ABBREVIATIONS

AC	AIR CONDITIONING UNIT
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
COND	CONDENSATE
DL	DOOR LOUVER
EA	EXHAUST AIR
EF	EXHAUST FAN
ER	EXHAUST REGISTER
OA	OUTSIDE AIR
RA	RETURN AIR
RG	RETURN GRILLE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
TA	TRANSFER AIR
TG	TRANSFER GRILLE
(E)	EXISTING
(N)	NEW
(R)	REMOVE

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	SUPPLY/OUTSIDE AIR DUCT OR AIR DEVICE
OR	RETURN/EXHAUST AIR DUCT OR AIR DEVICE (RECTANGULAR OR LINEAR)
12x10	DENOTES RECTANGULAR OR SQUARE DUCT, SIZE IN INCHES
12"Ø	DENOTES ROUND DUCT, SIZE IN INCHES
12"Ø	FLEXIBLE DUCT
	SQUARE VANED ELBOW - 90 (NOT REQD IN TRANSFER DUCT)
	45° ENTRY TAKEOFF, RECTANGULAR TO RECTANGULAR
	90° TAKEOFF, RECTANGULAR TO ROUND, STRAIGHT
	90° TAKEOFF, RECTANGULAR TO ROUND, BELLMOUTH W/ MANUAL VOLUME DAMPER
	90° TAKEOFF, ROUND TO ROUND, STRAIGHT
	90° CONICAL TAKEOFF, ROUND TO ROUND
	45° CONICAL LATERAL, ROUND TO ROUND
	45° LATERAL, ROUND TO ROUND
	45° WYE, ROUND TO ROUND
	END OF DUCT (CAPPED)
HP	SIDEWALL AIR TERMINAL W/VD (ARROWS DENOTE THROW DIRECTION)
	LINEAR DIFFUSER
FD	FIRE DAMPER - VERTICAL POSITION
	FIRE DAMPER - HORIZONTAL POSITION
	FLEXIBLE CONNECTION
	MANUAL VOLUME DAMPER
MOD	MOTOR OPERATED DAMPER
SD	SMOKE DETECTOR (DUCT-MOUNTED)
	RETURN/EXHAUST AIR DESIGNATION
	SUPPLY AIR DESIGNATION

CONTROLS

SYM. SYM. AUTOMATIC CONTROL DAMPER SYMBOLS:
OA = OUTSIDE AIR SA = SUPPLY AIR
RA = RETURN AIR SD = SMOKE DAMPER
EA = EXHAUST AIR FS = FIRE/SMOKE
RE = RELIEF AIR
BD = BACKDRAFT DAMPER

T — THERMOSTAT - DUCT MOUNTED
T — THERMOSTAT - WALL MOUNTED
H — HUMIDISTAT - DUCT MOUNTED
H — HUMIDISTAT - WALL MOUNTED
FZ — FREEZESTAT (LOW TEMPERATURE DETECTOR)
SP — STATIC PRESSURE SENSOR - DUCT MOUNTED
SP — SPACE STATIC PRESSURE SENSOR
AUTOMATIC CONTROL VALVE (2 - WAY)
AUTOMATIC CONTROL VALVE (3 - WAY)
SOLENOID VALVE
FS — FLOW SWITCH
CO2 — CO2 SENSOR
CO — CO DETECTOR

LINE DESIGNATIONS

EXISTING PIPING/DUCTWORK TO REMAIN (WITH SERVICE DESIGNATION)
EXISTING PIPING/DUCTWORK TO BE REMOVED (WITH SERVICE DESIGNATION)
NEW PIPING/DUCTWORK TO BE INSTALLED (WITH SERVICE DESIGNATION)
HPS — HEAT PUMP SUPPLY
HPR — HEAT PUMP RETURN
C — COIL CONDENSATE DRAIN

MISC. DWG. SYMBOLS

POINT OF CONNECTION
POINT OF DISCONNECT
POINT OF CONNECTION FOR FUTURE WORK
EQUIPMENT SYMBOL
EQUIPMENT NUMBER OR FLOW (GPM,CFM,ETC.)
DETAIL NUMBER
DETAIL DRAWING NUMBER
SECTION LETTER
SECTION DRAWING NUMBER
PLAN NUMBER
PLAN DRAWING NUMBER
KEYED DEMOLITION NOTE
KEYED NEW WORK NOTE

PIPING SYMBOLS

SYMBOL	DESCRIPTION
	MANUAL BALANCING VALVE WITH PRESSURE TAPS
	BALL VALVE
	GATE VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	VACUUM BREAKER
	CHECK VALVE
	ANGLE SHUTOFF VALVE
	ANGLE BALANCING/SHUTOFF VALVE
	TRIPLE DUTY VALVE
	COMBINATION BALANCING/SHUTOFF VALVE W/PRESSURE TAPS
	PRESSURE REDUCING VALVE
	SAFETY/RELIEF VALVE - PLAN AND ELEVATION
	PUMP - GENERIC
	PUMP - END SUCTION
B	BASKET STRAINER - ELEVATION AND PLAN
	Y-STRAINER WITH PLUG
	Y-STRAINER WITH DRAIN VALVE
	PRESSURE GAUGE WITH GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK AND BOURDON TUBE
	THERMOMETER
P/T	PRESSURE/TEMPERATURE TEST FITTING
FM	FLOW METER
	PIPE UP AND DOWN
	TEE CONNECTION - STRAIGHT, DOWN, AND UP
	UNION
	END CAP
	BLIND FLANGE
	PIPE BELLOWS
	PIPE ANCHOR
	PIPE GUIDE (SLIDING)
	PIPE GUIDE (MOMENT)
	ELECTRICALLY HEAT TRACED PIPING
	AIR VENT - (MANUAL)
	AUTOMATIC AIR VENT
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
F	STEAM TRAP - FLOAT AND THERMOSTATIC
B	STEAM TRAP - BUCKET
T	STEAM TRAP - THERMOSTATIC
TH	STEAM TRAP - THERMODYNAMIC
P R	PITCH OF PIPE, RISE (R) DROP (D)
W H	EXPANSION LOOP AND SIZE

GENERAL NOTES

THE FOLLOWING NOTES APPLY TO ALL "M" MECHANICAL DRAWINGS:

1. ALL WORK SHALL FOLLOW THE INTERNATIONAL MECHANICAL CODE 2021.
2. ALL WORK CONTAINED WITHIN THE MECHANICAL DRAWINGS AND SPECIFICATIONS IS THE RESPONSIBILITY OF THE SINGLE PRIME CONTRACTOR UNLESS OTHERWISE NOTED.
3. NOT ALL SYMBOLS, ABBREVIATIONS AND LINE DESIGNATIONS ARE NECESSARILY USED ON THIS PROJECT.
4. ALL HVAC EQUIPMENT, DUCTWORK, PIPING, SUPPORTS AND ACCESSORY LOCATIONS AND ROUTING SHALL BE COORDINATED WITH ALL OTHER TRADES AND FIELD VERIFIED PRIOR TO INSTALLATION TO PROVIDE REQUIRED CLEARANCES FOR ALL OTHER SYSTEMS.
5. SUPPLY, RETURN AND EXHAUST AIR OPENING LOCATIONS AND SIZES FOR MECHANICAL EQUIPMENT ARE SHOWN FOR DUCTWORK ROUTING ONLY. THE MECHANICAL CONTRACTOR SHALL VERIFY THE ACTUAL SIZES OF DUCT CONNECTIONS AND THE REQUIRED BUILDING ROUGH OPENING SIZES FOR THE EQUIPMENT AND COORDINATE THE FINAL LOCATION OF ALL BUILDING PENETRATIONS WITH THE GENERAL CONTRACTOR.
6. THE CONTRACTOR PROVIDING MECHANICAL TRADE WORK SHALL INSTALL ALL MECHANICAL EQUIPMENT CURBS AND COORDINATE WITH THE CONTRACTOR PROVIDING GENERAL TRADES.
7. DUCTWORK MAINS AND BRANCHES ARE SHOWN DIAGRAMMATICALLY AND FOR DESIGN CLARITY. CONTRACTOR MAY PROPOSE REROUTING, OFFSETS, RISES AND DROPS AS NECESSARY TO CLEAR INSTALLED TRUSSES, JOISTS AND OTHER INTERFERENCES. FINAL DUCTWORK LAYOUT WILL BE APPROVED IN REQUIRED DUCTWORK SHOP DRAWING SUBMITTAL REVIEW PRIOR TO INSTALLATION. DEVIATIONS FROM APPROVED DUCTWORK SHOP DRAWING TO SUIT FIELD CONDITIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
8. ALL PIPING/DUCTWORK/CONTROLS PENETRATING FIRE RATED PARTITIONS, WALLS AND CEILINGS SHALL BE SEALED ON BOTH SIDES USING AN APPROVED, UL LISTED FIRE SEALANT TO MATCH EXISTING WALL FIRE RATING. WHERE A PIPE/DUCT/CONTROL CONDUIT HAS BEEN REMOVED THAT PREVIOUSLY PENETRATED A FIRE RATED PARTITION, WALL OR CEILING, THE CONTRACTOR SHALL PATCH AND SEAL THE PENETRATION ON BOTH SIDES USING AN APPROVED, UL LISTED FIRE SEALANT TO MATCH EXISTING WALL FIRE RATING.
9. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR IN REGARDS TO THE DISCONNECT AND RECONNECT OF ALL EQUIPMENT BEING REMOVED AND/OR REPLACED IN-KIND AS INDICATED ON THE CONTRACT DOCUMENTS.
10. ELECTRICAL COORDINATION: CONTRACTOR PROVIDING MECHANICAL TRADE WORK SHALL COORDINATE VOLTAGES FOR EACH PIECE OF EQUIPMENT BEFORE PURCHASING EQUIPMENT WITH CONTRACTOR PROVIDING ELECTRICAL TRADE WORK.
11. THE CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE (24V) CONTROL WIRING AND SHALL COORDINATE REQUIREMENTS FOR 120V/1PH/60Hz FOR POWER FEEDS TO CONTROLLERS (IF REQUIRED) WITH CONTRACTOR COMPLETING ELECTRICAL WORK.
12. OWNER SHALL BE RESPONSIBLE FOR IDENTIFYING, TESTING, REMOVAL AND DISPOSAL OF ANY ASBESTOS AS REQUIRED UNDER THIS CONTRACT.
13. HVAC TESTING & BALANCING (AIR) IS A PART OF THIS CONTRACT FOR ALL NEW EQUIPMENT INSTALLED UNDER THIS PROJECT. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED TEST & BALANCE REPORTS, REFER TO PROJECT BOOK SPECIFICATIONS FOR DETAILS.
14. THE CONTRACTOR IS TO REPLACE ALL AIR-FILTERS AFTER COMPLETION OF CONSTRUCTION AND INITIAL TESTING OF HVAC SYSTEMS WITH NEW CLEAN FILTERS.
15. CONTRACTOR SHALL PROVIDE FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO EQUIPMENT. IF DUCT CONNECTION TO EQUIPMENT CANNOT BE MADE WITHOUT A HARD CONNECTION (E.G. MIXING BOX/FILTER RACK ASSEMBLY), CONTRACTOR SHALL PROVIDE FLEX CONNECTIONS FOR ALL DUCT CONNECTING WITH A HARD CONNECTION TO EQUIPMENT.
16. ALL NECESSARY STAGING AND MATERIAL STORAGE AREAS SHALL BE AS DIRECTED AND APPROVED BY THE OWNER.
17. ALL MEANS OF EGRESS MUST BE KEPT FREE AND CLEAR OF ALL MATERIAL
18. VERIFY ALL CONDITIONS, ELEVATIONS AND MEASUREMENTS SHOWN ON CONTRACT DRAWINGS. ALL DIMENSIONS AND ELEVATIONS FOR NEW EQUIPMENT, PIPING AND APPARATUS ARE APPROXIMATE AND ARE ONLY FOR REFERENCE. SUBMIT SHOP DRAWINGS SHOWING ALL DIMENSIONS AND ELEVATIONS VERIFIED IN THE FIELD.
19. ALL INSTRUMENTS SHALL BE LOCATED TO PROVIDE EASY ACCESS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
20. PROVIDE WIRING AND RACEWAYS RELATED TO CONTROL OF MECHANICAL EQUIPMENT. RACEWAYS TO BE MINIMUM 3/4" RIGID CONDUIT.
21. PROVIDE MECHANICAL IDENTIFICATION OF EQUIPMENT, DUCTWORK AND PIPING AS SPECIFIED.
22. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING WALK-THROUGH OF SITE PRIOR TO SUBMITTING BID TO BE FAMILIAR WITH SITE CONDITIONS AND REQUIREMENTS.
23. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED CALCULATIONS (SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF NEW JERSEY) AND INSTALLATION INFORMATION TO SHOW COMPLIANCE WITH SEISMIC AND WIND FORCES IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2021, NJ EDITION. INFORMATION SHALL BE MADE AVAILABLE TO ENGINEER FOR REVIEW AND ALSO, MADE AVAILABLE UPON REQUEST FOR SUBMISSION TO CODE ENFORCEMENT. PROVIDE ALL SUPPORT SYSTEMS, SUPPLEMENTAL STEEL, ANCHORS, PIPE HANGERS AND ENGINEERING DOCUMENTATION NECESSARY TO PROVIDE A COMPLETE CODE COMPLIANT SYSTEM.
24. IF THE CONTRACTOR DISCOVERS A DISCREPANCY BETWEEN THE PROJECT'S TECHNICAL BOOK SPECIFICATIONS AND THE DRAWING SPECIFICATIONS, CONTRACTOR SHALL IMPLEMENT THE MORE STRINGENT OF THE TWO.
25. SUBSTITUTIONS: CONTRACTOR MAY SUBSTITUTE SPECIFIED MANUFACTURER'S EQUIPMENT, DEVICES, SYSTEMS, MATERIALS, ETC., IF THE SUBSTITUTED ITEM IS AMERICAN MANUFACTURED NOT A DEVIATION FROM THE SPECIFIED ITEM'S SIZE, FEATURES, QUALITY, OR AVAILABILITY, ETC., AS SET FORTH IN THE CONTRACT DRAWINGS, TECHNICAL SPECIFICATIONS, ETC. IT IS UNDERSTOOD THAT SUBSTITUTED ITEMS WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, SUBJECT TO THE OVERALL TERMS OF THE CONTRACT TO BE AWARDED BY THE OWNER, AND THAT NO ADDITIONAL COSTS ASSOCIATED WITH CHANGES TO ANY TRADES WORK, INCLUDING ADDITIONAL DESIGN SERVICES OR DELIVERY CHARGES, WILL BE ALLOWED. ALL SUBSTITUTIONS SHALL BE IN FULL COMPLIANCE WITH NEW JERSEY LOCAL PUBLIC CONTRACTS LAW AND REGULATIONS.
26. EQUIPMENT DELIVERY SCHEDULE: PRIOR TO BID, CONTRACTOR SHALL DETERMINE DELIVERY SCHEDULES FOR ALL NEW EQUIPMENT, MATERIALS, ETC., REQUIRED FOR THIS PROJECT. CONTRACTOR SHALL INCLUDE IN THEIR BID AMOUNT ANY AND ALL ADDITIONAL COSTS WHICH MAY BE REQUIRED TO ADVANCE THE DELIVERY OF THE NEW EQUIPMENT, MATERIALS, ETC., TO MEET THE PROJECT'S CONSTRUCTION SCHEDULE AND INCLUDE THESE ADDED COSTS IN THE CONTRACTOR'S BID.

APPLICABLE CODES AND STANDARDS

APPLICABLE CODES AND STANDARDS TO THIS PROJECT ARE AS FOLLOWS:

- UNIFORM CONSTRUCTION CODE: STATE OF NEW JERSEY, LATEST EDITION AND ALL OF ITS SUBCODES AND AMENDMENTS
- NEW JERSEY REHABILITATION SUBCODE
- INTERNATIONAL BUILDING CODE / 2021 - NJ EDITION
- INTERNATIONAL MECHANICAL CODE / 2021
- ENERGY SUBCODE: ASHRAE 90.1 - 2019
- INTERNATIONAL FUEL GAS CODE / 2021
- NATIONAL STANDARD PLUMBING CODE / 2021 - NJ EDITION
- NFPA 70: NATIONAL ELECTRICAL CODE 2020
- NFPA 110: STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS

SCOPE OF WORK INFORMATION

PROJECT SCOPE OF WORK:

1. ALL WORK CONTAINED WITHIN THE DRAWINGS AND SPECIFICATIONS IS THE RESPONSIBILITY OF THE SINGLE PRIME CONTRACTOR, UNLESS OTHERWISE NOTED.
2. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR MECHANICAL REQUIREMENTS.
3. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS.
4. REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR PLUMBING REQUIREMENTS.
5. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ARCHITECTURAL REQUIREMENTS.
6. STRUCTURAL DELEGATED DESIGN: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HIRE A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW JERSEY TO PERFORM THE REQUIRED DESIGN AND CALCULATIONS FOR THE STRUCTURAL REQUIREMENTS FOR EQUIPMENT PADS, SUPPLEMENTAL STEEL, FRAMING AND ATTACHMENTS FOR THE INSTALLATION OF ALL HVAC EQUIPMENT, DUCT DISTRIBUTION AND HANGING SYSTEMS. MECHANICAL EQUIPMENT ATTACHMENT SHALL MEET THE REQUIREMENTS OF IBC 2021 PER GENERAL NOTE 23. THIS SHALL ALSO INCLUDE THE SIZING OF STEEL LINTELS FOR LOUVERS AS REQUIRED BY THE CONTRACT.

CONTROLS SCOPE OF WORK CLARIFICATIONS

A. CONTROLS FOR SPECIFIED EQUIPMENT SHALL BE STANDALONE BUT HAVE THE CAPABILITY OF BEING CONNECTED TO THE DISTRICT'S BMS. CONTROLLERS, PROVIDED BY THE DISTRICT'S CONTROLS CONTRACTOR, SHALL BE FURNISHED AND INSTALLED IN THE FUTURE FOR EQUIPMENT LISTED BELOW. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION:

1. MUA-1 - UNIT SHALL BE CAPABLE OF OPERATING VIA A FACTORY 7-DAY PROGRAMMABLE THERMOSTAT. WHEN MUA IS STARTED, THE UNIT'S OUTSIDE AIR DAMPER SHALL OPEN AND EF-1 & 1A SHALL OPERATE. THE REVERSE SHALL OCCUR WHEN MAU-1 IS NO LONGER OPERATING. UNIT SHALL OPERATE IN THE FUTURE VIA A CONTROLLER PROVIDED BY THE DISTRICT'S CONTROLS CONTRACTOR.
2. GAS FIRED UNIT HEATER- CONTROLLED BY 24V WALL MOUNTED 7-DAY THERMOSTAT WITH LOCKING GUARD. SUMMER/WINTER SWITCH SHALL BE PROVIDED.
3. SPLIT SYSTEM IDU/CU - UNIT SHALL BE CAPABLE OF OPERATING VIA A FACTORY 7-DAY PROGRAMMABLE THERMOSTAT. THE SPLIT SYSTEM SHALL OPERATE IN THE FUTURE VIA A CONTROLLER PROVIDED BY THE DISTRICT'S CONTROLS CONTRACTOR.
4. CO/NO2 CONTROL PANEL - SEE SPECIFICATION 230993.
5. OUTSIDE AIR INTAKE LOUVER W/ MODULATING DAMPER
   a. STAGE 1 - WHENEVER THE AIR COMPRESSOR IS OPERATING W/O THE NEED FOR AIR COMPRESSOR HEAT REJECTION,THE MODULATING DAMPER AT THE OUTSIDE AIR INTAKE LOUVER SHALL OPEN TO PROVIDE 2,000 CFM. THE REVERSE SHALL OCCUR WHEN THE AIR COMPRESSOR IS OFF. PROVIDE ALL CONTROLLERS, THERMOSTATS, RELAYS, MODULATING DAMPERS, WIRING, STARTERS, ETC.
   b. STAGE 2 - AIR COMPRESSOR IN OPERATION AND REJECTING HEAT TO THE SPACE WHERE THE THERMOSTAT IS READING 75F. THE OUTSIDE AIR DAMPER SHALL OPEN TO PROVIDE A TOTAL OF 2600 CFM. THE REVERSE SHALL OCCUR WHEN THE AIR COMPRESSOR IS OFF. PROVIDE ALL CONTROLLERS, THERMOSTATS, RELAYS, MODULATING DAMPERS, WIRING, STARTERS, ETC.
   c. STAGE 3 - AIR COMPRESSOR IN OPERATION AND REJECTING HEAT TO THE SPACE WHERE THE THERMOSTAT IS READING 85F. THE OUTSIDE AIR DAMPER SHALL OPEN TO PROVIDE A TOTAL OF 5200 CFM. THE REVERSE SHALL OCCUR WHEN THE AIR COMPRESSOR IS OFF. PROVIDE ALL CONTROLLERS, THERMOSTATS, RELAYS, MODULATING DAMPERS, WIRING, STARTERS, ETC.
6. EF-3 & INTAKE LOUVER/DAMPER OPERATION - THIS SYSTEM SHALL BE CONTROLLED BY LOCAL THERMOSTAT AND SHALL BE INTERLOCKED WITH THE AIR COMPRESSOR. WHENEVER THE AIR COMPRESSOR STARTS THE AUTOMATIC DAMPER SHALL OPEN TO PROVIDE 2,000 CFM. WHENEVER THE TEMPERATURE RISES ABOVE THE SETTING OF 70F, THE AUTOMATIC DAMPERS OPEN, PROVIDING 2600 CFM FIRST STAGE,THEN WHEN THE TEMPERATURE REACHES 90F, 5,200 CFM SECOND STAGE, AT THE INTAKE AIR LOUVER. EF-3 DISCHARGE AUTOMATIC DAMPER SHALL OPEN ACCORDINGLY AND EF-3 SHALL START PROVIDING STAGE 1 AND STAGE 2 EXHAUST AIR QUANTITIES ACCORDINGLY. THE REVERSE SHALL OCCUR WHEN THE THERMOSTAT'S TEMPERATURE SETTING IS SATISFIED. THIS SYSTEM UNIT SHALL OPERATE IN THE FUTURE VIA A CONTROLLER PROVIDED BY THE DISTRICT'S CONTROLS CONTRACTOR.
7. TOILET ROOM EXHAUST FANS - SHALL BE OPERATED VIA THE LIGHT SWITCH. ON/OFF OPERATION SHALL BE MONITORED IN THE FUTURE BY THE BMS.
8. ELECTRIC UNIT HEATERS - EUH'S SHALL OPERATE VIA A SURFACE MOUNTED LOW VOLTAGE THERMOSTAT AND CONTROL WITH A PROTECTIVE COVER. ON/OFF OPERATION SHALL BE MONITORED IN THE FUTURE BY THE BMS.

B. THE LENAPE REGIONAL HIGH SCHOOL DISTRICT (LRHSD) WILL CONTRACTING DIRECTLY WITH THE DISTRICT'S PREFERRED CONTROLS CONTRACTOR TO COMPLETE WORK ASSOCIATED WITH THE HVAC CONTROLS SYSTEMS FOR THIS PROJECT UNDER A SEPARATE CONTRACT. THIS CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE WORK OF THE CONTROLS CONTRACTOR WITH THE WORK OF THIS CONTRACT.

C. THE DISTRICT CONTROLS CONTRACTOR WILL PROVIDE CONTROL PANELS AND CONTROLLERS FOR ALL EQUIPMENT THAT IS NOT SPECIFIED TO BE PROVIDED WITH A FACTORY MOUNTED BACNET CONTROLLER. THE CONTROLS CONTRACTOR WILL PROVIDE THE COMMUNICATION CABLE FROM THE FACTORY MOUNTED BACNET CONTROLLERS TO THE HVAC CONTROLS SYSTEM COMMUNICATION BACKBONE AND FROM ANY NEW CONTROL PANELS TO THE HVAC CONTROLS SYSTEM COMMUNICATION BACKBONE. PROVIDE ALL POINTS AS SPECIFIED.

D. REFER TO THE CONTRACT DRAWINGS AND SPECIFICATIONS FOR REQUIRED SCOPE OF WORK BY THIS CONTRACTOR.

DATE	No.	REVISION
11/03/26	1	RELEASED FOR BID

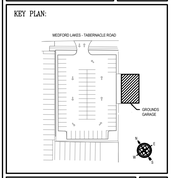
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LOT NO. 3
BLOCK NO. 4704
LRHSD PROJECT NO. REF21-43-8319, 2-010-24
PROPOSED NEW MAINTENANCE FACILITY
SHAWNEE HIGH SCHOOL MAINTENANCE BUILDING
580 TABERNACLE ROAD, MEDFORD, NEW JERSEY 8055
MEDFORD TOWNSHIP
BURLINGTON COUNTY

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KEY PLAN:



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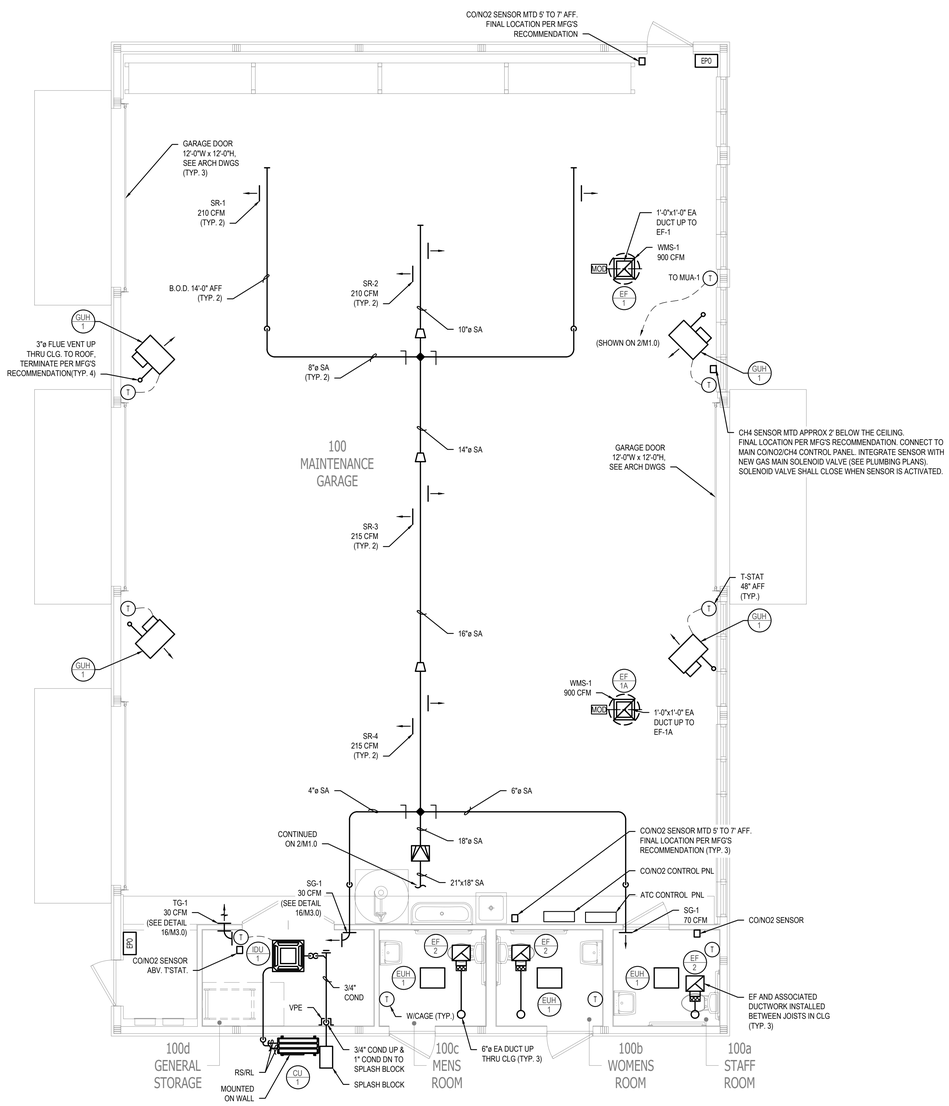
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SCALE:	AS NOTED	DRAWN BY:	RML
COMM. No.	8319	CHECKED BY:	BTR
DATE:	11/03/2026	8C26206.00	

SHEET TITLE:
MECHANICAL LEAD SHEET

SHEET No.:
M0.0

FILE J:\8C26X\8 Dept Commercial - Hospitality\8P26206.00 - LRHSD - 8319 SHS Grounds Garage\05 - Drawings\Mechanical\8319 - M-001 - Cover Sheet.dwg DATE 11/3/2026 3:23 PM USER Lewis, Ryan



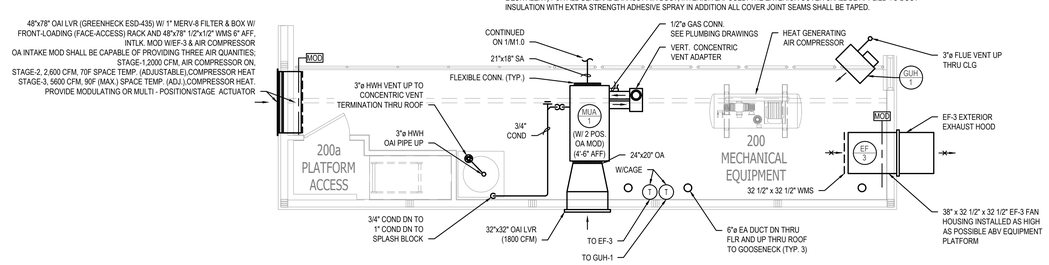
1 M1.0 MECHANICAL NEW WORK FLOOR PLAN

SCALE: 1/4" = 1'0"

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

NOTES:

1. PROVIDE DOUBLE WALL, 1" INSULATED DUCT W/PERFORATED INNER LINER, FOR ALL ROUND SUPPLY AIR DUCT, INTERIOR EXPOSED.
2. PROVIDE DOUBLE WALL, 1" INSULATED DUCT W/PERFORATED INNER LINER, FOR ALL NEW SUPPLY AND RETURN SQUARE AND RECTANGULAR, INTERIOR EXPOSED DUCT.
3. PROVIDE 1-1/2" EXTERNAL DUCT BOARD WITH AN EXTERIOR COVER BY LAMTECT (MODEL NAME-GYMGUARD) (OR APPROVED EQUIVALENT) FOR ALL GENERAL EXHAUST AIR DUCT, INTERIOR EXPOSED. THE EXTERIOR COVER SHALL BE APPLIED TO DUCT INSULATION WITH EXTRA STRENGTH ADHESIVE SPRAY IN ADDITION ALL COVER JOINT SEAMS SHALL BE TAPED.



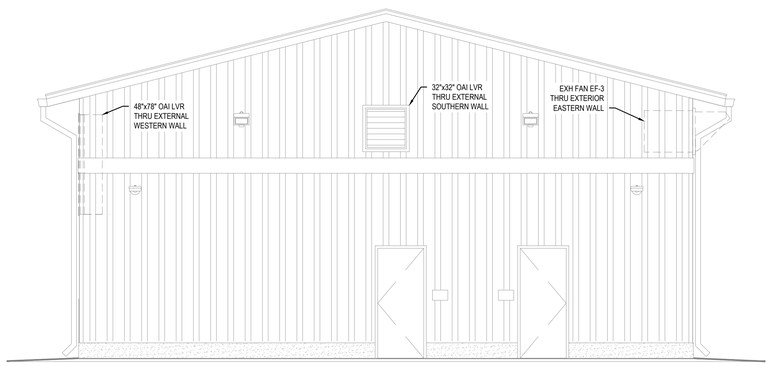
2 M1.0 MECHANICAL NEW WORK EQUIPMENT PLATFORM PLAN

SCALE: 1/4" = 1'0"

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

NOTES:

1. PROVIDE 1-1/2" EXTERNAL DUCT BOARD WITH AN EXTERIOR COVER BY LAMTECT (MODEL NAME-GYMGUARD) (OR APPROVED EQUIVALENT) FOR ALL GENERAL EXHAUST AND OUTSIDE AIR DUCT, INTERIOR EXPOSED. THE EXTERIOR COVER SHALL BE APPLIED TO DUCT INSULATION WITH EXTRA STRENGTH ADHESIVE SPRAY IN ADDITION ALL COVER JOINT SEAMS SHALL BE TAPED.



3 M1.0 MECHANICAL SOUTH WALL EXTERNAL ELEVATION PLAN

SCALE: 1/4" = 1'0"

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

MECHANICAL NEW WORK NOTES:

GENERAL NOTES:

1. REFER TO MECHANICAL LEAD SHEET, M0.0 FOR "NOTES" THAT PERTAIN TO THE SCOPE OF THIS PROJECT.
2. REFER TO SPECIFICATIONS INCLUDED WITHIN THIS PACKAGE FOR PROJECT DETAILS AND EXECUTION REQUIREMENTS.
3. REFER TO DETAIL DRAWINGS FOR MECHANICAL DETAILS PERTAINING TO THIS PROJECT.
4. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF MECHANICAL EQUIPMENT WITH THE OTHER TRADES.
5. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND APPURTENANCES IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND SHALL MAINTAIN ALL CLEARANCES (INSTALLATION AND MAINTENANCE) AS NOTED WITHIN THE WRITTEN INSTRUCTIONS.
6. ALL DUCT SIZE DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. CONTRACTOR SHALL ALOT FOR ADDITIONAL SIZE BASED ON DOUBLE WALL DUCT, LINING, OR INSULATION AS SPECIFIED

SCOPE OF WORK NOTES:

A. CONTRACTOR SHALL PROVIDE NEW HORIZONTAL GAS-FIRED MAKE-UP UNIT (MUA-1) IN LOCATION AS INDICATED ON PLAN. INSTALL NEW MUA-1 UTILIZING MANUFACTURER'S MOUNTING BRACKETS. FURNISH AND INSTALL 4" SPRING VIBRATION ISOLATORS AND ALL MISCELLANEOUS METAL SUPPORTS REQUIRED TO MOUNT MUA-1. PROVIDE NEW SUPPLY AND OUTSIDE AIR INTERNALLY LINED INSULATED DUCTWORK. PROVIDE NEW HANGER AND SUPPORTS FOR DUCT. COORDINATE NEW WALL OPENINGS REQUIRED FOR NEW DUCT WITH GC. PROVIDE NEW SPECIFIED OUTSIDE AIR INTAKE LOUVER. MOTOR OPERATED INTAKE DAMPER IS PROVIDED IN MUA-1. CONTRACTOR SHALL FURNISH AND INSTALL COMBUSTION AIR AND VENT PIPING UTILIZING MANUFACTURER'S APPROVED MATERIALS AND TERMINATE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR COMBINED VENTING / COMBUSTION AIR TERMINATION THROUGH THE ROOF, SEE DETAIL 2/M3.0. COORDINATE NATURAL GAS PIPING INSTALLATION WITH PLUMBING DRAWINGS. PROVIDE INDICATED FINAL MOUNTING HEIGHT TO BOTTOM OF THE GAS-FIRED MAKE-UP AIR UNIT SHALL BE AT 13'-0" AFF. FURNISH AND INSTALL REMOTE THERMOSTAT MOUNTED AT 48" AFF IN TAMPERPROOF ENCLOSURE. PROVIDE ANY REQUIRED BACKBOXES, INSULATION SHIELDS, ETC. TO MEET END DEVICE LOCATION. UNIT SHALL OPERATE TO MAINTAIN A 70 DEG F (ADJ.) LEAVING AIR TEMPERATURE SETPOINT FOR HEATING. PROVIDE PATHWAYS AND COVERS FOR ANY EXPOSED CONTROLS WIRING. PROVIDE REZNOR CONDENSATE PIPE CONNECTION KIT CS-1. MUA-1 TO BE EQUIPPED WITH A STAINLESS STEEL BOTTOM DRAIN PAN. PROVIDE NEW ELECTRICAL POWER; DISCONNECT SWITCHES, STARTERS AND ETC. ASSOCIATED WITH EQUIPMENT MENTIONED ABOVE.

B. CONTRACTOR SHALL PROVIDE NEW UNIT HEATER IN LOCATION WHERE INDICATED ON PLAN. PROVIDE ALL MOUNTING HARDWARE, TRIM KITS, THREADED RODS, VIBRATION ISOLATORS, ETC. AND ACCESSORIES FOR A COMPLETE INSTALLATION. UNITS SHALL INCLUDE REMOTE THERMOSTATS, THERMOSTAT SHALL BE MOUNTED AT 48" AFF IN TAMPERPROOF ENCLOSURE. PROVIDE ANY REQUIRED BACK BOXES, INSULATION SHIELDS, ETC. TO MEET END DEVICE LOCATION. UNIT SHALL OPERATE TO MAINTAIN A 70 DEG F (ADJ) SETPOINT FOR HEATING.PROVIDE PATHWAYS AND COVERS FOR ANY EXPOSED CONTROLS WIRING. BOTTOM OF UNIT SHALL BE LOCATED 13'-0" AFF.

C. CONTRACTOR SHALL PROVIDE NEW ROOF MOUNTED EXHAUST FAN, ASSOCIATED EXHAUST DUCT AND MOTOR OPERATED DAMPER IN THE LOCATION AS INDICATED ON PLAN. FURNISH AND INSTALL NEW INSULATED, PITCHED ROOF CURB IN COORDINATION WITH THE ARCHITECT. PROVIDE NEW ANGLE FRAME BELOW ROOF CURB TO SUPPORT FAN AS REQUIRED. EXTEND EA DUCTWORK IN ATTIC AS INDICATED ON PLAN. EXHAUST FANS EF-1 & EF-1A SHALL BE HARDWIRED INTERLOCKED TO OPERATE WHEN MUA-1 OPERATES. SEE SPECIFICATION 230993,1.5 FOR EF-1 & EF-1A SEQUENCE OF OPERATION. PROVIDE DISCONNECT ETC. FOR A COMPLETE INSTALLATION. PROVIDE PATHWAYS AND COVERS FOR ANY EXPOSED CONTROLS WIRING.

D. CONTRACTOR SHALL PROVIDE OUTSIDE AIR INTAKE LOUVER WITH SHEET METAL FAN HOUSING, FILTER RACK WITH MERV 8 FILTER, AND MOTORIZED DAMPER (MOD) AS INDICATED ON PLAN. SYSTEM SHALL BE LOCATED AT HEIGHT AS INDICATED ON PLAN. MOD SHALL BE INTERLOCKED WITH EF-3 AND AIR COMPRESSOR AND SHALL OPEN WHEN EF-3 AND/OR AIR COMPRESSOR STARTS. EF-3 SHALL START VIA A WALL MOUNTED THERMOSTAT. SEE SPECIFICATION SECTION 230993, 1.6. FOR EF-3 AND OA LOUVER AUTOMATIC DAMPER OPERATION. PROVIDE ALL REQUIRED HANGERS, ISOLATORS AND SUPPORTS FOR A COMPLETE INSTALLATION.

E. PROVIDE NEW GAS DETECTION SENSING AND ALARM CO/NO2 SYSTEM. PROVIDE REQUIRED EQUIPMENT AND ALARM INTERFACE WIRING CONNECTIONS PER THE SPECIFICATIONS. FINAL SENSOR LOCATION PER MFG'S RECOMMENDATION.

F. CONTRACTOR SHALL PROVIDE NEW EXHAUST FAN IN LOCATION AS INDICATED ON PLAN. PROVIDE MANUFACTURER'S INLET GRILLE INSTALLED IN THE CEILING. FAN DISCHARGE DUCT SHALL BE ROUTED TO THE POINT OF TERMINATION INDICATED ON PLAN. PROVIDE MFG'S DISCHARGE WALL CAP. PROVIDE MFG'S DISCHARGE EXHAUST FAN CONTROL SHALL BE ACCOMPLISHED AS FOLLOWS: EF-2: SEE SPECIFICATION 230993, 1.10 FOR SEQUENCE OF OPERATION. ; EF-3: SEE SPECIFICATION 230993,1.6 FOR EF-3 AND OAI LOUVER ADR OPERATION.

G. CONTRACTOR SHALL PROVIDE NEW CEILING MOUNTED ELECTRIC CABINET HEATERS PROVIDE UNI-STRUT METAL FRAMING SUPPORTS CONNECTED TO WOOD JOISTS. UNITS SHALL INCLUDE REMOTE THERMOSTATS. THERMOSTAT SHALL BE MOUNTED AT 48" AFF IN TAMPERPROOF ENCLOSURE.

H. CONTRACTOR TO PROVIDE SHEET METAL AIR SCOOPS FOR BOTH THE 12"x8" SUPPLY GRILLE AND 12"x6" TRANSFER GRILLE IN 100d GENERAL STORAGE TO ENSURE PROPER AIRFLOW INTO THE ROOM. REFER TO DETAIL 16/M3.0.

I. FOR VERTICAL/ HORIZONTAL CHASES, CONTRACTOR SHALL FURNISH & INSTALL (N)HPE OR (N)VPE TO CONCEAL ALL EXPOSED PIPING/CONDUIT FROM EQUIPMENT TO POINT OF TERMINATION FOR ALL INTERIOR OR EXTERIOR (BLDG. MTD. ONLY) INSTALLATION. MODIFY AND/OR CONNECT TO EX. VERTICAL/HORIZONTAL PIPE WHERE REQUIRED.

J. ALL EXPOSED DUCT SHALL BE PRE-FINISHED WHITE FROM THE FACTORY MEETING SMACNA STANDARDS.

DATE	No.	REVISION
11/03/26	1	RELEASED FOR BID

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LOT NO. 3
BLOCK NO. 4704

LRHSD PROJECT NO. REF21-43-8319, 2-010-24
PROPOSED NEW MAINTENANCE FACILITY
SHAWNEE HIGH SCHOOL MAINTENANCE BUILDING
580 TABERNACLE ROAD, MEDFORD, NEW JERSEY 8055
MEDFORD TOWNSHIP
BURLINGTON COUNTY

Linda M. Vinnell, AIA, Secretary/Treasurer
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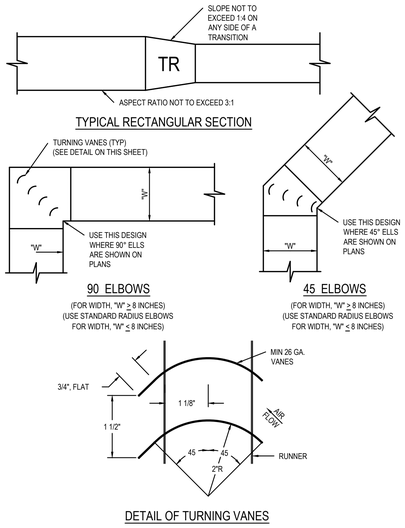
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COMM. No.	8319	CHECKED BY:	BTR
DATE:	11/03/2026	BC26206.00	

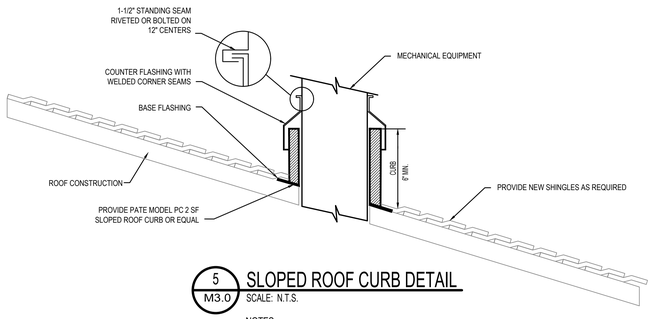
SHEET TITLE:
MECHANICAL NEW WORK FLOOR PLAN

SHEET No.:
M1.0

FILE I:\8200\8.0 Dept Commercial - Hospitality\BPB26206.00 - LRHSD - 8319 SHS Grounds Garage\05 - Drawings\Mechanical\8319 - M-01 - SHS Grounds Garage.dwg DATE 11/3/2026 3:23 PM USER Leeds, Ryan



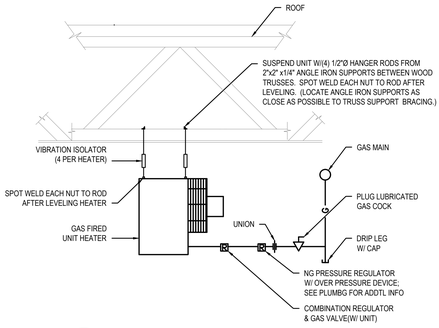
1 M3.0 DUCT LAYOUT DETAILS
SCALE: N.T.S.



5 M3.0 SLOPED ROOF CURB DETAIL
SCALE: N.T.S.

NOTES:

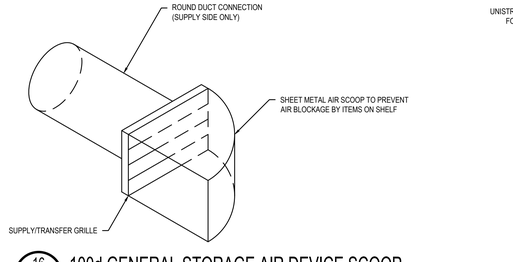
1. SEAL BASE FLASHING TO ROOF WITH ROOFING CAULK AND SECURE FLASHING TO DECK WITH 4 GALVANIZED ROOFING NAILS



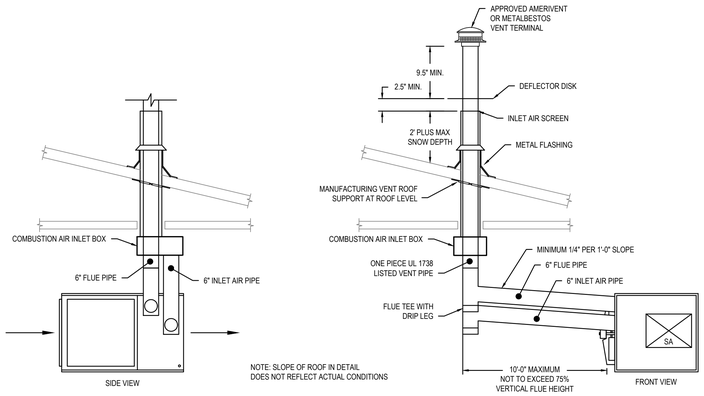
12 M3.0 GAS UNIT HEATER DETAIL
SCALE: N.T.S.

NOTES:

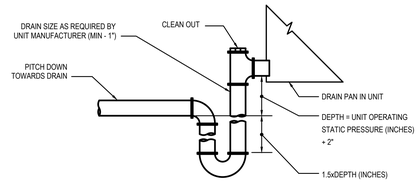
1. SEE DETAIL 3/M3.0 FOR VENTING REQUIREMENTS.
2. FINAL SUPPORT DESIGN SHALL BE BY POLE - BARN MFR.



16 M3.0 100d GENERAL STORAGE AIR DEVICE SCOOP
SCALE: N.T.S.



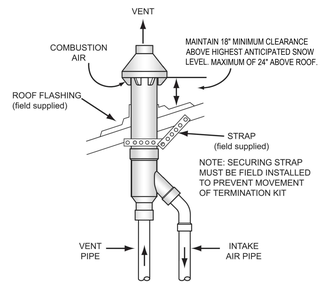
2 M3.0 MUA-1 FLUE DETAIL
SCALE: N.T.S.



6 M3.0 DRAW THRU CONDENSATE DRAIN TRAP DETAIL
SCALE: N.T.S.

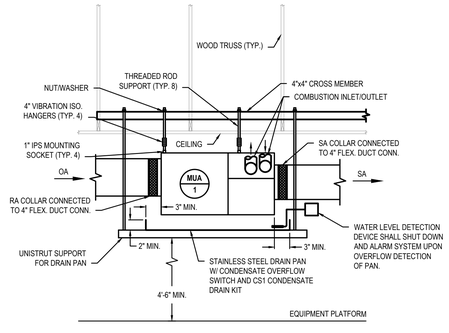
NOTES:

1. APPLIES TO MUA-1.



4 INCH CONCENTRIC TERMINATION
VERTICAL INSTALLATION

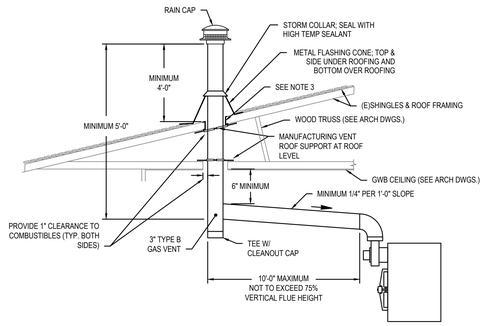
9 M3.0 VERTICAL CONCENTRIC VENT TERMINATION DETAIL
SCALE: N.T.S.



13 M3.0 HORIZONTAL MOUNTED MUA-1 DETAIL
SCALE: N.T.S.

NOTES:

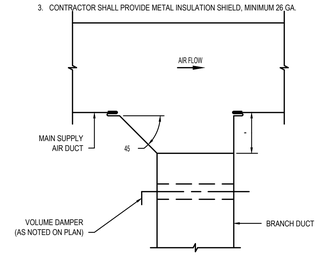
1. PROVIDE 4"x4" PRESSURE TREATED LUMBER AND SECURE THRU THE TOP SIDE OF THE BOTTOM TRUSS CORD. INSTALL NEW 1" I VERIFY WITH AHU VENDOR) THREADED ROD THRU 4"x4" CROSS MEMBER SUPPORT. SECURE AT TOP OF 4"x4" CROSS MEMBER WITH WASHER AND NUT ASSEMBLY.
2. POLE BARN MFR. SHALL COORDINATE THE LOCATION OF THE WOOD TRUSS CROSS MEMBERS WITH THE LOCATION OF MUA-1 AND IT'S INTENDED STRUCTURAL SUPPORTS ABOVE THE CEILING. VERIFY FINAL LOCATION WITH MC.
3. POLE BARN MFR. TO RETAIN A PROFESSIONAL ENGINEER TO VERIFY THE INTENDED STRUCTURAL DESIGN FOR STRUCTURAL INTEGRITY.



3 M3.0 UNIT HEATER FLUE DETAIL - GUH-1
SCALE: N.T.S.

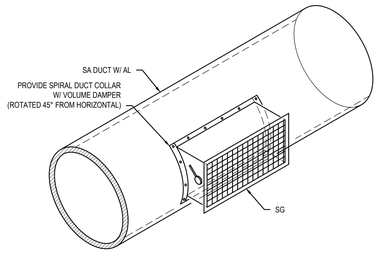
NOTES:

1. CONTRACTOR SHALL SEAL METAL FLASHING TO ROOF WITH ROOFING CAULK AND SECURE FLASHING TO DECK WITH (4) GALVANIZED ROOFING NAILS.
2. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR ADDITIONAL CONSIDERATIONS.
3. CONTRACTOR SHALL PROVIDE METAL INSULATION SHIELD, MINIMUM 26 GA.

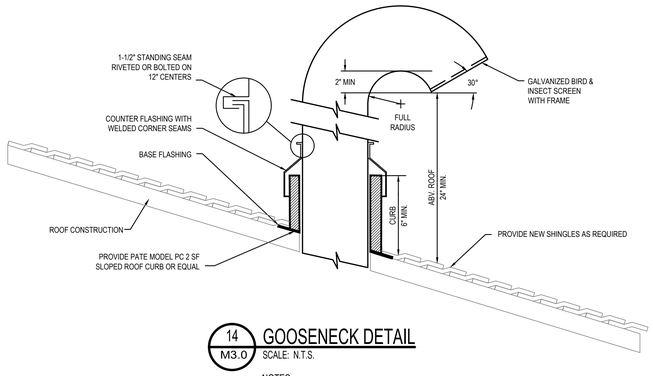


* EQUALS 1/4 WIDTH OF BRANCH DUCT MINIMUM 4".

7 M3.0 TYPICAL LOW PRESSURE RECTANGULAR DUCT TAKE-OFF DETAIL
SCALE: N.T.S.



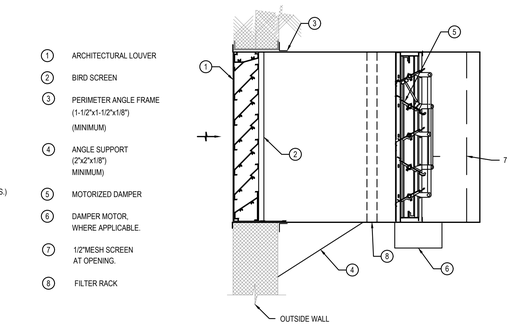
10 M3.0 SPIRAL DUCT GRILLE DETAIL
SCALE: N.T.S.



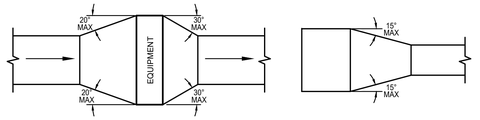
14 M3.0 GOOSENECK DETAIL
SCALE: N.T.S.

NOTES:

1. DIRECT EXHAUST AWAY FROM AIR INTAKES.
2. SEAL BASE FLASHING TO ROOF WITH ROOFING CAULK AND SECURE FLASHING TO DECK WITH 4 GALVANIZED ROOFING NAILS.



4 M3.0 LOUVER AND PLENUM CONNECTION DETAIL
SCALE: N.T.S.



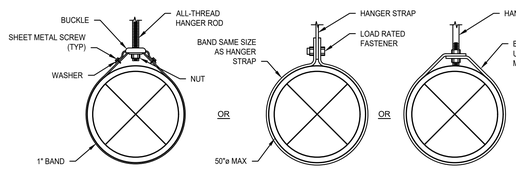
TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

8 M3.0 TYPICAL DUCT TRANSITION WITH EQUIPT MOUNTED IN DUCT DETAIL
SCALE: N.T.S.

NOTES:

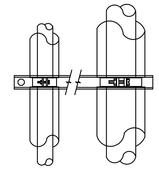
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.



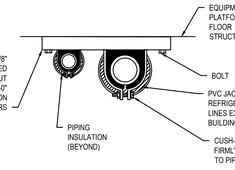
11 M3.0 SPIRAL DUCT SUPPORT DETAIL
SCALE: N.T.S.

NOTES:

1. HANGERS MUST NOT DEFORM DUCT SHAPE.



PLAN



ELEVATION

15 M3.0 HORIZONTAL MOUNTED REFRIGERATION PIPING SUPPORT DETAIL
SCALE: N.T.S.

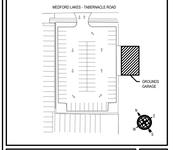
11/03/26	1	RELEASED FOR BID
DATE	No.	REVISION

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COMM. No.	8319	CHECKED BY:	BTR
DATE:	11/03/2026	BC26206.00	

SHEET TITLE:
MECHANICAL DETAILS

SHEET No.:
M3.0

FILE I:\2026\8 Dept Commercial - Hospitality\BP26206.00 - LRHSD - 8319 SHS Grounds Garage\05 - Drawings\Mechanical\8319 - M-301 - Details.dwg DATE 11/3/2026 3:23 PM USER Lewis, Ryan

MAKEUP AIR UNIT SCHEDULE

SYMBOL	LOCATION	SERVICE	TOTAL CFM	DESIGN MIN OA CFM	ESP (IN WC)	FAN HP	FILTERS		INDIRECT GAS-FIRED HEATING			ELECTRICAL			OPER WEIGHT (LBS)	BASIS OF DESIGN	
							TYPE	EFF %	INPUT (MBH)	OUTPUT (MBH)	GAS PRESS REQ'D (IN WC)	MCA	MOP	V/PH/HZ		MANUFACTURER	MODEL NUMBER
MUA-1	GARAGE	VENT'LN MAKE-UP	1800	1800	0.75	0.75	2"	MERV 8	175	140	5-14	5.22	15	208/3/60	358	REZNOR	SCE-TSL-175

NOTES:
1. UNIT SHALL BE 100% OUTSIDE AIR.
2. PROVIDE THREADED RODS AND VIBRATION SPRINGS FOR MOUNTING.
3. UNIT SHALL BE END DISCHARGE.
4. PROVIDE FUSED DISCONNECT SWITCH.
5. PROVIDE FACTORY INSTALLED 2" FILTER RACK WITH PLEATED THROW AWAY FILTERS. PROVIDE REZNOR FIELD INSTALLED CS1 CONDENSATE DRAIN KIT & SS BOTTOM CONDENSATE DRAIN PAN. PROVIDE OVERFLOW SHUTDOWN SWITCH.
6. PROVIDE 2-POSITION MOTORIZED OA DAMPER.
7. PROVIDE AG-9 ELECTROCNIC MODULATION WITH DUCT PROBE WITH REMOTE TEMPERATURE SELECTOR,55-90F, W/ OVERRIDE T'STAT AND MAXITROL CONTROLS PACKAGE.
8. UNIT CONTROLS WILL REQUIRE AN AMPLIFIER UPGRADE AT TIME OF INTEGRATION IN THE FUTURE FOR THE BACNET INTERFACE FOR FUTURE MONITORING PURPOSES.
9. PROVIDE CONCENTRIC ADAPTER BOX FOR COMBUSTION INTAKE AND POWER VENTILATION.

AIR TERMINAL DEVICE SCHEDULE

SYMBOL	SERVICE	TYPE	CFM RANGE	NECK SIZE	N.C. (@ MAX CFM)	FACE OVERALL DIMENSIONS WxL (IN.)	BASIS OF DESIGN	
							MANUFACTURER	MODEL NUMBER
SR-1	SUPPLY	DUCT MOUNT	210	12x4	45	14x6	PRICE	SDG
SR-2	SUPPLY	DUCT MOUNT	210	12x4	45	14x6	PRICE	SDG
SR-3	SUPPLY	DUCT MOUNT	215	12x6	32	14x8	PRICE	SDG
SR-4	SUPPLY	DUCT MOUNT	215	12x6	32	14x8	PRICE	SDG
SG-1	SUPPLY	DUCT MOUNT	0-70	10x6	-	12x8	PRICE	620
TG-1	TRANSFER	WALL MOUNT	30	10x4	-	12x6	PRICE	ATG1
WMS-1	EXHAUST	DUCT MOUNT	900	16x16	30	18x18	1/2 X 1/2 BY SM CONTR.	-

NOTES:
1. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS.
2. ALL EXPOSED AIR DEVICES SHALL HAVE BAKED WHITE ENAMEL FINISH OR COLOR AS SELECTED BY ARCHITECT. FINAL COLORS TO BE DETERMINED POST AWARD. ALL GRILLES MOUNTED ON GALVANIZED EXPOSED DUCTWORK SHALL HAVE BAKED WHITE ENAMEL FINISH OR COLOR AS SELECTED BY ARCHITECT. SDG'S W/DBL DEFLECTION & AIR SCOOP.

SPLIT-SYSTEM A/C UNIT SCHEDULE

			INDOOR UNIT							OUTDOOR UNIT							
UNIT	MFR	LOCATION	MODEL #	TYPE	TOTAL COOLING (BTUH)	TOTAL HEATING (BTUH)	V/PH/HZ	MCA	MOCP	UNIT	MODEL #	TYPE	SEER	V/PH/HZ	MCA	MOCP	NOTES
SS-1	FUJITSU	GEN. STOR. 100d	ACUH09KUAS	CASSETTE	9,000	12,000	208V/1Ø/60	N/A*	15A	CU-1	AOUH09KUAS1	R-32	24.2	208V/1Ø/60	8.9	15A	ALL NOTES

* FED THRU OUTDOOR UNIT

NOTES:
1. THE NEW SPLIT SYSTEM INCLUDES THE FOLLOWING ITEMS LISTED BELOW.
2. ELECTRICAL DISCONNECT SWITCH - INDOOR AND OUTDOOR UNITS.
3.INTERCONNECTING CONTROL WIRE AND REFRIGRERANT PIPING WITH OUTDOOR UNITS.
4. INDOOR UNIT WITH WALL MOUNTED 7 DAY PROGRAMMABLE T'STAT.
5. LOW AMBIENT CONTROL KIT.
6. GALVANIZED SS,SIDE WALL MOUNTING BRACKETS W/VIBRATION ISOLATORS AND ADJUSTABLE LEVELING BAR AND ASSOCIATED HARDWARE FOR OUTDOOR UNIT.
7. INDOOR UNITS POWERED BY OUTDOOR UNIT.
8. PROVIDE STAND-ALONE CONTROLS AND OPTIONAL CONTROLLER WITH INTEGRATION ADAPTERS FOR FUTURE CONNECTION TO LRHSD'S BMS ATC SYSTEM.

GARAGE AREA - VENTILATION SCHEDULE

ROOM No.	ROOM NAME	AREA (FT^2) (NET)	No. OF OCCUP. OR FIXTURES	CODE REQUIRED VENTILATION RATE							DESIGN				NOTES
				AREA OUTDOOR AIR FLOWRATE (CFM/FT^2)	PEOPLE OUTDOOR AIR FLOWRATE (CFM/PERSON)	BREATHING ZONE (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS	AREA DESIGN O.A. (CFM)	EA RATE (CFM/FIXTURE) OR CFM/SF	CALCULATED EXHAUST AIRFLOW (CFM)	TOTAL O.A. REQ'D (CFM)	TOTAL O.A. ACTUAL (CFM)	TOTAL DESIGN AIR - SUPPLY	EXHAUST AIR CFM	
100	MAINTENANCE GARAGE	2,250	-	-	-	-	0.8	-	0.75	1688	-	1700	1,700	1700	
100a	STAFF ROOM	44	1	-	-	-	0.8	-	70	70	-	70	70	70	
100b	WOMENS ROOM	44	1	-	-	-	0.8	-	70	70	-	-	-	70	XFER 70 CFM
100c	MENS ROOM	44	1	-	-	-	0.8	-	70	70	-	-	-	70	XFER 70 CFM
100d	GENERAL STORAGE	70	4	0.06	5	24	0.8	30	-	-	30	30	30	30	
		2,452										**1,800**	**1,800**	**1940**	

NOTES:
BASED ON INTERNATIONAL MECHANICAL CODE 2021, CHAPTER 4.

ELECTRIC UNIT HEATER SCHEDULE

SYMBOL	LOCATION	TYPE	CFM	CAPACITY (MBH)	ELECTRIC COIL			BASIS OF DESIGN	
					KW	AMPS	V/PH/HZ	MANUFACTURER	MODEL NUMBER
EUH-1	STORAGE/ TOILET ROOMS	CEILING MOUNTED	150	13.7	4 / 2	19.2	208/1/60	MARLEY	F4008

NOTES:
1. HEATER SURFACE MOUNTED WITH PROVIDED LOW VOLTAGE T'STAT AND CONTROL. THERMOSTAT SHALL INCLUDE A PROTECTIVE COVER/CAGE ETC.
2. UNIT MUST HAVE LOW VOLTAGE RELAY, AUTO NIGHT SETBACK, FAN RELAY SWITCH, THERMAL CUTOUT, POWER ON/OFF SWITCH AND BACK BOX.
3. MC TO PROVIDE REQUIRED BRACKETS UNISTRUT, ANGLE IRON ETC. REQUIRED FOR A PROPER INSTALLATION.

EXHAUST FAN SCHEDULE

SYMBOL	SERVICE	FAN TYPE	CFM (MIN. /MAX.)	ESP (IN. WC)	FAN RPM MIN/MAX.	MCA	MOP	DRIVE TYPE	MOTOR HP	MOTOR BHP	ELECTRICAL	OPER WEIGHT (LBS)	BASIS OF DESIGN		NOTES
											V/PH/HZ		MANUFACTURER	MODEL NUMBER	
EF-1/1A	MAINTENANCE GARAGE MUA	ROOF	900	0.67	1200	8.2	15	DIRECT	1/2	_	115/1/60	64	GREENHECK	G-120-VG	1,2,3,4,5,6
EF-2	STAFF , M&W TR	CABINET	70	0.38	718	0.7	15	DIRECT	19 W	_	115/1/60	24	GREENHECK	SP-A250	7,8
EF-3	MECH. MEZZ	PROPELLER	2600 / 5200	0.9	589 / 1560	8.0	15	DIRECT	2	1.42 (MAX.)	208/3/60	265	GREENHECK	AER-24	9

NOTES:
1. PROVIDE BIRDSCREEN.
2. PROVIDE INTEGRAL GRAVITY BACKDRAFT DAMPER.
3. PROVIDE PREMIUM EFFICIENCY EC MOTOR (OR VARI-GREEN).
4. PROVIDE FACTORY MOUNTED PREWIRED DISCONNECT SWITCH RATED FOR THE APPROPRIATE LOCATION & APPLICATION.
5 PROVIDE SPEED CONTROLLER IF DIRECT DRIVE FAN.
6. PROVIDE MIN. 14" HIGH, INSULATED, PITCHED ROOF CURB. PROVIDE BLOCKING AS REQUIRED TO MEET ROOF SLOPE.
7. EF-2: FANS TO BE CONTROLLED VIA LIGHT SWITCH. COORDINATE POWER / SWITCHING WITH ELECTRICAL CONTRACTOR. INTEGRATE EF'S AND ASSOCIATED MOD'S INTO BMS.
8. EF-2: PROVIDE ALL MOUNTING BRACKETS AND THREADED ROD AS REQUIRED. PROVIDE SPRING VIBRATION ISOLATORS. PROVIDE 6" ROUND HOODED WALL CAP MODEL WC. PROVIDE EXHAUST GRILLE.
9. GALVANIZED STEEL FAN PANEL, CAST ALUMINUM AIRFOIL BLADE PROPELLER, WALL HOUSING WITH WELDED STEEL WIRE , 45 DEGREE WEATHERHOOD W/WMS, SPEED CONTROLLER FOR BALANCING, VARI-GREEN EC MOTOR, W UL 705 LISTED, SHORT WALL HSG., FLUSH EXTERIOR, W/OSHA GRD., FACTORY INSTALLED MOTOR ACCESS: FROM INT. OF BLDG., NEMA 1 FLUSH TOGGLE DISCONNECT SWITCH, JUNCTION BOX MOUNTED AND WIRED, GANVANIZED WEATHERHOOD , 45 DEGREE W/BIRD SCREEN, UNIT-GALVANIZED, IMPELLER MATERIAL - CAST ALUMINUM MOUNTED MOTORIZED DAMPER (NOT COATED), VFD PACKAGE/CONTROLLER W/NEMA 1 ENCLOSURE.

GAS-FIRED UNIT HEATER SCHEDULE

SYMBOL	DISCHARGE TYPE	LOCATION	CFM	GAS HEATER						ELECTRICAL				VENT CONN.	OPER WEIGHT (LBS)	BASIS OF DESIGN	
				INPUT MBH	OUTPUT MBH	% EFF	INPUT RANGE (IN WC)	EAT (°F)	LAT (°F)	MOTOR HP	VOLTS/PH/HZ	FLA	MOCP			MANUFACTURER	MODEL NUMBER
GUH-1	HORIZONTAL	SEE PLANS	720	45	37.4	83.0	6.0" - 7.0"	60	108	1/15	115/1/60	4.2	20	3"	72	MODINE	HD45SS0111FDAN

NOTES:
1. UNIT SHALL BE POWER VENTED.
2. PROVIDE DIRECT SPARK IGNITION, ALUMINIZED STEEL HEAT EXCHANGER.
3. DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR, PROVIDE 24V CONTROL TRANSFORMER, PROVIDE TOTALLY ENCLOSED FAN MOTOR.
4. PROVIDE STABD-ALONE 24V WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT WITH GUARD AND LOCKING COVER AND SUMMER-WINTER TOGGLE SWITCH. PROVIDE LOW VOLTAGE RELAY FOR FUTURE BMS INTEGRATION.
5. PROVIDE OSHA FULL FAN GUARD AND 3" VENT CAP.
6. PROVIDE 4 POINT HANGING SUSPENSION WITH SPRING VIBRATION ISOLATORS.
7. MOUNT 13' AFF TO BOTTOM OF UH. PROVIDE 30 DEGREE DOWNWARD DEFLECTOR HOODS.

DATE	No.	REVISION
11/03/26	1	RELEASED FOR BID

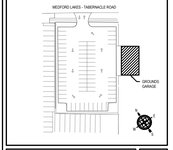
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LOT NO. 3
BLOCK NO. 4704
LRHSD PROJECT NO. REF21-43-8319, 2-010-24
PROPOSED NEW MAINTENANCE FACILITY
SHAWNEE HIGH SCHOOL MAINTENANCE BUILDING
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MEDFORD TOWNSHIP
BURLINGTON COUNTY

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KEY PLAN:



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SCALE:	AS NOTED	DRAWN BY:	RML
COMM. No.	8319	CHECKED BY:	BTR
DATE:	11/03/2026	BC26206.00	

SHEET TITLE:
MECHANICAL SCHEDULES

SHEET No.:
M3.1

FILE I:\2026\8 Dept Commercial - Hospitality\BP26206.00 - LRHSD - 8319 SHS Grounds Garage\05 - Drawings\Mechanical\8319 - M-302 - Schedules.dwg DATE 11/3/2026 3:23 PM USER Lavels, Ryan