OR OTHER EQUIPMENT MOUNTED IN OR ABOVE CEILING.
18. DUCT SIZES SHOWN INDICATE CLEAR INSIDE DIMENSIONS OF DUCTWORK.
19. BRANCH DUCTS SERVING THE INLET OF VAV BOXES SHALL BE THE SAME SIZE AS THE VAV BOX INLET SIZE, UNLESS NOTED OTHERWISE.
20. COOLING COIL CONDENSATE BRANCH PIPING TO COOLING DEVICES SHALL BE 3/4" UNLESS NOTED OTHERWISE.
21. ALL DUCTS PASSING THROUGH SMOKE AND/OR FIRE RATED BARRIERS SHALL BE PROVIDED WITH FIRE, SMOKE, OR COMBINATION FIRE/SMOKE DAMPERS AS PER THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF RATED BARRIERS.
22. INSTALL ACCESS DOORS IN DUCTWORK AT ALL COILS, MOTORIZED DAMPERS, FIRE DAMPERS, SENSORS, AND CONTROL DEVICES.
23. THERMOSTATS AND SWITCHES ARE SHOWN IN GENERAL LOCATIONS. COORDINATE EXACT LOCATION WITH FIELD CONDITIONS.
24. VERIFY EQUIPMENT PIPING CONNECTIONS WITH MANUFACTURER. LOCATE BRANCH PIPING TO ACCOMMODATE PIPING CONNECTION LOCATION.
25. INSTALL ALL EXPOSED CONTROL WIRING IN CONDUIT AND IN ACCORDANCE WITH DIVISION 26 REQUIREMENTS.
26. CORE THROUGH FULL HEIGHT WALLS AS REQUIRED TO INSTALL DUCTWORK, PIPING, OR CONTROL WIRING.
27. CONDUCT A SURVEY WITH A GROUND PENETRATING RADAR (GPR) OR BY SIMILAR MEANS TO IDENTIFY THE LOCATION OF STEEL REINFORCING BARS WHEN CORING A HOLE THROUGH EXISTING CONCRETE SLABS OR WALLS. THE NEW CORE SHALL BE LOCATED TO AVOID CUTTING REINFORCING BARS. WHERE REINFORCING STEEL IS CLOSE ENOUGH TOGETHER THAT IT IS NOT POSSIBLE TO CORE THE REQUIRED HOLE WITHOUT CUTTING THE REINFORCING BARS, CONTACT THE ENGINEER FOR FURTHER DIRECTION BEFORE CUTTING A HOLE. THE SLAB WILL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR WHEN REINFORCING BARS CUT WITHOUT THE CONSENT OF THE ENGINEER.
28. FIRE SEAL ALL WALL AND FLOOR DUCT PENETRATIONS CONTAINING DUCTS WITH FIRE DAMPERS, SMOKE DAMPERS, OR COMBINATION FIRE/SMOKE DAMPERS. FIRE SEAL ALL PENETRATIONS THROUGH FIRE WALLS AND PARTITIONS.

Tighe&Bond

STATE OF NEW HAMPSHIRE — JASON CURTIS — No. 18910 — ENGINEER

12/19/2025



FB - FACILITIES BUILDING
SB - STORAGE BUILDING
CB - CONCESSIONS BUILDING

Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

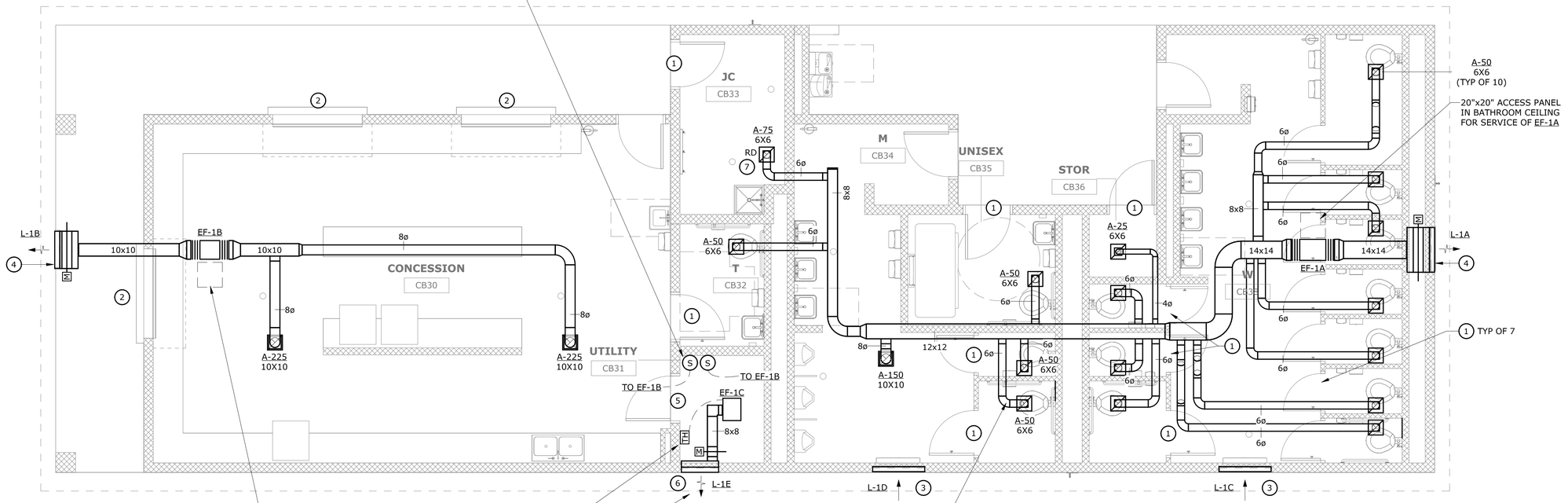
PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-001
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC LEGEND AND GENERAL NOTES

SCALE: NO SCALE

H-001

Last Saved:12/10/2025 2:41:10 By:C.WILK
Plotted On: 12/10/2025 2:41:10
Tighe & Bond Autodesk Docs://D5085-001 Dover High School /D5085-001_24-228 Dover HS Athletics Buildings_MEP R25.rvt



KEY NOTES:

1. 3/4" UNCERCUT DOOR. REFER TO ARCHITECTURAL DOOR SCHEDULE FOR DETAILS.
2. TICKET WINDOW TO BE UTILIZED AS PASSIVE AIR INTAKES TO EF-2B DURING OPERATING HOURS. MC TO COORDINATE WITH OWNER DURING STARTUP TO ADVISE AGAINST OPERATION OF EF-2B WHILE ALL TICKET WINDOWS ARE CLOSED.
3. MOUNT BOTTOM OF LOUVERS 7'-0" AFF. COORDINATE WITH GC AND ARCHITECT FOR ROUGH OPENING SIZE. MAINTAIN 10'-0" FROM EXHAUST OUTLETS.
4. MOUNT BOTTOM OF LOUVERS 12'-0" AFF. ON GABLE END.
5. LOUVERED DOOR. MIN. 1.0 SF FREE AREA. REFER TO ARCHITECTURAL DOOR SCHEDULE FOR DETAILS.
6. MOUNT BOTTOM OF LOUVER 7'-6" AFF.
7. PROVIDE CEILING RADIATION DAMPER BY GREENHECK CRD-1 OR EQUIVALENT FOR PENETRATION OF FIRE RATED MEBRANE. COORDINATE WITH FINISHED CEILING ASSEMBLY AND GC

GENERAL NOTES:

1. CONCESSION BUILDING TO BE A SEASONAL-USE, UNINSULATED, UNHEATED BUILDING WITH FACILITY STAFF SCHEDULED DRAIN-DOWN OF PLUMBING SYSTEMS IN THE WINTER. REFER TO DIVISION 22 AND DIVISION 26 FOR HEAT TRACE AND OTHER SYSTEM PARAMETERS FOR FREEZE PROTECTION OF PIPING.

SCALE: 1/4"=1'-0"

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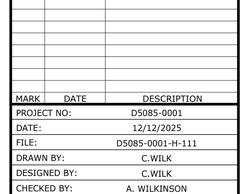
JASON CURTIS No. 18910 — STATE OF NEW HAMPSHIRE — LICENSED PROFESSIONAL ENGINEER
12/19/2025



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Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-111
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC CONCESSIONS BUILDING FLOOR PLAN

SCALE: AS SHOWN

H-111

Last Saved:12/10/2025 2:41:20 By:C.WILK
Plotted On: 12/10/2025 2:41:20
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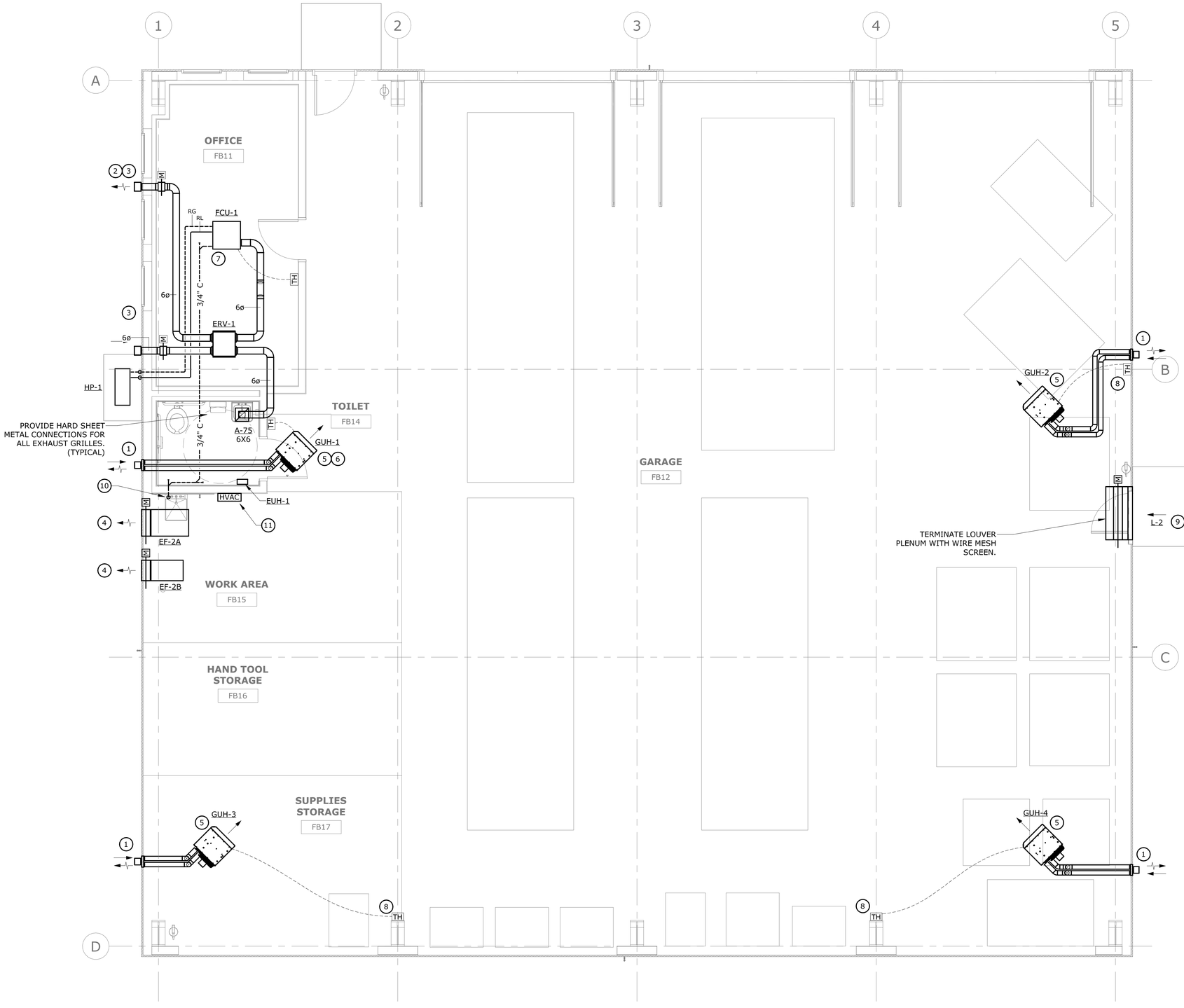


KEY NOTES:

1. PROVIDER CONCENTRIC VENT TERMINATION KIT. MAINTAIN COMBUSTION AIR AND VENT PIPE LENGTHS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. MAINTAIN MIN. 10'-0" CLEARANCE FROM MECHANICAL AIR INTAKES.
2. MAINTAIN 3'-0" CLEARANCE FROM OPERABLE FENESTRATIONS AND 10-0" CLEARANCE FROM MECHANICAL OUTSIDE AIR INTAKES FOR EXHAUST TERMINATIONS THROUGH EXTERIOR.
3. TERMINATE OUTSIDE AIR AND EXHAUST AIR DUCTS AT WALL HOOD WITH INTEGRAL BIRD SCREEN.
4. MOUNT EXHAUST FANS HIGH IN GABLE END. BOTTOM OF FAN APPROXIMATELY 20'-0" AFF.
5. MOUNT GAS FIRED UNIT HEATER 13'-0" AFF.
6. GAS FIRED UNIT HEATER (UH-1) MOUNTED ABOVE OFFICE AND RESTROOM SPACE EXPOSED TO GARAGE. MAINTAIN UNIT HEATER CLEARANCE REQUIREMENTS WITH RESPECT TO NEARBY HVAC SYSTEM INSTALLATIONS.
7. COORDINATE WITH GC FOR AND ARCHITECTURAL RCP FOR INSTALLATION OF CASSETTE FAN COIL UNIT WITHIN OFFICE CEILING ASSEMBLY.
8. MC TO MOUNT THERMOSTAT ON EXPOSED STEEL COLUMN OR UNISTRUT POST, WITH MOUNTING ON RIGID BACKING PLATE. COORDINATE WITH EC TO PROVIDE SURFACE MOUNTED CONDUIT FOR LOW VOLTAGE CONTROL WIRING. THERMOSTATS SHALL NOT BE MOUNTED ON OR RECESSED IN PEMB EXTERIOR WALL INSULATION.
9. MOUNT BOTTOM OF LOUVERS 20'-0" AFF. COORDINATE WITH GC FOR PEMB ROUGH OPENING SIZE.
10. TERMINATE CONDENSATE PIPING FOR INDIRECT DISCHARGE TO SERVICE SINK DRAIN. COORDINATE WITH PC.
11. HOA SWITCH FOR EF-2A. AUTOMATIC CONTROL OF EF-2A SHALL BE THROUGH DRY CONTACT SIGNAL FROM CO / NO2 GAS DETECTION SYSTEM PROVIDED BY ELECTRICAL CONTRACTOR. COORDINATE FINAL LOCATION IN FIELD.

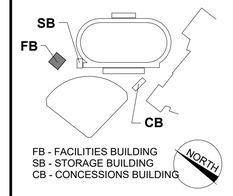
MECHANICAL PIPING NOTES:

1. ALL EXTERIOR REFRIGERANT PIPING SHALL BE CONCEALED IN PROTECTIVE LINESET ENCLOSURE SYSTEM. REFRIGERANT PIPING SHALL BE CONCEALED WITHIN PVC UV PROTECTIVE JACKETING.
2. CONTRACTOR SHALL CONFIRM ALL REFRIGERANT PIPE SIZING AND LINESET ROUTING LENGTH REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
3. ALL HVAC CONDENSATE DRAIN PIPING SHALL BE TYPE L COPPER.
4. ALL CONDENSATE PIPING SHALL PITCH IN THE DIRECTION OF FLOW IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
5. ALL CONDENSATE PIPING SHALL BE 3/4" UNLESS NOTED OTHERWISE.
6. ALL CONDENSATE PIPING SHALL BE INSULATED WITH 1/2" INSULATION WITH ALL SERVICE JACKET AND VAPOR BARRIER.
7. ALL REFRIGERANT AND CONDENSATE PIPING JOINTS, VALVES, AND FITTINGS SHALL BE CONTINUOUSLY INSULATED WITH A VAPOR BARRIER. SEE HVAC PIPING INSULATION SCHEDULE FOR DETAILS.

SCALE: 1/4"=1'-0"
SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – JASON CURTIS No. 18910 LICENSED PROFESSIONAL ENGINEER
12/19/2025



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Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-121
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC FACILITIES BUILDING FLOOR PLAN

SCALE: AS SHOWN

H-121

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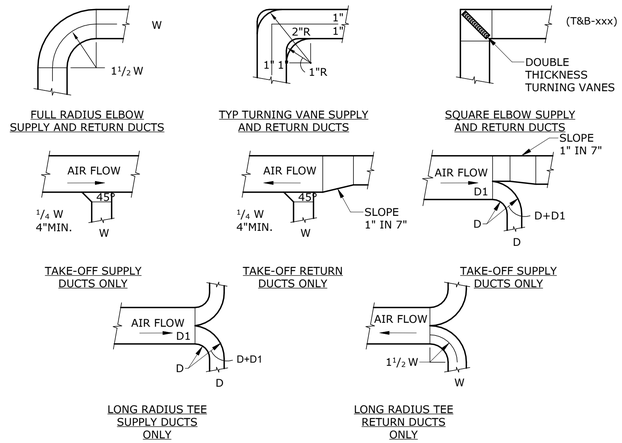
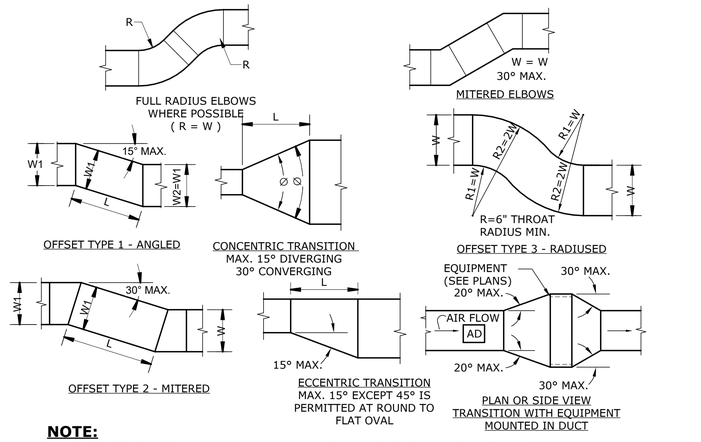
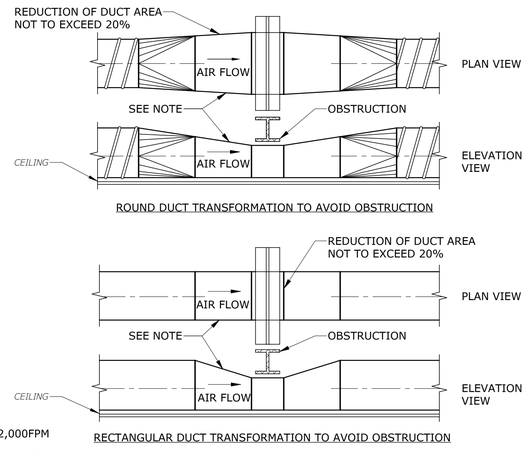


DUCT
NO SCALE



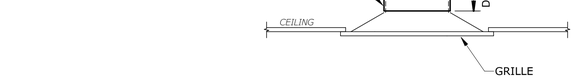
NOTE:
- UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

OFFSETS AND TRANSITION
NO SCALE



NOTES:
1. 1:7 SLOPE FOR >2,000FPM
2. 1:4 SLOPE FOR <2,000FPM

DUCT OBSTRUCTION TRANSFORMATION
NO SCALE



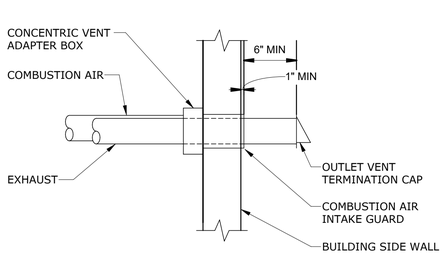
ROUND CONNECTION TO CEILING GRILLE
NO SCALE

NOTES:
1. PROVIDE DUCT SLEEVE IN WALL CAVITY FROM LOUVER TO INTERIOR WALL.
2. INSTALL DAMPER WITHIN WALL CAVITY. MOUNT ACTUATOR ON WALL NEXT TO DAMPER. PROVIDE LINKAGES, BEARING BRACKETS, CRANK ARM AND OTHER PARTS AS REQUIRED. LOCATE ACTUATOR TO AVOID OBSTRUCTING PERSONNEL OR EQUIPMENT.
3. DAMPER INSTALLATION OUTSIDE OF WALL CAVITY IS NOT PERMITTED.
4. NOTIFY NGINEER IF THERE IS INADEQUATE SPACE WITHIN THE WALL CAVITY FOR THE LOUVER AND DAMPER.

LOUVER
NO SCALE

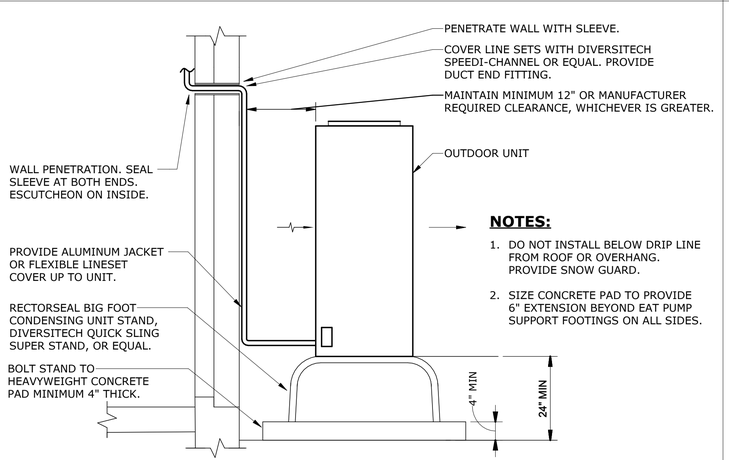
NOTES:
1. PROVIDE VOLUME DAMPERS IN ALL MAIN SUPPLY, RETURN, AND EXHAUST BRANCH DUCTS AND DIFFUSER/REGISTER/GRILLE GRANCH DUCTS AS SHOWN ABOVE.
2. PROVIDE ADDITIONAL VOLUME DAMPERS AS SHOWN ON CONTRACT DOCUMENTS AND AS REQUIRED TO PROPERLY BALANCE THE SYSTEM.

VOLUME DAMPER LOCATION
NO SCALE



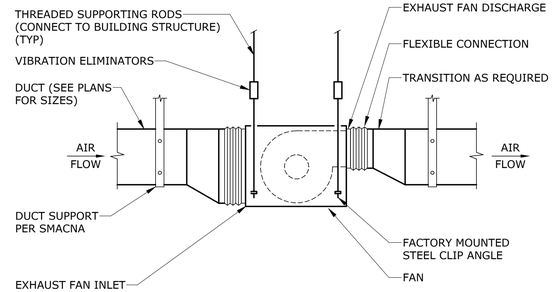
NOTES:
1. FLUE AND COMBUSTION AIR SIZES WITH UNIT MANUFACTURER.
2. SEAL COMBUSTION AIR AND VENT PIPE TO ADAPTER BOX WITH SILICONE SEALANT.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

HORIZONTAL CONCENTRIC VENT KIT
NO SCALE



NOTES:
1. DO NOT INSTALL BELOW DRIP LINE FROM ROOF OR OVERHANG. PROVIDE SNOW GUARD.
2. SIZE CONCRETE PAD TO PROVIDE 6" EXTENSION BEYOND EAT PUMP SUPPORT FOOTINGS ON ALL SIDES.

PAD-MOUNTED OUTDOOR UNIT
NO SCALE

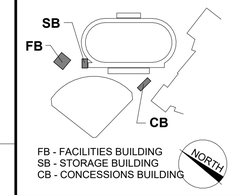


NOTES:
1. DETAIL APPLIES TO INLINE CABINET OR TUBULAR FANS.

INLINE EXHAUST FAN
NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE
JASON CURTIS
No. 18910
LICENSED PROFESSIONAL ENGINEER
12/19/2025



Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-501
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC DETAILS - 1

SCALE: NO SCALE

H-501

Last Saved:12/10/2025 2:41:39 By:C.WILK
Plotted On: 12/10/2025 2:41:39
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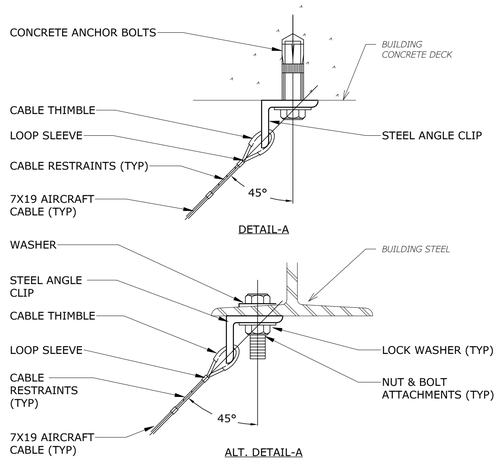
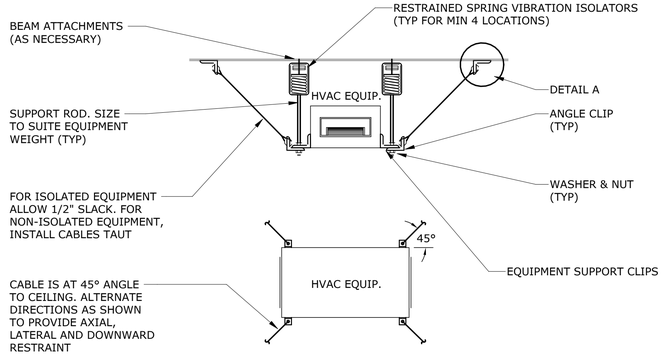


TYPICAL "DETAIL-A" RESTRAINT

NO SCALE

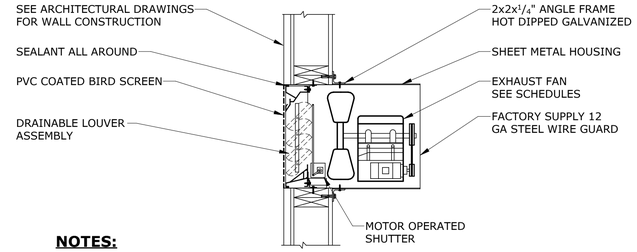


NOTES:

1. CONTRACTOR SHALL PROVIDE SUPPLEMENTARY STEEL ANGLE(S) OR CHANNEL SUPPORT(S) WELDED TO BEAM FLANGE AS NECESSARY.
2. ALL CONNECTED DUCTWORK AND PIPING SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE.

TYPICAL HVAC EQUIPMENT SUSPENSION DETAIL

NO SCALE

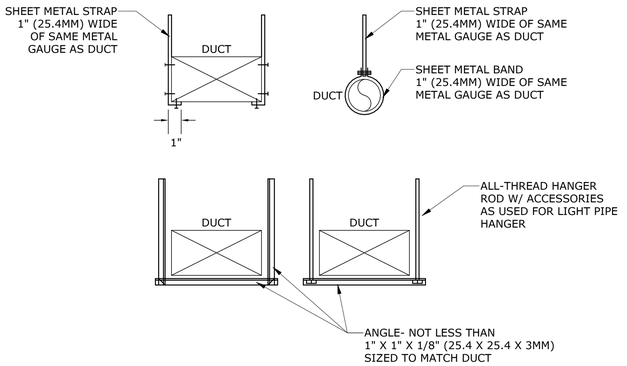


NOTES:

1. PROVIDE REMOVABLE ACCESS PANEL IN BOTTOM OR SIDE OF EXTENDED MOUNTING FLANGE, LOCATION DETERMINED BT THE ENGINEER, FOR SHUTTER MOTOR AND FAN MOTOR ACCESS.
2. PROVIDE ALL MATERIALS, SUPPORTS, HANGERS, ETC. NECESSARY TO MOUNT FANS PER THE MANUFACTURER'S INSTRUCTIONS.
3. INSTALL JUNCTION BOX ON WALL NEAR FAN. RUN FAN AND SHUTTER WIRING IN RIGID STEEL CONDUIT TO THE JUNCTION BOX AND IN LIQUID-TIGHT FLEXIBLE METAL CONDUITS TO THE SHUTTER OPERATOR AND TO THE FAN MOTOR. PROVIDE RUBBER GROMMETS WHERE THE CONDUITS PASS THROUGH THE MOUNTING FLANGE.
4. PROVIDE SPACING BETWEEN EXHAUST FAN AND SHUTTER IN ACCORDANCE WITH FAN MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE DUCT SLEEVE IN WALL CAVITY FROM LOUVER TO INTERIOR WALL.

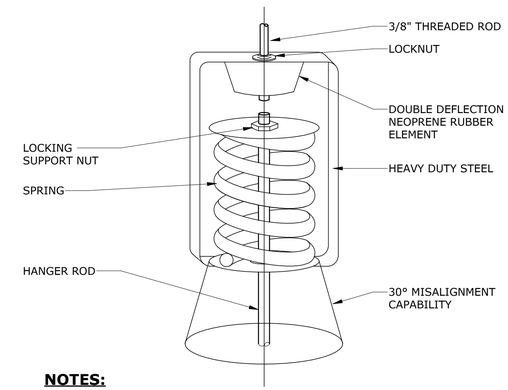
PROPELLER WALL EXHAUST FAN

NO SCALE



TYPICAL SHEET METAL DUCT HANGERS DETAIL

NO SCALE

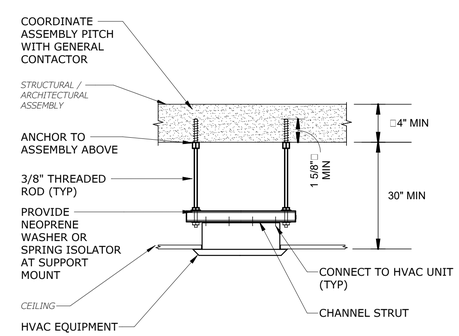


NOTES:

1. ALL AIR HANDLING EQUIPMENT SUSPENDED FROM STRUCTURES AND ALL STEAM AND CHILLED WATER PIPING IN MECHANICAL ROOMS SHALL BE HUNG WITH VIBRATION ISOLATORS.
2. HANGER SIZE SHALL BE AS PER MANUFACTURERS RECOMMENDATIONS AND ACCORDING TO THE LOAD OF THE EQUIPMENT.

TYPICAL SPRING VIBRATION ISOLATION DETAIL

NO SCALE

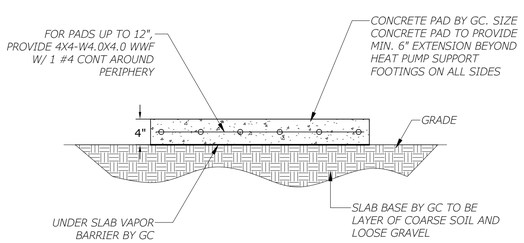


NOTES:

1. REMOVE AND DISPOSE OF CEILING MATERIAL IN A CLEAN ACCEPTABLE MANNER TO FIT HVAC UNIT, AND TO MAKE ROOM FOR FASTENING.

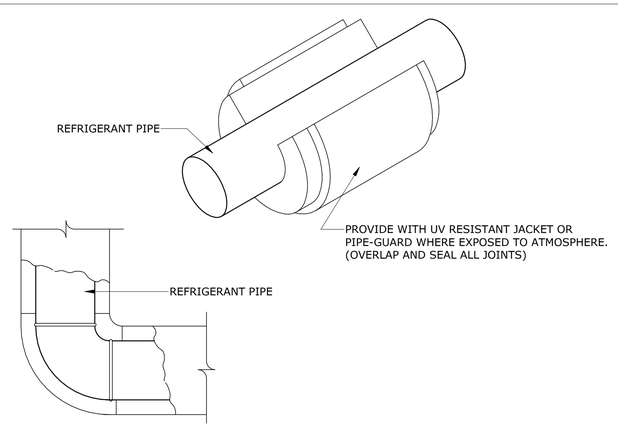
HVAC EQUIPMENT SUPPORT

NO SCALE



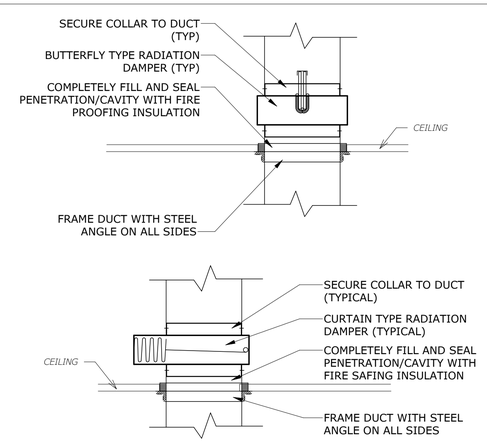
EXTERIOR EQUIPMENT PAD DETAIL (BY GC)

NO SCALE



TYPICAL REFRIGERANT PIPING INSULATION DETAIL

NO SCALE



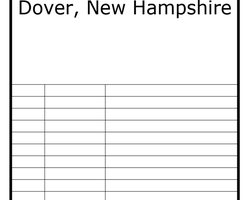
TYPICAL RADIATION DAMPER CONNECTIONS DETAIL

NO SCALE

Tighe&Bond

STATE OF NEW HAMPSHIRE – JASON CURTIS No. 18910 LICENSED PROFESSIONAL ENGINEER

12/19/2025



Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-502
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC DETAILS - 2

SCALE: NO SCALE

H-502

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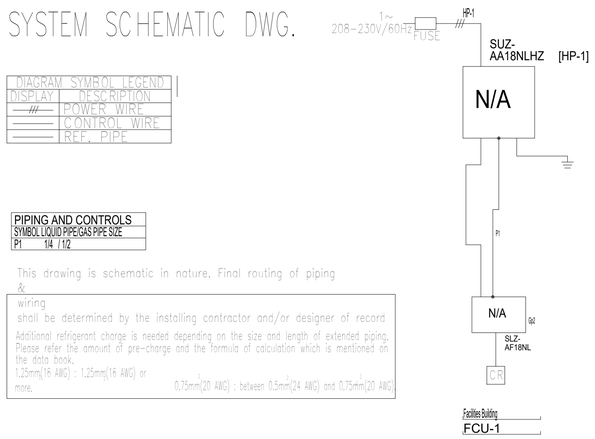
Tighe & Bond Autodesk Docs://D5085-001 Dover High School /D5085-001_24-228 Dover HS Athletics Buildings_MEP R25.rvt



SPLIT HEAT PUMP PIPING AND CONTROLS DIAGRAM

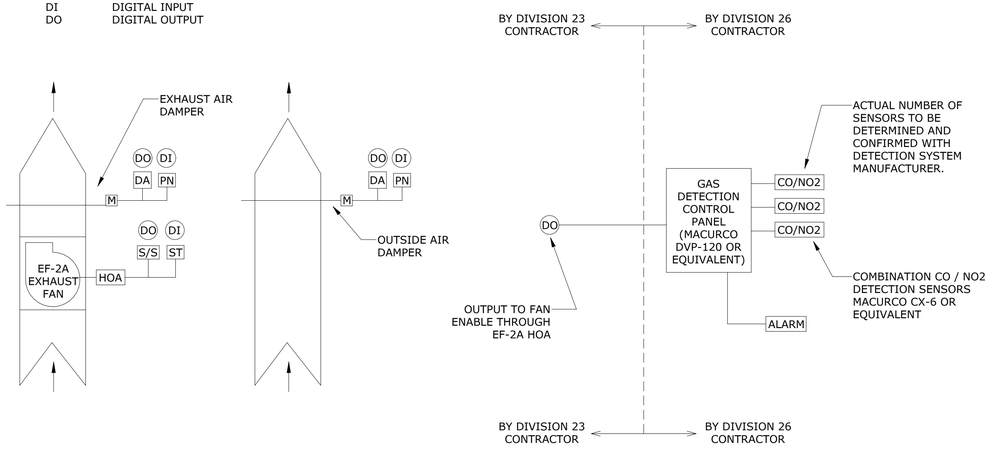
NO SCALE

CONTROL ABBREVIATIONS

CO	CARBON MONOXIDE
DA	DAMPER ACTUATOR
NO2	NITROGEN DIOXIDE
PN	POSITION
S/S	START/STOP
ST	STATUS
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT

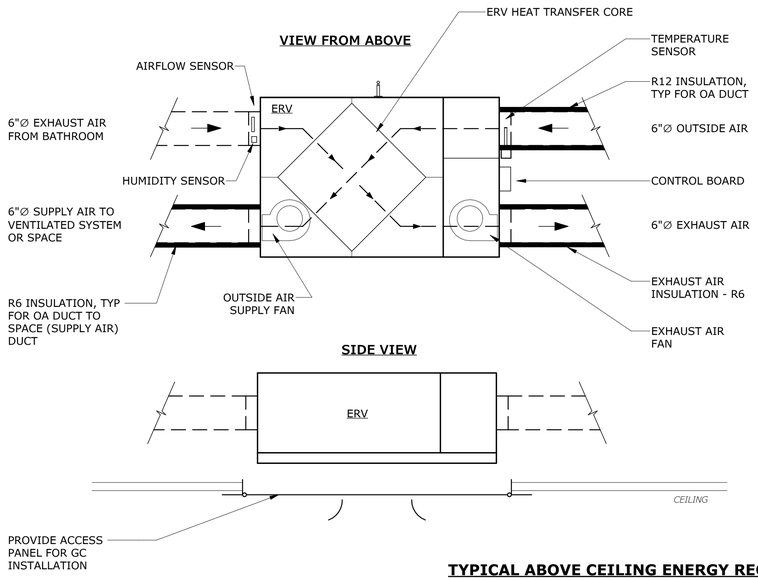
CONTROL SYMBOLS

- M — MOTORIZED CONTROL DAMPER
- DA — DAMPER ACTUATOR
- HOA — HAND-OFF-AUTO CONTROLLER



EXHAUST FAN WITH GAS DETECTION CONTROL SCHEMATIC

NO SCALE



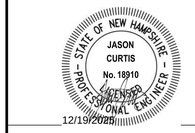
TYPICAL ABOVE CEILING ENERGY RECOVERY UNIT DETAIL

NO SCALE

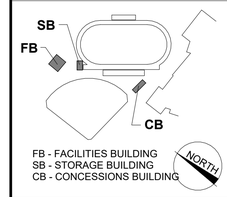
NOTES:

1. SEE DETAILS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.
2. DO NOT OPERATE UNITS WITHOUT FILTERS. CHANGE FILTERS TO MERV-8 ONCE AFTER SUBSTANTIAL COMPLETION. PROVIDE 2 ADDITIONAL MERV-13 SETS OF FILTERS FOR STORAGE BY OWNER.
3. ERV TO OPERATE CONTINUOUSLY AT THE REQUIRED VENTILATION FLOW RATE. SEE PLANS FOR REQUIRED CFM'S. ADJUST SPEEDS ACCORDINGLY
4. DURING DEFROST MODE, ONLY EXHAUST FANS SHALL OPERATE
5. LEVEL ERV TO ENSURE DEFROSTING AND DRAINING PERFORM EFFECTIVELY.
6. PROVIDE ACCESS DOOR FOR EASY ACCESS TO ALL ERV COMPONENTS FOR ROUTINE CHECK AND MAINTENANCE OF THE ERV. ACCESS DOOR TO BE SUPPLIED BY THE MC AND INSTALLED BY GC.
7. INSULATE OUTSIDE AIR AND SUPPLY AIR DUCTWORK PER SPECIFICATION. PROVIDE MIN. R6 INSULATION FOR EXHAUST AIR DUCTWORK BETWEEN ERV AND WALL HOOD TERMINATION.
8. HANG UNIT FROM FRAMING ABOVE WITH SUPPLIED BRACKETS. PROVIDE RUBBER VIBRATION ISOLATION GROMMET BETWEEN STRUCTURE AND BRACKETS.

Tighe&Bond



12/19/2025



Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-503
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC DETAILS

SCALE: NO SCALE

H-503

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ENERGY RECOVERY UNIT SCHEDULE

GENERAL NOTES:
A. REFER TO FLOOR PLANS FOR DUCT CONNECTION LOCATIONS.
B. PROVIDE ECM MOTORS AND INTEGRAL SPEED CONTROLLERS FOR BALANCING SUPPLY & EXHAUST FANS.
C. PROVIDE RECTANGULAR DUCT FLANGE KIT.
D. COORDINATE ELECTRICAL CHARACTERISTICS WITH EC PRIOR TO INSTALLATION.
E. PROVIDE WALL HOOD TERMINATIONS WITH 6" ROUND CONNECTIONS AND INTEGRAL BIRD SCREEN FOR EXHAUST AND OUTDOOR AIR DUCTWORK.
F. UNIT TO HAVE HARD WIRED ELECTRICAL POWER CONNECTION.

UNIT NO.	LOCATION	SERVING	MANUFACTURER	MODEL	SUPPLY FAN DATA			EXHAUST FAN DATA			SUPPLY				EXHAUST				PRESSURE DROP (IN WC)	SUPPLY & EXHAUST FILTERS			ELECTRICAL DATA		
											SUMMER		WINTER		SUMMER		WINTER								
					TOTAL CFM	ESP (IN WC)	MHP	TOTAL CFM	ESP (IN WC)	MHP	EAT (DB/WB)	LAT (DB/WB)	EAT (DB)	LAT (DB)	EAT (DB)	LAT (DB)	LAT (DB)	EAT (DB)		MERV	PD INITIAL (IN WC)	PD FINAL (IN WC)	VOLTS	PHASE	MCA / MOCP
ERV-1	FACILITIES BUILDING	OFFICE	RENEWAIRE	EV PREMIUM SH	75	0.5	0.07	75	0.5	0.07	89.5	78.7	-2.7	52.3	75	-	70	-	-	8	-	-	120	1	10/10

ELECTRIC HEATER SCHEDULE

GENERAL NOTES:
A. PROVIDE INTEGRAL THERMOSTAT
B. PROVIDE MOUNTING BRACKETS FOR SURFACE MOUNTED INSTAALLATION ON CMU WALL.
C. COORDINATE ELECTRICAL CHARACTERISTICS WITH EC PRIOR TO INSTALLATION.

UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	KW	MBH	ELECTRICAL DATA		
						VOLTS	PH	AMPS
EUH-1	FB14 TOILET	QMARK	CWH1151DSF	0.75	2.6	120	1	6.25

GRILLES, DIFFUSERS, & REGISTERS SCHEDULE

GENERAL NOTES:
A. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
B. PROVIDE FRAME SUITABLE FOR CEILING OR SIDEWALL MOUNTING.
C. PROVIDE ALL SQUARE TO ROUND TRANSITIONS WHERE NEEDED.
D. PROVIDE VOLUME DAMPERS FOR BALANCING AT BRANCH TAKE-OFFS.
E. PROVIDE OPPOSED BLADE DAMPERS FOR BALANCING ACCESSIBLE AT REGISTER / GRILLE / DIFFUSER FACE.
F. CONFIRM FINISH COLOR WITH ARCHITECT.
G. REFER TO FLOOR PLANS FOR NECK SIZES.

TYPE	MANUFACTURER	MODEL	REMARKS
A	TITUS	355RL	LOUVER TYPE CEILING RETURN OR EXHAUST GRILLE, 35° FIXED DEFLECTION, 1/2" SPACING WITH BLADES PARALLEL TO THE LONG DIMENSION.

EXHAUST FAN SCHEDULE

GENERAL NOTES:
A. PROVIDE FLEX CONNECTIONS AT FAN INLET AND OUTLET.
B. PROVIDE MOTOR STARTER IN ACCORDANCE WITH SECTION 16421 FOR CONSTANT SPEED FANS.
C. MC TO COORDINATE ELECTRICAL CHARACTERISTICS WITH EC. PRIOR TO INSTALLATION.
D. EC TO PROVIDE WALL MOUNTED DISCONNECT SWITCH.
E. FAN TO BE PROVIDED WITH DIRECT DRIVE VARIABLE SPEED ECM MOTOR.

SCHEDULE NOTES:
[1] PROVIDE WITH TOUCH REMOTE CONTROLLER LOCATED IN CONCESSION UTILITY ROOM.
[2] PROVIDE MOUNTING FROM STRUCTURE ABOVE, VIBRATION ISOLATION.
[3] PROVIDE WITH REVERSE ACTING THERMOSTAT.
[4] PROVIDE WITH FAN HOUSING, TERMINATE INDDOOR END WITH WIRE MESH SCREEN.
[5] PROVIDE WITH OUTLET DAMPER AND 24V DAMPER ACTUATOR.
[6] UNIT TO OPERATE VIA DRY CONTACT SIGNAL CALL FROM CO / NO2 DETECTION SYSTEM THROUGH HOA CONTROLLER. HOA SWITCH TO BE FACTORY PROVIDED WITH EXHAUST FAN.
[7] UNIT TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS VIA PROGRAMMABLE TIMECLOCK.

UNIT NO.	SERVING	MANUFACTURER	TYPE	MODEL	CFM	FAN RPM	ESP (IN WC)	MHP	ELECTRICAL DATA		REMARKS
									VOLTS	PH	
EF-1A	CONCESSION RESTROOMS	GREENHECK	INLINE	SQ-100-VG	1000	1515	0.5	1/4	115	1	[1] [2]
EF-1B	CONCESSION KITCHEN	GREENHECK	INLINE	SQ-95-VG	450	1543	0.5	1/6	115	1	[1] [2]
EF-1C	CONCESSION UTILITY	GREENHECK	CEILING	SP-A510-VG	475	1307	0.5	1/15	115	1	[2] [3]
EF-2A	FACILITIES STORAGE (HIGH EXHAUST)	GREENHECK	WALL MOUNTED PROPELLER	SE1-18-429-VG	3800	1544	0.25	3/4	115	1	[4] [5] [6]
EF-2B	FACILITIES STORAGE (LOW EXHAUST)	GREENHECK	WALL MOUNTED PROPELLER	SE1-12-432-VG	300	981	0.25	1/20	115	1	[4] [5] [7]

DUCTLESS SPLIT HEAT PUMP UNIT SCHEDULE - INDOOR UNIT

GENERAL NOTES:
A. COORDINATE ELECTRICAL CHARACTERISTICS WITH EC PRIOR TO ORDERING EQUIPMENT.
B. MC TO SUPPLY ELECTRICAL DISCONNECT SWITCH FOR INSTALLATION BY EC.
C. PROVIDE ALL ASSOCIATED REFRIGERANT PIPING LINESET CONNECTIONS, CONDENSATE PIPING CONNECTIONS AND ASSOCIATED SYSTEM APPURTENANCES FOR FULLY OPERATIONAL FCU INSTALLATION.
D. CONFIRM REFRIGERANT PIPE SIZES AND LINE LENGTHS WITH MANUFACTURER PRIOR TO INSTALLATION.
E. PROVIDE WALL MOUNTED TEMPERATURE CONTROLLER.
F. PROVIDE ALL INDOOR UNITS WITH FACTORY INSTALLED REFRIGERANT LEAK DETECTION SYSTEM FOR A2L REFRIGERANT SYSTEMS.
G. INDOOR UNIT POWERED BY OUTDOOR UNIT.

UNIT NO.	LOCATION	MANUFACTURER	MODEL	UNIT TYPE	TOTAL COOLING CAPACITY (MBH)	HEATING CAPACITY AT 17° (MBH)	CFM (LOW-HIGH)	ELECTRICAL DATA		
								VOLTS	PH	HZ
FCU-1	FB11 OFFICE	MITSUBISHI	SLZ-AF18NL	24"X24" CASSETTE	18.0	20.0	300-475	208	1	60

DUCTLESS SPLIT HEAT PUMP UNIT SCHEDULE - OUTDOOR UNIT

GENERAL NOTES:
A. COORDINATE ELECTRICAL CHARACTERISTICS WITH EC PRIOR TO ORDERING EQUIPMENT.
B. HEATING AND COOLING CAPACITY BASED ON NOMINAL OUTPUT AND HAS NOT BEEN DERATED.
C. PROVIDE WITH DISCONNECT SWITCH FOR INSTALLATION BY EC.
D. CONFIRM REFRIGERANT PIPE SIZES AND LINE LENGTHS WITH MANUFACTURER PRIOR TO INSTALLATION.
E. HEAT PUMP SHALL BE MOUNTED MIN. 18" ABOVE GRADE ON CONDENSING UNIT SUPPORT STANDS.
F. OUTDOOR UNIT TO POWER INDOOR UNIT.

UNIT NO.	SERVING	MANUFACTURER	MODEL	COOLING CAPACITY (MBH)	RATED HEATING CAPACITY (47°F) (MBH)	HEATING CAPACITY (5°F) (MBH)	ELECTRICAL DATA				REF. TYPE
							VOLTS	PH	HZ	MCA	
HP-1	FCU-1	MITSUBISHI	SUZ-AA18NLHZ	18.0	20.0	20.0	208	1	60	25	R-454B

GAS-FIRED UNIT HEATERS SCHEDULE

GENERAL NOTES:
A. PROVIDE MOUNTING BRACKETS FOR WALL INSTALLATION. COORDINATE MOUNTING REQUIREMENTS WITH GENERAL CONTRACTOR FOR SUPPORT OF UNIT WEIGHT FROM STRUCTURE.
B. PROVIDE WITH FAN GUARD.
C. PROVIDE MANUFACTURER'S CONCENTRIC HORIZONTAL VENT/TERMINAL & COMBINATION AIR INLET ASSEMBLY.
D. COORDINATE ELECTRICAL CHARACTERISTICS WITH EC PRIOR TO INSTALLATION.
E. COORDINATE GAS CONNECTION AND CAPACITY REQUIREMENTS WITH PC PRIOR TO INSTALLATION.
F. PITCH COMBUSTION AIR AND FLUE VENTS PER MANUFACTURER'S REQUIREMENTS

UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	CFM	NATURAL GAS			FAN HP	ELECTRICAL DATA		
					INPUT (MBH)	OUTPUT	GAS PRESSURE MIN/MAX (IN WC)		VOLTS	PHASE	FLA
GUH-1	FACILITIES BUILDING	REZNOR	UDXC-125	1537	120	99.6	5 / 14	1/4	115	1	6 A
GUH-2	FACILITIES BUILDING	REZNOR	UDXC-125	1537	120	99.6	5 / 14	1/4	115	1	6 A
GUH-3	FACILITIES BUILDING	REZNOR	UDXC-125	1537	120	99.6	5 / 14	1/4	115	1	6 A
GUH-4	FACILITIES BUILDING	REZNOR	UDXC-125	1537	120	99.6	5 / 14	1/4	115	1	6 A

LOUVER SCHEDULE

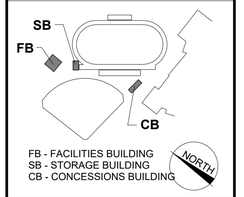
GENERAL NOTES:
A. PROVIDE BIRD SCREEN.
B. VERIFY COLOR OF LOUVERS WITH OWNER AND ARCHITECT.
C. COORDINATE WITH PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS FOR EXACT LOCATION OF ROUGH OPENING.
D. LOUVER TO BE PROVIDED BY MC FOR INSTALLATION BY GC.

SCHEDULE NOTES:
[1] PROVIDE SIGHT-PROOF DRAINABLE LOUVER.
[2] PROVIDE WITH FULL SIZED 18" DEEP SHEET METAL PLENUM AT BUILDING INTERIOR, WITH MOTORIZED CONTROL DAMPER.

UNIT NO.	LOCATION	MANUFACTURER	MODEL	FUNCTION	TYPE	SIZE W x H (IN)		CFM	MAX FACE VELOCITY (FPM)	FREE AREA (SQ FT)	P.D. (IN W.G.)	REMARKS
						WIDTH	HEIGHT					
L-1A	CONCESSION BUILDING	RUSKIN	ELF375DX	EXHAUST	STATIONARY	36	24	250	450	3.00	0.02	[1]
L-1B	CONCESSION BUILDING	RUSKIN	ELF375DX	EXHAUST	STATIONARY	30	18	250	450	1.71	0.02	[1]
L-1C	CONCESSION BUILDING	RUSKIN	ELF520DD	SUPPLY	STATIONARY	42	24	500	450	3.11	0.03	[1]
L-1D	CONCESSION BUILDING	RUSKIN	ELF520DD	SUPPLY	STATIONARY	42	24	250	450	3.11	0.02	[1]
L-1E	CONCESSION BUILDING	RUSKIN	ELF375DX	EXHAUST	STATIONARY	30	18	250	450	3.11	0.02	[2]
L-2	FACILITIES BUILDING	RUSKIN	ELF375DX	SUPPLY	STATIONARY	48	48	3800	450	8.58	0.04	[2]

Tighe&Bond

STATE OF NEW HAMPSHIRE – JASON CURTIS No. 18910 LICENSED PROFESSIONAL ENGINEER
12/19/2025



Dover High School Athletic Facility Project

Dover School District, SAU #11

25 Alumni Drive
Dover, New Hampshire

MARK	DATE	DESCRIPTION

PROJECT NO:	D5085-0001
DATE:	12/12/2025
FILE:	D5085-0001-H-601
DRAWN BY:	C.WILK
DESIGNED BY:	C.WILK
CHECKED BY:	A. WILKINSON
APPROVED BY:	K. PRATA

HVAC SCHEDULES

SCALE: NO SCALE

H-601