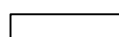
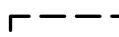
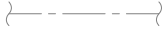
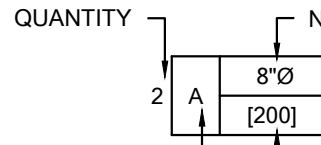
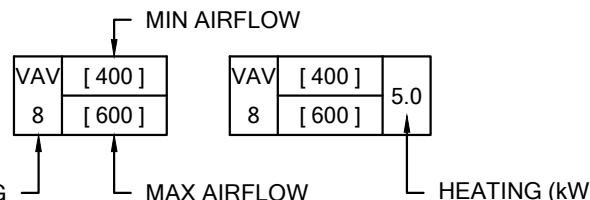
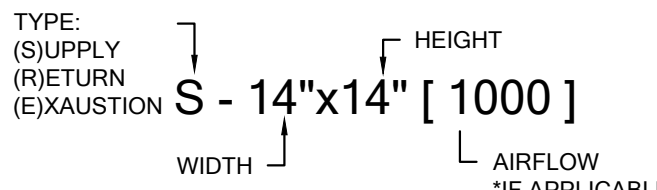


MECHANICAL DRAWING LIST	
DRAWING NO.	DRAWING NAME
M1.0	DRAWING LIST, SYMBOL LISTS, NOTES - MECHANICAL
M2.0	PARTIAL GROUND FLOOR DEMOLITION PLAN - HVAC
M2.1	PARTIAL GROUND FLOOR DEMOLITION PLAN - HVAC
M2.2	PARTIAL GROUND FLOOR DEMOLITION PLAN - HVAC
M2.3	PARTIAL GROUND FLOOR DEMOLITION PLAN - HVAC
M2.4	PARTIAL SECOND FLOOR DEMOLITION PLAN - HVAC
M2.5	PARTIAL SECOND FLOOR DEMOLITION PLAN - HVAC
M2.6	PARTIAL SECOND FLOOR DEMOLITION PLAN - HVAC
M2.7	PARTIAL SECOND FLOOR DEMOLITION PLAN - HVAC
M2.8	PARTIAL ROOF FLOOR DEMOLITION PLAN - HVAC
M3.0	PARTIAL GROUND FLOOR NEW WORK PLAN - HVAC
M3.1	PARTIAL GROUND FLOOR NEW WORK PLAN - HVAC
M3.2	PARTIAL GROUND FLOOR NEW WORK PLAN - HVAC
M3.3	PARTIAL GROUND FLOOR NEW WORK PLAN - HVAC
M3.4	PARTIAL SECOND FLOOR NEW WORK PLAN - HVAC
M3.5	PARTIAL SECOND FLOOR NEW WORK PLAN - HVAC
M3.6	PARTIAL SECOND FLOOR NEW WORK PLAN - HVAC
M3.7	PARTIAL SECOND FLOOR NEW WORK PLAN - HVAC
M3.8	PARTIAL ROOF NEW WORK PLAN - HVAC
M3.9	PARTIAL ROOF NEW WORK PLAN - HVAC
M3.10	PARTIAL ROOF NEW WORK PLAN - HVAC
M3.11	PARTIAL ROOF NEW WORK PLAN - HVAC
M3.12	PARTIAL ROOF NEW WORK PLAN - HVAC
M4.0	CONTROLS DIAGRAMS 1 - MECHANICAL
M4.1	CONTROLS DIAGRAMS 2 - MECHANICAL
M4.2	CONTROLS DIAGRAMS 3 - MECHANICAL
M4.3	CONTROLS DIAGRAMS 4 - MECHANICAL
M4.4	CONTROLS DIAGRAMS 5 - MECHANICAL
M5.0	EQUIPMENT SCHEDULES 1 - MECHANICAL
M5.1	EQUIPMENT SCHEDULES 2 - MECHANICAL
M5.2	EQUIPMENT SCHEDULES 3 - MECHANICAL
M6.0	DETAILS 1 - MECHANICAL
M6.1	DETAILS 2 - MECHANICAL
M6.2	DETAILS 3 - MECHANICAL

- ## GENERAL NOTES
1. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID TO VERIFY EXISTING CONDITIONS AND TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS INDICATED ON THE DRAWINGS. CONTRACTOR TO INFORM ALL AGENCIES AND AGENCIES TO FACILITATE INSTALLATION. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
 2. ENSURE THAT ALL NEW AND EXISTING EQUIPMENT REQUIRING MAINTENANCE IS ACCESSIBLE AND THAT ACCESS REQUIREMENTS ARE NOT OBSTRUCTED BY NEW OR EXISTING SERVICES. PROVIDE ACCESS DOORPANELS TO MATCH BASE BUILDING STANDARDS WHERE REQUIRED.
 3. PROVIDE ALL REQUIRED SCANNING, CORING/CUTTING AND PATCHING TO PERFORM THE SCOPE OF WORK AS OUTLINED IN THE DRAWINGS.
 4. CONTRACTOR IS TO BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL PIPING, DUCTWORK AND EQUIPMENT, AS SHOWN ON THE DEMOLITION PLAN. CUT, CAP, AND ISOLATE HEATING WATER AND DUCT CONNECTIONS FOR NEW WORK AS INDICATED.
 5. NOT ALL EXISTING PIPING AND OBSTRUCTIONS ARE SHOWN ON THE DRAWINGS. WHERE INTERFERENCES EXIST, CONTRACTOR SHALL REROUTE THE NEW WORK TO SUIT.
 6. INSULATE ALL NEW PIPING, DUCTWORK AND ANY EXISTING PIPING AND DUCTWORK WHERE INSULATION HAS BEEN REMOVED OR DAMAGED BY THIS WORK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENT.
 7. WHERE CONNECTION TO EXISTING SERVICES AND CONTRACTOR TO MATCH ALL EXISTING PIPEDEVICES AND PROVIDE TRANSITIONS WHERE NECESSARY, UNLESS OTHERWISE NOTED.
 8. NOT ALL EQUIPMENT CONNECTIONS ARE SHOWN. REFER TO EQUIPMENT MANUFACTURERS LITERATURE FOR ALL PIPING AND DUCTWORK CONNECTIONS.
 9. NEW DIGITAL/ELECTRONIC CONTROLS TO BE COMPATIBLE WITH EXISTING BAS ON SITE.
 10. CONTRACTOR TO FLUSH AND CLEAN ALL NEW WORK THOROUGHLY TO WHERE THE SYSTEMS CAN BE ISOLATED FOR THIS WORK AS PER THE SPECIFICATIONS AND PRIOR TO THE EXISTING WORK/EQUIPMENT.
 11. RENAME ALL EQUIPMENT TO SUIT NEW CONSTRUCTION AS INDICATED ON DOCUMENTS. THIS WORK SHALL INCLUDE PROVIDING OR REPLACING LAMACODS AT ALL EQUIPMENT AND ASSOCIATED CONTROL POINTS ON THE BAS.
 12. ALL HEATING PIPING TO AND INCLUDING 50MMØ (2") SHALL BE SCREWED. PIPING 65MMØ (2.5") AND OVER SHALL BE WELDED. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.
 13. CONTRACTOR TO REVIEW GROUNDING AND PIPING SUPPORTS FOR EXISTING GAS PIPING. PROVIDE NEW AS REQUIRED TO MEET CURRENT CODE REQUIREMENT.
 14. APPLY FOR, OBTAIN, AND PAY FOR ALL PERMITS, FEES AND SERVICE CONNECTIONS FOR THE WORK AND THE INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION IN THE AREA WHERE THE WORK WILL TAKE PLACE, INCLUDING TSSA AND ESA.
 15. CARRY BALANCING ACTION TO BALANCE THE AIR AND HYDRONIC SYSTEMS IN NEW WORK SCOPE. CONTRACTOR TO COORDINATE ALL WORK WITH THEM.
 16. SUPPLY AND INSTALLATION OF ELECTRICAL CONDUITS FOR MECHANICAL EQUIPMENT SHALL BE BY ELECTRICAL DIVISION AND CONSISTENT WITH ELECTRICAL SPECIFICATIONS.
 17. COORDINATE ALL TEMPORARY SHUT DOWNS WITH THE SCHOOL BOARD. PROVIDE ISOLATION VALVES AS REQUIRED.
 18. SURVEY ALL AFFILIATED WORK AREAS AND REPORT ANOMALIES AND DISCREPANCIES TO CONSULTANT.
 19. ALL DOMESTIC WATER PIPING, HEATING PIPING AND FITTINGS SHALL BE INSULATED. IN ADDITION, ALL EXPOSED PIPING AND FITTINGS SHALL BE PROVIDED WITH PVC INSULATING COATS.

DEMOLITION LEGEND	
SYMBOL	DESCRIPTION
E	EXISTING TO REMAIN
D	DEMOLISH, REMOVE AND DISPOSE OF EQUIPMENT, DUCTWORK, SERVICES, ETC.
R	RELOCATE ITEM
	EXISTING TO REMAIN
	DEMOLISH OR RELOCATE
	NEW

SYMBOL	DESCRIPTION
	FAN
	GRILLE (SUPPLY / RETURN / EXHAUST)
	FILTER BANK WITH DIFFERENTIAL PRESSURE SENSOR
	HEATING COIL (HOT WATER, GLYCOL, NAT. GAS) COOLING COIL (CHILLED WATER, GLYCOL, DX)
	MOTORIZED DAMPER
	CONTROL VALVE (2-WAY & 3-WAY)
	SENSORS (AIR OR WATER) (TEMPERATURE / HUMIDITY / CARBON DIOXIDE)
	FLOW SWITCH (AIR OR WATER)
	CONTROL WIRING
(AI)	ANALOG INPUT
(AO)	ANALOG OUTPUT
(DI)	DIGITAL INPUT
(DO)	DIGITAL OUTPUT

TAGS	
SYMBOL	DESCRIPTION
	EQUIPMENT TAG
	AIRFLOW DIRECTION
CTE	CONNECT TO EXISTING
(###)	FLOW IN L/S
DIFFUSER TAG	
	
VAV BOX TAG	
	
DUCTWORK	
	

SYMBOL	DESCRIPTION
	SUPPLY AIR DUCT UP & DOWN
	RETURN / EXHAUST AIR DUCT UP & DOWN
	ROUND DUCT UP & DOWN
	SQUARE ELBOW WITH TURNING VANES
	DUCTWORK FLEXIBLE CONNECTION
	1" THICK ACOUSTICALLY LINED DUCTWORK
	EXTERNALLY INSULATED DUCTWORK (REFER TO SPECIFICATIONS FOR THICKNESS)
	DUCT CONTINUATION (ROUND & RECTANGULAR)
	SUPPLY AIR DIFFUSER CW FLEX DUCT & SPIN ON CONNECTION WITH BALANCING DAMPER
	SUPPLY / RETURN GRILLE
	RETURN / EXHAUST GRILLE
	THERMOSTAT
	TEMPERATURE SENSOR
	CARBON DIOXIDE (CO ₂) SENSOR
	SWITCH
	OCCUPANCY SENSOR
	CONTROL WIRING
	VAV BOX

MECHANICAL PIPING	
SYMBOL	DESCRIPTION
	PIPE DOWN
	PIPE UP
	PIPE UP & DOWN
	VALVE
	BALANCING VALVE
	CHECK VALVE
	STRAINER
	LOCK-SHIELD VALVE
	PRESSURE REDUCING VALVE
	ELECTRONIC CONTROL VALVE (2-WAY & 3-WAY)
	PIPE CONTINUATION
	CONDENSATE DRAINAGE PIPING
	NATURAL GAS PIPING
	FLOW DIRECTION
	REFRIGERANT LIQUID AND GAS PIPING
	PUMP
	CAPPED PIPE
	PRESSURE GAUGE
	THERMOMETER
	PRESSURE RELIEF VALVE

PLUMBING AND DRAINAGE	
SYMBOL	DESCRIPTION
	P-TRAP
	CLEAN OUT (FLOOR & CEILING)
	ROUND FLOOR DRAIN
	SQUARE FLOOR DRAIN
	HUB DRAIN
	PIPE WYE CONNECTION
	PIPE 45° CONNECTION
	PIPE ELBOW
	PIPE TEE
	DOMESTIC COLD WATER (DCW) PIPING
	DOMESTIC HOT WATER (DHW) PIPING
	SANITARY DRAINAGE (SAN) PIPING
	VENT PIPING
	DOMESTIC HOT WATER RECIRC. (DHWR) PIPING

Halton District School Board

2050 Guelph Line
Burlington, Ontario

**NELSON HIGH SCHOOL
RENOVATIONS**

4181 NEW STREET
Burlington, Ontario

Mechanical

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architect
sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
Tel: 416-968-8444
www.snyderarchitects.ca

Consultants

Mechanical and Electrical Consultants
RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: --

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan:

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:
DRAWING LIST, SYMBOL
LIST, NOTES
MECHANICAL

Scale:	N.T.S.	Date:	10/05/2024
Drawn by:	SL	Checked by:	VK
Job No.	Drawing No.		

M1.0

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

True North

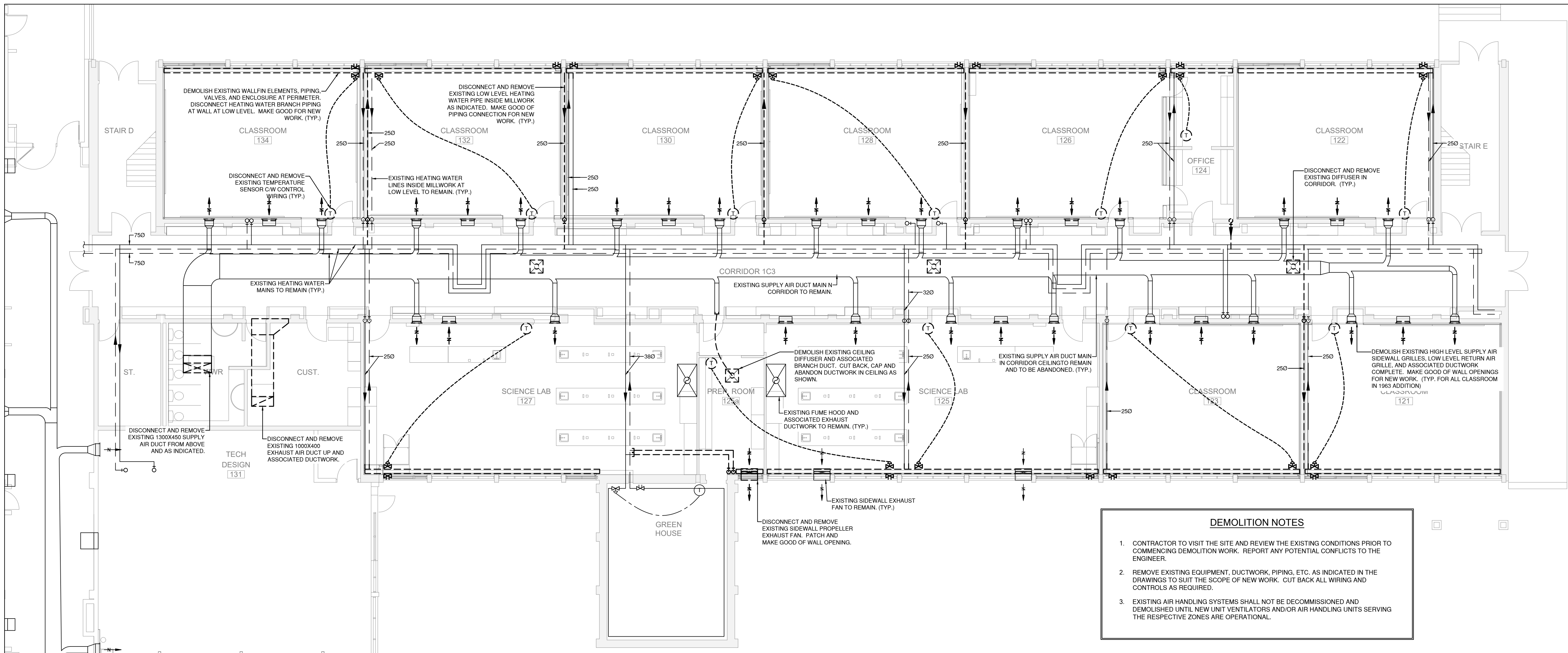
[illegible]

Drawing Title:
PARTIAL GROUND
FLOOR DEMOLITION
PLAN - HVAC

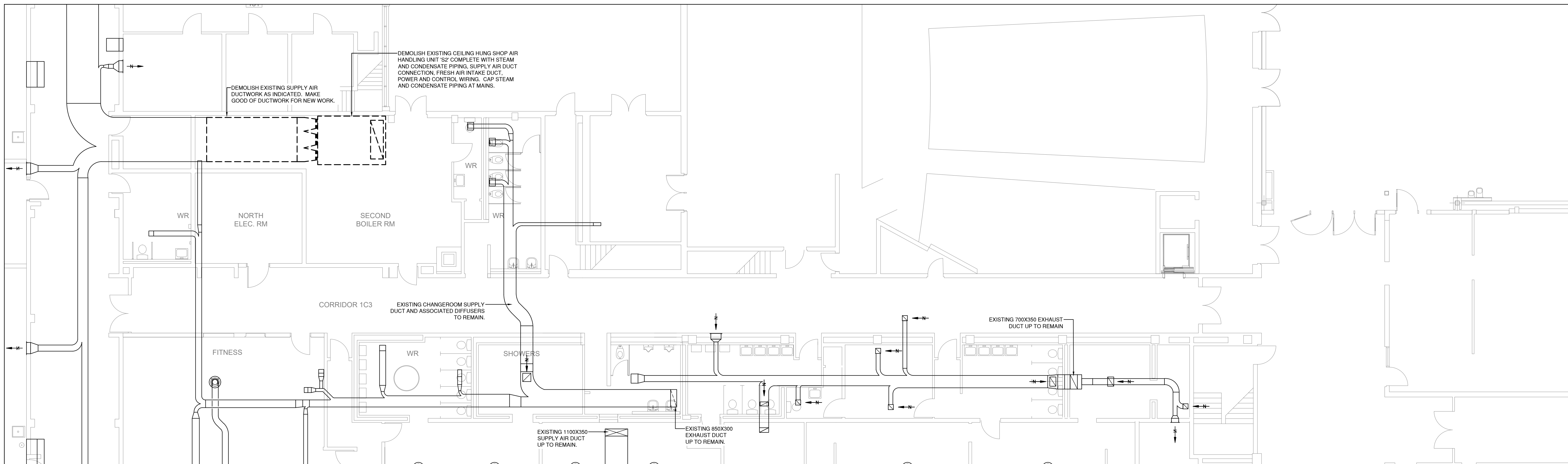
Drawn by:	SL	Checked by:	VK
-----------	----	-------------	----

Job No.	Drawing No.
---------	-------------

M2.0



1 PARTIAL GROUND FLOOR PLAN Scale: 1:100



2 PARTIAL GROUND FLOOR PLAN Scale: 1:100

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Mechanical and Electrical Consultants

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

A detailed floor plan of the University of Michigan Law School building. The plan shows various rooms, corridors, and a central courtyard. A rectangular area in the upper right portion of the plan is highlighted with a thick black border, indicating the location of the law library. The highlighted area contains several smaller rooms and a larger central space, likely the library's main reading area.

True North

[illegible]

Drawing Title:

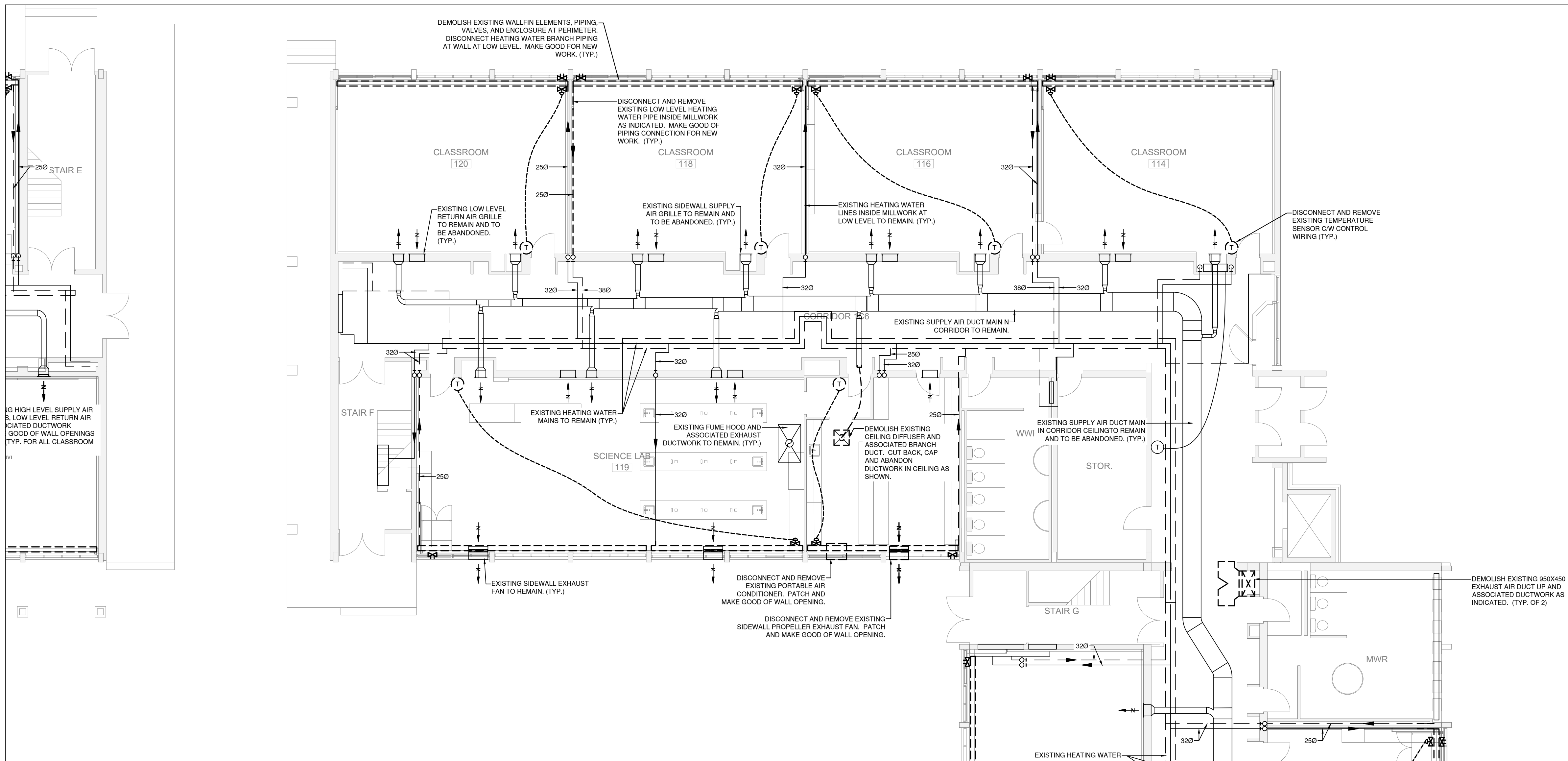
Scale:	1:100	Date:	10/05/2024
--------	-------	-------	------------

Job No.	Drawing No.
---------	-------------

2222	MO 1
------	------

2323

M2.1



Scale: 1:100

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.



M2.2

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

The floor plan shows a large, complex building layout. A rectangular area in the lower right portion of the plan is highlighted with a thick black border, indicating the location of the study area in the basement of the main building.

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Scale: 1:100 Date: 10/05/2024

Drawn by:	SL	Checked by:	VR

2323 | M2 3

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.



2 PARTIAL SECOND FLOOR PLAN
M2.4 Scale: 1:100

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

A pie chart divided into four equal quadrants. The top-left quadrant is shaded gray, representing 1/4 of the whole.

True North

[illegible]

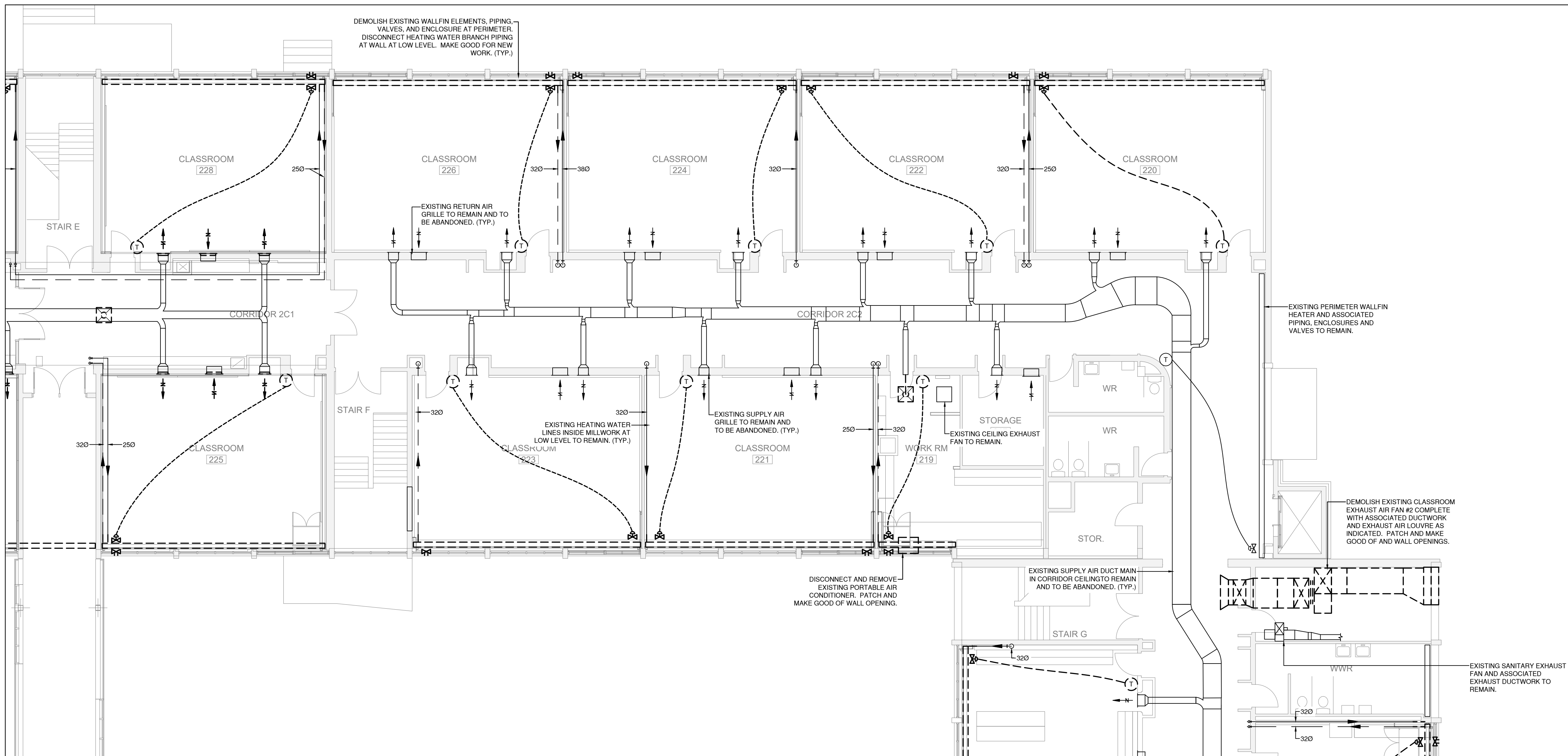
Drawing Title:

Scale:	1:100	Date:	10/05/2024
--------	-------	-------	------------

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323	М2 Б
------	------



Scale: 1:100

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.

MAG 5

MAG 5

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.



M2.6

1. CONTRACTOR TO VISIT THE SITE AND REVIEW THE EXISTING CONDITIONS PRIOR TO COMMENCING DEMOLITION WORK. REPORT ANY POTENTIAL CONFLICTS TO THE ENGINEER.
2. REMOVE EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. AS INDICATED IN THE DRAWINGS TO SUIT THE SCOPE OF NEW WORK. CUT BACK ALL WIRING AND CONTROLS AS REQUIRED.
3. EXISTING AIR HANDLING SYSTEMS SHALL NOT BE DECOMMISSIONED AND DEMOLISHED UNTIL NEW UNIT VENTILATORS AND/OR AIR HANDLING UNITS SERVING THE RESPECTIVE ZONES ARE OPERATIONAL.



M2.7



- 2 PARTIAL ROOF FLOOR PLAN
M2.8 Scale: 1:100

M2.8

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

2323	M20
------	-----



①	PROVIDE ISOLATION VALVE C/W DRAIN PORT TO FACILITATE PHASE OF NEW WORK.
②	PROVIDE ISOLATION VALVE ON BRANCH PIPE TO FACILITATE PHASING OF NEW WORK.
③	VERTICAL UNIT VENTILATOR ACTIVE MECHANICAL LOUVER AREA: UV-1 1025MM x 950MM UV-2 1125MM x 1150MM UV-3 927MM x 420MM UV-4 1025MM x 950MM UV-7 597MM x 660MM UV-8 927MM x 420MM PROVIDE BLANK OFF PANEL FOR INACTIVE LOUVER AREA.

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

Mechanical and Electrical Consultants

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

The floor plan shows the layout of the University of Michigan Medical Center. A rectangular box highlights a specific area in the basement of the main building, which is the location of the study area.

A circle with a shaded sector. The label 'N' is placed near the top-left of the circle.

True North

[illegible]

Drawing Title

Scale:	1:100	Date:	10/05/2024
--------	-------	-------	------------

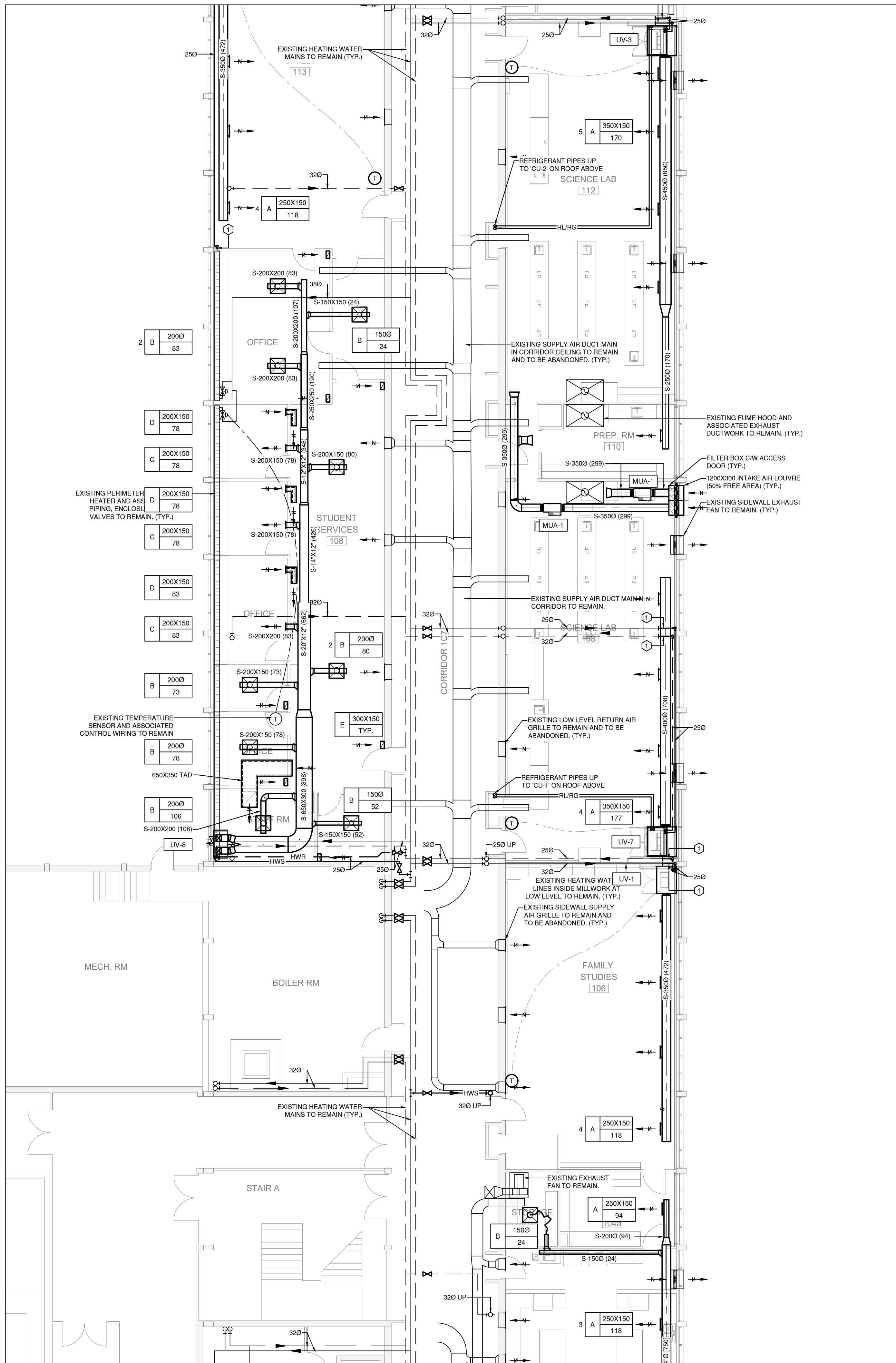
Drawn by: SL | Checked by: VK

Job No

Drawing No.

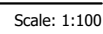
2323

M3.2



1 PARTIAL GROUND FLOOR PLAN
M3.2 Scale: 1:100

M3.4



- 2
M3.4

NELSON HIGH SCHOOL RENOVATIONS

4181 NEW STREET
Burlington, Ontario

Mechanical



RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architect

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
t e l . 4 1 6 . 9 6 6 . 5 4 4 4
w w w . s n y d e r a r c h i t e c t s . c a

Consultants

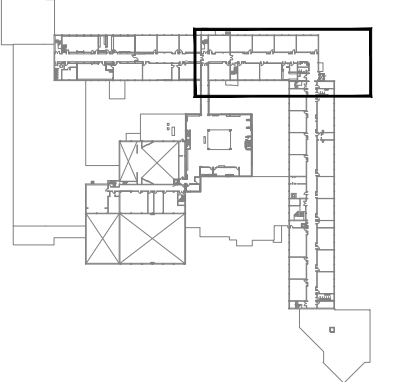
Mechanical and Electrical Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

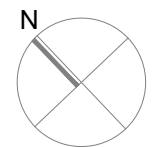
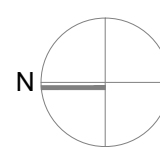
Structural Consultants

Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan: ☐



Key Plan N.T.S.



Project North

True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

PARTIAL SECOND FLOOR NEW WORK PLAN - HVAC

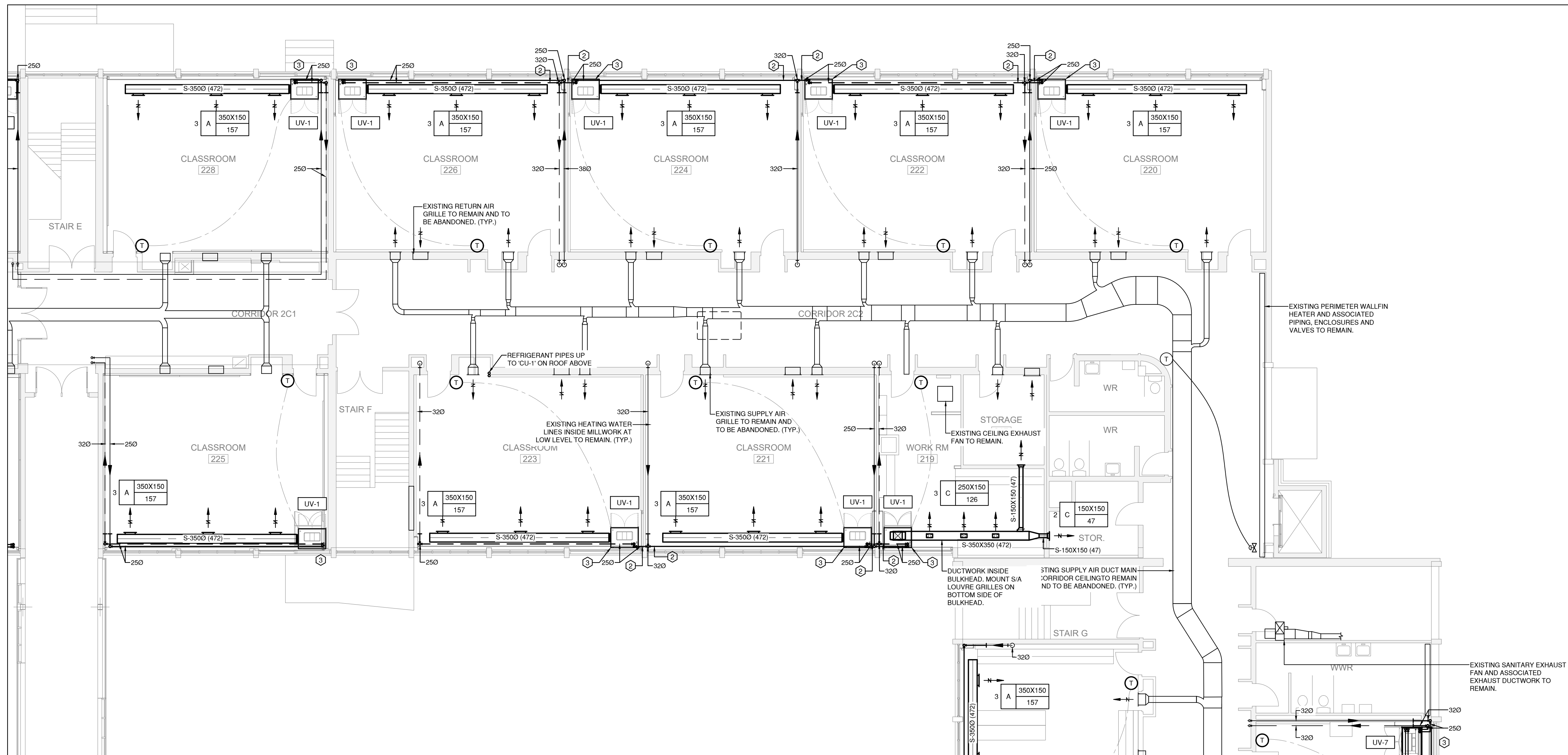
Scale: 1:100 Date: 10/05/2024

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323

M3.5



1 PARTIAL SECOND FLOOR PLAN
M3.5 Scale: 1:100

NEW WORK GENERAL NOTES

1. CORRIDORS IN 1956 AND 1958 ADDITIONS TO REMAIN AS IS.
2. PROVIDE INSULATION FOR HORIZONTAL UNIT VENTILATORS' FRESH AIR DUCT FOR AT LEAST 3000MM (10') FROM THE EXTERIOR WALL.
3. ALL UNIT VENTILATOR SUPPLY AIR PLENUM, DUCT SLEEVE, AND SUPPLY AIR DUCTWORK TO BE PAINTED WHITE BY PAINTING CONTRACTOR/GE. MECHANICAL CONTRACTOR TO PROVIDE THE ABOVE TO PAINTING CONTRACTOR TO PRIME AND 1ST PAINT COAT PRIOR TO INSTALLATION. COMPLETE INSTALLATION ONCE PAINTING IS COMPLETED.
4. MECHANICAL CONTRACTOR RESPONSIBLE FOR REFRIGERANT LINE SIZING AND EQUIVALENT LENGTH TO MEET THE PERFORMANCE OF EQUIPMENT AND TSSA REQUIREMENT. INCLUDE ALL ACCESSORIES REQUIRED TO MEET THE MANUFACTURER'S RECOMMENDATION AND SPECIFIED PERFORMANCE.
5. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL MECHANICAL WIRING FROM INDOOR UNITS TO ASSOCIATED CONDENSING UNIT. ALL WIRING SHALL BE INSTALLED IN EMT CONDUIT. REFER TO CONDENSING UNIT SHOP DRAWINGS FOR WIRING FIELD DIAGRAM.
6. TERMINATE 20MM CONDENSATE DRAIN C/W P-TRAP OF VERTICAL UNIT VENTILATOR THROUGH UNIT'S FRESH AIR LOUVER. (TYP.)
7. CONDENSATE DRAIN TO BE METALLIC UNTIL TERMINATION. PLASTIC TUBING WILL NOT BE ACCEPTED.
8. UNIT C/W SUPPLY AIR PLENUM ABOVE VERTICAL UNIT VENTILATOR. PROVIDE FLEXIBLE DUCT CONNECTIONS. CONTRACTOR TO COORDINATE EXACT HEIGHT OF PLENUM TO SUIT EXISTING SITE CONDITIONS.
9. PROVIDE METAL SLEEVE CONNECTING UNIT VENTILATOR AND ITS ASSOCIATED INTAKE AIR LOUVER. CONTRACTOR TO COORDINATE SIZE OF SLEEVE TO SUIT EXISTING SITE CONDITIONS.
10. PROVIDE LOUVER BLANK-OF PANELS AS REQUIRED FOR SECTIONS OF INTAKE AIR LOUVER NOT USED BY THE UNIT VENTILATORS.
11. PROVIDE BASE CURB UNDER UNIT VENTILATORS TO ALIGN THE INTAKE AIR OPENING OF THE UNIT WITH LOUVER OPENING. CONTRACTOR TO COORDINATE HEIGHT OF CURB TO SUIT EXISTING SITE CONDITIONS.

KEYED NOTES

- ① PROVIDE ISOLATION VALVE C/W DRAIN PORT TO FACILITATE PHASE OF NEW WORK.
- ② PROVIDE ISOLATION VALVE ON BRANCH PIPE TO FACILITATE PHASING OF NEW WORK.
- ③
VERTICAL UNIT VENTILATOR ACTIVE MECHANICAL LOUVER AREA:
UV-1 1025MM x 950MM
UV-2 1125MM x 1150MM
UV-3 927MM x 420MM
UV-4 1025MM x 950MM
UV-7 597MM x 650MM
UV-8 927MM x 420MM

PROVIDE BLANK OFF PANEL FOR INACTIVE LOUVER AREA.

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architect

sn/der

Snyder Architects Inc.
100 Broadway Ave, Suite 301, Toronto, ON M4M 3H3
tel. 4 1 6 . 9 6 6 . 5 4 4
www.snyderarchitects.ca

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

[illegible]

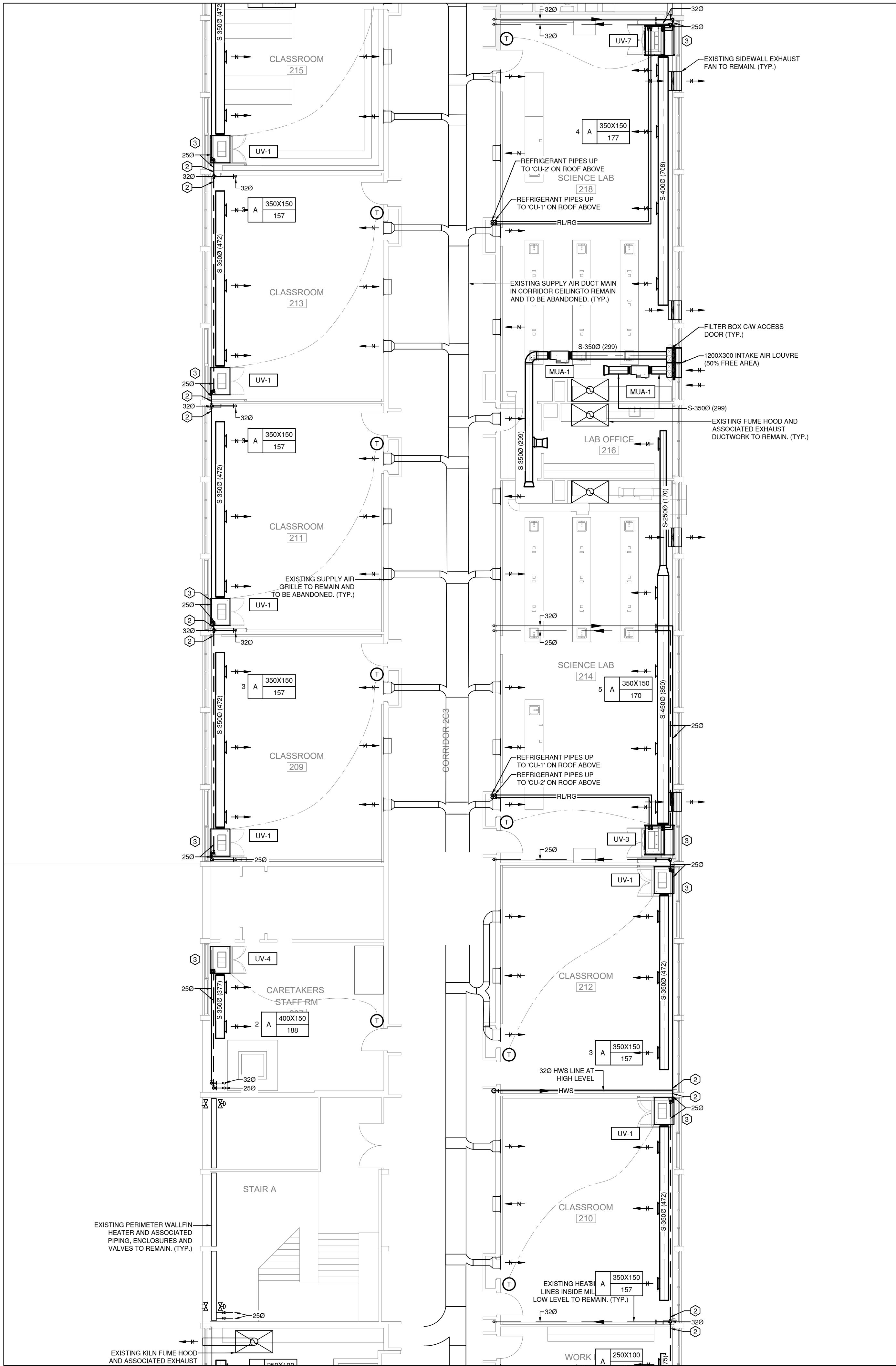
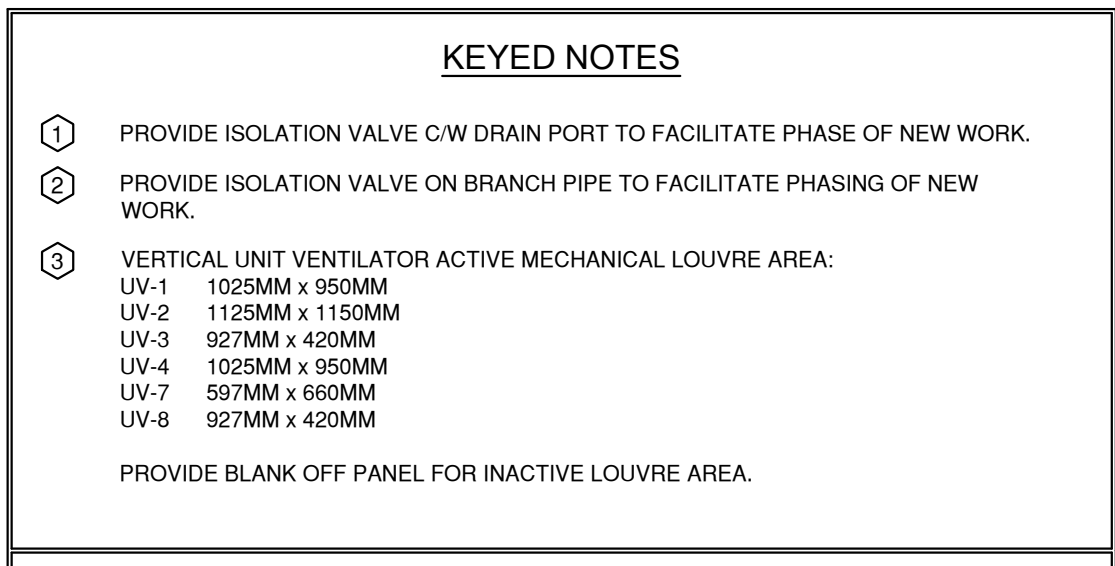
General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:
PARTIAL SECOND
FLOOR NEW WORK
PLAN - HVAC

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

M3.6



1 PARTIAL SECOND FLOOR PLAN
M3.6 Scale: 1:10

1. CORRIDORS IN 1956 AND 1958 ADDITIONS TO REMAIN AS IS.
2. PROVIDE INSULATION FOR HORIZONTAL UNIT VENTILATORS' FRESH AIR DUCT FOR AT LEAST 3000MM (10') FROM THE EXTERIOR WALL.
3. ALL UNIT VENTILATOR SUPPLY AIR PLENUM, DUCT SLEEVE, AND SUPPLY AIR DUCTWORK TO BE PAINTED WHITE BY PAINTING CONTRACTOR/AG. MECHANICAL CONTRACTOR TO PROVIDE THE ABOVE TO PAINTING CONTRACTOR TO PRIME AND 1ST PAINT COAT PRIOR TO INSTALLATION. COMPLETE INSTALLATION ONCE PAINTING IS COMPLETED.
4. MECHANICAL CONTRACTOR RESPONSIBLE FOR REFRIGERANT LINE SIZING AND EQUIVALENT LENGTH TO MEET THE PERFORMANCE OF EQUIPMENT AND TSSA REQUIREMENT. INCLUDE ALL ACCESSORIES REQUIRED TO MEET THE MANUFACTURER'S RECOMMENDATION AND SPECIFIED PERFORMANCE.
5. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL MECHANICAL WIRING FROM INDOOR UNITS TO ASSOCIATED CONDENSING UNIT. ALL WIRING SHALL BE PROTECTED IN EMT CONDUIT. REFER TO CONDENSING UNIT SHOP DRAWINGS FOR FIELD WIRING DIAGRAM.
6. TERMINATE 20MM CONDENSATE DRAIN C/W P-TRAP OF VERTICAL UNIT VENTILATOR THROUGH UNIT'S FRESH AIR LOUVER. (TYP.)
7. CONDENSATE DRAIN TO BE METALLIC UNTIL TERMINATION. PLASTIC TUBING WILL NOT BE ACCEPTED.
8. UNIT C/W SUPPLY AIR PLENUM ABOVE VERTICAL UNIT VENTILATOR. PROVIDE ALL EXIBLE DUCT CONNECTIONS. CONTRACTOR TO COORDINATE EXACT HEIGHT OF PLENUM TO SUIT EXISTING SITE CONDITIONS.
9. PROVIDE METAL SLEEVE CONNECTING UNIT VENTILATOR AND ITS ASSOCIATED INTAKE AIR LOUVER. CONTRACTOR TO COORDINATE SIZE OF SLEEVE TO SUIT EXISTING SITE CONDITIONS.
10. PROVIDE LOUVER BLANK-OFF PANELS AS REQUIRED FOR SECTIONS OF INTAKE AIR LOUVER NOT USED BY THE UNIT VENTILATORS.
11. PROVIDE BASE CURB UNDER UNIT VENTILATORS TO ALIGN THE INTAKE AIR OPENING OF THE UNIT WITH LOUVER OPENING. CONTRACTOR TO COORDINATE HEIGHT OF CURB TO SUIT EXISTING SITE CONDITIONS.

① PROVIDE ISOLATION VALVE C/W DRAIN PORT TO FACILITATE PHASE OF NEW WORK.

② PROVIDE ISOLATION VALVE ON BRANCH PIPE TO FACILITATE PHASING OF NEW WORK.

③ VERTICAL UNIT VENTILATOR ACTIVE MECHANICAL LOUVRE AREA:

UV-1 1025MM x 950MM

UV-2 1125MM x 1150MM

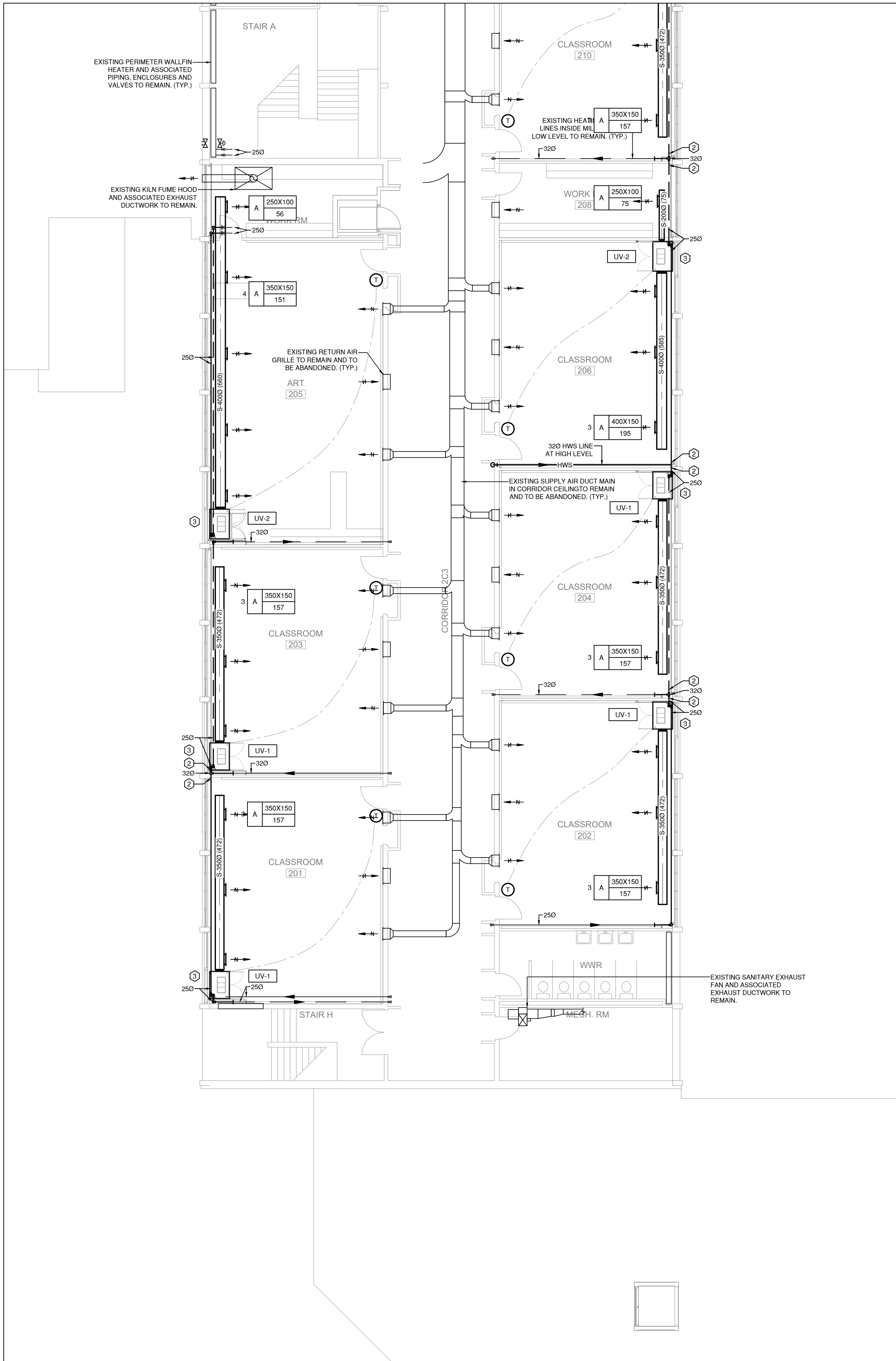
UV-3 927MM x 420MM

UV-4 1025MM x 950MM

UV-7 597MM x 660MM

UV-8 927MM x 420MM

PROVIDE BLANK OFF PANEL FOR INACTIVE LOUVRE AREA.



M3.7

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

Mechanical and Electrical Consultants

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

The diagram shows a complex arrangement of rooms and corridors. A black rectangular box highlights a specific area in the upper left portion of the plan, which appears to be a large open space or a specific room. The rest of the diagram shows various other rooms, some with internal partitions, and a network of connecting lines representing corridors or walls.

True North

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

PARTIAL ROOF NEW WORK PLAN - HVAC

2323	M3.8
------	------



1. ANY ROOF RELATED WORK IS TO BE EXECUTED BY HDSB APPROVED VENDORS AND COMPATIBLE ROOFING MATERIAL ARE TO BE USED. CONTRACTOR IS RESPONSIBLE TO NOTIFY AND COORDINATE WORK ON ROOF WITH ALL PARTIES PRIOR TO CONSTRUCTION.
2. PATCH, SEAL, AND MAKE GOOD OF ALL ROOF OPENINGS. ALL ROOFING WORK TO BE PROVIDED BY HDSB'S PRE-QUALIFIED ROOFING CONTRACTORS.
3. PAINT FULL CIRCUMFERENCE OF GAS PIPE YELLOW AS PER CSA B149.1. LABEL GAS PIPING COMPLETE WITH GAS PRESSURE ON WEATHERPROOF LABELS AS PER CSA B149.1.

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
tel . 416.966.5444
www.snyderarchitects.ca

Mechanical and Electrical Consultants

RDZ Engineering Ltd

30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5

Structural Consultants

Kalos Engineering Inc.

300 York Boulevard,

Tel: 905-333-9119

Project North

True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

PARTIAL ROOF NEW WORK PLAN - HVAC

Scale:	1:100	Date:	10/05/2024
--------	-------	-------	------------

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323	M20
------	-----

2323

M3.9

1. ANY ROOF RELATED WORK IS TO BE EXECUTED BY HDSB APPROVED VENDORS AND COMPATIBLE ROOFING MATERIAL ARE TO BE USED. CONTRACTOR IS RESPONSIBLE TO NOTIFY AND COORDINATE WORK ON ROOF WITH ALL PARTIES PRIOR TO CONSTRUCTION.
2. PATCH, SEAL, AND MAKE GOOD OF ALL ROOF OPENINGS. ALL ROOFING WORK TO BE PROVIDED BY HDSB'S PRE-QUALIFIED ROOFING CONTRACTORS.
3. PAINT FULL CIRCUMFERENCE OF GAS PIPE YELLOW AS PER CSA B149.1. LABEL GAS PIPING COMPLETE WITH GAS PRESSURE ON WEATHERPROOF LABELS AS PER CSA B149.1.



Job No.	Drawing No.
---------	-------------

M3.10

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

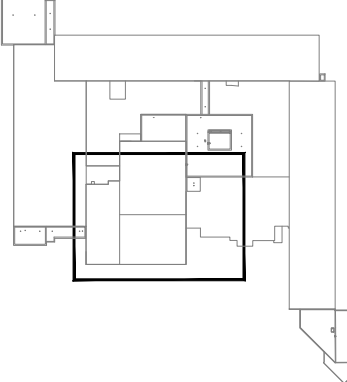
RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Plan: ☐



True North

[illegible]

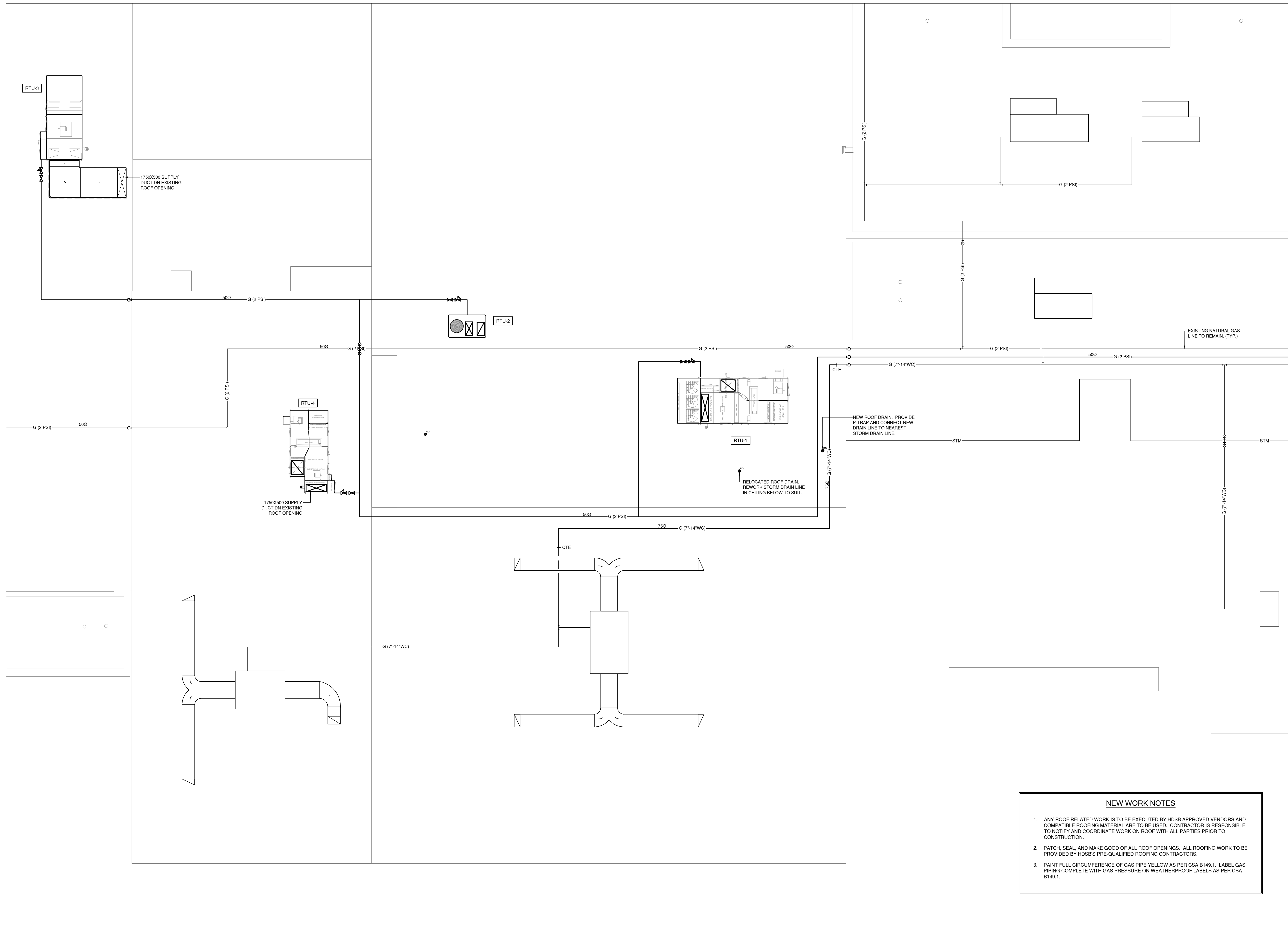
Drawing Title:

PARTIAL ROOF NEW WORK PLAN - HVAC

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

M3.11

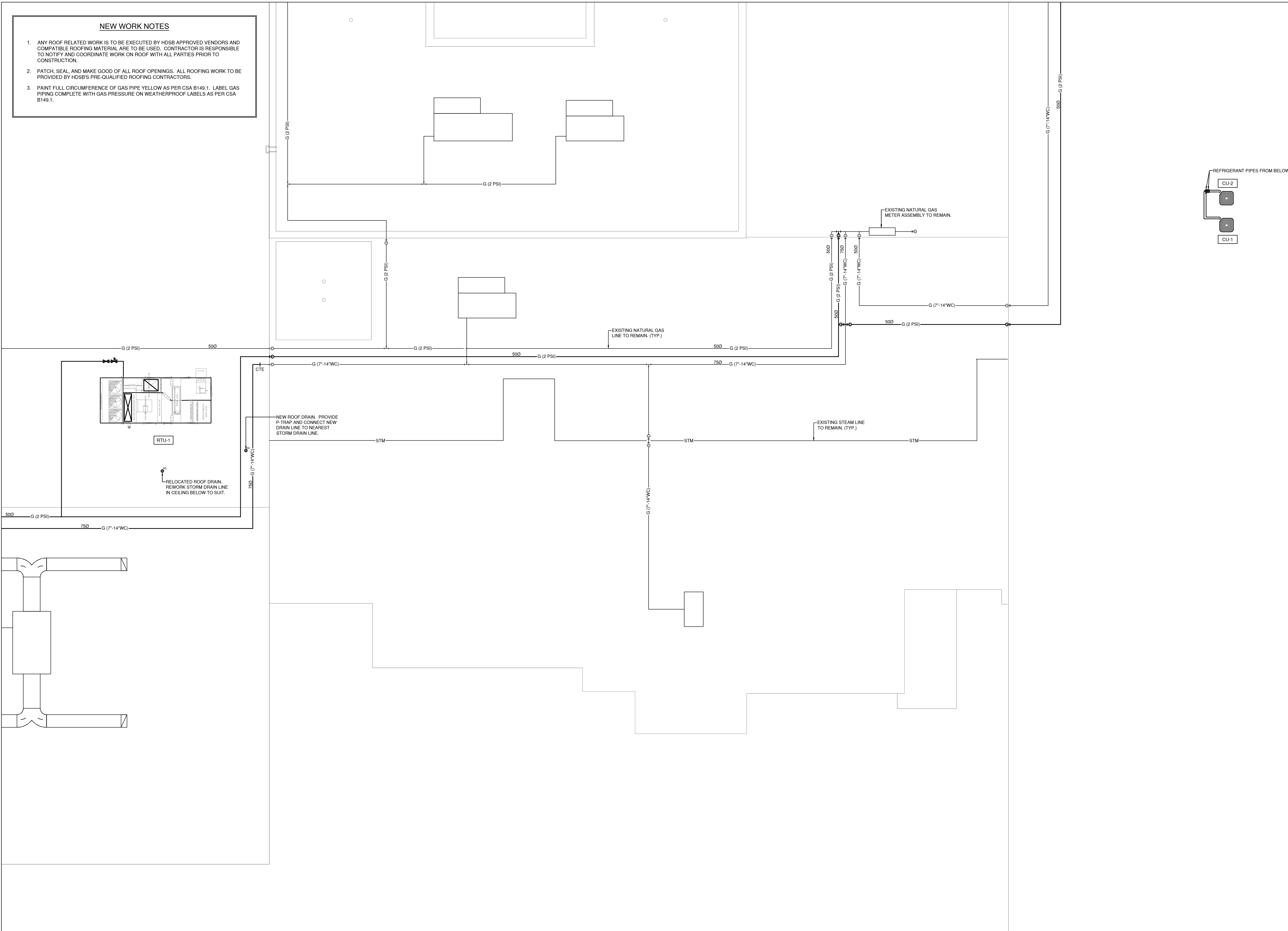


1. ANY ROOF RELATED WORK IS TO BE EXECUTED BY HDSB APPROVED VENDORS AND COMPATIBLE ROOFING MATERIAL ARE TO BE USED. CONTRACTOR IS RESPONSIBLE TO NOTIFY AND COORDINATE WORK ON ROOF WITH ALL PARTIES PRIOR TO CONSTRUCTION.
2. PATCH, SEAL, AND MAKE GOOD OF ALL ROOF OPENINGS. ALL ROOFING WORK TO BE PROVIDED BY HDSB'S PRE-QUALIFIED ROOFING CONTRACTORS.
3. PAINT PULP CIRCUMFERENCE OF GAS PIPE YELLOW AS PER CSA B149.1. LABEL GAS PIPING COMPLETE WITH GAS PRESSURE ON WEATHERPROOF LABELS AS PER CSA B149.1.

NEW WORK NOTES

1. ANY ROOF RELATED WORK IS TO BE EXECUTED BY HDSB APPROVED VENDORS AND COMPATIBLE ROOFING MATERIAL ARE TO BE USED. CONTRACTOR IS RESPONSIBLE TO NOTIFY AND COORDINATE WORK ON ROOF WITH ALL PARTIES PRIOR TO CONSTRUCTION.
2. PATCH, SEAL, AND MAKE GOOD OF ALL ROOF OPENINGS. ALL ROOFING WORK TO BE PROVIDED BY HDSB'S PRE-QUALIFIED ROOFING CONTRACTORS.
3. PAINT FULL CIRCUMFERENCE OF GAS PIPE YELLOW AS PER CSA B149.1. LABEL GAS PIPING COMPLETE WITH GAS PRESSURE ON WEATHERPROOF LABELS AS PER CSA B149.1.

1. ANY ROOF RELATED WORK IS TO BE EXECUTED BY HDSB APPROVED VENDORS AND COMPATIBLE ROOFING MATERIAL ARE TO BE USED. CONTRACTOR IS RESPONSIBLE TO NOTIFY AND COORDINATE WORK ON ROOF WITH ALL PARTIES PRIOR TO CONSTRUCTION.
2. PATCH, SEAL, AND MAKE GOOD OF ALL ROOF OPENINGS. ALL ROOFING WORK TO BE PROVIDED BY HDSB'S PRE-QUALIFIED ROOFING CONTRACTORS.
3. PAINT FULL CIRCUMFERENCE OF GAS PIPE YELLOW AS PER CSA B149.1. LABEL GAS PIPING COMPLETE WITH GAS PRESSURE ON WEATHERPROOF LABELS AS PER CSA B149.1.



2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

Mechanica



RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architec

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
tel. 416.966.5444
www.snyderarchitects.ca

Consultants

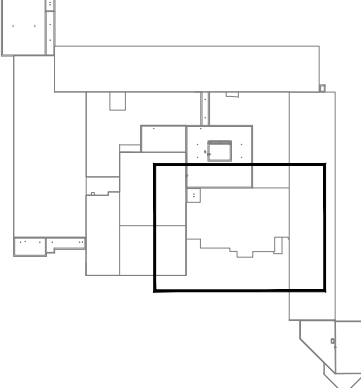
Mechanical and Electrical Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

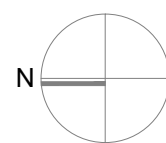
Structural Consultants

Kalos Engineering Inc
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

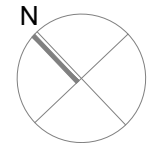
Key Plan:



Key Plan N.T.S.



Project North



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

PARTIAL ROOF
NEW WORK
PLAN - HVAC

Scale:	1:100	Date:	10/05/2024
Drawn by:	SL	Checked by:	VK
Job No.	Drawing No.		

2323

M3.12

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architect
sn/der
Snyder Architects Inc.
100 Broadway Ave, Suite 301, Toronto, ON M4M 3H3
tel . 4 1 6 . 9 6 6 . 5 4 4 4
www.snyderarchitects.ca

Structural Consultants
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

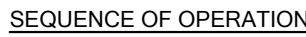
Key Plan N.T.S



General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

CONTROLS DIAGRAMS 1 MECHANICAL

2323	M4.0
------	------



- ## NOTES

- ### ROOFTOP AIR HANDLING UNIT 'RTU-1' (AUDITORIUM)

CONTROL DIAGRAM

M4.1

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

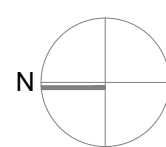
sn/der

Consultants

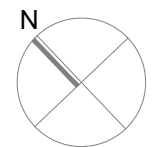
RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Structural Consultants
Kalos Engineering Inc
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan N.T.S



Project North



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

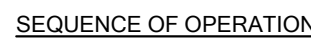
CONTROLS
DIAGRAMS 3
MECHANICAL

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323

M4.2



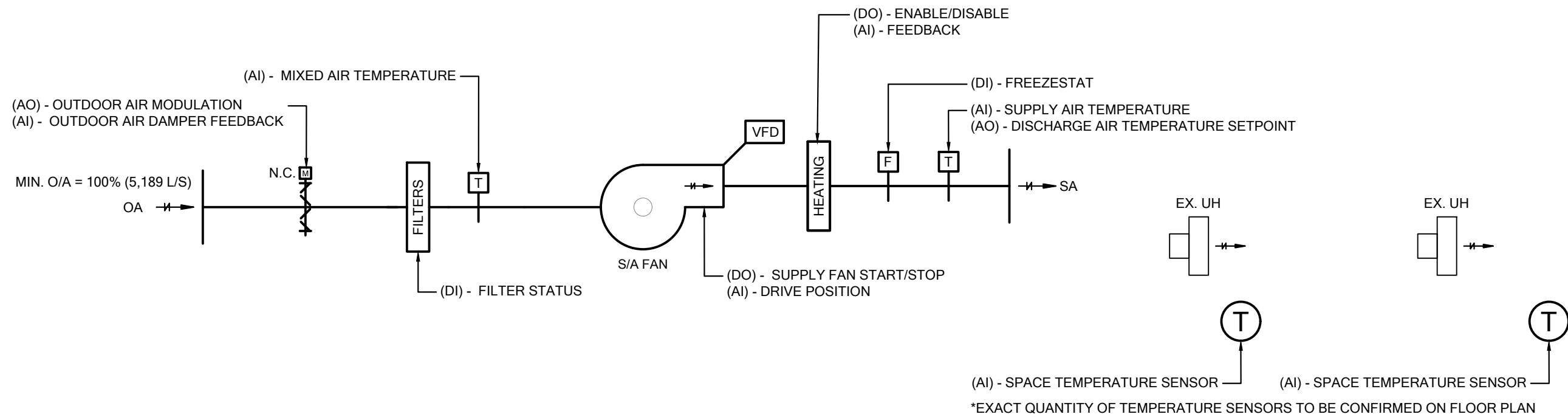
- BAS TO ENABLE/DISABLE UNIT VENTILATOR BASED ON A TIME OF DAY SCHEDULE.
2. OCCUPIED MODE:
1. ONCE ENABLED, BAS TO:

OPEN MOTORIZED EXHAUST AIR DAMPER.

OPEN MOTORIZED FRESH AIR AND RETURN AIR DAMPERS AT FIXED FRESH AIR.

START FAN TO OPERATE CONTINUOUSLY DURING OCCUPIED PERIODS
 2. WHEN ON CALL FOR HEATING, BAS SHALL MODULATE HEATING VALVE TO MAINTAIN SPACE TEMPERATURE SETPOINT OF 21.1°C (70°F).
 3. WHEN ON CALL FOR COOLING, BAS TO ENABLE DX COOLING STAGES AND REMOTE DX CONDENSING UNIT TO MAINTAIN SPACE TEMPERATURE SETPOINT OF 22.8°C (73°F).
 4. WHEN OUTDOOR AIR TEMPERATURE IS BETWEEN 10°C (50°F) TO 16°C (60°F), UNIT CONTROLLER TO ENABLE AIR SIDE ECONOMIZER MODE. DX COOLING DISABLED, HEATING VALVE CLOSED, OPEN FRESH AIR DAMPER 100% AND CLOSE RETURN AIR DAMPER. BAS TO OPEN MOTORIZED EXHAUST DAMPER TO 100%. ONCE OUTDOOR AIR TEMPERATURE DROPS BELOW 8°C (46.4°F - ADJUSTABLE), AIR SIDE ECONOMIZER OPERATION STOPS, UNIT RETURN TO NORMAL OPERATION. ECONOMIZER MODE TO BE ENABLED ONLY WHEN ON CALL FOR COOLING.
3. UNOCCUPIED MODE:
1. WHEN DISABLED, BAS TO CLOSE MOTORIZED FRESH AIR AND EXHAUST AIR DAMPER, OPEN RETURN AIR DAMPER 100% AND STOP FAN.
 2. IF SPACE TEMPERATURE DROPS BELOW SETPOINT OF 18°C (65°F) IN HEATING SEASON, BAS TO START FAN AND MODULATE HEATING VALVE TO MAINTAIN TEMPERATURE SETPOINT. FRESH AIR AND EXHAUST AIR DAMPERS REMAIN CLOSED.
 3. WHEN OCCUPANCY IS DETECTED BY SENSOR, BAS TO ENABLE UNIT IN OCCUPIED MODE. WHEN OCCUPANCY IS NOT DETECTED FOR 15 MINS, BAS TO DISABLE UNIT.
 4. IF MIXED AIR TEMPERATURE IN MIXED AIR PLENUM IS BELOW 10°C (50°F), TRIGGER ALARM AT BAS.
 5. WHEN FREEZESTAT TRIPS, UNIT TO SHUT DOWN AND SEND TROUBLE ALARM TO BAS. UNIT SHALL NOT RESTART AUTOMATICALLY.
 6. DX COOLING IS LOCKED OUT WHEN AMBIENT TEMPERATURE IS BELOW 12.8°C (55°F).

CONTROL DIAGRAM



SEQUENCE OF OPERATION

1. SYSTEM IS ENABLED THROUGH BAS BASED ON TIME OF DAY SCHEDULE (ADJUSTABLE).
2. ROOM TEMPERATURE SETPOINTS ARE SET TO A NETWORK OCCUPIED SETPOINT, RESET AT 7AM EACH OCCUPIED PERIOD, FROM 21°C TO 24°C BASED ON OUTDOOR AIR TEMPERATURE -10°C TO 27°C, RESPECTIVELY. A +/- 2°C SETPOINT OFFSET SHALL BE PROVISIONED THROUGH THE ROOM SENSOR.
3. HEATING IS TO BE ENABLED WHEN THE ROOM TEMPERATURE IS 1°C AWAY FROM SETPOINT AND WILL BE DISABLED USING A 1°C DEADBAND.
4. UNIT SHALL BE PROVIDED WITH FACTORY MOUNTED CONTROLS, WIRED AND PIPED, TO PROVIDE A FULLY AUTOMATED STARTUP AND ACCURATELY MODULATED DISCHARGE AIR TEMPERATURE.
5. ALL GAS HEATING, FAN, MODULATION OR STAGING CONTROL AND ALL SAFETIES AS REQUIRED, SHALL BE BY A UNIT MOUNTED MICRO PROCESSOR CONTROLLER.
6. PRE-OCCUPANCY MODE:
 1. BAS TO ENABLE RTU SUPPLY AIR FAN 30 MINUTES (ADJUSTABLE) PRIOR TO START OF OCCUPIED PERIOD. INCREASE FAN SPEED GRADUALLY TO FULL SPEED VIA VFD.
 2. OPEN OUTDOOR AIR DAMPER TO 100% AIR POSITION.
 3. THE DISCHARGE AIR TEMPERATURE SHALL RESET BETWEEN 18°C (64°F) TO 15°C (59°F) BAS ON OUTDOOR AIR TEMPERATURE OF 0°C (32°F) TO 20°C (68°C) RESPECTIVELY.
 4. MODULATE GAS HEATING TO MAINTAIN ROOFTOP UNIT DISCHARGE AIR TEMPERATURE SETPOINT.
7. OCCUPIED MODE:
 1. BAS TO ENABLE UNIT.
 2. ENABLE HYDRONIC UNIT HEATERS (1ST STAGE HEAT) AND MODULATE RTU GAS HEATING (2ND STAGE HEAT) TO MAINTAIN SPACE TEMPERATURE SETPOINT. A +/- 2°C SETPOINT OFFSET SHALL BE PROVISIONED THROUGH THE LOCAL SENSOR.
8. UNOCCUPIED MODE:
 1. DISABLE RTU SUPPLY FAN.
 2. CLOSE OUTSIDE AIR DAMPER BY MECHANICAL SPRING RETURN AND REMAIN CLOSED DURING UNOCCUPIED TIMES.
 3. ENABLE HYDRONIC UNIT HEATERS (1ST STAGE HEAT) AND GAS HEATING (2ND STAGE HEAT) TO MAINTAIN SPACE TEMPERATURE BETWEEN 18°C (64°F - ADJUSTABLE) AND 27°C (81°F - ADJUSTABLE).

NOTES

1. PROVIDE A DIFFERENTIAL PRESSURE SENSOR AT THE AIR FILTERS. PROVIDE AN ALARM AT THE BAS WHEN THE PRESSURE REACHES 500 PA (ADJUSTABLE).
2. FAN VFDs ARE PROVIDED FOR BALANCING PURPOSES. ONCE AIRFLOW IS ESTABLISHED, FANS TO OPERATE IN CONSTANT AIRFLOW MODE. CONTROL POINTS ARE DEFINED FOR EACH VFD AS:
DO - ENABLE/DISABLE
AI - DRIVE POSITION
3. PROVIDE STATUS SIGNAL FROM OUTDOOR AIR DAMPER.
4. UPON ACTIVATION OF THE FREEZE STAT AT 2°C, THE SUPPLY AIR FAN SHALL STOP AND NOT AUTOMATICALLY RESTART. THE FREEZE STAT MUST BE MANUALLY RESET. PROVIDE AN ALARM AT THE BAS INDICATING THAT THE UNIT WAS TURNED OFF AS A RESULT OF A FREEZE ALARM.
5. OUTDOOR AIR DAMPER SHALL OPEN PRIOR TO FAN ACTIVATION.
6. IN THE EVENT OF POWER LOSS, OUTDOOR AIR DAMPER TO CLOSE BY MECHANICAL SPRING.

CONTROL DIAGRAM

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Consultants

Mechanical and Electrical Consultants

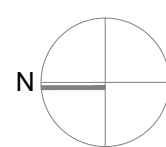
Structural Consultants

Kalos Engineering Inc.

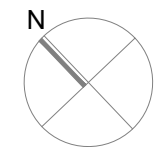
300 York Boulevard,
 York, PA 17403

Tel: 905-333-9119

Key Plan N.T.S.



Project Nor



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

CONTROLS DIAGRAMS 4 MECHANICAL

Scale:	N.T.S.	Date:	10/05/2024
--------	--------	-------	------------

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323

M4.3



- ## UNIT VENTILATORS (UV-3, UV-7, UV-8)

CONTROL DIAGRAM



- ## NOTES

1. PROVIDE A DIFFERENTIAL PRESSURE SENSOR AT THE AIR FILTERS. PROVIDE AN ALARM AT THE BAS WHEN THE PRESSURE REACHES 500 PA (ADJUSTABLE).
2. EXHAUST AIR FAN SHALL BE INTERLOCKED WITH THE SUPPLY FAN SUCH THAT IT IS ENABLED OR DISABLED IN SIMILAR FASHION.
3. FAN VFDs ARE PROVIDED FOR BALANCING PURPOSES. ONCE AIRFLOW IS ESTABLISHED, FANS TO OPERATE IN CONSTANT AIRFLOW MODE. CONTROL POINTS ARE DEFINED FOR EACH VFD AS:
DO - ENABLE/DISABLE
AI - DRIVE POSITION
4. PROVIDE STATUS SIGNAL FROM O/A, R/A AND E/A DAMPERS.
5. UPON ACTIVATION OF THE FREEZE STAT AT 21°C, THE SUPPLY AND EXHAUST AI FANS SHALL STOP AND NOT AUTOMATICALLY RESTART. THE FREEZE STAT MUST BE MANUALLY RESET. PROVIDE AN ALARM AT THE BAS INDICATING THAT THE UNIT WAS TURNED OFF AS A RESULT OF A FREEZE ALARM.
6. DURING ECONOMIZER MODE, ROTATE ENTHALPHY WHEEL AT MIN. SPEED FOR 1 MIN. EVERY 24 HOURS TO FLUSH THE WHEEL AND AVOID ANY DUST ENTRAPMENT THAT MAY CAUSE WHEEL IMBALANCE.
7. OUTDOOR AIR & EXHAUST AIR DAMPERS SHALL OPEN PRIOR TO FAN ACTIVATION.
8. IN THE EVENT OF POWER LOSS, OUTDOOR AIR & EXHAUST AIR DAMPERS ARE TO CLOSE BY MECHANICAL SPRING. RETURN AIR DAMPER SHALL OPEN BY WAY OF MECHANICAL SPRING.
9. DX COOLING IS LOCKED OUT WHEN AMBIENT TEMPERATURE IS BELOW 12.8°C (55°F).
10. THE COOLING COMPRESSORS WILL HAVE MINIMUM RUN TIME OF 5 MINUTES.
11. INTERLOCK OUTDOOR AIR AND EXHAUST AIR DAMPERS SUCH THAT THEY ARE OPENED OR CLOSED IN SIMILAR FASHION.

CONTROL DIAGRAM

Scale:	N.T.S.	Date:	10/05/2024
--------	--------	-------	------------

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323

M4.3

M4.4

SCHEDULE OF AIR HANDLING UNITS

TAG	MANUFACTURER	MODEL	LOCATION	AREA SERVED	WEIGHT	DIMENSIONS			CURB HEIGHT	DESIGN AIRFLOW	OUTDOOR AIR		AIR FILTRATION		DX COOLING								HEATING							ENERGY RECOVERY PERFORMANCE (WINTER)								
						PRE-FILTER	FINAL FILTER	EVAPORATOR					OAT (°C)	APD	CONDENSATE DRAIN SIZE	NO. COOLING STAGES	FUEL		TURNDOWN	INPUT	OUTPUT	EAT (°C)	LAT (°C)	OAT (°C)	AIRFLOW	AIR TEMP.		APD	ENERGY RECOVERY	EFF								
								CAPACITY (KW)									EAT (°C)									LAT (°C)					TYPE	PRESSURE	EAT	LAT				
					(KG)	(MM)	(MM)	(MM)	(MM)	(L/S)	%	TOTAL	SENSIBLE	DB	WB	DB	WB	DB	(PA)	(MM)	(KW)	(KW)	DB	DB	DB	(L/S)	DB/WB (°C)	DB/WB (°C)	(Pa)	(kW)	(%)							
RTU-1	ENGINEERED AIR	FWE184/DJX60/HRW1200 /O/MV	ROOF	AUDITORIUM	4,990	3,480	6,655	1,981	400	4,010	1,604	40	50MM PLEATED MERV8	100MM PLEATED MERV13	71.1	60.2	24.8	17.4	12.4	12.0	35.0	182.6	-	4	NAT. GAS	7" - 14" W.C.	15:1	161.2	146.8	4.7	35.0	-20.0	1,604	-20.0 / -20.0	6.3 / 2.6	209	62.6	74.3
RTU-2	TRANE	YHJ102AWSBL**D4D0A1 A1	ROOF	MUSIC ROOMS	522	1,353	2,237	1,292	400	1,698	510	30	50MM PLEATED MERV13	-	32.7	25.5	26.7	19.4	14.3	13.9	35.0	-	20	2	NAT. GAS	7" - 14" W.C.	10:1	35.2	28.5	10.0	23.6	-20.0	NO ENERGY RECOVERY					
RTU-3	ENGINEERED AIR	DJX140/O/MV	ROOF	SHOPS	2,041	2,515	4,877	1,880	400	5,189	5,189	100	50MM PLEATED MERV8	100MM PLEATED MERV13	NO COOLING								NAT. GAS	7" - 14" W.C.	15:1	322.4	293.4	-20.0	26.7	-20.0	NO ENERGY RECOVERY							
RTU-4	ENGINEERED AIR	DJX60/HRW1500/O/MV	ROOF	CHANGE ROOMS	3,289	2,286	4,978	1,829	400	1,769	1,769	100	50MM PLEATED MERV8	100MM PLEATED MERV13	NO COOLING								NAT. GAS	7" - 14" W.C.	15:1	131.9	120.2	-20.0	36.1	-20.0	1,769	-20.0 / -20.0	6.2 / 2.5	145	70.2	78.3		
RTU-5	TRANE	YSC060GWRHB**D000A1	ROOF	1963 ADDITION CORRIDOR	362	1,124	1,775	1,038	350	943	189	20	50MM PLEATED MERV13	-	17.6	14.6	26.7	19.4	15.3	14.6	35.0	-	20	1	NAT. GAS	7" - 14" W.C.	2-STAGE HEATING	43.9	35.6	21.1	52.4	-20.0	NO ENERGY RECOVERY					

NOTES

- 1 EACH UNIT SHALL BE COMPLETE WITH A SINGLE POINT POWER CONNECTION
- 2
- 3 FAN FAN SHALL BE COMPLETE WITH INTERNAL VIBRATION ISOLATION SPRINGS AND FLEXIBLE CONNECTIONS.
- 4 FAN MOTORS FOR ALL UNITS IDENTIFIED WITH "VFD" SHALL BE PREMIUM EFFICIENCY INVERTER DUTY RATED.
- 5
- 6 EACH UNIT SHALL BE IN COMPLIANCE WITH ASHRAE STANDARD 90.1 EFFICIENCY REQUIREMENTS.
- 7
- 8 EACH UNIT SHALL BE TERMINAL STRIP ONLY.
- 9
- 10 REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TAG	ENERGY RECOVERY PERFORMANCE (SUMMER)						SUPPLY FAN							RETURN/EXHAUST FAN							ELECTRICAL			EMERGENCY POWER	REMARKS
	AIRFLOW	AIR TEMP.		APD	ENERGY RECOVERY	EFF	AIRFLOW	ESP	TSP	FAN RPM	BHP	MOTOR HP	VFD	AIRFLOW	ESP	TSP	FAN RPM	BHP	MOTOR HP	VFD	MCA	MOCP	POWER (V/PH/Hz)		
		EAT	LAT																						
		(L/S)	DB/WB (°C)																						
RTU-1	1.604	32.2 / 22.8	26.1 / 18.6	239	28.2	74.3	4.010	311	1,146	1,867	8.1	10.0	YES	4.010	249	673	965	6.93	10.0	YES	57.0	60.0	575/3/60	NO	
RTU-2	NO ENERGY RECOVERY						1.698	299	384	1,473	2.12	3.0	YES	NO RETURN FAN							19.0	25.0	575/3/60	NO	
RTU-3	NO ENERGY RECOVERY						5.189	311	623	694	7.24	15.0	YES	NO RETURN FAN							27.0	40.0	575/3/60	NO	
RTU-5	1.769	32.2 / 22.8	25.7 / 18.3	164.4	32.9	78.3	1.769	299	1,071	3,107	4.66	5.0	YES	2,394	249	697	1,384	4.57	5.0	YES	21.0	25.0	575/3/60	NO	
RTU-5	NO ENERGY RECOVERY						943	124	169	1,039	0.81	1.0		NO RETURN FAN							10.0	15.0	575/3/60	NO	

SCHEDULE OF SILENCERS

TAG	MANUFACTURER	SYSTEM	TYPE (NOTE 1)	DIMENSIONS			AIRFLOW	VELOCITY (NOTE 3)	PD (NOTE 4)	MAX. PD W/ SYSTEM EFFECT (NOTE 5)	MINIMUM DYNAMIC INSERTION LOSS, dB (NOTE 5)								BASIS OF DESIGN MODEL NUMBER	REMARKS
											OCTAVE BAND CENTER FREQUENCY, HZ									
				DUCT WIDTH	DUCT HEIGHT	DUCT LENGTH (NOTE 2)					63	125	250	500	1000	2000	4000	8000		
				MM	MM	MM					L/S	M/S	PA	PA						
SL-1S	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-1	REMB	TRANSITIONAL SILENCER, INLET 425X1625, OUTLET DUCT CONNECTION 500"X1250", CASING DIMENSION 800"X1250"			4012	+5.63	37.3	87.1	14	22	23	31	39	33	26	23	TREMB-UHV-AY31406	2. 7a, 8, 9
SL-1R	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-1	REMB	TRANSITION SILENCER, INLET 750X850, OUTLET 675X850		2100	4012	-6.10	37.3	79.6	9	12	17	29	29	29	22	19	REMB-HV-AY31406	2. 7b, 8, 9
SL-2S	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-2	REMB	400	800	1500	1557	+4.54	22.4	72.2	7	10	14	25	23	24	20	16	REMB-UHV-AY31406	2. 7c, 8, 9
SL-2R	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-2	REMB	400	800	1500	1557	-4.61	22.4	49.8	7	10	15	27	23	24	17	16	REMB-HV-AY31406	2. 7c, 8, 9
SL-4S	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-4	REMB	350	950	2400	1770	+3.36	14.9	47.3	8	14	16	28	35	33	25	20	REMB-HV-AY31406	8, 9
SL-4R	VIBRO-ACOUSTICS OR APPROVED EQUAL	RTU-4	REMB	600	800	1500	1770	-3.57	24.9	54.7	9	11	17	26	28	32	26	20	REMB-MHV-AY31406	8, 9

NOTES

1. TYPE: RE- RECTANGULAR ELBOW; MB- MOLDBLOCK MEDIA
2. LENGTH SHOWN FOR ELBOW SILENCERS IS CENTERLINE LENGTH.
3. VELOCITY SHOWN IS + (FORWARD FLOW) OR - (REVERSE FLOW) AS DEFINED BY ASTM E477-20.
4. IDEAL PRESSURE DROP AS DETERMINED PER ASTM E477-20 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
5. PRESSURE DROP PER ASTM E477-20 PLUS SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.
6. MINIMUM DYNAMIC INSERTION LOSS DETERMINED PER ASTM E477-20 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
- 7a. CASING TO BE HTL EQUIVALENT TO 6 GAUGE DUCT WALL TO CONTROL BREAKOUT.
- 7b. CASING TO BE HTL EQUIVALENT TO 14 GAUGE DUCT WALL TO CONTROL BREAKOUT.
- 7c. CASING TO BE HTL EQUIVALENT TO 16 GAUGE DUCT WALL TO CONTROL BREAKOUT.
8. MEDIA SHALL BE VIBRO-ACOUSTICS® MOLDBLOCK MEDIA™ CONTAINING 100% NATURAL COTTON FIBERS TREATED WITH AN EPA REGISTERED, NON-TOXIC BORATE SOLUTION, "FLASH DRIED" TO PROVIDE RESISTANCE TO MOLD, MILDEW AND FUNGI. MEDIA SHALL COMPLY WITH UL181 AND NFPA 90A. MOLDBLOCK MEDIA™ SHALL BE PACKED WITH A MINIMUM OF 15% COMPRESSION DURING SILENCER ASSEMBLY. MEDIA SHALL NOT CAUSE OR ACCELERATE CORROSION OF ALUMINUM OR STEEL. GLASS FIBER AND ROCKWOOL ARE NOT ACCEPTABLE ALTERNATES.
9. FOR NON-BASIS OF DESIGN PRODUCT SUPPLIED, CONTRACTOR IS FINANCIALLY RESPONSIBLE TO ENSURE NOISE CONTROL SOLUTION IS DELIVERED TO ACHIEVE SPECIFIED NC LEVEL IN SPACES.

Halton District School Board

2050 Guelph Line
Burlington, Ontario

NELSON HIGH SCHOOL RENOVATIONS

4181 NEW STREET
Burlington, Ontario

Mechanical



RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

Architec

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
t e l . 4 1 6 . 9 6 6 . 5 4 4 4
w w w . s n y d e r a r c h i t e c t s . c a

Consultants

Mechanical and Electrical Consultants

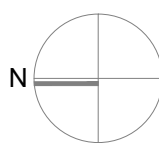
RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Structural Consultants

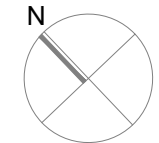
Kalos Engineering Inc.
300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan:

Key Plan N.T.S.



Project North



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

EQUIPMENT
SCHEDULES 1
MECHANICAL

Scale:	N.T.S.	Date:	10/05/2024
Drawn by:	SL	Checked by:	VK
Job No.	Drawing No.		

2323

M5.0

TAG	MANUFACTURER	MODEL	LOCATION	WEIGHT	DIMENSIONS			SUPPLY AIR AIFLOW	FRESH AIR AIFLOW	FILTRATION	DX COOLING							HOT WATER HEATING								FAN		ELECTRICAL				REMARKS	
					DEPTH	LENGTH	HEIGHT				TOTAL COOLING	SENSIBLE COOLING	APD	EAT (°C)		LAT (°C)		OAT	MEDIUM	CAPACITY	WATER FLOW	EWT	LWT	WPD	EAT	LAT	OAT	MOTOR HP	ESP	MCA	MAX. BREAKER		POWER
														(KG)	(MM)	(MM)	(MM)																
UV-1	SYSTEMAIR	HPA 36 1000 O B IQ	CLASSROOMS	454	813	1,118	2,311	472	212	(2) 50MM MERV13	10.2	7.4	49.8	26.7	19.4	12.6	12.6	35.0	WATER	19.2	0.25	71.1	54.5	2.2	3.1	33.0	-20	1/2	62.3	22.94	30.0	208/3/60	
UV-2	SYSTEMAIR	HPA 48 1400 O B IQ	CLASSROOMS	499	813	1,219	2,311	660	212	(2) 50MM MERV13	13.4	10.1	69.7	26.7	19.4	13.2	13.2	35.0	WATER	21.8	0.29	71.1	54.6	2.8	8.5	32.9	-20	3/4	62.3	30.34	40.0	208/3/60	
UV-3	TEMSPEC	VUD 2000D	SCIENCE CLASSROOMS	317	584	1,118	2,362	849	271	50MM MERV13	14.9	11.5	24.9	26.7	19.4	15.6	11.1	35.0	WATER	27.5	0.42	71.1	55.0	6.0	8.9	35.6	-20	(2) 1/2	62.3	13.0	15.0	208/3/60	UNIT C/W 200MM DEEP REAR PLENUM
UV-4	SYSTEMAIR	HPA 24 800 O B IQ	CLASSROOMS	454	813	1,118	2,311	377	177	(2) 50MM MERV13	7.1	5.6	27.4	26.7	19.4	13.9	13.9	35.0	WATER	16.7	0.22	71.1	54.7	1.7	2.3	34.7	-20	1/2	62.3	19.18	25.0	208/3/60	
UV-5	TEMSPEC	HCD 1200D	SPECIALTY CLASSROOMS	136	2,362	711	546	566	212	50MM MERV13	11.1	7.9	39.9	26.7	19.4	15.6	13.9	35.0	WATER	21.2	0.26	71.1	51.7	1.5	3.1	33.9	-20	1/2	62.3	7.0	15.0	208/3/60	
UV-6	TEMSPEC	HCD 1600D	SPECIALTY CLASSROOMS	340	2,362	838	584	708	212	50MM MERV13	13.7	13.7	42.3	26.7	19.4	15.6	13.9	35.0	WATER	22.8	0.29	71.1	51.7	1.8	6.1	32.8	-20	3/4	62.3	11.5	15.0	208/3/60	
UV-7	TEMSPEC	VUD 1600D	SCIENCE CLASSROOMS	340	584	838	2,362	708	248	50MM MERV13	12.7	12.7	44.8	26.7	19.4	15.0	14.4	35.0	WATER	23.1	0.37	71.1	55.6	3.9	7.2	34.4	-20	3/4	62.3	7.0	15.0	208/3/60	UNIT C/W 200MM DEEP REAR PLENUM
UV-8	TEMSPEC	VUD 2000D	STUDENT SERVICES	317	584	1,118	2,362	943	212	50MM MERV13	16.8	13.1	34.8	26.7	19.4	15.6	13.9	35.0	WATER	32.0	0.35	71.1	48.3	4.5	7.2	35.0	-20	1/2	199.3	13.0	15.0	208/3/60	UNIT C/W 200MM DEEP REAR PLENUM
NOTES																																	
1. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.																																	
2. UNIT TO BE PROVIDED WITH ASSOCIATED DAMPERS AND ACTUATORS, VALVE PACKAGE INCLUDING ELECTRONIC 2-WAY CONTROL VALVE AND CIRCUIT BALANCING VALVE, AND BACNET COMPATIBLE UNIT CONTROLLER.																																	
3. CONTRACTOR TO PROVIDE TOP SUPPLY AIR PLENUM AND WALL SLEEVE TO CONNECT UNIT TO LOUVRE.																																	

EQUIPMENT	MANUFACTURER	TYPE OF BASE & THICKNESS (MM)	TYPE OF ISOLATION	STATIC DEFLECTION (MM)	REMARKS
HORIZONTAL UNIT VENTILATORS	VIBRO ACOUSTICS OR APPROVED EQUAL	-	SHR	25	
CONDENSING UNIT	VIBRO ACOUSTICS OR APPROVED EQUAL	-	NSN	3.8	
VERTICAL UNIT VENTILATORS	VIBRO ACOUSTICS OR APPROVED EQUAL	-	NSN	3.8	

NOTES:

1. CSR - RESTRAINED SPRING FLOOR MOUNT
2. NSN - NEOPRENE/STEEL/NEOPRENE PAD
3. SHR - SPRING HANGER

TAG	MANUFACTURER	MODEL	LOCATION	SYSTEM SERVED	WEIGHT	DIMENSIONS			OUTDOOR FAN			CAPACITY	ELECTRICAL			REFRIGERANT			REMARKS
						WIDTH	LENGTH	HEIGHT	AIRFLOW	MOTOR	RPM		MCA	MOCOP	POWER (V/PH/Hz)	TYPE	LIQUID LINE (MM)	SUCTION LINE (MM)	
					(KG)	(MM)	(MM)	(MM)	(L/S)	(HP)		TONNAGE							
CU-1	KEEPRITE	NA4MS4BAKANA	ROOF	UV-5 / UV-7	78	793	793	729	1616	114	1100	4.0	24.5	40	208/1/60	R-410A	10	22	
CU-2	KEEPRITE	NA4MS6AKANA	ROOF	UV-3 / UV-6 / UV-8	86	793	793	901	1687	114	1100	5.0	33.5	50	208/1/60	R-410A	10	22	

NOTES

- REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.
- MOUNT UNIT ON CONCRETE PAVER C/W VIBRATION ISOLATION.
- CONFIRM REFRIGERANT PIPING LENGTHS AND INSTALLATION LOCATION WITH MANUFACTURER PRIOR TO INSTALL.
- PROVIDE COMPRESSOR SOUND COVER, COMPRESSOR HARD START KIT AND INDOOR BLOWER OFF DELAY RELAY.

TAG	MANUFACTURER	MODEL	LOCATION	AREA SERVED	DESIGN AIRFLOW	ESP	HEATING			ELECTRICAL				REMARKS
							CAPACITY	EAT	LAT	POWER	MOTOR	MCA	MOCP	
					(L/S)	(Pa)	(kW)	(°C)	(°C)	(V/ø/Hz)	(HP)			
MUA-1	NEPTRONIC	CMU12J140DD	SCIENCE CLASSROOMS	SCIENCE CLASSROOMS	299	62	14	-20	18.3	600/3/60	0.23	17.39	20.0	
NOTES														
1. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.														
2. UNIT TO BE INTERLOCKED WITH ASSOCIATED SCIENCE ROOM FUME HOOD.														
3. UNIT TO BE PROVIDED WITH IN DUCT TEMPERATURE SENSOR, FREEZESTAT AND UNIT CONTROLLER WITH BACNET CAPABILITY.														

TYPE	MANUFACTURER	MODEL	DESCRIPTION	VOLUME CONTROL	FINISH	OPTIONS	REMARKS
A	E.H. PRICE	SDGE	SPIRAL DUCT SUPPLY GRILLE	YES	TO ARCH. DIRECTION	FASTENING: TYPE A	REFER TO FLOOR PLANS FOR SIZE OF GRILLES.
B	E.H. PRICE	SCD	SQUARE CONE DIFFUSER	YES	TO ARCH. DIRECTION	SIZE: 24"x24" (600mm x 600mm) FRAME: 31 SURFACE MOUNT	REFER TO FLOOR PLANS FOR NECK SIZE AND AIRFLOWS.
C	E.H. PRICE	520D	LOUVERED SUPPLY GRILLE	YES	TO ARCH. DIRECTION	DOUBLE DEFLECTION 3/4" BLADE SPACING STEEL CONSTRUCTION SURFACE MOUNT: F BORDER L BLADE ORIENTATION	REFER TO FLOOR PLANS FOR SIZE OF GRILLES.
D	E.H. PRICE	530	LOUVERED RETURN GRILLE	NO	TO ARCH. DIRECTION	SINGLE DEFLECTION 3/4" BLADE SPACING SURFACE MOUNT: F BORDER FASTENING: CONCEALED "C" L BLADE ORIENTATION	REFER TO FLOOR PLANS FOR SIZE OF GRILLES.
E	E.H. PRICE	80	EGG CRATE	NO	TO ARCH. DIRECTION	DUCTED: F BORDER NON-DUCTED: CORE	REFER TO FLOOR PLANS FOR SIZE OF GRILLES.

NOTES

- CONFIRM FINISH WITH ARCHITECT PRIOR TO ORDER
- REFER TO DRAWINGS FOR QUANTITIES.

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
t e l . 4 1 6 . 9 6 6 . 5 4 4 4
w w w . s n y d e r a r c h i t e c t s . c a

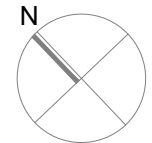
Mechanical and Electrical Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Kalos Engineering Inc

300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan N.T.S.



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

EQUIPMENT SCHEDULES 2 MECHANICAL

Scale:	N.T.S.	Date:	10/05/2024
Drawn by:	SL	Checked by:	VK
Job No.	Drawing No.		

2323

M5.1

UNIT DESIGNATION	UNIT SIZE	MANUFACTURER	MODEL	AIRFLOW RANGE (L/S)		ATTENUATOR LENGTH (MM)	DISCHARGE NC	ELECTRIC HEATING COIL					OPTIONS	REMARKS
				MIN.	MAX.			AIRFLOW (L/S)	CAPACITY (KW)	AIR TEMP (°C)		POWER (V/Ø/Hz)		
										EAT	LAT			
VAV-1	12	E.H. PRICE	SDV5000	143	991	900	24	544	4.0	18.3	23.9	208/3/60	VAV BOX: ACCESS DOOR: ADQ LINER: SM-3/4" THICK COORDINATE 2AV POWER CONNECTION FROM NEARBY POWER SUPPLY. NC VALUES TAKEN AT DELTA P = 1.5"w.c. ACROSS UNIT ELECTRIC HEATING COIL: EMC TYPE CONTROL	
VAV-2	8	E.H. PRICE	SDV5000	62	378	900	24	274	2.0	18.3	23.9	208/3/60		
VAV-3	4	E.H. PRICE	SDV5000	24	106	900	24	66	0.5	18.3	23.9	208/3/60		
VAV-4	12	E.H. PRICE	SDV5000	143	991	900	24	684	5.0	18.3	23.9	208/3/60		
NOTES														
1.	ALL VAV BOXES SHALL BE PROVIDED WITH DEDICATED ROOM TEMPERATURE SENSOR													
2.	PRESSURE INDEPENDENT COMPLETE WITH CROSS FLOW SENSOR.													
3.	DDC CONTROLLER/ACTUATOR SHALL BE SUPPLIED BY CONTROLS CONTRACTOR AND INSTALLED BY VAV BOX MANUFACTURER.													
4.	PNEUMATIC CONTROLLER/ACTUATOR SHALL BE SUPPLIED AND INSTALLED BY VAV BOX MANUFACTURER.													
5.	"C.V." INDICATES CONSTANT VOLUME BOX.													
6.	REFER TO FLOOR PLANS FOR LOCATIONS AND QUANTITIES.													
7.	MOUNT VAV BOXES MAXIMUM 24" ABOVE CEILING FOR MAINTENANCE													

Key Plan:

True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

M5.2

2050 Guelph Line
Burlington, Ontario

4181 NEW STREET
Burlington, Ontario

RDZ
ENG

RDZ ENGINEERS LTD
17A - 30 Pennsylvania Avenue
Vaughan, Ontario L4K 4A5
email: info@rdzeng.ca

sn/der

Snyder Architects Inc.
100 Broadview Ave, Suite 301, Toronto, ON M4M 3H3
t e l . 4 1 6 . 9 6 6 . 5 4 4 4
w w w . s n y d e r a r c h i t e c t s . c a

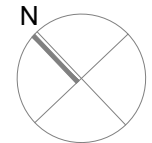
Mechanical and Electrical Consultants

RDZ Engineering Ltd
30 Pennsylvania Avenue, Unit 17A
Vaughan, Ontario, L4K 4A5
Tel: - -

Kalos Engineering Inc.

300 York Boulevard,
Hamilton, Ontario, L8R 3K6
Tel: 905-333-9119

Key Plan N.T.S



True North

[illegible]

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

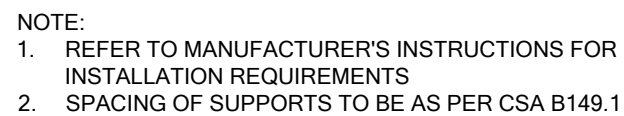
DETAILS 1 MECHANICAL

Drawn by: SL | Checked by: VK

Job No.	Drawing No.
---------	-------------

2323

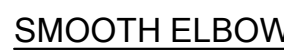
M6.0



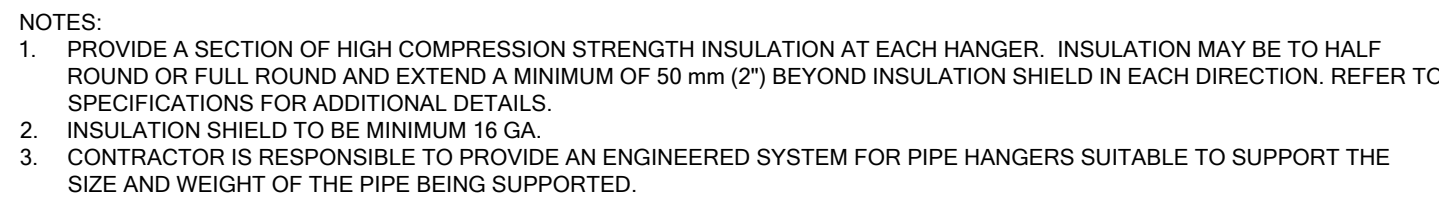
SCALE: NTS



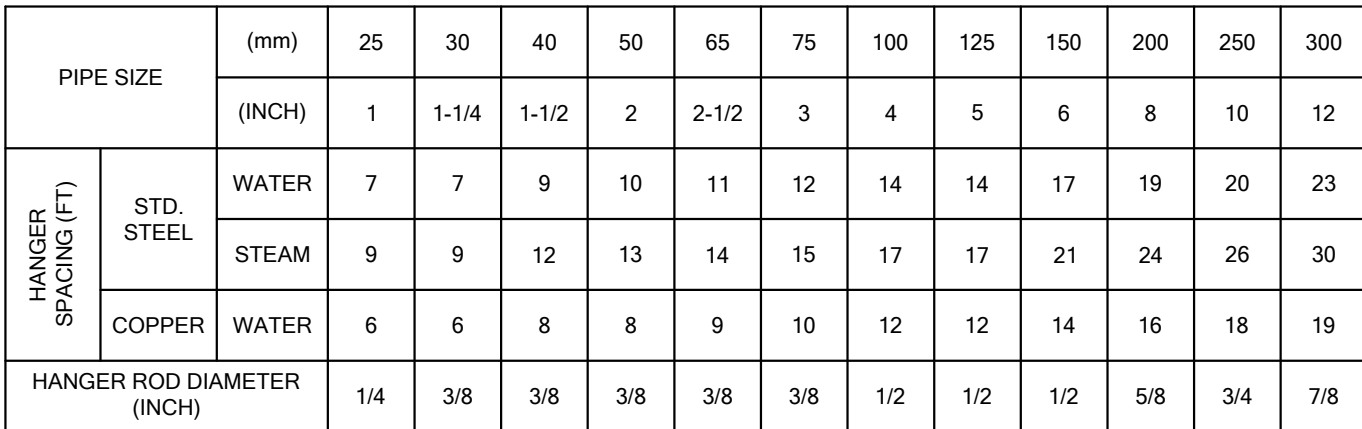
SCALE: NTS



SCALE: NTS



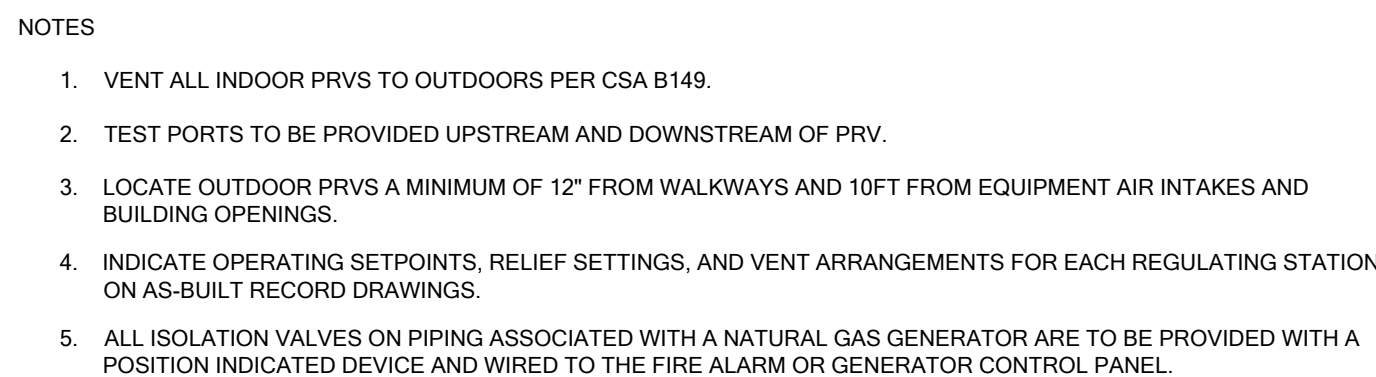
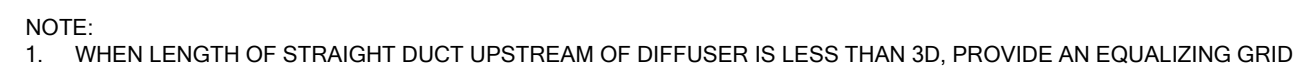
~~SCALE: NTS~~



NOTES:

1. PROVIDE A SECTION OF HIGH COMPRESSION STRENGTH INSULATION AT EACH HANGER. INSULATION MAY BE TO HALF ROUND OR FULL ROUND AND EXTEND A MINIMUM OF 50 mm (2") BEYOND INSULATION SHEET IN EACH DIRECTION. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.
2. INSULATION SHIELD TO BE MINIMUM 16 GA.
3. CONTRACTOR IS RESPONSIBLE TO PROVIDE AN ENGINEERED SYSTEM FOR PIPE HANGERS SUITABLE TO SUPPORT THE SIZE AND WEIGHT OF THE PIPE BEING SUPPORTED.

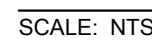
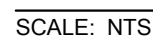
SCALE: NTS



SCALE: NTS



SCALE: NTS



Key Plan

Key Plan N.T.S



True North

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title:

Scale:	N.T.S.	Date:	10/05/2024
--------	--------	-------	------------

Prepared by	CL	Checked by	Y/K
-------------	----	------------	-----

Drawn by: SL | Checked by: VR

Job No.	Drawing No.
---------	-------------

2323

M6.1

SCALE: NTS

SCALE: NTS

FRONT VIEW

FRONT VIEW

SCALE: NTS

SCALE: NTS

SCALE: NTS