

GENERAL NOTES

1. ALL WORK PERFORMED SHALL BE DONE IN STRICT ACCORDANCE TO ALL APPLICABLE MECHANICAL, BUILDING, ENERGY, FUEL GAS, AND LOCAL CODES, WITH AMENDMENTS.
2. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
3. COORDINATE MECHANICAL WORK WITH ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL AND LANDSCAPE WORK SHOWN ON OTHER CONTRACT DOCUMENTS. PROVIDE ADDITIONAL OFFSETS FOR COORDINATED INSTALLATION WHERE REQUIRED.
4. COORDINATE HVAC, PLUMBING, AND FIRE PROTECTION WORK PRIOR TO INSTALLATION. DUCTWORK AND EQUIPMENT ACCESS TAKES PRECEDENCE OVER ALL PIPING EXCEPT GRAVITY SYSTEMS FOR AVAILABLE SPACE.
5. CONTRACTOR IS RESPONSIBLE FOR CONFORMANCE WITH ALL PLANS AND SPECIFICATIONS. IF A DISCREPANCY EXISTS BETWEEN ANY PLAN AND/OR SPECIFICATION, THE MORE STRINGENT REQUIREMENT SHALL BE FOLLOWED. CONTRACTOR IS ENCOURAGES TO SUBMIT RFIS BEFORE BID TO CLARIFY PLAN AND SPECIFICATION INTENT.
6. COORDINATE EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
7. CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ANY DIRT AND DEBRIS CAUSE BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT. BEFORE SUBSTANTIAL COMPLETION, CLEAN EQUIPMENT, FIXTURES, EXPOSED DUCTS, PIPING AND SIMILAR ITEMS.
8. PROVIDE EQUIPMENT THAT FITS INTO THE SPACE ALLOTTED AND ALLOWS ADEQUATE ACCEPTABLE CLEARANCE FOR INSTALLATION, REPLACEMENT, SERVICING, AND MAINTENANCE. COORDINATE WITH OTHER TRADES TO ENSURE NO CONFLICT WITH REQUIRED CLEARANCES.
9. CONTRACTOR SHALL OBTAIN & PAY FOR ALL PERMITS AND CONSTRUCTION FEES. FURNISH FINAL CERTIFICATE TO OWNER SHOWING COMPLIANCE WITH CODE REQUIREMENTS.
10. REFER TO TYPICAL DETAILS PROVIDED IN THIS DRAWING SET FOR DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR CONFORMANCE WITH DETAILS.
11. A SHORT DASH IN A SCHEDULE TABLE CELL INDICATES THAT THE COLUMN HEADING IS NOT USED OR NOT APPLICABLE TO THAT SCHEDULED ITEM.
12. PROVIDE COMMISSIONING FOR MECHANICAL SYSTEMS. COMMISSIONING AGENT SHALL PROVIDE A COMMISSIONING PLAN OUTLINING ORGANIZATION, SCHEDULE, NARRATIVE, RESPONSIBILITIES MATRIX, LIST OF EQUIPMENT TO BE TESTED, FUNCTIONS TO BE TESTED, CONDITIONS UNDER WHICH TESTS SHALL BE PERFORMED, AND MEASURABLE CRITERIA FOR PERFORMANCE. COMMISSIONING SHALL BE PER C408 OF THE 2021 WSEC.
13. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 70 STANDARDS AND LOCAL REQUIREMENTS.
14. ALL FIELD WIRING SHALL REQUIRE AN ELECTRICAL PERMIT AND SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
15. COORDINATE ELECTRICAL REQUIREMENTS SHOWN ON PLANS AND SPECS WITH AVAILABLE VOLTAGES AND PANEL SPACE ONSITE AS WELL AS WITH ELECTRICAL ENGINEER AND ELECTRICAL CONTRACTOR. IF DISCREPANCIES EXIST BETWEEN THESE PLANS AND AVAILABLE ONSITE ELECTRICAL UTILITIES, DO NOT PURCHASE OR INSTALL EQUIPMENT BEFORE FIRST CONTACTING MEL AND RECEIVING INSTRUCTION.
16. LOCATE VALVES, CLEANOUTS, DAMPERS, CONTROLS AND SIMILAR COMPONENTS SO THAT THEY ARE ACCESSIBLE. PROVIDE ACCESS DOORS FOR MECHANICAL EQUIPMENT INSTALLED BEHIND WALLS, ABOVE INACCESSIBLE CEILINGS AND BELOW FLOORS. COORDINATE ACCESS DOOR LOCATIONS WITH ARCHITECT/ENGINEER.
17. ACCESS PANELS SHALL BE 16 GA. STEEL, FLUSH TYPE ACCESS DOOR WITH CONCEALED HINGE AND SLOT SCREWDRIVER TYPE CAM LATCH. PROVIDE FACTORY PRIMED IN PAINTED SURFACE AREAS FOR FIELD PAINTING. PROVIDE STAINLESS STEEL FOR ALL OTHER AREAS. PROVIDE UL LISTED AND LABELED DOOR WHERE FIRE-RESISTANCE RATING IS INDICATED ON DRAWINGS. ACCESS DOOR SHALL BE SIZED SO THAT ADJACENT EQUIPMENT IS ACCESSIBLE. PROVIDE ACUDOR, ELMODR, MILCOR, OR APPROVED.
18. INSTALL TAG ON CEILING GRID FRAME TO INDICATE LOCATION AND TYPE OF EQUIPMENT THAT REQUIRES MAINTENANCE.

PIPING:

1. INSULATE PIPING PER WASHINGTON STATE ENERGY CODE SECTION C403.10.3.
2. ALL PRESSURES LISTED ARE GAGE PRESSURES UNLESS OTHERWISE NOTED.
3. PROVIDE COMPLETE CONDENSATE DRAINAGE SYSTEM FOR ALL INDOOR UNITS. FIELD ROUTE DRAINAGE PIPING FROM EQUIPMENT TO NEAREST DRAIN LOCATION (SUCH AS SERVICE SINK, FUNNEL DRAIN, ETC.). SLOPE NON-PRESSURIZED DRAIN PIPING TO DRAIN LOCATION. PIPING & FITTINGS SHALL BE PVC. MINIMUM PIPE SIZE SHALL BE 3/4". INCREASE PIPE SIZE WHERE APPLICABLE PER IMC 307.2.2.
4. VALVES SHALL BE INSTALLED SO THAT SYSTEM REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
5. VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS UNLESS OTHERWISE NOTED.
6. PROVIDE UNIONS AND/OR FLANGES AT EACH PIECE OF EQUIPMENT, AT EACH CONTROL VALVE, IN BYPASSES, AND IN LONG PIPING RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.
7. THE PROPOSED ROUTING FOR THE REFRIGERATION PIPING BETWEEN THE INDOOR AND OUTDOOR UNITS IS INDICATED AS A SINGLE LINE ON THE PLANS. THAT SINGLE LINE REPRESENTS ALL THE PIPING RUNS REQUIRED FOR THE SYSTEM DESIGNED. SIZE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATION.

HVAC/SHEET METAL:

1. THE FIRST FIGURE OF DUCT SIZE CALLOUTS INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS. PROVIDE ANY APPLICABLE DUCT LINING AND INSULATION PER THESE PLANS.
2. DUCT SIZE NOT SHOWN SHALL BE SIZED TO VELOCITIES NO GREATER THAN UP STREAM SECTIONS USING SIMILAR ASPECT RATIOS.
3. TOTAL STATIC PRESSURE NOTED IN SCHEDULES SHALL BE ASSUMED TO INCLUDE DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
4. ALL SUPPLY AIR FILTERS SHALL BE MERV-8 RATED. ALL RETURN/EXHAUST/OUTSIDE AIR FILTERS SHALL BE MERV-8 RATED. UNLESS OTHERWISE NOTED.
5. AIR TERMINAL SIZES SHOWN ON PLANS ARE NECK SIZES. PROVIDE ADDITIONAL PANS, HARDWARE, ETC., REQUIRED TO INSTALL AIR TERMINAL IN CEILING SYSTEM.
6. AIR TERMINALS IN UNFINISHED SPACES OR OPEN CEILING AREAS SHALL BE INSTALLED AT 8' AFF UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
7. DUCTWORK SHALL BE 2.0" PRESSURE CLASS UNLESS OTHERWISE NOTED ON THESE DRAWINGS.
8. CONSTRUCT DUCTWORK ACCORDING TO WASHINGTON STATE ENERGY CODE SECTION C403.10.2. ALL DUCT WORK SHALL BE PRIMED GALVANIZED SHEET STEEL, LOCK FORMING QUALITY, FABRICATED IN ACCORDANCE TO SMACNA STANDARDS.
9. PROVIDE TURNING VANES IN ALL MITERED RECTANGULAR DUCT ELBOWS & TEES.
10. PROVIDE MOTORIZED DAMPERS ON OUTDOOR AIR SUPPLY AND EXHAUST OPENINGS. DAMPERS SHALL HAVE A MAXIMUM LEAKAGE RATE OF 4 CFM PER SQUARE FOOT AT 1" W.C.
11. ALL SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED AND SEALED PER WASHINGTON STATE ENERGY CODE SECTION C403.10.1.
12. OUTSIDE AIR DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH C403.10.1.1.
13. VENTILATION AND EXHAUST AIR IS PROVIDED IN ACCORDANCE WITH C403.2.2.
14. PROVIDE EACH ZONE WITH THERMOSTATIC CONTROLS THAT PROVIDE A DEADBAND OF AT LEAST 5 DEGREES FAHRENHEIT IN WHICH HEATING OR COOLING ENERGY IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM. THERMOSTAT SHALL BE CAPABLE OF THERMOSTATIC SETBACK, AUTOMATIC SETBACK AND SHUTDOWN, AND AUTOMATIC START CAPABILITIES PER WASHINGTON STATE ENERGY CODE SECTION C403.4.
15. PROVIDE TEMPORARY COVERS OVER OPEN ENDS OF EQUIPMENT AND DUCTWORK DURING CONSTRUCTION.

16. PROVIDE MANUAL VOLUME DAMPER FOR EACH DIFFUSER, REGISTER, AND GRILLE. OPPOSED BLADE DAMPERS LOCATED AT THE DIFFUSER, REGISTER, AND GRILLE SHALL NOT BE USED FOR SYSTEM BALANCE, EXCEPT IN HARDLID AREAS.
17. PROVIDE DUCT ACCESS DOORS AT DUCT SMOKE DETECTORS, BACKDRAFT DAMPERS, MOTORIZED CONTROL DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, DUCT MOUNTED COILS, DUCT AIRFLOW STATIONS AND LOUVER PLENUMS.
18. COORDINATE FINAL LOCATION OF EQUIPMENT WITH OWNER OR REPRESENTATIVE.

APPLICABLE CODES

AS ADOPTED BY THE CITY OF PUYALLUP, WA

INTERNATIONAL MECHANICAL CODE, IMC 2021
INTERNATIONAL BUILDING CODE, IBC 2021
WASHINGTON STATE ENERGY CODE, WSEC 2021
INTERNATIONAL FUEL GAS CODE, IFGC 2021
UNIFORM PLUMBING CODE, UPC 2021

AND ASSOCIATED WASHINGTON ADMINISTRATIVE CODE AMENDMENTS

DESIGN CONDITIONS

OUTDOOR CONDITIONS (PUYALLUP, WA)
COOLING: 86°F DB, 64°F WB (WSEC APPENDIX C)
HEATING: 19°F DB (WSEC APPENDIX C)

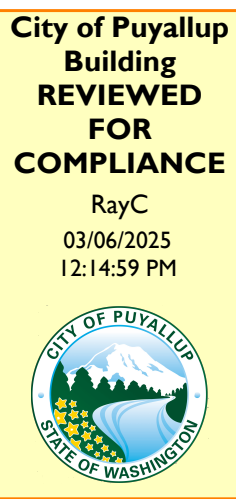
INDOOR CONDITIONS
COOLING: 75°F DB, 50% RH
HEATING: 70°F DB
SEMI HEATED: 8 BTU/SF

SCOPE OF WORK

1. INSTALL GAS MAKE UP AIR UNITS, TYPE I & II HOODS, AND EXHAUST SYSTEMS AS SHOWN ON PLANS. NOTE EQUIPMENT PROVIDED BY OTHER, DEPICTED ON THESE PLANS.
2. INSTALL FREEZE PROTECTION IN SATELLITE KITCHENS.
3. INSTALL GAS RADIANT HEATERS FOR OCCUPANT COMFORT OUTSIDE OF THE THERMAL ENVELOPE.
4. INSTALL OTHER MISCELLANEOUS SYSTEMS SHOWN.

Separate permits are required for fire suppression systems at Hood/duct.

Revision set; SEE original permit set for notes and comments.



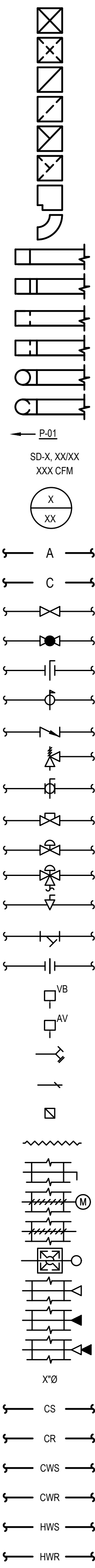
Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION. PRINT in COLOR and to SCALE.

ABBREVIATIONS

(E)	EXISTING
AABC	AMERICAN AIR BALANCE COUNCIL
AFF	ABOVE FINISHED FLOOR
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AG	AIR GAP
AGA	AMERICAN GAS ASSOCIATION
AHRI	AIR CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
AMP	AMPERAGE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BAS	BUILDING AUTOMATION SYSTEM
BHP	BRAKE HORSEPOWER
CB	CATCH BASIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
CONFIG	CONFIGURATION
CSA	CANADIAN STANDARDS ASSOCIATION
DB	DRY BULB
DC	DOUBLE CHECK
DDC	DIRECT DIGITAL CONTROLS
DIA	DIAMETER
DN	DOWN
DOAS	DEDICATED OUTSIDE AIR SYSTEM
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRICALLY COMMUTATED MOTOR
EFF	EFFICIENCY
ESP	EXTERNAL STATIC PRESSURE
ETC	ET CETERA
EX, SP.	EXTERNAL STATIC PRESSURE
FLA	FULL LOAD AMPS
FM	FACTORY MANUAL
FPM	FEET PER MINUTE
FT	FEET
GA	GAUGE
HP	HORSEPOWER
HR	HOUR
IBC	INTERNATIONAL BUILDING CODE
IFGC	INTERNATIONAL FUEL GAS CODE
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH
IU	INDOOR UNIT
LAT	LATERAL
LB/LBS/#	POUND/ POUNDS
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCA	MAXIMUM CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MFG/MFR	MANUFACTURER
MIN	MINIMUM
MOP/ MOP	MAXIMUM OVER CURRENT PROTECTION
MSS	MANUFACTURER'S STANDARDIZATION SOCIETY
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
OC	ON CENTER
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OSA	OUTSIDE AIR
PH	PHASE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RP	REDUCED PRESSURE
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SF	SQUARE FEET
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SPEC	SPECIFICATION
STM	STEAM
THRD	THREADED
TYP	TYPICAL
UL	UNDERWRITERS LABORATORY
UPC	UNIFORM PLUMBING CODE
V	VENTI VOLT
VOLT	VOLTAGE
VRF	VARIABLE REFRIGERANT FLOW
VTR	VENT TO ROOF
VAV	VARIABLE AIR VOLUME
VERT	VERTICAL
W/	WITH
WIN	WINTER
WSEC	WASHINGTON STATE ENERGY CODE

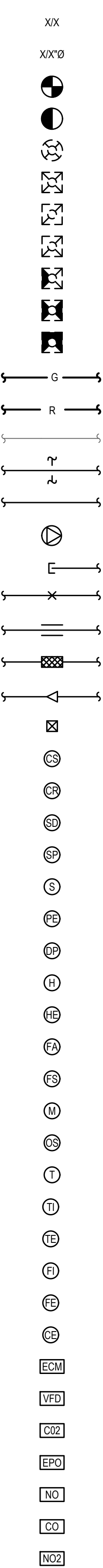
SYMBOL



DESCRIPTION

- SUPPLY DUCT, OSA DUCT UP
- SUPPLY DUCT, OSA DUCT DOWN
- RETURN, RELIEF, TRANSFER UP
- RETURN, RELIEF, TRANSFER DOWN
- EXHAUST AIR UP
- EXHAUST AIR DOWN
- RECTANGULAR ELBOW WITH TURNING VANES
- ROUND/ RECTANGULAR ELBOW
- RECTANGULAR DUCT SQUARE ELBOW UP
- RECTANGULAR DUCT, RADIUS ELBOW UP
- RECTANGULAR DUCT, SQUARE ELBOW DOWN
- RECTANGULAR DUCT, RADIUS ELBOW DOWN
- ROUND DUCT ELBOW UP
- ROUND DUCT ELBOW DOWN
- EQUIPMENT ABBREVIATION AND NUMBER (TAG)
- AIR TERMINAL TYPE, SIZE, AND CFM
- DETAIL NUMBER
- DRAWING NUMBER WHERE DRAWN
- COMPRESSED AIR
- CONDENSATE
- GATE VALVE (GV)
- GLOBE VALVE
- BUTTERFLY VALVE
- PRESSURE REDUCING VALVE (PRV)
- CHECK VALVE (CV)
- TEMP./PRESS. RELIEF VALVE (T&PRV)
- BALL VALVE
- BALANCING COCK (BC)
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- GAS COCK
- STRAINER WITH BLOWDOWN VALVE
- UNION
- VACUUM BREAKER
- MANUAL AIR VENT
- DRAIN VALVE
- WALL HYDRANT
- FLOAT AND THERMOSTATIC STEAM TRAP
- FLEXIBLE DUCT
- VOLUME DAMPER (VD)
- MOTORIZED DAMPER
- BACKDRAFT DAMPER
- CEILING RADIATION DAMPER
- FIRE DAMPER
- SMOKE DAMPER
- COMBINATION FIRE/SMOKE DAMPER
- ROUND DUCT
- CONDENSER SUPPLY
- CONDENSER RETURN
- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HOT WATER SUPPLY
- HOT WATER RETURN

SYMBOL



DESCRIPTION

- SQUARE DUCT
- OVAL DUCT
- POINT OF CONNECTION
- LIMIT OF DEMOLITION
- ROUND 4-WAY CEILING DIFFUSERS
- SQUARE 4-WAY CEILING DIFFUSERS
- RETURN GRILLE
- EXHAUST GRILLE
- SQUARE 3-WAY CEILING DIFFUSERS
- SQUARE 2-WAY CEILING DIFFUSERS
- SQUARE 1-WAY CEILING DIFFUSERS
- NATURAL GAS PIPING
- REFRIGERANT PIPING
- EXISTING PIPING
- CROSSING LINES, NON CONNECTING
- PIPE CONTINUATION
- PUMP
- CAP
- PIPE ANCHOR
- PIPE GUIDE
- FLEXIBLE CONNECTION (PIPE)
- REDUCER
- SUCTION DIFFUSER
- CURRENT SENSOR
- CURRENT RELAY
- SMOKE DETECTOR
- SPACE PRESSURE SENSOR
- SWITCH
- PRESSURE ELEMENT
- DIFFERENTIAL PRESSURE ELEMENT
- HUMIDISTAT (HSTAT)
- HUMIDITY ELEMENT
- FIRE ALARM
- FLOW SWITCH
- MOTOR/ ACTUATOR
- OCCUPANCY SENSOR
- THERMOSTAT (TSTAT)
- TEMPERATURE INDICATOR
- TEMPERATURE ELEMENT
- FLOW INDICATOR
- FLOW ELEMENT
- CONDUCTIVITY SENSOR
- ELECTRONICALLY COMMUTATED MOTOR
- VARIABLE FREQUENCY DRIVE
- CARBON DIOXIDE SENSOR
- EMERGENCY POWER OFF SWITCH
- NITROGEN OXIDE SENSOR
- CARBON MONOXIDE SENSOR
- NITROGEN DIOXIDE SENSOR

MECHANICAL LEGEND

MIDDLEBROOK
ENGINEERING, LLC

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LONGBRANCH, WA 98051
253.765.8292

BRIAN SCOTT MIDDLEBROOK
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
52770
REGISTERED
1/31/2025

SHEET TITLE

LEGEND, ABBREVIATIONS,
AND GENERAL NOTES

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building

Planning

Engineering

Public Works

Fire

Traffic

PROJECT

INTERNATIONAL VILLAGE
110 9TH AVE SW
PUYALLUP, WA 98371

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
Δ	PERMIT RESUB.	9/11/2024
	UNDERGROUND BID SET	9/23/2024
Δ	REV 2	9/25/2024
	CONSTRUCTION DOCS	10/15/2024

DRAWN BY:

RPG

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BSM

PROJECT MANAGER:

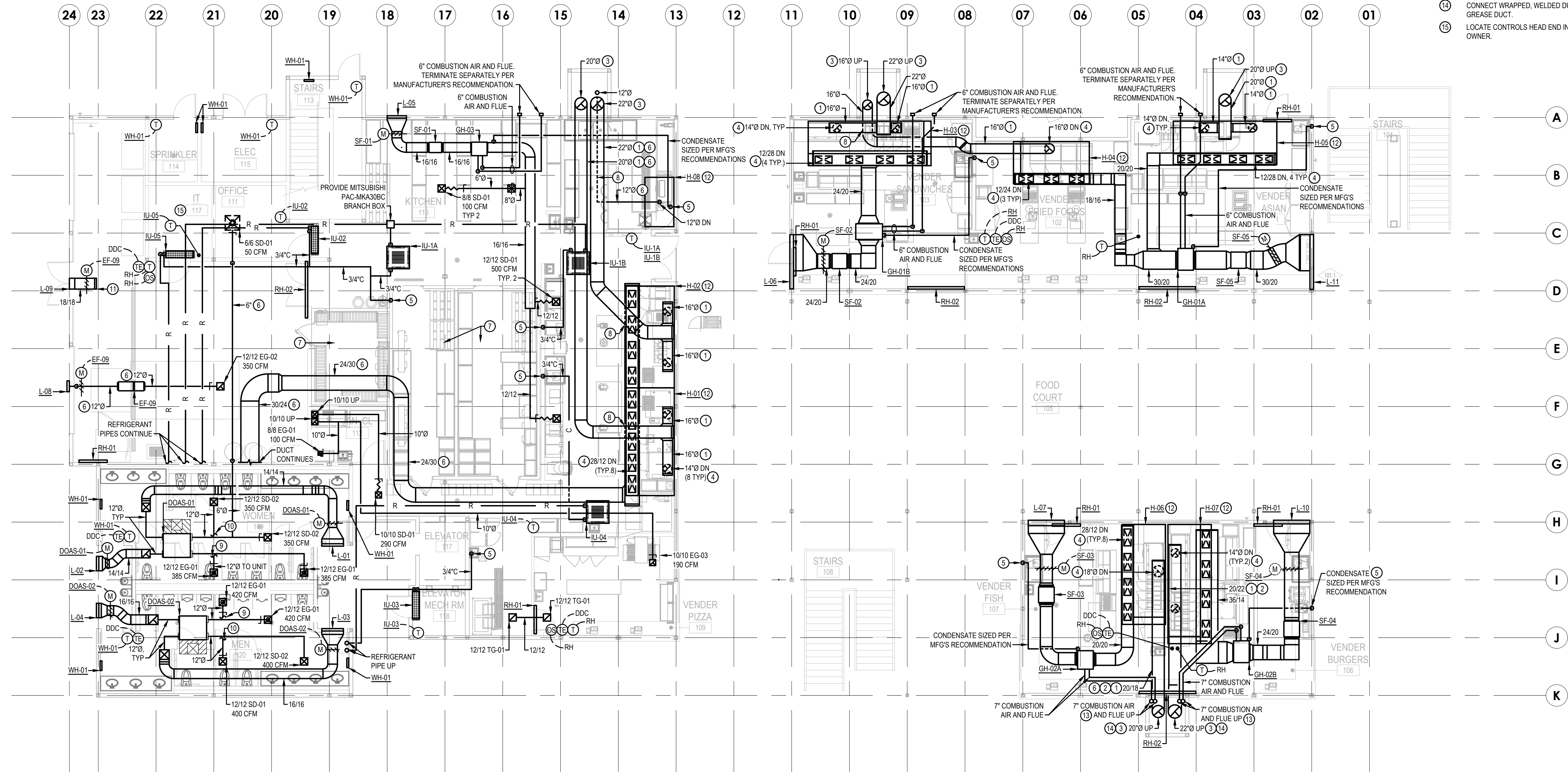
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SHEET

MH001



1 NORTH
MECHANICAL FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

- 2 MH501
- 3 MH501
- 4 MH501
- 6 MH501
- 7 MH501
- 8 MH501
- 9 MH501
- 10 MH501
- 1 MH502
- 2 MH502
- 3 MH502
- 4 MH502
- 5 MH502
- 7 MH502
- 8 MH502
- 10 MH502
- 11 MH502

GENERAL NOTES

- DUCTWORK AND PIPING IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.

PLAN NOTES

- GREASE CLEANOUTS IN HORIZONTAL DUCT SHALL BE PLACED AT REGULAR INTERVALS ON GREASE DUCTWORK, NOT TO EXCEED 20 FEET. CLEANOUTS SHALL BE LOCATED NOT MORE THAN 10' FROM CHANGES OF DIRECTION THAT ARE GREATER THAN 45 DEGREES. ALL CLEANOUTS SHALL BE LOCATED ON THE SIDE OF THE DUCTWORK, AND NOT BE CLOSER THAN 1" FROM THE EDGE OF THE DUCTWORK. CLEANOUT MINIMUM OPENING SHALL BE 12"x12".
- UL LISTED, FIELD APPLIED FIRE WRAP SHALL BE INSTALLED OVER THE DUCTWORK. FIRE WRAP SHALL HAVE AN F AND T RATING OF 2 HOURS. WRAP SHALL EXTEND TO GREASE EXHAUST FAN ON ROOF.
- GREASE DUCT UP TO ROOF IN CHASE DOUBLE WALL, INSULATED DUCTWORK PROVIDED BY CAPTIVEAIRE.
- PROVIDE BALANCE DAMPERS ON INTAKE AND EXHAUST BRANCHES PER MANUFACTURER'S RECOMMENDATIONS. BALANCE SEGMENTS EQUALLY. SEE SCHEDULES FOR TOTAL AIR VOLUMES.
- TERMINATE CONDENSATE INTO INDIRECT RECEPTOR WITH 1" AIR GAP. COORDINATE LOCATIONS WITH PLUMBING CONTRACTOR AND AS BUILT CONDITIONS.
- ROUTE DUCT AS HIGH AS POSSIBLE THROUGH SPACE.
- COOLER SPACE N.I.C.
- STACKED DUCTWORK.
- CONNECT DUCT TO RETURN AIR INLET.
- CONNECT DUCT TO SUPPLY AIR INLET.
- PROVIDE SCREENED OPENING TO COVER OPEN DUCT.
- MECHANICAL UNIT PROVIDED BY OTHERS.
- PROVIDE CONCENTRIC VENT KIT.
- CONNECT WRAPPED, WELDED DUCTWORK TO FACTORY PROVIDED GREASE DUCT.
- LOCATE CONTROLS HEAD END IN IT CLOSET. COORDINATE LOCATION WITH OWNER.

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SHEET TITLE

MECHANICAL FIRST FLOOR PLAN

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building Planning
Engineering Public Works
Fire Traffic

PROJECT

INTERNATIONAL VILLAGE
110 9TH AVE SW
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SHEET

MH101

1. DUCTWORK IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.

- ① UNIT ON ROOF ABOVE THIS APPROXIMATE LOCATION. COORDINATE AND PROVIDE TRANSITION TO UNIT IN ACCORDANCE WITH MANUFACTURER'S SHOP DRAWING AND RECOMMENDATIONS.
- ② UL LISTED, MANUFACTURER-PROVIDED, DOUBLE WALLED GREASE DUCT, DOUBLE WALL SEGMENT EXTENDS TO 18" ABOVE THE ROOF. MINIMUM.
- ③ LOCATE CLEANOUT AT 1' TO 10' AFTER CHANGE OF DIRECTION. CLEANOUTS SHALL BE ACCESSIBLE FROM BELOW DUCT ENCLOSURE FROM ROOF DECK. PROVIDE ACCESS PANEL IN ENCLOSURE WALL SIZED APPROPRIATELY TO ALLOW ACCESS TO CLEANOUT.
- ④ TRANSITION IN CAVITY APPROXIMATELY 6" ABOVE ROOF DECK, AFTER CLEANOUT.
- ⑤ NO EXHAUST OUTLETS OR VENT TERMINATIONS WITHIN 10' OF MAKEUP AIR UNIT.
- ⑥ COORDINATE ARCHITECTURAL DUCT ENCLOSURE FOR DUCTWORK DOWN TO FIRST FLOOR.
- ⑦ UNIT PROVIDED BY OTHERS INSTALLED BY THIS CONTRACTOR.
- ⑧ MECHANICAL UNIT PROVIDED AND INSTALLED BY OTHERS.
- ⑨ TYPE II FAN.



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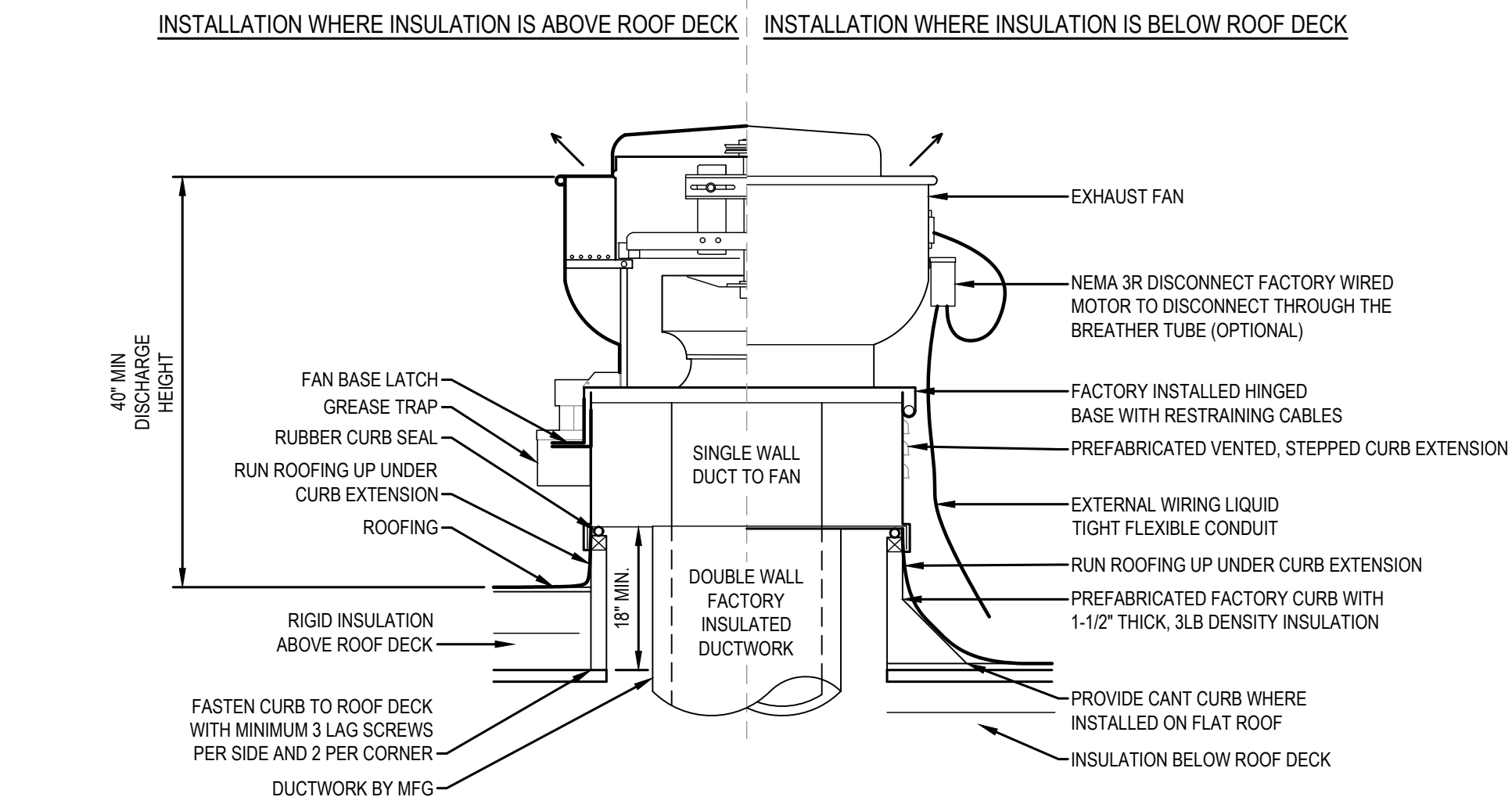
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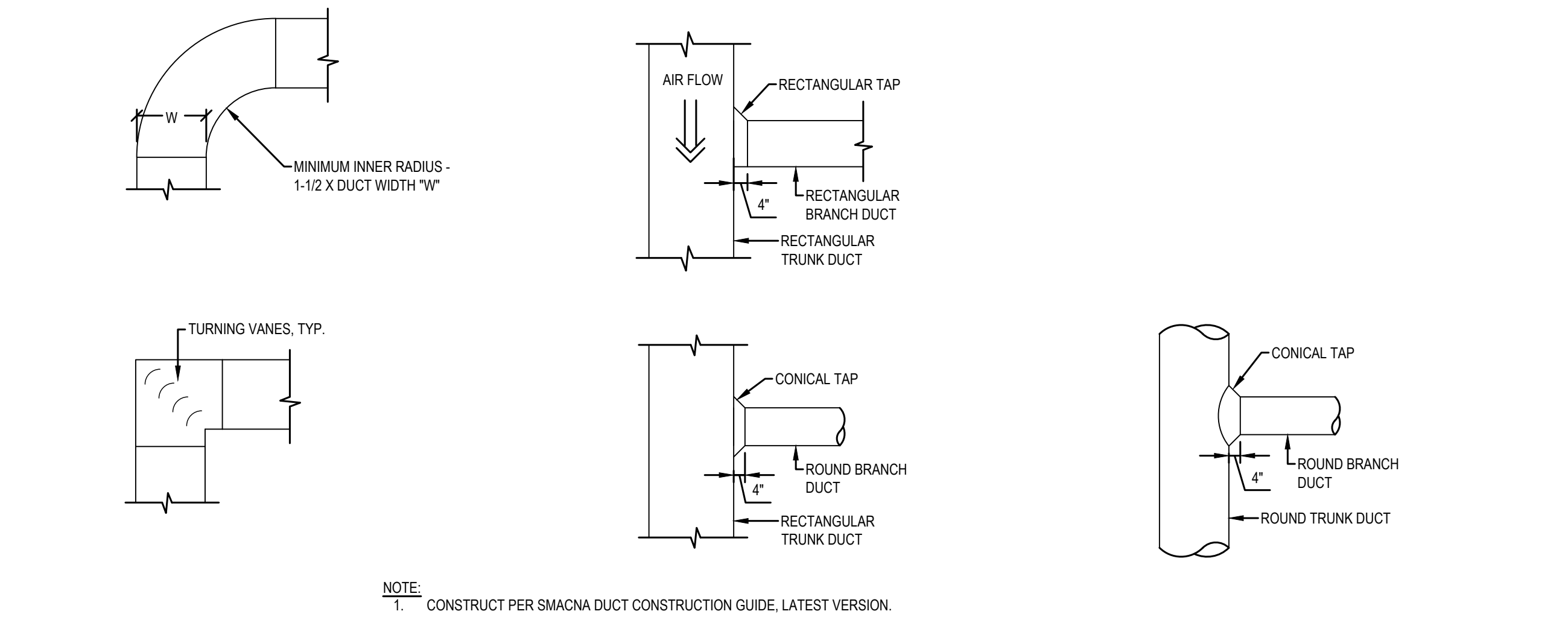
EET

MH102

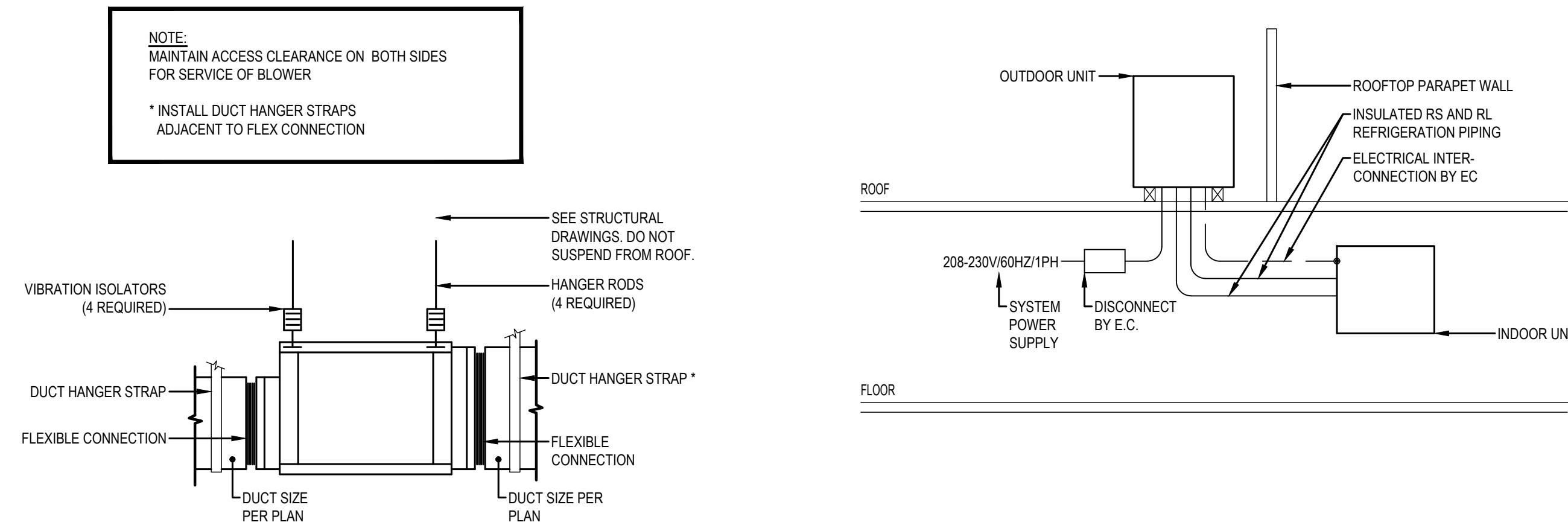


- NOTES**
1. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF INSULATION AT ROOF.
 2. IN THE CASE WHERE THE FLASHING PORTION OF THIS DETAIL CONFLICTS WITH ARCHITECTURAL, THE ARCHITECTURAL FLASHING DETAIL SHALL PREVAIL.
 3. PROVIDE WITH FACTORY MOUNTED HINGED BASE.
 4. NO DAMPERS ARE TO BE INSTALLED IN THE SYSTEM.
 5. TRANSITION STAINLESS STEEL DUCT SIZE PER PLAN TO FAN INLET AS REQUIRED.

1 TYPE 1 EXHAUST FAN INSTALLATION DETAIL
SCALE: NTS

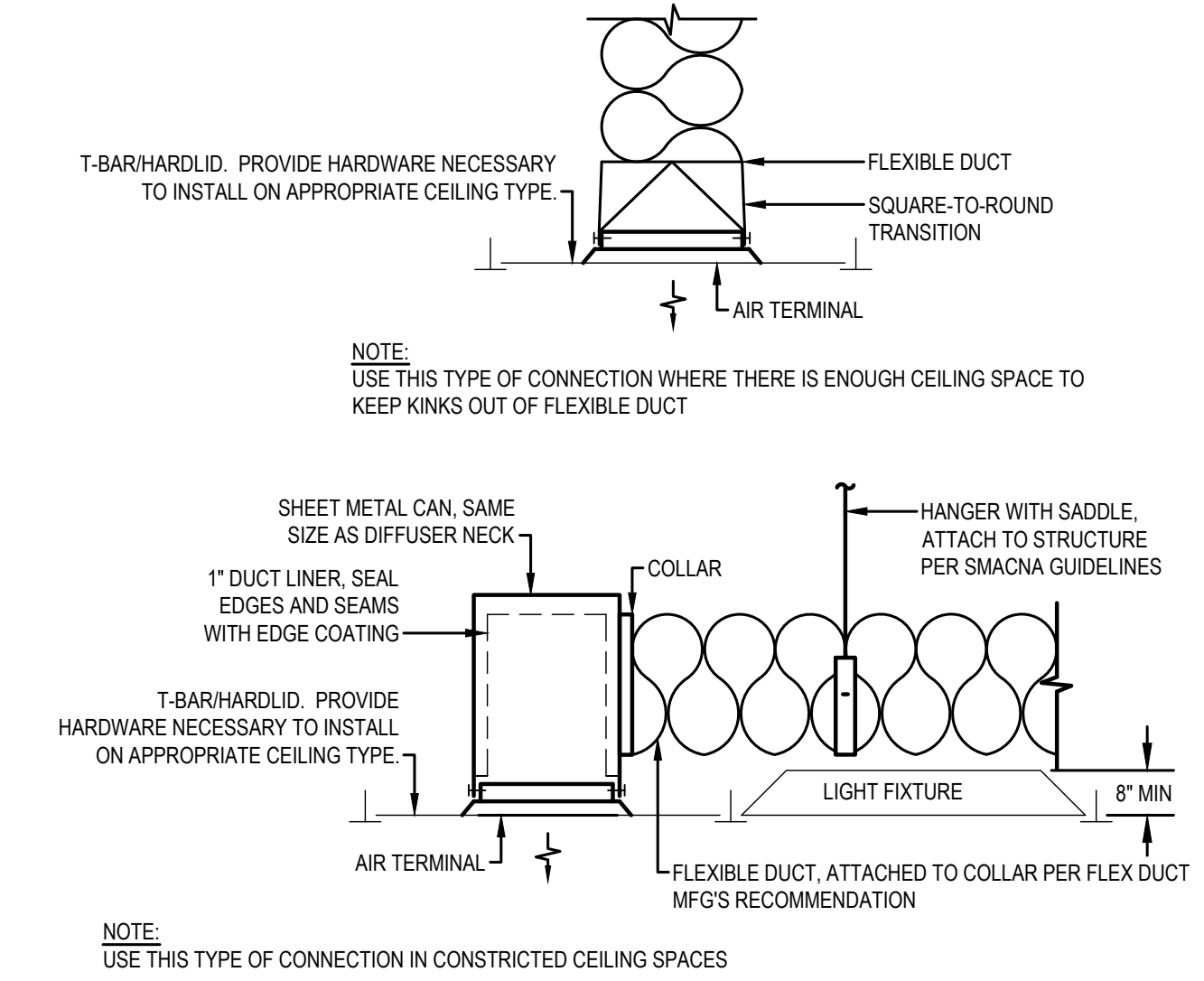


4 TYPICAL DUCT ELBOW AND DUCT TEE DETAILS
SCALE: NTS

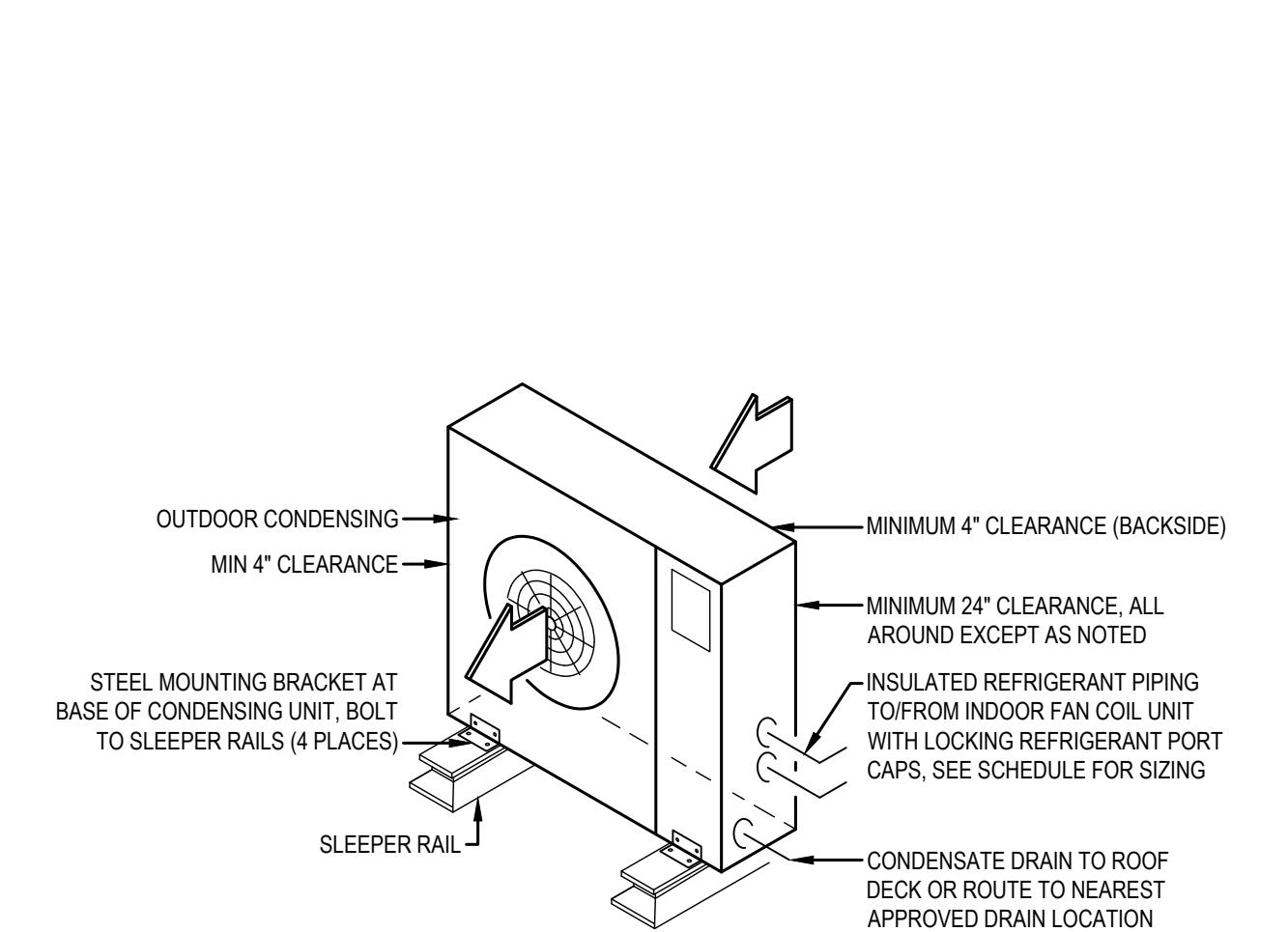


7 INLINE FAN INSTALLATION DETAIL
SCALE: NTS

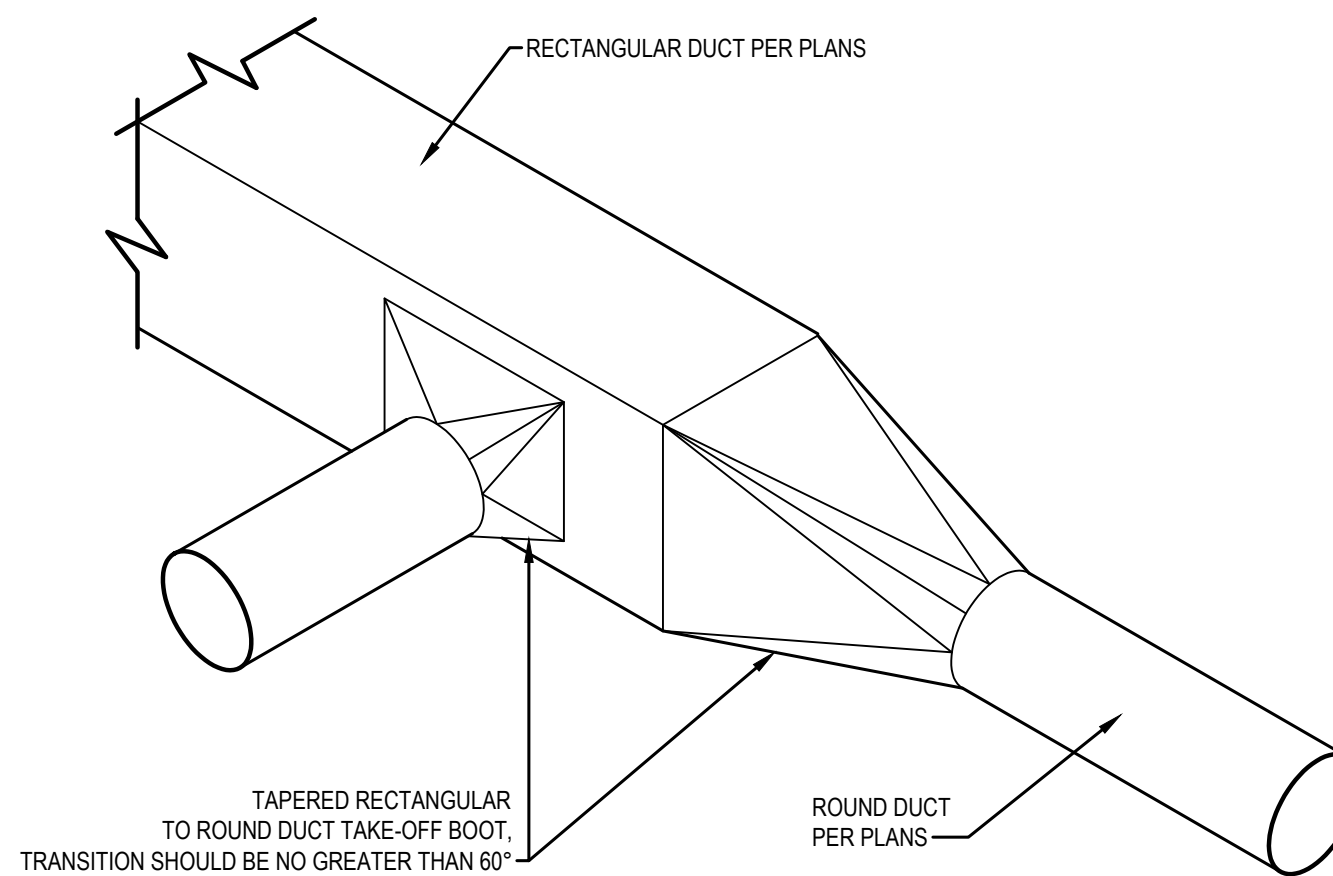
8 DUCTLESS AH / HP SCHEMATIC
SCALE: NTS



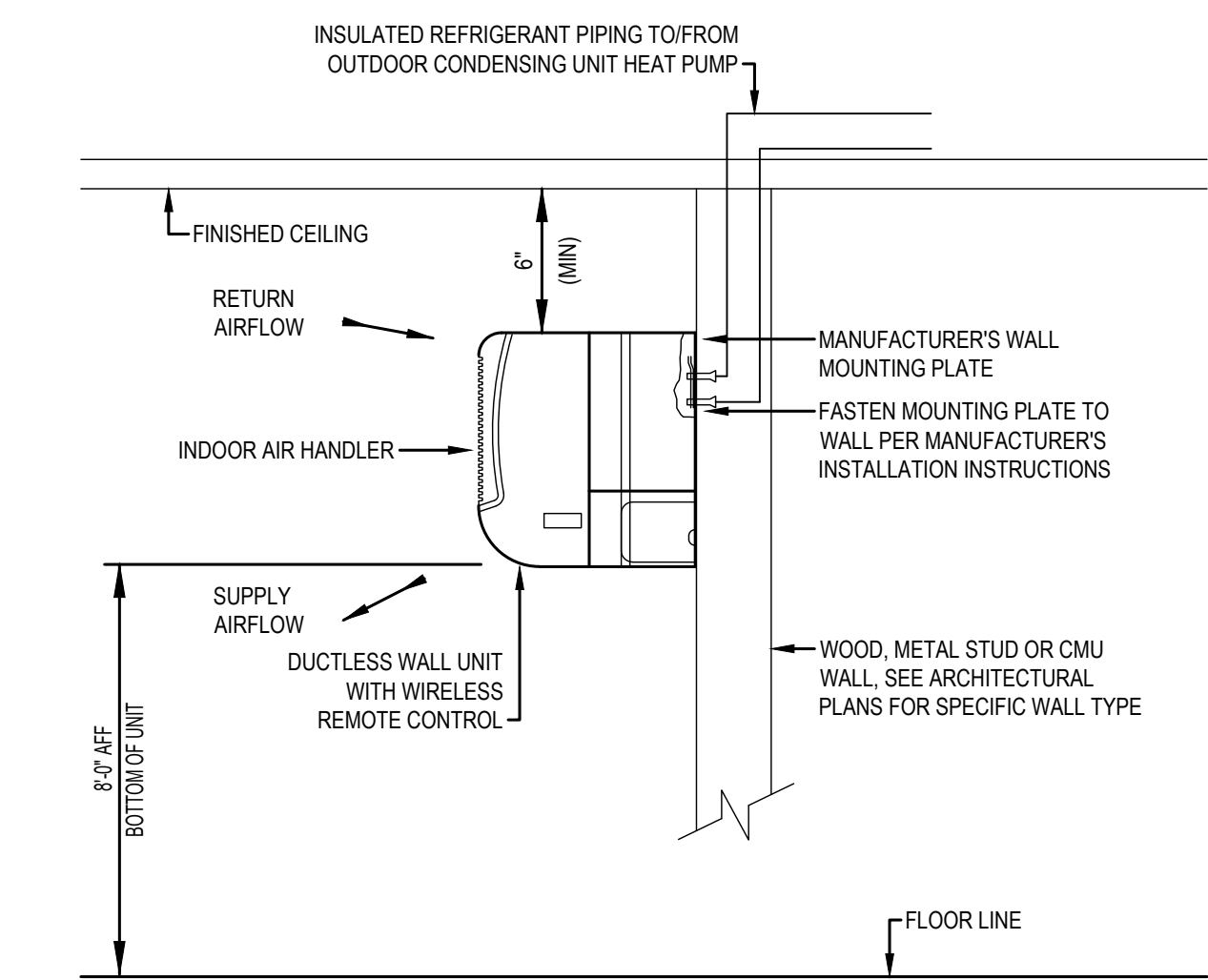
2 TYPICAL SUPPLY AIR TERMINAL INSTALLATION
SCALE: NTS



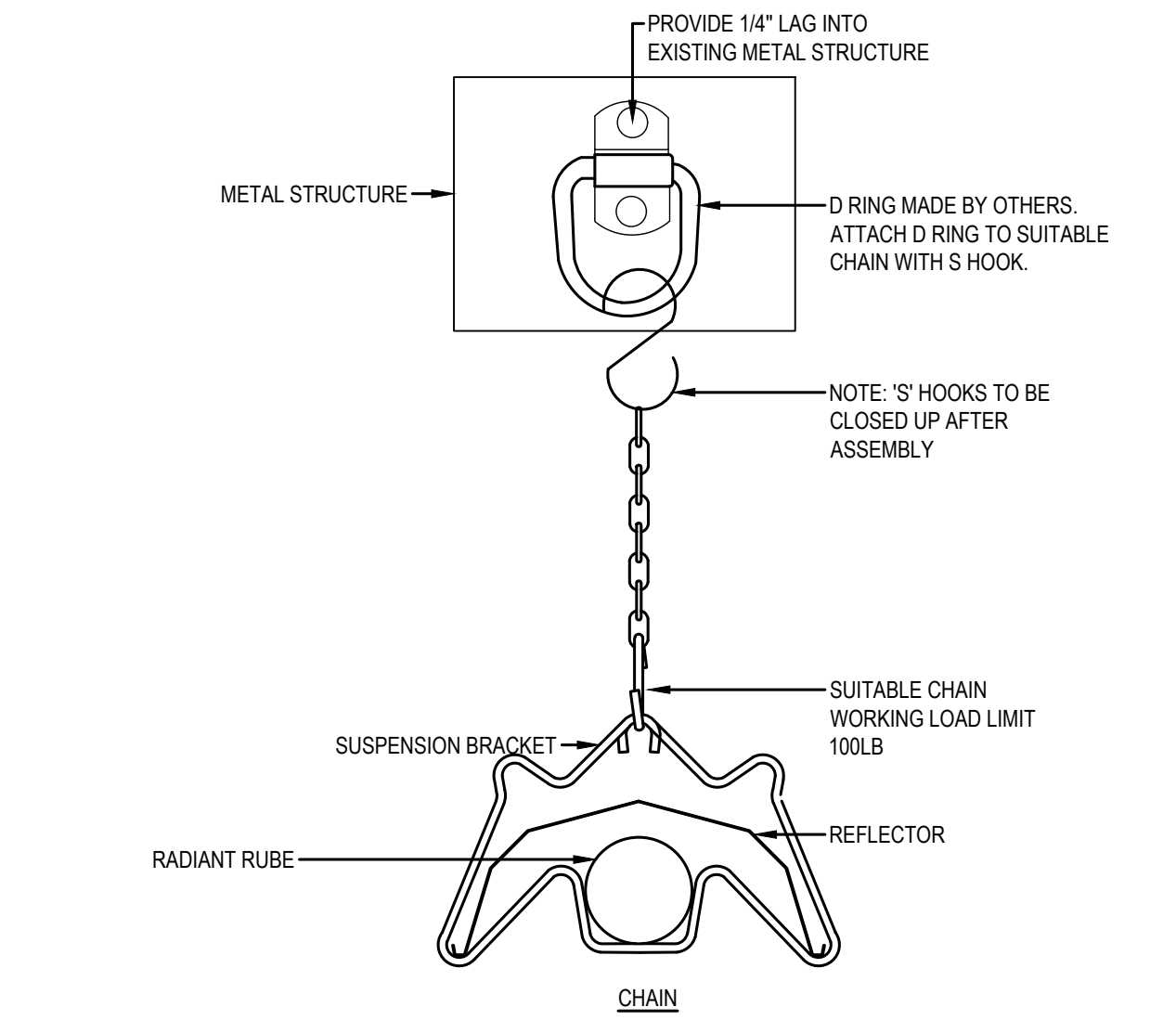
5 CONDENSING UNIT MOUNTING DETAIL
SCALE: NTS



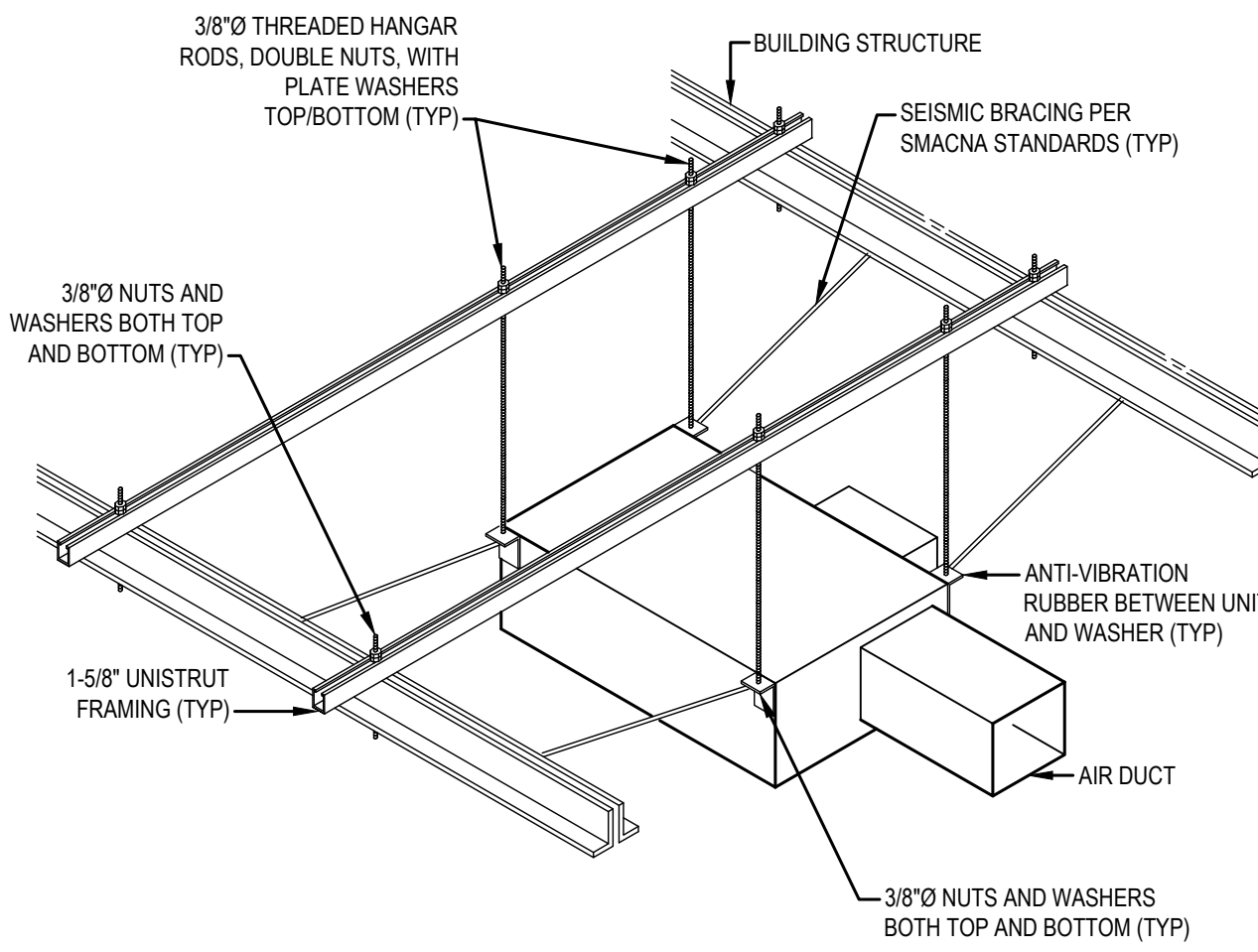
9 RECTANGULAR TO ROUND DUCT TRANSITION INSTALLATION DETAIL
SCALE: NTS



3 DUCTLESS AIR HANDLING UNIT
SCALE: NTS



6 RADIANT TUBE HEATER SUSPENSION DETAIL
SCALE: NTS



10 TYPICAL SUSPENDED EQUIPMENT DETAIL
SCALE: NTS

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STATE OF WASHINGTON
52770
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1/31/2025

DETAILS I

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building

Planning

Engineering

Public Works

Fire

Traffic

PROJECT
INTERNATIONAL VILLAGE
110 9TH AVE SW
PUYALLUP, WA 98371

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
Δ	PERMIT RESUB.	9/11/2024
Δ	UNDERGROUND BID SET	9/23/2024
Δ	REV 2	9/25/2024
Δ	CONSTRUCTION DOCS	10/15/2024

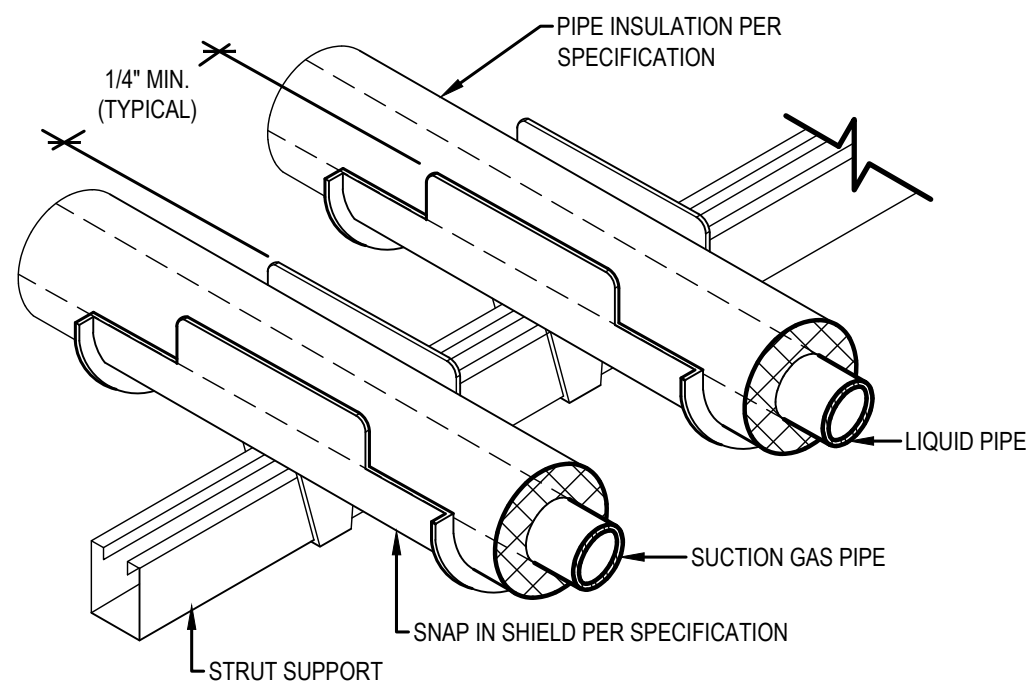
DRAWN BY: RPG

CHECKED BY: BSM

PROJECT MANAGER: BSM/RMC

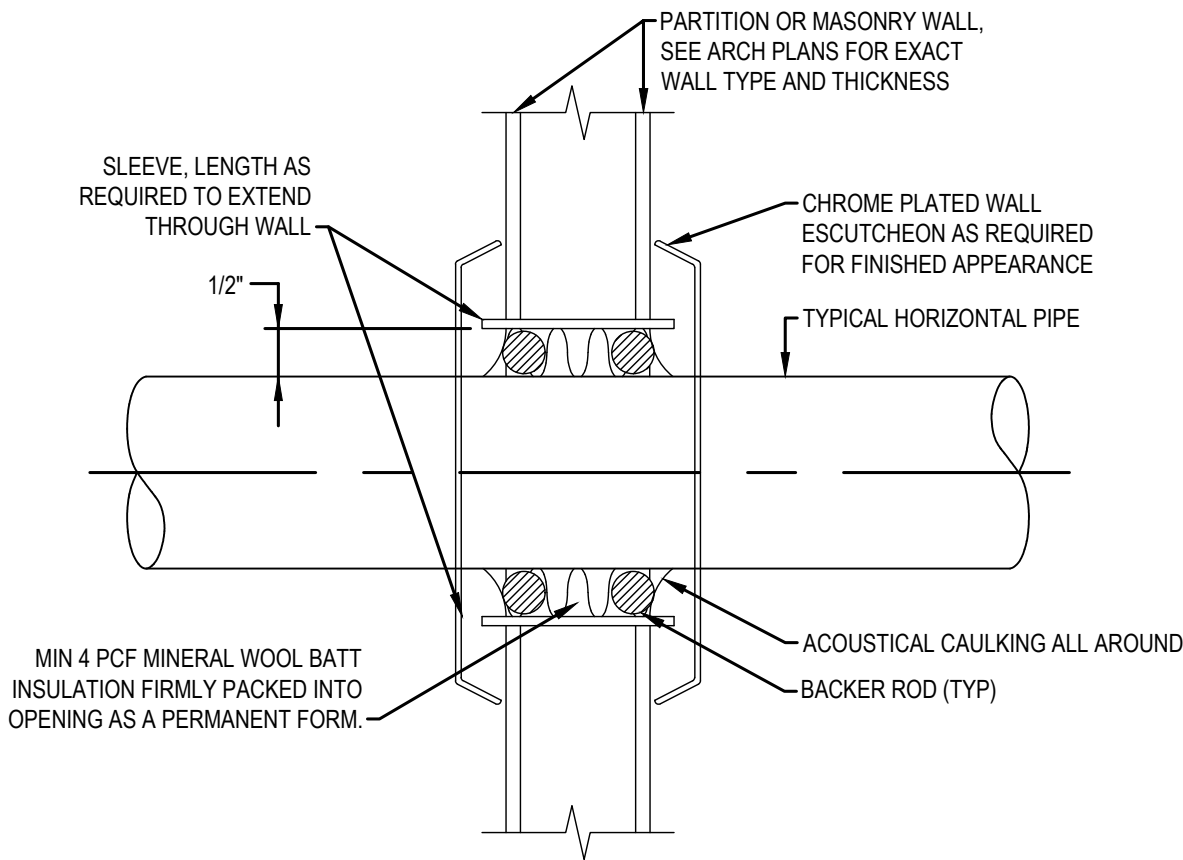
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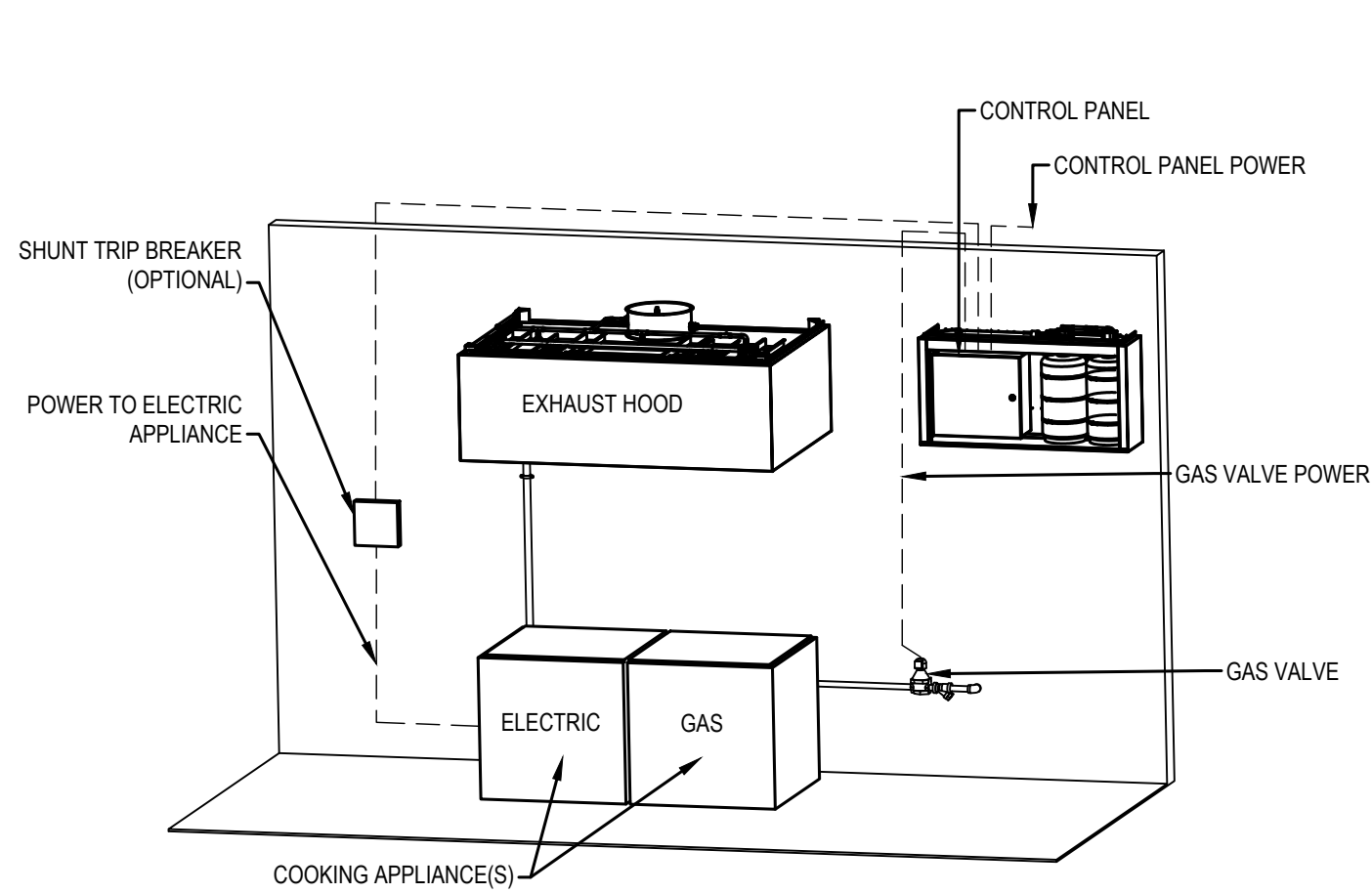


NOTES:
1. SUCTION GAS, DISCHARGE GAS, AND LIQUID PIPES SHALL BE INDIVIDUALLY SUPPORTED.
AT NO TIME SHALL PIPES BE COMBINED AND INSTALLED WITHIN THE SAME SNAP IN SHIELD SUPPORT.
2. DETAIL APPLIES TO STRUT AND TRAPEZE STYLE SUPPORTS.

1 REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NTS

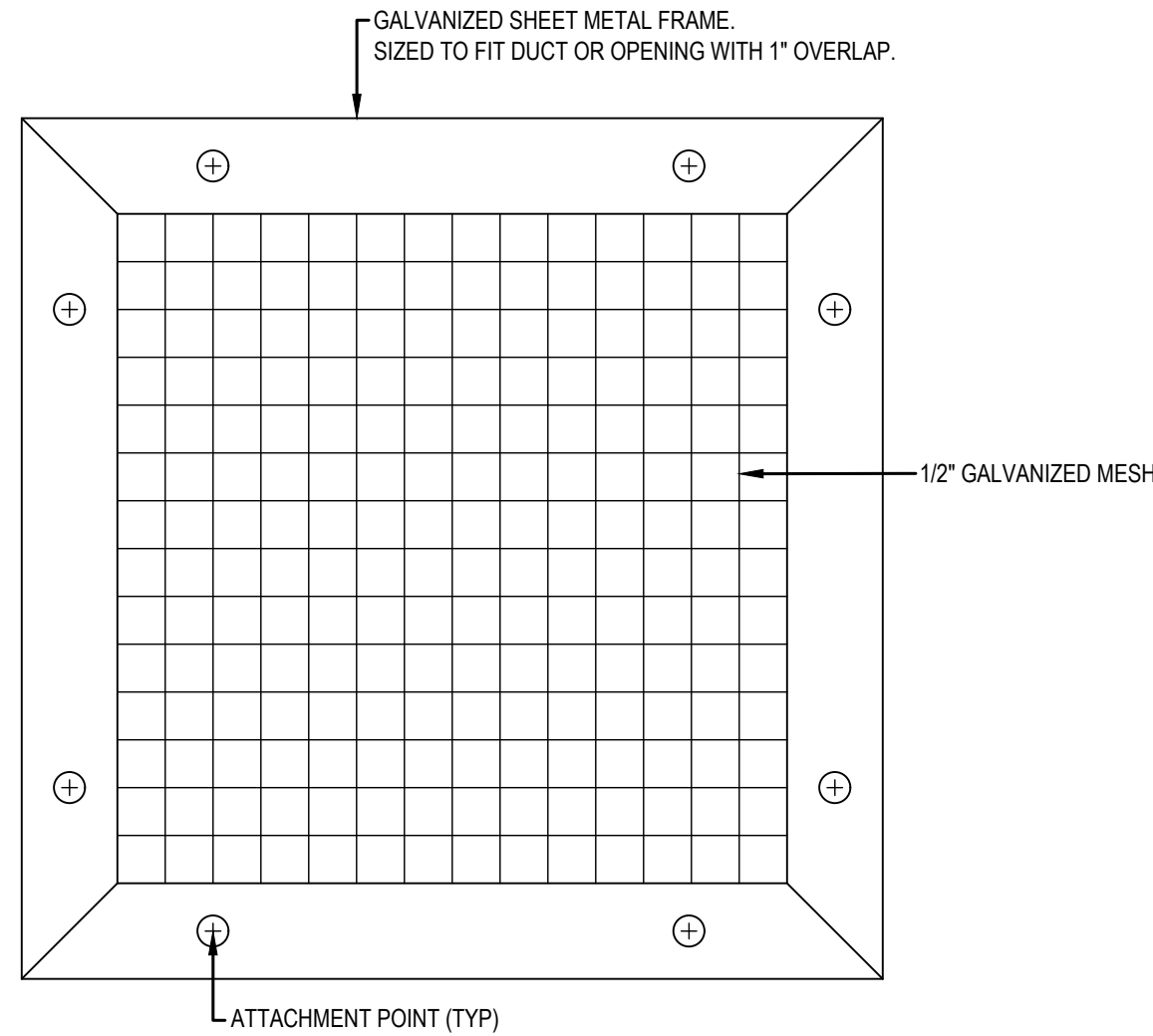


2 PIPE PENETRATION DETAIL (HORIZONTAL ASSEMBLY)
SCALE: NTS

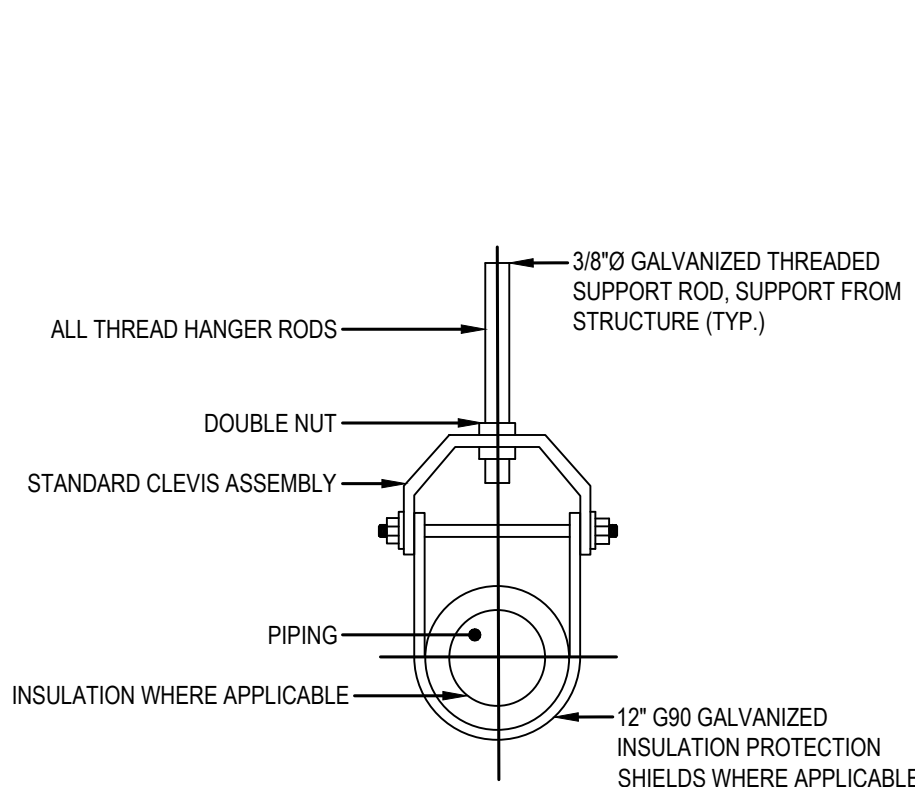


NOTE:
36 INCHES CLERANCE REQUIRED IN FRONT OF ALL UTILITY CABINET DOORS. THE PANEL SHALL ALSO BE LOCATED IN AN ACCESSIBLE AREA WHERE THE AUDIBLE AND VISUAL ALARMS CAN BE HEARD AND SEEN

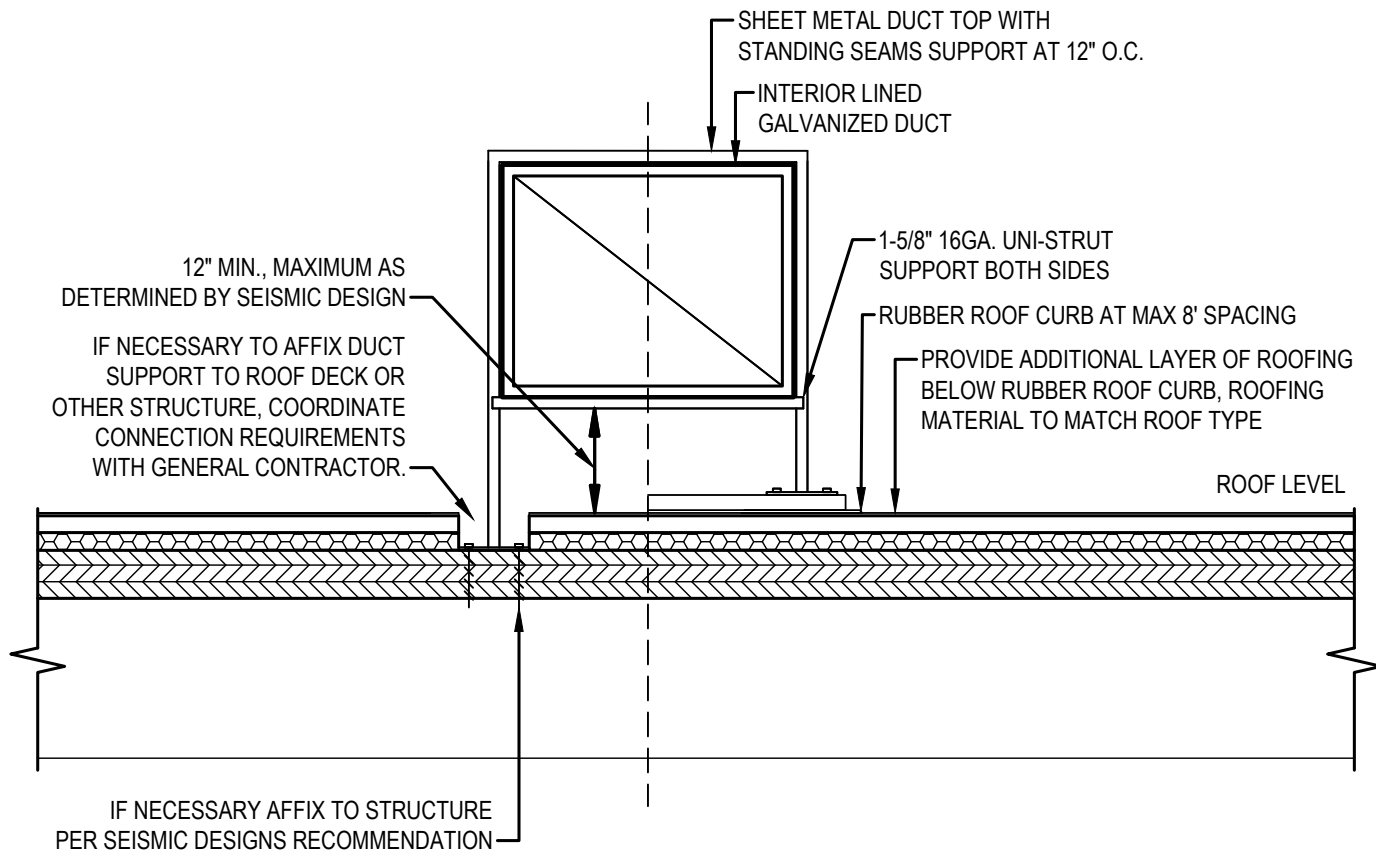
4 FIRE SUPPRESSION CABINET DETAIL
SCALE: NTS



5 SCREENED OPENING INSTALLATION
SCALE: NTS

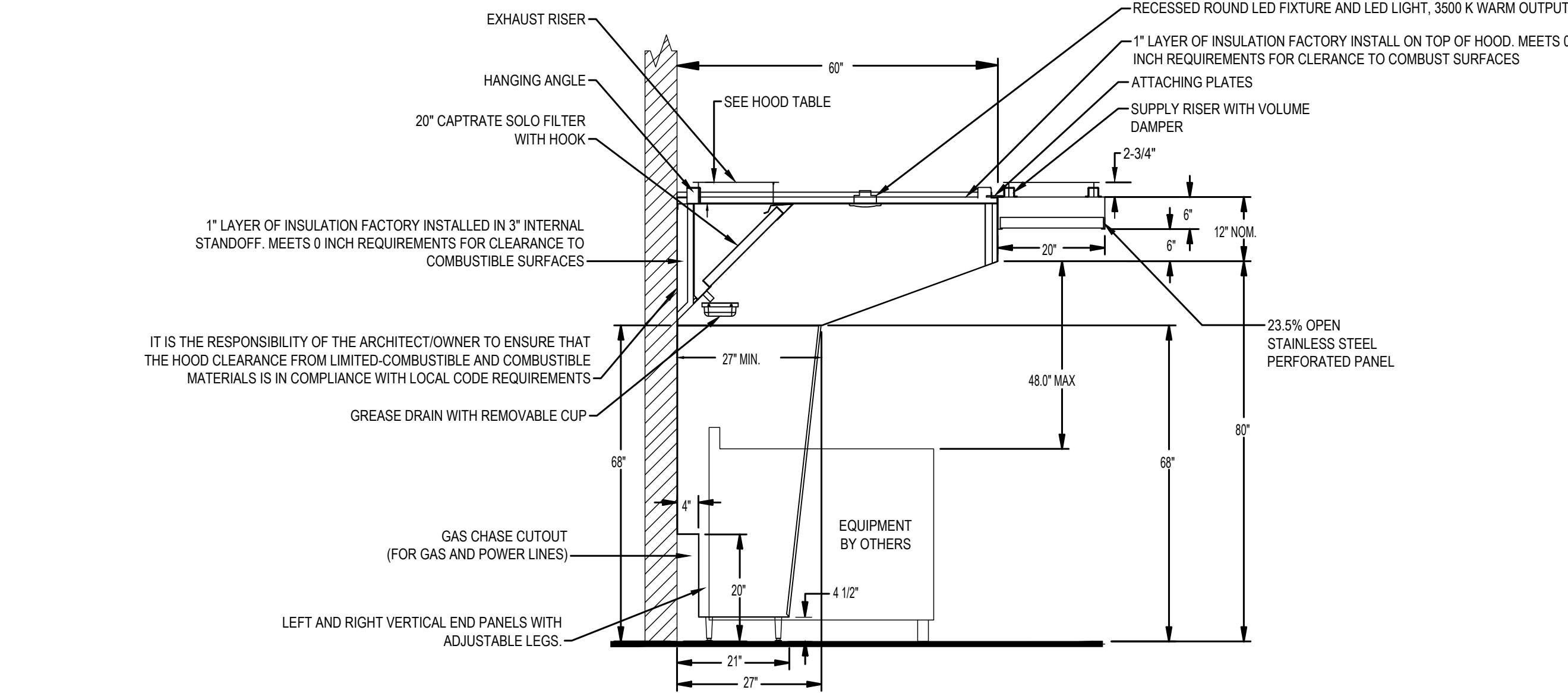


8 PIPE HANGER DETAIL
SCALE: NTS

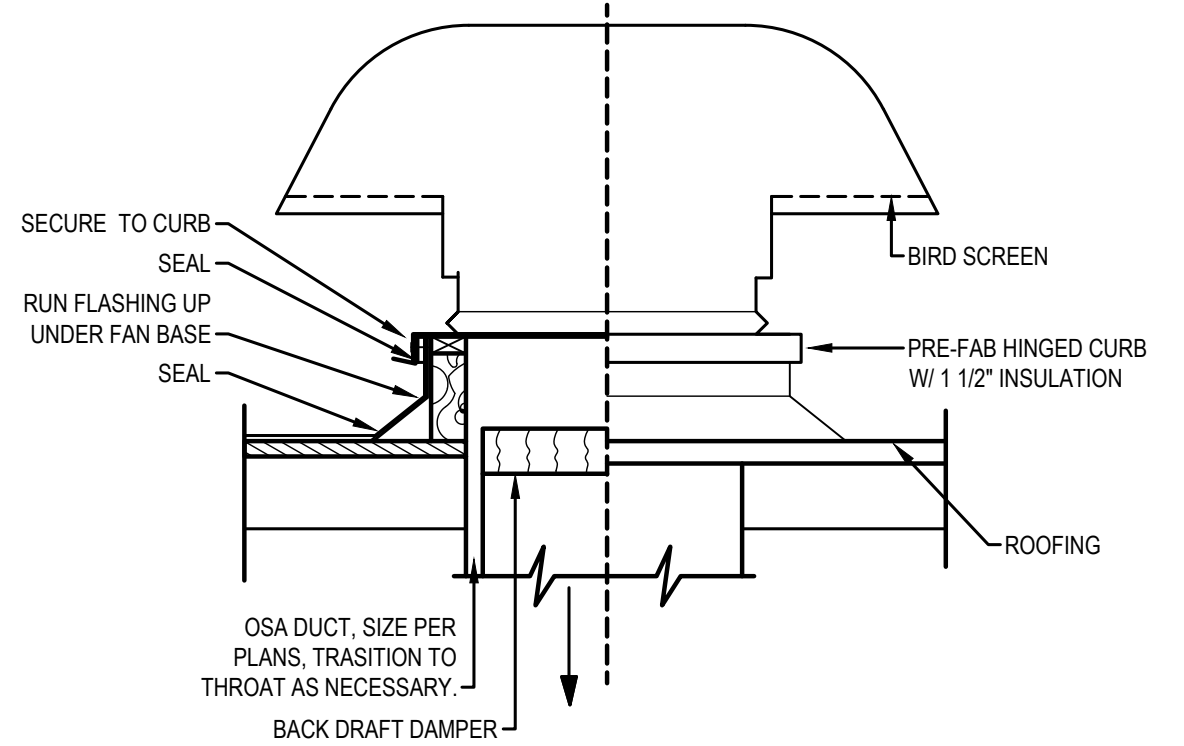


NOTE:
1. ALL DUCT JOINTS SHALL BE COVERED WITH C-CHANNEL AND SEALED WEATHER TIGHT.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL SEISMIC REQUIREMENTS.
3. CONTRACTOR TO PROVIDE SEISMICALLY STABLE AND WIND RESISTANT DUCT SUPPORT DETAIL.
CONTRACTOR TO ENSURE WATER AND WEATHER TIGHT DUCT AND ROOF CONSTRUCTION.

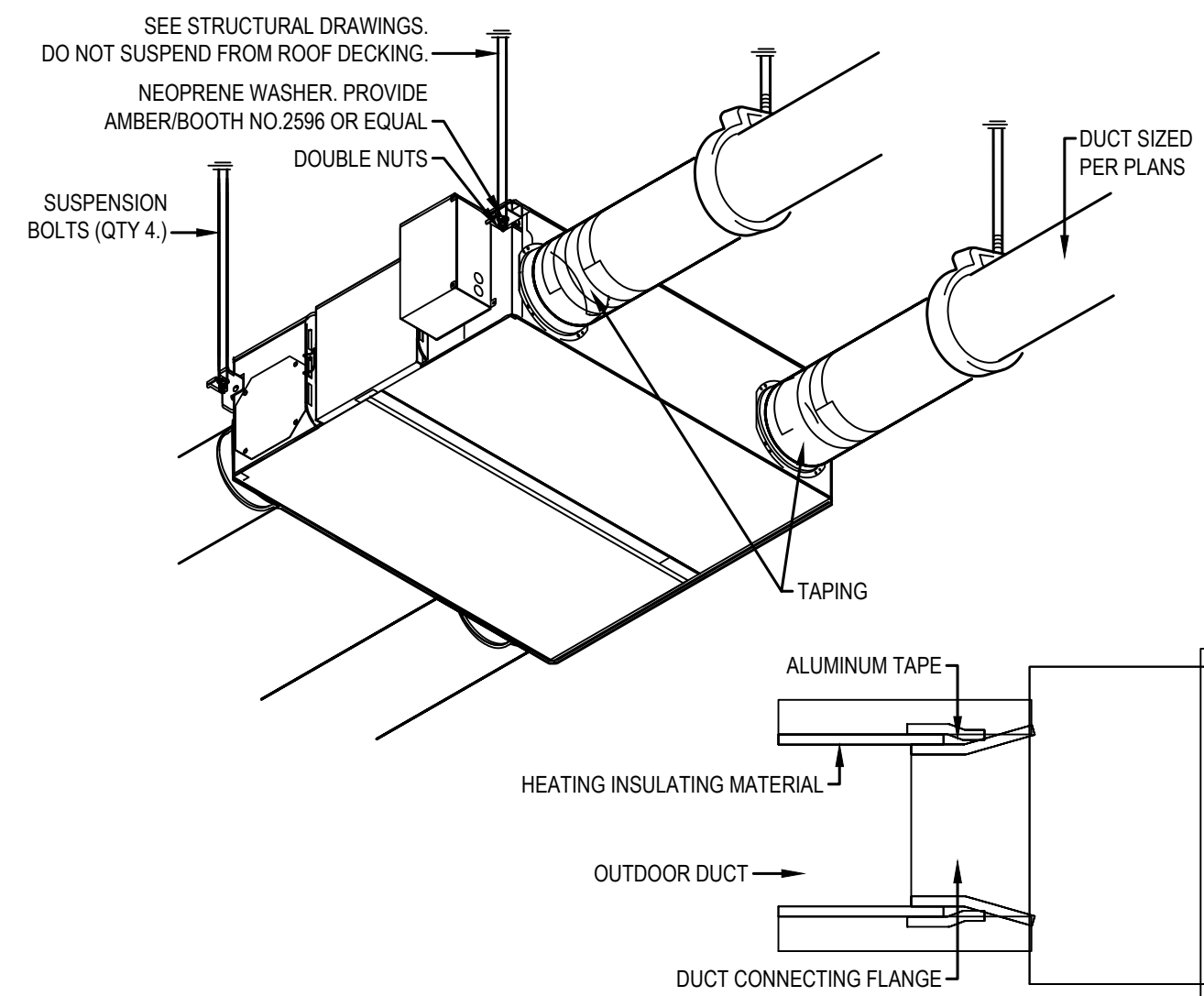
9 ROOF TOP DUCT AND DUCT SUPPORT DETAIL
SCALE: NTS



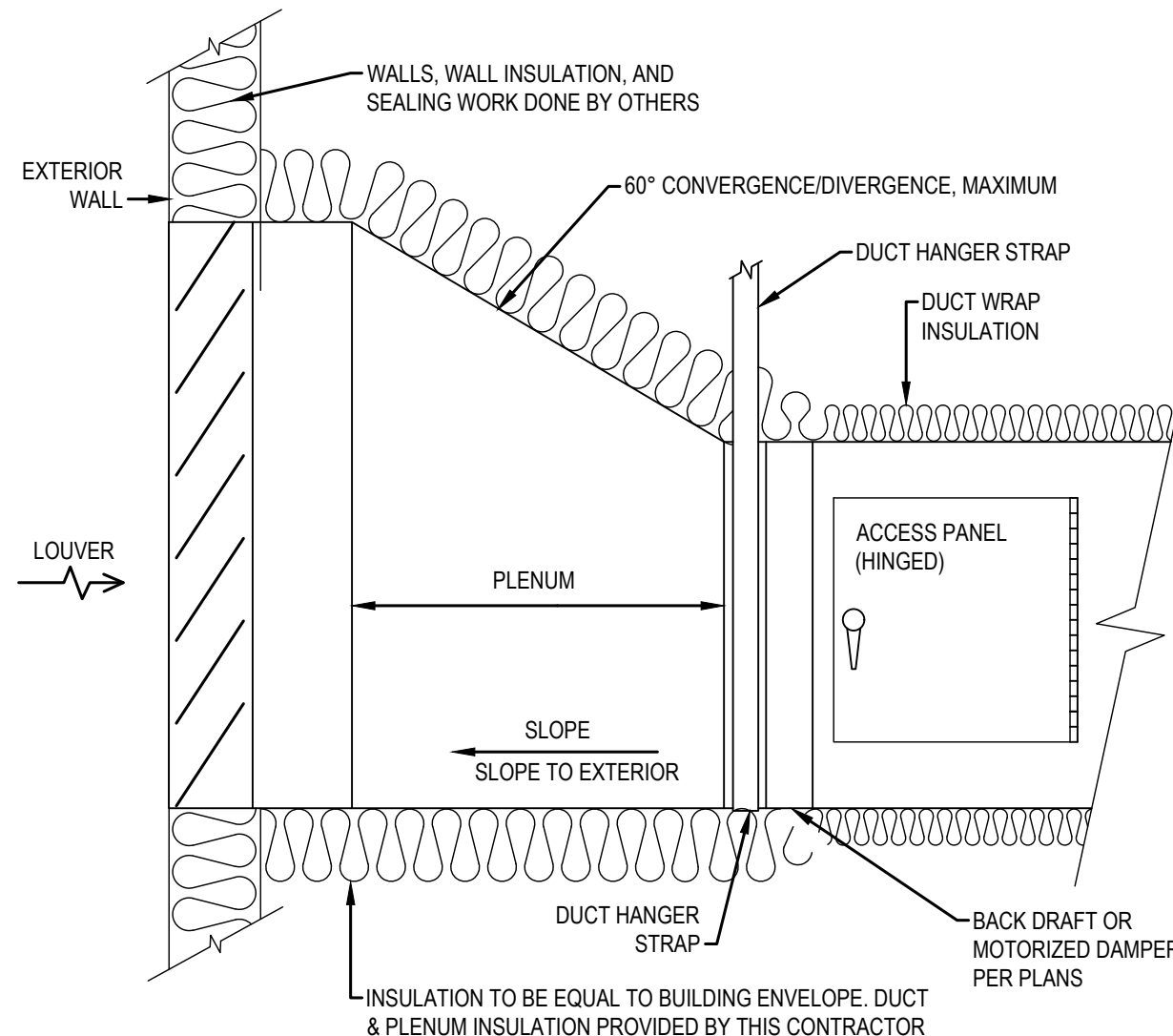
3 TYPE-1 KITCHEN HOOD SECTION
SCALE: NTS



6 TYPICAL ROOF HOOD INSTALLATION DETAIL
SCALE: NTS

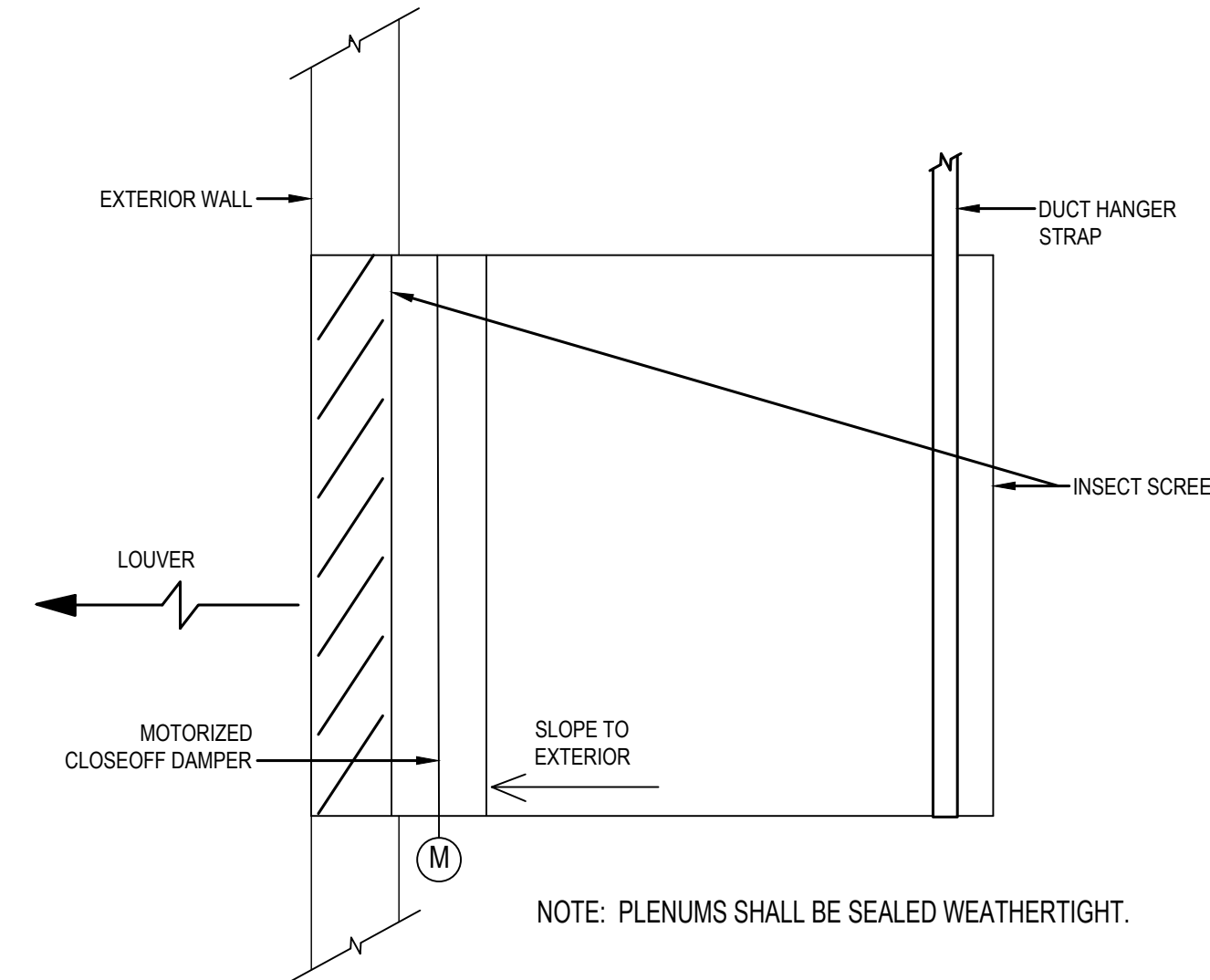


7 DOAS MOUNTING DETAIL
SCALE: NTS



NOTE: PLENUMS SHALL BE SEALED WEATHERTIGHT.

10 DUCT AT LOUVER INSTALLATION DETAIL
SCALE: NTS



11 DUCT AT LOUVER INSTALLATION DETAIL 2
SCALE: NTS

REVISIONS		
NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
Δ	PERMIT RESUB.	9/11/2024
	UNDERGROUND BID SET	9/23/2024
Δ	REV 2	9/25/2024
	CONSTRUCTION DOCS	10/15/2024
DRAWN BY:		RPG
CHECKED BY:		BSM
PROJECT MANAGER:		BSM/RMC

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MAKE UP AIR UNIT SCHEDULE																								
UNIT NO	MFR.	MODEL	LOCATION	CONFIGURATION	AREA SERVED	MAX CFM	MIN CFM	GAS DATA					INTERLOCKED WITH	MOTOR DATA				WEIGHT (LBS)	FILTERS	ELECTRICAL				NOTES
								TYPE	INLET SIZE	GAS PRESSURE	INPUT MBH	OUTPUT MBH		ESP (IN W.C.)	RPM	HP	BHP			MCA	MOP	V	PH	
MUA-01	CAPTIVE AIR	A3-D.500-24D	MECH ROOF	DIRECT DRIVE	KITCHEN	6,524	3,500	NG	1"	7 IN W.C.-14 ON W.C.	378208	347951	H-01/H-02	0.5	1403	10	5.4800	922	MERV 8	33.8	60	208	3	1,2,3,4,5
NOTES: 1. SET GAS FIRED HEATING TO COME ON WHEN OUTSIDE AIR IS BELOW 60°F. 2. UNIT TO BE PROVIDED WITH SINGLE POINT POWER CONNECTION. 3. PROVIDE WITH BUTTERFLY MODULATING VALVE OPTION . 4. PROVIDE WITH MANUFACTURER'S RECOMMENDED GAS TRAIN. 5. UNIT PROVIDED BY OTHERS, INSTALLED BY THIS CONTRACTOR. SEE KITCHEN DOCUMENTS.																								

KITCHEN HOOD SCHEDULE																		
UNIT NO	MFR.	MODEL	SERVICE	APPLIANCE DUTY	TOTAL SUPPLY CFM	CFM	FILTERS					LENGTH L (IN)	EXHAUST PLENNUM			MAX COOKING TEMP (DEG)	WEIGHT (LBS)	NOTES
							TYPE	QTY	HEIGHT IN	LENGTH IN	EFFIEICIENCY @ 7 MICRONS		DIAMETER	HEIGHT	CFM PER CONNECTION			
H-01	CAPTIVE AIR	6024 SND-2-PSP-F	KITCHEN 110	HEAVY	3168	3521	CAPTRATE SOLO FILTER	10	20	16	85%	14'1"	14	4	1760	600	945	1, 2
H-02	CAPTIVE AIR	6024 SND-2-PSP-F	KITCHEN 110	HEAVY	3356	3729	CAPTRATE SOLO FILTER	11	20	16	85%	14'11"	14	4	1864	600	1064	1, 2
H-03	CAPTIVE AIR	5424 SND-2-PSP-F	VENDOR 103	HEAVY	3581	3979	CAPTRATE SOLO FILTER	12	20	16	85%	15'11"	14	4	1989	600	1425	1, 2
H-04	CAPTIVE AIR	5424 SND-2-PSP-F	VENDOR 102	HEAVY	1924	2138	CAPTRATE SOLO FILTER	5	20	16	85%	9'6"	16	4	2138	600	1032	1, 2
H-05	CAPTIVE AIR	5424 SND-2-PSP-F	VENDOR 101	HEAVY	2999	3333	CAPTRATE SOLO FILTER	10	20	16	85%	13'4"	14	4	1666	600	1391	1, 2
H-06	CAPTIVE AIR	5424 SND-2-PSP-F	VENDOR 107	HEAVY	2869	3188	CAPTRATE SOLO FILTER	9	20	16	85%	12'9"	18	4	3188	600	1164	1, 2
H-07	CAPTIVE AIR	5424 SND-2-PSP-F	VENDOR 106	HEAVY	3468	3854	CAPTRATE SOLO FILTER	11	20	16	85%	15'5"	14	4	1927	600	1352	1, 2
H-08	CAPTIVE AIR	4824 SND-2	KITCHEN 110	-	-	1025	-	-	-	-	-	6'10"	12	4	1025	700	203	1,2
NOTES																		
1. PROVIDED WITH BALANCE DAMPER THAT IS ETL LISTED AND BUILT IN COMPLIANCE WITH NFPA-96																		
2. UNIT PROVIDED BY OTHERS, INSTALLED BY THIS CONTRACTOR. SEE KITCHEN DOCUMENTS.																		

AIR TERMINAL SCHEDULE					
UNIT NO	MFR	MODEL	MOUNTING TYPE	STYLE	NOTES
SD-01	TITUS	MCD	LAY IN	MODULAR CORE	1,2
SD-02	TITUS	350	SURFACE	LOUVERFACE	1,2
TG-01	TITUS	50F	LAY IN	EGGCRATE	1,2
EG-01	TITUS	50F	SURFACE	EGGCRATE	1,2
EG-02	TITUS	50F	DUCT MOUNT	EGGCRATE	1,2
EG-03	TITUS	50F	LAY IN	EGGCRATE	1,2
NOTES: 1. PROVIDE AIR BALANCING DEVICE AT EACH AIR TERMINAL. 2. COORDINATE FINISH WITH ARCHITECT.					

FAN SCHEDULE																		
UNIT NO	MFR	MODEL	CONFIGURATION	AREA SERVED	PERFORMANCE				NOISE	SPEED CONTROL	CONTROLLED BY OR INTERLOCKED WITH	WEIGHT LBS	ELECTRICAL					NOTES
					MAX CFM	MIN CFM	EX S.P.	RPM					HP	BHP	FLA	VOLTS	PH	
EF-01	CAPTIVE AIRE	DU180HFA	UPBLAST	OPEN SPACE/KITCHEN (C/A TAG 1)	3521	-	1.5	1402	23 SONES	VAV	H-01 CONTROL PANEL	185	3	2	9.5	208	3	2, 3, 4, 5, 8
EF-02	CAPTIVE AIRE	DU200HFA	UPBLAST	OPEN SPACE/KITCHEN (C/A TAG 2)	3729	-	1.5	1268	25.3 SONES	VAV	H-02 CONTROL PANEL	215	5	2.1	15	208	3	2, 3, 4, 5, 8
EF-03	CAPTIVE AIRE	DU240HFA	UPBLAST	VENDOR 103 (C/A TAG 3)	3979	-	1.5	884	15.3 SONES	VAV	H-03 CONTROL PANEL	375	3	2	10.1	208	3	2, 3, 4, 5, 8
EF-04	CAPTIVE AIRE	DU85HFA	UPBLAST	VENDOR 102 (C/A TAG 4)	2138	-	1.2	1553	16.1 SONES	VAV	H-04 CONTROL PANEL	94	1	0.7	11.6	120	1	2, 3, 4, 5, 8
EF-05	CAPTIVE AIRE	DU180HFA	UPBLAST	VENDOR 101 (C/A TAG 5)	3333	-	1.3	1316	20.9 SONES	VAV	H-05 CONTROL PANEL	213	2	1.6	7.3	208	3	2, 3, 4, 5, 8
EF-06	CAPTIVE AIRE	DU180HFA	UPBLAST	VENDOR 107 (C/A TAG 6)	3188	-	1.6	1364	21.3 SONES	VAV	H-06 CONTROL PANEL	185	3	1.8	9.5	208	3	2, 3, 4, 5, 8
EF-07	CAPTIVE AIRE	DU200HFA	UPBLAST	VENDOR 106 (C/A TAG 7)	3854	-	1.5	1286	26.6 SONES	VAV	H-07 CONTROL PANEL	215	5	2.2	15	208	3	2, 3, 4, 5, 8
EF-08	CAPTIVE AIRE	DU50HFA	UPBLAST	DISHWASHER (C/A TAG 8)	1025	-	0.5	1440	14.2 SONES	VAV	H-08 CONTROL PANEL	76	0.5	0.3	6.3	120	1	2, 3, 4, 5, 8
EF-09	GREENHECK	SQ-90-VG	INLINE	TRASH	350	-	0.5	1624	51 DBA	CV	TIMER	27	0.1	0.1	-	120	1	1, 2, 3, 6, 7
SF-01	GREENHECK	SQ-120-VG	INLINE	KITCHEN	1200	-	0.625	1725	54 DB	CV	TIMER, H-08	110	1/2	-	-	120	1	1, 2, 3, 6
SF-02	GREENHECK	SQ-15-M2-VG	INLINE	SATELLITE KITCHEN/ HOODS	3581	-	0.75	1576	69 DB	VAV	H-03 CONTROL PANEL	138	2	1.6	-	208	3	1, 2, 3, 6
SF-03	GREENHECK	SQ-160-VG	INLINE	HOOD-06	2869	-	0.75	1356	68 DB	VAV	H-06 CONTROL PANEL	233	2	0.9	-	208	3	1, 2, 3, 6
SF-04	GREENHECK	SQ-160-VG	INLINE	HOOD-07	3468	-	0.75	1542	72 DB	VAV	H-07 CONTROL PANEL	233	2	1.4	-	208	3	1, 2, 3, 6
SF-05	GREENHECK	SQ-20-M2-VG	INLINE	HOOD-04/HOOD-05	4923	-	0.75	1173	66DB	VAV	H-04,H-05 CONTROL PANEL	326	3	1.7	-	208	3	1, 2, 3, 6
GENERAL NOTES: 1. PROVIDE ALL FANS WITH 70% OR GREATER EFFICIENCY MOTORS OR ELECTRONICALLY COMMUTATED MOTORS AS REQUIRED BY 2021 WSEC SECTION C405.8 FOR FRACTIONAL HORSEPOWER FAN MOTORS THAT ARE 1/2 HP AND LARGER 2. EQUIPMENT MAY BE SUBSTITUTED UPON ENGINEER'S APPROVAL FOR EQUAL OR OTHER MFG/MODEL. REFER TO EQUIPMENT SCHEDULES FOR FINAL SELECTIONS.																		
NOTES: 1. PROVIDE WITH HANGING MOUNTING OPTION AND VIBRATION ISOLATION 2. FAN TO BE PRE-WIRED FROM MOTOR TO BOX ON EXTERIOR OF FAN ENCLOSURE. 3. SPEED CONTROL TO BE FACTORY WIRED TO THE INSIDE HOUSING OF ROOFTOP FANS AND TO THE OUTSIDE HOUSING OF INLINE FANS. 4. PROVIDE WITH MANUFACTURER'S RECOMMENDED ROOF CURB SLOPED TO MATCH ROOF PITCH. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. 5. FAN SHALL BE LISTED AND LABELLED IN ACCORDANCE WITH UL 762. PROVIDE WITH GREASE SPOUT AND RESEVOIR. 6. PROVIDE WITH MERV 8 FILTER BOX OPTION. 7. PROVIDE 2" CARBON FILTERS INSTEAD OF STANDARD MERV 8 FILTERS. 8. UNIT PROVIDED BY OTHERS, INSTALLED BY THIS CONTRACTOR. SEE KITCHEN DOCUMENTS.																		

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52770
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SCHEDULES I

SHEET TITLE

City of Puyallup
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REVISIONS

NO	DESCRIPTION	DATE
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Δ	PERMIT RESUB.	9/11/2024
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DEDICATED OUTSIDE AIR UNIT SCHEDULE

UNIT NO	MFR	MODEL	LOCATION	CONFIG	AREA SERVED	SUPPLY FAN DATA			EXHAUST FAN DATA			HEAT EXCHANGER DATA				FILTER	WEIGHT LBS	ELECTRICAL				DISCON FURN BY	NOTES
						CFM	HP	ESP	CFM	HP	ESP	WIN EAT	WIN EFF	SUM EAT	SUM EFF			MCA	MOP	V	PH		
DOAS-01	LOSSNAY	LGH-F940	WOMENS	INDOOR	WOMENS	750	-	0.56	740	-	0.56	19	69	86	57	MERV 8	225	10.1	15	208	1	EC	1
DOAS-02	LOSSNAY	LGH-F940	MENS	INDOOR	MENS	800	-	0.56	840	-	0.56	19	64	86	51	MERV 8	225	10.1	15	208	1	EC	1
DOAS-03	LOSSNAY	LGH-F470	SECOND FLOOR	INDOOR	SECOND FLOOR	480	-	0.56	480	-	0.56	19	69	86	57	MERV 8	110	5.1	15	208	1	EC	1

NOTES

1. DOAS UNIT FAN POWER LESS THAN 1 W/CFM IN ACCORDANCE WITH WSEC 403.3.5.1 *ENERGY RECOVERY VENTILATION WITH DOAS* FOR DOAS SYSTEMS WITH MOTOR NAMEPLATE HP LESS THAN 5 HP

INDOOR UNIT SCHEDULE

UNIT NO	MFR	MODEL	TYPE	AREA SERVED	AIRFLOW CFM	COOLING (MBH)		HEATING (MBH) TOTAL	WEIGHT	ELECTRICAL				NOTES
						TOTAL	SENSIBLE			MCA	MOP	V	PH	
IU-01A	mitsubishi	PLA-A18BA6	CEILING MOUNTED	KITCHEN	600	18	-	19	49	1	-	208	1	1.2,3,4
IU-01B	mitsubishi	PLA-A18B16	CEILING MOUNTED	KITCHEN	600	18	-	19	49	1	-	208	1	1.2,3,4
IU-02	mitsubishi	MSZ-GS12NA	WALL MOUNTED	OFFICE	381	13.6	-	18.1	23	1	-	208	1	1.2,3,4
IU-03	mitsubishi	MSZ-GS12NA	WALL MOUNTED	ELEVATOR MACHINE ROOM	381	13.6	-	18.1	23	1	-	208	1	1.2,3,4
IU-04	mitsubishi	PLA-A36BA4	CEILING MOUNTED	KITCHEN	839	36	-	42	56	2	-	208	1	1.2,3,4
IU-05	mitsubishi	MSY-GE24	WALL MOUNTED	IT	738	22.5	-	-	37	1	-	208	1	1.2,3,4

NOTES

1. PROVIDE WITH CONDENSATE DRAIN PAN AND CONDENSATE PUMP OPTION.
2. PROVIDE WITH ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION.
3. SYSTEM INCLUDES A SINGLE POINT POWER CONNECTION; INDOOR UNIT WIRED FROM OUTDOOR UNIT.
4. SEE CORRESPONDING OUTDOOR UNIT SCHEDULE FOR EFFICIENCY DATA.

OUTDOOR UNIT SCHEDULE

UNIT NO	MFR	MODEL	LOCATION	COOLING (MBH)			HEATING (MBH)		WEIGHT (LBS)	NOISE (DBA)	ELECTRICAL				NOTES
				TOTAL	SENSIBLE	IEER (SEER)	TOTAL	COP (HSPF)			MCA	MOP	V	PH	
OU-01	DAIKIN	MXZ-SM36	MECH ROOF	36	-	23	42	4	271	-	35	50	208	1	1, 2, 3, 4, 5, 6, 7
OU-02	MITSUBISHI	MUZ-G12	MECH ROOF	13.6	-	23.1	18.1	3.84	87	49	10	15	208	1	1, 2, 3, 4, 5, 6
OU-03	MITSUBISHI	MUZ-G12	MECH ROOF	13.6	-	23.1	18.1	3.84	87	49	10	15	208	1	1, 2, 3, 4, 5, 6
OU-04	MITSUBISHI	PUZ-A36	MECH ROOF	35	-	(14)	42	4.38	214	52	25	31	208	1	1, 2, 3, 4, 5, 6
OU-05	MITSUBISHI	MUY-GE24	MECH ROOF	22.5	-	(19)	-	-	119	55	17.1	24	208	1	1, 2, 3, 4, 5, 6

NOTES

1. COOLING CAPACITY MBH AT 95 D.B. OUTDOOR AND 77 D.B./67 W.B. INDOOR.
2. HEATING CAPACITY AND EFFICIENCY AT 47 D.B. OUTDOOR AND 70 D.B. INDOOR.
3. PROVIDE ADDITIONAL REFRIGERANT CHARGE AS REQUIRED TO FULLY CHARGE SYSTEM.
4. PROVIDE WITH ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION.
5. PROVIDE WITH R410-A REFRIGERANT.
6. PROVIDE ALL UNITS LOCATED OUTDOORS WITH LOCKING REFRIGERANT ACCESS PORT PER IMC 1101.10.
7. BRANCH BOX POWERED BY OUTDOOR UNIT.

LOUVER SCHEDULE

UNIT NO	MFR	MODEL	SERVICE	SIZE (IN)			CFM	FREE AREA (SF)	MAXIMUM VELOCITY (FPM)	NOTES
				WIDTH	HEIGHT	DEPTH				
L-01	GREENHECK	ESD-403	INTAKE	36"	18"	4"	700	1.81	387	1, 2, 3
L-02	GREENHECK	ESD-403	EXHAUST	24"	18"	4"	770	1.16	664	1, 2, 3
L-03	GREENHECK	ESD-403	INTAKE	36"	18"	4"	800	1.81	442	1, 2, 3
L-04	GREENHECK	ESD-403	EXHAUST	24"	18"	4"	840	1.16	724	1, 2, 3
L-05	GREENHECK	ESD-403	INTAKE	32"	24"	4"	1200	2.9	414	1, 2, 3
L-06	GREENHECK	ESD-403	INTAKE	60"	30"	4"	3581	7.4	484	1, 2, 3
L-07	GREENHECK	ESD-403	INTAKE	90"	20"	4"	2869	6.2	463	1, 2, 3
L-08	GREENHECK	ESD-403	EXHAUST	18"	12"	4"	350	0.5	700	1, 2, 3
L-09	GREENHECK	ESD-403	INTAKE	18"	18"	4"	350	0.83	422	1, 2, 3
L-10	GREENHECK	ESD-403	INTAKE	60"	30"	4"	3468	5.6	619	1, 2, 3
L-11	GREENHECK	ESD-403	INTAKE	90"	30"	4"	4923	8.6	572	1, 2, 3
L-12	GREENHECK	ESD-403	INTAKE	24"	18"	4"	480	1.16	414	1, 2, 3
L-13	GREENHECK	ESD-403	EXHAUST	24"	18"	4"	480	1.16	414	1, 2, 3

NOTES:

1. PROVIDE WITH BIRD AND INSECT SCREEN.
2. INSTALL PER MANUFACTURER'S RECOMMENDATION
3. COORDINATE COLOR WITH ARCHITECT.

MIDDLEBROOK
ENGINEERING, LLC



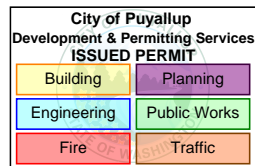
6216 174TH AVE SW
 LONGBRANCH, WA 98351
 253.765.8292



1/31/2025

SCHEDULES II



SHEET TITLE



PROJECT
INTERNATIONAL VILLAGE
110 9TH AVE SW
PUYALLUP, WA 98371

PROJECT

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
	PERMIT RESUB.	9/11/2024
	UNDERGROUND BID SET	9/23/2024
	REV 2	9/25/2024
	CONSTRUCTION DOCS	10/15/2024

DRAWN BY:	RPG
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CHECKED BY:	BSM
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PROJECT MANAGER:	BSM/RMC
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SHEET

MH602


ELECTRIC DUCT HEATER SCHEDULE														
UNIT NO	MFR	MODEL	AREA SERVED	CFM	WEIGHT	EAT	LAT	ELECTRICAL					DISCON FURN BY	NOTES
								KW	MCA	MOP	V	PH		
DH-01	INDEECO	QUZ	DOAS-03	480	-	56	80	5	-	-	208	3	EC	1, 2, 3
NOTES														
1. PROVIDE WITH CONTROL OPTION K, PROPORTIONAL CONTROLLER.														
2. PROVIDE WITH DUCT THERMOSTAT.														
3. PROVIDE WITH AIRFLOW SENSING DEVICE.														


GAS DUCT HEATER SCHEDULE																
UNIT NO	MFR	MODEL	AREA SERVED	CFM	GAS HEATING			WEIGHT	EAT	LAT	ELECTRICAL				DISCON FURN BY	NOTES
					INPUT MBH	OUTPUT MBH	EFFICIENCY				FLA	MOP	V	PH		
GH-01A	REZNOR	SC	SATELLITE KITCHEN	3581	200	160	80	283	19	60	2	-	120	1	EC	1,3,4,5
GH-01B	REZNOR	SC	SATELLITE KITCHEN	4923	300	240	80	321	19	60	2	-	120	1	EC	1,2,3,4,5
GH-02A	REZNOR	SC	SATELLITE KITCHEN	2869	200	160	80	283	19	60	2	-	120	1	EC	1,3,4,5
GH-02B	REZNOR	SC	SATELLITE KITCHEN	3468	200	160	80	283	19	60	2	-	120	1	EC	1,3,4,5
GH-03	REZNOR	SC	DISHWASHING	1200	100	80	80	158	19	60	2	-	120	1	EC	1,3,4,5
NOTES																
1. PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER. REMOVE FINGER BAFFLES.																
2. PROVIDE WITH INTERMITTEN IGNITION OR INTERRUPTED DEVICE AND MECHANICAL DRAFT OR FLUE DAMPER FOR ALL EQUIPMENT OVER 225,000 BTUI/H INPUT CAPACITY.																
3. PROVIDE WITH MANUFACTURER'S RECOMMENDED GAS TRAIN, VALVES, AND THE LIKE. PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION.																
4. PROVIDE WITH DUCT MOUNTED THERMOSTAT, AIRFLOW PROVING SWITCH, AND COMBUSTION AIR PROVING SWITCH.																
5. PROVIDE 4:1 TURNDOWN.																

ELECTRIC HEATER SCHEDULE											
UNIT NO	MFR	MODEL	AREA SERVED	WEIGHT	ELECTRICAL					DISCON FURN BY	NOTES
					WATTS	MCA	MOP	V	PH		
WH-01	INDEECO	950	VARIES	11	375	-	-	208	1	EC	1, 2, 3
RH-01	INDEECO	918	VARIES	-	600	-	-	208	1	EC	1
RH-02	INDEECO	918	VARIES	10	1200	-	-	208	1	EC	1
NOTES											
1. PROVIDE WITH SINGLE POLE THERMOSTAT.											
2. MOUNT HEATER AT 12" ABOVE FINISHED FLOOR, AWAY FROM WET LOCATIONS. COORDINATE FINAL LOCATION WITH OWNER.											
3. PROVIDE WITH RECESS WALL CAN.											

MIDDLEBROOK
ENGINEERING, LLC

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SCHEDULES III

SHEET TITLE

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building

Planning

Engineering

Public Works

Fire

Traffic

PROJECT

INTERNATIONAL VILLAGE
110 9TH AVE SW
PUYALLUP, WA 98371

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
△	PERMIT RESUB.	9/11/2024
△	UNDERGROUND BID SET	9/23/2024
△	REV 2	9/25/2024
△	CONSTRUCTION DOCS	10/15/2024

DRAWN BY:

RPG

CHECKED BY:

BSM

PROJECT MANAGER:

BSM/RMC

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SHEET

MH603

SEQUENCE OF OPERATIONS

GENERAL

1. PROVIDE AND INSTALL ALL NECESSARY DEVICES INCLUDING BUT NOT LIMITED TO: ACTUATORS, RELAYS, SWITCHES, SENSORS, DAMPERS, CONDUIT, AND WIRING NECESSARY TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.

TIMING OF CONTROL WORK

1. THE CONTROL SYSTEM SHALL BE COMPLETE PRIOR TO BALANCING OF THE PROJECT, CONTROL PERSONNEL ARE TO ASSIST IN SYSTEM OPERATION FOR THE BALANCER, THE CONTROL SYSTEM SHALL BE COMPLETE PRIOR TO HVAC SYSTEM COMMISSIONING AND CONTROL PERSONNEL ARE TO ASSIST IN SYSTEM OPERATION AND TESTING DURING COMMISSIONING. THE CONTROL SYSTEM SHALL BE COMMISSIONED PRIOR TO OWNER OCCUPANCY.

TYPICAL SYSTEM SCHEDULE:

1. OFF HOURS ARE 6:00 PM TO 6:00 AM AND WEEKENDS, ADJUSTABLE.

2. MORNING WARM-UP IS TO BE STARTED AT AN "OPTIMAL START" TIME.

TYPICAL SETPOINTS (ADJUSTABLE):

HEATING SPACE TEMPERATURE - 70 DEGREES FAHRENHEIT

COOLING SPACE TEMPERATURE - 75 DEGREES FAHRENHEIT

MISCELLANEOUS CONTROLS

- WHERE SHOWN ON PLAN, TEMPERATURE SHALL BE MONITORED BY THE DDC CONTROL SYSTEM.

DEDICATED OUTDOOR AIR SYSTEM (DDC)

GENERAL

1. SCHEDULED TO BE SET AT SYSTEM HEAD END. CONTROLS TO INCLUDE A UNOCCUPIED OVERRIDE REQUEST. OVERRIDE RUNTIME SHALL BE 2 HOURS (ADJUSTABLE).

2. UNIT SHALL BE PROGRAMMED FOR START/STOP BASED ON DESIGNED OCCUPIED MODES WITH WEEKDAYS, WEEKEND, AND HOLIDAY SCHEDULES.

SUPPLY FAN

1. SUPPLY FAN SHALL START VIA A SCHEDULE (ADJUSTABLE) OR OVERRIDE COMMAND (ADJUSTABLE). OVERRIDE COMMAND CAN BE TRIGGERRED BY A ZONE SPACE TEMPERATURE SENSOR UNOCCUPIED OVERRIDE REQUEST.

2. OUTSIDE AIR DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPER SHALL FAIL CLOSED.

EXHAUST FAN

1. EXHAUST FAN OPERATES WHENEVER THE SUPPLY FAN IS PROVEN ON.

2. EXHAUST DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPERS SHALL FAIL CLOSED.

DUCT HEATERS (STAND ALONE)

GENERAL

1. DUCT HEATER SHALL NOT ACTIVATE UNLESS FAN AIRFLOW IS PROVEN.

HEATING

1. HEATING IS OFF WHEN FAN STATUS IS OFF.

2. HEAT ACTIVATE STAGE, OR MODULATE TO MAINTAIN TEMPERATURE SETPOINT.

TEMPERATURE SETPOINT

1. TEMPERATURE SETPOINT IS 70°F (ADJUSTABLE).

TYPE 1 HOOD SEQUENCE OF OPERATIONS (STAND ALONE)

GENERAL

1. DAILY STARTUP WHEN SYSTEM IS FIRST STARTED A DAILY STARTUP ROUTINE WILL BE EXECUTED:

A. THE EXHAUST FAN(S) WILL BE STARTED AND RAMP TO 50% SPEED FOR 1 MINUTE.

B. AFTER 1 MINUTE WARM-UP CYCLE EXHAUST FAN(S) WILL MODULATE TO MEET REQUIRED AIRFLOW.

FAN OPERATION

1. EXHAUST FAN WILL START UNDER THE FOLLOWING CONDITIONS:

A. HOOD TEMPERATURE EXCEEDS AMBIENT TEMPERATURE BY THE TEMPERATURE LOW LIMIT (TL) VALUE AS SET DURING SYSTEM COMMISSIONING.

B. THE FAN IS ACTUATED AT THE TOUCHSCREEN. PANEL SHALL CONTROL SYSTEM

C. THE OVERRIDE BUTTON ON A HOOD IS PRESSED.

2. EXHAUST FAN WILL STOP WHEN THERE ARE NONE FOR THE FOLLOWING:

A. DEMAND AT HOOD (AFTER 15 MINUTE (ADJUSTABLE DELAY)

B. OVERRIDES

C. MANUAL OR EXTERNAL COMMANDS

3. EXHAUST FAN SHALL MODULATE BETWEEN MINIMUM SPEED AND MAXIMUM SPEED (AS SET DURING COMMISSIONING) ACCORDING TO THE AIRFLOW DEMAND OF THE HOOD.

4. FAN SHALL RUN AT MINIMUM SPEED AT ALL OTHER TIMES DURING OCCUPIED HOURS (ADJUSTABLE).

HOOD OPERATION

1. HOOD DEMAND AIRFLOW SHALL BE BASED ON:

A. MAXIMUM AIRFLOW SETPOINT WILL BE SET TO DESIGN AIRFLOW.

B. MINIMUM AIRFLOW WILL BE SET TO 50% (ADJUSTABLE) OF DESIGN AIRFLOW.

C. DEMAND IS DETERMINED BY SENSIBLE HEAT LOAD AT THE CANOPY TO THE LOW TEMPERATURE LIMIT VALVE.

2. HOOD LIGHTING WILL ACTIVATE UNDER ANY OF THE FOLLOWING CONDITIONS:

A. WHEN THE HOOD IS RESPONDING TO COOKING ACTIVITY.

B. WHEN THE HOOD OVERRIDE BUTTON IS PRESSED.

C. WHEN THE LIGHTING FOR HOOD IS ACTIVATED AT THE TOUCHSCREEN PANEL.

SYSTEM OVERRIDES

1. OVERRIDE CONDITIONS:

A. THE OVERRIDE BUTTON IS PRESSED ON THE HOOD, THE EXHAUST FAN WILL RAMP TO 100% FOR 5 MINUTES (ADJUSTABLE), THEN RETURN TO NORMAL CONTROL.

B. WHEN THERE IS A RAPID TEMPERATURE CHANGE DETECTED INSIDE THE HOOD, THE EXHAUST FAN WILL RAMP TO 100% FOR 5 MINUTES, THEN RETURN TO NORMAL CONTROL.

C. WHEN THERE IS A FIRE PROTECTION DISCHARGE, THE EXHAUST FAN WILL RAMP TO 100%. CONTROLS WILL SEND SIGNAL TO GAS SOLENOID VALVE TO SHUTOFF GAS TO KITCHEN APPLIANCES.

D. IF THE POWER CIRCUIT FAILS ON THE HOOD DURING COOKING OPERATIONS, THE EXHAUST FAN WILL RAMP TO 100%.

E. IF SYSTEM COMMUNICATION IS LOST, TO THE HOOD DURING COOKING OPERATIONS, THE EXHAUST FAN WILL RAMP TO 100%.

HOOD CONTROL PANEL OPTIONS (STAND ALONE)

AUTOMATIC

1. THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD VACITY OF EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021)

MANUAL

1. THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.

SCHEDULE

1. A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING OCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.

OTHER

1. THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).

FIRE

1. UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTIVATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

MAKE UP AIR UNITS HEAT SEQUENCE (STAND ALONE)

GENERAL

1. SUPPLY FAN SHALL TRACK WITH ASSOCIATED HOOD'S EXHAUST FAN. SUPPLY FAN SHALL ALWAYS RUN AT MINIMUM SPEED DURING OCCUPIED TIMES BASED ON THE SYSTEM SCHEDULE.

2. OUTSIDE AIR DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPER SHALL FAIL CLOSED.

3. HEATING SHALL STAGE OR MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE AT 60°F.

GAS DUCT HEATERS

1. COMBUSTION AIR SWITCH SHALL SHUT OFF GAS UNIT HEATERS UPON INADEQUATE COMBUSTION AIRFLOW CONDITIONS.

2. SAIL SWITCH SHALL PROVE AIRFLOW BEFORE ACTIVATION OF GAS DUCT HEATER.

SPLIT SYSTEM CONTROL SEQUENCE (DUCTLESS)

GENERAL

1. SPLIT SYSTEMS INDOOR/OUTDOOR UNITS SHALL BE CONTROLLED BY LOCAL THERMOSTAT. UNITS SHALL OPERATE ON INTERNAL CONTROLS TO MAINTAIN ROOM SETPOINT.

TEMPERATURE SETPOINT

1. SPACE AIR TEMPERATURE SETPOINT IS 70°F (ADJUSTABLE) FOR HEATING CONTROL AND 75°F (ADJUSTABLE) FOR COOLING CONTROL.

WALL HEATERS/RADIANT (STAND ALONE)

GENERAL

1. UNIT ARE SIZED AT 8 BTU/SF FOR FREEZE PROTECTION.

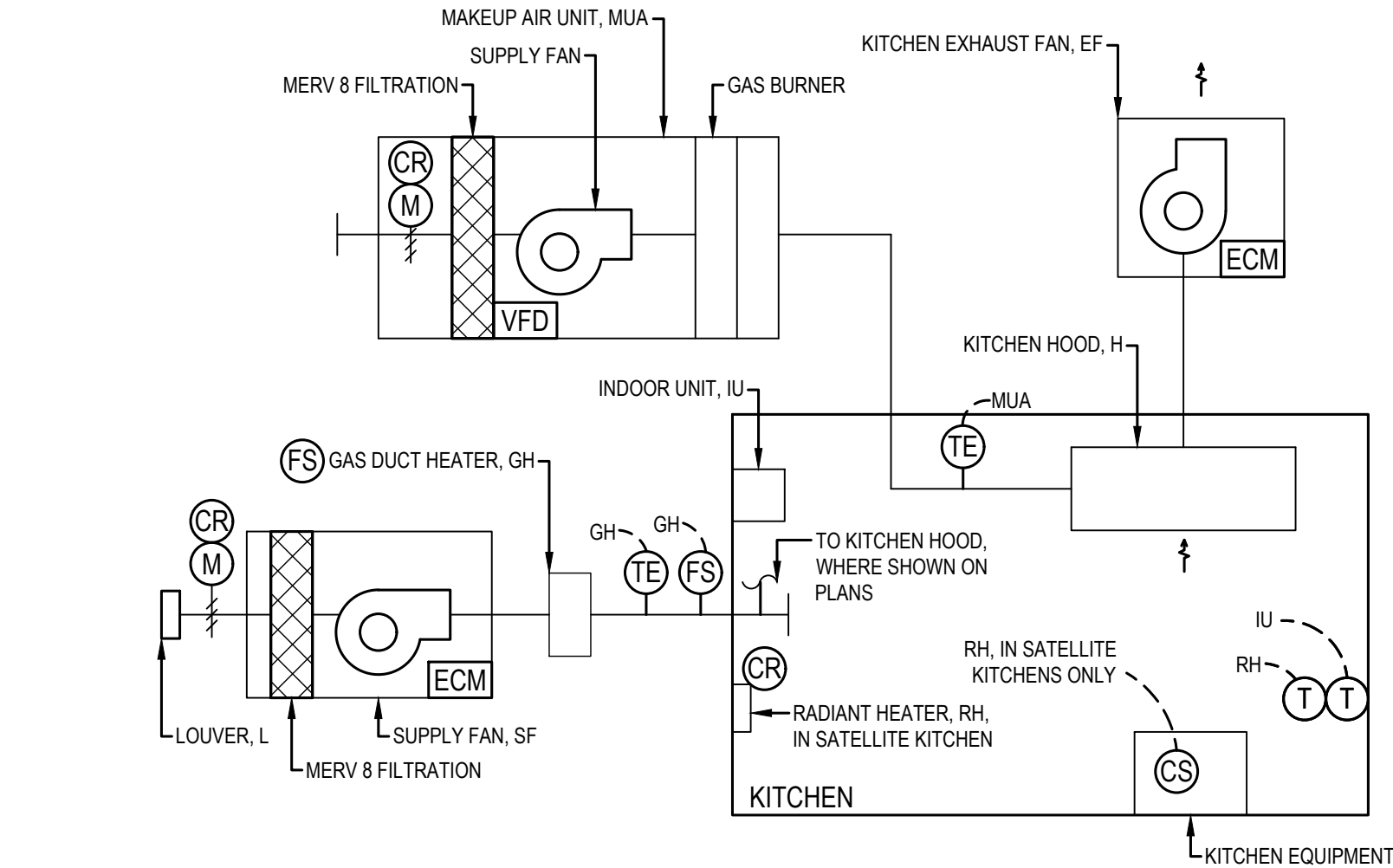
2. UNITS SHALL OPERATE TO CONTROL SPACE TEMPERATURE TO 70°F (ADJUSTABLE).

3. OCCUPANCY SENSORS SHALL DISABLE RADIANT HEATERS IF OSA TEMP IS OVER 40df AND NO OCCUPANTS ARE IN THE AREA FOR 30 MINUTES.

SATELLITE KITCHENS (STAND ALONE)

1. CORRECT SENSOR SHALL SENSE OPERATION OF ANY PIECE OF KITCHEN EQUIPMENT UNDER HOOD.

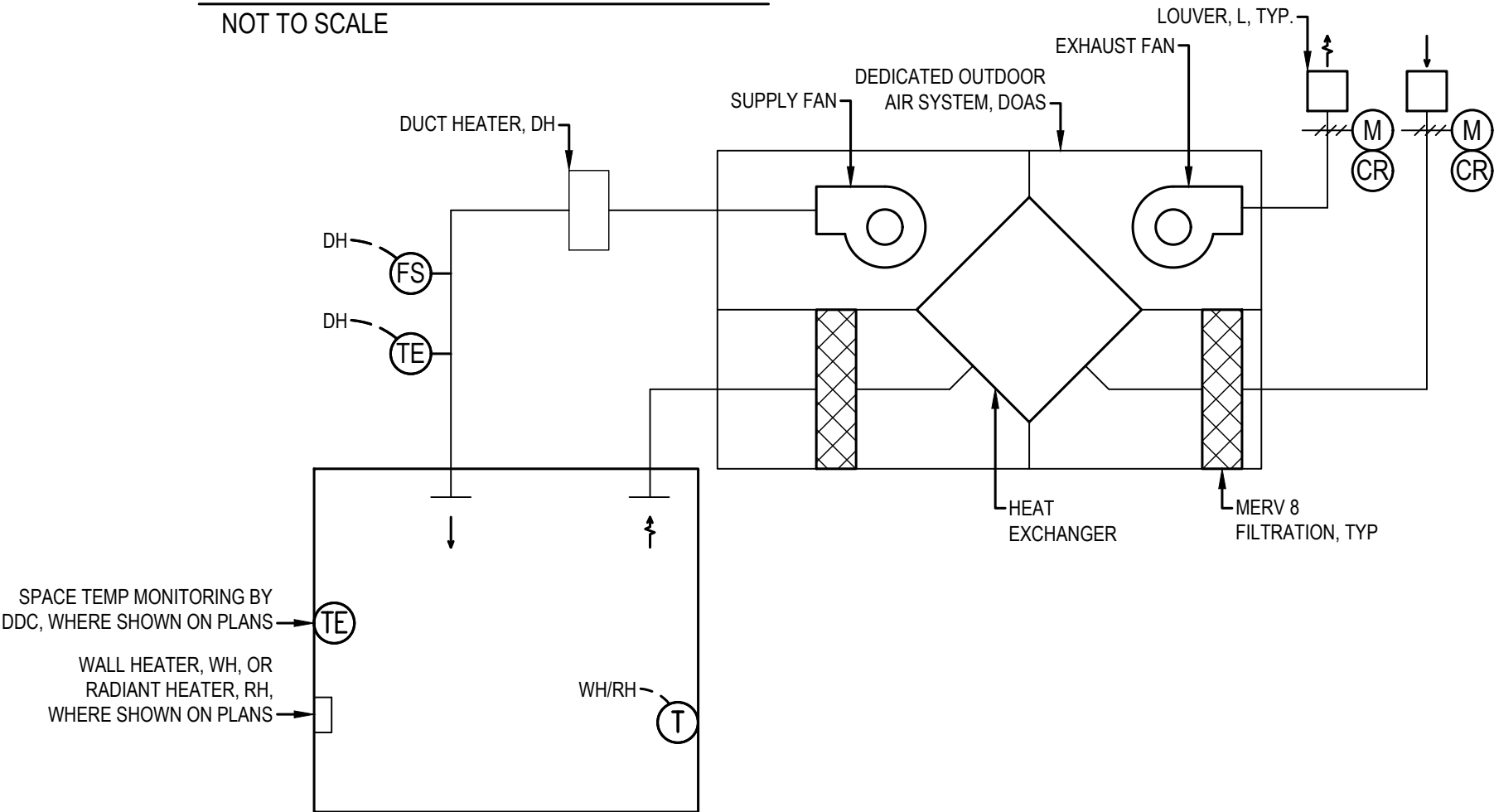
2. CURRENT RELAY SHALL CUT POWER TO RADIANT HEATER IF KITCHEN EQUIPMENT IS ACTIVATED.



NOTE: MISCELLANEOUS HEATERS ARE SHOWN ON PLAN

KITCHEN FLOW DIAGRAM

NOT TO SCALE



SPACE TEMP MONITORING BY DDC, WHERE SHOWN ON PLANS

WALL HEATER, WH, OR RADIANT HEATER, RH, WHERE SHOWN ON PLANS

MISCELLANEOUS SPACE

NOT TO SCALE

	HARDWARE												SOFTWARE									
	OUTPUT				INPUT																	
	DIGITAL		ANALOG		DIGITAL		ANALOG															
	CONTROL RELAY	POSITION ADJUSTMENT	POSITION ADJUSTMENT	% OUTPUT	AUXILIARY CONTACT	END SWITCH	TEMPERATURE	PRESSURE	AIRFLOW	HUMIDITY	FLOW	% OUTPUT	TIME SCHEDULE	TRENDING	ALARM REPORTING	SETPOINT ADJUSTMENT	LEAD/LAG SELECTION	DUTY/STANDBY SELECTION	ON/OFF SETPOINT	OPTIMUM START	GRAPHIC	BACKNET POINTS BY MANUFACTURER
GENERAL																						
SPACE AIR TEMPERATURE (TYPICAL)							X							X	X							X
DEDICATED OUTDOOR AIR UNITS																						
ENABLE/DISABLE STATUS		X	X										X	X	X	X			X	X	X	
OUTDOOR AIR DAMPER	X	X				X								X	X						X	
EXHAUST AIR DAMPER	X	X				X								X	X						X	

PIPE INSULATION SCHEDULE

FLUID OPERATING AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL OR TUBE SIZE (inches)				
	BTU · in./[h · R ² · °F)	TEMPERATURE, °F	< 1	1 to 1-1/2	1-1/2 to < 4	4 to < 8	≥8
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	75	0.5	1.0	1.0	1.0	1.5

GENERAL NOTES:

1. FOR PIPING SMALLER THAN 1-1/2 INCH (38mm) AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1 INCH (25mm) SHALL BE PERMITTED (BEFORE THICKNESSES REQUIRED IN FOOTNOTE b) NOT TO A THICKNESS LESS THAN 1 INCH (25mm).

2. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:

$$T = \frac{r}{k} \left(1 + \frac{t}{r} \right) \frac{k}{k - 1}$$

WHERE:

T = MINIMUM INSULATION THICKNESS,

r = ACTUAL OUTSIDE RADIUS OF PIPE,

t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE.

K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE (Btu · in/h · ft² x °F)

k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE.

3. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2 INCHES (38mm) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b BY BUT NOT TO THICKNESS LESS THAN 1 INCH (25mm))

MIDDLEBROOK ENGINEERING, LLC

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BRIAN SCOTT MIDDLEBROOK

52770
REGISTERED PROFESSIONAL ENGINEER

1/31/2025

SEQUENCE OF OPERATIONS

SHEET TITLE

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

PROJECT

INTERNATIONAL VILLAGE

110 9TH AVE SW
PUYALLUP, WA 98371

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
Δ	PERMIT RESUB.	9/11/2024
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DRAWN BY: RPG

CHECKED BY: BSM

PROJECT MANAGER: BSM/RMC

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MH701

GENERAL CONTRACT REQUIREMENTS

1. MECHANICAL, PLUMBING, AND CONTROLS SCOPE SHALL FALL UNDER THE ULTIMATE RESPONSIBILITY OF ONE CONTRACTOR, WHO IS RESPONSIBLE FOR UNDERSTANDING ALL MECHANICAL AND PLUMBING DOCUMENTS, DISTRIBUTING CONTRACT DOCUMENTS TO ALL SUBCONTRACTORS, AND SHALL BE RESPONSIBLE FOR CONTRACT COMPLETION.
2. THE DRAWINGS ARE DIAGRAMMATIC. COORDINATE INSTALLATION WITH THE BUILDING, PROVIDE ALL NECESSARY OFFSETS, CHANGES IN DIRECTION, EXTENSIONS AND ASSOCIATED MATERIALS FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
3. COORDINATE MECHANICAL WORK WITH ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, AND LANDSCAPE WORK SHOWN ON OTHER CONTRACT DOCUMENTS. PROVIDE ADDITIONAL PIPE OR DUCT OFFSETS WHERE REQUIRED TO COORDINATE INSTALLATION.
4. LOCATIONS AND SIZES OF (FLOOR, WALL, AND ROOF OPENINGS) SHALL BE COORDINATED WITH OTHER TRADES INVOLVED. INCLUDE THE FOLLOWING IN THE COST OF MECHANICAL WORK: CUTTING, CORING, PATCHING AND PAINTING OF EXISTING WALLS, CEILINGS, FLOORS, AND ROOFS AS REQUIRED TO ACCOMMODATE WORK AS INDICATED IN THE MECHANICAL CONTRACT DOCUMENTS UNLESS SPECIFICALLY SHOWN ON ARCHITECTURAL DOCUMENTS.
5. MAINTAIN A SET OF PLANS ON SITE. RECORD ALL CHANGES TO ACTUAL ARRANGEMENTS ON THESE PLANS. PROVIDE THIS SET OF PLANS TO THE OWNERS REPRESENTATIVE WHEN WORK IS COMPLETE.
6. ALL WORK PERFORMED SHALL BE DONE IN STRICT ACCORDANCE TO ALL APPLICABLE MECHANICAL, BUILDING, ENERGY, FUEL GAS, AND LOCAL CODES, WITH AMENDMENTS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND CONSTRUCTION FEES. FURNISH FINAL CERTIFICATE TO OWNER SHOWING COMPLIANCE WITH CODE REQUIREMENTS.
8. PROJECT SCHEDULING: COMPLY WITH OWNER'S REQUIREMENTS
9. OPERATION AND MAINTENANCE MANUAL: PROVIDE COMPLETE OPERATIONS AND MAINTENANCE MANUAL IN HARD COVER. PROVIDE OPERATIONS, MAINTENANCE AND PARTS DATA ON ANY ITEM OF EQUIPMENT THAT HAS MOVING PARTS.
10. PROVIDE THE FOLLOWING DOCUMENTS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. FINAL PAYMENT OF THE CONTRACT WILL BE CONTINGENT UPON RECEIVING THESE DOCUMENTS:

A. RECORD (AS-BUILT) DRAWINGS.

B. MAINTENANCE AND OPERATING INSTRUCTIONS (3 SETS).

C. EXTENDED WARRANTIES (OTHER THAN THE ONE-YEAR).

D. BALANCING LOGS (AIR AND HYDRONIC SYSTEMS) (3 SETS).

E. FINAL CERTIFICATES OF INSPECTION AND CODE COMPLIANCE.

F. COMMISSIONING DOCUMENTATION PER WSEC
11. WARRANTY PROVISIONS: THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND SYSTEMS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIAL, EQUIPMENT, OR POOR WORKMANSHIP, WHICH MAY SHOW ITSELF DURING THIS WARRANTY PERIOD.

SEISMIC AND VIBRATION REQUIREMENTS

1. HANGERS AND SEISMIC BRACING FOR THE MECHANICAL SYSTEMS SHALL BE DESIGNED AND PROVIDED BY THE MECHANICAL CONTRACTOR. REFER TO CONTRACTOR SHOP DRAWINGS FOR LOCATIONS OF EQUIPMENT AND HUNG MECHANICAL SYSTEMS. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG MECHANICAL SYSTEMS WITH THE GENERAL CONTRACTOR AND OTHER TRADES THAT MAY BE IMPACTED.

A. PROVIDE ALL SEISMIC RESTRAINT REQUIRED BY THE AUTHORITY HAVING JURISDICTION AND THE APPLICABLE CODES.

B. EMPLOY A LICENSED STRUCTURAL ENGINEER, IF NECESSARY, TO ACHIEVE COMPLIANCE.

C. THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) SEISMIC RESTRAINT MANUAL GUIDELINES MAY BE USED FOR PIPING AND DUCTWORK. INSURE THE PROPER HAZARD LEVEL IS EMPLOYED FOR THE AREA OF INSTALLATION.
2. VIBRATION CRITERIA: PROVIDE VIBRATION ISOLATION IN ACCORDANCE WITH THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE): APPLICATIONS HANDBOOK.

BASIC MATERIALS AND METHODS

1. ALL MATERIALS AND EQUIPMENT SHALL BE LISTED OR LABELED BY A RECOGNIZED AGENCY. UL, AGA, FM, CSA, ARI, ETC.
2. EQUIPMENT SHALL BE AS INDICATED ON THE DRAWING SCHEDULES. THE DRAWING SCHEDULES ESTABLISH THE LEVEL OF QUALITY. SUBSTITUTIONS WILL BE CONSIDERED, SUBMIT TECHNICAL DATA (PERFORMANCE AND CONSTRUCTION) TO THE OWNERS REPRESENTATIVE FOR APPROVAL. ALLOW TWO WEEKS FOR TURN-AROUND.
3. MECHANICAL SYSTEM PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE PROTECTED IN ACCORDANCE WITH THE BUILDING CODE IN FORCE IN THE AUTHORITY HAVING JURISDICTION FOR THIS PROJECT. THIS INCLUDES: PIPING, DUCTWORK, SUPPORTS, CONDUIT, AND ANY OTHER SYSTEM AND APPURTENANCE PROVIDED AS PART OF THE MECHANICAL WORK OF THIS CONTRACT. IN ADDITION, ALL THROUGH-PENETRATION SEALING METHODOLOGIES SHALL BE LISTED IN THE UNDERWRITER'S LABORATORIES (UL) FIRE RESISTANCE DIRECTORY, ISSUE CURRENT AT TIME OF BID.
4. MOTORS SHALL COMPLY WITH THE WSEC.
5. ALL MOTORS SHALL BE ELECTRONICALLY COMMUTATED UNLESS NOTED ON SCHEDULE.
6. ELECTRICAL INSTALLATION SHALL COMPLY WITH THE NEC.
7. PROTECT STORED MATERIALS. REPLACE DAMAGED MATERIALS PRIOR TO INSTALLATION.
8. PROVIDE WATER-TIGHT SEAL FOR OPENINGS TO THE BUILDING THROUGH WHICH PIPE PASSES.
9. PROVIDE AND INSTALL PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY (MSS) STANDARDS, SPECIFICALLY STANDARD SP-69, "PIPE HANGERS AND SUPPORTS - SELECTION AND APPLICATION" AND STANDARD SP-58, "PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN AND MANUFACTURE". PROVIDE PIPE SUPPORT SPACING IN ACCORDANCE WITH THE UPC OR IMC.
10. TESTING: ALL WORK UNDER THIS CONTRACT SHALL BE THOROUGHLY AND SYSTEMATICALLY TESTED, BOTH DURING CONSTRUCTION AND AFTER COMPLETION. PIPE TESTING SHALL BE EITHER AS SPECIFIED IN THE APPROPRIATE SPECIFICATION SECTION, OR AS SPECIFIED IN THE APPLICABLE PLUMBING OR MECHANICAL CODE. DUCTWORK SHALL BE TESTED AS PART OF THE AIR BALANCING PROCESS. NOTIFY THE OWNER'S REPRESENTATIVE 48-HOURS IN ADVANCE OF ALL TESTS. TESTS SHALL BE MAINTAINED UNTIL APPROVED.
11. START-UP, BALANCING AND COMMISSIONING.

A. EQUIPMENT STARTUP SHALL BE PERFORMED BY QUALIFIED PERSONNEL. THE TECHNICAL SPECIFICATION SECTIONS WILL DETAIL OTHER SPECIAL REQUIREMENTS. IF ANY, PROVIDE A STATEMENT OF THE STARTUP TECHNICIANS' QUALIFICATIONS IF REQUESTED BY THE OWNER'S REPRESENTATIVE OR ELSEWHERE SPECIFIED.

B. BALANCE ALL AIR SYSTEMS. BALANCE IN ACCORDANCE WITH EITHER NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR AMERICAN AIR BALANCE COUNCIL (AABC) CRITERIA.

C. PROVIDE COMMISSIONING IN ACCORDANCE WITH THE WSEC, UNLESS ENHANCED COMMISSIONING IS REQUIRED. PROVIDE DOCUMENTATION OF COMMISSIONING.

a. A CERTIFIED COMMISSIONING AGENT SHALL PROVIDE A COMMISSIONING PLAN OUTLINING THE RESPONSIBILITY MATRIX, SCHEDULE, AND EQUIPMENT FUNCTIONAL PERFORMANCE TESTING PER WSEC 408.1.2.

b. THE COMMISSIONING REPORT SHALL BE COMPLETED PRIOR TO FINAL MECHANICAL INSPECTION PER C408.1.3.

c. FINAL REPORT SHALL BE MADE AVAILABLE TO CODE OFFICIAL PER COMPLETION REQUIREMENTS OF WSEC C408.1.4

LOW PRESSURE STEEL DUCTWORK

1. GALVANIZED CARBON STEEL PER SMACNA STANDARDS.
2. FLEXIBLE DUCTWORK SHALL BE VINYL COATED SPRING STEEL HELIX BONDED TO A VINYL COATED FIBERGLASS MECH LINER WRAPPED WITH FIBERGLASS WOOL INSULATION JACKET WITH A REINFORCED METALIZED MYLER/ NEOPRENE LAMINATE OUTER CASING.
3. PROVIDE GREASE DUCT PER IMC. CH. 5 AND AS INDICATED IN PLANS.

AIR DISTRIBUTION SYSTEM - GENERAL

1. PROVIDE PER THE IMC, THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) "DUCT CONSTRUCTION MANUAL, METAL AND FLEXIBLE", AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
2. IN ADDITION TO THE REQUIREMENTS ABOVE, INSTALL EQUIPMENT AND COMPONENTS IN ACCORDANCE WITH THE PUBLISHED MANUFACTURERS' INSTALLATION REQUIREMENTS.
3. FIRE/SMOKE DAMPERS: UL LISTED FOR SERVICE INTENDED, INSTALL IN ACCORDANCE WITH THE LISTING.
4. FLEXIBLE CONNECTIONS: PROVIDE AT EACH FAN AND AIR HANDLING UNIT CONNECTION TO DUCT.
5. ACCESS PANELS: PROVIDE FOR MAINTENANCE OF ALL DUCT-MOUNTED EQUIPMENT (FIRE DAMPERS, CONTROL DAMPERS, COILS, ETC.).
6. LOCATE VALVES, CLEANOUTS, DAMPERS, CONTROLS AND SIMILAR COMPONENTS SO THAT THEY ARE ACCESSIBLE.

A. INSTALL TAG ON CEILING GRID FRAME TO INDICATE LOCATION AND TYPE OF EQUIPMENT THAT REQUIRES MAINTENANCE.
7. PROVIDE ACCESS DOORS FOR MECHANICAL EQUIPMENT INSTALLED BEHIND WALLS, ABOVE INACCESSIBLE CEILINGS AND BELOW FLOORS. COORDINATE ACCESS DOOR LOCATIONS WITH ARCHITECT/ENGINEER. ACCESS DOOR SHALL BE SIZED SO THAT ADJACENT EQUIPMENT IS ACCESSIBLE.

A. PROVIDE 16 GA. STEEL, FLUSH TYPE ACCESS DOOR WITH CONCEALED HINGE AND SLOT SCREWDRIVER TYPE CAM LATCH. PROVIDE FACTORY PRIMED IN PAINTED SURFACE AREAS FOR FIELD PAINTING.

B. PROVIDE STAINLESS STEEL FOR ALL OTHER AREAS. PROVIDE UL LISTED AND LABELED DOOR WHERE FIRE-RESISTANCE RATING IS INDICATED ON DRAWINGS.

C. PROVIDE DUCT ACCESS PANELS FOR FIRE DAMPER ACTUATOR ACCESS AGENT EQUIPMENT IS ACCESSIBLE.
8. VOLUME DAMPERS

A. FABRICATED IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS AND AS INDICATED.

B. FABRICATE SPLITTER DAMPERS OF SAME MATERIAL AND GAGE AS DUCT TO 24 INCHES (600 MM) SIZE IN EITHER DIRECTION, AND TWO GAGES HEAVIER FOR LARGER SIZES, SECURED WITH CONTINUOUS HINGE OR ROD, OPERATED WITH MINIMUM 1/4-INCH (6 MM) DIAMETER ROD.

C. FABRICATE SINGLE BLADE DAMPERS FOR DUCT SIZES TO 9-1/2 X 30 INCH. FABRICATE MULTI-BLADE DAMPER OF OPPOSED BLADE PATTERN WITH MAXIMUM BLADE SIZES 12 X 72 INCH. ASSEMBLE CENTER AND EDGE CRIMPED BLADES IN PRIME COATED OR GALVANIZED CHANNEL FRAME WITH SUITABLE HARDWARE.

D. EXCEPT IN ROUND DUCTWORK 12 INCHES (300 MM) IN DIAMETER AND SMALLER, PROVIDE END BEARINGS.

E. PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE AND MULTI-BLADE DAMPERS, WHERE WIDTH EXCEEDS 30 INCHES (750 MM), PROVIDE REGULATOR AT BOTH ENDS.
9. MOTORIZED DAMPERS

A. GENERAL:

a. COORDINATE ACTUATOR TYPE WITH CONTROLS CONTRACTOR.

b. DAMPER ACTUATORS AND ACTUATOR LINKAGES SHALL BE MOUNTED IN THE AIRSTREAM FOR ALL ROOFTOP FANS/ROOF HOODS AND MOUNTED EXTERNAL OF THE AIRFLOW AT ALL OTHER LOCATIONS, UNLESS SPECIFICALLY INDICATED OTHERWISE ON PLANS.

c. MULTI SECTION DAMPER ASSEMBLIES SHALL BE PROVIDED WITH A FACTORY INSTALLED COMMON JACKSHAFT.

d. PROVIDE WITH DOUBLE FLANGE DUCT CONNECTION.

e. SHALL BE CLASS IA LEAKAGE RATED.

f. PROVIDE PARALLEL BLADE AIRFOIL TYPE FOR OPEN/CLOSED CONTROL AND OPPOSED BLADE AIRFOIL TYPE FOR MODULATING/THROTTLING CONTROL.

B. DAMPER BLADES:

a. EXTRUDED ALUMINUM OR GALVANIZED STEEL AIR FOILS WITH REPLACEABLE RUBBER BLADE SEALS, 6-INCHES WIDE MAXIMUM.

b. 304 STAINLESS STEEL WHEN INSTALLED IN DISHWASHER HOOD DUCTWORK.

c. JAMB SEALS SHALL BE FLEXIBLE METAL COMPRESSION TYPE.

C. PERFORMANCE:

a. MAXIMUM LEAKAGE RATE SHALL BE 3 CFM/50. FT. OF DAMPER AREA PER 1.0-INCH W.G. IN ACCORDANCE WITH AMCA STANDARD 500D.

b. MAXIMUM PRESSURE DROP FOR A 12"X12" DAMPER SHALL BE 0.08" W.G. AT 1,000 FPM FACE VELOCITY.

D. APPROVED MANUFACTURERS:

a. RUSKIN (CD50/CD60)

b. GREENHECK (VCD-33/3V-CD-43)

DUCTWORK SOUNDLINER

1. MAXIMUM VELOCITY ON MAT OR COATED SIDE SHALL BE 5000 FT/MIN.
2. NOISE REDUCTION COEFFICIENT: 0.65 OR HIGHER, TYPE A MOUNTING, ASTM C423.
3. K = 0.25 AT 75 DF, ASTM C518.
4. PROVIDE ACOUSTIC LINING IN CONNECTING DUCTWORK 10' UPSTREAM AND DOWNSTREAM OF FAN POWERED MECHANICAL UNIT, UNLESS OTHERWISE NOTED ON PLANS.
5. APPROVED MANUFACTURERS

A. MANVILLE PERMACOTE LINAACOUSTIC

B. MANVILLE PERMACOTE SPIRAACOUSTIC LINER

DUCT INSULATION

1. FLEXIBLE FIBERGLASS DUCTWORK SHALL MEET ASTM C553, TYPE 1, CLASS B2 FLEXIBLE BLANKET, K VALUE SHALL BE 0.27 @ 75 DF.
2. VAPOR BARRIER JACKET: PROVIDE FSK ALUMINUM FOIL REINFORCED WITH FIBER GLASS YARN AND LAMINATED FIRE RESISTANT KRAFT. SECURE WITH UL LISTED PRESSURE SENSITIVE TAPE AND/OR OUTWARD CINCHED EXPANDED STABLES.
3. INSULATION SHALL MEET THE REQUIREMENTS OF THE INSULATION SCHEDULE, SHOWN ON PLANS.
4. APPROVED MANUFACTURERS: MANVILLE, OWENS CORNING, OR APPROVED EQUAL.

FANS

1. SCHEDULED FANS SHALL BE THE BASIS OF DESIGN. UNITS OF SIMILAR CONSTRUCTION AND CAPABILITIES MAY BE SUBMITTED FOR REVIEW.
2. PROVIDE CURBS SLOPED TO MATCH ROOF PITCH FOR ROOF TOP FANS.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND AS NOTED ON PLANS.

FILTERS

1. PROVIDE 2" MERV 8 PLEATED, DISPOSABLE FILTERS, UNLESS OTHERWISE INDICATED ON PLANS. SIZE OF FILTER SHALL BE COMPATIBLE WITH FILTER BOX OR AIR HANDLER.

SPLIT SYSTEM UNITS

1. BASIS OF DESIGN SHALL REPRESENT THE QUALITY OF UNITS.
2. MAJOR COMPONENTS INCLUDE:

A. EVAPORATOR AND CONDENSER UNITS.

B. CONTROLS - UNITS SHALL BE CONTROLLED BY MANUFACTURER'S PROPRIETARY TEMPERATURE CONTROL SYSTEM.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE ACOUSTIC LINING IN CONNECTING DUCTWORK 10' UPSTREAM AND DOWNSTREAM OF FAN, UNLESS OTHERWISE NOTED ON PLANS.

WALL HEATERS

1. BASIS OF DESIGN SHALL REPRESENT QUALITY OF UNIT.
2. APPROVED MANUFACTURERS: INDEECO, CADET

CONTROLS

1. STAND ALONE CONTROL SYSTEMS

A. SCOPE: PROVIDE UNIT CONTROLS, ZONE TEMPERATURE CONTROLS AND ANY OTHER CONTROL ITEMS REQUIREMENT FOR A COMPLETE AND FUNCTIONAL SYSTEM. PROVIDE ALL REQUIRED WIRING, CONDUIT, COMPONENTS (RELAYS, TRANSFORMERS, ETC) AND EQUIPMENT. OBTAIN AND UNDERSTAND ALL MECHANICAL AND PLUMBING DOCUMENTS BEFORE BIDDING WORK.

B. APPROVED MANUFACTURERS ARE TRANE, MITSUBISHI, AND HONEYWELL. NO OTHER MANUFACTURER IS ACCEPTABLE UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.

C. SPECIFIC REQUIREMENTS: EACH UNIT SHALL HAVE INDIVIDUAL STANDALONE CONTROLS THAT PERFORM THE FUNCTIONS LISTED IN THE DRAWINGS. PNEUMATIC CONTROLS ARE NOT ACCEPTABLE.
2. DIRECT DIGITAL CONTROLS

A. APPROVED CONTRACTORS:

a. SOUND ENERGY

B. APPLICATION NODES:

a. APPLICATION NODES SHALL PERFORM THE FUNCTION OF MONITORING SYSTEM VARIABLES, BOTH FROM REAL HARDWARE POINTS, SOFTWARE VARIABLES, AND CONTROLLER PARAMETERS SUCH AS SETPOINTS THAT ARE RELEVANT TO ITS OPERATION. APPLICATIONS NODES SHALL BE ENTIRELY SOLID-STATE DEVICES. NO RIGID DISK DRIVES WILL BE PERMITTED IN THE EQUIPMENT ROOMS.

c. THE APPLICATION NODES SHALL BE CAPABLE OF MANAGING AND DIRECTING ALL INFORMATION TRAFFIC ON THE TIER 1 NETWORK, BETWEEN THE TIER 1 AND TIER 2 NETWORKS, AND TO SERVERS.

d. ANY NODE ON THE TIER 1 NETWORK SHALL BE EQUIPPED WITH ALL SOFTWARE NECESSARY TO INTERFACE WITH A TIER 1 OPERATOR WORKSTATION VIA NETWORK OR LOCAL PORT.

e. COMMUNICATION BETWEEN NODES SHALL BE PEER-TO-PEER VIA 10/100 ETHERNET USING THE BACNET PROTOCOL.

f. THE APPLICATION NODES SHALL BE DESIGNED, PACKAGED, INSTALLED, PROGRAMMED AND COMMISSIONED IN CONSIDERATION OF THEIR SPECIFIC SERVICE AND PREVAILING OPERATING CONDITIONS. THEY SHALL BE PROVEN STANDARD PRODUCT OF THEIR ORIGINAL MANUFACTURER AND NOT A CUSTOM PRODUCT FOR THIS PROJECT.

g. APPLICATION NODES SHALL COMPLY WITH FCC PART 15 SUBPART J CLASS A EMISSION REQUIREMENTS

h. EACH APPLICATION NODE SHALL BE EQUIPPED WITH BATTERY BACK-UP SOURCE.

i. APPLICATION NODES SHALL BE PHYSICALLY SEPARATE FROM SERVER HARDWARE AND SOFTWARE, RESIDE IN THE BUILDING, AND BE THE ONLY MEANS OF EMCS DATA TRANSFER TO THE SERVER. APPLICATION NODE SHALL BE A COMPLETE OFF THE SHELF SOFTWARE/HARDWARE PACKAGE MANUFACTURED BY A LICENSED APPLICATION NODE MANUFACTURER.

C. INPUT DEVICES:

ALL INPUT DEVICES SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATION AND SHALL BE OF THE TYPE AND ACCURACY SUITABLE FOR THE SPECIFIC APPLICATION.
3. ROOM TEMPERATURE SENSORS - ROOM TEMPERATURE SENSORS SHALL BE MOUNTED 54" AFF UNLESS OTHERWISE NOTED ON PLANS. VERIFY ALL LOCATIONS WITH OWNERS REPRESENTATIVE.
4. ACTUATION EQUIPMENT:

A. SPRING RETURN IS REQUIRED IN ALL EQUIPMENT EXPOSED TO OUTDOOR AIR AND/OR FAISAFE CONDITIONS.

B. ALL AIR HANDLER AND DOAS DAMPER AND VALVE ACTUATION SHALL BE SPRING RETURN AND PROPORTIONALLY CONTROLLED.

C. ALL 120V ACTUATORS SHALL HAVE DISCONNECTS IN ACCORDANCE WITH ELECTRICAL STANDARDS.

D. ALL CONTROLS ACTUATORS SHALL BE SIZED CAPABLE OF CLOSING AGAINST THE MAXIMUM SYSTEM SHUTOFF PRESSURE.
5. WIRING:

A. ALL CLASS 2 (24VAC OR LESS) CONTROLS WIRING SHALL BE CONCEALED IN CONDUIT, UNLESS CONCEALED IN ACCESSIBLE LOCATIONS.

B. WIRE SUPPORTS SHALL BE INSTALLED PER LOCAL WIRING CODE REQUIREMENTS. DEFAULT SUPPORT SPACING SHALL BE 5'. SUPPORTS SHALL HANG FROM THE BUILDING STRUCTURE AND BE DESIGNED FOR THIS APPLICATION.

C. PROVIDE FIRE STOPPING FOR ALL PENETRATIONS USED BY CONTROLS CONDUIT AND RACEWAYS.

D. WIRING SHALL NOT PENETRATE STRUCTURAL ELEMENTS.
6. PROVIDE FULL COMMISSIONING OF THE CONTROL SYSTEM IN ACCORDANCE WITH THE WSEC.
7. PROVIDE 2 HOURS OF SCHEDULED INSTRUCTION PERIOD TO THE OWNER. COST FOR TIME INVOLVED SHALL BE INCLUDED IN THE BID.
8. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, THE NEC AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

DEDICATED OUTDOOR AIR UNITS

1. BASIS OF DESIGN SHALL REPRESENT THE QUALITY OF UNIT.
2. CABINET SHALL INCLUDE FACTORY WIRING, CONTROLS, BLOWERS, FILTERS, INSTALLED INLET AIR THERMISTERS, AND ENTHALPIC HEAT EXCHANGER.
3. APPROVED MANUFACTURER: LOSSNAY.
4. PROVIDE ACOUSTIC LINING IN CONNECTING DUCTWORK 10' UPSTREAM AND DOWNSTREAM OF FAN, UNLESS OTHERWISE NOTED ON PLANS.

DUCT HEATERS

1. BASIS OF DESIGN SHALL REPRESENT THE QUALITY OF UNITS.
2. PROVIDE WITH ALUMINIZED STEEL BURNER WITH STAINLESS INSERTS. PROVIDE WITH ALUMINIZED-STEEL HEAT EXCHANGER WITH VENTURI TUBES. STAINLESS STEEL HEAT EXCHANGER SHALL BE PROVIDED ON ALL APPLICATIONS WITH RETURN AIR TEMPERATURE LESS THAN 40°F.
3. PROVIDE WITH CORROSION RESISTANT CABINET, SEALED COMBUSTION.
5. APPROVED MANUFACTURERS:

A. REZNOR

ELECTRIC RADIANT HEATER

1. ELEMENT SHALL CONSIST OF A HIGH RESISTANCE NICKEL CHROME ALLOW WIRE EMBEDDED IN MAGNESIUM OXIDE AND ENCASED IN METAL SHEATHING FOR CORROSION RESISTANCE.
2. FRONT PANEL SHALL BE EXTRUDED ALUMINUM WITH POWDER COAT FINISH. BACK SHIELD SHALL BE 24 GAUGE PLATE STEEL..
3. APPROVED MANUFACTURER.


A. INDEECO


OSA DUCT INSULATION SCHEDULE					
DUCT SYSTEM	DUCT LOCATION AND USE	CLIMATE ZONE	AIRFLOW	MINIMUM INSTALLED DUCT INSULATION R-VALUE	NOTES
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND UPSTREAM OF AUTOMATIC SHUT OFF DAMPER.	4C AND 5B	≥2800 CFM	4.5	SEE SECTION C403.10.1.1 FOR ADDITIONAL REQUIREMENTS
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND DOWNSTREAM OF AUTOMATIC SHUT OFF DAMPER TO HVAC UNIT OR ROOM.	4C	≥2800 CFM	3.0	
OUTDOOR AIR	INSIDE CONDITIONED SPACE AND DOWNSTREAM OF AUTOMATIC SHUT OFF DAMPER TO HVAC UNIT OR ROOM.	5B	≥2800 CFM	2.5	
OUTDOOR AIR	INSIDE CONDITIONED SPACE	4C AND 5B	<2800	1.5	SEE EXCEPTION 1 TO SECTION C403.10.1.1 FOR ADDITIONAL DETAILS
GENERAL NOTES: <div>1. INSULATION R-VALUES, MEASURED IN h · ft² x °F/BTU, ARE FOR THE INSULATION AS INSTALLED AND DO NOT INCLUDE FILM RESISTANCE. THE REQUIRED MINIMUM THICKNESSES DO NOT CONSIDER WATER VAPOR TRANSMISSION AND POSSIBLE SURFACE CONDENSATION. INSULATION RESISTANCE MEASURED ON A HORIZONTAL PLANE IN ACCORDANCE WITH ASTM C518 AT A MEAN TEMPERATURE OF 75°F AT THE INSTALLED THICKNESS.</div> <div>2. SEE INTERNATIONAL MECHANICAL CODE SECTIONS 603.12 AND 604 FOR FURTHER DETAILS ON DUCT INSTALLATION REQUIREMENTS.</div>					

SUPPLY, RETURN, EXHAUST, AND RELIEF AIR DUCTWORK INSULATION SCHEDULE				
DUCT SYSTEM	DUCT LOCATION AND USE	CLIMATE ZONE	MINIMUM INSTALLED DUCT INSULATION R-VALUE	NOTES
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER)*	4C	R-8	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER)*	5B	R-12	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE (ENCLOSED BUT NOT IN THE BUILDING CONDITIONED ENVELOPE)	4C AND 5B	R-5	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE WHERE THE DUCT CONVEYS AIR THAT IS WITHIN 15°F OF THE AIR TEMPERATURE OF THE SURROUNDING UNCONDITIONAL SPACE.	4C AND 5B	R-3.3	SEE IMC SECTION 603.12 FOR ADDITIONAL REQUIREMENTS FOR CONDENSATION CONTROL AT DUCTWORK
SUPPLY AIR OR RETURN AIR	WHERE LOCATED IN A BUILDING ENVELOPE ASSEMBLY	4C AND 5B	R-16	DUCT OR PLENUM IS SEPARATED FROM BUILDING ENVELOPE ASSEMBLY WITH THE MINIMUM INSULATION VALUE
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 56°F OR GREATER THAN 105°F	4C AND 5B	R-3.3	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE THAT DUCT DIRECTLY SERVES WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS KLESS THAN 56°F OR GREATER THAN 105°F	4C AND 5B	NONE	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 56°F OR GREATER THAN 105°F OR LESS	4C AND 5B	NONE	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	4C	R-8	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	5B	R-12	
RELIEF OR EXHAUST AIR	CONDITIONED SPACE DOWNSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	4C AND 5B	R-16	
GENERAL NOTES: <div>1. INSULATION R-VALUES, MEASURED IN h · ft² x °F/BTU, ARE FOR THE INSULATION AS INSTALLED AND DO NOT INCLUDE FILM RESISTANCE. THE REQUIRED MINIMUM THICKNESSES DO NOT CONSIDER WATER VAPOR TRANSMISSION AND POSSIBLE SURFACE CONDENSATION. INSULATION RESISTANCE MEASURED ON A HORIZONTAL PLANE IN ACCORDANCE WITH ASTM C518 AT A MEAN TEMPERATURE OF 75°F AT THE INSTALLED THICKNESS.</div> <div>2. SEE INTERNATIONAL MECHANICAL CODE SECTIONS 603.12 AND 604 FOR FURTHER DETAILS ON DUCT INSTALLATION REQUIREMENTS.</div> <div>3. INCLUDES ATTIC ABOVE INSULATED CEILINGS, PARKING GARAGES AND CRAWL SPACES.</div>				

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1/31/2025

SHEET TITLE

SPECIFICATIONS

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building

Planning

Engineering

Public Works

Fire

Traffic

PROJECT

INTERNATIONAL VILLAGE
110 9TH AVE SW
PUYALLUP, WA 98371

REVISIONS

NO	DESCRIPTION	DATE
	CONFORMED	1/31/2025
Δ	PERMIT RESUB.	9/11/2024
Δ	UNDERGROUND BID SET	9/23/2024
Δ	REV 2	9/25/2024
Δ	CONSTRUCTION DOCS	10/15/2024

DRAWN BY: RPG

CHECKED BY: BSM

PROJECT MANAGER: BSM/RMC

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