UNIT VENTILATOR SCHEDULE

Item	Type	Capacity		Outdoor Air (cfm)			SP in. wc	Size hp	Heating						Cooling			Electrical			Manufacturer	Model	Remarks
		tons	cfm	Min.	Occ.	Free Cool			Medium	Coil Rows	EWT °F	LWT °F	Cap. MBH	GPM*	Medium	Total Cap. MBH	Sens. Cap. MBH	Voltage	MCA	MOCP			
UV-3	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	3-SPEED ECM MOTOR, FACE & BYPASS HEATING COIL, 3-WAY VALVE AT HEATING COIL, 250mm INSULATED REAR PIPE CHASE, TOP SUPPLY DISCHARGE HEAD, DIGITAL READY CONTROLS PACKAGE, REAR OA INTAKE DUCT COLLAR, TWO (2) FULL-DEPTH END PANELS (CUT-OUTS TO BE COMPLETED ON SITE TO SUIT DRAFTSTOP DOWNDRAFT PROTECTION FEATURE & PIPING TUNNEL) C/W MOUNTING HARDWARE & KICKPLATE (CONFIRM CUT-OUTS WITH MANUFACTURER), BOTTOM FRONT RA INLET GRILLE & DRAFTSTOP DOWNDRAFT PROTECTION RA INLET, UNIT MOUNTED DISCONNECT (INSIDE ENCLOSURE), HEATING COIL FREEZESTAT (FACTORY INSTALLED & WIRED), ADJUSTABLE LEG LEVELLERS, PUTTY BEIGE CABINET COLOUR, TAMPER-RESISTANT FASTENERS ON ALL ACCESS DOORS, REPLACEMENT FILTERS C/W ONE EXTRA SET, SECONDARY OVERFLOW DRAIN CONNECTION FOR CONDENSATE PAN, 50mm BASE TO RAISE UNIT, SET FAN TO MEDIUM SPEED
UV-4	FLOOR MOUNTED UNIT VENTILATOR	3.0	1250	180	370	1000	0.25	1/3	WATER	2	150	130	75	7.5	DX	43.4	32.6	120/1/60	6.3	15	DAIKIN	UAVS9-H13	
UV-5	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-6	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-7	FLOOR MOUNTED UNIT VENTILATOR	2.0	750	30	65	600	0.1	1/3	WATER	2	150	130	31.7	3.2	DX	22.9	17.2	120/1/60	6.3	15	DAIKIN	UAVS9-H07	
UV-8	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-9	FLOOR MOUNTED UNIT VENTILATOR	2.0	750	30	65	600	0.1	1/3	WATER	2	150	130	31.7	3.2	DX	22.9	17.2	120/1/60	6.3	15	DAIKIN	UAVS9-H07	
UV-10	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-11	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-12	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-13	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-14	FLOOR MOUNTED UNIT VENTILATOR	2.5	1000	120	310	800	0.1	1/3	WATER	2	150	130	46.2	4.6	DX	33.2	24.9	120/1/60	6.3	15	DAIKIN	UAVS9-H10	
UV-15**	STANDING UNIT VENTILATOR	2.5	800	45	110	640	0.5	3/4	WATER	1	150	130	54	5.5	DX	24.4	17.5	208/1/60	10	15	AIREDALE	CMD24BC MAAANNN92	VERTICAL FLOOR STANDING, C/W SUPPLY AND EXHUAST, FACE & BYPASS HEATING COIL, ECM MOTOR, & HEAVY DUTY LATTICE GRILLE
UV-16	FLOOR MOUNTED UNIT VENTILATOR	2.0	750	30	65	600	0.1	1/3	WATER	2	150	130	31.7	3.2	DX	22.9	17.2	120/1/60	6.3	15	DAIKIN	UAVS9-H07	REFER TO UV-3 THRU UV-14 REMARKS

GENERAL UNIT VENTILATOR NOTES:
1. ACCEPTABLE MANUFACTURERS: DAIKIN, CHANGE AIR, ENGINEERED AIR, AIRDALE, TRANE
2. * EQUIPMENT SHALL BE SELECTED AS INDICATED IN THIS SCHEDULE. EQUIPMENT WILL BE BALANCED TO LOWER WATER FLOW RATE THAN INDICATED IN THIS SCHEDULE.
3. ** UNIT VENTILATOR IS EXISTING EQUIPMENT RELOCATED FROM OTHER SCHOOL. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT RELOCATION, FOR PROVISION OF NEW HOT WATER HEAT COIL, NEW HWS/R AND RS/RL CONNECTIONS, AND FOR VERIFYING EQUIPMENT DETAILS (INCLUDING ELEC INFO) WITHIN ONE WEEK OF AWARD OF CONTRACT. CONTRACTOR TO INFORM CONSULTANT IMMEDIATELY OF ANY DISCREPANCIES FROM INFO INDICATED IN THIS SCHEDULE.

AIR COOLED CONDENSING UNIT SCHEDULE

Item	Type	Service	Tons	Capacity MBH	Compressor			Refrig.	Sat. Suction Temp °F	No. of Cond. Fans	Electrical			Manufacturer	Model	Remarks
					Type	No.	No. Stages				Voltage	MCA	MOCP			
CU-3	OUTDOOR ROOF MOUNTED	CLASSROOM 7	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-3.
CU-4	OUTDOOR ROOF MOUNTED	CLASSROOM 8	3.5	42.0	SCROLL	1	1	R410A	52	1	208/1/60	23.3	40	DAIKIN	DX16SA0421	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-4.
CU-5	OUTDOOR ROOF MOUNTED	CLASSROOM 22	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-5.
CU-6	OUTDOOR ROOF MOUNTED	CLASSROOM 21	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-6.
CU-7	OUTDOOR ROOF MOUNTED	SEMINAR 154	1.5	24.6	SCROLL	1	1	R410A	52	1	208/1/60	12.2	20	DAIKIN	DX16SA0181	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-7.
CU-8	OUTDOOR ROOF MOUNTED	CLASSROOM 20	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-8.
CU-9	OUTDOOR ROOF MOUNTED	SEMINAR 153	1.5	24.6	SCROLL	1	1	R410A	52	1	208/1/60	12.2	20	DAIKIN	DX16SA0181	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-9.
CU-10	OUTDOOR ROOF MOUNTED	CLASSROOM 9	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-10.
CU-11	OUTDOOR ROOF MOUNTED	CLASSROOM 10	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-11.
CU-12	OUTDOOR ROOF MOUNTED	CLASSROOM 11	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-12.
CU-13	OUTDOOR ROOF MOUNTED	CLASSROOM 19	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-13.
CU-14	OUTDOOR ROOF MOUNTED	CLASSROOM 18	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-14.
CU-15	OUTDOOR ROOF MOUNTED	STAFF ROOM 140	2.5	28.6	SCROLL	1	1	R410A	52	1	208/1/60	17	25	DAIKIN	DX16SA0311	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-16.
CU-16	OUTDOOR ROOF MOUNTED	OFFICE 124	1.5	24.6	SCROLL	1	1	R410A	52	1	208/1/60	12.2	20	DAIKIN	DX16SA0181	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-16.
CU-17	REFER TO SPLIT AIR CONDITIONING UNIT SCHEDULE.															

GENERAL CONDENSING UNIT NOTES:
1. CONDENSING UNIT SUCTION TEMPERATURE MUST BE COORDINATED WITH APPLICABLE FAN COIL UNIT PER MANUFACTURER'S RECOMMENDATIONS.

MECHANICAL LEGEND

Item	Description	Item	Description
	CUT EXISTING & CONNECT NEW PIPING	TCV	TEMPERATURE CONTROL VALVE (2-WAY)
	FLOW DIRECTION	TCV	TEMPERATURE CONTROL VALVE (3-WAY)
G	NATURAL GAS		TEMPERATURE GAUGE
CD	CONDENSATE PIPING		THERMOMETER
HWS	HEATING WATER SUPPLY PIPING		THERMOSTAT (WITH OR WITHOUT GUARD)
HWR	HEATING WATER RETURN PIPING		CARBON DIOXIDE (CO2) SENSOR (WITH OR WITHOUT GUARD)
RL	REFRIGERANT LIQUID PIPING	Type / Size 1 / Size 2 / Capacity	HYDRONIC HEATING SIZE, TYPE & CAPACITY
RS	REFRIGERANT SUCTION PIPING		
	TEE CONNECTION	AD	ACCESS DOOR
	PIPE DOWN	EXP	EXPANSION COMPENSATOR/JOINT
	PIPE UP	RIC	RETURN IN CABINET
	SIGHT GLASS	AFF	ABOVE FINISHED FLOOR
	FLEXIBLE CONNECTION	AFR	ABOVE FINISHED ROOF
	REDUCER/INCREASER	EX	EXISTING DUCT (SIZE AS INDICATED)
	CHECK VALVE		TURNING VANES
	UNION		SUPPLY AIR DUCT
	STRAINER		RETURN/EXHAUST AIR DUCT
VB	VACUUM BREAKER		ACOUSTIC DUCT LINING
	SCREWED OR WELDED PIPE CAP		THERMAL INSULATION
NO	NORMALLY OPEN		BRANCH LINE SPIN-IN COLLAR C/W BALANCING DAMPER
NC	NORMALLY CLOSED		TRUNK MAIN BRANCH COLLAR C/W BALANCING DAMPER
	BALL VALVE	BD	BALANCING DAMPER
AV	AIR VENT		MOTORIZED DAMPER
	CONTROL VALVE ACTUATOR	FD	FIRE DAMPER
	RISER VALVE		RECTANGULAR DUCTWORK
BV	BALANCING VALVE		SIDEWALL SPRINKLER HEAD

GENERAL NOTES

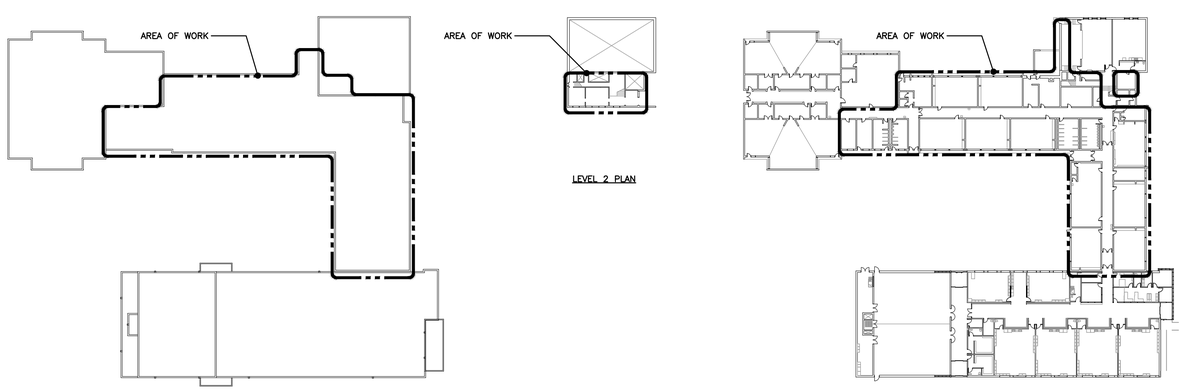
A. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PREPARED SPECIFICATION.

B. CONTRACTOR TO INCLUDE COST FOR CONSULTANT TO COMPLETE ELECTRONIC CAD AS-BUILT DWGS (ALL PAGES). REFER TO SPEC SECTION 15010/20 02 51 – RECORD DWGS.

C. ALL PIPING, DUCTWORK, AND EQUIPMENT IS TO BE RESTRAINED TO MEET SEISMIC CODE REQUIREMENTS. SUPPLY AND INSTALL ALL SEISMIC RESTRAINT MATERIALS TO MANUFACTURER'S WRITTEN INSTRUCTIONS. REFER TO SPECIFICATION.

D. CONTRACTOR TO LOCATE ISOLATION VALVES / FREEZE PIPING / OR OTHERWISE DRAIN SYSTEMS TO ALLOW PROPOSED WORK TO PROCEED. REFILL SYSTEMS AS INDICATED.

E. UPON COMPLETION OF THE PROJECT OR UPON COMPLETION OF EACH INDIVIDUAL PHASE OF THE PROJECT THE CONTRACTORS SHALL PROVIDE THE FOLLOWING CERTIFICATES BEFORE CONFORMANCE LETTERS ARE ISSUED BY THE CONSULTANT:
– NFPA-13 SPRINKLER CONTRACTOR'S MATERIAL & TEST CERTIFICATE
– FIRE PROTECTION ENGINEER'S INSPECTION/CONFORMANCE LETTER
ALL CERTIFICATES ARE TO BE SUBMITTED TOGETHER IN A SINGLE PACKAGE.



KEY PLAN
SCALE: N.T.S

PUMP SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity USgpm	Head ft	Size hp	Electrical Voltage	Speed rpm	Manufacturer & Model	Remarks
P-3	BASE MOUNTED SYSTEM PUMP	45	50	1.5	208/3/60	2685	ARMSTRONG 4380	C/W WALL MOUNTED VFD.

ELECTRIC DUCT HEATER SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	CFM	Input Capacity	Input Medium	SIZE	Electrical		Manufacturer & Model	Remarks
						Voltage	MCA		
EDH-1	SLIP IN OPEN COIL MAIL ROOM	80	2kW	ELEC	6"x6"	208/1/60	9.6	THERMOLEC SC	SLIP-IN OPEN COIL, COMPLETE WITH SRC CONTROLS AND TEMPERATURE SENSOR.

HEAT RECOVERY UNIT SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity		SP in wc	Electrical		Manufacturer & Model	Remarks
		Supply cfm	EXH cfm		MCA	Voltage		
ERV-1	ENERGY RECOVERY VENTILATOR	80	80	0.3	1.46	120/1/60	ALDES EB0-HRX	OUTDOOR AIR INTAKE AND EXHUAST THROUGH CONCENTRIC VENT KIT. MANUFACTURER: TANDEM TRANSITION 14690

SPLIT AIR CONDITIONING UNIT SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity		Cooling Capacity MBH	Heating Capacity MBH	Electrical			Manufacturer (or Approved Alternate)	Remarks
		tons	cfm			Voltage	MCA	Fuse		
FC-17A	INDOOR FAN COIL	3/4	300	9.0	12.0	208/1/60	8	15	DAIKIN FTXS09LVJU	CONNECT TO CU-14
FC-17B	INDOOR FAN COIL	3/4	300	9.0	12.0	208/1/60	8	15	DAIKIN FTXS09LVJU	CONNECT TO CU-14
CU-17	CONDENSING UNIT	1.5	–	17.0	17.0	208/1/60	10.9	15	DAIKIN 2MX18AXVJU	PROVIDE POWER FOR FC-1 & FC-2 FROM CU-17. PROVIDE BAS CONTROL MODULE, C/W FACTORY INSTALLED ULTRA LOW AMBIENT OPTION

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.
Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.
Do not scale this drawing.
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ISSUANCES

No	DATE YY.MM.DD	DESCRIPTION	BY
1	21.12.21	ISSUED FOR 99% TENDER REVIEW	JA
2	21.01.27	ISSUED FOR PERMIT AND TENDER	JA

Seal: LICENSED PROFESSIONAL ENGINEER Jan 27/22 J.C. ANDERSON 100543206 PROVINCE OF ONTARIO

North Arrow: Project North / True North

Project
TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198-RW-22
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title
BUILDING PLAN, SCHEDULES & GENERAL NOTES

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale: AS NOTED	Project Date: JAN 2022	Print Date: JAN 2022
Project No.: 21047	Drawing No.: M101	

GRILLE SCHEDULE

Item	Type	Equalizing Grid	Volume Damper	Acceptable Manufacturer	Description
S1	LOUVERED SUPPLY GRILLE	NO	NONE	EH PRICE 70	DOUBLE DEFLECTION, 1/2" SPACING, EXTRUDED ALUMINUM BLADES PARALLEL TO LONG DIMENSION, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
R1	CEILING RETURN GRILLE (NON-DUCTED)	NO	NONE	EH PRICE 80	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W CHANNEL BORDER FOR LAY-IN T-BAR CEILING.
E1	CEILING RETURN GRILLE (DUCTED)	NO	NONE	EH PRICE 80	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
D1	SQUARE CEILING DIFFUSER	YES	NONE	EH PRICE SCDA	MULTICONE, FULLY ADJUSTABLE, 24x24, STEEL CEILING DIFFUSER W/ROUND NECK. SUITABLE FOR LAY-IN T-BAR CEILING, OR DRYWALL CEILING WHEN C/W FRAME. PROVIDE FIRE STOP FLAP & FIRE BLANKET.

GENERAL DIFFUSER/GRILLE NOTES:
1. ACCEPTABLE MANUFACTURERS: EH PRICE, NAILOR, TITUS, KRUEGER, CARNES, METALAIRE, TUTTLE & BAILEY
2. GRILLE COLOURS ARE SELECTED BY ARCHITECT FROM STANDARD COLOUR CHART, UNLESS OTHERWISE NOTED.
3. PAINT INTERIOR OF DUCTWORK BEHIND GRILLE MATT BLACK (WHERE VISIBLE THRU GRILLE).

LOUVER SCHEDULE

Item	Type	Size	Airflow cfm	Free Area (Pressure Drop)	Acceptable Manufacturer	Description
L-1	2" (50mm) DRAINABLE BLADE LOUVER	SEE PLANS	SEE PLANS	MIN 40%	UNITED ENERTECH FL-D-2	EXTRUDED ALUMINUM CONSTRUCTION, 2" DEEP BLADES, 1.5" BLADE SPACING DRIP EDGE, DRAINABLE JAMB, MIN 39% FREE AREA AT SPECIFIED SIZE, MIN 805 FPM BEGINNING POINT OF WATER ENTRY, GALVANIZED BIRD SCREEN WITH MAX 1/2" OPENINGS.

DYNAMICALLY BALANCED SYSTEM (PUMP P-4)

THE HYDRONIC HEATING SYSTEM ASSOCIATED WITH PUMP P-4 IS TO DYNAMICALLY REBALANCED. THIS DYNAMIC BALANCING REQUIRES THREE STEPS:

1. FULL "SYSTEM" BALANCE:
   THIS IS A STANDARD BALANCE EXERCISE. ALL HYDRONIC HEATING COMPONENTS (FAN COILS, UNIT VENTILATORS, RADIANT HEATERS) ARE INCLUDED. NO COMPONENTS ARE ISOLATED. ALL COMPONENTS ARE BALANCED TO MINIMUM FLOW RATES AS INDICATED IN BALANCING TABLE. RECORD PUMP FLOW RATE.

2. RADIANT HEATING FLOW BALANCE:
   ALL UNIT VENTILATORS WITH 2-WAY VALVES ARE MANUALLY ISOLATED. UNIT VENTILATORS WITH 3-WAY VALVES ARE SET TO FULL BYPASS. CONFIRM THAT MINIMUM FLOW RATES IN CLASSROOM RADIANT HEATERS MEET MINIMUM FLOW RATES AS INDICATED IN THE DYNAMIC BALANCING TABLE. INCREASE DIFFERENTIAL PRESSURE SET-POINT FOR P-4 IF NECESSARY TO MEET MINIMUM FLOW RATES. RECORD PUMP FLOW RATED.

3. UNIT VENTILATOR FLOW BALANCE:
   ALL CLASSROOM RADIATORS ARE MANUALLY ISOLATED. ALL UNIT VENTILATORS ARE SET TO FULL FLOW. CONFIRM THAT MINIMUM FLOW RATES IN UNIT VENTILATORS MEET MINIMUM FLOW RATES AS INDICATED IN THE DYNAMIC BALANCING TABLE. INCREASE DIFFERENTIAL PRESSURE SET-POINT FOR P-4 IF NECESSARY TO MEET MINIMUM FLOW RATES. RECORD PUMP FLOW RATE.

4. RECORD FINAL DIFFERENTIAL PRESSURE SETPOINT FOR PUMP.

NOTES:

1. UNIT VENTILATOR EQUIPMENT SHALL MEET MINIMUM HEATING CAPACITY AS SCHEDULED. UNIT VENTILATORS WILL BE BALANCED BELOW SCHEDUELD HEATING CAPACITY.

2. EXISTING CLASSROOM RADIANT HEATERS ARE BALANCED TO LOWER FLOW RATES THAN ORIGINAL DESIGN.

3. FULL "SYSTEM" FOR THIS DYNAMIC BALANCE EXERCISE REFERS TO ALL HYDRONIC LOAD COMPONENTS CONNECTED TO P-4.

DYNAMICALLY BALANCED SYSTEM (P-4) SCHEDULE

Location	Hydronic Item	Full System Balance* (FLOW GPM)	Radiant Heating Balance** (MIN GPM)	Unit Ventilator Balance** (MIN GPM)	Valve
CLASSROOM 7	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 7	NEW UNIT VENT	3.0	4.0	4.5	3-WAY
CLASSROOM 8	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 8	NEW UNIT VENT	4.0	–	6.0	2-WAY
CLASSROOM 9	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 9	NEW UNIT VENT	3.0	–	4.5	2-WAY
CLASSROOM 10	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 10	NEW UNIT VENT	3.0	–	4.5	2-WAY
CLASSROOM 11	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 11	NEW UNIT VENT	3.0	4.0	4.5	3-WAY
CLASSROOM 18	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 18	NEW UNIT VENT	3.0	4.0	4.5	2-WAY
CLASSROOM 19	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 19	NEW UNIT VENT	3.0	–	4.5	2-WAY
CLASSROOM 20	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 20	NEW UNIT VENT	3.0	–	4.5	2-WAY
CLASSROOM 21	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 21	NEW UNIT VENT	3.0	–	4.5	2-WAY
CLASSROOM 22	EXISTING RAD	3.0	4.0	–	2-WAY
CLASSROOM 22	NEW UNIT VENT	3.0	4.0	4.5	3-WAY
SEMINAR 153	NEW UNIT VENT	2.5	3.3	3.8	2-WAY
SEMINAR 154	NEW UNIT VENT	2.5	3.3	3.8	2-WAY
VESTIBULE 807	CONVECTION HTR	3.0	4.0	4.5	2-WAY
CORRIDOR 810	RADIATOR	2.0	2.7	3.0	2-WAY
BOYS WR 120	UNIT HEATER	1.5	2.0	2.3	2-WAY
GIRLS WR 121	UNIT HEATER	1.5	2.0	2.3	2-WAY
STAGE 148	EXISTING RAD	4.0	5.3	6.0	2-WAY
RES A 201	EXISTING RAD	2.5	3.3	3.8	2-WAY
RES B 202	EXISTING RAD	2.5	3.3	3.8	2-WAY
MECH RM	PUMP P-4	83	85	80	

GENERAL DYNAMIC BALANCING NOTES:
1. * PRELIMINARY BALANCE TO THIS VALUE. RECORD DIFFERENTIAL PRESSURE SETTING AND PUMP FLOW RATE.
2. ** PRELIMINARY BALANCE, CONFIRM THAT THIS FLOW RATE IS ACHIEVED WITH SELECT ITEMS ISOLATED (AS INDICATED). INCREASE DP SET POINT AS REQUIRED TO ACHIEVE FLOW. RECORD DP SET POINT AND PUMP FLOW RATE.
3. GREY VALUES ARE ESTIMATES. NO CONFIRMATION REQUIRED
4. DASH (–) INDICATES ITEM THAT IS ISOLATED. VALVE CLOSED)

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1	21.12.21	ISSUED FOR 99% TENDER REVIEW	JA
2	21.01.27	ISSUED FOR PERMIT AND TENDER	JA

Seal

LICENSED PROFESSIONAL ENGINEER
Mar 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

Project

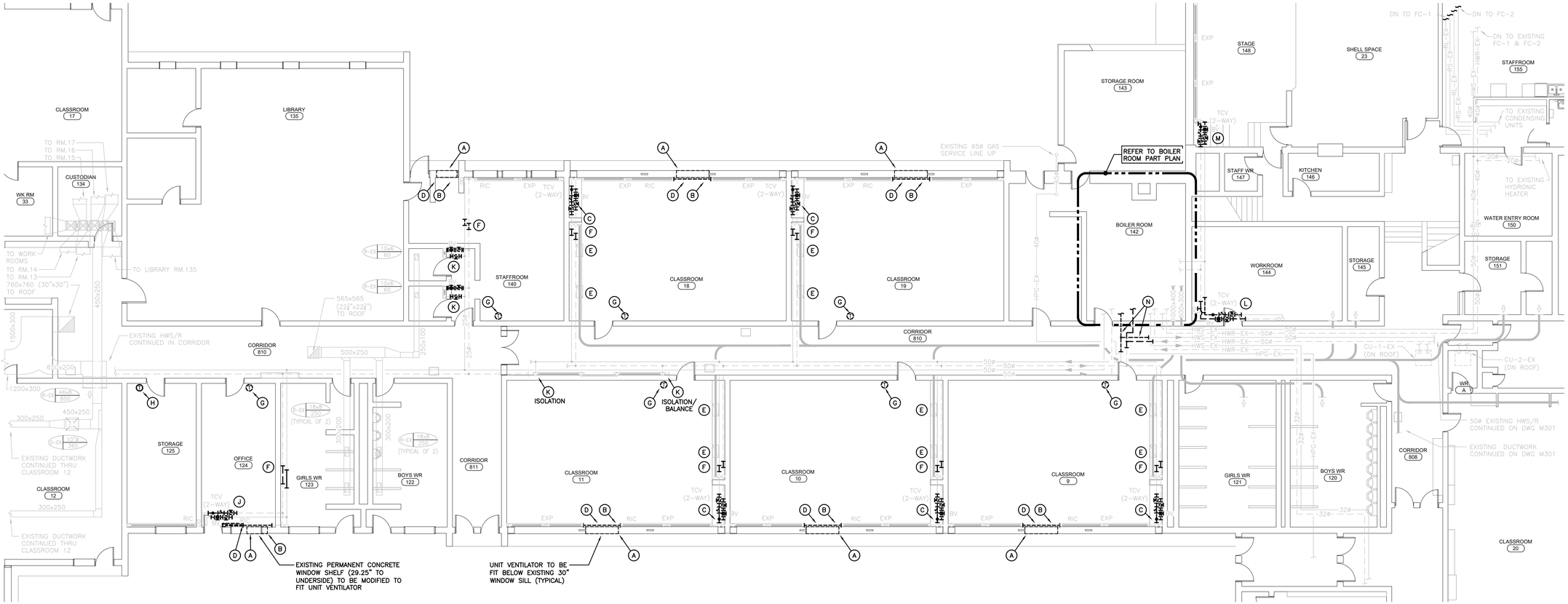
TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198-RW-22
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

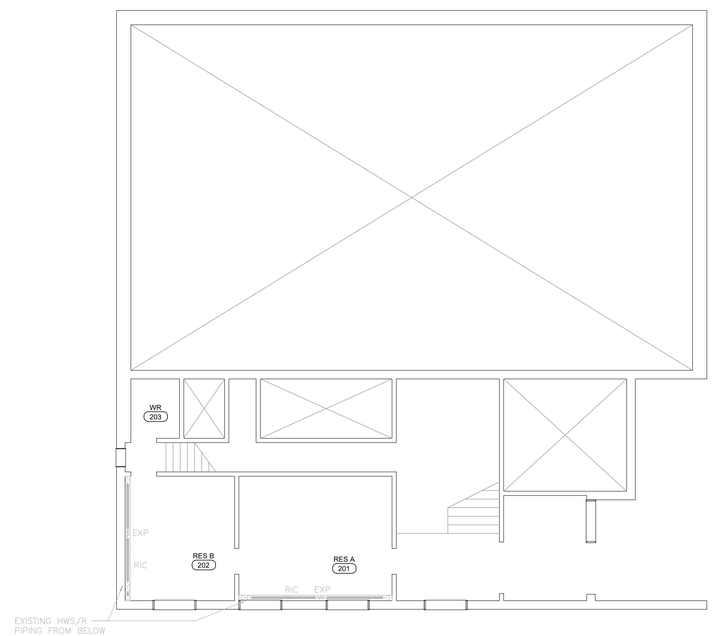
SCHEDULES

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022
Project No.	Drawing No.	
21047	M102	



GROUND FLOOR BLOCK A PART PLAN – DEMOLITION
SCALE: 1:100



2ND FLOOR PART PLAN – DEMOLITION
SCALE: 1:100

GENERAL DEMOLITION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
- NEW PIPEWORK TO BE RUN TIGHT TO UNDERSIDE OF STRUCTURE. PIPING TO BE RUN IN NEAT, STRAIGHT LINES PARALLEL OR PERPENDICULAR TO STRUCTURE.
- MILLWORK TO BE MODIFIED IN NEAT MANNER TO SATISFACTION OF CONSULTANTS & OWNER.
- SHEET METAL SHROUDS, RADIATOR END CAPS, OR INFILL BESIDE UNIT HEATERS SHALL BE PAINTED TO MATCH ROOM COLOURS.
- HOLES IN EXTERIOR WALL FOR NEW VENTILATOR OPENING SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF EXTERIOR WALL.
- PROVIDE INSULATION BEHIND NEW UNIT VENTILATORS IN LOCATIONS WHERE EXISTING INSULATION IS NOT PRESENT.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'–0" IN EACH DIRECTION.
- CO–ORDINATE ROUGH–IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CO–ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

SPECIFIC DEMOLITION NOTES

A. OPENING REQUIRED UNDER WINDOW FOR INSTALL OF NEW SUPPLY AIR LOUVER. SHORING & LINTEL REQUIRED (SEE STRUCTURAL DRAWINGS). SEE MECHANICAL.

B. EXISTING SECTION OF RADIANT HEATING CABINET TO BE REMOVED COMPLETE. MODIFY CABINET TO ACCOMMODATE NEW UNIT VENTILATOR.

C. EXISTING ISOLATION, BALANCE AND CONTROL VALVES IN MILLWORK TO BE REMOVED COMPLETE AND REPLACED.

D. MODIFY EXISTING RADIANT HEATER PIPING. PREPARE TO ROUTE THRU PIPE CHASE IN BACK OF NEW UNIT VENTILATOR. SEE DETAILS.

E. EXISTING EXHAUST ARE GRILLES AND ASSOCIATED DUCTWORK TO REMAIN.

F. CUT EXISTING HWS/R AND PREPARE FOR NEW CONNECTION.

G. EXISTING THERMOSTAT TO BE REMOVED COMPLETE. PROVIDE NEW DDC THERMOSTAT & CONTROL WIRING.

H. PNEUMATIC THERMOSTAT TO BE REMOVED. CAP EXISTING PNEUMATIC PIPE.

J. EXISTING ISOLATION, BALANCE & CONTROL VALVES IN CEILING TO BE REMOVED COMPLETE AND REPLACED.

K. EXISTING ISOLATION & BALANCE VALVES IN CEILING TO BE REMOVED COMPLETE AND REPLACED. NO CONTROL. HEATING RUNS WILD.

L. EXISTING VALVES SERVING RADIANT HEATERS ON FLOOR ABOVE TO BE REMOVED COMPLETE AND REPLACED.

M. EXISTING ISOLATION, BALANCE & CONTROL VALVES IN RADIANT HEATING CABINET TO BE REMOVED COMPLETE AND REPLACED.

N. REMOVE EXISTING HYDRONIC MAINS AS SHOWN. PREPARE FOR CONNECTION OF NEW MAINS PIPED INTO MECHANICAL ROOM. SEE RENO DRAWINGS.

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.
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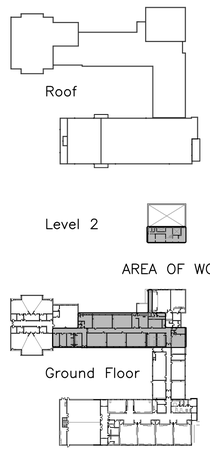

Key Plan

Seal: LICENSED PROFESSIONAL ENGINEER — Jan 27/22 — J.C. ANDERSON — 100543206 — PROVINCE OF ONTARIO

North Arrow: Project North — True North

Project
TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title
GROUND & 2ND FLOOR BLOCK A PART PLANS HVAC DEMOLITION

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

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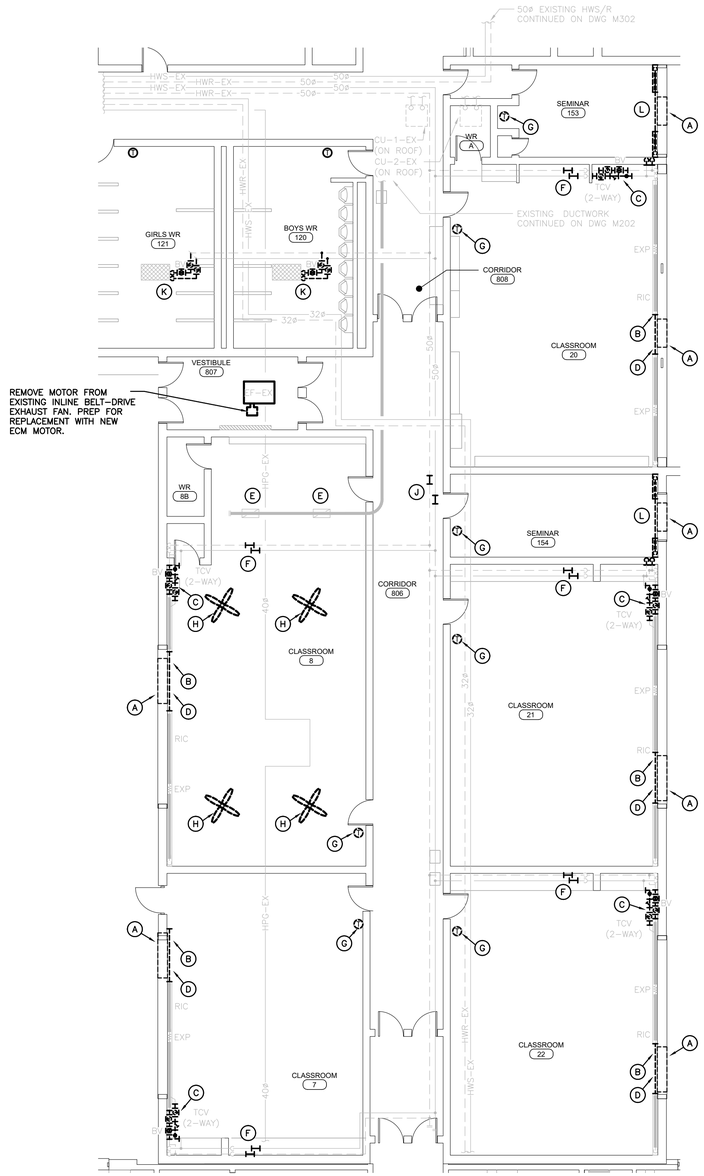
21047	M201	



GROUND FLOOR BLOCK B PART PLAN – DEMOLITION

SCALE: 1:100

GENERAL DEMOLITION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
- NEW PIPEWORK TO BE RUN TIGHT TO UNDERSIDE OF STRUCTURE. PIPING TO BE RUN IN NEAT, STRAIGHT LINES PARALLEL OR PERPENDICULAR TO STRUCTURE.
- MILLWORK TO BE MODIFIED IN NEAT MANNER TO SATISFACTION OF CONSULTANTS & OWNER.
- SHEET METAL SHROUDS, RADIATOR END CAPS, OR INFILL BESIDE UNIT HEATERS SHALL BE PAINTED TO MATCH ROOM COLOURS.
- HOLES IN EXTERIOR WALL FOR NEW VENTILATOR OPENING SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF EXTERIOR WALL.
- PROVIDE INSULATION BEHIND NEW UNIT VENTILATORS IN LOCATIONS WHERE EXISTING INSULATION IS NOT PRESENT.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'–0" IN EACH DIRECTION.
- CO–ORDINATE ROUGH–IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CO–ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

SPECIFIC DEMOLITION NOTES

A. OPENING REQUIRED UNDER WINDOW FOR INSTALL OF NEW SUPPLY AIR LOUVER. SHORING & LINTEL REQUIRED (SEE STRUCTURAL DRAWINGS). SEE MECHANICAL.

B. EXISTING SECTION OF RADIANT HEATING CABINET TO BE REMOVED COMPLETE. MODIFY CABINET TO ACCOMMODATE NEW UNIT VENTILATOR.

C. EXISTING ISOLATION, BALANCE AND CONTROL VALVES IN RADIANT HEATING CABINET TO BE REMOVED COMPLETE AND REPLACED.

D. MODIFY EXISTING RADIANT HEATER PIPING. PREPARE TO ROUTE THRU PIPE CHASE IN BACK OF NEW UNIT VENTILATOR. SEE DETAILS.

E. EXISTING EXHAUST ARE GRILLES AND ASSOCIATED DUCTWORK TO REMAIN.

F. CUT EXISTING HWS/R AND PREPARE FOR NEW CONNECTION.

G. EXISTING THERMOSTAT TO BE REMOVED COMPLETE. PROVIDE NEW DDC THERMOSTAT & CONTROL WIRING.

H. REMOVE COMPLETE EXISTING DE–STRATIFICATION FAN. TURN OVER IN EXISTING OPERABLE CONDITION TO WRDSB FOR INSTALL IN OTHER CLASSROOM.

J. CUT IN WELLS FOR NEW DIFFERENTIAL PRESSURE SENSOR.

K. EXISTING ISOLATION AND BALANCE VALVES AT CEILING TO BE REMOVED COMPLETE AND REPLACED.

L. REMOVE EXISTING RADIANT HEATER COMPLETE. RADIANT HEATER WILL BE REPLACED WITH UNIT VENTILATOR.

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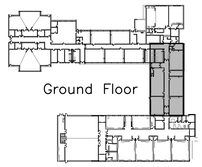
AREA OF WORK



Key Plan

Seal

I, CERTIFIED PROFESSIONAL ENGINEER
Jan 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

North Arrow

Project North
True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

GROUND FLOOR
BLOCK B PART PLAN
HVAC DEMOLITION

DEI
Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

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HAD	JA	JA
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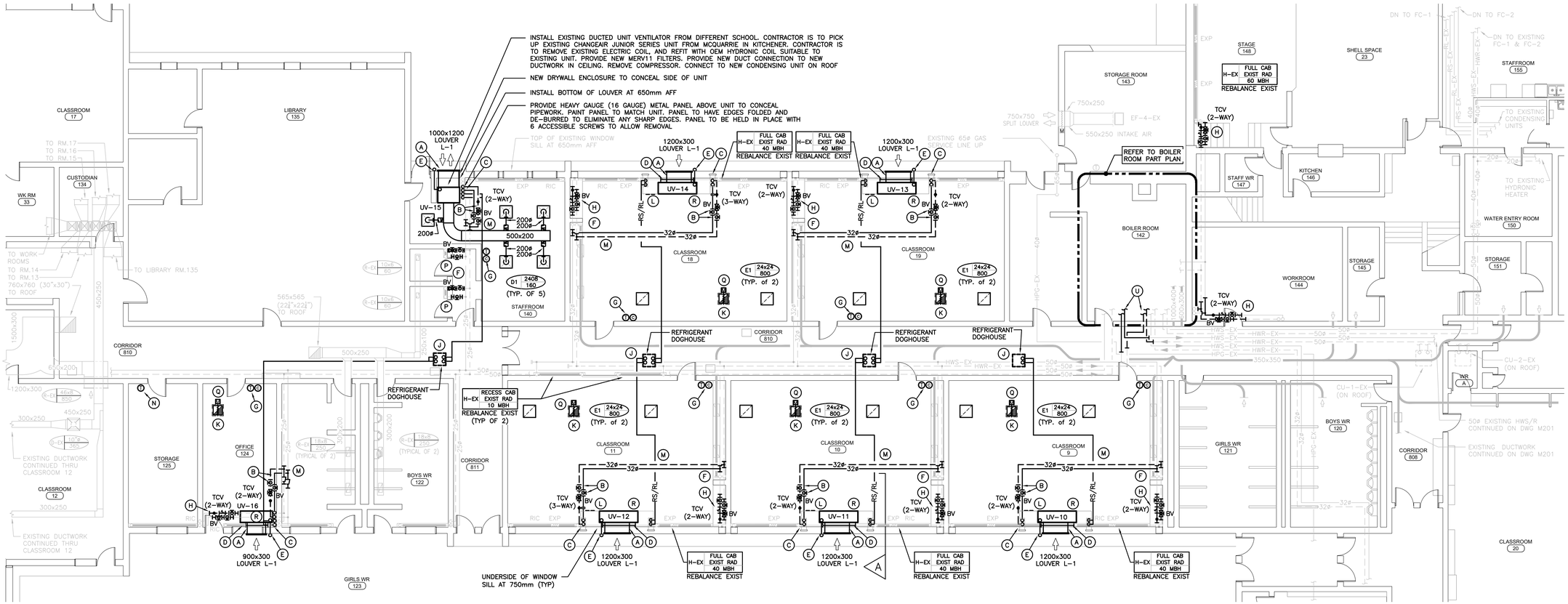
AS NOTED	JAN 2022	JAN 2022
Project No.	Drawing No.	
21047	M202	



GROUND FLOOR BLOCK A PART PLAN – RENOVATION

SCALE: 1:100

GENERAL RENOVATION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
- NEW PIPEWORK TO BE RUN TIGHT TO UNDERSIDE OF STRUCTURE. PIPING TO BE RUN IN NEAT, STRAIGHT LINES PARALLEL OR PERPENDICULAR TO STRUCTURE.
- MILLWORK TO BE MODIFIED IN NEAT MANNER TO SATISFACTION OF CONSULTANTS & OWNER.
- SHEET METAL SHROUDS, RADIATOR END CAPS, OR INFILL BESIDE UNIT HEATERS SHALL BE PAINTED TO MATCH ROOM COLOURS.
- HOLES IN EXTERIOR WALL FOR NEW VENTILATOR OPENING SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF EXTERIOR WALL.
- PROVIDE INSULATION BEHIND NEW UNIT VENTILATORS IN LOCATIONS WHERE EXISTING INSULATION IS NOT PRESENT.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'-0" IN EACH DIRECTION.
- CO-ORDINATE ROUGH-IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CO-ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

DYNAMIC BALANCING

- THE HYDRONIC SYSTEM CONNECTED TO PUMP P-4 IS SHALL BE DYNAMICALLY BALANCED BALANCED. REFER TO SHEET M101 FOR ADDITIONAL DYNAMIC BALANCING REQUIREMENTS.

SPECIFIC RENOVATION NOTES

A. NEW INTAKE LOUVER C/W HEAVY DUTY LATTICE GRILLE. PROVIDE NEW OPENING TO SUIT. PROVIDE NEW LINTEL (PER STRUCTURAL).

B. CONNECT NEW 32ø HWS&R PIPING TO NEW UNIT VENTILATOR C/W NEW ISOLATION BALL VALVES, BALANCING VALVE, TCV, UNIONS, & STRAINER. CONNECT NEW RS/RL PIPING TO NEW UNIT VENTILATOR.

C. NEW HWS&R AND RL&RS PIPING DOWN FROM CEILING TO MILLWORK IN GWB CHASE. ROUTE TO UNIT VENTILATOR. SEE DETAILS.

D. MODIFY EXISTING RADIANT HEATER PIPING. ROUTE THRU PIPE CHASE IN BACK OF NEW UNIT VENTILATOR. SEE DETAILS.

E. 25ø UNIT VENTILATOR CONDENSATE DRAIN ROUTED THRU WALL TO EXTERIOR. SEE DETAILS.

F. CONNECT NEW HWS/R PIPING TO EXISTING.

G. NEW DDC THERMOSTAT AND CO2 SENSOR. CONTROL WIRING TO CEILING IN PVC WIRE MOULD.

H. PROVIDE NEW ISOLATION VALVES, STRAINER, TCV, BALANCE VALVE AND UNIONS AND RECONNECT TO EXISTING RADIANT HEATER. TCV TO BE 2-WAY OR 3-WAY AS INDICATED ON PLANS.

J. RL&RS PIPING UP THRU ROOF IN DOGHOUSE TO CONDENSING UNIT. REFER TO DETAIL. NUMBER OF REFRIGERANT CIRCUITS AND SIZING AS PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

K. 450x450 INSULATED OPEN END EXHAUST DUCT UP THRU ROOF. CENTRE DUCT THRU JOIST BAY. TERMINATE WITH GOOSENECK C/W BIRDSCREEN. REFER TO DETAIL.

L. PROVIDE NEW ACCESS DOOR IN EXISTING CABINET OR NEW ARCHITECTURAL MILLWORK FOR ACCESS TO NEW AIR VENTS. NO ACCESS PANEL REQUIRED IF AIR VENTS ARE ACCESSIBLE THRU PANEL IN NEW UNIT VENTILATOR.

M. INSTALL HWS/R AND RS/RL PIPING IN CEILING SPACE. HANG FROM STRUCTURE.

N. REMOVE EXISTING PNEUMATIC THERMOSTAT. CAP PNEUMATIC PIPING. REPLACE WITH NEW DIGITAL THERMOSTAT.

P. PROVIDE NEW ISOLATION & BALANCE VALVES AND RECONNECT TO EXISTING RADIANT HEATER. NO CONTROL. HEATING RUNS WILD.

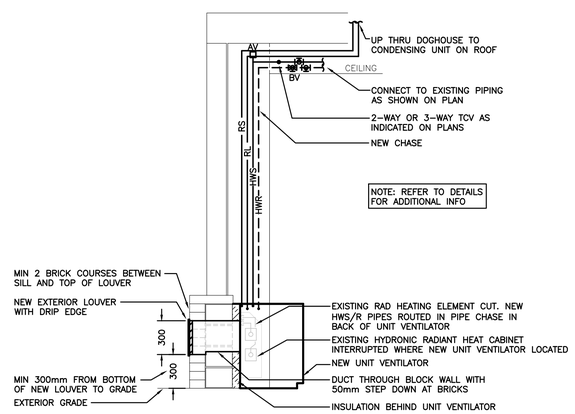
Q. INSULATED MOTORIZED DAMPER. INSTALL ACTUATOR INSIDE DUCT ACCESSIBLE FROM BELOW.

R. ADJUST FEET OF UNIT VENTILATOR TO THAT TOP OF VENTILATOR IS FLUSH WITH ADJACENT NEW MILLWORK (BY ARCH). PROVIDE MIN R-10 INSULATION BETWEEN UNIT VENTILATOR & EXISTING UN-INSULATED WALL.

S. ERV & EDH INSTALLED ABOVE DROPPED BULKHEAD. MAINTAIN ALL MANUFACTURER RECOMMENDED CLEARANCES.

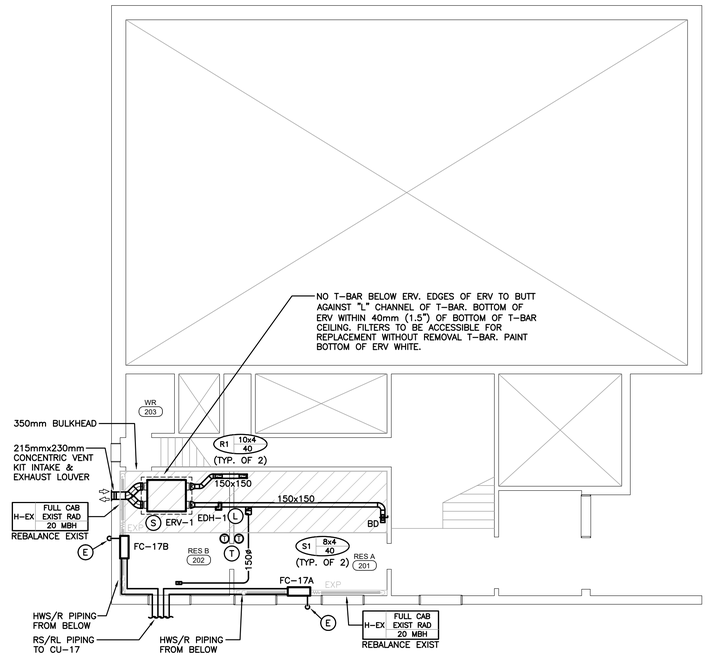
T. NEW DIGITAL THERMOSTAT. CONTROL WIRING TO CEILING IN PVC WIRE MOULD.

U. CONNECT NEW HYDRONIC MAINS TO EXISTING AND ROUTE INTO BOILER ROOM FOR CONNECTION TO NEW PUMP PIPEWORK AS SHOWN.



CLASSROOM UV – SECTION 'A'

SCALE: 1:25



2ND FLOOR PART PLAN – RENOVATION

SCALE: 1:100

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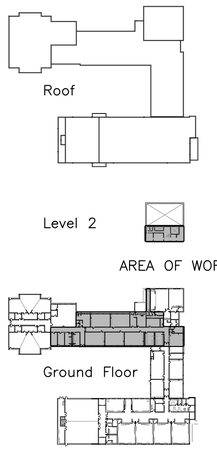


Key Plan

Seal: LICENSED PROFESSIONAL ENGINEER — Mar 27/22 — J.C. ANDERSON — 100543206 — PROVINCE OF ONTARIO

North Arrow: Project North — True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198-RW-22

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

GROUND & 2ND FLOOR BLOCK A PART PLANS HVAC RENOVATION

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022

Project No. 21047

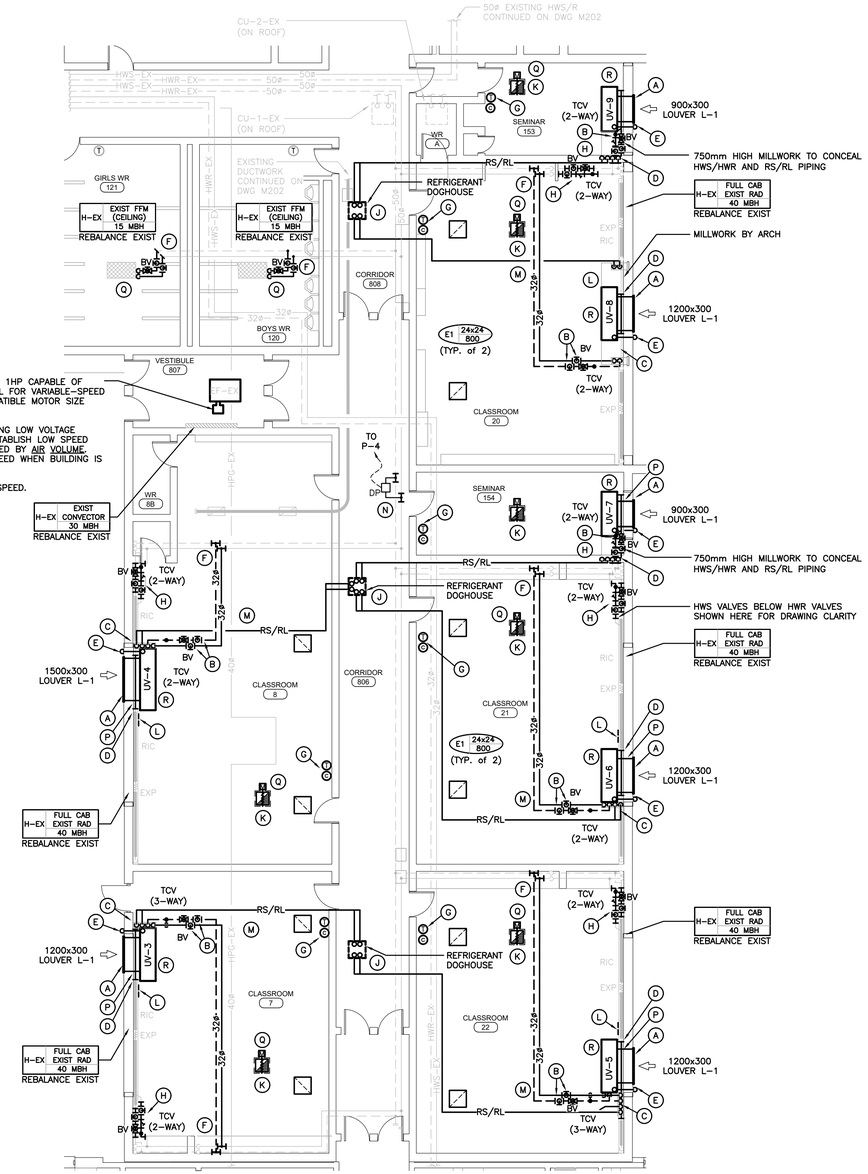
Drawing No. M301

PROVIDE NEW ECM FAN MOTOR 1HP CAPABLE OF RECEIVING LOW VOLTAGE SIGNAL FOR VARIABLE–SPEED CONTROL. SITE CONFIRM COMPATIBLE MOTOR SIZE AND CONFIGURATION.

CONNECT FAN TO BAS PROVIDING LOW VOLTAGE VARIABLE–SPEED CONTROL. ESTABLISH LOW SPEED SETTING AT 30% OF FULL SPEED BY AIR VOLUME. FAN TO INCREASE TO FULL SPEED WHEN BUILDING IS IN FREE COOLING MODE.

BALANCE TO 2500 CFM HIGH SPEED.

THIS FAN SERVES
- CLASSROOMS 7,
- CLASSROOM 21
- CLASSROOM 22
- SEMINAR 153
- SEMINAR 154



GROUND FLOOR BLOCK B PART PLAN – RENOVATION
SCALE: 1:100

GENERAL RENOVATION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
- NEW PIPEWORK TO BE RUN TIGHT TO UNDERSIDE OF STRUCTURE. PIPING TO BE RUN IN NEAT, STRAIGHT LINES PARALLEL OR PERPENDICULAR TO STRUCTURE.
- MILLWORK TO BE MODIFIED IN NEAT MANNER TO SATISFACTION OF CONSULTANTS & OWNER.
- SHEET METAL SHROUDS, RADIATOR END CAPS, OR INFILL BESIDE UNIT HEATERS SHALL BE PAINTED TO MATCH ROOM COLOURS.
- HOLES IN EXTERIOR WALL FOR NEW VENTILATOR OPENING SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF EXTERIOR WALL.
- PROVIDE INSULATION BEHIND NEW UNIT VENTILATORS IN LOCATIONS WHERE EXISTING INSULATION IS NOT PRESENT.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'–0" IN EACH DIRECTION.
- CO–ORDINATE ROUGH–IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CO–ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

DYNAMIC BALANCING

- THE HYDRONIC SYSTEM CONNECTED TO PUMP P–4 IS SHALL BE DYNAMICALLY BALANCED BALANCED. REFER TO SHEET M101 FOR ADDITIONAL DYNAMIC BALANCING REQUIREMENTS.

SPECIFIC RENOVATION NOTES

A. NEW INTAKE LOUVER C/W HEAVY DUTY LATTICE GRILLE. PROVIDE NEW OPENING TO SUIT. PROVIDE NEW LINTEL (PER STRUCTURAL).

B. CONNECT NEW 32ø HWS&R PIPING TO NEW UNIT VENTILATOR C/W NEW ISOLATION BALL VALVES, BALANCING VALVE, TCV, UNIONS, & STRAINER. CONNECT NEW RS/RL PIPING TO NEW UNIT VENTILATOR.

C. NEW HWS&R AND RL&RS PIPING DOWN FROM CEILING TO MILLWORK IN GWB CHASE. ROUTE TO UNIT VENTILATOR. SEE DETAILS.

D. MODIFY EXISTING RADIANT HEATER PIPING. ROUTE THRU INSULATED PIPE CHASE IN BACK OF NEW UNIT VENTILATOR. PROVIDE PIPE INSULATION IF CHASE IS UNINSULATED. SEE DETAILS.

E. 25ø UNIT VENTILATOR CONDENSATE DRAIN ROUTED THRU WALL TO EXTERIOR. SEE DETAILS.

F. CONNECT NEW HWS/R PIPING TO EXISTING.

G. NEW DDC THERMOSTAT AND CO2 SENSOR. CONTROL WIRING TO CEILING IN PVC WIRE MOULD.

H. PROVIDE NEW ISOLATION VALVES, STRAINER, TCV, BALANCE VALVE AND UNIONS AND RECONNECT TO EXISTING RADIANT HEATER. TCV TO BE 2–WAY OR 3–WAY AS INDICATED ON PLANS. PROVIDE NEW ACCESS DOOR IN RADIANT HEATER COVER IF NONE EXISTING, OR IN SMALL SEMINAR ROOMS.

J. RL&RS PIPING UP THRU ROOF IN DOGHOUSE TO CONDENSING UNIT. REFER TO DETAIL. NUMBER OF REFRIGERANT CIRCUITS AND SIZING AS PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

K. 450x450 INSULATED OPEN END EXHAUST DUCT UP THRU ROOF. CENTRE DUCT THRU JOIST BAY. TERMINATE WITH GOOSENECK C/W BIRDSCREEN. REFER TO DETAIL.

L. PROVIDE NEW ACCESS DOOR IN EXISTING CABINET OR NEW ARCHITECTURAL MILLWORK FOR ACCESS TO NEW AIR VENTS. NO ACCESS PANEL REQUIRED IF AIR VENTS ARE ACCESSIBLE THRU PANEL IN NEW UNIT VENTILATOR.

M. INSTALL HWS/R AND RS/RL PIPING IN CEILING SPACE. HANG FROM STRUCTURE.

N. NEW DIFFERENTIAL PRESSURE SENSOR FOR CONTROL OF P–4.

P. PROVIDE NEW ISOLATION AND BALANCE VALVES AT CEILING AND CONNECT TO EXISTING CABINET UNIT HEATER. HEAT CONTROL BY FAN OPERATION.

Q. INSULATED MOTORIZED DAMPER. INSTALL ACTUATOR INSIDE DUCT ACCESSIBLE FROM BELOW.

R. UNIT VENTILATOR OFFSET FROM WALL TO AVOID EXISTING CONCRETE WINDOW SHELF. PROVIDE MIN R–10 INSULATION BETWEEN UNIT VENTILATOR & EXISTING UN–INSULATED WALL. ADJUST FEET OF UNIT VENTILATOR SO THAT TOP OF VENTILATOR IS FLUSH WITH WINDOW SHELF.

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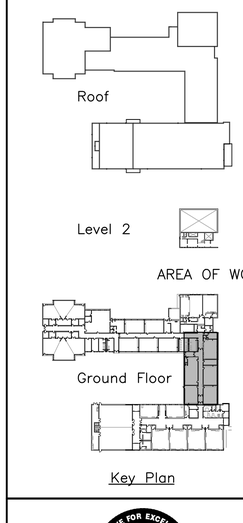


Seal: LICENSED PROFESSIONAL ENGINEER Mar 27/22 J.C. ANDERSON 100543206 PROVINCE OF ONTARIO

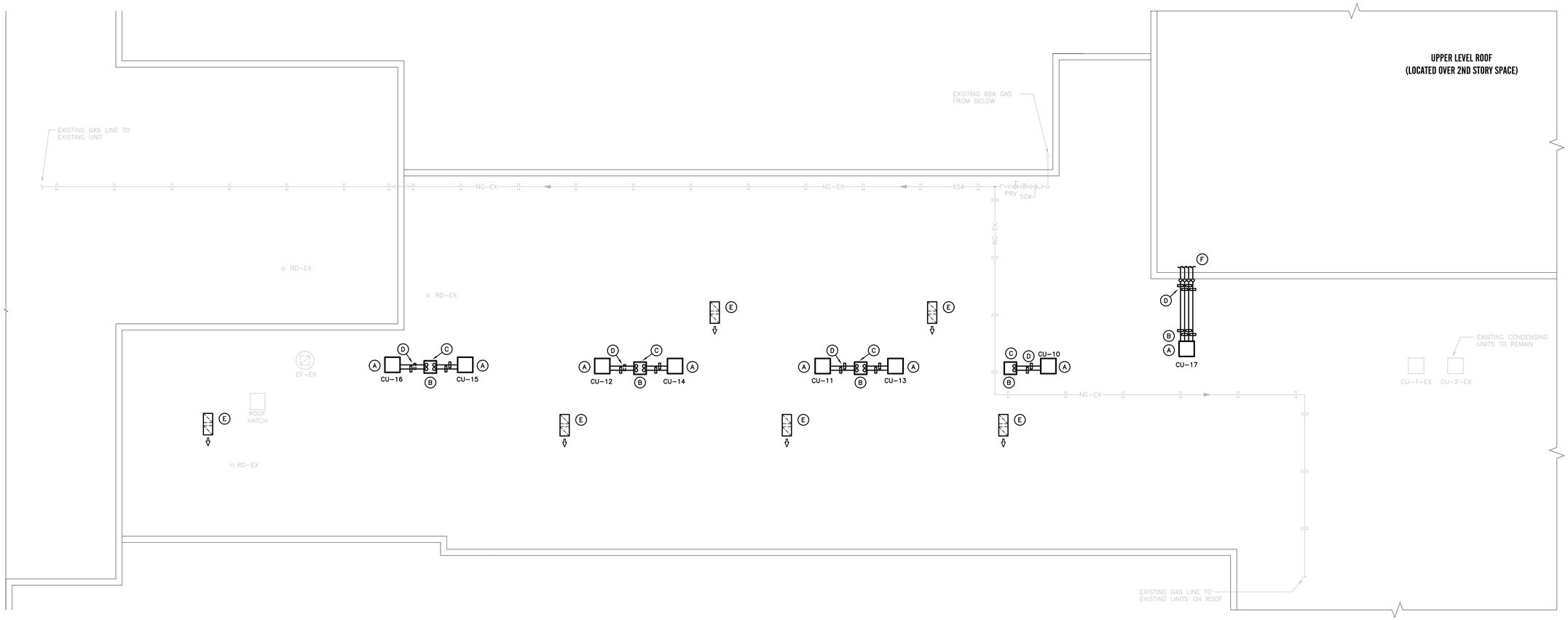
North Arrow: Project North / True North

Project
TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title
GROUND FLOOR
BLOCK B PART PLAN
HVAC RENOVATION

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022
Project No.	Drawing No.	
21047	M302	



ROOF BLOCK A PART PLAN
SCALE: 1:100

GENERAL DEMOLITION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
- NEW PIPEWORK TO BE RUN TIGHT TO UNDERSIDE OF STRUCTURE. PIPING TO BE RUN IN NEAT, STRAIGHT LINES PARALLEL OR PERPENDICULAR TO STRUCTURE.
- MILLWORK TO BE MODIFIED IN NEAT MANNER TO SATISFACTION OF CONSULTANTS & OWNER.
- SHEET METAL SHROUDS, RADIATOR END CAPS, OR INFILL BESIDE UNIT HEATERS SHALL BE PAINTED TO MATCH ROOM COLOURS.
- HOLES IN EXTERIOR WALL FOR NEW VENTILATOR OPENING SHALL NOT DAMAGE STRUCTURAL INTEGRITY OF EXTERIOR WALL.
- PROVIDE INSULATION BEHIND NEW UNIT VENTILATORS IN LOCATIONS WHERE EXISTING INSULATION IS NOT PRESENT.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'-0" IN EACH DIRECTION.
- CO-ORDINATE ROUGH-IN AND MOUNTING HEIGHTS OF FIXTURES WITH MILLWORK AND ARCHITECTURAL DETAILS.
- CO-ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

SPECIFIC RENOVATION NOTES

A. CONDENSING UNIT ON CONCRETE PAVER/INSULATION ON ROOF. ENSURE CONDENSING UNITS ARE INSTALLED MIN. 1000mm FROM ROOF VALLEY.

B. GENERAL CONTRACTOR TO PATCH, REPAIR MAKE ROOFING WEATHERPROOF AND ENSURE MATERIALS USED ARE COMPATIBLE WITH EXISTING.

C. RS/RL PIPING DN IN DOGHOUSE & RUN ALONG ROOF TO NEW CONDENSING UNIT. ENSURE DOGHOUSE IS INSTALLED MIN. 1000mm FROM ROOF VALLEY. NUMBER OF CIRCUITS AND SIZING AS PER MANUFACTURER'S RECOMMENDATIONS.

D. PROVIDE PIPE SUPPORT.

E. 450x450 EXHAUST GOOSENECK C/W BIRDSCREEN. REFER TO DETAIL. GOOSENECK TERMINATION TO POINT IN EAST-FACING DIRECTION.

F. RS/RL PIPING FROM PENTHOUSE FAN COIL & RUN ALONG ROOF TO NEW CONDENSING UNIT. NUMBER OF CIRCUITS AND SIZING AS PER MANUFACTURER'S RECOMMENDATIONS. SEE SECOND FLOOR PLAN FOR CONTINUATION.

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No	DATE YY.MM.DD	DESCRIPTION	BY
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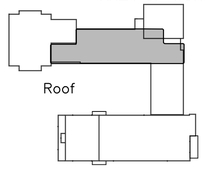
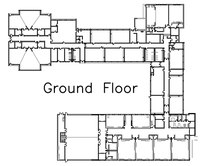
2	21.01.27	ISSUED FOR PERMIT AND TENDER	JA

AREA OF WORK





Key Plan

Seal

LICENSED PROFESSIONAL ENGINEER
Jan 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

North Arrow

Project North
True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198-RW-22

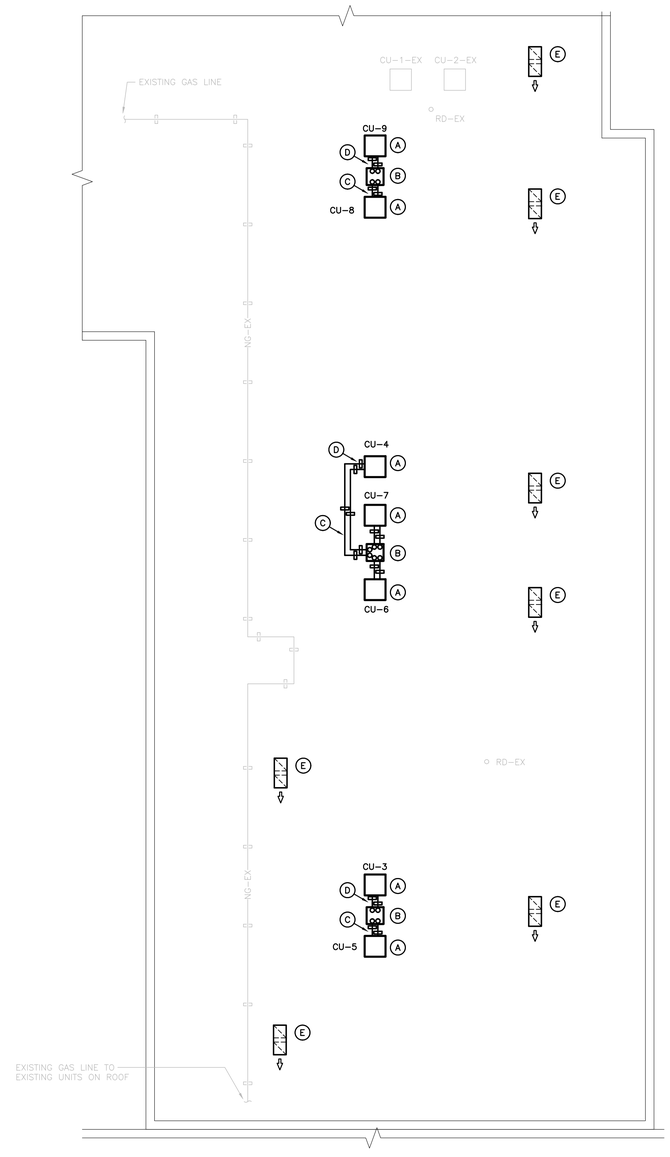
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

ROOF BLOCK A
PART PLAN HEATING &
VENTILATION RENOVATION

DEI
Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022
Project No.	Drawing No.	
21047	M401	



ROOF BLOCK B PART PLAN
SCALE: 1:100

GENERAL DEMOLITION NOTES

- ROOFTOP EQUIPMENT TO BE MINIMUM 3m (10ft) FROM EDGE OF ROOF.
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- CO-ORDINATE ANY OWSJ BRIDGING RELOCATION OR REMOVAL/REPLACEMENT WITH THE GENERAL CONTRACTOR. PAY ALL COSTS REQUIRED TO MODIFY BRIDGING FOR INSTALLATION OF DUCTWORK.

SPECIFIC RENOVATION NOTES

A. CONDENSING UNIT ON ELEVATED ZERO-PENETRATION STAND ON ROOF. ENSURE CONDENSING UNITS ARE INSTALLED MIN. 1000mm FROM ROOF VALLEY.

B. GENERAL CONTRACTOR TO PATCH, REPAIR MAKE ROOFING WEATHERPROOF AND ENSURE MATERIALS USED ARE COMPATIBLE WITH EXISTING.

C. RS/RL PIPING DN IN DOGHOUSE & RUN ALONG ROOF TO NEW CONDENSING UNIT. ENSURE DOGHOUSE IS INSTALLED MIN. 1000mm FROM ROOF VALLEY. NUMBER OF CIRCUITS AND SIZING AS PER MANUFACTURER'S RECOMMENDATIONS.

D. PROVIDE PIPE SUPPORT.

E. 450x450 EXHAUST GOOSENECK C/W BIRDSCREEN. REFER TO DETAIL. GOOSENECK TERMINATION TO POINT IN EAST-FACING DIRECTION.

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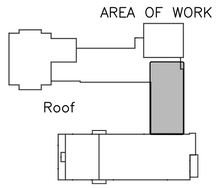
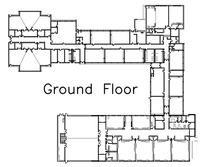




Key Plan

Seal

LICENSED PROFESSIONAL ENGINEER
Jan 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

North Arrow

Project North
True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198-RW-22

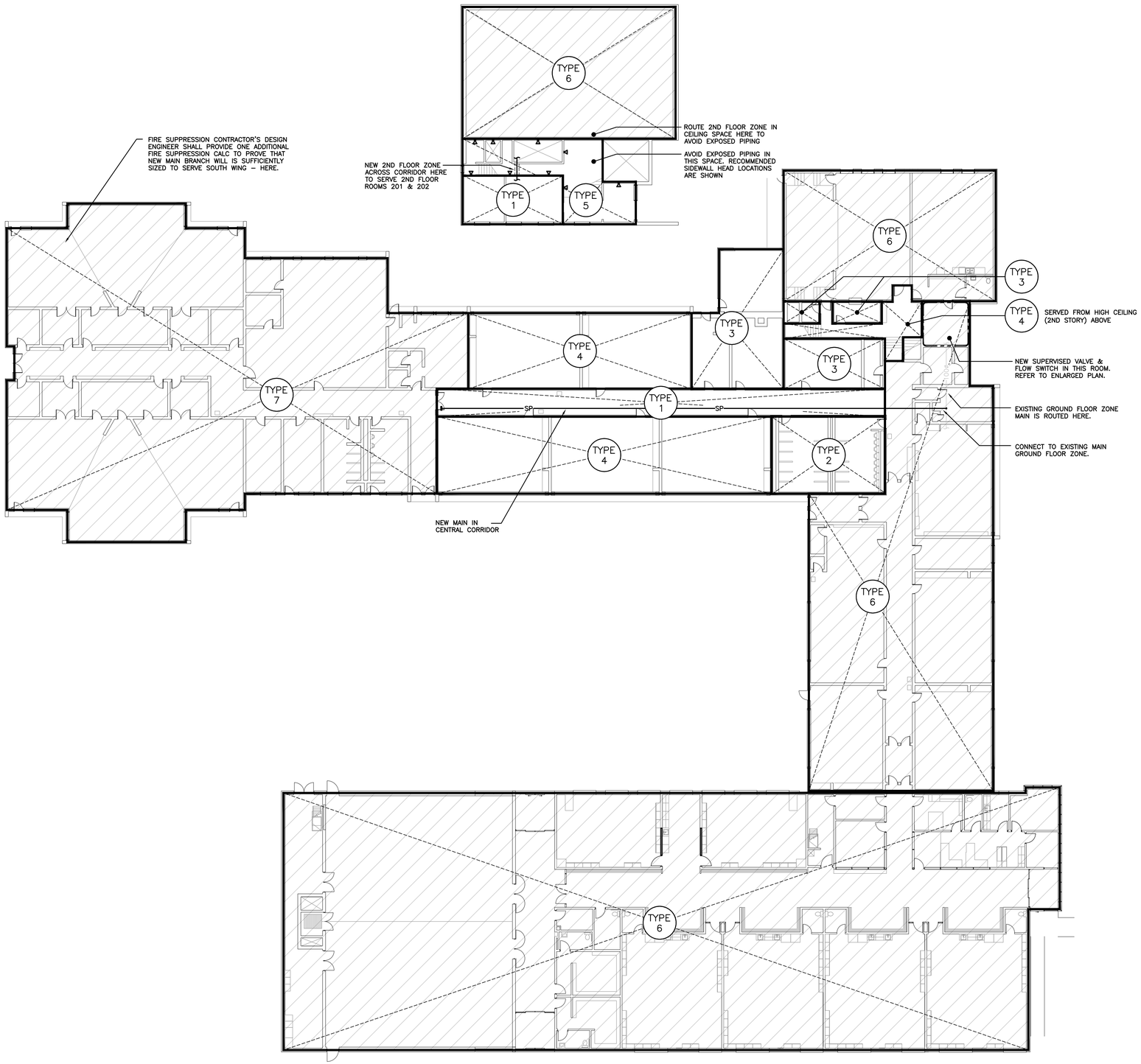
184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

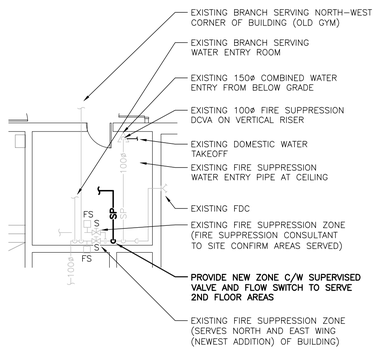
ROOF BLOCK A
PART PLAN HEATING &
VENTILATION RENOVATION

DEI
Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022
Project No.	Drawing No.	
21047	M402	



GROUND FLOOR BLOCK A PART PLAN – RENOVATION
SCALE: 1:200



WATER ENTRY ROOM ENLARGED PLAN
SCALE: 1:100

GENERAL SPRINKLER NOTES

A. SUBMIT PRELIMINARY DESIGN & HYDRAULIC CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER, AND MANUFACTURERS' PRODUCT SHEETS FOR SHOP DRAWING SUBMISSION AS SPECIFIED PRIOR TO COMMENCING WORK. MARKED UP TENDER DRAWINGS ARE UNACCEPTABLE FOR SHOP DRAWINGS.

B. ENSURE DESIGN MEETS OR EXCEEDS PRESENT NFPA 13 & 14 STANDARDS. ENSURE SPRINKLER & STANDPIPE SYSTEMS ARE INSTALLED TO NFPA 13 & 14 STANDARDS. UPON COMPLETION, SPRINKLER CONTRACTOR TO PROVIDE REPRODUCIBLE DRAWING (AT 1:100 SCALE) AND HYDRAULIC CALCULATIONS OF AS–BUILT CONDITION.

C. CONTRACTOR'S 'PROFESSIONAL ENGINEER' TO PROVIDE O.B.C. AND NFPA REQUIRED INSPECTION AND CERTIFICATION.

D. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.

E. PROVIDE SPRINKLER HEAD TYPES AS FOLLOWS:

A. PROVIDE UPRIGHT HEADS WITHIN 300mm OF EXPOSED DECK THROUGHOUT EXPOSED STRUCTURE AREAS. PROVIDE HEAD GUARDS IN MECH/ELEC RM, AREAS WHERE HEADS ARE BELOW 2.4m & STORAGE ROOMS.
B. PROVIDE CONCEALED HEADS IN ALL AREAS WITH A SUSPENDED CEILING.

F. FINAL NUMBER AND LOCATION OF SPRINKLER HEADS TO BE DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS AND APPROVED DRAWINGS.

G. SPRINKLER PIPING TO BE COORDINATED WITH OTHER SERVICES PRIOR TO INSTALLATION.

H. PROVIDE SPRINKLERS IN CONCEALED SPACES AS REQUIRED BY NFPA 13.

I. LIMITED COMBUSTIBLE STRUCTURE ABOVE T–BAR CEILINGS. SPRINKLERS NOT REQUIRED ABOVE T–BAR CEILINGS.

SPECIFIC SPRINKLER NOTES

1. EXISTING FIRE SUPPRESSION WATER ENTRY ROOM.
2. EXISTING 100ø FIRE SUPPRESSION MAIN SERVING NORTH AND EAST WINGS OF SCHOOL.

SPRINKLER SCHEDULE

Type	Sprinkler Head	Colour	Remarks
1	CONCEALED PENDENT	WHITE	T–BAR CEILING
2	CONCEALED PENDENT	WHITE	GWB CEILIGN
3	EXPOSED UPRIGHT WITH GUARD	CHROME	OPEN CEILING
4	RECESSED PENDENT	WHITE	T–BAR CEILING
5	SIDEWALL	CHROME	THRU WALL FROM ADJACENT CEILING SPACE
6	EXISTING SPRINKLERS. NO NEW SCOPE IN THIS AREA.		
7	NO EXISTING SPRINKLERS. NO CURRENT SCOPE TO ADD SPRINKLERS IN THIS AREA.		

ADDITIONAL CLAC

FIRE SUPPRESSION CONTRACTOR'S DESIGN ENGINEER SHALL PROVIDE ONE ADDITIONAL FIRE SUPPRESSION CALC TO PROVE THAT NEW MAIN BRANCH WILL IS SUFFICIENTLY SIZED TO SERVE SOUTH WING.

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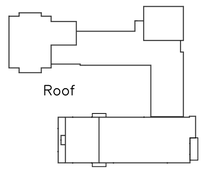

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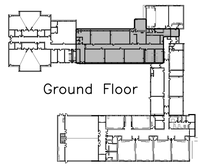


Key Plan

Seal

L. CERSED PROFESSIONAL ENGINEER
Mar 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

North Arrow

Project North
True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

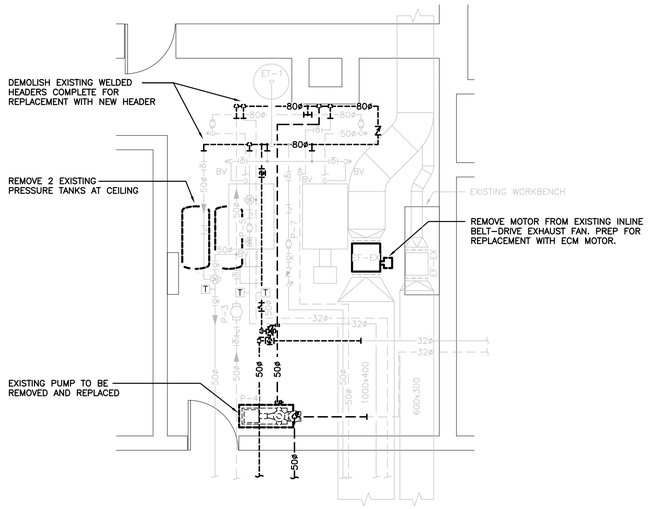
GROUND & 2ND FLOOR FIRE SUPPRESSION PLAN

DEI
Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

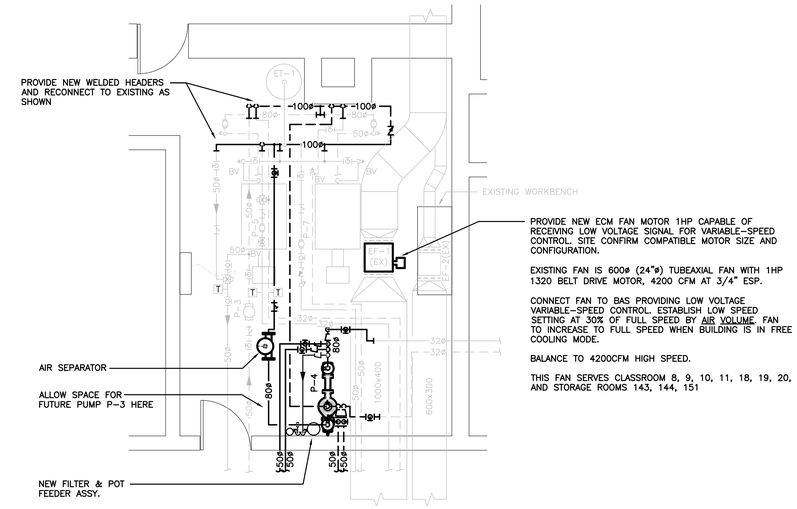
Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022

Project No. 21047

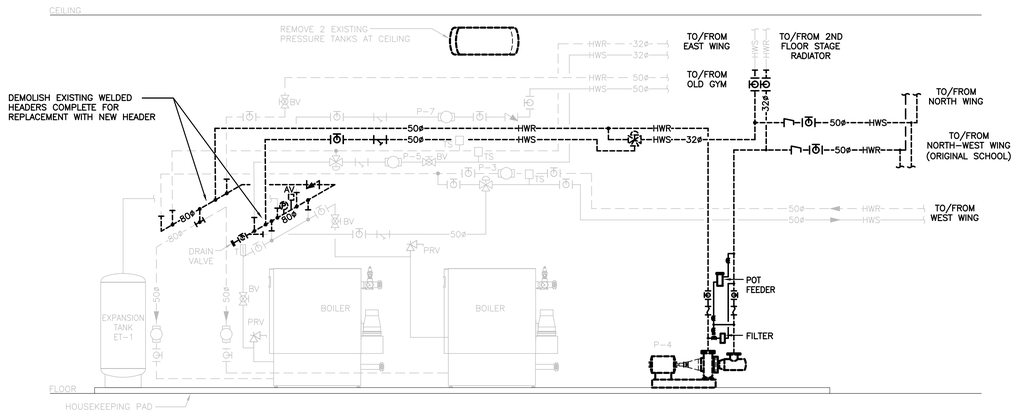
Drawing No. M501



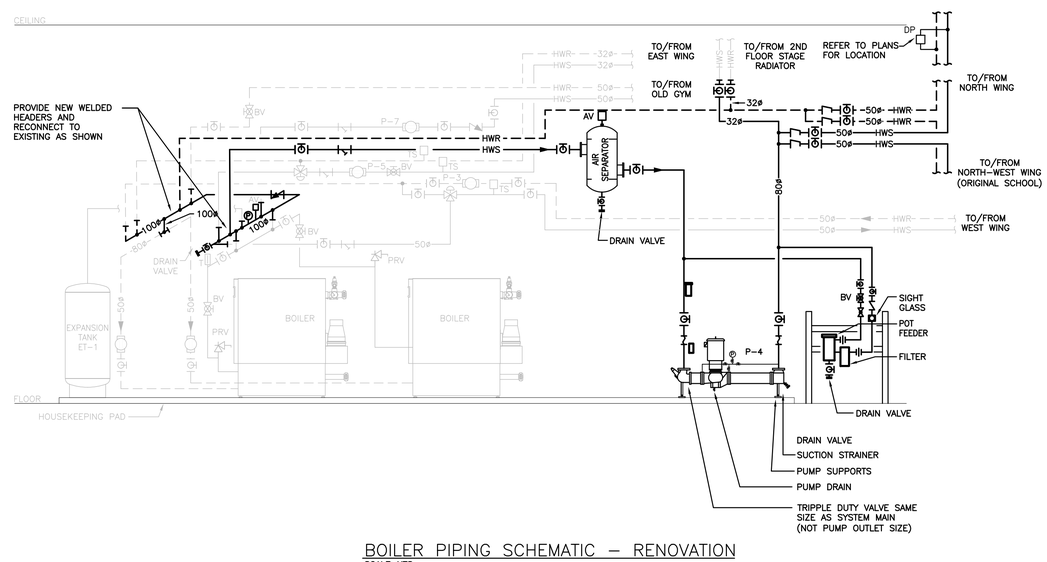
BOILER ROOM PART PLAN – DEMOLITION
SCALE: 1:50



BOILER ROOM PART PLAN – RENOVATION
SCALE: 1:50



BOILER PIPING SCHEMATIC – DEMOLITION
SCALE: NTS



BOILER PIPING SCHEMATIC – RENOVATION
SCALE: NTS

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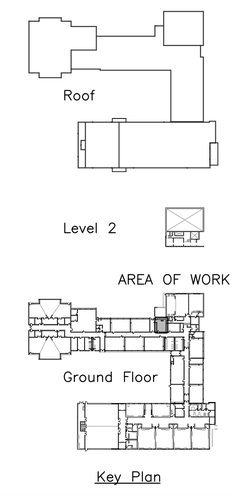

Seal

LICENSED PROFESSIONAL ENGINEER
Jan 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

North Arrow

Project North
True North

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

BOILER ROOM DEMOLITION & RENOVATION

DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
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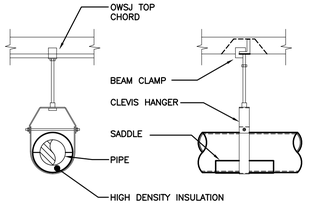
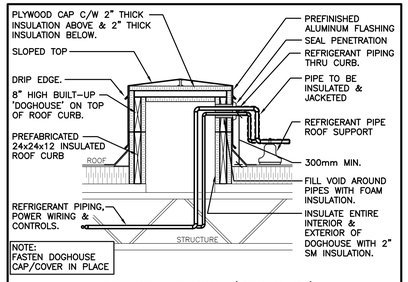
Project No. 21047

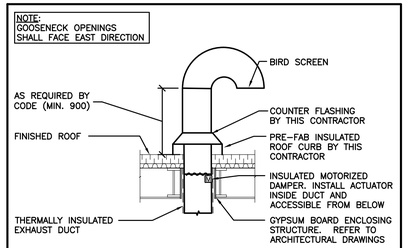
Drawing No. M601



PIPE HANGER



REFRIGERANT ROOF 'DOGHOUSE'



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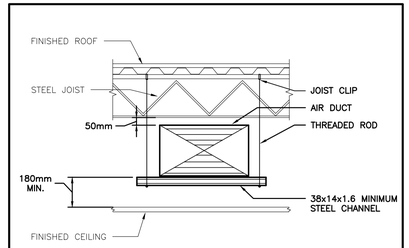

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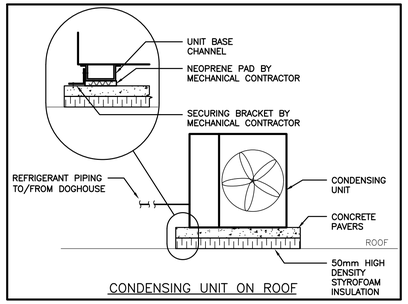

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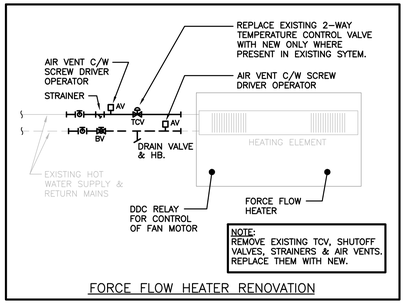

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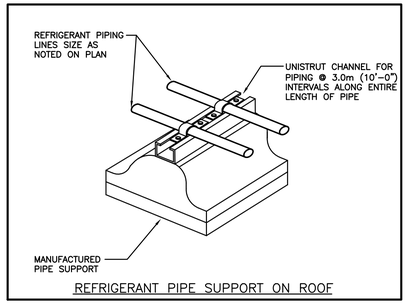
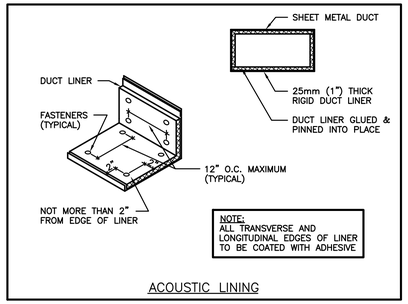
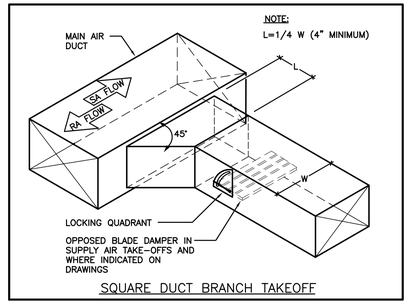


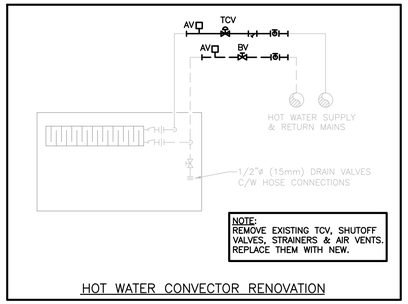
REFRIGERANT PIPE SUPPORT ON ROOF



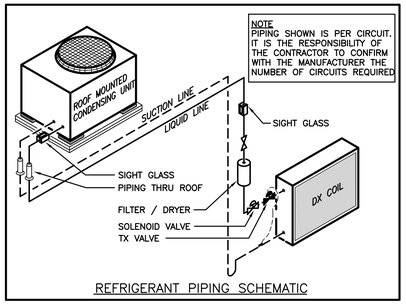
ACOUSTIC LINING



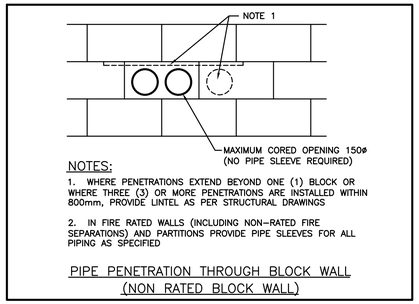
SQUARE DUCT BRANCH TAKEOFF



HOT WATER CONVECTOR RENOVATION



REFRIGERANT PIPING SCHEMATIC

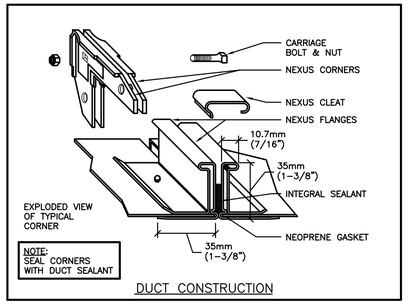


NOTES:

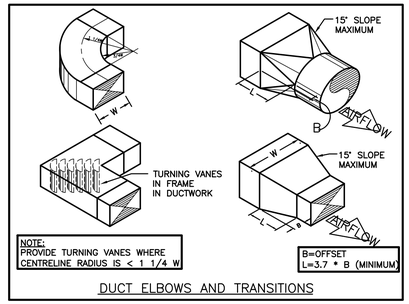
1. WHERE PENETRATIONS EXTEND BEYOND ONE (1) BLOCK OR WHERE THREE (3) OR MORE PENETRATIONS ARE INSTALLED WITHIN 800mm, PROVIDE LINTEL AS PER STRUCTURAL DRAWINGS

2. IN FIRE RATED WALLS (INCLUDING NON-RATED FIRE SEPARATIONS) AND PARTITIONS PROVIDE PIPE SLEEVES FOR ALL PIPING AS SPECIFIED

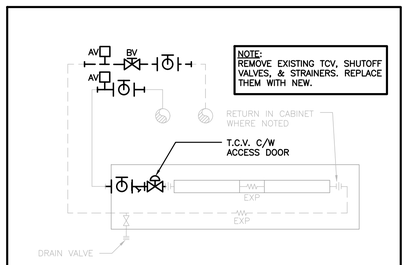
PIPE PENETRATION THROUGH BLOCK WALL (NON RATED BLOCK WALL)



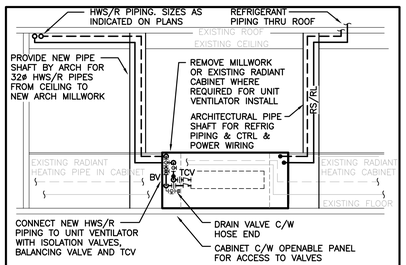
DUCT CONSTRUCTION



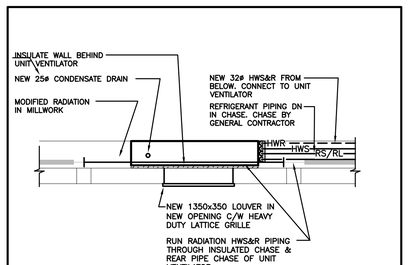
DUCT ELBOWS AND TRANSITIONS



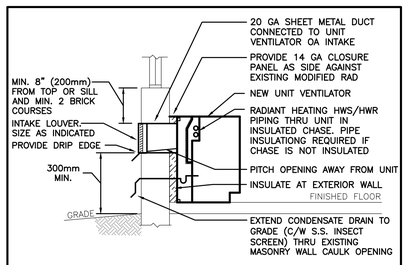
WALL FIN RADIATION RENOVATION



PIPE ROUTING TO NEW UNIT VENTILATOR

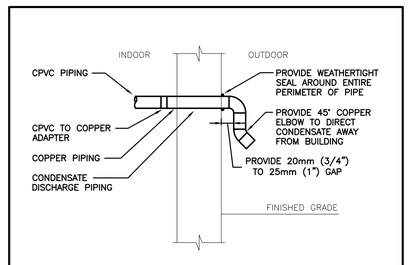


HORIZONTAL UNIT VENTILATOR – PLAN

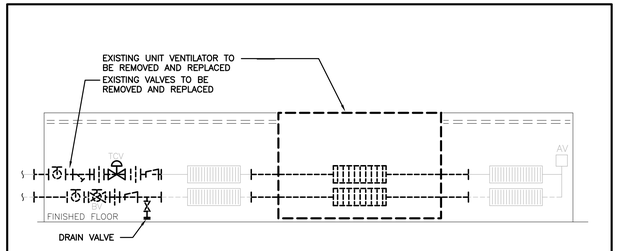


TYPICAL CLASSROOM UV ELEVATION

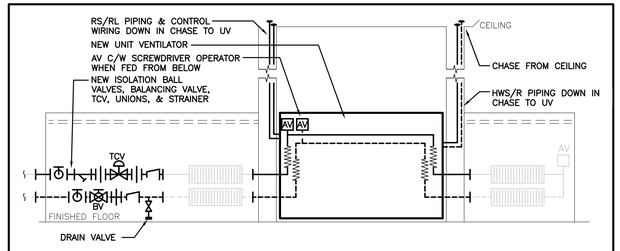
SCALE: NTS



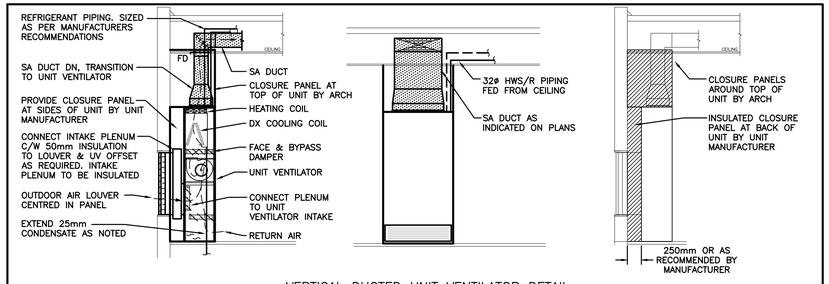
CONDENSATE DISCHARGE



WALL FIN RADIATION PIPING FOR NEW UNIT VENTILATOR INSTALL – DEMOLITION



WALL FIN RADIATION PIPING FOR NEW UNIT VENTILATOR INSTALL – RENOVATION



VERTICAL DUCTED UNIT VENTILATOR DETAIL

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work.
The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.
The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.
Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant.
Do not scale this drawing.
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ISSUANCES

No	DATE YY.MM.DD	DESCRIPTION	BY
1	21.12.21	ISSUED FOR 99% TENDER REVIEW	JA
2	21.01.27	ISSUED FOR PERMIT AND TENDER	JA

Seal

LICENSED PROFESSIONAL ENGINEER
Mar 27/22
J.C. ANDERSON
100543206
PROVINCE OF ONTARIO

Project

TAIT STREET PS
HVAC RENOVATIONS
Tender # 7198–RW–22

184 TAIT STREET, CAMBRIDGE, ON N1S 3G3

Sheet Title

MECHANICAL DETAILS & SECTIONS

DEI
Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC
55 Northland Road, Waterloo, ON N2V 1Y8
Phone: 519-725-3555
Website: deiassociates.ca

Drawn by	Checked by	Approved by
HAD	JA	JA
Scale	Project Date	Print Date
AS NOTED	JAN 2022	JAN 2022

Project No. 21047

Drawing No. M701