MECHANICAL PIPE MATERIAL SCHEDULE

PIPE SYSTEM	SIZE	PIPE			FITTINGS		
		MATERIAL	TYPE / WEIGHT	STANDARD	MATERIALS	TYPE / WEIGHT	STANDARD
HOT WATER / GLYCOL	≤ 2	COPPER	HARD TEMPER TYPE L	ASTM B88	COPPER	WROUGHT COPPER BRAZED JOINT	ANSI 16.18
	> 2	BLACK STEEL	ERW/SCH. 40	ASTM A53 GRADE B	STEEL	WELDED/SCH. 40	ANSI 16.9
CONDENSATE DRAIN	ALL	COPPER	HARD TEMPER TYPE L	ASTM B88	COPPER	WROUGHT COPPER SOLDER JOINT	ANSI 16.18
REFRIGERANT	ALL	COPPER	HARD TEMPER TYPE K (ACR)	ASTM 280	COPPER	SILVER SOLDER 300PSI	ANSI B16.22
NATURAL GAS	≤ 4"	STEEL	SCHEDULE 40	ASTM A53 ASTM A106	MALLEABLE IRON	THREADED	ASME B16.3
	> 4"	STEEL	SCHEDULE 40	ASTM A53 ASTM A106	MALLEABLE IRON	WELDED	ASME B16.3

SYMBOLS AND ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
–	AC-	AIR CONDITIONING UNIT
–	AD	ACCESS DOOR
–	AFF	ABOVE FINISHED FLOOR
–	AHC	ABOVE HUNG CEILING
–	AP	ACCESS PANEL
–	BHP	BRAKE HORSEPOWER
–	BTU	BRITISH THERMAL UNIT
–	CFM	CUBIC FEET PER MINUTE
–	COD	CABLE OPERATED DAMPER
–	DB	DRY BULB TEMPERATURE
–	DIA. OR Ø	DIAMETER
–	DX	DIRECT EXPANSION
–	EA	EXHAUST AIR
–	EAT	ENTERING AIR TEMPERATURE
–	ER	EXHAUST REGISTER
–	ESP	EXTERNAL STATIC PRESSURE
–	EWT	ENTERING WATER TEMPERATURE
–	FCU	FAN COIL UNIT
–	FPM	FEET PER MINUTE
–	FPS	FEET PER SECOND
–	GPM	GALLONS PER MINUTE
–	HP	HORSE POWER
–	LAT	LEAVING AIR TEMPERATURE
–	LF	LINEAR FEET
–	LWT	LEAVING WATER TEMPERATURE
–	MBH	1000 BRITISH THERMAL UNITS PER HOUR
–	MER	MECHANICAL EQUIPMENT ROOM
–	NIC	NOT IN CONTRACT
–	OAI	OUTSIDE AIR INTAKE
–	PSI	POUNDS PER SQUARE INCH
–	RA	RETURN AIR
–	RF-	RETURN FAN
–	RPM	REVOLUTIONS PER MINUTE
–	SA	SUPPLY AIR
–	SP	STATIC PRESSURE
–	TD	TRANSFER DUCT
–	TF-	TRANSFER FAN
–	TSP	TOTAL STATIC PRESSURE
–	TYP.	TYPICAL
–	U.O.N.	UNLESS OTHERWISE NOTED
–	WB	WET BULB TEMPERATURE
–	WG	INCHES OF WATER GAUGE
	EX.	EXISTING TO REMAIN
	REL.	REMOVE AND RELOCATE
	NEW	NEW WORK
	DEM.	EXISTING TO BE REMOVED
T	-	THERMOSTAT
	-	AIR INTO REGISTER
	-	POINT OF CONNECTION DISCONNECTION
	SR	SUPPLY REGISTER
	CD	1-WAY
	CD	2-WAY
	CD	2-WAY
	CD	3-WAY
	CD	4-WAY
	RR/RG/ER	RETURN REGISTER/GRILLE/EXHAUST REGISTER
	-	SUPPLY DUCT UP
	-	SUPPLY DUCT DOWN
	–	DUCT RISE
	–	DUCT DROP
	–	DUCT TRANSITION
	–	ALUMINUM DUCT
	AL	ACOUSTIC LINING
	FD/AD	FIRE DAMPER W/ ACCESS DOOR
	SD/AD	SMOKE DAMPER W/ ACCESS DOOR
	CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR
	VD	VOLUME DAMPER
	AL	ACOUSTIC LINING
6x8		DUCT SIZE - 1ST FIGURE IS SIDE SHOWN
	FC	FLEXIBLE CONNECTION
	–	ALUMINUM DUCT
	–	EXHAUST REGISTER
	–	NEW CEILING DIFFUSER

SYMBOL	ABBREVIATION	DESCRIPTION
	–	RETURN DUCT UP
	–	RETURN DUCT DOWN
	–	TRANSITION FROM SQUARE TO ROUND DUCT
	–	TRANSITION
D	–	DUCT DROP
R	–	DUCT RISE
	–	SQUARE VANED ELBOW

GENERAL NOTES

1. DUCT DIMENSIONS SHOWN ON MECHANICAL DRAWINGS REFER TO INSIDE CLEAR DUCT DIMENSIONS. WHERE DUCTWORK IS LINED THE CONTRACTOR SHALL INCREASE THE SIZE OF DUCT TO COMPENSATE FOR LINING.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK AND COORDINATE NEW WORK.
3. THE CONTRACTOR SHALL INSTALL FIRE DAMPERS WITH ACCESS DOORS IN ALL DUCTS PENETRATING FIRE RATED WALLS WHETHER SPECIFICALLY SHOWN ON THE DRAWING OR NOT.
4. PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.
5. COORDINATE DUCTWORK, GRILLE, DIFFUSER AND REGISTER LOCATIONS WITH LIGHTS, ARCHITECTURAL ELEMENTS AND SHELVING.
6. THIS CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, INDICATING DUCTWORK, PLUMBING PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, DIFFUSERS, GRILLES, ETC.
7. CONTRACT DRAWINGS AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, PIPING AND SHEETMETAL, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO SHEETMETAL AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
8. PROVIDE CABLE OPERATED DAMPERS ON DUCTWORK ABOVE DRYWALL CEILINGS.
9. ALL RETURN DUCTWORK ENDING ABOVE HUNG CEILING TO HAVE ½"WMS.
10. SEE ARCHITECTURAL DRAWINGS FOR EXACT PHASING AND TIME SCHEDULE FOR CONSTRUCTION.

DESIGN DEVELOPMENT SCOPE OF WORK NOTES

1. PRE-CONSTRUCTION CFM READINGS: PROVIDE CFM READINGS AT ALL AIR OUTLETS/INLETS THROUGHOUT THE BUILDING PRIOR TO DEMOLITION WORK. DOCUMENT DATA AND PROVIDE TO ENGINEER FOR REVIEW AND ANALYSIS.
2. RTU-1, RTU-2, RTU-3, RTU-4, & RTU-5: REMOVE EXISTING ECONOMIZER CONTROLS AND ASSOCIATED SENSORS. PROVIDE NEW ECONOMIZER CONTROL AND SENSORS FOR ENTHALPY BASED ECONOMIZER CONTROL/OPERATION OF EACH UNIT.
3. RTU-1, RTU-2, RTU-3, RTU-4, & RTU-5: THOROUGHLY VACUUM, CLEAN, AND SANITIZE INTERIOR OF ALL RTU'S INCLUDING, BUT NOT LIMITED TO, ENCLOSURE, MOTORS, DX AND HOT WATER COILS, FANS, DAMPERS. CLEAN/POWERWASH THE AIR-COOLED CONDENSER SECTIONS. CLEAN/VACUUM ALL LOUVERS AND SCREENS ON UNITS.
4. RTU-1, RTU-2, RTU-3, & RTU-4: PROVIDE NEW FILTERS AND REPLACE ALL MOTOR/FAN BELTS. INSPECT SHEAVES/PULLEYS FOR SATISFACTORY CONDITION.
5. RTU-5: PROVIDE NEW FILTERS. PROVIDE NEW SHEAVE/PULLEY TO PROVIDE PROPER OPERATION, RPM, AND AIRFLOW THROUGH UNIT.
6. BIPOLAR IONIZATION: PROVIDE PLASMA AIR NEEDLEPOINT BI-POLAR IONIZERS, RETROFITTED ONTO ALL EXISTING RTU'S (RTU-1, RTU-2, RTU-3, RTU-4, & RTU-5). BASED ON MODEL 7403, UL2998. MODULES POWERED BY 1-POLE 20-AMP CIRCUITS. BPI MODULES SHALL BE INSTALLED ON EXISTING RTU SUPPLY AIR DISCHARGE MAINS, UPSTREAM OF ALL BRANCH TAPS. INTERLOCK BPI MODULES WITH SUPPLY FAN SWITCH.
7. CONTROLS: DEMOLISH ALL EXISTING THERMOSTATS AND ASSOCIATED LOCAL CONTROLS THROUGHOUT THE BUILDING, INCLUDING STAND-ALONE CONTROLS AT EACH. PROVIDE NEW DIGITAL ELECTRONIC (BACKLIT) THERMOSTATS THROUGHOUT THE BUILDING FOR EACH RTU, VAV ZONE, AND HEATING ZONE.
8. CONTROLS (ADD-ALTERNATE): PROVIDE SEPARATE LINE ITEM/PRICING FOR PROVIDING A FULL BUILDING BMS TO CENTRALLY CONNECT/INTEGRATE ALL EXISTING EQUIPMENT AND NEW EQUIPMENT, INCLUDING BUT NOT LIMITED TO, BOILERS, PUMPS, ROOFTOP UNITS, VAV'S, ROOTOP FANS, AND THERMOSTATS.

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New City Library

New City Library Addition & Renovation

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New City, NY 10956

VMDO Project Number

Checked By RG

Drawn By AMB

DRAWING NOT FOR CONSTRUCTION

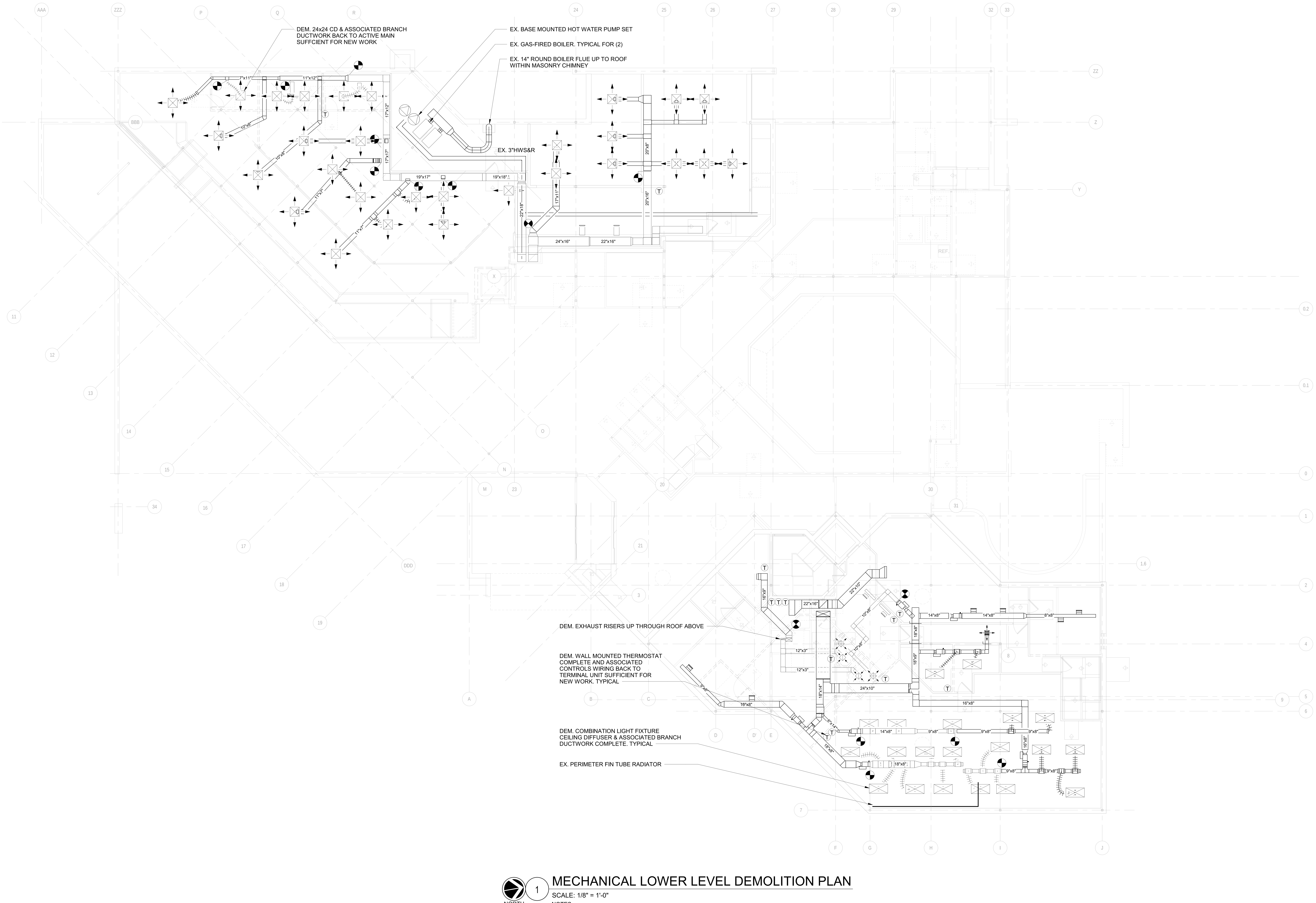
ISSUES AND REVISIONS

NO.	SUBMITTAL	DATE
	DESIGN DEVELOPMENT	07.09.2021

MECHANICAL SYMBOLS, ABBREVIATIONS AND NOTES

M-001

DESIGN DEVELOPMENT
07.09.2021



1 MECHANICAL LOWER LEVEL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

NOTES:
1. PROVIDE PRE-DEMOLITION CFM READINGS AT ALL AIR OUTLETS THROUGHOUT THE BUILDING WHETHER SHOWN OR NOT. REPORT FINDINGS TO ENGINEER FOR REVIEW.

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MECHANICAL LOWER LEVEL DEMOLITION PLAN

M-101

DESIGN DEVELOPMENT

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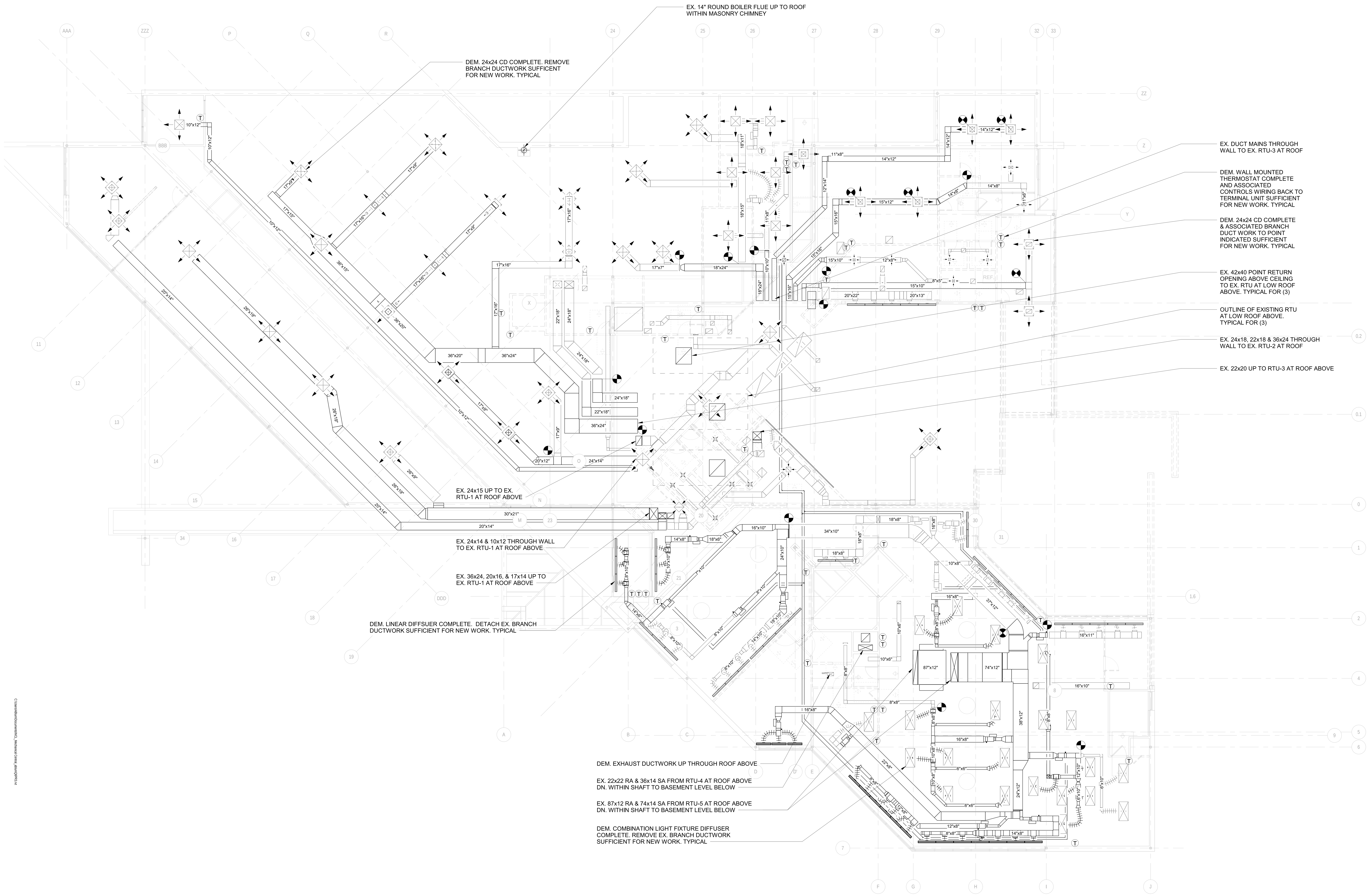

NORTH

1

MECHANICAL MAIN LEVEL DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

NOTES:
1. PROVIDE PRE-DEMOLITION CFM READINGS AT ALL AIR OUTLETS THROUGHOUT THE BUILDING WHETHER SHOWN OR NOT. REPORT FINDINGS TO ENGINEER FOR REVIEW.

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MECHANICAL MAIN LEVEL DEMOLITION PLAN

M-102

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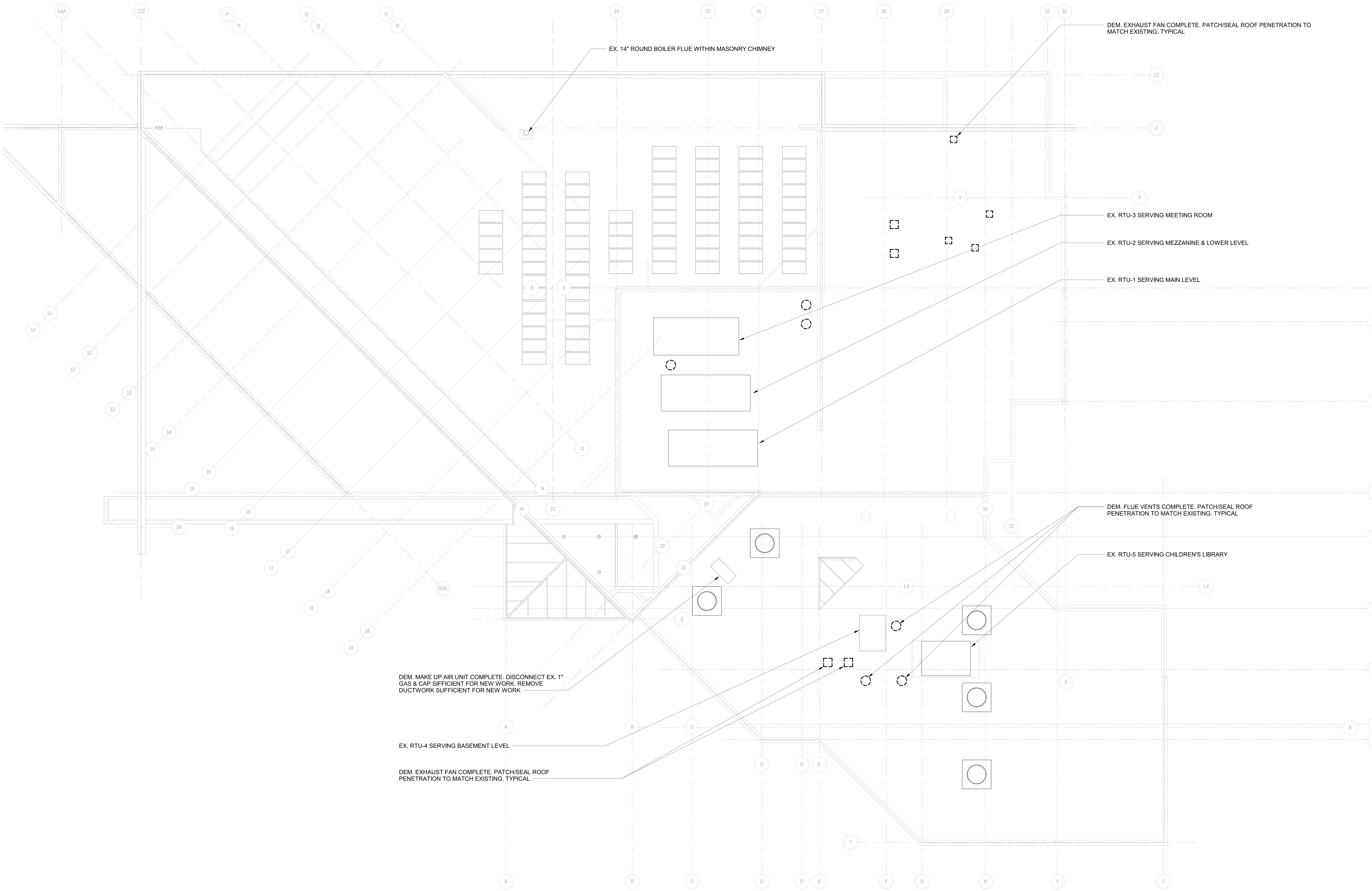

NORTH

1 MECHANICAL ROOF DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

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MECHANICAL ROOF DEMOLITION PLAN

M-103

DESIGN DEVELOPMENT

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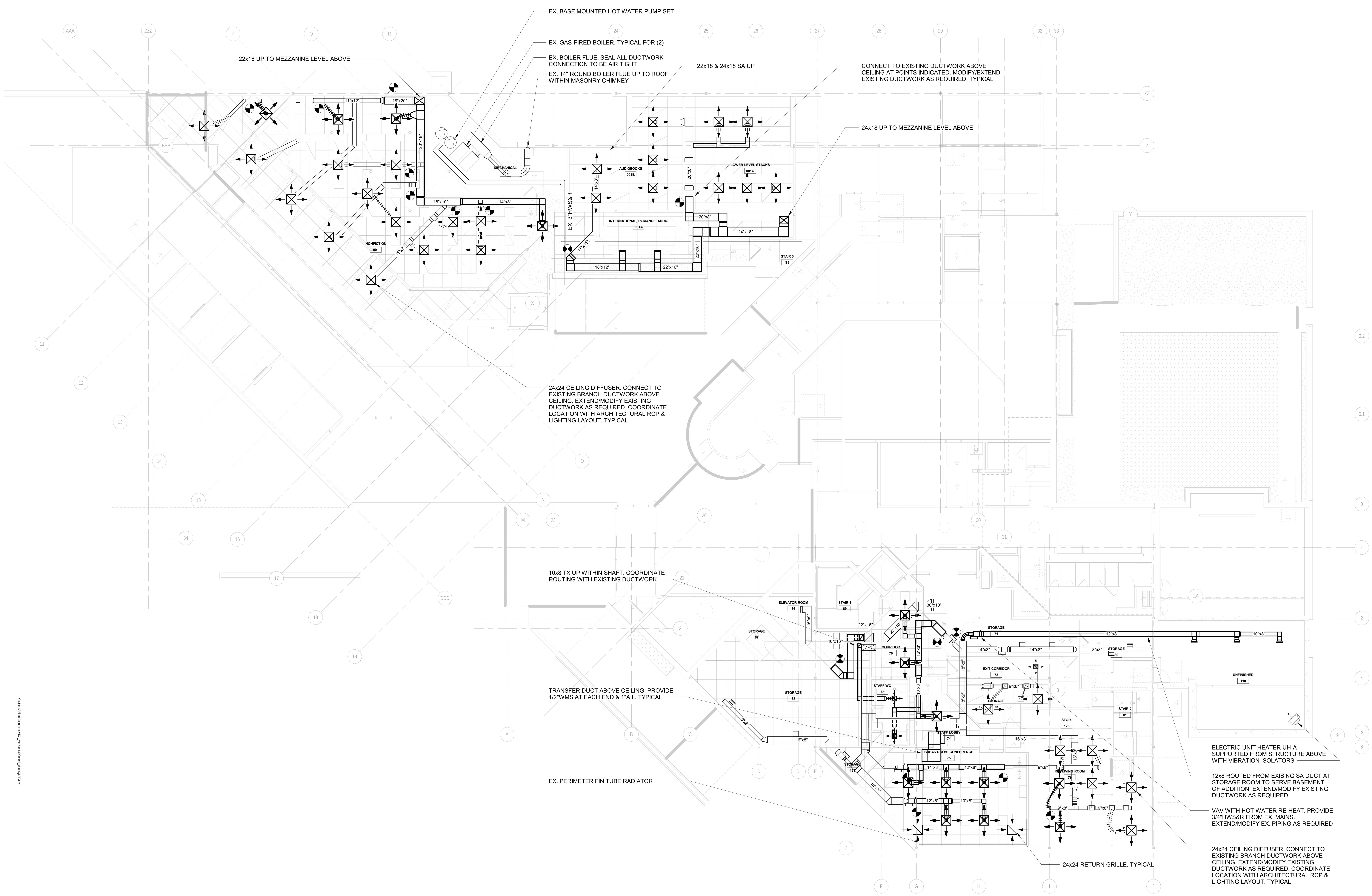

NORTH

1 MECHANICAL LOWER LEVEL NEW WORK PLAN

SCALE: 1/8" = 1'-0"

NOTES:
1. COMPLETELY VACUUM & CLEAN INTERIOR/EXTERIOR OF EXISTING DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, VAV'S, WMS, ETC. WITHIN AREAS OF WORK.
2. PROVIDE VOLUME DAMPERS AT NEW & EXISTING DUCTWORK AS REQUIRED FOR PROPER BALANCING OF THE SYSTEM.
3. BALANCE ALL AIR TERMINALS THROUGHOUT LIBRARY TO VALUES RECORDED DURING THE PRE CONSTRUCTION T&B REMORT OR AS REVISED BY THE ENGINEER.
4. ALL NEW AIR OUTLET LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL RCP & LIGHTING LAYOUT.

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MECHANICAL LOWER LEVEL NEW WORK PLAN

M-201

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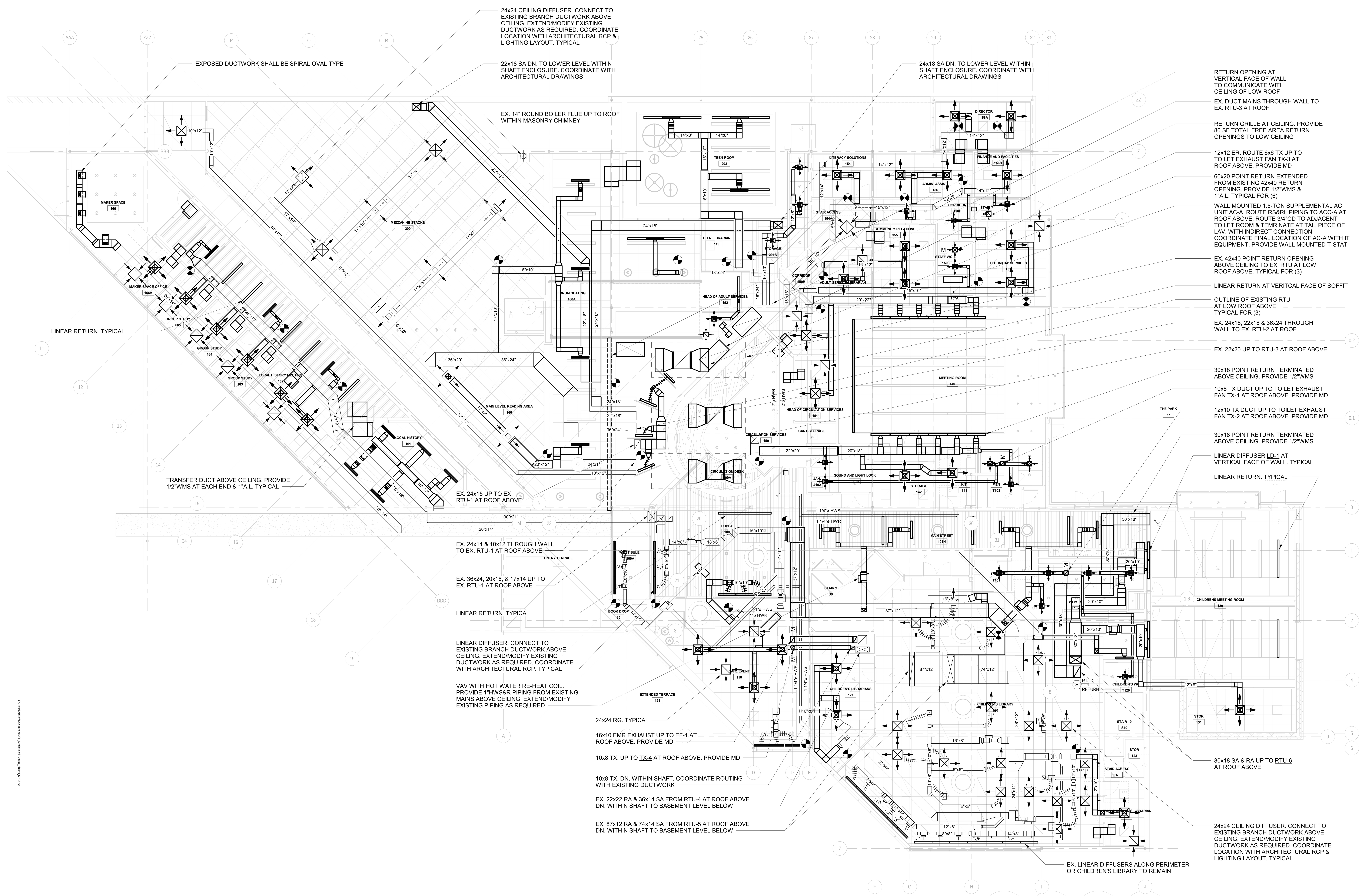

MECHANICAL MAIN LEVEL NEW WORK PLAN

NORTH

1

SCALE: 1/8" = 1'-0"

NOTES:
1. COMPLETELY VACUUM & CLEAN INTERIOR/EXTERIOR OF EXISTING DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, VAV'S, WMS, ETC. WITHIN AREAS OF WORK.
2. PROVIDE VOLUME DAMPERS AT NEW & EXISTING DUCTWORK AS REQUIRED FOR PROPER BALANCING OF THE SYSTEM.
3. BALANCE ALL AIR TERMINALS THROUGHOUT LIBRARY TO VALUES RECORDED DURING THE PRE CONSTRUCTION T&B REMORT OR AS REVISED BY THE ENGINEER.
4. ALL NEW AIR OUTLET LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL RCP & LIGHTING LAYOUT.

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ISSUES AND REVISIONS

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MECHANICAL MAIN LEVEL NEW WORK PLAN

M-202

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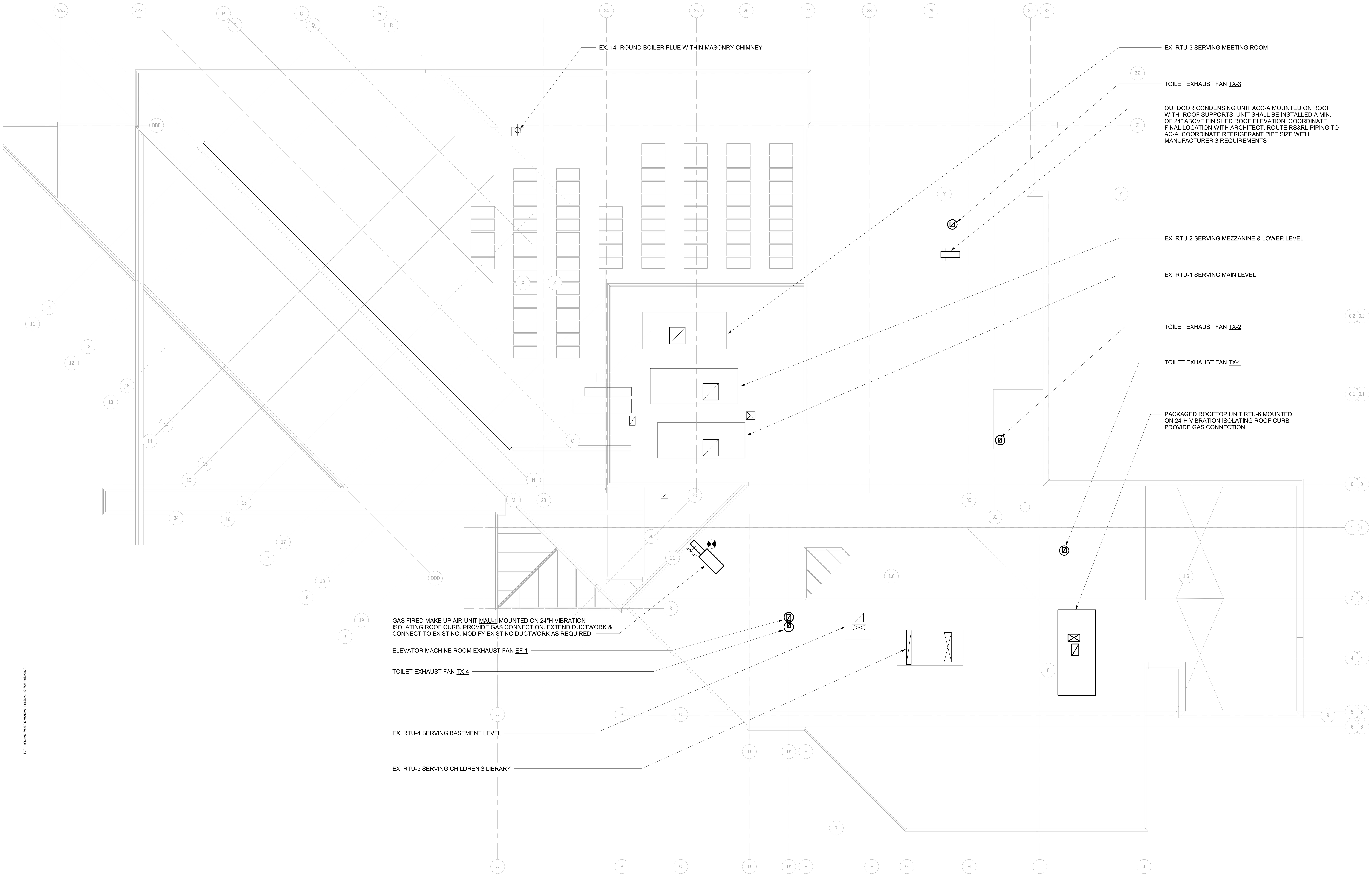

1 MECHANICAL ROOF NEW WORK PLAN

SCALE: 1/8" = 1'-0"

NORTH

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MECHANICAL ROOF NEW WORK PLAN

M-203

DESIGN DEVELOPMENT

07.09.2021

PACKAGED ROOFTOP UNIT RTU-6 SCHEDULE

Unit Information

Model:	Horizon™ (OAD/N Rev6 - OADG/OANG)	Unit Length:	219 in	Weight Operating:	4018 lb*
				Note: Weight does not include CURB weight. See CURB submittal for actual	
Size:	D015	Unit Width:	95 in		
Quantity:	1	Unit Height:	68 in	**Refrigerant Charge**	
Supply Airflow:	3,000 CFM	Elevation:	0 ft	Circuit 1:	32.5 lbs
Outside Airflow:	1,270 CFM	Ambient Air DB:	95 F		
Minimum Airflow:	1,292 CFM				

Cooling Performance

Gross Total Capacity:	169.2 MBh	Evaporator Face Area:	10.42 sq ft
Gross Sensible Capacity:	108.8 MBh	Evaporator Rows / FPI:	6 / 14
Net Total Capacity:	164.5 MBh	Condenser Face Area:	30 sq ft
Net Sensible Capacity:	104.1 MBh	Condenser Rows / FPI :	2 / 14
Entering Air DB / WB (Coil):	76.8 / 64.2 F	Air Velocity:	287 fpm
Leaving Air DB / WB (Coil):	43.9 / 43.4 F	Coil Air PD:	0.36 in H2O
Leaving Air DB / WB (Reheat):	81.4 / 59.56 F	EER:	13.4
Leaving Air DB / WB (Unit):	83.1 / 60.2 F	Watts:	14748
MRC:	96.47 lb/h	MRE:	6.54 lb/kWh

Heating Performance

Heat Type:	Gas Furnace	Entering Air DB:	63 F
Input Capacity	150 MBh	Leaving Air DB:	100 F
Output Capacity:	120 MBh	Coil Air PD:	0.39 in H2O

Energy Recovery Wheel ERC-3625C-4M

*** TAB Outside airflow through OA Intake to this value*

Summer Conditions				Winter Conditions			
Ventilation Supply		Outside		Ventilation Supply		Outside	
Airflow:	1,270 CFM	Airflow:	1,486 CFM**	Airflow:	1,270 CFM	Airflow:	1,486 CFM**
DB:	79.4 F	DB:	92.0 F	DB:	53.5 F	DB:	10.0 F
WB:	65.9 F	WB:	73.0 F	WB:	47.3 F	WB:	8.0 F
PD:	0.39 in H20			PD:	0.39 in H20		
ERV				ERV			
Return		Exhaust		Return		Exhaust	
Airflow:	1,270 CFM	Airflow:	1,486 CFM	Airflow:	1,270 CFM	Airflow:	1,486 CFM
DB:	75.0 F	DB:	85.8 F	DB:	70.0 F	DB:	32.1 F
WB:	63.0 F	WB:	69.5 F	WB:	58.0 F	WB:	31.1 F
ESP:	1.00 in H20	ERV PD:	0.39 in H20	ESP:	1.00 in H20	ERV PD:	0.39 in H20
Total Capacity:	32.61 MBH			Total Capacity:	90.68 MBH		
Sensible Capacity:	20.27 MBH	Eff:	0.74	Sensible Capacity:	69.83 MBH	Eff:	0.74
Latent Capacity:	12.34 MBH	Eff:	0.72	Latent Capacity:	20.85 MBH	Eff:	0.71

NOTES:
UNIT MANUFACTURER SHALL BE BASED ON TRANE
1. PROVIDE THE FOLLOWING OPTIONS FOR ALL UNITS:
· HIGH STATIC DRIVE MOTOR. COORDINATE LEFT/RIGHT HAND FAN DRIVE IN FIELD.
· UNITS SHALL BE HIGH EFFICIENCY.
· 100% MODULATING ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL AND ECONOMIZER HOOD.
· OUTSIDE AIR INTAKE DAMPER FOR EACH VARIABLE AIR VOLUME UNIT SHALL BE ARRANGED MODULATE TO MAINTAIN CONSTANT OAI CFM, INDEPENDENT OF VARIABLE SA CFM. PROVIDE AN OUTSIDE AIR INTAKE AIRFLOW MEASURING STATION.
· FURNISH EXTRA DRIVE BELT AND EXTRA FILTER SET FOR EACH UNIT.
· UNIT SHALL BE MOUNTED ON 24" HIGH VIBRATION ISOLATION ROOF CURB.
· POWER EXHAUST FAN, ARRANGED TO RUN IN ECONOMIZER MODE, WITH BAROMETRIC RELIEF WHEN ECONOMIZER IS NOT ENABLED.
· UNIT MOUNTED COMBINATION VFD-STARTER/DISCONNECT WITH BY-PASS.
· PROVIDE MERV-13 FILTERS TO BE SHIPPED LOOSE AND FIELD INSTALLED AT RETURN AIR FILTER RACK.
2. PROVIDE THE FOLLOWING MOTOR CONTROL OPTIONS FOR ALL UNITS:
· UNITARY CONTROLLER BY AUTOMATIC TEMPERATURE CONTROLS MANUFACTURER, COMPATIBLE WITH THE BUILDING AUTOMATION SYSTEM.
· ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY. ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE SPEED AND TORQUE APPLICATIONS.
· INDIVIDUAL EXTERNAL POWER CONNECTION AT UNIT FOR MAIN UNIT AND POWER EXHAUST FAN, UNIT-MOUNTED DISCONNECT SWITCH, AND FACTORY INSTALLED MOTOR STARTERS. VAV UNITS SHALL HAVE FACTORY MOUNTED VFD'S WITH H-O-A.

MAKE-UP AIR UNIT SCHEDULE

DESIGNATION	MAU-1
LOCATION	ROOF
AREA SERVED	VESTIBULE
MANUFACTURER	GREENHECK
MODEL	IGX-108-H12-C
WEIGHT OF UNIT (LBS)	825 (+/-5%)
WEIGHT OF ROOF CURB (LBS)	122
UNIT ORIENTATION	HORIZONTAL
INTERLOCKED	–
DESIGN DATA:	
SUPPLY AIR (CFM)	800
OUTDOOR AIR (CFM)	800
SUMMER OA TEMP (°F) DB/WB	89.7/77.0
WINTER OA TEMP (°F)	12.8°
GAS-FIRED INDIRECT FURNACE:	
E.A.T./L.A.T. (°F)	13.0/105.4
GAS INPUT/OUTPUT (MBH)	100.0/80.0
SUPPLY FAN:	
DESIGN AIRFLOW (CFM)	800
BHP/HP	0.22/0.33
RPM	1014
ESP/TSP (IN H_2O)	0.5/0.543
ELECTRICAL DATA:	
VOLTS/Ø/Hz	115/1/60
MCA/MOCP	12/15

NOTES:
1. PROVIDE THE FOLLOWING OPTIONS:
· 100% OUTSIDE AIR UNIT.
· INTAKE HOOD WITH BIRD SCREEN AND MOTORIZED DAMPER.
· INDIRECT GAS-FIRED FURNACE WITH 8:1 CONTROL MODULATION.
· HORIZONTAL DISCHARGE SUPPLY AIR OUTLET.
· UNIT SHALL BE MOUNTED ON 24" HIGH VIBRATION ISOLATION ROOF CURB. HEIGHT INCLUDES BASE CURB AND VIBRATION ISOLATION RAILS.)
· EXTRA DRIVE BELT AND FILTER SET.
2. PROVIDE THE FOLLOWING MOTOR CONTROL OPTIONS:
· SINGLE POINT EXTERNAL POWER CONNECTION AT UNIT, FACTORY INSTALLED UNIT-MOUNTED DISCONNECT SWITCH, & FACTORY INSTALLED MOTOR STARTERS.
· ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY. ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE SPEED AND TORQUE APPLICATIONS.
· UNITARY CONTROLLER BY AUTOMATIC TEMPERATURE CONTROLS MANUFACTURER, COMPATIBLE WITH THE BUILDING AUTOMATION SYSTEM.

DUCTLESS SPLIT-SYSTEM AC UNIT SCHEDULE

INDOOR/OUTDOOR UNIT DESIGNATION	AC-A/ACC-A
MANUFACTURER	DAIKIN
NOMINAL COOLING CAPACITY (TONS)	1.5
COOLING CAPACITY (BTU/HR)	18,000
CFM (H/M/L/SL)	716/605/467/395
SEER/EER	18.5/12.5
RS PIPE SIZE (IN)	½
RL PIPE SIZE (IN)	¼
CONDENSATE DRAIN PIPE SIZE (IN)	¾
ELECTRICAL DATA (CONNECTION AT OUTDOOR UNIT):	
VOLTS/Ø/Hz	208-230/1/60
MCA/RLA/MOP	13.4/13/20
INDOOR EVAPORATOR UNIT DATA	
LOCATION	IT 157A
MODEL	FTK18AXVJU
HEIGHT x WIDTH x DEPTH (IN)	$11^{1}\frac{1}{16}$"x39½"x11½"
WEIGHT (LBS)	31
TYPE	WALL MOUNTED
OUTDOOR CONDENSING UNIT DATA:	
LOCATION	ROOF
MODEL	RK18AXVJU
HEIGHT x WIDTH x DEPTH (IN)	$27^{13}\frac{13}{32}$"x36⅝"x$13^{13}\frac{13}{16}$"
WEIGHT (LBS)	99
REFRIGERANT TYPE	R-104A

NOTES:
1. PROVIDE THE FOLLOWING OPTIONS FOR EACH UNIT:
· 0° LOW AMBIENT CONTROLS.
· HARD WIRED REMOTE CONTROLLER
· WIND BAFFLE
· INTEGRAL CONDENSATE PUMP PACKAGE AT INDOOR UNIT
2. FIELD SUPPLIED LOCAL DISCONNECT SWITCH AT INDOOR UNIT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR & INSTALLED BY THE ELECTRICAL CONTRACTOR.
3. FIELD SUPPLIED WEATHERPROOF LOCAL DISCONNECT SWITCH AT OUTDOOR UNIT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR & INSTALLED BY THE ELECTRICAL CONTRACTOR.
4. SINGLE POINT EXTERNAL POWER CONNECTION FOR EACH INDOOR/OUTDOOR SET OF UNITS SHALL BE AT THE OUTDOOR UNIT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING FROM THE OUTDOOR UNIT TO THE INDOOR UNIT.
5. THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE CONTROL WIRING BETWEEN THE OUTDOOR UNIT AND INDOOR UNIT.
6. PROVIDE ALL REQUIRED MOUNTING BRACKETS, ETC. FOR WALL HUNG INSTALLATION

EQUIPMENT NOTES

1. MOTORIZED DAMPERS: SHALL BE LOW LEAKAGE TYPE RUSKIN MODEL CD40, 4" DEEP EXTRUDED ALUMINUM AIRFOIL DAMPER. DAMPER SHALL HAVE OPPOSED BLADES, MOTOR AND LINKAGE. DAMPERS SHALL BE 120V/1ϕ/60Hz, 3 AMPS MAX. FURNISH DISCONNECT SWITCH.
2. BACK-DRAFT DAMPERS: SHALL BE RUSKIN MODEL BD6, HEAVY DUTY BACK-DRAFT DAMPER, EXTRUDED ALUMINUM FRAME & DAMPER. DAMPER SHALL HAVE PARALLEL BLADES. SIZE AS INDICATED ON PLAN. PROVIDE SPC STATIC PRESSURE CONTROL.
3. VOLUME CONTROL DAMPERS: FOR ALL ROUND & RECTANGULAR VOLUME CONTROL DAMPERS THAT ARE LOCATED ABOVE INACCESSIBLE CEILINGS, PROVIDE CABLE OPERATED DAMPERS. ROUND DAMPERS SHALL BE YOUNG BOWDEN MODEL 5020-CC. RECTANGULAR DAMPERS SHALL BE MODEL 830-CC2. CABLE CONTROLS SHALL BE MODEL 270-275 FOR CONCEALED LOCATIONS & MODEL 270-896C FOR LOCATIONS WHERE CABLES TERMINATE IN FINISHED SPACES. COORDINATE LOCATIONS IN THE FIELD.
4. SIDEWALL SUPPLY AIR REGISTERS: SHALL BE BASED ON TITUS MODEL 300FL, ALUMINUM CONSTRUCTION, WITH 3/4" SPACING, DOUBLE DEFLECTION AIRFOIL BLADES, OPPOSED BLADE VOLUME DAMPER IN NECK, SIZE AND CFM AS NOTED ON PLANS. FINISH SHALL BE BAKED ON ENAMEL. SUBMIT COLOR CHART FOR APPROVAL. FRAME SHALL BE SUITABLE FOR LAY-IN OR SURFACE MOUNTING AS REQUIRED. COORDINATE WITH ARCH PLANS.
5. RETURN & EXHAUST AIR REGISTERS: SHALL BE BASED ON TITUS MODEL 355FL, 1/2" SPACING, 35° FIXED DEFLECTION, ALL ALUMINUM CONSTRUCTION, AIRFOIL BLADES WITH OPPOSED BLADE VOLUME DAMPERS, SIZE AND CFM AS NOTED ON PLANS. FINISH SHALL BE BAKED ON ENAMEL, COLOR SHALL BE WHITE. FRAME SHALL BE SUITABLE FOR SURFACE MOUNT OR LAY IN. COORDINATE WITH ARCH PLANS.
6. ELECTRIC UNIT HEATER (UH-A): SHALL BE BASED ON MODINE MODEL HER-30C-3101, RATED AT 3kW, 380 CFM, 10.2 MBH, 208/3/60 WITH 25° TEMP. RISE & 12' THROW. PROVIDE THE FOLLOWING OPTIONS. FAN GAURD, AIR DEFLECTION LOUVER, SUMMER FAN SWITCH, HEAT PURGE FAN DELAY SWITCH, DISCONNECT SWITCH & WALL THERMOSTAT.
7. RETURN & EXHAUST AIR REGISTERS: SHALL BE TITUS MODEL 355FL, 1/2" SPACING, 35° FIXED DEFLECTION, ALL ALUMINUM CONSTRUCTION, AIRFOIL BLADES WITH OPPOSED BLADE VOLUME DAMPERS, SIZE AND CFM AS NOTED ON PLANS. FINISH SHALL BE BAKED ON ENAMEL, COLOR SHALL BE WHITE. FRAME SHALL BE SUITABLE FOR SURFACE MOUNT OR LAY IN. COORDINATE WITH ARCH PLANS.
8. ALL HVAC EQUIPMENT SHALL HAVE 3" HIGH BLACK LAMACOID NAME PLATES WITH WHITE ENGRAVED LETTERS PERMANENTLY FASTENED TO EQUIPMENT. TYPICAL FOR ALL PUMPS AND HVAC EQUIPMENT
9. VAV BOXES: SHALL BE BASED ON TITUS DESV SINGLE DUCT, COOLING ONLY OR COOLING/HOT WATER HEATING AS INDICATED WITH DIGITAL ELECTRONIC PRESSURE INDEPENDENT CONTROLS SUPPLIED BY CONTROLS CONTRACTOR AND MOUNTED BY THE TERMINAL UNIT MANUFACTURER. CONTROL ENCLOSURE SHALL NOT EXCEED 10.25" HEIGHT FOR A LOW HEIGHT OPTION.CONTROLS SHALL BE COMPATIBLE WITH PNEUMATIC INLET VELOCITY SENSORS SUPPLIED BY THE TERMINAL MANUFACTURER. THE SENSOR SHALL BE MULTI-POINT CENTER AVERAGING TYPE, WITH A MINIMUM OF FOUR MEASURING PORTS PARALLEL TO THE TAKE-OFF POINT FROM THE SENSOR. SENSORS WITH MEASURING PORTS IN SERIES ARE NOT ACCEPTABLE. THE SENSOR MUST PROVIDE A MINIMUM DIFFERENTIAL PRESSURE SIGNAL OF 0.03 INCH WG. AT AN INLET VELOCITY OF 500 FPM. THE TERMINAL CASING SHALL BE MINIMUM 22-GAUGE GALVANIZED STEEL, INTERNALLY LINED WITH 1-INCH MATTE FACED, NATURAL FIBER INSULATION THAT COMPLIES WITH UL 181 AND NFPA 90A. THE LINER SHALL COMPLY WITH ASTM G21 AND G22 FOR FUNGI AND BACTERIAL RESISTANCE. FIBERGLASS SHALL NOT BE ACCEPTED. THE TERMINAL MANUFACTURER SHALL PROVIDE A CLASS II 24 VAC TRANSFORMER AND DISCONNECT SWITCH; BOX SHALL BE U.L. LISTED AND LABELED. ELECTRICAL CONTRACTOR SHALL INSTALL & PROVIDE POWER/CIRCUITRY TO DISCONNECT SWITCH AND TRANSFORMER.AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR SHALL FURNISH AND INSTALL ALL VAV BOX CONTROLS & CONTROL WIRING.MAXIMUM RADIATED NC< 30, MAXIMUM DISCHARGE NC< 28.COORDINATE RIGHT HAND / LEFT HAND CONNECTIONS AND CONTROL PANEL IN FIELD.
10. LINEAR DIFFUSERS AND LINEAR RETURNS, LD / LR, SHALL BE TITUS MODEL FL-10 HIGH-THROW WITH TITUS PLENUM, 1" SLOT WIDTH, 1 SLOT, 50 CFM/LF @ 0.136 STATIC PRESSURE, NC<25 AND 12-15-21 THROW AT 150-100-50 FPM VELOCITIES. FINISH SHALL BE A BAKED ANODIC ACRYLIC PAINT, COLOR AS SELECTED BY ARCHITECT. BORDER SHALL BE TYPE 22 (TAPE & SPACKLE). PROVIDE 1" THICK INSULATED PLENUM SIMILAR TO TITUS MODEL FBPI FOR EACH LENGTH OF LD AS SHOWN ON PLAN. REFER TO PLAN FOR ACTIVE SECTIONS AND TOTAL DIFFUSER LENGTHS.
11. REFRIGERANT PIPE INSULATION: SHALL BE AP ARMAFLEX PIPE INSULATION, 3/4" THICK UNSLIT, TO BE INSTALLED BEFORE FINAL CONNECTION. FIELD FABRICATE FITTING INSULATION WITH MITER-CUTS. ALL BUTT JOINTS AND SEAMS ARE TO BE SEALED WITH ARMSTRONG 520 ADHESIVE. ALL INSULATION INSTALLED OUTDOORS SHALL BE COATED WITH ARMSTRONG ARMAFLEX FINISH, AS PER THE MANUFACTURERS RECOMMENDATIONS.
12. PIPE INSULATION JACKETING: SHALL BE WHITE ZESTON 2000 PVC COVERS FOR PIPING AND FITTINGS. JACKET ALL PIPING AND FITTING THAT ARE EXPOSED IN ANY ROOM.
13. PIPE LABELS: SHALL BE SETON ULTRA-MARK WEATHER RESISTANT FOR OUTDOOR APPLICATION AND OPTI-CODE FOR INDOOR APPLICATION. LETTERS AND ARROWS SHALL BE 2 1/2" HIGH AND SHALL BE WHITE ON A GREEN BACKGROUND AND SHALL CONFORM TO ANSI AND OSHA STANDARDS. APPLY OVER INSULATION ONLY.
14. BI-POLAR IONIZATION: PROVIDE THREE (3) PLASMA AIR NEEDLEPOINT BI-POLAR IONIZERS, MODEL 7403, UL2998. MODULES SHALL BE POWERED VIA 1 POLE, 20 AMP CIRCUIT BPI MODULES SHALL BE INSTALLED ON RTU-1 SUPPLY AIR DISCHARGE MAIN, UPSTREAM OF ALL BRANCH TAPS. INTERLOCK BPI MODULES WITH SUPPLY FAN SWITCH.

FAN SCHEDULE

DESIGNATION	TX-1	TX-2	TX-3	TX-4	EF-1
LOCATION	ROOF	ROOF	ROOF	ROOF	ROOF
AREA SERVED	MEN T103	WOMEN T102	STAFF T150	STAFF WC 78	BASEMENT EMR
MODEL	G-070-VG	G-095-VG	G-060-VG	G-060-VG	G-070-VG
CFM	250	350	50	100	200
BHP	0.03	0.05	0.01	0.01	0.02
HP	1/15	1/8	1/100	1/100	1/15
FAN RPM	1,684	1,190	1,188	1,476	1,366
SP (IN H_2O)	0.375	0.375	0.2	0.25	0.25
VOLTS/Ø/Hz	115/1/60	115/1/60	115/1/60	115/1/60	115/1/60
INTERLOCK	-	-	-	-	-

NOTES:
FANS BASED ON GREENHECK
1. ALL MOTORS 1 HP OR GREATER SHALL BE PREMIUM EFFICIENCY. ALL MOTORS FURNISHED WITH VARIABLE FREQUENCY DRIVES SHALL BE INVERTER DUTY RATED & APPROVED FOR VARIABLE SPEED AND TORQUE APPLICATIONS.
2. FURNISH RUBBER IN SHEAR OR SPRING VIBRATION ISOLATORS AS PER THE SPECIFICATION.
3. FURNISH WALL MOUNTED SPEED CONTROLLER OR THERMOSTAT AS INDICATED ON PLAN.
4. FURNISH MOTOR AND BELT GUARDS FOR ALL EXTERNAL MOTOR DRIVES.
5. FURNISH 24" HIGH ROOF CURB FOR ALL ROOFTOP FANS.
6. MOTOR STARTER & DISCONNECT SWITCH FOR EACH FAN SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR & INSTALLED BY THE ELECTRICAL CONTRACTOR. EACH ROOFTOP FAN SHALL BE FURNISHED WITH WEATHERPROOF UNIT-MOUNTED LOCAL DISCONNECT SWITCH.
7. FURNISH MOTORIZED BACK-DRAFT DAMPER IN ROOF CURB FOR ALL ROOFTOP FANS.

CEILING DIFFUSER SCHEDULE

DESIGNATION	CD-1		-	
MODEL	OMNI			
MAX CORE VEL (FT/MIN)	550			
MAX NC	25			
CONSTRUCTION	STEEL			
FRAME	LAY-IN			
DEFLECTION	4 WAY			
FACE SIZE	24x24 / 12x12			
	CFM RANGE	NECK SIZE Ø	CFM RANGE	NECK SIZE Ø
	0-100	6"		
	101-200	8"		
	201-350	10"		
	351-450	12"		
	451-600	14"		
	601-700	15"		

NOTES:
1. CEILING SUPPLY DIFFUSERS ARE BASED ON TITUS.
2. ALL DIFFUSERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.
3. COORDINATE COLOR SELECTION WITH ARCH PLANS.
4. SUPPLY DIFFUSERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY WILL BE INSTALLED, CONTRACTOR TO COORDINATE.
5. ALL LAY-IN DIFFUSERS SHALL HAVE A MODULE SIZE OF 24x24. FACE SIZES SHOWN IN SCHEDULE ARE FOR SURFACE MOUNT DIFFUSERS. NECK SIZES VARY ACCORDING TO THE SCHEDULE.
6. DIFFUSER BLOW PATTERN IS AS SHOWN ON DRAWINGS.

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New City Library

New City Library

New City Library Addition & Renovation

220 North Main Street
New City, NY 10956

VMDO Project Number

Checked By RG
Drawn By AMB

DRAWING NOT FOR CONSTRUCTION

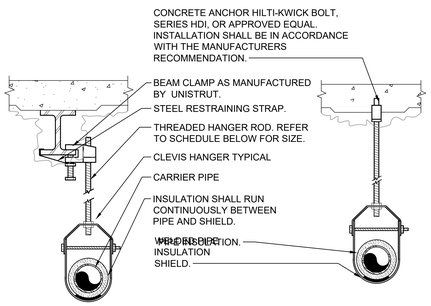
ISSUES AND REVISIONS

NO.	SUBMITTAL	DATE
	DESIGN DEVELOPMENT	07.09.2021

MECHANICAL SCHEDULES

M-601

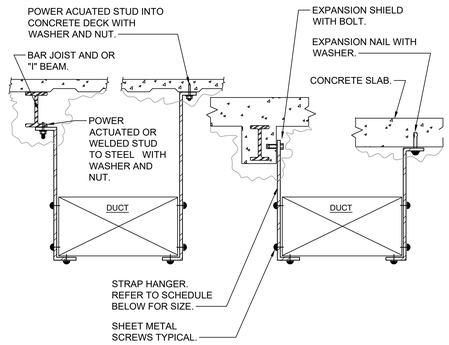
DESIGN DEVELOPMENT
07.09.2021



PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

NOTES:
1.) CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
2.) FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
3.) FOR NON-INSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
4.) ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
5.) FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.
6.) WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
7.) ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

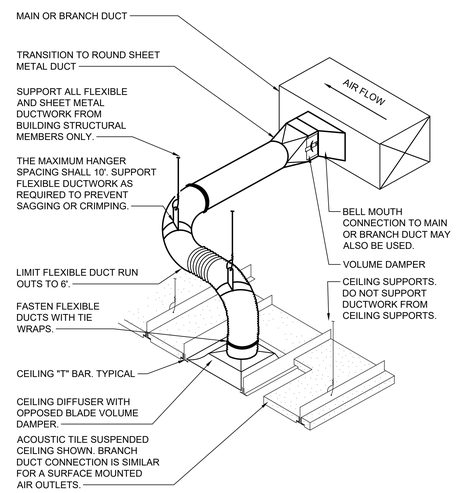
12 PIPE HANGER DETAIL
SCALE: NONE



NOTES:
1. FOR DUCTS OVER 49" WIDE, THE STRAP HANGER SHALL BE TURNED UNDER THE BOTTOM OF THE DUCT.
2. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
3. ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

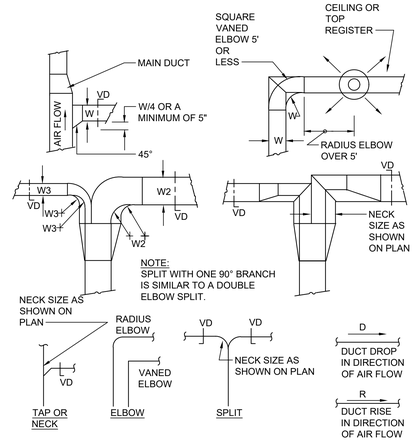
HANGER STRAP SCHEDULE		
DUCT SIZE	HANGER SIZE	MAXIMUM SPACING
UP TO 2 SQ. FT.	1" x 1/16"	8'-0"
2 SQ. FT. TO 4 SQ. FT.	1" x 1/8"	8'-0"
4 SQ. FT. TO 10 SQ. FT.	1" x 1/8"	6'-0"
OVER 10 SQ. FT.	1" x 1/8"	4'-0"

9 DUCT HANGER DETAIL
SCALE: NONE



NOTES:
1. THIS BRANCH DUCT ARRANGEMENT IS SIMILAR FOR PLENUM SLOT DIFFUSERS.

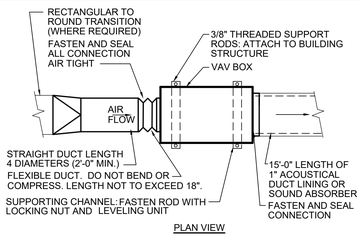
6 FLEXIBLE DUCT CONNECTION DETAIL
SCALE: NONE



NOTE:
SPLIT WITH ONE 90° BRANCH IS SIMILAR TO A DOUBLE ELBOW SPLIT.

NOTES:
1. SINGLE LINE REPRESENTATIONS REFER TO DOUBLE LINE DETAILS.
2. USE RADIUS OR SQUARE VANED BENDS FOR BOTH ELBOWS AND SPLITS AS DETERMINED BY SPACE LIMITATIONS, AND THE DISTANCE FROM AIR OUTLETS.
3. ALL SQUARE ELBOWS SHALL HAVE FACTORY TURNING VANES, AND MAINTAIN A CONSTANT WIDTH.
4. WHERE DUCTS SPLIT, THE SOLID LINE REPRESENTATION IS PREFERRED, UNLESS PRECLUDED BY SPACE, OR OTHERWISE INDICATED.
5. USE ELBOW SPLIT FOR BRANCH CONNECTIONS ONLY WHERE NECK SIZE IS GIVEN.

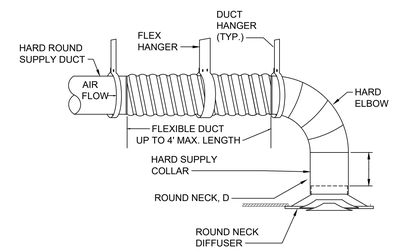
3 DUCT BRANCH TAKE-OFF DETAIL
SCALE: NONE



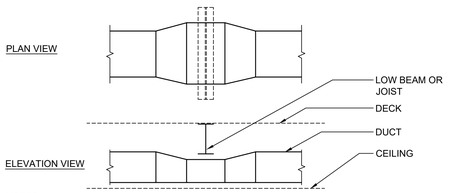
NOTES:

1.) THE OPERATION OF VARIABLE VOLUME TERMINAL UNITS ARE AFFECTED BY EXCESSIVE TURBULENCE ON THE ENTERING SIDE OF EACH TERMINAL UNIT. THEREFORE, TERMINAL UNITS MUST NOT BE INSTALLED TO CLOSE TO MAIN DUCTS, ELBOWS AND FITTINGS.
2.) WHEN MINIMUM UPSTREAM STRAIGHT DUCT CONNECTION TO TERMINALS AS INDICATED ABOVE CANNOT BE MAINTAINED, PROVIDE ORIFICE PLATE, STRAIGHTENING VANES OR OTHER DEVICE AS RECOMMENDED BY TERMINAL UNIT MANUFACTURER AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
3.) MANUFACTURER OF TERMINAL UNIT SHALL PROVIDE CONTROLS ON LEFT OR RIGHT SIDE AS REQUIRED BY FIELD CONDITIONS.
4.) ARRANGE ACCESS TO PERMIT EASY FIELD BALANCE AND MAINTENANCE OF TERMINAL UNIT.

11 TERMINAL UNIT INSTALLATION DETAIL
SCALE: NONE

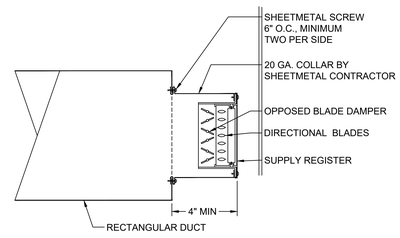


ROUND CONNECTION TO ROUND NECK DIFFUSER
8
SCALE: NONE

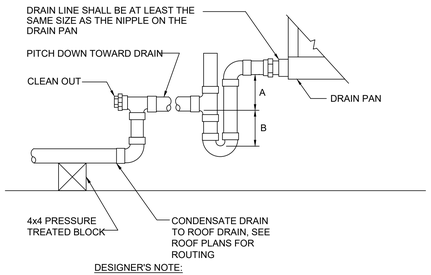


NOTES:
1. WHERE INDICATED ON THE PLANS, OR REQUIRED DUE TO FIELD CONDITIONS, THE CONTRACTOR SHALL ROUTE DUCTWORK UNDER LOW BEAMS OR JOISTS IN THE MANNER INDICATED ABOVE.
2. REDUCE DUCT HEIGHT AT THE CROSSING IN ORDER TO FIT UNDER THE BEAM OR JOIST.
3. INCREASE DUCT WIDTH AT THE CROSSING IN ORDER TO MAINTAIN THE SAME CROSS SECTIONAL AREA.
4. USE SMACNA APPROVED TRANSITIONS.

5 DUCT UNDER LOW BEAM DETAIL
SCALE: NONE



SUPPLY REGISTER MOUNTING DETAIL FOR EXPOSED DUCTWORK
2
SCALE: NONE

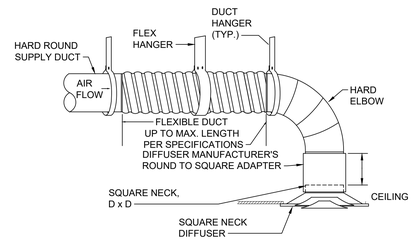


DESIGNER'S NOTE:

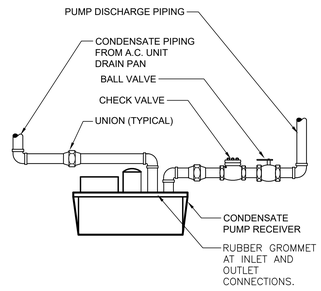
UNIT TYPE	A	B
DRAW THRU	2" (50 MM) PLUS X	X
BLOW THRU	1" (25 MM) MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

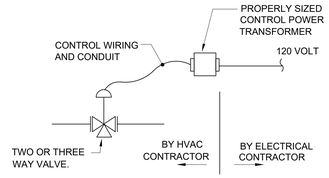
10 AIR HANDLING UNIT DRAIN TRAP DETAIL
SCALE: NONE



ROUND CONNECTION TO SQUARE NECK DIFFUSER
7
SCALE: NONE



4 CONDENSATE PUMP PIPING SCHEMATIC
SCALE: NONE



(TYPICAL FOR ALL CONTROL VALVES AND DAMPERS)

NOTE: MECHANICAL CONTRACTOR TO FURNISH MOTOR RATED TOGGLE SWITCH TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.

1 CONTROL VALVE WIRING SCHEME
SCALE: NONE

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New City Library

New City Library

New City Library Addition & Renovation

220 North Main Street
New City, NY 10956

VMDO Project Number

DRAWING NOT FOR CONSTRUCTION

ISSUES AND REVISIONS

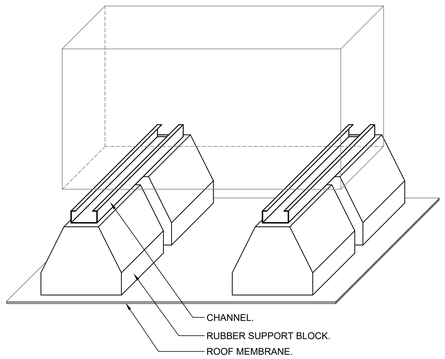
NO.	SUBMITTAL	DATE
	DESIGN DEVELOPMENT	07.09.2021

Checked By RG
Drawn By AMB

MECHAINCAL DETAILS
1 OF 2

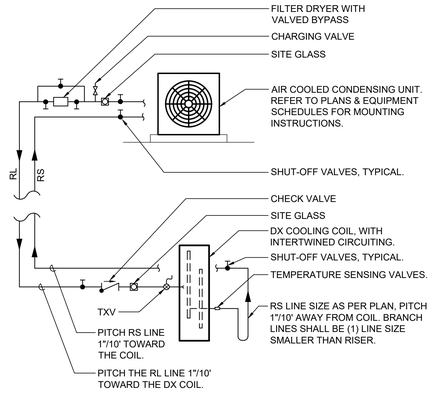
M-701

DESIGN DEVELOPMENT
07.09.2021

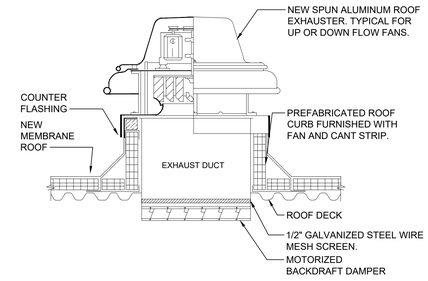


NOTES:
1.) EQUIPMENT SUPPORTS SHALL BE AS MANUFACTURED BY COOPER B-LINE, TYPE DB "DURA-BLOCK", WITH CONTINUOUS 14 GA, 1" HIGH GALVANIZED STEEL CHANNEL & 100% RECYCLED RUBBER SUPPORT BLOCKS.
2.) EACH PIECE OF EQUIPMENT SHALL BE MOUNTED ON A PAIR OF CONTINUOUS SUPPORTS. EQUIPMENT SUPPORTS SHALL BE AT LEAST 6" LONGER THAN THE PIECE OF EQUIPMENT TO BE SUPPORTED.
3.) EQUIPMENT SUPPORT CURBS LONGER THAN 10" SHALL CONSIST OF MULTIPLE BLOCKS ATTACHED TO A SINGLE CONTINUOUS CHANNEL.
4.) ALL BRACKETS, HANGERS, AND FASTENERS SHALL BE GALVANIZED STEEL.
5.) CEMENT RUBBER SUPPORT BLOCKS TO ROOF – USE ONLY MATERIALS COMPATIBLE WITH THE ROOFING SYSTEM.

6 SUPPORT DETAIL FOR CONDENSING UNITS LOCATED ON ROOF
SCALE: NONE

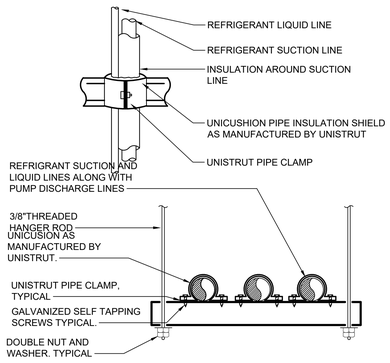


4 DUCTLESS DX SPLIT-SYSTEM AC UNIT PIPING SCHEMATIC
SCALE: NONE



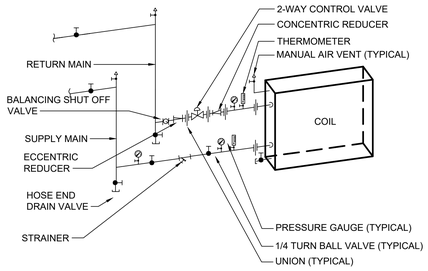
NOTES:
1.) SEE ARCHITECTIRAL DRAWINGS FOR FLASHING AND COUNTER FLASHING DETAILS.

2 ROOFTOP EXHAUST FAN DETAIL
SCALE: NONE



NOTES:
1.) LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2.) LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3.) USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
4.) SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.

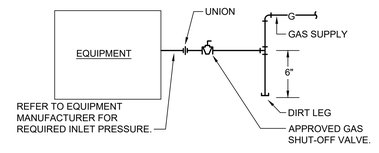
7 REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NONE



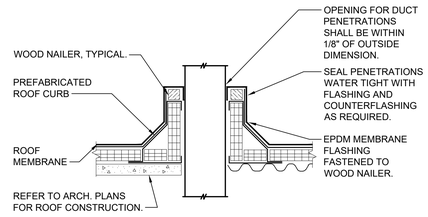
NOTES:
1.) LOCATE ALL COIL UNIONS CLOSE TO, AND CLEAR OF, COIL. ARRANGE PIPING SO AS NOT TO NOT INTERFERE WITH COIL REMOVAL.
2.) DETAIL IS TYPICAL FOR UNIT VENTILATORS, CABINET UNIT HEATERS, FAN COIL UNITS, AND AIR HANDLING UNITS.
3.) PROVIDE FLEXIBLE CONNECTION FOR THOSE COILS MOUNTED IN UNITS ON VIBRATION ISOLATORS.

PIPE SIZE SCHEDULE											
PIPE SIZE	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
MAX. GPM	2	3.5	7	13	22	45	70	130	260	480	750

5 HYDRONIC COIL WITH 2-WAY VALVE PIPING SCHEMATIC
SCALE: NONE



3 GAS CONNECTION SCHEMATIC
SCALE: NONE



NOTES:
1. THIS DETAIL SHALL BE USED FOR ALL DUCT PENETRATIONS THROUGH ROOF, BOTH NEW AND EXISTING.
2. PREFABRICATED ROOF CURB SHALL BE OF PRIME 18 GAUGE GALVANIZED STEEL CONSTRUCTION WITH WELDED CORNERS AND 3" CANT FULLY MITERED WITH SEAMS JOINED BY CONTINUOUS WELDS. CURB SHALL BE FACTORY INSULATED WITH 1-1/2" THICK 3# DENSITY INSULATION AND ASSEMBLED WITH 2x2 WOOD NAILERS. DIMENSIONS OF ROOF CURB SHALL BE VERIFIED BY THIS CONTRACTOR PRIOR TO ORDERING BASED ON DIMENSIONS OF EXISTING UNITS. THIS CONTRACTOR SHALL COORDINATE HEIGHT OF ROOF CURB WITH GENERAL CONTRACTOR PRIOR TO ORDERING.
3. CONTRACTOR SHALL PROVIDE ALL FLASHING, COUNTERFLASHING, AND ANY OTHER MATERIALS AND LABOR NECESSARY TO ENSURE A WATERTIGHT ROOF PENETRATION ENCLOSURE.

1 DUCT THROUGH ROOF DETAIL
SCALE: NONE

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New City Library

New City Library

New City Library Addition & Renovation

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VMDO Project Number

Checked By RG
Drawn By AMB

DRAWING NOT FOR CONSTRUCTION

ISSUES AND REVISIONS

NO.	SUBMITTAL	DATE
	DESIGN DEVELOPMENT	07.09.2021

MECHANICAL DETAILS
2 OF 2

M-702

DESIGN DEVELOPMENT
07.09.2021