WRDSB ST ANDREWS PUBLIC SCHOOL / ISSUED FOR TENDER 24-05-02

65 VICTORIA AVENUE, CAMBRIDGE, ON N1S 1X2

SITE KEY

ANNOTATION LEGEND

TAGS

- D### — DOOR TAG — *REFER TO DOOR SCHEDULE*
- W## — WINDOW TAG — *REFER TO WINDOW SCHEDULE*
- W## / FSR — SCREEN & CURTAIN WALL TAG — *REFER TO SCREEN & CURTAIN WALL SCHEDULES*; *FRAME TYPE (REFER TO FRAME SCHEDULE)*
- G## — GLAZING & OPERABLE PANEL TAG — *REFER TO GLAZING & OPERABLE TYPE SCHEDULES*
- M## — MILLWORK TAG — *REFER TO MILLWORK DRAWINGS*
- XX — PLUMBING FIXTURE & SPECIALTY EQUIPMENT TAG — *REFER TO WASHROOM DRAWINGS*
- ##-XXX — MATERIAL TAG — *REFER TO RELEVANT SCHEDULE & SPECIFICATION*
- ## — KEYNOTES — *REFER TO SHEET SPECIFIC KEYNOTE SCHEDULE*

DRAWING TAGS

- 1 / A101 SIM — DETAIL NUMBER, DRAWING SHEET NUMBER
- 1 / A101 SIM — WALL SECTION NUMBER, DRAWING SHEET NUMBER
- 1 / A101 SIM — BUILDING SECTION NUMBER, DRAWING SHEET NUMBER
- 1 / 1 A101 1 / 1 — EXTERIOR ELEVATION NUMBER, DRAWING SHEET NUMBER
- 1 / 1 A101 1 / 1 — INTERIOR ELEVATION NUMBER, DRAWING SHEET NUMBER
- 0 — GRID BUBBLE
- SPOT ELEVATION (ABOVE FINISH FLOOR)
- ROOM NAME / 101 / 150 m2 — ROOM TAG WITH AREA
- ## — REVISION TAG
- CENTRELINE

ASSEMBLY TAGS

- W# — EXTERIOR WALL TAG
- P# — INTERIOR PARTITION TAG
- R# — ROOF TAG
- F# — FLOOR TAG
- C# — SOFFIT/CEILING TAG

(REFER TO ASSEMBLIES SCHEDULES)

GENERAL NOTES

1. THE CONTRACTOR WILL VERIFY ALL DIMENSIONS FOR THE WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCEMENT OF THE WORK.
2. DRAWINGS ARE NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
3. ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF LGA ARCHITECTURAL PARTNERS. ALL COPYRIGHT CONDITIONS ARE RESERVED BY THE ARCHITECT WITH RESPECT TO THESE DOCUMENTS. THESE DOCUMENTS SHALL NOT BE DUPLICATED OR USED FOR OTHER THAN THE PURPOSE FOR WHICH THEY WERE ISSUED.
4. NO CHANGES OR SUBSTITUTIONS SHALL BE MADE TO THE WORK DESCRIBED IN THESE DRAWINGS OR SPECIFICATIONS WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF THE ARCHITECT. REFER TO THE SPECIFICATION FOR THE FULL LIST OF REQUIREMENTS AND PROCEDURES THAT MUST BE FOLLOWED TO MAKE ANY SUBSTITUTIONS. THE ARCHITECT RESERVES THE RIGHT TO REFUSE ANY REQUEST FOR SUBSTITUTION.
5. THE ARCHITECTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE LANDSCAPE, STRUCTURAL, ELECTRICAL, MECHANICAL, CIVIL, GEOTECHNICAL, ENVIRONMENTAL CONSULTANTS DOCUMENTS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO ANY EXECUTION OF RELATED WORK.
6. THE CONTRACTORS SHALL ENSURE THAT MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CONTRACT DOCUMENTS.
7. THE CONTRACTORS SHALL ENSURE THAT THE LOCATIONS OFALL UNDERGROUND SERVICES ARE IDENTIFIED PRIOR TO THE COMMENCEMENT OF WORK AND EXCAVATIONS. THE CONTRACTOR IS FULLY RESPONSIBLE TO REPAIR ANY DAMAGE TO UNDERGROUND SERVICES THEY HAVE COMMITTED.
8. ALL STRUCTURAL COMPONENTS TO BE TAKEN OFF THE STRUCTURAL DOCUMENTS. NO STRUCTURAL DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
9. ALL MECHANICAL COMPONENTS TO BE TAKEN OFF THE MECHANICAL DOCUMENTS. NO MECHANICAL DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
10. ALL ELECTRICAL COMPONENTS TO BE TAKEN OFF THE ELECTRICAL DOCUMENTS. NO ELECTRICAL DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
11. ALL CIVIL COMPONENTS TO BE TAKEN OFF THE CIVIL DOCUMENTS. NO CIVIL DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
12. ALL LANDSCAPE COMPONENTS TO BE TAKEN OFF THE LANDSCAPE DOCUMENTS. NO LANDSCAPE DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
13. THE ARCHITECTURAL DRAWINGS ARE TO BE READ IN COLOR. IT IS THE CONTRACTOR RESPONSIBILITY TO PRINT AND DISTRIBUTE TO ALL RELEVANT STAKEHOLDERS THE CONTRACT DRAWINGS IN COLOR.

ARCHITECTURAL SHEET LIST

ABBREVIATIONS

ABBREVIATIONS MAY OR MAY NOT INCLUDE PERIOD PUNCTUATION.
ABBREVIATIONS APPLY TO ARCHITECTURAL DOCUMENTS ONLY.

ARCH	ARCHITECTURAL
BF	BARRIER FREE
C/C	CENTRE TO CENTRE
CF	CEILING FINISH
CL	CENTER LINE
CIV	CIVIL
DIA	DIAMETER
DIM	DIMENSION
DWG	DRAWING
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
GEOTECH	GEOTECHNICAL
FAAP	FIRE ANNUNCIATOR AND ALARM PANEL
FCL	FINISH CEILING ELEVATION
FFE	FINISH FLOOR ELEVATION
FRR	FIRE RESISTANCE RATING
FD	FLOOR DRAIN
HR	HOUR
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OBC	ONTARIO BUILDING CODE
O.C.	ON CENTRE
OWSJ	OPENWEB STEEL JOIST
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REQ'D	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
RWL	RAIN WATER LEADER
SCH	SCHEDULE
SF	SQUARE FEET
SIM	SIMILAR
SM	SQUARE METER
SPEC	SPECIFICATION
STC	SOUND TRANSMISSION CLASS
STRUC	STRUCTURAL
TBD	TO BE DETERMINED
T/O	TOP OF
TYP	TYPICAL
U/S	UNDERSIDE
VIF	VERIFY IN FIELD
W/C	WASHROOM

OWNER
WRDSB

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ISSUE DATE:

NO.	DATE	DESCRIPTION
2	05/02/2024	ISSUED FOR TENDER
1	11/14/2023	DESIGN DEVELOPMENT

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:
COVER SHEET

PROJECT NO: 22988
SCALE: As indicated
DRAWN BY:
REVIEWED BY:

SHEET NO:
A000

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GENERAL NOTES

1. THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES. CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS TO CONSULTANT FOR REVIEW AND DIRECTION. CONTRACTOR SHALL VERIFY ALL CONNECTIONS, PIPE SIZES AND LOCATION OF EXISTING SERVICES AT POINTS OF CONNECTIONS ON SITE AND REPORT ANY DISCREPANCY TO THE CONSULTANT PRIOR TO FABRICATION &/OR INSTALLATION OF NEW SERVICES.
2. ENSURE THAT ALL NEW AND EXISTING MECHANICAL EQUIPMENT REQUIRING MAINTENANCE IS ACCESSIBLE AND THAT ACCESS REQUIREMENTS ARE NOT OBSTRUCTED BY NEW OR EXISTING SERVICES AND STRUCTURE. COORDINATE WITH PROJECT MANAGER AND ALL OTHER TRADES. INSTALL MECHANICAL EQUIPMENT IN SUCH A WAY AS TO PROVIDE ALL ACCESS REQUIREMENTS. REFER TO SHOP DRAWINGS AND/OR MANUFACTURER'S RECOMMENDATIONS FOR ACCESS REQUIREMENTS. REPORT ANY OBSTRUCTIONS TO THE PROJECT MANAGER AND MECHANICAL ENGINEER. PROVIDE ACCESS DOORS/PANELS WITH MINIMUM DIMENSIONS AS NOTED BELOW (UNLESS INDICATED OTHERWISE ON DRAWINGS):
   2.1. 24 INCHES BY 24 INCHES FOR PERSONNEL ENTRY.
   2.2. 18 INCHES BY 18 INCHES FOR HAND ENTRY.
   2.3. 12 INCHES BY 12 INCHES FOR VIEWING ONLY.
   2.4. SIZE DOORS TO ALLOW ADEQUATE OPERATING/MAINTENANCE CLEARANCE FOR DEVICES.
   2.5. ACCESS DOORS SHALL BE, WHEREVER POSSIBLE, OF A STANDARD SIZE FOR EACH APPLICATION.
3. SUPPLY ALL LABOUR AND MATERIALS TO PROVIDE A COMPLETE MECHANICAL INSTALLATION. ITEMS NOT EXPLICITLY ILLUSTRATED ON THE DRAWINGS ARE NOT TO BE EXCLUDED FROM THE SCOPE OF WORK IF REQUIRED AS PART OF A PROPER INSTALLATION. PERMITS, TESTING, BALANCING, AND OCCUPANT OPERATIONAL TRAINING WILL BE PART OF THE WORK.
4. PROVIDE ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE DEMOLITION AND THE INSTALLATION OF THE MECHANICAL SERVICES OUTLINED FOR THIS SCOPE OF WORK.
5. WELDING TO BE PERFORMED WITH STRINGENT ENVIRONMENTAL CONDITIONS FOR SMOKE AND FUME EVACUATION.
6. THE MECHANICAL DRAWINGS ARE PERFORMANCE DRAWINGS, DIAGRAMMATIC, AND SHOW APPROXIMATE LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. ANY INFORMATION REGARDING ACCURATE MEASUREMENT OF THE BUILDING ARE TO BE TAKEN AT THE SITE. DO NOT SCALE THE DRAWINGS, AND DO NOT USE THE DRAWINGS FOR PREFABRICATION WORK.
7. FOR CLARITY, NOT ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. HAS BEEN SHOWN ON THE DRAWINGS. THE EXISTING EQUIPMENT, PIPES, DUCTS AND SERVICES ARE SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS, SIZES AND DIMENSIONS SHALL BE DETERMINED ON SITE. WHERE INTERFERENCES EXIST, CONTRACTOR SHALL REROUTE THE NEW WORK TO SUIT THE EXISTING PIPING.
8. NOT ALL CONNECTIONS TO EQUIPMENT ARE SHOWN. REFER TO THE MANUFACTURERS LITERATURE FOR ALL PIPING CONNECTIONS.
9. CONTRACTOR IS TO BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DUCTWORK AND EQUIPMENT AS SHOWN ON THE DEMOLITION PLAN UNLESS NOTED OTHERWISE.
10. COORDINATE, WITH THE OWNER AND GENERAL CONTRACTOR, ALL TEMPORARY SHUT DOWNS. PROVIDE THE DATE AND PERIOD OF THE TIME REQUIRED FOR DISCONNECTING AND MAKING NEW CONNECTIONS TO PIPING, DUCTING, AND ALL RELATED MECHANICAL WORK IN ORDER TO KEEP THE INTERRUPTIONS OF DAILY OPERATIONS AS MINIMAL AS POSSIBLE. INCLUDE FOR FREEZING WHERE REQUIRED. IT IS RECOMMENDED THAT THE CONTRACTOR PROVIDE MINIMUM 7 WORKING DAYS NOTICE TO THE OWNER, FOR ANY SHUTDOWN REQUIRED.
11. SURVEY ALL AFFILIATED WORK AREAS AND REPORT ABNORMALITIES AND DISCREPANCIES TO CONSULTANT.
12. WHERE CEILING, FLOOR, WALL OR ROOF OPENINGS ARE REQUIRED TO RUN MECHANICAL SERVICES, SEAL ALL OPENINGS WITH APPROVED FIRE-STOPPING MATERIALS AS REQUIRED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
13. IF ASBESTOS CONTAINING MATERIAL IS SUSPECTED OR IDENTIFIED IN THE WORK AREA AND REQUIRED TO BE HANDLED AS PART OF THE DEMOLITION PHASE OF THE PROJECT,CONTRACTOR SHALL HALT WORK AND INFORM CONSULTANT OF SUCH CONDITIONS. CONTRACTOR SHALL NOT PROCEED WITH DEMOLITION OF SUCH AREAS WITHOUT AUTHORIZATION BY CONSULTANT. REMOVAL OF SUCH MATERIALS TO ACCOMMODATE THE WORK DESCRIBED AND OUTLINED IN THESE DRAWINGS SHALL BE ARRANGED THROUGH THE OWNER. ASBESTOS ABATEMENT, IF ANY, IS EXCLUDED FROM THIS CONTRACT AND WILL BE HANDLED SEPARATELY BY OWNER.
14. ALL ABANDONED OR OBSOLETE MECHANICAL SERVICES SUCH AS VALVES, PIPING, EQUIPMENT, INSTRUMENTATION, ETC. SHALL BE REMOVED FROM WITHIN THE WORK AREA TO FACILITATE ALL NEW MECHANICAL WORK, UNLESS OTHERWISE NOTED BY THE OWNER OR ON THE DRAWINGS.
15. INSULATE ALL NEW DUCTWORK AND AND ANY EXISTING DUCTWORK WHERE INSULATION HAS BEEN REMOVED OR DAMAGED BY THIS WORK . REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
16. CONTRACTOR TO PROVIDE AIR AND WATER BALANCING PRE-TESTS. CONTRACTOR TO PROVIDE CUTTING & PATCHING FOR THE INSTALLATION OF HIS WORK. EMPLOY THE SERVICES OF THE GENERAL TRADES CONTRACTOR IF NECESSARY.
17. COORDINATE NEW SERVICES WITH EXISTING BUILDING STRUCTURE, EXISTING SERVICES & WORK.
18. ANY SERVICES THAT ARE NOT SHOWN ON THE DRAWINGS AND ARE EXPOSED DURING DEMOLITION/CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR AND REPORTED TO THE CONSULTANT.
19. CONTRACTOR SHALL COORDINATE WITH ALL NEW AND EXISTING MECHANICAL AND ELECTRICAL SERVICES WHEN MAKING THE PIPE AND, DUCTING, AND EQUIPMENT CONNECTIONS ON SITE.
20. CONTRACTOR TO PROVIDE TEMPORARY HEATING/COOLING AND VENTILATION FOR AREAS AFFECTED BY TEMPORARY SHUT-DOWN.
21. DO NOT INTERRUPT EXISTING MECHANICAL SERVICES OCCUPIED OR ADJACENT AREAS OUTSIDE THE SCOPE UNLESS APPROVED BY THE OWNER.
22. ALL DEMOLITION WORK SHALL BE PERFORMED WITH DUE CARE AND DILIGENCE, SO AS TO PREVENT THE UNNECESSARY DESTRUCTION AND/OR DAMAGE TO SYSTEMS THAT SHALL REMAIN IN OPERATION DURING THE CONSTRUCTION PHASE OF THIS WORK.
23. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGES THAT MIGHT OCCUR TO THE MECHANICAL SYSTEMS DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT ANY AND ALL PORTIONS OF THE EXISTING MECHANICAL SYSTEMS.
24. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO OWNER'S OCCUPIED AREAS ADJACENT TO THE NEW CONSTRUCTION.
25. CONTRACTOR TO PAY FOR AND OBTAIN ALL REQUIRED PERMITS ,FEES, LICENSES CERTIFICATES OF INSPECTION, ETC. IF REQUIRED.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING PENETRATIONS THROUGH FIRE RATED, SMOKE RATED OR COMBINATION F/R & SMOKE RATED SEPARATIONS. SEE SPECIFICATIONS FOR FIRE & SMOKE RATED SEALANTS. CONTRACTOR TO STOP INSULATION FLUSH WITH ALL WALL AND FLOOR SURFACES AND SEAL SPACE BETWEEN PIPE , DUCT, AND SLEEVE WITH ULC APPROVED AND LISTED FIRE STOPPING MATERIAL AS REQUIRED.
27. CONTRACTOR TO PROVIDE APPARATUS WITH PROPER NAMEPLATES AFFIXED THERE TO , SHOWING THE SIZE, NAME OF THE EQUIPMENT, SERIAL NUMBER AND ALL INFORMATION USUALLY PROVIDED, WHICH ALSO INCLUDES VOLTAGE, CYCLE, PHASE AND HORSEPOWER OF MOTORS AND THE NAME AND ADDRESS OF THE MANUFACTURER.
28. COORDINATE MECHANICAL WORK WITH WORK OF ALL OTHER DIVISIONS.
29. ALL CRANING WORK TO BE COORDINATED WITH OWNER, AND SCHEDULED. ALLOW FOR WEEKEND WORK.
30. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITHIN 2 WEEKS AFTER COMMISSIONING IS COMPLETED.
31. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REINSTALLATION AND RECONNECTION OF ALL SUCH SERVICES TO MATCH EXISTING STANDARDS. CONTRACTOR SHALL INCLUDE ALL COSTS FOR SITE INVESTIGATION TO SOURCE DELETE SERVICES REQUIRED FOR RE-CONNECTION OF EXISTING SERVICES THAT MUST REMAIN. INCLUDE IN YOUR BID ALL COSTS ASSOCIATED WITH SITE INVESTIGATION, ETC, AND ALL REQUIRED COSTS FOR THIS WORK. REVIEW AND NOTE EXISTING CONDITIONS AND CONFIRM EXACT SITE CONDITIONS.
32. CONTRACTOR TO REPAIR BEAMS FIRE RATING SAME WITH PREVIOUS FIRE RATING WHERE SECURING SUPPORTS TO THE EXISTING FIRE RATED BEAMS.
33. WRDSB'S APPROVED VENDORS FOR SERVICES NOTED BELOW:
- BAS/ CONTROLS: ENERGY CONTROLS

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	CONTROLS
SF	SUPPLY FAN
RF	RETURN EXHAUST FAN
EF	EXHAUST FAN
H/C	HEATING COIL
C/C	COOLING COIL
P/C	PRE-HEAT COIL
	FILTERS
SA	SUPPLY AIR
EA	EXHAUST AIR
OA	OUTDOOR AIR
RA	RETURN AIR
MD	MOTORIZED DAMPER
MSP	MOTOR STARTER PANEL
MCC	MOTOR CONTROL CENTER
	HUMIDIFIER
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
VFD	VARIABLE FREQUENCY DRIVE
	ACTUATOR CLOSED END SWITCH
	ACTUATOR OPEN END SWITCH
FS	FLOW SWITCH
LS	LEVEL SWITCH
PS	PRESSURE SWITCH
NC	ACTUATOR NORMALLY CLOSED DE-ENERGIZED POSITION
NO	ACTUATOR NORMALLY OPEN DE-ENERGIZED POSITION
	ACTUATOR FAIL OPEN POSITION
	ACTUATOR FAIL CLOSED POSITION
FL	ACTUATOR FAIL LAST POSITION
	TWO-POSITION ACTUATOR
	MODULATING ACTUATOR
P	PRESSURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
VS	VELOCITY SENSOR
H	HUMIDITY SENSOR
T	TEMPERATURE SENSOR
OS	OCCUPANCY SENSOR
CO	CARBON MONOXIDE SENSOR
NO	NOX SENSOR
O_2	OXYGEN SENSOR
GDP	GAS DETECTION SYSTEM CONTROL PANEL
	VISUAL INDICATOR ALARM
	AUDIBLE INDICATOR ALARM
BAS	BUILDING AUTOMATION SYSTEM
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
GP	BAS GRAPHICS POINT
AP	BAS ADJUSTABLE SET POINT
BV	BACNET BINARY VARIABLE
HOA	HAND-OFF-AUTO
	CONTROL WIRING

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	GENERAL
	EXISTING TO REMAIN
	EXISTING TO BE DEMOLISHED
R	EXISTING TO BE REMOVED FOR RELOCATION
R	EXISTING RELOCATED IN NEW WORK
	NEW WORK
CTE	CONNECT TO EXISTING
	AIRFLOW / PIPE FLOW DIRECTION
DN	PIPE TURNING DOWN
	PIPE TURNING UP
	PRESSURE REDUCING VALVE
T	ROOM THERMOSTAT
H	ROOM HUMIDISTAT
	PUMP
	AUTOMATIC CONTROL VALVE - TWO WAY
	AUTOMATIC CONTROL VALVE - THREE WAY
	ISOLATION VALVE
	BALANCING VALVE
	CHECK VALVE
	STRAINER - OVER 50MM WITH VALVED FLUSHING DRAIN
	PIPE BRANCH OFF TOP
	PIPE BRANCH OFF BOTTOM
	RELIEF VALVE (PIPE TO DRAIN)
	VACUUM BREAKER VALVE
	VENTURI VALVE
	PRESSURE GAUGE
	TEMPERATURE GAUGE
	STAINLESS STEEL BRAIDED FLEXIBLE HOSES
CAP	CAP
	SOLENOID VALVE
	SOLENOID VALVE
	FUSIBLE LINK VALVE
	ELECTRIC HEAT TRACING

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MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	PLUMBING
SAN	SANITARY DRAINAGE - ABOVE GROUND
SAN	SANITARY DRAINAGE - UNDERGROUND
SAN(AR)	SANITARY DRAINAGE (ACID RESISTANT) - ABOVE GROUND
SAN(AR)	SANITARY DRAINAGE (ACID RESISTANT) - UNDERGROUND
STM	STORM DRAINAGE - ABOVE GROUND
STM	STORM DRAINAGE - UNDERGROUND
PD	PUMPED DISCHARGE
	DOMESTIC COLD WATER SUPPLY
	DOMESTIC HOT WATER SUPPLY
	DOMESTIC HOT WATER RECIRC.
TW	TEMPERED WATER
ARV	ACID RESISTANT VENT
V	VENT
G	GAS
RO	REVERSE OSMOSIS PIPING
ISO	RADIO ISOTOPE DRAIN
CA	COMPRESSED AIR
	HEAT TRACING
	RUNNING TRAP
	P-TRAP
ES	EMERGENCY SHOWER
EW	EYE WASH
CO	CLEANOUT IN FLOOR/BELOW GRADE
CO	CLEANOUT IN CEILING
HB	HOSE BIBB
NFHB	NON FREEZE HOSE BIBB
G	SINGLE GAS OUTLET
G	DOUBLE GAS OUTLET
CA	COMPRESSED AIR OUTLET
RD	ROOF DRAIN
CFRD	CONTROL FLOW ROOF DRAIN
VTR	VENT THROUGH ROOF
RWL	RAIN WATER LEADER
TSP	TRAP SEAL PRIME
	SCUPPER DRAIN
MH	MANHOLE
CB	CATCH BASIN
TD	TRENCH GRATE & FRAME
AD	AREA DRAIN
FFD	FUNNEL FLOOR DRAIN
FD	FLOOR DRAIN
HD	HUB DRAIN
FS	FLOOR SINK
TDD	TERRACE DECK DRAIN
FRD	FLOOR DRAIN - FLUSHING RIM
M	WATER METER ASSEMBLY
G	GAS METER
	BACK WATER VALVE
BFP	BACKFLOW PREVENTER
"WC-1"	DENOTES FIXTURE TYPE PER SPECIFICATION

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MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	HEATING & COOLING
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HGR	HEATING GLYCOL RETURN
HGS	HEATING GLYCOL SUPPLY
HTWR	HIGH TEMPERATURE HEATING WATER RETURN
HTWS	HIGH TEMPERATURE HEATING WATER SUPPLY
HTGR	HIGH TEMPERATURE HEATING GLYCOL RETURN
HTGS	HIGH TEMPERATURE HEATING GLYCOL SUPPLY
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CHGR	CHILLED GLYCOL RETURN
CHGS	CHILLED GLYCOL SUPPLY
CNDR	CONDENSATE DRAIN
PC	PUMPED CONDENSATE
REFR	REFRIGERANT GAS
REFS	REFRIGERANT LIQUID
LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
V	VENT
ST-V	STEAM VENT
GEOS	GEO-EXCHANGE SUPPLY
GEOR	GEO-EXCHANGE RETURN
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
FOO	FUEL OIL OVERFLOW
BB - XXX	ELECTRIC BASEBOARD HEATER OUTPUT AS SHOWN (KW)
ECH	ELECTRIC CABINET HEATER
CUH	CABINET HEATER
UH	UNIT HEATER
CV 1200-5.6	CONVECTOR - LENGTH - HEAT OUTPUT (KW)
WF 1200-5.6	WALL FIN - LENGTH - HEAT OUTPUT (KW)
	UNION
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	EXPANSION COMPENSATOR
	EXPANSION SWING
	PIPE ANCHOR
	PIPE GUIDE
	PIPE SLEEVE
	FLOAT & THERMOSTATIC TRAP
	INVERTED BUCKET TRAP
	ELECTRIC TRACING
8C-600-1100 = 2.1	RADIANT PANEL - 8 DENOTES DEPTH, 600MM DENOTES HEIGHT, 1100MM DENOTES LENGTH & 2.1 HEAT OUTPUT (KW)

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	VENTILATION
FD	FUSIBLE LINK FIRE DAMPER
SD	SMOKE DAMPER
SFD	COMBINATION SMOKE/FIRE DAMPER
BDD	BACK DRAFT DAMPER
BD	BALANCING DAMPER
M	MOTORIZED DAMPER
	VENT
W x H	RECTANGULAR DUCTWORK - DIMENSION AS SHOWN
XXXØ	ROUND DUCTWORK - DIMENSION AS SHOWN
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR EXHAUST/RETURN DUCT UP
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT UP
	CIRCULAR EXHAUST/RETURN AIR DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR EXHAUST/RETURN DUCT DOWN
	CIRCULAR SUPPLY/OUTDOOR AIR DUCT DOWN
	CIRCULAR EXHAUST/RETURN AIR DUCT DOWN
	MITRED ELBOW WITH TURNING VANES
	SUPPLY GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	EXHAUST/RETURN GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	CEILING SUPPLY AIR DIFFUSER - DIMENSIONS SHOWN ON SCHEDULE
	SUPPLY AIR LINEAR SLOT DIFFUSER - DIMENSIONS SHOWN ON SCHEDULE
	CEILING EXHAUST/RETURN GRILLE - DIMENSIONS SHOWN ON SCHEDULE
	SUPPLY AIR ROUND DIFFUSER
	BRANCH TAKE-OFF WITH ADJUSTABLE SPLITTER DAMPER IN SUPPLY DUCT
O.E.D.	OPEN ENDED DUCT WITH BALANCING DAMPER AND BELLMOUTH. DIRECTION AS SHOWN
	FLEXIBLE DUCT CONNECTION
	ACOUSTICALLY LINED DUCTWORK
SIL	SILENCER (ATTENUATOR)
	FLEXIBLE DUCT (DOUBLE LINE)
	FLEXIBLE DUCT (SINGLE LINE)
	FLEXIBLE DUCT CONNECTION WITH BALANCING DAMPER ON TAKE-OFF
	DUCT MOUNTED HEATING COIL
	SUPPLY AIR TERMINAL BOX C/W REHEAT COIL AND ATTENUATOR.
	SUPPLY AIR TERMINAL BOX C/W ATTENUATOR.
	RETURN / EXHAUST AIR TERMINAL BOX ATTENUATOR.
	FIRE RATED DUCTWORK (DOUBLE LINE)
	DUCT TRANSITION FROM RECTANGULAR TO ROUND
	RECTANGULAR DUCT BREAK
	ROUND DUCT BREAK
	SINGLE LINE DUCT BREAK
U/C	3/4" DOOR UNDERCUT
	TRANSFER AIR DUCT
	SUPPLY AIR LIGHT TROFFER
U/C	3/4" DOOR UNDERCUT
TYPE / NECK SIZE (mm) / A-200Ø-100 / AIRFLOW IN CFM	DIFFUSER TAG
TYPE A-100 / AIRFLOW IN CFM A-WxH-100 / AIRFLOW IN CFM / GRILLE SIZE	GRILLE TAG

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

MECHANICAL LEGEND

FIRE PROTECTION

SYMBOL	DESCRIPTION
SP	SPRINKLER LINE
FM	FIRE MAIN
F	STANDPIPE
WFA	WATER FLOW ALARM
SV	SUPERVISED VALVE
PS	PRESSURE SWITCH
	TEST CONNECTION
	SPRINKLER FIRE DEPARTMENT CONNECTION
	PENDENT SPRINKLER HEAD
	UPRIGHT SPRINKLER HEAD
	CONCEALED SPRINKLER HEAD
	FIRE SUPPRESSION (CLEAN AGENT) HEAD
	SIDEWALL SPRINKLER HEAD
PIV	POST-INDICATOR VALVE
SVC	SPRINKLER VALVE CABINET
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
F	FIRE EXTINGUISHER C/W WALL BRACKET
	FIRE HYDRANT C/W SHUT-OFF VALVE
	AIR COMPRESSOR
	PRESSURE SWITCH WATER FLOW ALARM EXCESS PRESSURE PUMP WET ALARM CHECK VALVE TEST & DRAIN VALVE
	WATER FLOW ALARM PRESSURE SWITCH DRY ALARM CHECK VALVE TEST & DRAIN VALVE

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

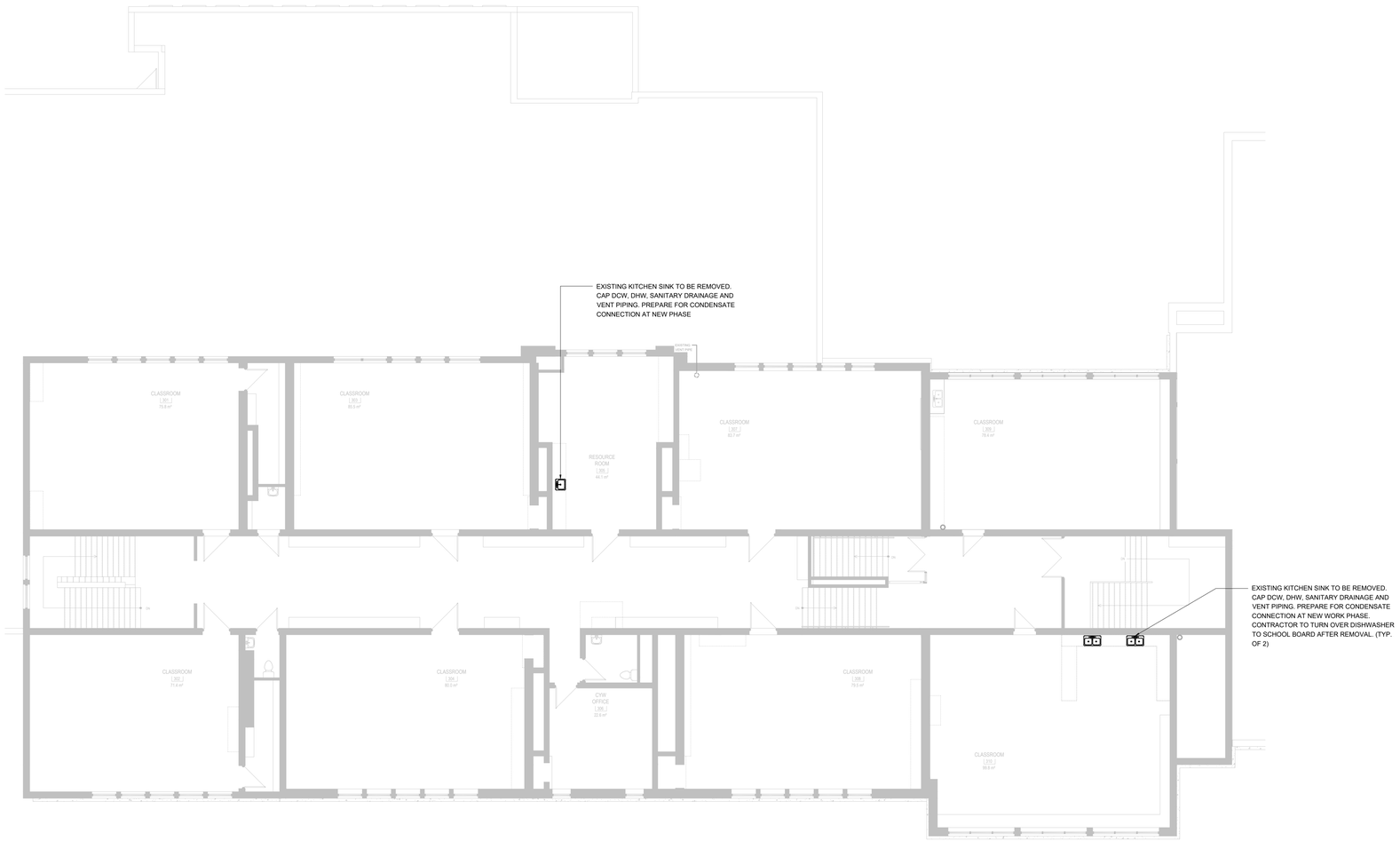
MECHANICAL LEGEND AND DRAWING LIST

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-001

PLUMBING GENERAL NOTES - DEMOLITION

1. ALL EXISTING PLUMBING SERVICES SHOWN IN THIS DRAWING TO REMAIN UNLESS NOTED OTHERWISE. EXISTING PIPE LOCATIONS ARE APPROXIMATE AND SHOULD BE CONFIRMED ON SITE.
2. CONTRACTOR TO REVIEW EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK AND PROVIDE CONSULTANT ANY DISCREPANCIES BASED ON SITE CONDITIONS AS NEEDED.
3. CONTRACTOR TO INCLUDE FOR TEMPORARY ISOLATION OF EXISTING PLUMBING SERVICES OF DCW/DHW/DHWR PIPING SYSTEM FOR DRAINAGE OR PIPE FREEZING TO FACILITATE WORK.



1 PLUMBING & DRAINAGE - DEMOLITION - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
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100142204
May 2, 2025
PROVINCE OF ONTARIO

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ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

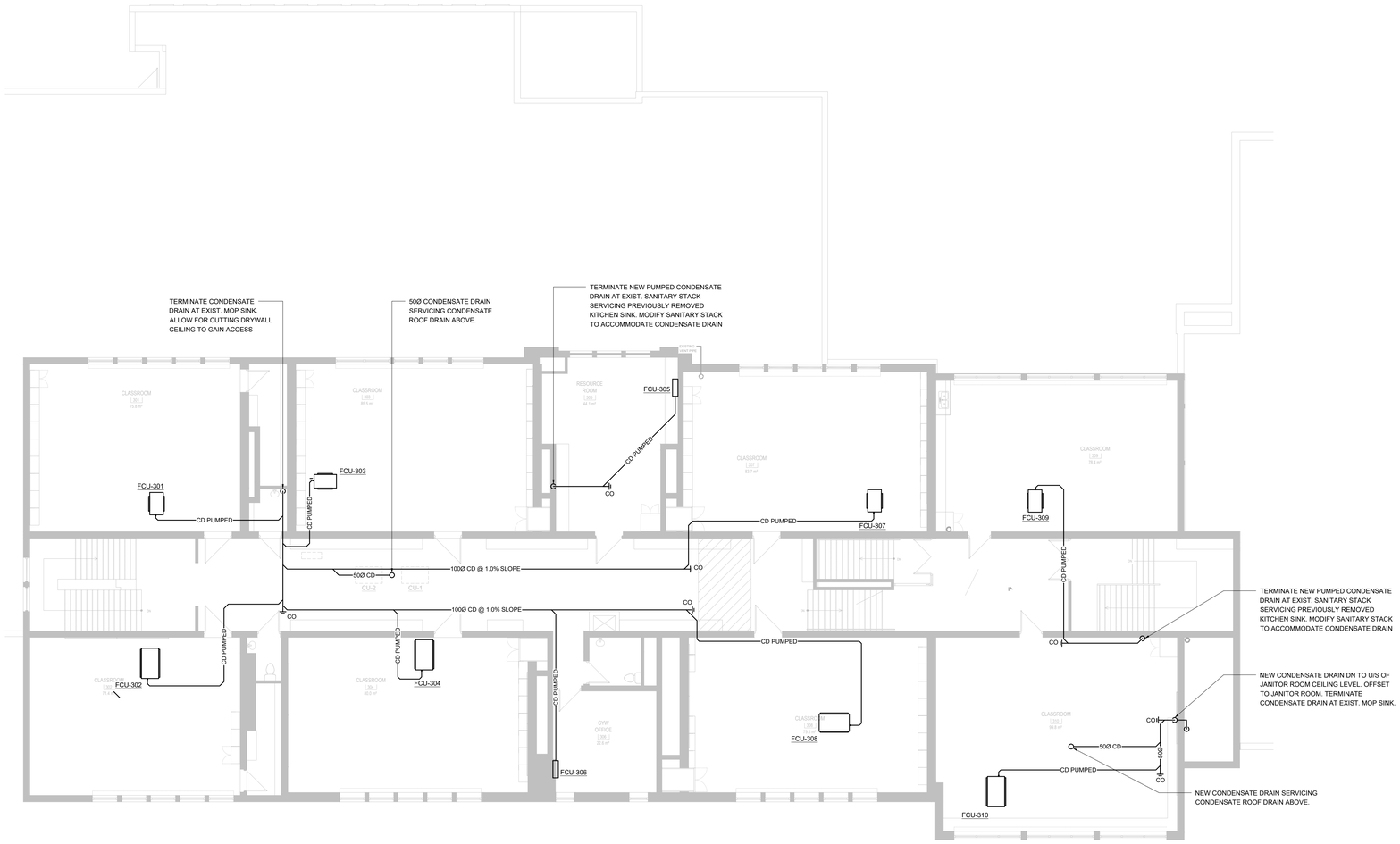
PLUMBING & DRAINAGE - DEMOLITION - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-202

PLUMBING GENERAL NOTES - NEW WORK

1. PLUMBING AND SANITARY DRAINAGE LAYOUTS AS SHOWN ON PLANS IS TO SHOW DESIGN INTENT. CONTRACTOR SHALL COORDINATE ROUTING AND ALL NECESSARY FITTINGS TO ACCOMMODATE THE SITE CONDITIONS AND TO MEET THE DESIGN INTENT.
2. VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
3. PROVIDE FOR ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE THE INSTALLATION OF THE MECHANICAL SERVICES OUTLINED FOR THIS SCOPE OF WORK.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS
5. COORDINATE PLUMBING WITH WORK OF OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
6. ALL GRAVITY DRAINAGE PIPING 100Ø AND LARGER TO BE SLOPED AT 1% UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPING, 75Ø AND LESS TO BE SLOPED AT 2%.
7. PROVIDE INSULATION AND PVC JACKETING FOR ALL NEW PIPING PER SPECIFICATIONS



1 PLUMBING & DRAINAGE - NEW WORK - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
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1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:
PLUMBING & DRAINAGE - NEW WORK - LEVEL 2

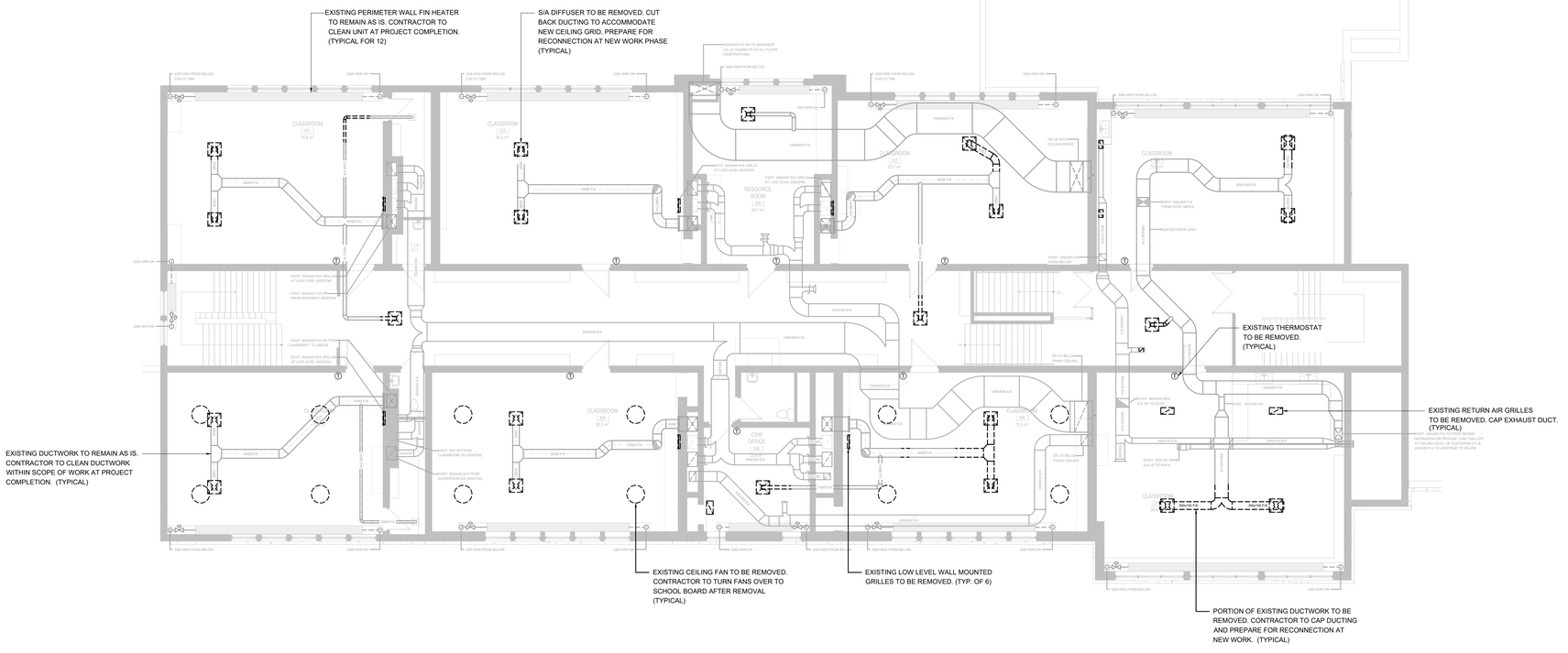
PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-252

VENITLATION GENERAL NOTES - DEMOLITION

1. ALL EXISTING MECHANICAL SERVICES SHOWN IN THIS DRAWING TO REMAIN UNLESS NOTED OTHERWISE.
   THE LOCATION OF ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, CONTROLS AND ACCESSORIES ARE APPROXIMATE AND SHOULD BE CONFIRMED ON SITE.
2. CONTRACTOR TO REVIEW EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK AND PROVIDE CONSULTANT ANY DISCREPANCIES BASED ON SITE CONDITIONS AS NEEDED.
3. CONTRACTOR TO ISOLATE RENOVATION AREA TO CONTROL AND CONTAIN ALL DUST AND DEBRIS WITHIN CONSTRUCTION AREA DURING DEMOLITION PHASE

NOTE:
CONTRACTOR TO ALLOW FOR THE REMOVAL OF ALL EXISTING CEILING DIFFUSERS AND RE-CONNECTION AFTER THE CEILING WORK HAS BEEN COMPLETED



1 VENTILATION AND HEATING PIPING - DEMOLITION - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
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100142204
May 2, 2025
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ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

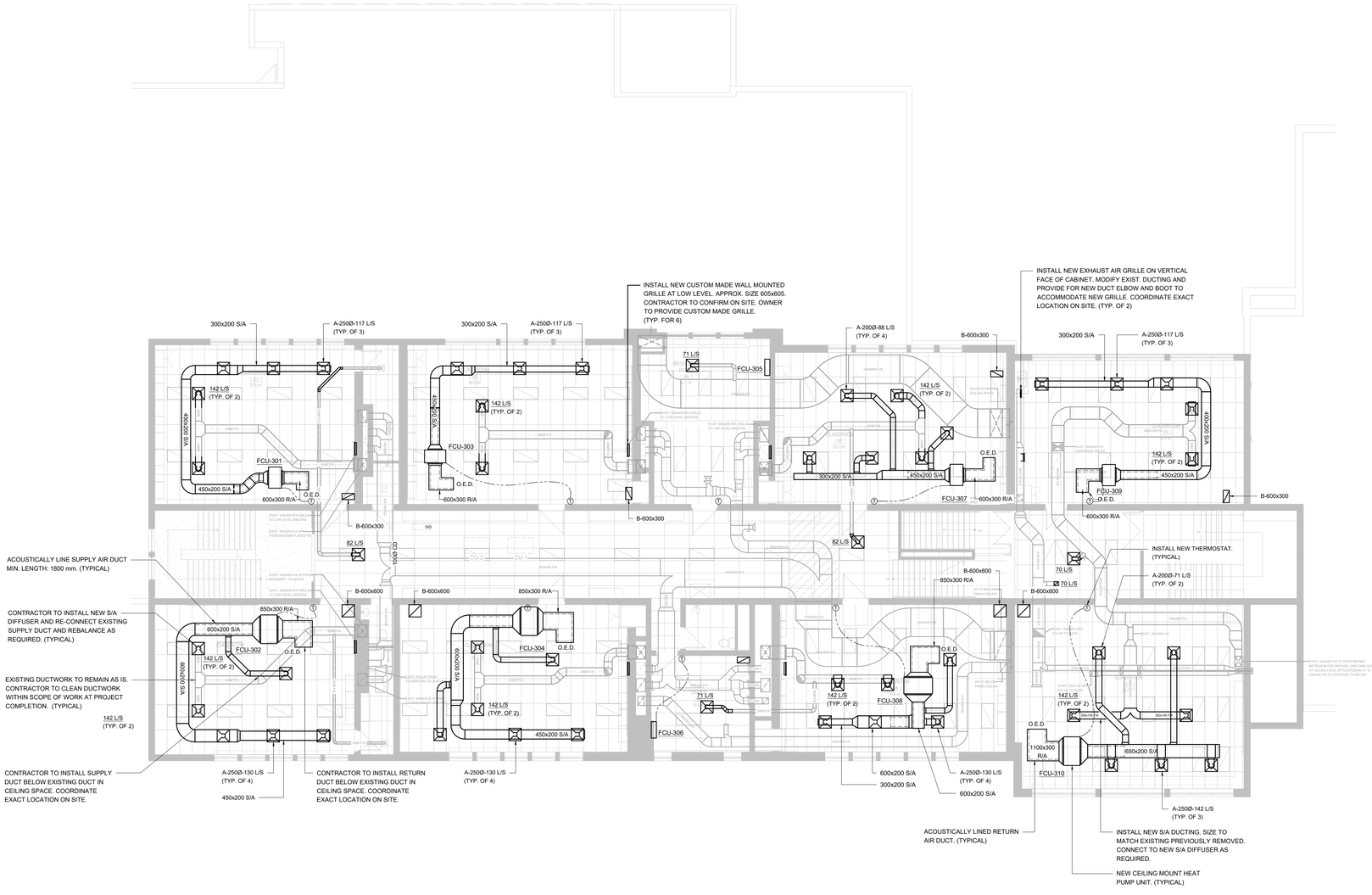
HVAC - DEMOLITION - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-302

VENTILATION GENERAL NOTES - NEW WORK

1. VENTILATION LAYOUTS AS SHOWN ON PLANS IS TO SHOW DESIGN INTENT INDICATE GENERAL LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. CONTRACTOR SHALL COORDINATE ROUTING AND ALL NECESSARY FITTINGS TO ACCOMMODATE THE SITE CONDITIONS AND TO MEET THE DESIGN INTENT.
2. VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
3. PROVIDE FOR ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE THE INSTALLATION OF THE MECHANICAL SERVICES OUTLINED FOR THIS SCOPE OF WORK.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS
5. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN GUIDELINES. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR COMPLETE INSTALLATION.
6. COORDINATE VENTILATION WORK WITH WORK OF OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
7. PROVIDE BALANCING DAMPERS ARE BRANCH TAKE OFFS FOR EACH DIFFUSER
8. PROVIDE ALL DUCT TRANSITIONS, FITTINGS TO SUIT INSTALLATION OF DUCTWORK, TAKE OFFS FOR DIFFUSERS AND GRILLES.
9. REFER TO ARCHITECTURAL DRAWINGS FOR FINAL LOCATION OF DIFFUSERS AND GRILLE LOCATIONS
10. PROVIDE ACCESS PANELS WHERE REQUIRED



1 VENTILATION AND HEATING PIPING - NEW WORK - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

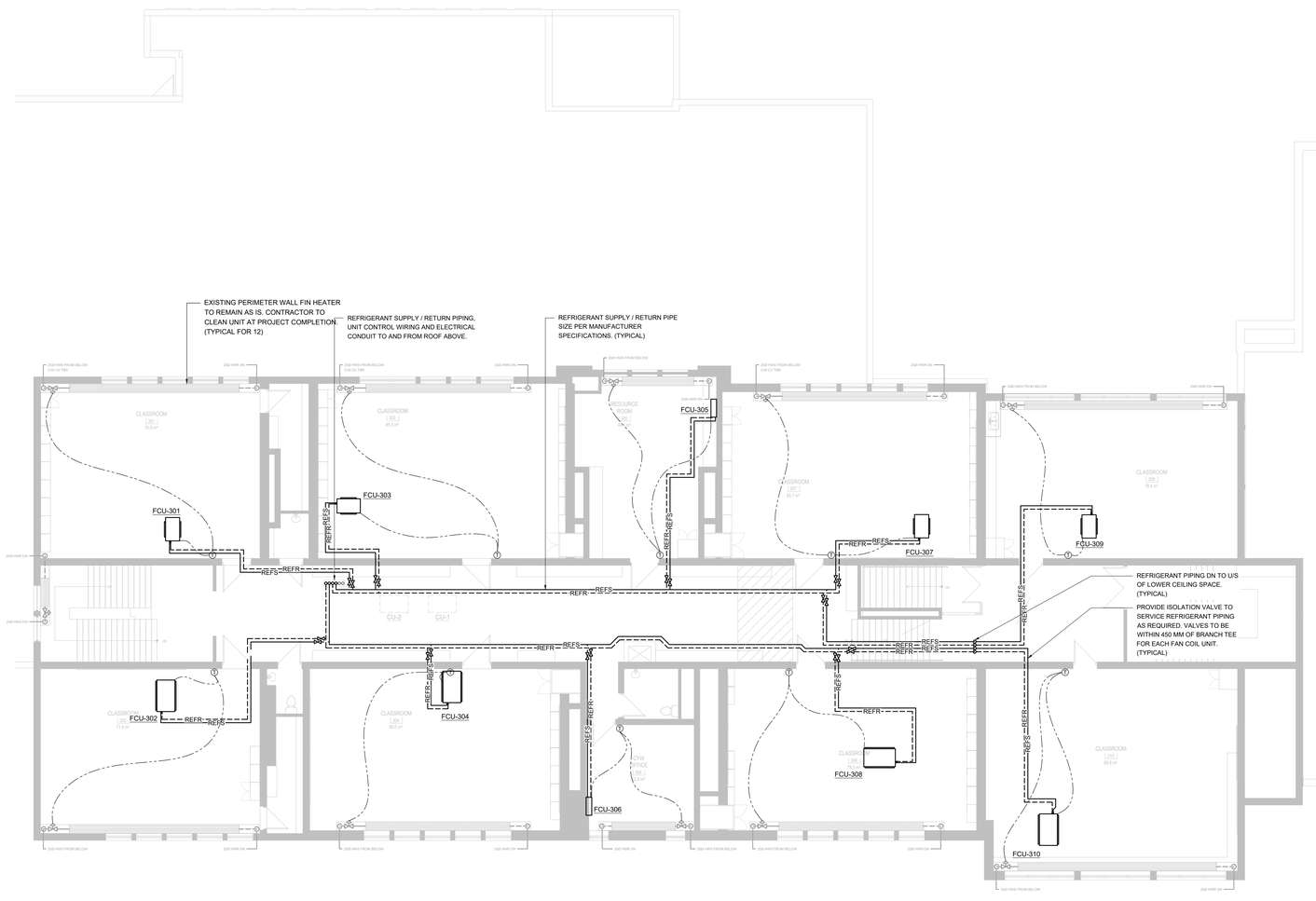
HVAC - NEW WORK - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-352

HEATING & COOLING GENERAL NOTES - NEW WORK

1. HEATING & COOLING LAYOUTS AS SHOWN ON PLANS IS TO SHOW DESIGN INTENT INDICATE GENERAL LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. CONTRACTOR SHALL COORDINATE ROUTING AND ALL NECESSARY FITTINGS TO ACCOMMODATE THE SITE CONDITIONS AND TO MEET THE DESIGN INTENT.
2. VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
3. PROVIDE FOR ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE THE INSTALLATION OF THE SERVICES OUTLINED FOR THIS SCOPE OF WORK.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS
5. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN GUIDELINES. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR COMPLETE INSTALLATION.
6. COORDINATE PIPING WORK WITH WORK OF OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
7. PROVIDE ISOLATION VALVES AT BRANCH TAKE OFFS SERVICING EACH MECHANICAL EQUIPMENT
8. PROVIDE INSULATION AND PVC JACKETING FOR ALL NEW PIPING PER SPECIFICATIONS
9. PROVIDE ACCESS PANELS WHERE REQUIRED



1 PLUMBING & DRAINAGE - NEW WORK - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

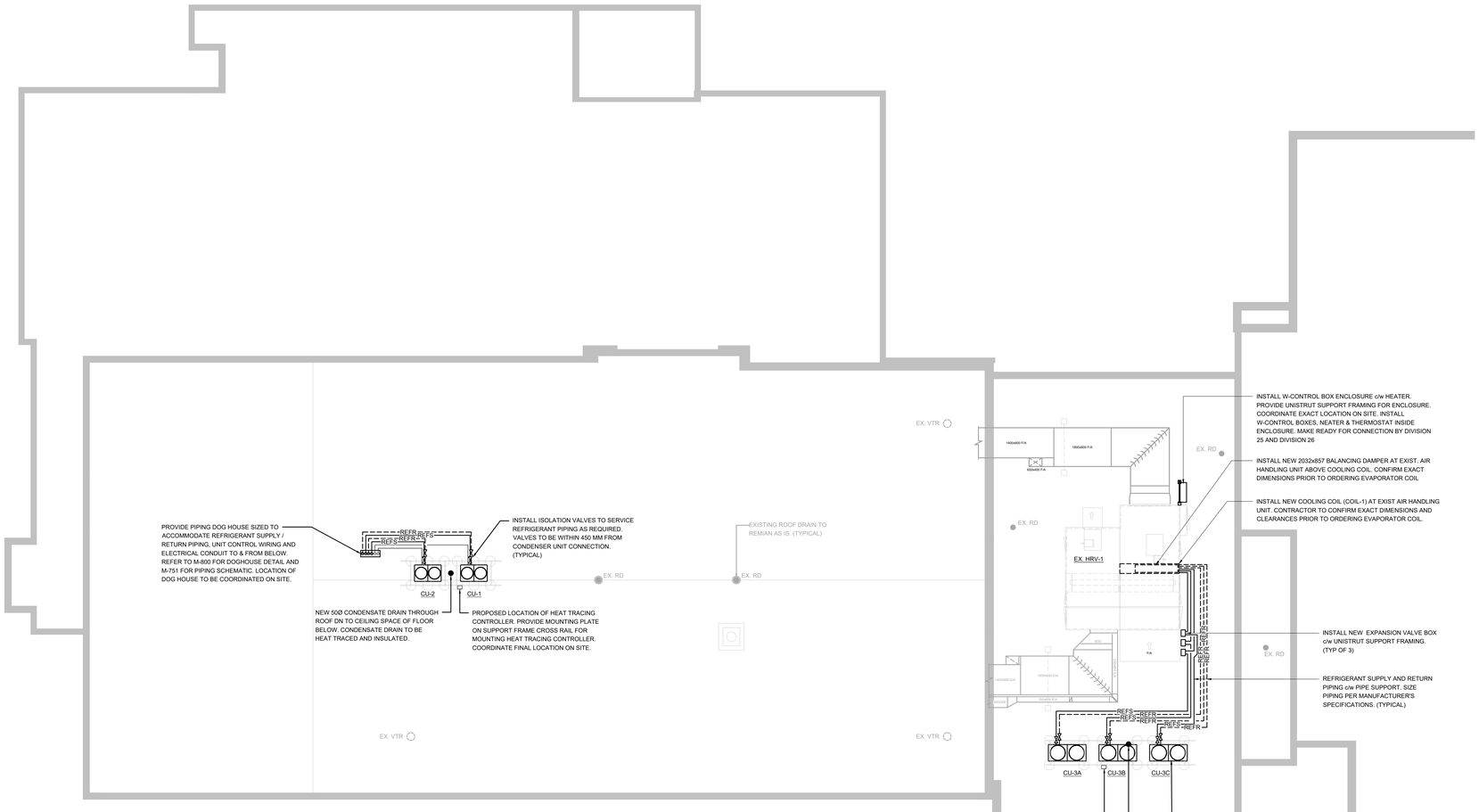
SHEET TITLE:
HVAC PIPING - NEW WORK - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-353

MECHANICAL GENERAL NOTES - NEW WORK

1. MECHANICAL SERVICES LAYOUTS AS SHOWN ON PLANS IS TO SHOW DESIGN INTENT INDICATE GENERAL LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. CONTRACTOR SHALL COORDINATE ROUTING AND ALL NECESSARY FITTINGS TO ACCOMMODATE THE SITE CONDITIONS AND TO MEET THE DESIGN INTENT.
2. VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
3. CONTRACTOR TO CONFIRM ROOF WARRANTY WITH WRDSB AND COORDINATE, IN ADVANCE, ALL ROOFING WORK TO BE COMPLETED WITH WARRANTY HOLDER AND WRDSB APPROVED VENDOR
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS
5. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN GUIDELINES. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR COMPLETE INSTALLATION.
6. COORDINATE MECHANICAL SERVICES WORK WITH WORK OF OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. PROVIDE ALL EQUIPMENT, CONTROLS, ACCESSORIES, FITTINGS, OFFSETS AND TRANSITIONS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.



1 VENTILATION AND HEATING PIPING - DEMOLITION & NEW WORK - ROOF
1:100

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

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ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

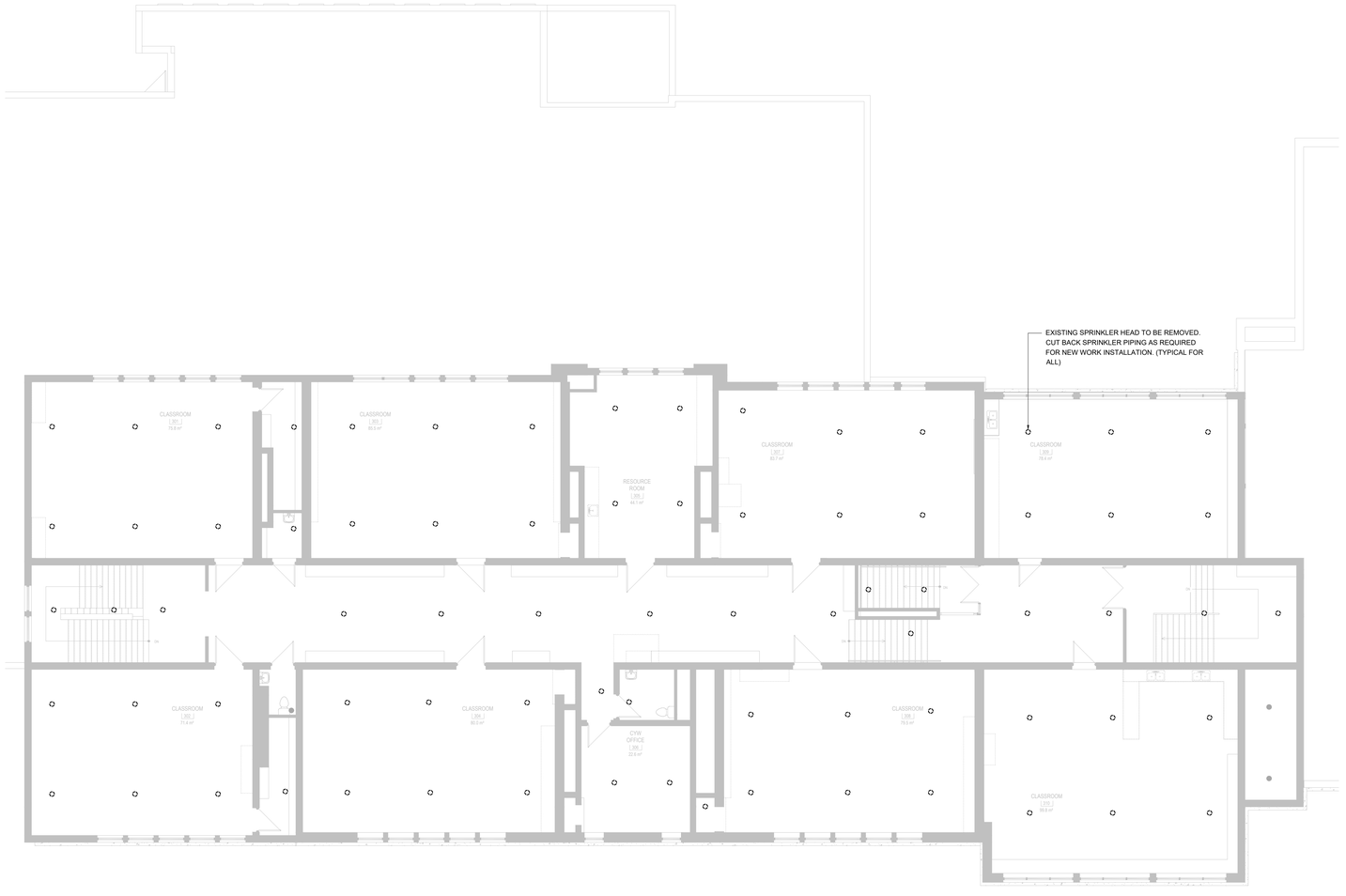
HVAC - DEMOLITION & NEW WORK - ROOF

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-354

SPRINKLER GENERAL NOTES - DEMOLITION

1. THIS SPRINKLER DRAWING IS PREPARED TO GIVE THE CONTRACTOR THE DESIGN INTENT, THE SCOPE OF WORK AND TO ASSIST IN PRICING THE SPRINKLER WORK. THE SUCCESSFUL SPRINKLER CONTRACTOR SHALL OBTAIN COPIES OF CALCULATIONS AND ANY DRAWINGS REQUIRED FROM THE OWNER AND/OR THE ORIGINAL INSTALLING CONTRACTOR IN ORDER TO COMPLETE THIS DESIGN. THE CONTRACTOR SHALL INCLUDE FOR ALL NECESSARY REQUIREMENTS TO COMPLETE THE DESIGN IF THE ABOVE INFORMATION IS NOT AVAILABLE OR ACCEPTABLE.
2. THE LOCATION OF ALL EXISTING SPRINKLER HEADS ARE APPROXIMATE AND SHOULD BE CONFIRMED ON SITE.
3. CONTRACTOR TO REVIEW EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK AND PROVIDE CONSULTANT ANY DISCREPANCIES BASED ON SITE CONDITIONS AS NEEDED.
4. CONTRACTOR TO ISOLATE RENOVATION AREA TO CONTROL AND CONTAIN ALL DUST AND DEBRIS WITHIN CONSTRUCTION AREA DURING DEMOLITION PHASE
5. COORDINATE WITH OWNER FOR DRAIN TIME AND REFILL OF SPRINKLER SYSTEM



1 FIRE PROTECTION - DEMOLITION - LEVEL 2
1:100

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QUASAR PROJECT No.: ED-22-405

N

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
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ISSUE DATE:

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

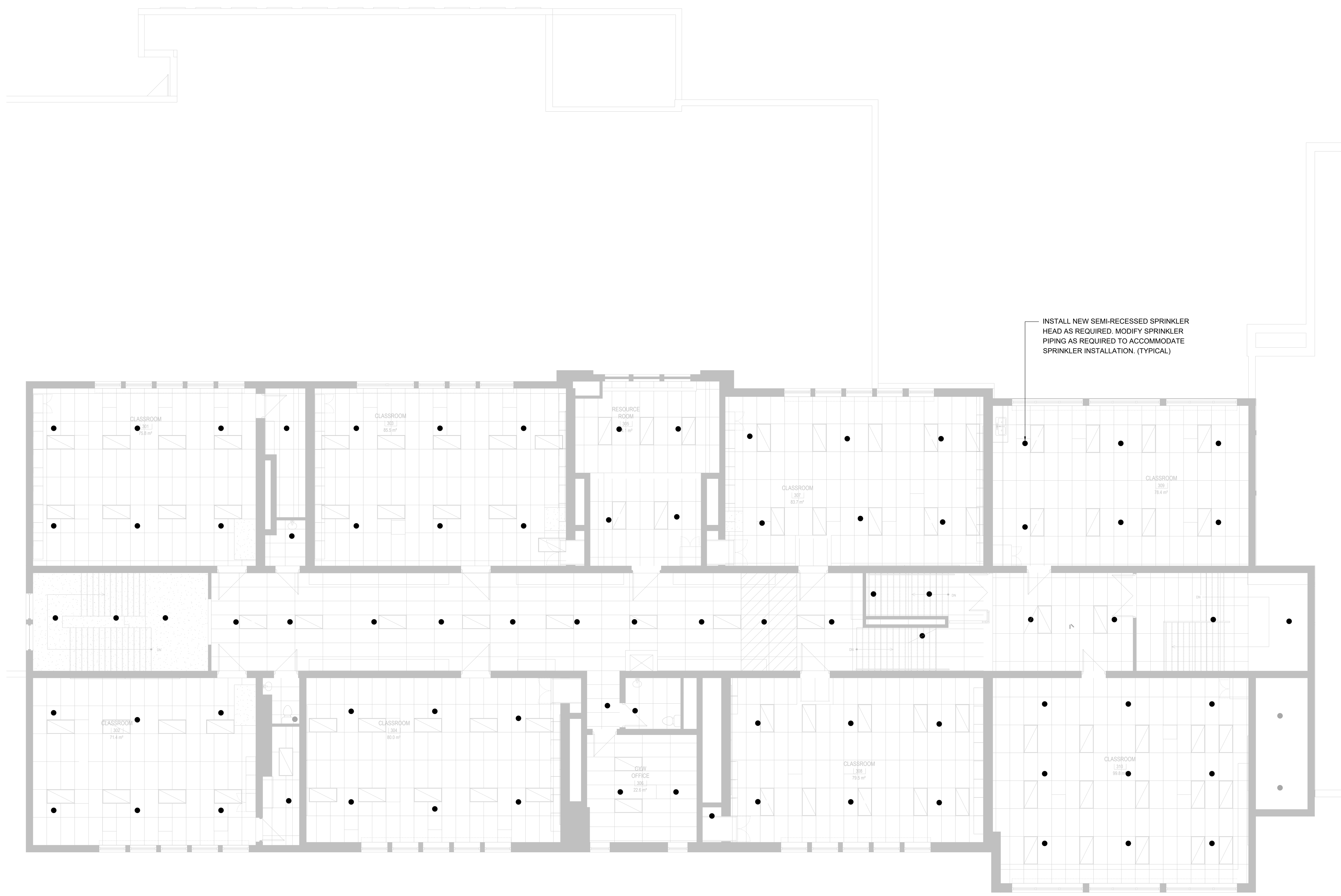
SHEET TITLE:
FIRE PROTECTION - DEMOLITION - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-502

FIRE PROTECTION GENERAL NOTES - NEW WORK

1. THE SPRINKLER DRAWING IS PREPARED TO GIVE THE CONTRACTOR THE DESIGN INTENT, THE SCOPE OF WORK AND TO ASSIST IN PRICING THE SPRINKLER WORK. THE SUCCESSFUL SPRINKLER CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS AND SUBMIT TO THE CITY FIRE DEPARTMENT AND TO THE CONSULTANT FOR APPROVAL. CONTRACTOR SHALL OBTAIN COPIES OF CALCULATIONS AND ANY DRAWINGS REQUIRED FROM THE OWNER AND/OR THE ORIGINAL INSTALLING CONTRACTOR IN ORDER TO COMPLETE THIS DESIGN. THE CONTRACTOR SHALL INCLUDE FOR ALL NECESSARY REQUIREMENTS TO COMPLETE THE DESIGN IF THE ABOVE INFORMATION IS NOT AVAILABLE OR ACCEPTABLE.
2. VISIT THE SITE TO VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS AND THAT ADDITIONAL COSTS ARE INCLUDED IN BID TO FACILITATE INSTALLATION. NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS, AND INTERFERENCES.
3. PROVIDE FOR ALL REQUIRED CUTTING AND PATCHING OF EXISTING CEILINGS AND WALLS TO FACILITATE THE INSTALLATION OF THE SERVICES OUTLINED FOR THIS SCOPE OF WORK.
4. SPRINKLER CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEER OR WONER BEFORE PROCEEDING WITH THE WORK.
5. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS.
6. SYSTEM SHALL BE DESIGNED, INSTALLED, SUPPORTED, FLUSHED AND TESTED IN FULL ACCORDANCE WITH NFPA 13 STANDARDS, LOCAL BUILDING DEPARTMENT AND FIRE DEPARTMENT STANDARDS.
7. ALL COMPONENTS SHALL BE ULC LISTED AND APPROVED FOR IT'S SPECIFIC APPLICATION.
8. ALL SPRINKLER HEADS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN GUIDELINES.
9. CONTRACTOR SHALL CO-ORDINATE SPRINKLER HEAD LOCATIONS IN AREAS WITH SUSPENDED CEILINGS WITH THE LOCATION OF LIGHTING, GRILLES, DIFFUSERS, AND SIMILAR ITEMS RECESSED IN OR SURFACE MOUNTED ON THE CEILING. IN AREAS WITH LAY-IN TILE, CENTRE THE SPRINKLER HEAD BOTH WAYS IN THE LAY-IN TILE.
10. COORDINATE SPRINKLER WORK WITH WORK OF OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. PROVIDE ALL PIPE, FITTINGS, OFFSETS AND TRANSITIONS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
11. NO FLEXIBLE PIPE SHALL BE USED. IF CONTRACTOR PROCEEDS WITH USE OF FLEXIBLE PIPE, CONTRACTOR IS RESPONSIBLE FOR PROVIDING NEW HYDRAULIC CALCULATIONS
12. EACH NEW ARM, DROP OR STRAIGHT RUN MORE THAN 2 FEET REQUIRES HANGERS.
13. SPRINKLER CONTRACTOR TO PROVIDE AN INSTALLATION COMPLIANCE LETTER.
14. COORDINATE WITH OWNER FOR DRAIN TIME AND REFILL OF SPRINKLER SYSTEM.



1 FIRE PROTECTION - NEW WORK - LEVEL 2
1:100

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QUASAR CONSULTING GROUP
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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
100142204
May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

FIRE PROTECTION - NEW WORK - LEVEL 2

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-552

GENERAL CONTROLS NOTES:
1. ALL NEW BUILDING AUTOMATION SYSTEM TO BE PROVIDED BY ENERGY CONTROLS BUILDING AUTOMATION INC.
2. REFER TO FLOORPLANS FOR QUANTITIES OF ALL DEVICES REQUIRING CONTROL.
3. ALL SETPOINTS ARE TO BE ADJUSTABLE.

OPERATING MODE:
1. THE SYSTEM SHALL BE ENABLED ACCORDING TO THE FOLLOWING MODE:
   - OUTDOOR TEMPERATURE

INITIAL SET UP:
1. HEAT TRACING BE NORMALLY DISABLED AND SHALL BE ENABLED AT THE BAS.

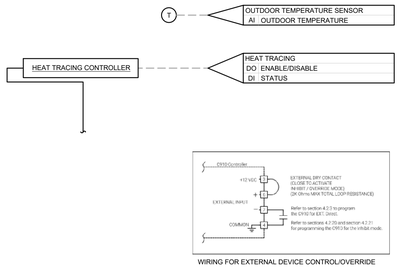
HEAT TRACING CONTROL:
1. HEAT TRACING CONTROLLER CAN BE FORCED ON OR OFF USING AND EXTERNAL DEVICE WITH A DRY CONTRACT.
2. LOCAL THERMOSTAT READING AMBIENT TEMPERATURE WITH OVERRIDE SIGNAL FROM BAS.

TEMPERATURE CONTROL:

1.1. HEAT TRACING SHALL OPERATE UNDER ITS OWN SET OF CONTROLS
1.2. IF THE OUTDOOR AIR TEMPERATURE IS ABOVE 4°C, HEAT TRACING OFF.
1.3. IF THE OUTDOOR AIR TEMPERATURE IS BETWEEN -5°C AND +4°C, HEAT TRACING ON.
1.4. IF THE OUTDOOR AIR TEMPERATURE IS BELOW -5°C, HEAT TRACING OFF.
1.5. IF THE CONDENSERS ARE COMMANDED OFF, HEAT TRACING OFF.

SYSTEM ALARMS & PRIORITY AT BAS:
- LOW/HIGH TEMPERATURE
- LOW CURRENT
- GROUND-FAULT ALARM, TRIP
- RTD FAILURE
- LOSS OF PROGRAMMED VALUES
- EMR FAILURE

SYSTEM TRENDS AT BAS:
- CONTACTOR CYCLE COUNT
- TIME IN USE
- MINIMUM AND MAXIMUM TEMPERATURE
- MAXIMUM GROUND-FAULT CURRENT
- MAXIMUM HEAT CURRENT



WIRING FOR EXTERNAL DEVICE CONTROL/OVERRIDE

1 TYPICAL VRF SYSTEM CONTROL SEQUENCE
NOT TO SCALE

OPERATING MODE:
1. THE SYSTEM SHALL BE ENABLED ACCORDING TO THE FOLLOWING MODE:
   - SPACE TEMPERATURE CONTROL MODE

INITIAL SET UP:
1. VRF SYSTEMS SHALL BE NORMALLY DISABLED AND SHALL BE ENABLED AT THE BAS.
2. T1 SHALL MAINTAIN THE SPACE TEMPERATURE SET POINTS.

VRF FAN COIL UNIT CONTROL:
1. PROVIDE STAND ALONE PACKAGE DX FAN COIL UNIT AND CONTROL PANEL. VRF FAN COIL CONTROL BY BAS.
2. VRF SHALL PROVIDE COOLING AND HEATING FUNCTIONS

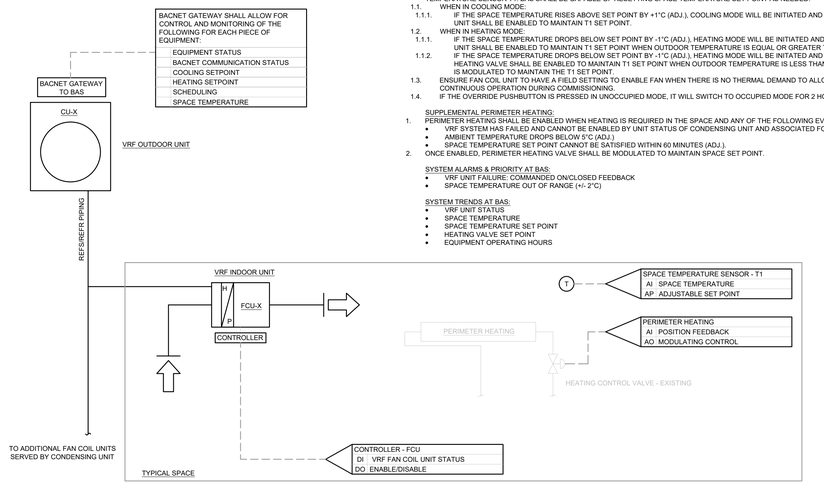
TEMPERATURE CONTROL:
- T1 SHALL BE SET TO 24°C (ADJ.) IN COOLING OCCUPIED MODE.
- T1 SHALL BE SET TO 22°C (ADJ.) IN HEATING OCCUPIED MODE.
- T1 SHALL BE SET TO 18°C (ADJ.) IN HEATING UNOCCUPIED MODE.

1. VRF SYSTEM SHALL OPERATE UNDER ITS OWN SET OF CONTROLS TO MAINTAIN TEMPERATURE SET POINTS AS SENSED BY LOCAL TEMPERATURE SENSOR T1. BAS SHALL BE CAPABLE OF RESETTING SPACE TEMPERATURE SET POINT AS NEEDED.
1.1. WHEN IN COOLING MODE:
1.1.1. IF THE SPACE TEMPERATURE RISES ABOVE SET POINT BY +1°C (ADJ.), COOLING MODE WILL BE INITIATED AND VRF FAN COIL UNIT SHALL BE ENABLED TO MAINTAIN T1 SET POINT.
1.2. WHEN IN HEATING MODE:
1.1.1. IF THE SPACE TEMPERATURE DROPS BELOW SET POINT BY -1°C (ADJ.), HEATING MODE WILL BE INITIATED AND VRF FAN COIL UNIT SHALL BE ENABLED TO MAINTAIN T1 SET POINT WHEN OUTDOOR TEMPERATURE IS EQUAL OR GREATER THAN 5°C.
1.1.2. IF THE SPACE TEMPERATURE DROPS BELOW SET POINT BY -1°C (ADJ.), HEATING MODE WILL BE INITIATED AND PERIMETER HEATING VALVE SHALL BE ENABLED TO MAINTAIN T1 SET POINT WHEN OUTDOOR TEMPERATURE IS LESS THAN 5°C. THE VALVE IS MODULATED TO MAINTAIN THE T1 SET POINT.
1.3. ENSURE FAN COIL UNIT TO HAVE A FIELD SETTING TO ENABLE FAN WHEN THERE IS NO THERMAL DEMAND TO ALLOW FOR CONTINUOUS OPERATION DURING COMMISSIONING.
1.4. IF THE OVERRIDE PUSHBUTTON IS PRESSED IN UNOCCUPIED MODE, IT WILL SWITCH TO OCCUPIED MODE FOR 2 HOURS.

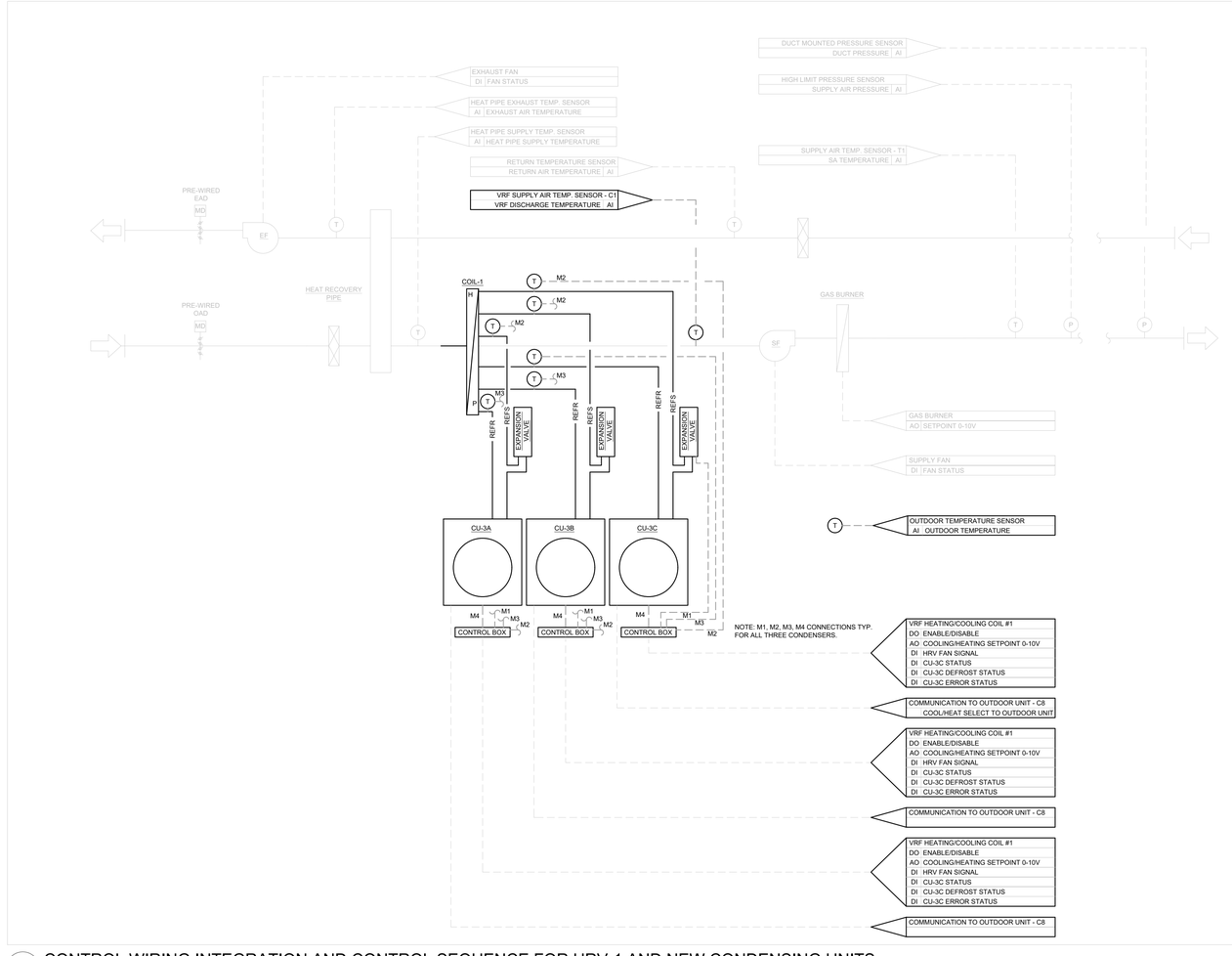
SUPPLEMENTAL PERIMETER HEATING:
1. PERIMETER HEATING SHALL BE ENABLED WHEN HEATING IS REQUIRED IN THE SPACE AND ANY OF THE FOLLOWING EVENTS OCCUR:
   - VRF SYSTEM HAS FAILED AND CANNOT BE ENABLED BY UNIT STATUS OF CONDENSING UNIT AND ASSOCIATED FCUS.
   - AMBIENT TEMPERATURE DROPS BELOW 5°C (ADJ.)
   - SPACE TEMPERATURE SET POINT CANNOT BE SATISFIED WITHIN 60 MINUTES (ADJ.).
2. ONCE ENABLED, PERIMETER HEATING VALVE SHALL BE MODULATED TO MAINTAIN SPACE SET POINT.

SYSTEM ALARMS & PRIORITY AT BAS:
- VRF UNIT FAILURE: COMMANDED ON/CLOSED FEEDBACK
- SPACE TEMPERATURE OUT OF RANGE (+/- 2°C)

SYSTEM TRENDS AT BAS:
- VRF UNIT STATUS
- SPACE TEMPERATURE
- SPACE TEMPERATURE SET POINT
- HEATING VALVE SET POINT
- EQUIPMENT OPERATING HOURS



1 TYPICAL VRF SYSTEM CONTROL SEQUENCE
NOT TO SCALE



2 CONTROL WIRING INTEGRATION AND CONTROL SEQUENCE FOR HRV-1 AND NEW CONDENSING UNITS
NOT TO SCALE

OPERATING MODE:
1. THE SYSTEM SHALL BE ENABLED BY THE BAS AND THE SYSTEM SHALL OPERATE AS 100% OUTDOOR AIR.
2. VRF HEATING/COOLING COILS ARE PRIMARY HEATING/COOLING STAGES.
3. GAS HEATING ENABLED WHEN OUTDOOR TEMPERATURE IS EQUAL OR LESS THAN 5°C.

INITIAL SET UP:
1. OUTDOOR AIR DAMPER SHALL BE NORMALLY CLOSED.
2. HEAT PIPE BYPASS DAMPER SHALL BE NORMALLY CLOSED.
3. GAS HEATING SHALL BE DISABLED.
4. VRF CONDENSING UNITS SERVING COILS SHALL BE DISABLED.
5. DUCT MOUNTED PRESSURE SENSOR SHALL BE LOCATED APPROXIMATELY TWO-THIRDS DOWNSTREAM OF THE FAN. FINAL LOCATION SHALL BE COORDINATED WITH THE BALANCING CONTRACTOR AND THE CONTROLS CONTRACTOR.
6. FANS SHALL BE ENABLED/DISABLED LOCALLY AT THE UNIT OR REMOTELY THROUGH THE BAS.

SUPPLY FAN CONTROL:
1. WHEN UNIT IS ENABLED, SUPPLY FAN SHALL BE ENABLED. UNIT WIRED ISOLATION DAMPER SERVING FAN SHALL BE PROVEN OPEN BEFORE FAN STARTS.
2. ONCE ISOLATION DAMPER IS PROVEN OPEN, FANS SHALL START AND OPERATE AT CONSTANT SPEED.

EXHAUST FAN CONTROL:
1. WHEN UNIT IS ENABLED, EXHAUST FAN SHALL BE ENABLED. UNIT WIRED ISOLATION DAMPER SERVING FAN SHALL BE PROVEN OPEN BEFORE FAN STARTS.
2. ONCE FAN STARTS, FAN SHALL OPERATE AT CONSTANT SPEED.

TEMPERATURE CONTROL:
- THE AIR HANDLING SYSTEM SHALL MAINTAIN SUPPLY AIR TEMPERATURE OF 18°C COOLING AND 22°C IN HEATING.
- VRF HEATING/COOLING COILS SHALL OPERATE UNDER THEIR OWN CONTROLS TO MAINTAIN SUPPLY AIR TEMPERATURE.

1. THE SUPPLY AIR TEMPERATURE SENSOR ENABLES VRF SYSTEM TO MAINTAIN SET POINT. CONDENSING UNIT CU-3A SHALL BE ENABLED ON A 0-10V MODULATING SIGNAL TO MEET TEMPERATURE SETPOINT. IF UNNABLE TO REACH SETPOINT WITHIN 15 MINUTES, CU-3B SHALL BE ENABLED ON A 0-10V MODULATING SIGNAL TO MEET TEMPERATURE SETPOINT. IF UNNABLE TO REACH SETPOINT FOR 15 MINUTES, CU-3C SHALL BE ENABLED ON A 0-10V MODULATING SIGNAL TO MEET TEMPERATURE SETPOINT.
2. THE SUPPLY AIR TEMPERATURE SENSOR MODULATES THE GAS HEATING TO MAINTAIN SETPOINT, WHICH IS RESET FROM OUTSIDE AIR TEMPERATURE. GAS HEATING IS ENABLED WHEN OUTDOOR AIR TEMPERATURE IS EQUAL OR LESS THAN 5°C (ADJ.).

LIMITS AND SAFETY SHUT DOWN:
1. HIGH LIMIT STATIC PRESSURE SENSOR AT THE SUPPLY AIR MAIN SHALL BE INTERLOCKED WITH THE SUPPLY FANS AND THE EXHAUST FAN. FANS WILL BE DISABLED WHEN PRESSURE EXCEEDS 3 INWG.
2. THE SUPPLY AIR TEMPERATURE SENSOR ACTS AS A SOFTWARE FREEZESTAT (3/5°C, 3 MIN. DELAY, AUTO RESET AFTER 5 MIN DELAY.
3. THE HEAT PIPE IS PROTECTED FROM FROST BUILD-UP BY BUILT-IN CONTROLS.

SYSTEM ALARMS & PRIORITY AT BAS:
- FAN FAILURE - COMMANDED ON/STATUS OFF
- HIGH SUPPLY AIR TEMPERATURE: T1 IS GREATER THAN 20°C FOR MORE THAN 30 MINUTES IN SUMMER COOLING MODE
- LOW SUPPLY AIR TEMPERATURE: T1 IS LOWER THAN 11°C FOR MORE THAN 30 MINUTES IN WINTER HEATING MODE
- HIGH RETURN AIR TEMPERATURE: T3 IS GREATER THAN 26°F FOR MORE THAN 30 MINUTES IN SUMMER COOLING MODE
- LOW RETURN AIR TEMPERATURE: T3 IS LOWER THAN 18°C FOR MORE THAN 30 MINUTES IN WINTER HEATING MODE
- FAN RUNTIME EXCEEDED WEEKLY SETPOINT
- SOFTWARE FREEZESTAT TRIPPED

SYSTEM TRENDS AT BAS:
- UNIT STATUS
- BUILDING STATIC PRESSURE
- SUPPLY TEMPERATURE

NOTE: VRF EQUIPMENT TO BE PROVIDED WITH CONTROL AND MONITORING VIA BACNET.

MECHANICAL CONTRACTOR

M1 EXPANSION VALVE CONTROL SIGNAL
M2 LIQUID LINE THERMISTOR
M3 SUCTION LINE THERMISTOR
M4 Te/Tc CONTROL SIGNAL

CONTROL CONTRACTOR

C1 SUPPLY AIR TEMPERATURE SENSOR
C2 ON/OFF CONTROL SIGNAL
C3 0-10V CAPACITY CONTROL SIGNAL
C4 HRV FAN INTERLOCK
C5 STATUS MONITORING
C6 DEFROST STATUS MONITORING
C7 ERROR MONITORING
C8 COOL/HEAT MODE SELECT TO CONDENSING UNIT

Tag	W-Control (Ice Terminal	Description	AWG/Cross Section	Maximum Length (ft)	Specifications
	L1, L2	Power supply	AWG 12 / 0.05"	-	230V/1ph
M1	Y1 ~ Y6	Expansion valve connection	AWG 18 / 0.03"	65	Digital output: 12VDC
M2	R1, R2	Liquid pipe thermistor	AWG 18 / 0.03"	65	Analog Input: 16VDC
M3	R3, R4	Gas pipe thermistor	AWG 18 / 0.03"	65	Analog Input: 16VDC
M4	F1, F2	Communication to outdoor unit	AWG 18 / 0.03"	-	Communication line 16VDC
C2	T1, T2	ON/OFF	AWG 18 / 0.03"	-	Digital input: 16VDC
C3	C5, C6	Capacity step	AWG 18 / 0.03"	-	Analog Input: 0-10V
C4	C7, C8	Fan signal	AWG 12 / 0.05"	-	Digital output: voltage free
C5	C9, C4	Operation signal	AWG 18 / 0.03"	-	Digital output: voltage free
C6	C9, C10	Defrost signal	AWG 18 / 0.03"	-	Digital output: voltage free
C7	C1, C2	Error signal	AWG 18 / 0.03"	-	Digital output: voltage free
		Cool/heat select to outdoor unit			

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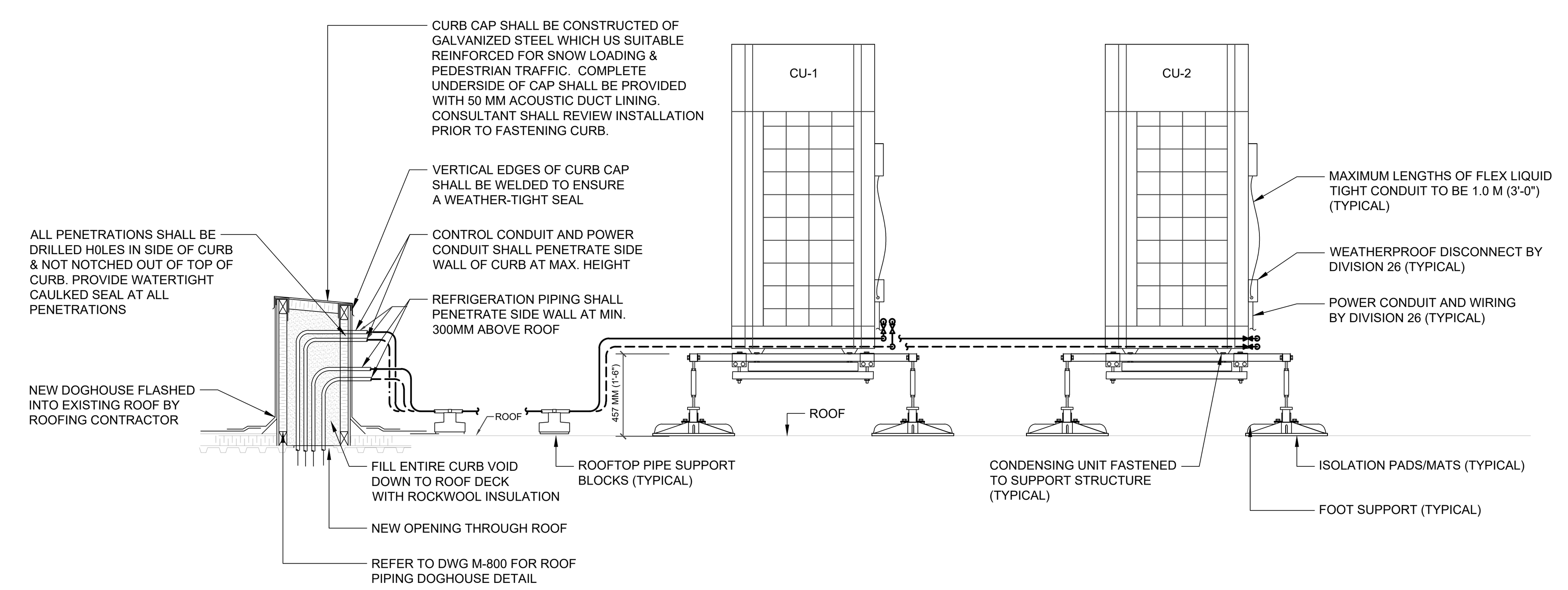
ISSUE DATE:

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE
65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

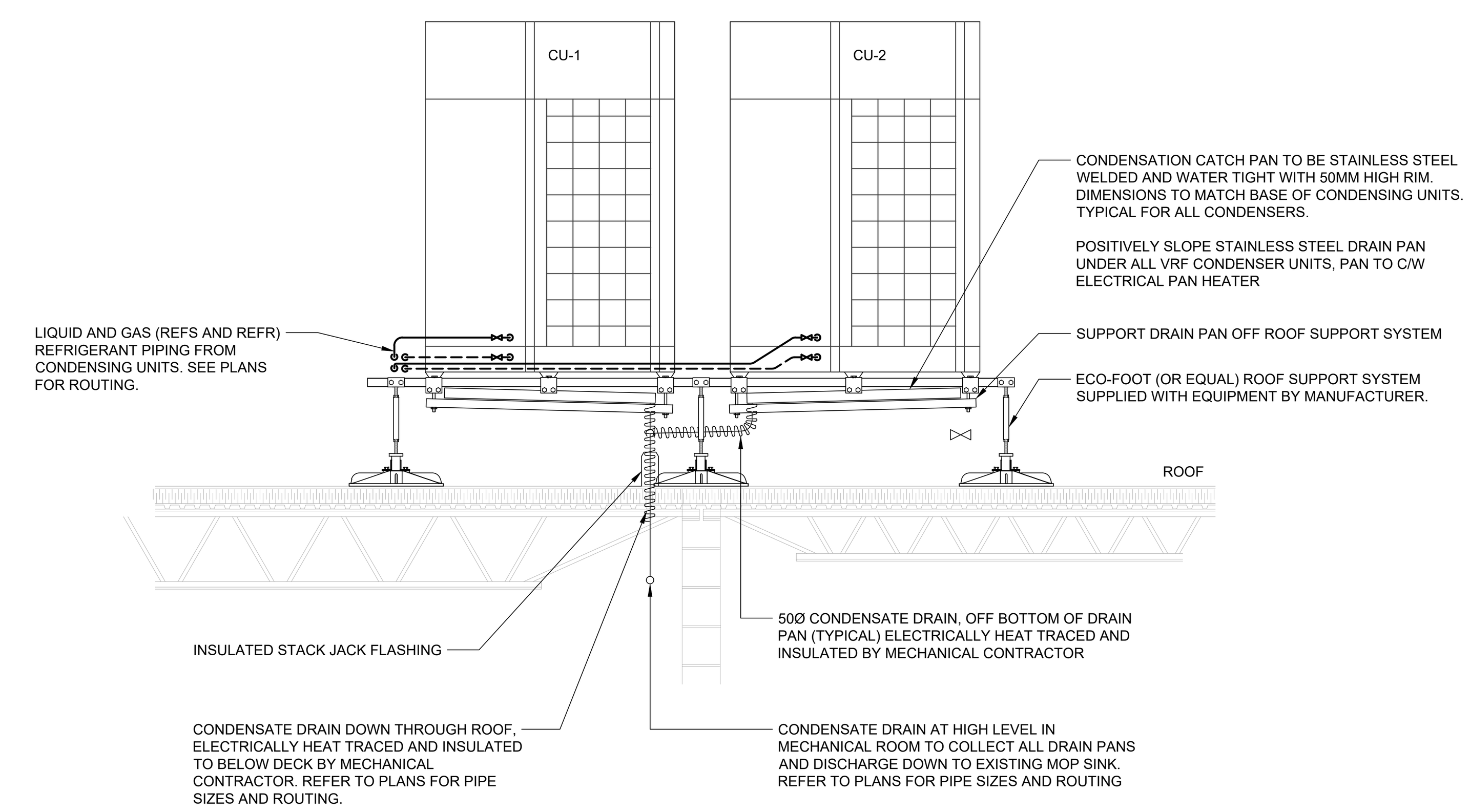
SHEET TITLE:
MECHANICAL CONTROL SCHEMATICS

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T. M. I. I.

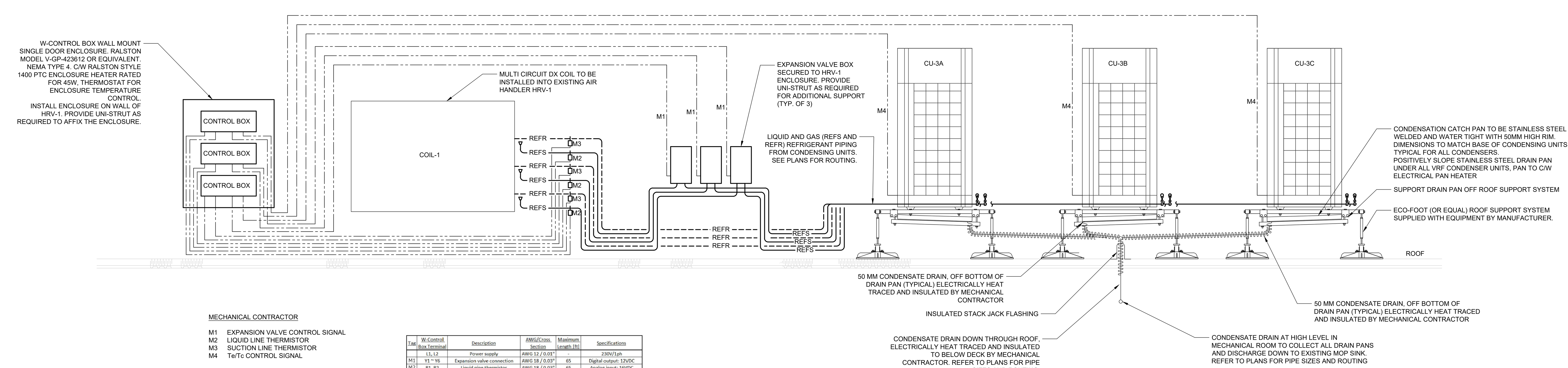
SHEET NO: M-750


CURB CAP SHALL BE CONSTRUCTED OF GALVANIZED STEEL WHICH US SUITABLE REINFORCED FOR SNOW LOADING & PEDESTRIAN TRAFFIC. COMPLETE UNDERSIDE OF CAP SHALL BE PROVIDED WITH 50 MM ACOUSTIC DUCT LINING. CONSULTANT SHALL REVIEW INSTALLATION PRIOR TO FASTENING CURB.
VERTICAL EDGES OF CURB CAP SHALL BE WELDED TO ENSURE A WEATHER-TIGHT SEAL
ALL PENETRATIONS SHALL BE DRILLED H0LES IN SIDE OF CURB & NOT NOTCHED OUT OF TOP OF CURB. PROVIDE WATERTIGHT CAULKED SEAL AT ALL PENETRATIONS
CONTROL CONDUIT AND POWER CONDUIT SHALL PENETRATE SIDE WALL OF CURB AT MAX. HEIGHT
REFRIGERATION PIPING SHALL PENETRATE SIDE WALL AT MIN. 300MM ABOVE ROOF
NEW DOGHOUSE FLASHED INTO EXISTING ROOF BY ROOFING CONTRACTOR
ROOF
457 MM (1'-6")
CU-1
CU-2
MAXIMUM LENGTHS OF FLEX LIQUID TIGHT CONDUIT TO BE 1.0 M (3'-0") (TYPICAL)
WEATHERPROOF DISCONNECT BY DIVISION 26 (TYPICAL)
POWER CONDUIT AND WIRING BY DIVISION 26 (TYPICAL)
ROOF
FILL ENTIRE CURB VOID DOWN TO ROOF DECK WITH ROCKWOOL INSULATION
ROOFTOP PIPE SUPPORT BLOCKS (TYPICAL)
CONDENSING UNIT FASTENED TO SUPPORT STRUCTURE (TYPICAL)
ISOLATION PADS/MATS (TYPICAL)
FOOT SUPPORT (TYPICAL)
NEW OPENING THROUGH ROOF
REFER TO DWG M-800 FOR ROOF PIPING DOGHOUSE DETAIL

3 DOGHOUSE AND CONDENSING UNIT MOUNTING DETAIL
NOT TO SCALE


CU-1
CU-2
CONDENSATION CATCH PAN TO BE STAINLESS STEEL WELDED AND WATER TIGHT WITH 50MM HIGH RIM. DIMENSIONS TO MATCH BASE OF CONDENSING UNITS. TYPICAL FOR ALL CONDENSERS.
POSITIVELY SLOPE STAINLESS STEEL DRAIN PAN UNDER ALL VRF CONDENSER UNITS, PAN TO C/W ELECTRICAL PAN HEATER
LIQUID AND GAS (REFS AND REFR) REFRIGERANT PIPING FROM CONDENSING UNITS. SEE PLANS FOR ROUTING.
SUPPORT DRAIN PAN OFF ROOF SUPPORT SYSTEM
ECO-FOOT (OR EQUAL) ROOF SUPPORT SYSTEM SUPPLIED WITH EQUIPMENT BY MANUFACTURER.
ROOF
INSULATED STACK JACK FLASHING
50Ø CONDENSATE DRAIN, OFF BOTTOM OF DRAIN PAN (TYPICAL) ELECTRICALLY HEAT TRACED AND INSULATED BY MECHANICAL CONTRACTOR
CONDENSATE DRAIN DOWN THROUGH ROOF, ELECTRICALLY HEAT TRACED AND INSULATED TO BELOW DECK BY MECHANICAL CONTRACTOR. REFER TO PLANS FOR PIPE SIZES AND ROUTING.
CONDENSATE DRAIN AT HIGH LEVEL IN MECHANICAL ROOM TO COLLECT ALL DRAIN PANS AND DISCHARGE DOWN TO EXISTING MOP SINK. REFER TO PLANS FOR PIPE SIZES AND ROUTING

2 TYPICAL CONDENSING UNIT SET REFRIGERATION PIPING AND DRAIN ON ROOF
NOT TO SCALE


W-CONTROL BOX WALL MOUNT SINGLE DOOR ENCLOSURE. RALSTON MODEL V-GP-423612 OR EQUIVALENT. NEMA TYPE 4. C/W RALSTON STYLE 1400 PTC ENCLOSURE HEATER RATED FOR 45W, THERMOSTAT FOR ENCLOSURE TEMPERATURE CONTROL.
INSTALL ENCLOSURE ON WALL OF HRV-1. PROVIDE UNI-STRUT AS REQUIRED TO AFFIX THE ENCLOSURE.
CONTROL BOX
CONTROL BOX
CONTROL BOX
MULTI CIRCUIT DX COIL TO BE INSTALLED INTO EXISTING AIR HANDLER HRV-1
COIL-1
REFR
REFS
REFR
REFS
REFR
REFS
M3
M2
M3
M2
M3
M2
M1
M1
M1
EXPANSION VALVE BOX SECURED TO HRV-1 ENCLOSURE. PROVIDE UNI-STRUT AS REQUIRED FOR ADDITIONAL SUPPORT (TYP. OF 3)
LIQUID AND GAS (REFS AND REFR) REFRIGERANT PIPING FROM CONDENSING UNITS. SEE PLANS FOR ROUTING.
REFR
REFR
REFR
REFS
REFS
REFS
M4
M4
M4
CU-3A
CU-3B
CU-3C
CONDENSATION CATCH PAN TO BE STAINLESS STEEL WELDED AND WATER TIGHT WITH 50MM HIGH RIM. DIMENSIONS TO MATCH BASE OF CONDENSING UNITS. TYPICAL FOR ALL CONDENSERS.
POSITIVELY SLOPE STAINLESS STEEL DRAIN PAN UNDER ALL VRF CONDENSER UNITS, PAN TO C/W ELECTRICAL PAN HEATER
SUPPORT DRAIN PAN OFF ROOF SUPPORT SYSTEM
ECO-FOOT (OR EQUAL) ROOF SUPPORT SYSTEM SUPPLIED WITH EQUIPMENT BY MANUFACTURER.
ROOF
50 MM CONDENSATE DRAIN, OFF BOTTOM OF DRAIN PAN (TYPICAL) ELECTRICALLY HEAT TRACED AND INSULATED BY MECHANICAL CONTRACTOR
INSULATED STACK JACK FLASHING
50 MM CONDENSATE DRAIN, OFF BOTTOM OF DRAIN PAN (TYPICAL) ELECTRICALLY HEAT TRACED AND INSULATED BY MECHANICAL CONTRACTOR
CONDENSATE DRAIN DOWN THROUGH ROOF, ELECTRICALLY HEAT TRACED AND INSULATED TO BELOW DECK BY MECHANICAL CONTRACTOR. REFER TO PLANS FOR PIPE SIZES AND ROUTING.
CONDENSATE DRAIN AT HIGH LEVEL IN MECHANICAL ROOM TO COLLECT ALL DRAIN PANS AND DISCHARGE DOWN TO EXISTING MOP SINK. REFER TO PLANS FOR PIPE SIZES AND ROUTING

MECHANICAL CONTRACTOR

M1 EXPANSION VALVE CONTROL SIGNAL
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CONTROL CONTRACTOR

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C6	C9, C10	Defrost signal	AWG 18 / 0.03"	-	Digital output: voltage free
C7	C1, C2	Error signal	AWG 18 / 0.03"	-	Digital output: voltage free
		Cool/heat select to outdoor unit			

1 REFRIGERATION PIPING SCHEMATIC - HRV-1
NOT TO SCALE

architectural partners

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N

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ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

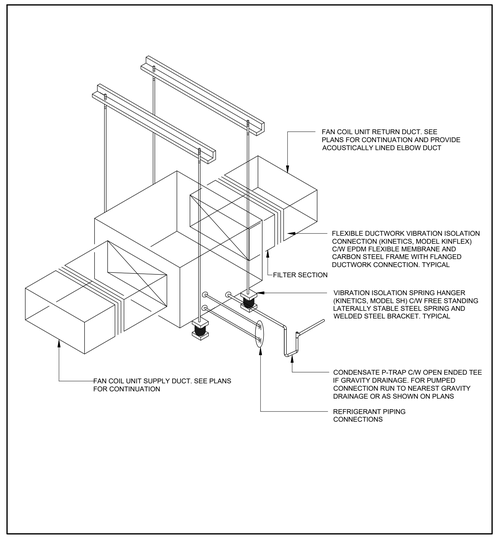
65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

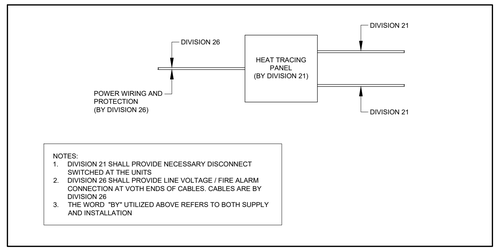
MECHANICAL VRF SCHEMATICS AND DETAILS I

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P.M.H.I.

SHEET NO: M-751

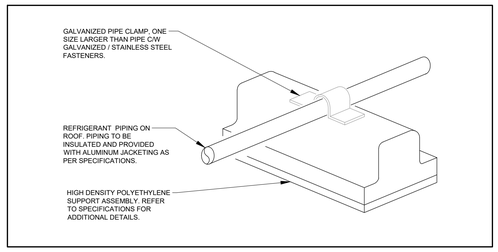


CEILING SUSPENDED - DUCTED FAN COIL



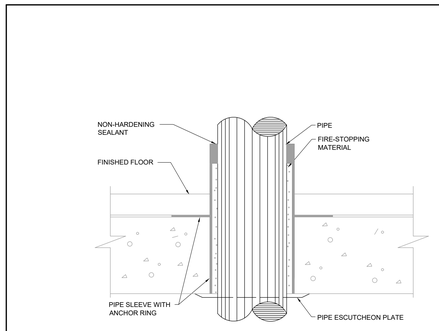
HEAT TRACING DETAIL

NOT TO SCALE



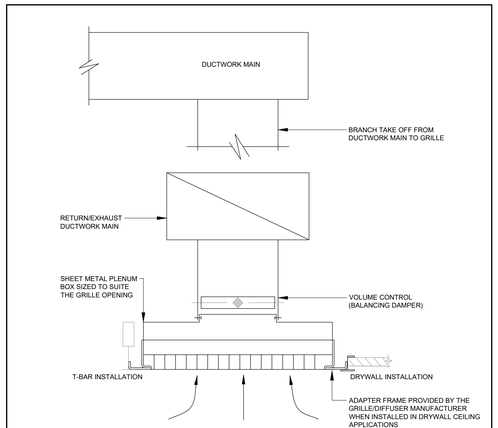
23 23 00.01 REFRIGERANT PIPING SUPPORT ON ROOF

NOT TO SCALE



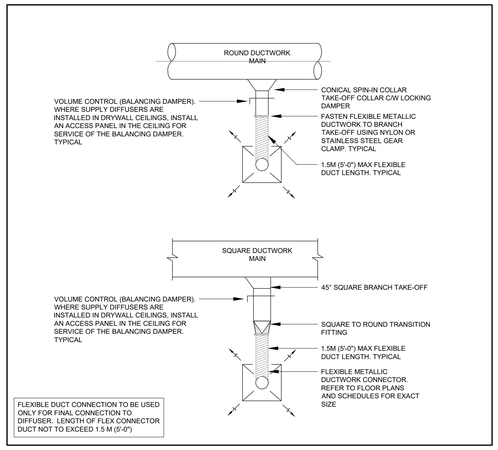
20 05 17.01 PIPE PENETRATIONS (MECH. RM. FLOORS)

NOT TO SCALE



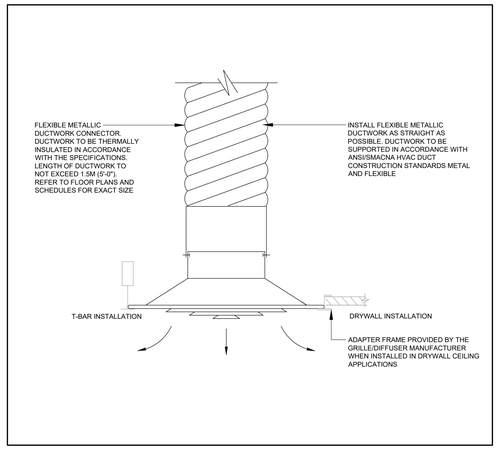
23 30 42.02 CEILING MOUNTED GRILLE

NOT TO SCALE



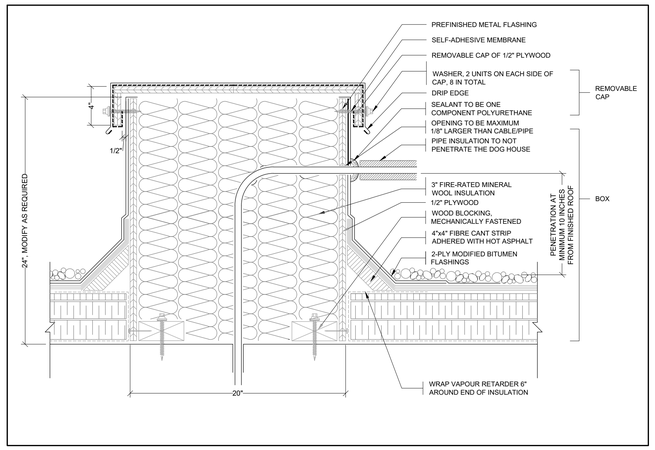
23 30 09.02 FLEXIBLE METALLIC DUCTWORK CONNECTION

NOT TO SCALE



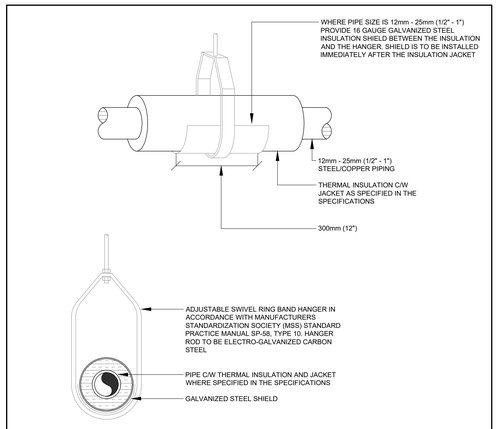
23 30 42.01 CEILING MOUNTED DIFFUSER

NOT TO SCALE



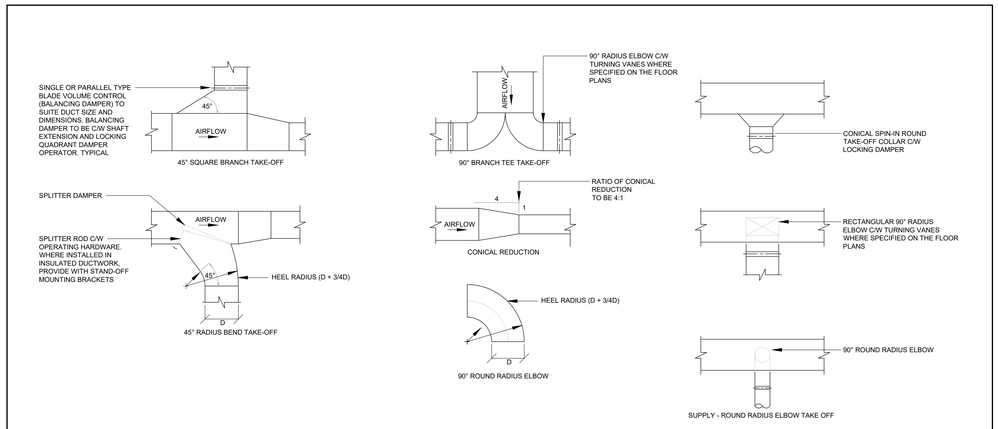
20 05 00.05 DETAIL OF ROOF PIPING DOGHOUSE

NOT TO SCALE



20 05 00.03 PIPING HANGERS AND SUPPORTS

NOT TO SCALE



23 30 00.01 DUCTWORK FITTINGS & TAKE-OFF'S

NOT TO SCALE

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
I. ILIC
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May 2, 2025
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

MECHANICAL TYPICAL DETAILS I

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-800

VARIABLE REFRIGERANT FLOW AIR COOLED CONDENSING UNITS

TAG	MANUFACTURER	MODEL	SERVICE	REFRIGERANT TYPE	COOLING	HEATING	COOLING		HEATING	MAX. SOUND (dBA)	ELECTRICAL			WEIGHT (KG)	REMARKS
					TOT. CAPACITY (kW)	CAPACITY (kW)	EER	IEER	COP		MCA (A)	MOCP (A)	V/PH/HZ		
CU-1	DAIKIN	RXYQ120AATJB	FCU-301, FCU-302, FCU-305, FCU-307, FCU-309	R-410A	31.76	42.57	11.1	22.8	3.5	61	36.5	40	208-230/3/60	310	C/W SNOW/WIND HOOD KIT
CU-2	DAIKIN	RXYQ144AATJB	FCU-302, FCU-304, FCU-306, FCU-308, FCU-310	R-410A	40.45	54.51	11.0	21.8	3.3	65	47.8	50	208-230/3/60	340	C/W SNOW/WIND HOOD KIT
CU-3A	DAIKIN	RXYQ192AATJB	HRV-1 COIL	R-410A	56.08	66.10	11.3	21.5	3.5	67	59.8	60	208-230/3/60	410	C/W SNOW/WIND HOOD KIT, EKEXV500-US EXPANSION VALVE, EKEQFCBAV3-US W-CONTROL BOX
CU-3B	DAIKIN	RXYQ192AATJB	HRV-1 COIL	R-410A	56.08	66.10	11.3	21.5	3.5	67	59.8	60	208-230/3/60	410	C/W SNOW/WIND HOOD KIT, EKEXV500-US EXPANSION VALVE, EKEQFCBAV3-US W-CONTROL BOX
CU-3C	DAIKIN	RXYQ192AATJB	HRV-1 COIL	R-410A	56.08	66.10	11.3	21.5	3.5	67	59.8	60	208-230/3/60	410	C/W SNOW/WIND HOOD KIT, EKEXV500-US EXPANSION VALVE, EKEQFCBAV3-US W-CONTROL BOX

AMBIENT DESIGN TEMPERATURE:
COOLING DB: 35.0°C
HEATING DB: 8.3°C

PROVIDE THE FOLLOWING ACCESSORIES AND FEATURES, IN ADDITION TO ITEMS NOTED IN REMARKS:
- CONDENSING UNITS TO BE ROOF MOUNTED ON 450MM MIN. HIGH EQUIPMENT STAND EQUAL TO ECOFOOT ECOFRAME.
- CONDENSING UNITS TO COME WITH SHUT OFF VALVES FOR ISOLATION
- CONDENSING UNITS TO COME WITH INVERTER SCROLL COMPRESSORS
- AUTOMATIC RESTART AFTER A POWER FAILURE
- AUTO-CHARGING FEATURE (ENSURES PROPER REFRIGERANT CHARGE)
- BACNET MS/TP COMMUNICATION
- TWO YEAR WARRANTY
- SAFETIES: HIGH PRESSURE SENSOR AND SWITCH, LOW PRESSURE SENSOR, CONTROL CIRCUIT FUSES, CRANKCASE HEATERS, FUSIBLE PLUG, OVERLOAD RELAY, INVERTER OVERLOAD PROTECTOR, THERMAL PROTECTORS FOR COMPRESSOR AND FAN MOTORS, OVER CURRENT PROTECTION FOR INVERTER AND ANTI-RECYCLING TIMERS.
- STAINLESS STEEL DRIP PAN TO MATCH THE DIMENSION OF THE CONDENSING UNITS, AND HAVE A 50MM HIGH RIM

APPROVED EQUALS: MITSUBISHI, LG

SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION

VARIABLE REFRIGERANT FLOW FAN COIL UNITS

TAG	MANUFACTURER	MODEL	TYPE	SERVICE	REFRIGERANT TYPE	AIR FLOW		COOLING		HEATING	MAX. SOUND (dBA)	ELECTRICAL			WEIGHT (KG)	REMARKS
						HIGH (L/s)	E.S.P. (Pa)	TOT. CAPACITY (kW)	SENS. CAPACITY (kW)	CAPACITY (kW)		MCA (A)	MOCP (A)	V/PH/HZ		
FCU-301	DAIKIN	FXSQ30TBVJU	CONCEALED DUCTED	CLASSROOM 301	R-410A	383	75	7.76	5.86	9.96	38	1.8	15	208-230/1/60	37	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-302	DAIKIN	FXSQ36TBVJU	CONCEALED DUCTED	CLASSROOM 302	R-410A	533	75	9.29	6.66	11.72	39	2.5	15	208-230/1/60	46	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-303	DAIKIN	FXSQ30TBVJU	CONCEALED DUCTED	CLASSROOM 303	R-410A	383	75	7.76	5.86	9.96	38	1.5	15	208-230/1/60	37	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-304	DAIKIN	FXSQ36TBVJU	CONCEALED DUCTED	CLASSROOM 304	R-410A	533	75	9.29	6.66	11.72	39	2.5	15	208-230/1/60	46	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-305	DAIKIN	FXAQ12PVJU	WALL MOUNT DUCTLESS	RESOURCE ROOM 305	R-410A	136	-	3.02	2.23	3.96	38	0.4	15	208-230/1/60	12	C/W CONDENSATE PUMP
FCU-306	DAIKIN	FXA18PVJU	WALL MOUNT DUCTLESS	OFFICE 306	R-410A	236	-	4.53	3.36	5.86	43	0.4	15	208-230/1/60	14	C/W CONDENSATE PUMP
FCU-307	DAIKIN	FXSQ30TBVJU	CONCEALED DUCTED	CLASSROOM 307	R-410A	383	75	7.76	5.86	9.96	38	1.8	15	208-230/1/60	37	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-308	DAIKIN	FXSQ36TBVJU	CONCEALED DUCTED	CLASSROOM 308	R-410A	533	75	9.29	6.66	11.72	39	2.5	15	208-230/1/60	46	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-309	DAIKIN	FXSQ30TBVJU	CONCEALED DUCTED	CLASSROOM 309	R-410A	383	75	7.76	5.86	9.96	38	1.8	15	208-230/1/60	37	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT
FCU-310	DAIKIN	FXSQ48TBVJU	CONCEALED DUCTED	CLASSROOM 310	R-410A	617	75	12.41	8.86	15.83	42	2.8	15	208-230/1/60	47	C/W VIBRATION ISOLATION, CONDENSATE PUMP, AIR FILTER AND CABINET KIT

ENTERING AIR TEMPERATURE:
COOLING DB/WB: 23.9°C/17.2°C
HEATING DB: 21.1°C

PROVIDE THE FOLLOWING ACCESSORIES AND FEATURES, IN ADDITION TO ITEMS NOTED IN REMARKS:
- GATEWAY CARD AIRZONE AZAI6WSPDKC FOR COMMUNICATION WITH BMS

APPROVED EQUALS: MITSUBISHI, LG

HEAT PUMP COIL

TAG	MANUFACTURER	MODEL	SERVICE	REFRIGERANT TYPE	SIZE (MM)	ROWS	FPI	CIRCUITS	AIR FLOW (L/s)	AIR P.D. (Pa)	COOLING				HEATING			WEIGHT (KG)	REMARKS
											TOT. CAPACITY (kW)	SENS. CAPACITY (kW)	ENT. AIR DB/WB (°C)	LVG. AIR DB/WB (°C)	CAPACITY (kW)	ENT. AIR DB (°C)	LVG. AIR DB (°C)		
COIL-1	DIRECT COIL	4DX-06-43.8-07-65.0-26	HRV-1	R-410A	2032 X 1048	6	7	26	3917	95	161.64	79.28	29.0/23.0	12.3/11.9	198.35	-5.0	36.8	172	COIL IS MADE UP OF THREE (3) CIRCUITS, EACH CIRCUIT CONNECTED TO ONE CONDENSING UNIT CU-3A, CU-3B, CU-3C

APPROVED EQUALS: MADOX, MODINE-HEATCRAFT

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TAG	MANUFACTURER	MODEL	TYPE	SIZE	FINISH	MAX NC	REMARKS
A	EH PRICE	SCD	SQUARE CONE DIFFUSER	REFER TO FLOOR PLANS	PER ARCH	30	REFER TO FLOOR PLANS FOR NECK SIZE
B	EH PRICE	80	EGG CRATE RETURN	REFER TO FLOOR PLANS	PER ARCH	<20	REFER TO FLOOR PLANS FOR NECK SIZE

NOTES:
1. REFER TO SPECIFICATIONS AND DETAILS FOR MORE INFORMATION.

CONDENSING-UNIT CONDENSATE DRAIN AND DRIP PAN HEAT-TRACING SCHEDULE

SERVING	CABLE SEGMENT/APPLICATION	MANUFACTURER	MODEL	CABLE LENGTH (M)	ELECTRICAL (V/PH/HZ)	STARTUP CURRENT AT -18°C (A)	MOCP (A)	CONTROL	REMARKS
CU-1 AND CU-2 EXTERNAL TRACING CD PIPE	HT-1A (EXTERNALLY TRACING CONDENSATE DRAIN PIPE)	NVENT RAYCHEM	5XLE1-CR	4.5	120/1/60	2.1	15	C910-485 AND LOCAL THERMOSTAT READING AMBIENT TEMPERATURE, WITH OVERRIDE SIGNAL FROM BAS: HEAT-TRACING OFF ABOVE 4°C HEAT-TRACING ON BELOW 4°C HEAT-TRACING OFF WHILE CONDENSERS ARE OFF, BELOW -5°C	
CU-1 DRAIN PAN	HT-1B (LAID IN CHANNEL IN CU-1 PAN)	NVENT RAYCHEM	GM-1XT	9.1	120/1/60	4.5			
CU-2 DRAIN PAN	HT-1C (LAID IN CHANNEL IN CU-2 PAN)	NVENT RAYCHEM	GM-1XT	9.1	120/1/60	4.5			
CU-3A, CU-3B, AND CU-3C EXTERNAL TRACING CD PIPE	HT-2A (EXTERNALLY TRACING CONDENSATE DRAIN PIPE)	NVENT RAYCHEM	5XLE1-CR	6.0	120/1/60	2.1	20	C910-485 AND LOCAL THERMOSTAT READING AMBIENT TEMPERATURE, WITH OVERRIDE SIGNAL FROM BAS: HEAT-TRACING OFF ABOVE 4°C HEAT-TRACING ON BELOW 4°C HEAT-TRACING OFF WHILE CONDENSERS ARE OFF, BELOW -5°C	
CU-3A DRAIN PAN	HT-2B (LAID IN CHANNEL IN CU-3A PAN)	NVENT RAYCHEM	GM-1XT	9.1	120/1/60	4.5			
CU-3B DRAIN PAN	HT-2C (LAID IN CHANNEL IN CU-3B PAN)	NVENT RAYCHEM	GM-1XT	9.1	120/1/60	4.5			
CU-3C DRAIN PAN	HT-2D (LAID IN CHANNEL IN CU-3C PAN)	NVENT RAYCHEM	GM-1XT	9.1	120/1/60	4.5			

NOTES:
1. SUPPLY AND INSTALL A COMPLETE DRAIN-PAN DE-ICING AND CONDENSATE DRAIN PIPE HEAT-TRACING SYSTEM COMPRISED OF CSA CERTIFIED AND/OR ULC LISTED HEATING CABLES, TERMINATIONS, FASTENING ACCESSORIES, AND TEMPERATURE CONTROLS. SCHEDULED COMPONENTRY ABOVE REPRESENTS EQUIPMENT SUITABLE FOR EACH SET OF CONDENSING UNITS.
2. HEATING CABLE SHALL BE SELF-REGULATING TYPE, SELECTED FOR APPLICATION REQUIREMENTS AS FOLLOWS:
   A) CABLE FOR PIPE FREEZE PROTECTION SHALL BE XL-TRACE TYPE, IEEE 515 NOMINAL SWIFT AT 120V, WITH POLYOLEFIN OUTER JACKET, BANDED TO PIPE WITH GLASS FIBER TAPE TYPE GT-66.
   B) CABLE FOR DRAIN PAN SHALL BE ICESTOP TYPE, IEEE 515 NOMINAL 12 WIFT IN ICE AND SNOW, WITH FLUOROPOLYMER OUTER JACKET, INSERTED INTO ALUMINUM HEAT-SINK CHANNEL (TYPE CCB-AL) ADHERED TO THE BASE OF THE PAN IN STRAIGHT LINES ON 150MM CENTRES WITH DRIP-LOOP OVER THE DRAIN PIPE ENTRY.
3. TERMINATIONS SHALL BE RATED NEMA 4X, RE-ENTERABLE FOR SERVICE AND SHALL NOT REQUIRE THE USE OF HEAT-SHRINK MATERIALS. COORDINATE PIPE-MOUNTING OR SURFACE-MOUNTING BRACKETS AS APPLICABLE. BASIS OF DESIGN IS RAYCLIC SERIES.
4. TEMPERATURE CONTROLLER SHALL HAVE NEMA 4X ENCLOSURE, 30A SWITCHING CAPACITY, 30 MA INTEGRAL GROUND-FAULT PROTECTION, ALARM CONTACT FOR REMOTE FAULT ANNUNCIATION, REMOTE-OVERRIDE INPUT TERMINALS TO RECEIVE SIGNAL FROM BAS TO ACHIEVE THE CONTROL SEQUENCE AS NOTED IN THE SCHEDULE, AND 3-WIRE INPUT FOR RTD TEMPERATURE SENSOR TO BE MOUNTED READING AMBIENT TEMPERATURE IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT SOURCES. BASIS OF SELECTION IS C910-485 WITH RTD-200. PROVIDE WITH PROTONODE FOR BACNET PROTOCOL GATEWAY INTEGRATION.
5. COORDINATE FULL SYSTEM COMPONENT REQUIREMENTS WITH THE MANUFACTURER'S REPRESENTATIVES BASED ON SITE CONFIRMATION PRIOR TO ORDERING.
6. RETAIN THE SERVICES OF THE MANUFACTURER FOR INSPECTION, TESTING, COMMISSIONING AND FINAL STARTUP. PROVIDE TECHNICIAN'S REPORT WITH CLOSEOUT DOCUMENTATION.
7. REFER TO SPECIFICATIONS AND DETAILS FOR MORE INFORMATION.
8. BASIS OF DESIGN IS NVENT/RAYCHEM. ALTERNATES OF EQUIVALENT PERFORMANCE AND SYSTEM ASSEMBLY ARE ACCEPTABLE SUBJECT TO APPROVAL.

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
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100142204
May 2, 2025
PROVINCE OF ONTARIO

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1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

MECHANICAL SCHEDULES I

PROJECT NO: 22988
SCALE: AS SHOWN
DRAWN BY:
REVIEWED BY: T.P. / I.I.

SHEET NO: M-900

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	LINETYPES
	NEW WORK
	WORK TO BE DEMOLISHED, OR REMOVED
	EXISTING MATERIAL/EQUIPMENT/SERVICES TO REMAIN
	ABBREVIATIONS
E	EXISTING TO REMAIN
D	EXISTING TO BE DEMOLISHED/REMOVED
R	EXISTING TO BE RELOCATED/IN RELOCATED POSITION
ER	EXISTING TO BE REMAIN AND REPLACED WITH NEW
RR	REMOVE AND REINSTALL IN SAME POSITION
RL	REMOVE AND RELOCATE
C	CEILING MOUNTED CONNECTION
W	WALL MOUNTED CONNECTION
F	FLOOR MOUNTED CONNECTION
℄	CENTRE LINE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
O/C	OVER COUNTER
U/C	UNDER CABINET
U/F	UNDER RAISED FLOOR
CCT	CIRCUIT
CTE	CONNECT TO EXISTING
AFCI	ARC FAULT CIRCUIT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
TL	TWIST LOCK
TR	TAMPER RESISTANT
WG	WIRE GUARD
WP	WEATHER PROOF
R/I	ROUGH-IN ONLY
NIC	NOT IN CONTRACT
SIM.	SIMILAR TO
TYP.	TYPICAL
	ABBREVIATIONS - CODES AND STANDARDS
OBC	ONTARIO BUILDING CODE
OESC	ONTARIO ELECTRICAL SAFETY CODE
	ANNOTATIONS
	ROOM NUMBER
CL	CLOSET
WR	WASHROOM
	FIRE PROTECTION
	FIRE EXTINGUISHER
SPK	SPRINKLER HEAD
FHC	STANDPIPE FIRE HOSE CABINET
	HVAC
	THERMOSTAT OR TEMPERATURE SENSOR
BBH	ELECTRIC BASEBOARD HEATER (BBH)
FFH	FORCED FLOW HEATER
ERV	ENERGY RECOVERY VENTILATOR
HRU	HEAT RECOVERY UNIT
MUA	MAKE-UP AIR UNIT
	CONDUIT AND BOXES
	CONDUIT WITH END BUSHING
	CONDUIT UP
	CONDUIT DOWN
	JUNCTION BOX
	PULL BOX
	CONNECTIONS TO EQUIPMENT
DW	DISHWASHER
FR	FRIDGE
MW	MICROWAVE
HD	HAND DRYER. ALLOW UP TO 208V-1PH-20A
PSC	PLUMBING SENSOR CONTROL (TOUCHLESS FAUCETS)
PTP	PLUMBING TRAP PRIMER
	1-PHASE DIRECT CONNECTION OUTLET AS NOTED.
	3-PHASE DIRECT CONNECTION OUTLET AS NOTED.
W	ADJACENT TO 3-PHASE DIRECT CONNECTION, DENOTES WALL SYSTEM FURNITURE FEED FOR POWER AND COMMUNICATIONS.
	SINGLE PHASE MOTOR, HP (KW) AS NOTED.
	THREE PHASE MOTOR, HP (KW) AS NOTED.
	CLOCK.
	LIGHTING CONTROLS REFER TO SPECIFICATIONS AND RESPECTIVE SCHEDULES FOR EXACT REQUIREMENTS
$	SWITCH OR OTHER USER INTERFACE DEVICE AS DESCRIBED ON LIGHTING CONTROLS SCHEDULE.
DIM	ADJACENT TO SWITCH, DENOTES DIMMING SWITCH.
K	ADJACENT TO SWITCH, DENOTES KEY SWITCH.
M	ADJACENT TO SWITCH, DENOTES MASTER CONTROL FOR ALL LUMINAIRES IN A ROOM OR SPACE, OR AS NOTED.
PIR	WALL MOUNTED SWITCH/OCCUPANCY SENSOR. PIR DENOTES 'PASSIVE INFRARED', DT DENOTES 'DUAL PASSIVE INFRARED/ULTRASONIC'. LINE VOLTAGE TO SUIT CONTROLLED CIRCUIT.
PP	POWER PACK
T	TIMER SWITCH.
	CEILING MOUNTED OCCUPANCY SENSOR. PIR DENOTES 'PASSIVE INFRARED', UT DENOTES 'ULTRASONIC' (OR MICROPHONIC), DT DENOTES 'DUAL TECHNOLOGY'.
	WALL MOUNTED OCCUPANCY SENSOR.
	DISTRIBUTION EQUIPMENT
	SURFACE MOUNTED LIGHTING AND RECEPTACLE PANELBOARD
	RECESSED RECEPTACLE PANELBOARD

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	POWER RECEPTACLES AND BOXES
	120V U-GROUND DUPLEX RECEPTACLE.
	120V U-GROUND DUPLEX RECEPTACLE - CONTROLLED (ASHRAE 90.1-2010, 8.4.2)
	120V U-GROUND QUAD RECEPTACLE.
	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
	LIGHTING FIXTURES SYMBOLS IN ACCORDANCE WITH IES DG-3-00 WHERE NOT DETAILED OTHERWISE HERE. REFER TO LIGHTING FIXTURE SCHEDULE FOR FURTHER DETAILS AND EXACT FIXTURE REQUIREMENTS.
	SURFACE MOUNTED LINEAR LUMINAIRE
	RECESSED MOUNTED LUMINAIRE
	RECESSED DOWNLIGHT
Z1, Z2, ETC.	DENOTES ZONING/CIRCUITING ASSIGNMENTS FOR LUMINAIRES AND CONTROLS IN THE SAME SPACE.
	EMERGENCY LIGHTING REFER TO EMERGENCY LIGHTING FIXTURE SCHEDULE FOR EXACT FIXTURE REQUIREMENTS.
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN. SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS.
	EMERGENCY LIGHTING BATTERY UNIT.
	ONE AND TWO HEAD WALL MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
EM	DENOTES "EMERGENCY"
	COMMUNICATIONS
	WALL MOUNTED DATA (D) OR VOICE (V) OUTLET. PROVIDE 1V AND 1D UNLESS NOTED OTHERWISE.
	WALL MOUNTED VOICE (TELEPHONE) OUTLET. PROVIDE 1V UNLESS NOTED OTHERWISE
	WALL MOUNTED DATA OUTLET. PROVIDE 1D UNLESS NOTED OTHERWISE.
WAP	WIRELESS ACCESS POINT (WIFI)
PA	PUBLIC ADDRESS SPEAKER, CEILING AND WALL MOUNTED, RESPECTIVELY.
	ACCESS CONTROL
	CARD READER
	DOOR CONTACT
	ELECTRIC STRIKE
	MUSHROOM HEAD PUSH BUTTON FOR MAGLOCK RELEASE, OR OTHER PUSH BUTTON AS INDICATED
	BARRIER FREE DOOR OPERATOR PUSH BUTTON
	INTRUSION DETECTION
	GLASS BREAK (GB)
	MOTION DETECTOR (MD)
	KEYPAD (KP)
	SOUNDER
	FIRE DETECTION AND ALARM
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNICIATOR PANEL
FAPG	FIRE ALARM PASSIVE GRAPHIC
FAZ	FIRE ALARM ZONE
FSZ	FIRE ALARM SUPERVISORY ZONE
EOL	END OF LINE DEVICE
WG	WIRE GUARD
	MANUAL PULL STATION (MPS)
CG	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W LEXAN COVER.
	FIRE ALARM HORN
	FIRE ALARM HORN/STROBE, WALL MOUNTED.
	FIRE ALARM WALL MOUNTED STROBE LIGHT
	PHOTOELECTRIC SMOKE DETECTOR
A	ADJACENT TO SMOKE DETECTOR, INDICATES C/W AUXILIARY RELAY
SA	WHEN ADJACENT TO PHOTOELECTRIC SMOKE DETECTOR, INDICATES RESIDENTIAL SMOKE ALARM
	DUCT MOUNTED SMOKE DETECTOR
	END OF LINE (EOL) DEVICE ON ZONE INITIATION OR SIGNAL CIRCUITS
IM	ISOLATOR MODULE
	HEAT DETECTOR - FIXED TEMPERATURE
	MAGNETIC DOOR HOLDER AND RELEASING DEVICE ("HOLD OPEN")
FS	FLOW SWITCH
PS	PRESSURE SWITCH
SV	SUPERVISED VALVE
	SINGLE LINE DIAGRAM
	CIRCUIT BREAKER
	DISCONNECT (UNFUSED)
	FUSE
	METER
	TRANSFORMER
C	CONTACTOR
DP	DISTRIBUTION PANELBOARD
PP	POWER PANELBOARD
SPD	SURGE PROTECTIVE DEVICE
SWBD	SWITCHBOARD
TX	TRANSFORMER
	DETAIL REFERENCES
1	SHEET KEYNOTE
1	REVISION NUMBER

THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.

Sheet List Table

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
2025-05-02
T.W. SEDORE
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

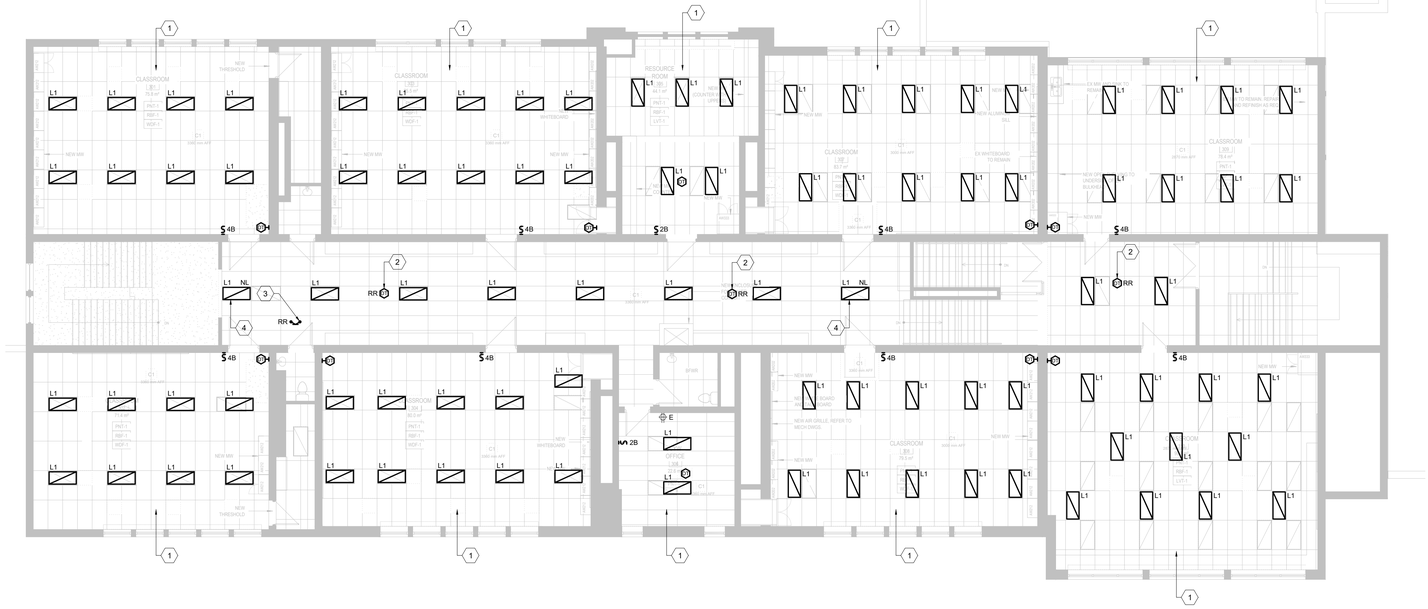
SHEET TITLE:

ELECTRICAL LEGEND & SHEET LIST

PROJECT NO: 22988
SCALE: NOT TO SCALE
DRAWN BY: CW
REVIEWED BY: BD/TWS

SHEET NO:

E-001



2 SECOND FLOOR NEW WORK PLAN - LIGHTING
SCALE: 1:100

PROJECT GENERAL NOTES

1. LOCATION OF DEVICES AND LUMINAIRES ARE NOTED FOR DIAGRAMMATIC PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS AND SITE CONDITIONS FOR EXACT DEVICE AND LUMINAIRE PLACEMENT.
2. NEW DEVICES SHOWN ON EXISTING WALL CONSTRUCTION SHALL BE INSTALLED SURFACE MOUNTED ON FS TYPE BACK BOXES WITH SURFACE RACEWAY (LEGRAND WIREMOLD 400 SERIES OR EQUIVALENT - WHITE), FROM DEVICE UP TO CEILING SPACE. CONDUIT SHALL BE PROVIDED ABOVE CEILING SPACE IN ALL LOCATIONS. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND CURRENT HAZARDOUS MATERIALS SURVEY.
3. FOR NEW BRANCH CIRCUITS NOTED ON THE FLOOR PLANS, PROVIDE A NEW 15A-1P BREAKER WITHIN EXISTING PANEL INDICATED AND EXTEND NEW FEEDERS TO EXISTING PANEL AND CONNECT COMPLETE.

NEW WORK KEY NOTES:

1. CONNECT NEW LUMINAIRES AND NEW LIGHTING CONTROLS WITHIN THIS SPACE INTO EXISTING LIGHTING BRANCH CIRCUIT SERVING THE SPACE. MODIFY EXISTING BRANCH CIRCUIT AS REQUIRED TO ACCOMMODATE NEW LUMINAIRES AND LIGHTING CONTROLS.
2. RE-INSTALL AND RECONNECT EXISTING CEILING MOUNTED OCCUPANCY SENSOR WITHIN NEW CEILING.
3. RE-INSTALL AND RECONNECT EXISTING CEILING MOUNTED EMERGENCY LIGHTING UNIT WITHIN NEW CEILING.
4. REWIRE EXISTING LUMINAIRE TO A NEW "NIGHT-LIGHT" CIRCUIT. PROVIDE A NEW 15A-1P BREAKER WITHIN EXISTING PANEL 'LP-G' WITHIN CORRIDOR AND EXTEND 2#12 + GROUND IN 21mm CONDUIT FROM BREAKER TO LUMINAIRE LOCATION AND CONNECT COMPLETE. BE RESPONSIBLE TO MODIFY EXISTING CORRIDOR LIGHTING CIRCUIT TO REMOVE LUMINAIRE FROM EXISTING CIRCUIT AND, MAINTAINING THE DOWNSTREAM CONTINUITY OF OTHER LUMINAIRES CONNECTED TO THE SAME BRANCH CIRCUIT. SECOND "NIGHT LIGHT" LUMINAIRE WITHIN THIS CORRIDOR TO BE CONNECTED TO THIS SAME NEW CIRCUIT.

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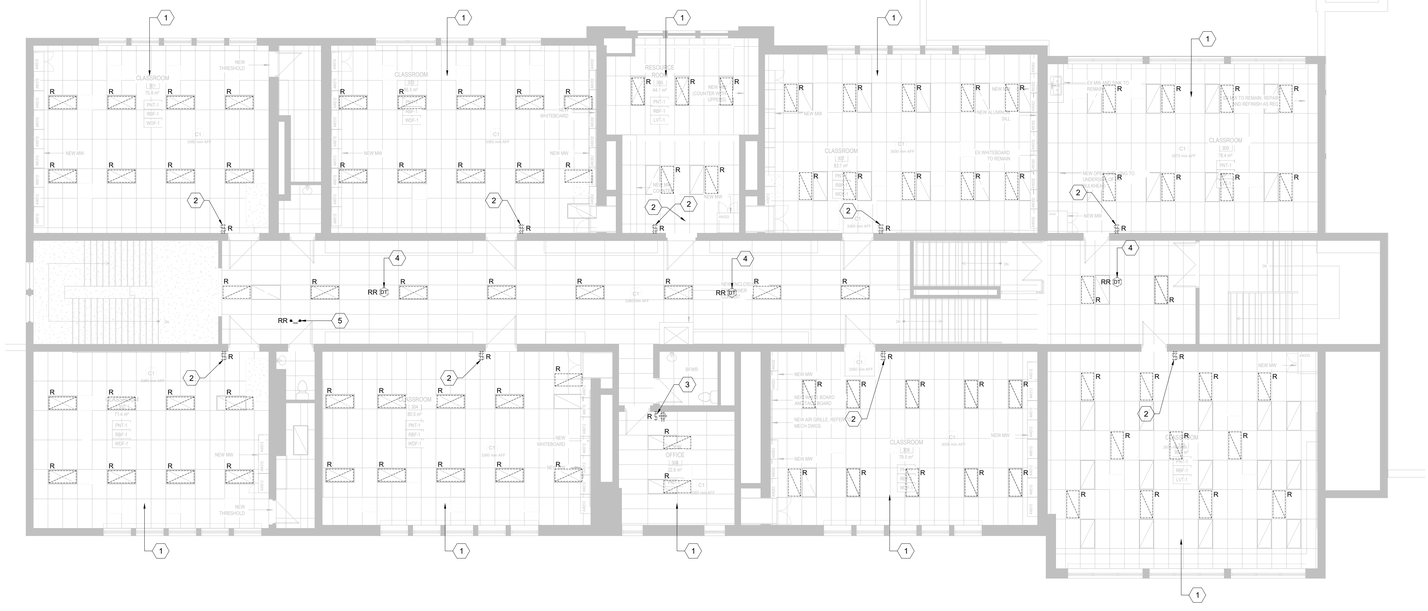


1 SECOND FLOOR DEMOLITION PLAN - LIGHTING
SCALE: 1:100

PROJECT GENERAL NOTES

1. THIS DRAWING IS ISSUED TO SHOW PROPOSED SCOPE OF WORK ONLY. THE CONTRACTOR MUST PERFORM A SITE INSPECTION (INCLUDING CEILING SPACES) DURING THE TENDER PERIOD AND ENSURE THAT ALL WORK THAT IS VISIBLE IS INCLUDED IN THE DEMOLITION SCOPE OF WORK. ALL EXISTING SERVICES THAT PASS THROUGH THE RENOVATION AREA (UNLESS OBSOLETE) ARE TO BE MAINTAINED AND/OR RELOCATED TO SUIT THE SCOPE OF WORK.

DEMOLITION KEY NOTES:

1. EXISTING LIGHTING CIRCUITS TO BE RETAINED. MODIFY EXISTING BRANCH CIRCUIT WIRING AS REQUIRED AND RECONNECT TO NEW LIGHTING AND SWITCHING ARRANGEMENT COMPLETE.
2. EXISTING LIGHT SWITCH TO BE REMOVED IN ITS ENTIRETY. FOR FLUSH/RECESSED MOUNTED SWITCHES, DISCONNECT FROM EXISTING LIGHTING BRANCH CIRCUIT WITHIN ROOM, REMOVE EXISTING WIRING TO SWITCH AND PROVIDE BLANK STAINLESS STEEL FACEPLATE OVER EXISTING BOX. FOR SURFACE MOUNTED SWITCHES, DISCONNECT FROM EXISTING LIGHTING BRANCH CIRCUIT WITHIN ROOM, REMOVE EXISTING WIRING TO SWITCH AND ASSOCIATED SURFACE MOUNTED BOX AND CONDUIT OR RACEWAY.
3. EXISTING LIGHT SWITCH TO BE REMOVED. BE RESPONSIBLE TO DISCONNECT SWITCH FROM EXISTING LIGHTING BRANCH CIRCUIT WITHIN ROOM, REMOVE ALL EXISTING WIRING TO SWITCH AND REPLACE EXISTING SWITCH AND RECEPTACLE FACEPLATE WITH NEW COMBINATION STAINLESS STEEL BLANK AND RECEPTACLE FACEPLATE.
4. EXISTING CEILING MOUNTED OCCUPANCY SENSOR TO BE TEMPORARILY DISCONNECTED, TAKEN DOWN AND STORED ON SITE TO FACILITATE THE REMOVAL AND REPLACEMENT OF EXISTING CEILING. ONCE NEW CEILING WORK IS COMPLETE, BE RESPONSIBLE TO RE-INSTALL AND RECONNECT OCCUPANCY SENSOR IN SAME LOCATION. EXISTING WIRING SHALL BE COILED SAFELY WITHIN CEILING SPACE DURING THE COURSE OF CONSTRUCTION. TEST AND VERIFY DEVICE UPON COMPLETION OF WORK.
5. EXISTING CEILING MOUNTED EMERGENCY LIGHTING UNIT TO BE TEMPORARILY DISCONNECTED, TAKEN DOWN AND STORED ON SITE TO FACILITATE THE REMOVAL AND REPLACEMENT OF EXISTING CEILING. ONCE NEW CEILING WORK IS COMPLETE, BE RESPONSIBLE TO RE-INSTALL AND RECONNECT EMERGENCY LIGHTING UNIT IN SAME LOCATION. EXISTING WIRING SHALL BE COILED SAFELY WITHIN CEILING SPACE DURING THE COURSE OF CONSTRUCTION. TEST AND VERIFY DEVICE UPON COMPLETION OF WORK.

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

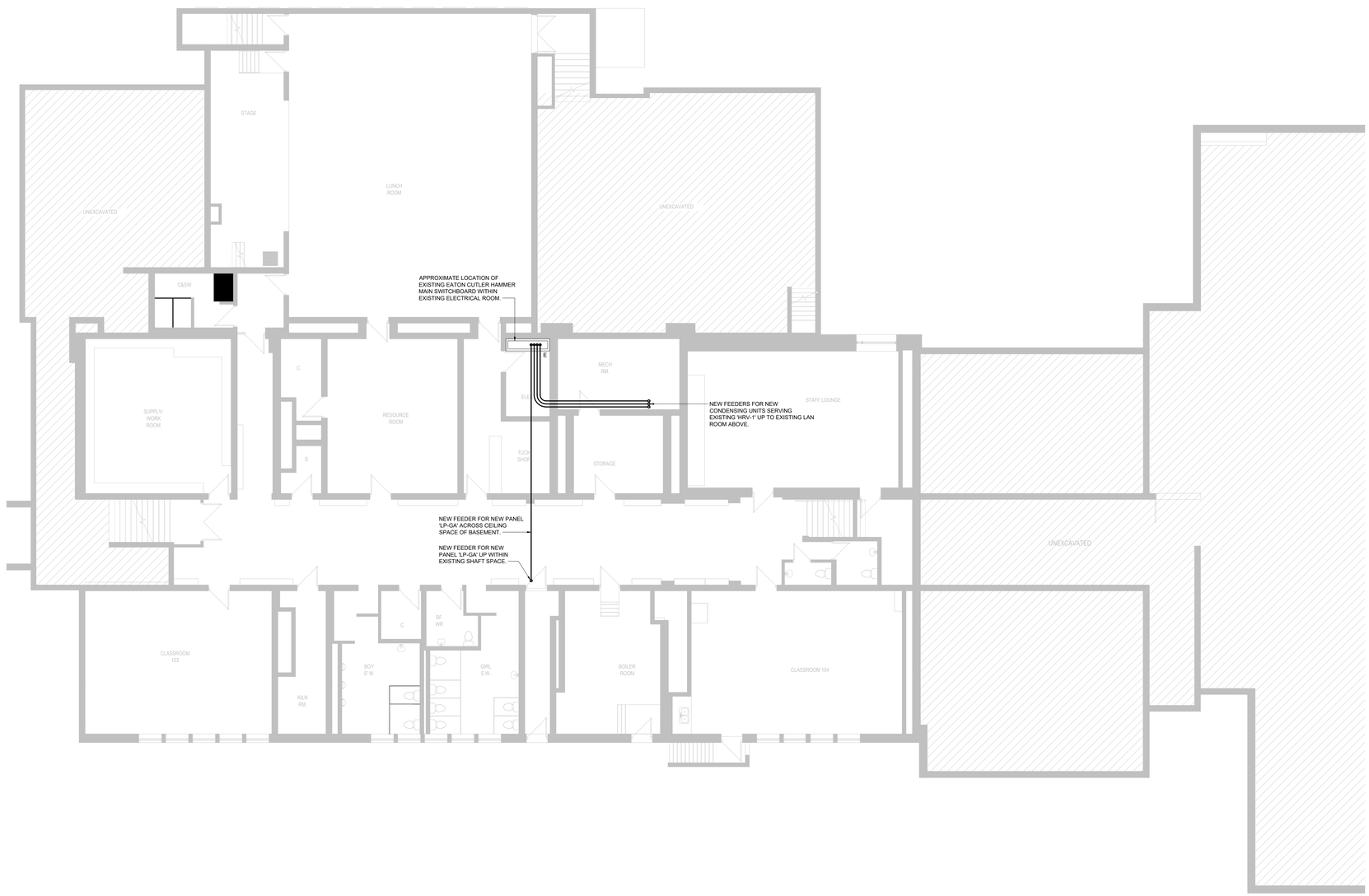
PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:
SECOND FLOOR DEMOLITION & NEW WORK PLANS - LIGHTING

PROJECT NO:	22988
SCALE:	AS NOTED
DRAWN BY:	CW
REVIEWED BY:	BD/TWS

SHEET NO:
E-101



1 BASEMENT LEVEL NEW WORK PLAN - POWER & SYSTEMS
SCALE: 1:100

PROJECT GENERAL NOTES

1. ROUTING OF CONDUITS IS DIAGRAMMATIC. CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM EXACT ROUTING ON SITE PRIOR TO ROUGH-IN AND INCLUDE FOR ALL OFFSETS, ETC. AS REQUIRED. INSTALLATION OF NEW FEEDERS SHALL BE COORDINATED WITH ALL EXISTING SERVICES ON SITE.

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QUASAR PROJECT No.: ED-22-405

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PROVINCE OF ONTARIO

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ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

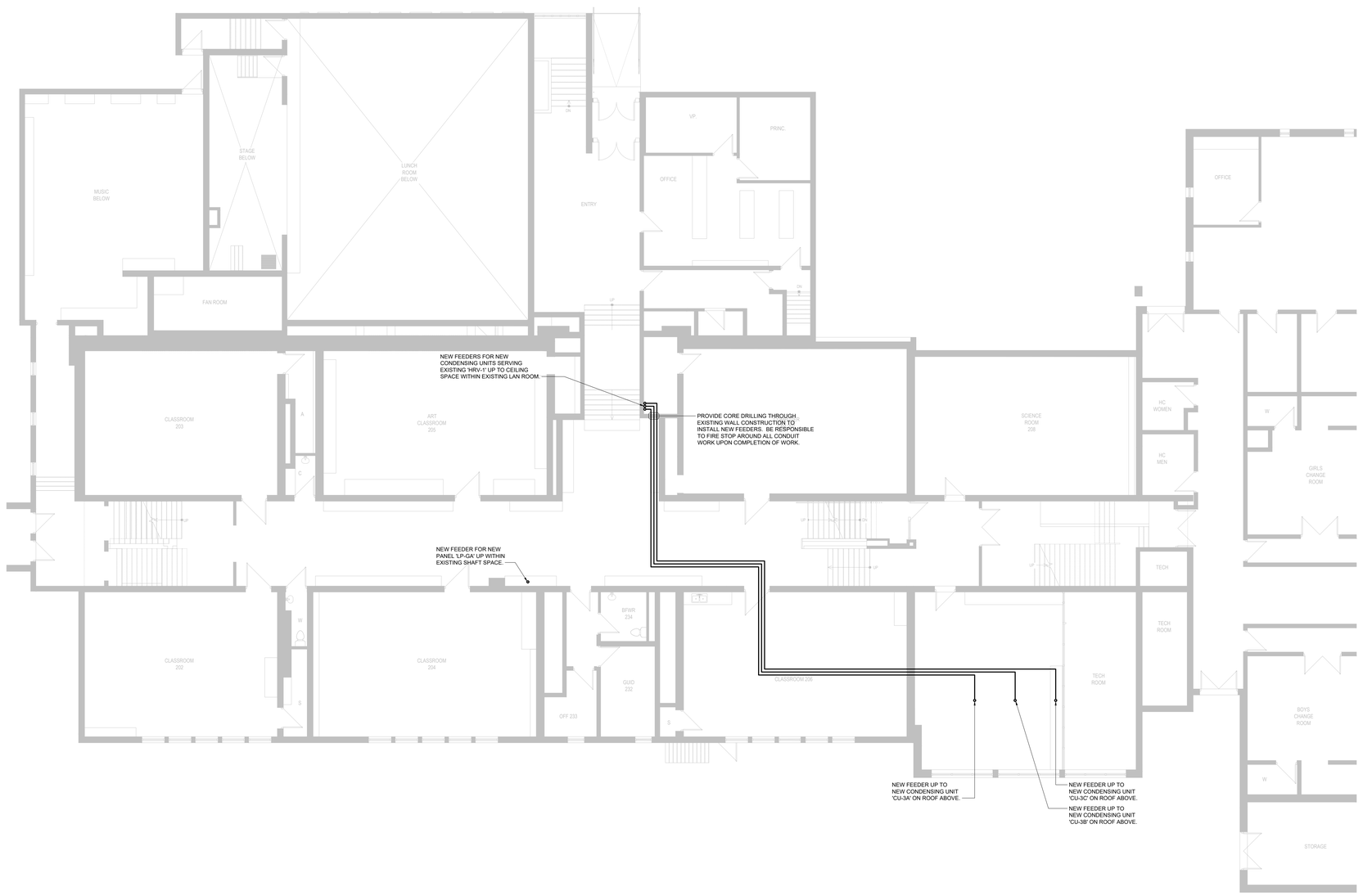
SHEET TITLE:

BASEMENT FLOOR NEW WORK PLAN - POWER & SYSTEMS

PROJECT NO: 22988
SCALE: AS NOTED
DRAWN BY: CW
REVIEWED BY: BD/TWS

SHEET NO:

E-201



1 GROUND FLOOR NEW WORK PLAN - POWER & SYSTEMS
SCALE: 1:100

PROJECT GENERAL NOTES

1. ROUTING OF CONDUITS IS DIAGRAMMATIC. CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM EXACT ROUTING ON SITE PRIOR TO ROUGH-IN AND INCLUDE FOR ALL OFFSETS, ETC. AS REQUIRED. INSTALLATION OF NEW FEEDERS SHALL BE COORDINATED WITH ALL EXISTING SERVICES ON SITE.

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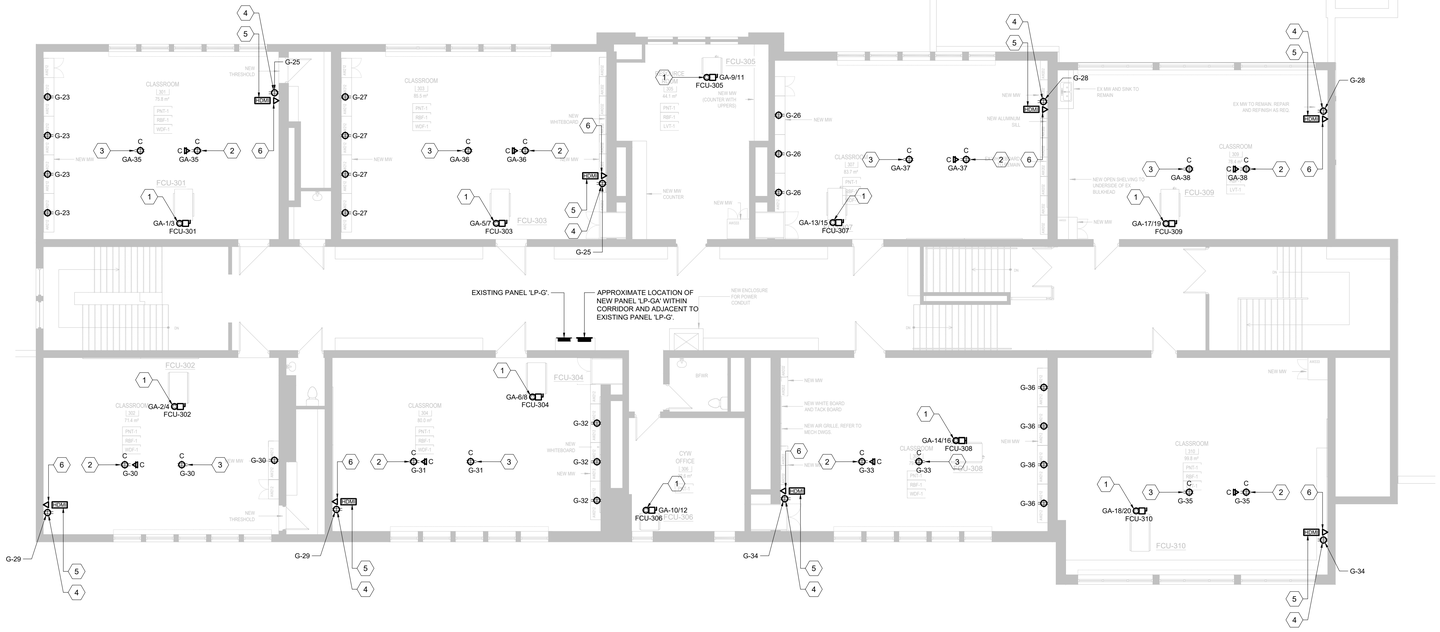
PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:
FIRST FLOOR NEW WORK PLAN - POWER & SYSTEMS

PROJECT NO:	22988
SCALE:	AS NOTED
DRAWN BY:	CW
REVIEWED BY:	BD/TWS

SHEET NO:
E-202



2 SECOND FLOOR NEW WORK PLAN - POWER & SYSTEMS
SCALE: 1:100

PROJECT GENERAL NOTES

1. LOCATION OF DEVICES AND LUMINAIRES ARE NOTED FOR DIAGRAMMATIC PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS AND SITE CONDITIONS FOR EXACT DEVICE AND LUMINAIRE PLACEMENT.
2. NEW DEVICES SHOWN ON EXISTING WALL CONSTRUCTION SHALL BE INSTALLED SURFACE MOUNTED ON FS TYPE BACK BOXES WITH SURFACE RACEWAY (LEGRAND WIREMOLD 400 SERIES OR EQUIVALENT - WHITE), FROM DEVICE UP TO CEILING SPACE. CONDUIT SHALL BE PROVIDED ABOVE CEILING SPACE IN ALL LOCATIONS. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND CURRENT HAZARDOUS MATERIALS SURVEY.
3. FOR NEW BRANCH CIRCUITS NOTED ON THE FLOOR PLANS, PROVIDE A NEW 15A-1P BREAKER WITHIN EXISTING PANEL INDICATED AND EXTEND NEW FEEDERS TO EXISTING PANEL AND CONNECT COMPLETE.

NEW WORK KEY NOTES:

1. CONNECTION TO NEW FAN COIL UNIT WITHIN CEILING SPACE. FOR BRANCH CIRCUIT INDICATED EXTEND 2#10 + GROUND IN 21mm CONDUIT FROM ASSOCIATED BREAKER IN NEW PANEL 'LP-GA' TO FAN COIL UNIT AND CONNECT COMPLETE. COORDINATE ROUTING AND INSTALLATION OF NEW FEEDER WITH ALL EXISTING SERVICES ON SITE PRIOR TO ROUGH-IN. COORDINATE EXACT LOCATION OF FAN COIL UNIT AND FINAL CONNECTIONS WITH MECHANICAL CONTRACTOR ON SITE.
2. RECEPTACLE WITHIN CEILING SPACE FOR CEILING MOUNTED PROJECTOR. PROJECTOR TO BE SUPPLIED BY OWNER AND INSTALLED BY ELECTRICAL CONTRACTOR. CONTRACTOR RESPONSIBLE TO PROVIDE CEILING MOUNT SUPPORT BRACKET AND EXTENSION ARM FOR PROJECTOR. PROJECTOR MODEL TO BE SUPPLIED IS OPTOMA #ZW400. CONNECT RECEPTACLE TO BRANCH CIRCUIT NOTED WITH 2#10 + GROUND IN 21mm CONDUIT.
3. RECEPTACLE WITHIN CEILING SPACE FOR "TOP CAT" CEILING MOUNT AUDIO SYSTEM. AUDIO SYSTEM SUPPLIED BY OWNER AND INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR. CONNECT RECEPTACLE TO BRANCH CIRCUIT NOTED WITH 2#10 + GROUND IN 21mm CONDUIT.
4. RECEPTACLE AND "TOP CAT" AUDIO SYSTEM MEDIA CONNECTOR INSTALLED BELOW EXISTING PHONE. CONNECT RECEPTACLE TO BRANCH CIRCUIT NOTED WITH 2#10 + GROUND IN 21mm CONDUIT. PROVIDE SINGLE COMPARTMENT SURFACE RACEWAY ON FINISHED WALL FROM RECEPTACLE UP TO CEILING SPACE AND CONDUIT FROM CEILING TO PANELBOARD NOTED.
5. SINGLE GANG BACKBOX FOR HDMI WALL PLATE INSTALLED BELOW EXISTING TELEPHONE. EXTEND SINGLE COMPARTMENT SURFACE RACEWAY FROM BACKBOX TO ABOVE CEILING AND 41mm CONDUIT, COMPLETE WITH PULL STRING, FROM SURFACE RACEWAY TO TERMINATE WITHIN CEILING SPACE ABOVE NEW PROJECTOR LOCATION. HDMI WALL PLATE AND WIRING TO BE SUPPLIED BY OWNER AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE WITH WRDSB I.T. DEPARTMENT DURING CONSTRUCTION.
6. SINGLE GANG BACKBOX FOR DATA OUTLET TO BE INSTALLED BELOW EXISTING TELEPHONE. EXTEND SINGLE COMPARTMENT SURFACE RACEWAY FROM BACKBOX TO ABOVE CEILING, AND TERMINATE WITHIN CEILING SPACE OF ROOM. DATA OUTLET AND CABLING TO BE SUPPLIED AND INSTALLED BY WRDSB PREFERRED VENDOR. COORDINATE WITH WRDSB I.T. DEPARTMENT AND VENDOR DURING CONSTRUCTION.

1 SECOND FLOOR DEMOLITION PLAN - POWER & SYSTEMS
SCALE: 1:100

PROJECT GENERAL NOTES

1. THIS DRAWING IS ISSUED TO SHOW PROPOSED SCOPE OF WORK ONLY. THE CONTRACTOR MUST PERFORM A SITE INSPECTION (INCLUDING CEILING SPACES) DURING THE TENDER PERIOD AND ENSURE THAT ALL WORK THAT IS VISIBLE IS INCLUDED IN THE DEMOLITION SCOPE OF WORK. ALL EXISTING SERVICES THAT PASS THROUGH THE RENOVATION AREA (UNLESS OBSOLETE) ARE TO BE MAINTAINED AND/OR RELOCATED TO SUIT THE SCOPE OF WORK.

DEMOLITION KEY NOTES:

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2025-05-02
T.W. SEDORE
PROVINCE OF ONTARIO

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PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:
SECOND FLOOR DEMOLITION & NEW WORK PLANS - POWER & SYSTEMS

PROJECT NO: 22988
SCALE: AS NOTED
DRAWN BY: CW
REVIEWED BY: BD/TWS

SHEET NO:
E-203

1 ROOF NEW WORK PLAN - POWER & SYSTEMS
SCALE: 1:100

PROJECT GENERAL NOTES

1. LOCATION OF DEVICES AND LUMINAIRES ARE NOTED FOR DIAGRAMMATIC PURPOSES. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLANS AND SITE CONDITIONS FOR EXACT DEVICE AND LUMINAIRE PLACEMENT.
2. COORDINATE EXACT LOCATION AND FINAL CONNECTIONS OF ALL ROOF MOUNTED EQUIPMENT WITH MECHANICAL CONTRACTOR ON SITE. PLAN AND COORDINATE LOCATION OF ALL ROOF PENETRATION PRIOR TO ROUGH-IN.

NEW WORK KEY NOTES:

1. PROVIDE CONNECTION TO NEW ROOF MOUNTED CONDENSING UNIT. FOR BRANCH CIRCUIT INDICATED, EXTEND 3#8 + GROUND IN 27mm CONDUIT FROM CONDENSING UNIT TO ASSOCIATED BREAKER IN NEW PANEL 'LP-GA' WITHIN LEVEL 2 CORRIDOR BELOW AND CONNECT COMPLETE. INCLUDE FOR LINE AND LOAD CONNECTIONS TO ASSOCIATED WEATHERPROOF DISCONNECT SWITCH AT ROOF LEVEL.
2. PROVIDE ROOF MOUNTED SERVICE RECEPTACLE PER DETAIL #6 ON DRAWING #E-301. FOR BRANCH CIRCUIT INDICATED, EXTEND 2#10 + GROUND IN 21mm CONDUIT FROM RECEPTACLE POST TO ASSOCIATED BREAKER IN NEW PANEL 'LP-GA' AND CONNECT COMPLETE. CONFIRM EXACT LOCATION OF DEVICE ON ROOF PRIOR TO ROUGH-IN. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING.
3. PROVIDE CONNECTION TO NEW ROOF MOUNTED CONDENSING UNIT. PROVIDE A 60A-3P BREAKER WITHIN EXISTING SWITCHBOARD ON BASEMENT LEVEL AND EXTEND 3#4 + 1#8 GROUND IN 41mm CONDUIT FROM CONDENSING UNIT TO ASSOCIATED BREAKER IN SWITCHBOARD AND CONNECT COMPLETE. COORDINATE EXACT LOCATION OF CONDENSING UNIT AND FINAL CONNECTIONS WITH MECHANICAL CONTRACTOR ON SITE. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING. REFER TO DRAWINGS #E-201 AND #E-202 FOR APPROXIMATE ROUTING OF NEW FEEDERS FROM SWITCHBOARD WITHIN BUILDING.
4. DISCONNECTS FOR ROOF MOUNTED CONDENSING UNITS AND ROOF MOUNTED SERVICE RECEPTACLE TO BE INSTALLED ON PLYWOOD BACKBOARD MOUNTED TO VERTICAL UNISTRUT SUPPORT MEMBERS. UNISTRUT MEMBERS TO BE BOLTED TO EXISTING ROOF STRUCTURE. PLYWOOD BACKBOARD TO BE PRESSURE TREATED AND PAINTED WITH WEATHER RESISTANT PAINT. ALL DISCONNECT SWITCHES SHALL BE WEATHERPROOF, NEMA 4X RATED. RECEPTACLE SHALL BE 20A WEATHERPROOF GFI TYPE RECEPTACLE. EXTEND 2#10 + GROUND IN 21mm (¾") CONDUIT FROM RECEPTACLE TO NEW BREAKER IN BRANCH CIRCUIT PANEL BOARD NOTED AND CONNECT COMPLETE. REFER TO PANEL SCHEDULES ON DRAWING #E-301 FOR FURTHER DETAILS. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING.
5. PROVIDE CONNECTION TO NEW W-CONTROLLERS (THREE) AND ENCLOSURE HEATER LOCATED WITHIN WEATHERPROOF ENCLOSURE AND INSTALLED BESIDE UNIT. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR ON SITE PRIOR TO ROUGH-IN. FOR BRANCH CIRCUIT INDICATED, EXTEND 2#10 + GROUND IN 21mm CONDUIT FROM DEVICES TO ASSOCIATED BREAKER IN NEW PANEL 'LP-GA'. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING.
6. PROVIDE CONNECTION TO PAN HEATER AND HEAT TRACING FOR CONDENSING UNITS 'CU-3A', 'CU-3B' AND 'CU-3C'. FOR BRANCH CIRCUIT INDICATED, EXTEND 2#10 + GROUND IN 21mm CONDUIT FROM HEAT TRACE AND PAN HEATER CONTROLLER TO ASSOCIATED BREAKER IN NEW PANEL 'LP-GA' AND CONNECT COMPLETE. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR ON SITE PRIOR TO ROUGH-IN. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING.
7. PROVIDE CONNECTION TO PAN HEATER AND HEAT TRACING FOR CONDENSING UNITS 'CU-1' AND 'CU-2'. FOR BRANCH CIRCUIT INDICATED, EXTEND 2#10 + GROUND IN 21mm CONDUIT FROM HEAT TRACE AND PAN HEATER CONTROLLER TO ASSOCIATED BREAKER IN NEW PANEL 'LP-GA' AND CONNECT COMPLETE. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR ON SITE PRIOR TO ROUGH-IN. ANY NEW ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND MADE WEATHER AND WATER TIGHT. MAINTAIN ANY EXISTING FIRE RATING.

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T.W. SEDORE
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ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

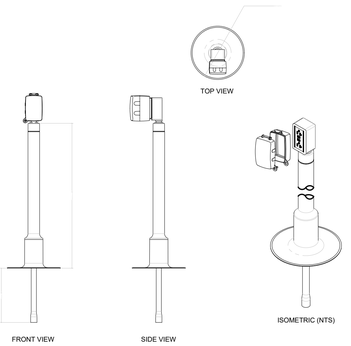
SHEET TITLE:

ROOF NEW WORK PLAN - POWER & SYSTEMS

PROJECT NO:	22988
SCALE:	AS NOTED
DRAWN BY:	CW
REVIEWED BY:	BD/TWS

SHEET NO:

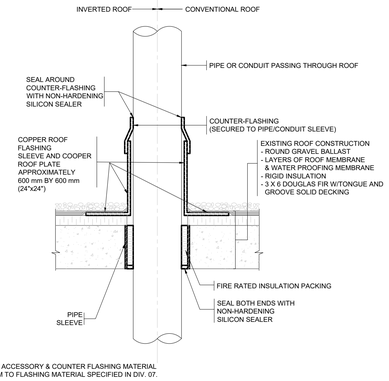
E-204



NOTES:
1. PROVIDE WP GFI 5-20R @ 750 mm (30") ABOVE FINISHED ROOF LEVEL C/W WET LOCATION COVER PLATE, TYPICAL. LOCATE WITHIN 7500 mm (25 FT) OF NEW HVAC EQUIPMENT, AND AT LEAST 1800 mm (6 FEET) AWAY FROM ROOF LINE. COVER PLATE TO BE MARKED "EXTRA DUTY". REFER TO 2018 OESC RULES 2-316, 26-708, AND 26-710, AND OESC BULLETIN 26-27-*, OR LATEST EDITION.
2. LABEL RECEPTACLE WITH PHENOLIC (LAMACOID) NAMEPLATE WITH PANELBOARD ID, CIRCUIT NUMBER, AND PANELBOARD LOCATION.
3. BASIS OF DESIGN FOR ELECTRICAL SOCKET POST: LEXCOR FLASH-TITE EOP SERIES.

CODE REFERENCES (REFER TO 2018 OESC RULES 2-316, 26-708, AND 26-710, AND OESC BULLETIN 26-27-*), OR LATEST CODE EDITION:
1. HVAC EQUIPMENT MAINTENANCE RECEPTACLE INSTALLED ON ROOF (2018 OESC RULE 2-316).
2. GFCI PROTECTED (2018 OESC 26-710(a)).
3. DEDICATED FOR "HVAC MAINTENANCE" (2018 OESC 26-710(b)).
4. CSA CONFIGURATION 5-20R (2018 OESC 26-710(c)).
5. LOCATED WITHIN 7500 mm OF THE ROOFTOP EQUIPMENT (2018 OESC 26-710(d)).
6. NOT LESS THAN 750 mm (30") ABOVE THE FINISHED ROOF LEVEL (2018 OESC 26-710(e)).
7. PROTECT FROM MECHANICAL DAMAGE (2018 OESC 26-710(f)).
8. LOCATE MINIMUM 1800 mm (6 FEET) AWAY FROM ROOF LINE. REFER TO FALL ARREST LEGISLATION.
9. WET LOCATION COVER PLATE TO BE "WHILE IN USE TYPE", MARKED "EXTRA DUTY" (2018 OESC 26-708(2)).
10. SECURE COVER PLATE TO OUTLET BOX BY FOUR SCREWS OR EQUIVALENT MEANS (2018 OESC 26-708(4)).

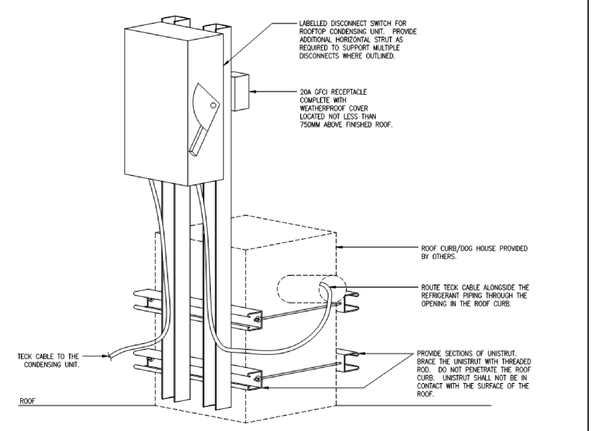
6 ROOF MOUNTED MAINTENANCE RECEPTACLE DETAIL
SCALE: NOT TO SCALE



NOTE:

ROOF FLASHING ACCESSORY & COUNTER FLASHING MATERIAL SHALL CONFORM TO FLASHING MATERIAL SPECIFIED IN DIV. 07.

3 DETAIL OF CONDUIT PENETRATION THROUGH ROOF
SCALE: NOT TO SCALE

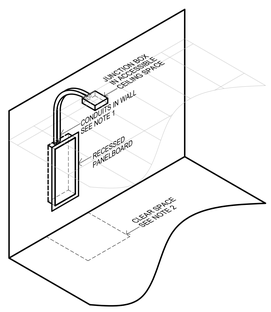


EMERGENCY LIGHTING WIRING MAX VOLTAGE DROP

WIRE SIZE \ LOAD (WATTS)	LENGTH OF WIRE RUN (FEET)														
	13	18	25	30	35	50	60	75	100	150	200	250	300	400
6	12	41	30	21	18	15	11	9	8	6	4	-	-	-	-
	10	65	47	32	28	24	17	14	11	9	6	-	-	-	-
VOLT	8	110	75	54	45	39	27	22	18	14	9	7	-	-	-
12	12	165	110	85	71	61	42	35	29	21	14	10	8	-	-
	10	260	190	136	112	97	68	52	45	34	23	17	14	11	-
VOLT	8	415	300	215	180	154	108	90	72	54	36	27	21	18	-
24	12	660	440	340	284	244	168	140	116	84	56	40	32	26	21
	10	1040	760	544	448	388	272	208	180	136	92	68	52	44	34
VOLT	8	1668	1200	860	720	616	432	360	288	216	44	108	84	72	54

2 EMERGENCY LIGHTING WIRING MAX VOLTAGE DROP
SCALE: NOT TO SCALE

NOTES:
1. TYPICAL DIMENSIONS FOR A RECESSED SINGLE TUB RECEPTACLE PANELBOARD WITH MAX 100A FRAME SIZE BRANCH BREAKERS:
   1.1. TUB DEPTH: 146.1 mm (5.75"). ARCHITECTURAL TO ALLOW PARTITION DEPTH MINIMUM 150 mm (6") FROM FACE TO INSIDE CLEAR.
   1.2. TUB WIDTH: 506 mm (20")
   1.3. TUB HEIGHT: VARIES BASED ON NUMBER OF BRANCH BREAKERS, TYPICALLY RANGES BETWEEN 48 INCH (30 POLE), AND 72 INCH (42 POLE), BUT CAN ALSO BE TALLER.
   1.4. RECESSED PANELBOARD TRIM PLATE: TYPICALLY TUB DIMENSIONS PLUS 38.2 mm (1.5").
2. CLEAR SPACE: MINIMUM 1000 mm BY 1000 mm SQUARE BY 2000 mm HIGH. PANEL NEED NOT BE CENTRED IN THE CLEAR SPACE (ONTARIO ELECTRICAL SAFETY CODE RULE 2-308(1)).
3. BRANCH CIRCUIT CONDUIT QUANTITY AND SIZE TO ACCOMMODATE CIRCUITS AS FOLLOWS:
   3.1. UP TO 100A, 42 CIRCUIT PANELBOARD: 2 x 41 mm (1-1/2") Ø
   3.2. UP TO 225A, 42 CIRCUIT PANELBOARD: 2 x 41 mm (1-1/2") Ø
   3.3. UP TO 400A, 42 CIRCUIT PANELBOARD: 2 x 53 mm (2") Ø
   3.4. UP TO 600A, 42 CIRCUIT PANELBOARD: 3 x 53 mm (2") Ø
4. MINIMUM JUNCTION BOX SIZE: 600 mm BY 600 mm BY 75 mm.
5. WHEN INSTALLING NEW RECESSED PANELBOARD IN EXISTING PARTITION OR WALL, REINSTATE WALL AND CEILING.



4 INSTALLATIOIN DETAIL OF TYPICAL PANELBOARD
SCALE: NOT TO SCALE

MAXIMUM BRANCH WIRING DISTANCE FOR 120 V SYSTEM AT 3% VOLTAGE DROP

WIRE SIZE	BREAKER SIZE (AMPERES)	15	20	30	40	50	60	70	80	100
	MAX. LOAD AT 80% (AMPERES)	12	16	24	32	40	48	56	68	80
NO.12	------	24.4	18.3	------	------	------	------	------	------	------
NO.10	------	38.1	29.0	19.1	------	------	------	------	------	------
NO.8	------	59.4	44.2	30.5	22.9	------	------	------	------	------
NO. 6	------	91.4	70.1	47.2	35.1	28.2	23.6	------	------	------
NO. 4	------	------	109.7	73.2	54.9	42.7	38.1	32.0	27.4	------
NO. 2	------	------	------	114.3	85.3	68.6	57.9	50.3	41.1	35.0
NO. 1	------	------	------	------	103.6	85.3	73.2	61.0	54.9	43.4
NO.1/0	------	------	------	------	128.0	102.9	85.3	73.2	64.0	48.8
NO.2/0	------	------	------	------	------	121.9	100.6	86.9	74.7	60.9
NO.3/0	------	------	------	------	------	------	118.1	102.1	88.4	70.1
NO.4/0	------	------	------	------	------	------	------	120.4	102.9	83.8
250 MCM	------	------	------	------	------	------	------	------	114.3	91.4
300 MCM	------	------	------	------	------	------	------	------	------	103.6

NOTE: DISTANCES INDICATED IN METRES FROM PANEL TO LOAD FOR SINGLE PHASE.

1 MAXIMUM BRANCH WIRING DISTANCE FOR 3% VOLTAGE DROP
SCALE: NOT TO SCALE

SCHEDULE 26 06 50.23 - LIGHTING CONTROL DEVICE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	BASIS OF DESIGN MANUFACTURERS AND PRODUCT SERIES	CONTROL WIRING	VOLTAGE OUTPUT	MOUNTING	SPECIFICATION SECTION	SPACES SERVED	REMARKS
RP		LIGHTING CONTROL POWER PACK	LEGRAND/WATTSTOPPER #A120C	LOW VOLTAGE	24V	ABOVE CEILING	26 09 43		CONNECT INTO EXISTING LIGHTING CIRCUITS
DT	DT-W-2V	WALL MOUNT OCCUPANCY SENSOR, 24 V, DUAL TECHNOLOGY SENSOR, MIN 1200 SQ FT COVERAGE	WATTSTOPPER DT-200 SERIES		24V	WALL, +/- 12 FEET AFF	26 09 23		
DT	DT-C-2V	CEILING MOUNTED OCCUPANCY SENSOR, 24 V, DUAL TECHNOLOGY SENSOR.	LEGRAND/WATTSTOPPER DT-300 SERIES		24V	CEILING	26 09 23		

LIGHTING CONTROLS SCHEDULE NOTES:
1. LIGHTING CONTROLS OF ONE MANUFACTURER THROUGH PROJECT TO ENSURE PRODUCT COMPATIBILITY.
2. ALTERNATE MANUFACTURERS: ACUITY BRANDS LIGHTING (SENORSWITCH, nLIGHT), COOPER LIGHTING SOLUTIONS, DOUGLAS LIGHTING CONTROLS, LUTRON, SIGNIFY (FORMERLY PHILIPS LIGHTING), WATTSTOPPER-LEGRAND.
3. DUAL TECHNOLOGY SENSORS: PASSIVE INFRARED/ULTRASONIC, OR PASSIVE INFRARED/MICROPHONIC, DEPENDING ON MANUFACTURER. MICROPHONIC SENSORS ACCEPTABLE IN LIEU OF ULTRASONIC.
4. POSITION CEILING MOUNTED OCCUPANCY SENSORS A MINIMUM 1200 mm (4'-0") FROM NEAREST AIR DIFFUSER, HVAC OUTLETS, HEATING BLOWERS, ETC.
5. CONFIRM INSTALLATION REQUIREMENTS, WIRING DIAGRAMS, ETC. WITH MANUFACTURER'S DETAILS.
6. SUBMIT SHOP DRAWINGS FOR CONSULTANT'S REVIEW PRIOR TO PLACING ANY ORDER.
7. CONFIRM FINISH COLOUR WITH CONSULTANT DURING SUBMITTAL REVIEW.

SCHEDULE 26 06 50.23 - LIGHTING CONTROL DEVICE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	BASIS OF DESIGN MANUFACTURERS AND PRODUCT SERIES	CONTROL WIRING	VOLTAGE OUTPUT	MOUNTING	SPACES SERVED	REMARKS
S^{2B}_{3}	UI-DIM-2V-2B	DIMMING WALL STATION, ONE-ZONE, 0-10 V DIMMING, CONNECTED TO POWER PACK. FOR CONTROL OF ONE ZONE OF LIGHTING.	LEGRAND WATTSTOPPER LMSW-211-WH	DIGITAL	-	WALL	OFFICE/RESOURCE ROOM	SUBMITTAL WITH STANDARD/PROPSED ENGRAVING OPTION. ALLOW FOR CUSTOM LABELLING OPTION AT OWNER'S DISCRETION.
S^{4B}_{3}	UI-DIM-2V-4B	DIMMING WALL STATION, TWO-ZONE, 0-10 V DIMMING, CONNECTED TO POWER PACK. FOR CONTROL OF ONE ZONE OF LIGHTING.	LEGRAND WATTSTOPPER LMSW-222-WH	DIGITAL	-	WALL	CLASSROOM	SUBMITTAL WITH STANDARD/PROPSED ENGRAVING OPTION. ALLOW FOR CUSTOM LABELLING OPTION AT OWNER'S DISCRETION.
DT	DT-W-2V	WALL MOUNT OCCUPANCY SENSOR, 24 V, DUAL TECHNOLOGY SENSOR, MIN 1200 SQ FT COVERAGE	LEGRAND WATTSTOPPER LMDX-100	DIGITAL	-	WALL, +/- 10 FEET AFF		
DT	DT-C-2V	CEILING MOUNTED OCCUPANCY SENSOR, 24 V, DUAL TECHNOLOGY SENSOR.	LEGRAND WATTSTOPPER LMDC-100	DIGITAL	-			

LIGHTING CONTROLS SCHEDULE NOTES:
1. LIGHTING CONTROLS OF ONE MANUFACTURER THROUGH PROJECT TO ENSURE PRODUCT COMPATIBILITY.
2. ALTERNATE MANUFACTURERS: ACUITY BRANDS, COOPER LIGHTING SOLUTIONS, SIGNIFY (FORMERLY PHILIPS LIGHTING), WATTSTOPPER-LEGRAND.
3. DUAL TECHNOLOGY SENSORS: PASSIVE INFRARED/ULTRASONIC, OR PASSIVE INFRARED/MICROPHONIC, DEPENDING ON MANUFACTURER. MICROPHONIC SENSORS ACCEPTABLE IN LIEU OF ULTRASONIC.
4. POSITION CEILING MOUNTED OCCUPANCY SENSORS A MINIMUM 1200 mm (4'-0") FROM NEAREST AIR DIFFUSER, HVAC OUTLETS, HEATING BLOWERS, ETC.
5. CONFIRM INSTALLATION REQUIREMENTS, WIRING DIAGRAMS, ETC. WITH MANUFACTURER'S DETAILS.
6. SUBMIT SHOP DRAWINGS FOR CONSULTANT'S REVIEW PRIOR TO PLACING ANY ORDER.
7. CONFIRM FINISH COLOUR WITH CONSULTANT DURING SUBMITTAL REVIEW.

SCHEDULE 26 06 50.16 - LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	BASIS OF DESIGN MANUFACTURER AND CAT NO. SEE NOTE 1	VOLTAGE/ INPUT WATTS	LUMEN PACKAGE (3500 K CCT UNLESS NOTED OTHERWISE) MINIMUM 80 CRI	MOUNTING	REFERENCE	REMARKS
	L1	RECESSED 2' x 4' LED TROFFER STYLE LUMINAIRE COMPLETE WITH WHITE FINISH, AND K12 ACRYLIC PRISMATIC LENS, 0.125" THICK.	PEERLESS ELECTRIC (OMNILUMEN) PEERLUX SERIES CAT.#LACH3-24G-40-40K-12P-MV	120V	4000 LUMEN 4000K	RECESSED T-BAR CEILING		

LIGHTING FIXTURE SCHEDULE NOTES:
1. UNLESS NOTED OTHERWISE, ACCEPTED ALTERNATE MANUFACTURES AND SUPPLIERS: ACUITY BRANDS LIGHTING, COOPER LIGHTING SOLUTIONS, CREE CANADA, HUBBELL LIGHTING, PEERLESS ELECTRIC, SIGNIFY (FORMERLY PHILIPS LIGHTING), VISCOR/VISIONEERING.
2. WHERE AN INCOMPLETE MODEL/CAT NO. IS LISTED, MANUFACTURERS/SUPPLIERS MUST CONFIRM THE PROPOSED FIXTURE WITH THE CONSULTANT A MINIMUM OF ONE WEEK PRIOR TO TENDER CLOSE.
3. SUBMIT SHOP DRAWINGS FOR CONSULTANT'S REVIEW PRIOR TO PLACING ANY ORDER.

26 06 20.16 - ELECTRICAL PANELBOARD SCHEDULE

PANEL ID: LP-M	VOLTS: 120/208V	LOCATION: EXISTING LEVEL 2 CORRIDOR
MAIN BUS: 100A	PHASE: 3	FED FROM: EXISTING MAIN SWITCHBOARD
MAIN BREAKER: NONE	WIRE: 4	FEEDER ENTRY AT: BOTTOM
TYPE:	MOUNTING: RECESSED	FEEDER: REFER TO DRAWING NOTES
INTERRUPTING CAPACITY: 10KA MIN	ENCLOSURE RATING:	REMARKS:

CIR NO.	DESCRIPTION	WATTAGE ØA	WATTAGE ØB	WATTAGE ØC	BRK R	Ø	BRK R	WATTAGE ØA	WATTAGE ØB	WATTAGE ØC	DESCRIPTION	CIR NO.
1	FAN COIL UNIT 'FCU-301'	268	-	-	15	A	15	234	-	-	FAN COIL UNIT 'FCU-302'	2
3		-	268	-		B		-	234	-		4
5	FAN COIL UNIT 'FCU-303'	-	-	268	15	C	15	-	-	234	FAN COIL UNIT 'FCU-304'	6
7		268	-	-		A		234	-	-		8
9	FAN COIL UNIT 'FCU-305'	-	37	-	15	B	15	-	37	-	FAN COIL UNIT 'FCU-306'	10
11		-	-	37		C		-	-	37		12
13	FAN COIL UNIT 'FCU-307'	268	-	-	15	A	15	234	-	-	FAN COIL UNIT 'FCU-308'	14
15		-	268	-		B		-	234	-		16
17	FAN COIL UNIT 'FCU-309'	-	-	268	15	C	15	-	-	262	FAN COIL UNIT 'FCU-310'	18
19		268	-	-		A		262	-	-		20
21	ROOF MOUNTED CONDENSING UNIT 'CU-1'	-	3945	-	40	B	50	-	5167	-	ROOF MOUNTED CONDENSING UNIT 'CU-2'	22
23		-	-	3945		C		-	-	5167		24
25		3945	-	-		A		5167	-	-		26
27	HRV UNIT - W CONTROL BOXES & HEATER	-	400	-	15**	B	20**	-	1500	-	COND. UNIT 3A-3B-3C HEAT TRACE & PAN HTR	28
29		-	-	400		C	15*	-	-	1200	COND. UNIT CU-1 & CU-2 HEAT TRACE & PAN HTR	30
31	ROOF TOP SERVICE RECEPT	1500	-	-	20**	A	20**	1500	-	-	ROOF TOP SERVICE RECEPT	32
33	SPARE BREAKER	-	0	-	15	B	15	-	0	-	SPARE BREAKER	34
35	301 - RECEPT	-	-	1000	15	C	15	-	-	1000	303 - RECEPT.	36
37	307 - RECEPT	1000	-	-	15	A	15	1000	-	-	309 - RECEPT	38
39	SPARE BREAKER	-	0	-	15	B	15	-	0	-	SPARE BREAKER	40
41	SPARE BREAKER	-	-	0	20	C	20	-	-	0	SPARE BREAKER	42

TOTAL ØA: ___W , TOTAL ØB: ___W , TOTAL ØC: ___W

NOTES:

* - PROVIDE LOCKABLE BREAKER
** - PROVIDE GFI TYPE BREAKER
*** - COORDINATE EXACT BREAKER SIZE WITH EQUIPMENT SHOP DRAWINGS
R - RECEPTACLE
L - LIGHTING

CIRCUIT NUMBERS ARE GIVEN FOR GROUPING ONLY. SITE VERIFY AVAILABLE CIRCUIT BREAKER SPACES IN PANELS DURING TENDER WALKTHROUGH.

26 06 20.16 - ELECTRICAL PANELBOARD SCHEDULE

PANEL ID: LP-G	VOLTS: 120/208V	LOCATION: EXISTING LEVEL 2 CORRIDOR
MAIN BUS: 225A	PHASE: 3	FED FROM: EXISTING MAIN SWITCHBOARD
MAIN BREAKER: NONE	WIRE: 4	FEEDER ENTRY AT: BOTTOM
TYPE:	MOUNTING: RECESSED	FEEDER: EXISTING
INTERRUPTING CAPACITY: 10KA MIN	ENCLOSURE RATING:	REMARKS:

CIR NO.	DESCRIPTION	WATTAGE ØA	WATTAGE ØB	WATTAGE ØC	BRK R	Ø	BRK R	WATTAGE ØA	WATTAGE ØB	WATTAGE ØC	DESCRIPTION	CIR NO.
1	EXISTING LOAD	0	-	-	40	A	15	0	-	-	EXISTING LOAD	2
3		-	0	-		B	15	-	0	-	EXISTING LOAD	4
5	EXISTING LOAD	-	-	0	15	C	15	-	-	0	EXISTING LOAD	6
7	EXISTING LOAD	0	-	-	15	A	15	0	-	-	EXISTING LOAD	8
9	EXISTING LOAD	-	0	-	15	B	15	-	0	-	EXISTING LOAD	10
11	EXISTING LOAD	-	-	0	15	C	15	-	-	0	EXISTING LOAD	12
13	EXISTING LOAD	0	-	-	15	A	15	0	-	-	EXISTING LOAD	14
15	EXISTING LOAD	-	0	-	15	B	15	-	0	-	EXISTING LOAD	16
17	EXISTING LOAD	-	-	0	15	C	15	-	-	0	EXISTING LOAD	18
19	SPARE BRKR	0	-	-	15	A	15*	0	-	-	EXISTING LOAD	20
21	EXISTING LOAD	-	0	-	15	B	15*	-	0	-	EXISTING LOAD	22
23	301 - RECEPT	-	-	1000	15	C	15	-	-	0	EXISTING LOAD	24
25	301, 303 - RECEPT	1000	-	-	15	A	15	1000	-	-	307 - RECEPT	26
27	303 - RECEPT	-	1000	-	15	B	15	-	1000	-	307, 309 - RECEPT	28
29	302, 304 - RECEPT	-	-	1000	15	C	15	-	-	1000	302 - RECEPT.	30
31	304 - RECEPT.	1000	-	-	15	A	15	1000	-	-	304 - RECEPT.	32
33	308 - RECEPT	-	1000	-	15	B	15	-	1000	-	308, 310 - RECEPT.	34
35	310 - RECEPT	-	-	1000	15	C	15	-	-	1000	308 - RECEPT.	36
37	SPARE BRKR	0	-	-	15	A	15	0	-	-	SPARE BRKR	38
39	SPARE BREAKER	-	0	-	15	B	15	-	0	-	SPARE BRKR	40
41	SPARE BRKR	-	-	0	15	C	15	-	-	0	SPARE BRKR	42

TOTAL ØA: ____W , TOTAL ØB: ____W , TOTAL ØC: ____W

NOTES:

* - PROVIDE LOCKABLE BREAKER
** - PROVIDE GFI TYPE BREAKER
*** - COORDINATE EXACT BREAKER SIZE WITH EQUIPMENT SHOP DRAWINGS
R - RECEPTACLE
L - LIGHTING

CIRCUIT NUMBERS ARE GIVEN FOR GROUPING ONLY. SITE VERIFY AVAILABLE CIRCUIT BREAKER SPACES IN PANELS DURING TENDER WALKTHROUGH.

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
2025-05-02
T.W. SEDORE
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

ELECTRICAL SCHEDULES & DETAIL SHEET No.1

PROJECT NO: 22988
SCALE: AS NOTED
DRAWN BY: CW
REVIEWED BY: BD/TWS

SHEET NO:

E-301

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QUASAR PROJECT No.: ED-22-405

LICENSED PROFESSIONAL ENGINEER
2025-05-02
T.W. SEDORE
PROVINCE OF ONTARIO

3	ISSUED FOR TENDER	2025-05-02
2	ISSUED FOR DD CLIENT REVIEW	2025-04-11
1	ISSUED FOR DD CLIENT REVIEW	2025-03-26

ISSUE DATE:

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL - AIR CONDITIONING UPGRADE

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

ELECTRICAL DETAIL SHEET No.2

PROJECT NO:	22988
SCALE:	AS NOTED
DRAWN BY:	CW
REVIEWED BY:	BD/TWS

SHEET NO:

E-302

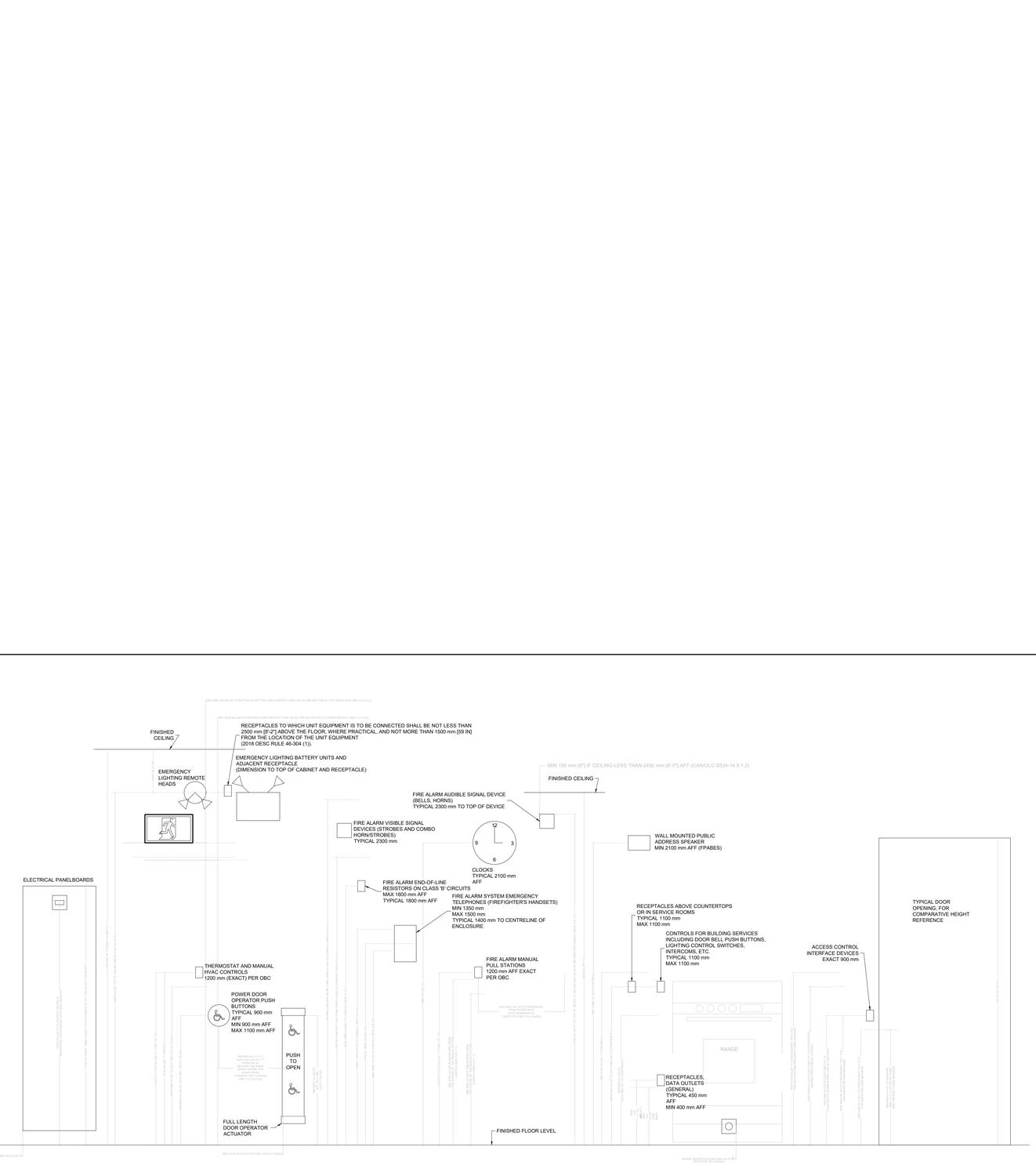
GENERAL NOTES:

1. DEVICE DIMENSIONS TO THE CENTRELINE OF THE DEVICE, UNLESS NOTED OTHERWISE. METRIC DIMENSIONS GOVERN.
2. DEVICES, INCLUDING ACCESS CONTROL INTERFACE DEVICES, DOOR OPERATOR PUSH BUTTONS, AND FIRE ALARM MANUAL PULL STATIONS ARE NOT TO BE INSTALLED ON HOLLOW METAL DOOR FRAMES UNLESS OTHERWISE NOTED.
3. DEVICE MOUNTING HEIGHT RULES:
   - 3.1. EXACT DIMENSIONS, WHERE INDICATED, MUST BE FOLLOWED, AND NO DEVIANCE IS PERMITTED.
   - 3.2. TYPICAL DIMENSIONS, WHERE INDICATED, ARE A PREFERENCE OF THE DESIGNER FOR CONSISTENCY OF INSTALLATION.
   - 3.3. WHERE CIRCUMSTANCES PREVENT A TYPICAL DIMENSION FROM BEING MET, DEVICES MAY BE INSTALLED WITHIN THE RANGE OF MINIMUM AND MAXIMUM THAT MEETS ALL THE REFERENCED DOCUMENTS. CONFIRM EXACT MOUNTING HEIGHT WITH THE CONSULTANT.
4. METRIC DIMENSIONS GOVERN. DIMENSIONS PROVIDED IN OTHER UNITS PROVIDED FOR EASE OF REFERENCE ONLY.
5. REFER TO ARCHITECT OR INTERIOR DESIGNER'S DRAWINGS FOR ELEVATIONS OR MOUNTING HEIGHTS NOT DETAILED HERE.

THIS DETAIL IS SPECIFIC TO INSTALLATIONS IN ONTARIO. OWNER'S ACCESSIBILITY DESIGN GUIDELINES MAY BE MORE STRINGENT.

REFERENCES AND DOCUMENT ORDER OF PRECEDENCE FOR ACCESSIBLE DESIGN:

1. 2012 ONTARIO BUILDING CODE (OBC), WITH AMENDMENTS EFFECTIVE JAN 1, 2015 (MANDATORY)
2. CAN/ULC S524-06 - INSTALLATION OF FIRE ALARM SYSTEMS (MANDATORY)
3. 2018 ONTARIO ELECTRICAL SAFETY CODE (OESC).
4. CAN/CSA B651-18 - ACCESSIBLE DESIGN FOR THE BUILT ENVIRONMENT (VOLUNTARY STANDARD).
5. FINAL PROPOSED ACCESSIBLE DESIGN STANDARD - JULY, 2010 (FPABES). THIS DOCUMENT WAS SUBMITTED TO THE ONTARIO MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING FOR CONSIDERATION IN AN UPCOMING REVISION TO THE ONTARIO BUILDING CODE. TO DATE, THE RECOMMENDATIONS HAVE NOT BEEN ACTED UPON AND THE FPABES IS THEREFORE NOT MANDATORY.
6. NECA 1-2010: STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION (TABLE 3 - TYPICAL MOUNTING HEIGHTS).
7. GOOD ENGINEERING JUDGEMENT AND MANUFACTURER'S RECOMMENDATIONS.



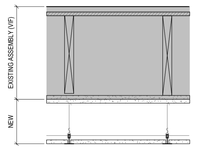
1 TYPICAL MOUNTING HEIGHTS OF WALL MOUNTED DEVICES
SCALE: NOT TO SCALE

ASSEMBLIES SCHEDULE

P - INTERIOR PARTITION AND FURRING ASSEMBLIES

TYPE	DIAGRAM	DESCRIPTION	ASSEMBLY-SPECIFIC NOTES	PERFORMANCE		
P1		**102mm STEEL STUDS WITH 16mm GB (ONE SIDES)** 102mm NON-LOADBEARING STEEL STUD FRAMING @ 406mm O/C. 16mm GB-1 GYPSUM BOARD VAR FINISH, REFER TO FINISH PLANS		CATEGORY	REQUIRED	PROVIDED
				FRR	-	-
				STC	-	-

C - SUSPENDED CEILING ASSEMBLIES

TYPE	DIAGRAM	DESCRIPTION	ASSEMBLY-SPECIFIC NOTES	PERFORMANCE		
C1		**SUSPENDED LAY-IN ACOUSTICAL TILE CEILING WITH SUPPORT GRID SYSTEM** VAR EXISTING STRUCTURE TO REMAIN VAR MAIN BEAM AND CROSS TEE ACOUSTICAL TILE GRID SYSTEM SUPPORT FRAMING AS REQUIRED /W WIRE TIE SUPPORTS 19mm ACT-1 LAY-IN ACOUSTICAL TILE (610X1200mm)	NOTE: ALL ACOUSTICAL TILE GRID SYSTEM SUPPORT FRAMING AND WIRE TOE HANGERS TO BE HOT-DIPPED GALVNIZED. NOTE: WIRE TIE HANGERS ARE NOT TO BE FASTENED BACK TO METAL ROOF DECKING. CONSTRACTOR TO PROVIDE ADDITIONAL FRAMING AS REQUIRED TO SUPPORT CEILING ASSEMBLY AND ASSOCIATED FIXTURES. NOTE REFER TO RCP FOR LOCAITONS AND INSTALLATION HEIGHT.	CATEGORY	REQUIRED	PROVIDED
				FRR	-	-
				STC RATING	-	-

DOOR & FRAME NOTES

1. REFER TO SPECIFICATIONS FOR FULL DESCRIPTION OF ALL DOOR, SCREEN, AND GLAZING TYPES.
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR DOOR SWING DIRECTION.
3. REFER TO ELECTRICAL DOCUMENTS FOR ALL ADDITIONAL DOOR REQUIREMENTS.
4. CONTRACTOR TO CONFIRM ALL FINISHES, LOCATIONS, QUANTITIES, AND NOTIFY CONSULTANT OF ANY DISCREPANCIES.
5. ALL DOORS IN FIRE SEPARATIONS REQUIRE DOOR CLOSERS REGARDLESS IF NOTED IN THE HARDWARE SCHEDULE.
6. ALL EXIT DOORS TO HAVE HARDWARE IN CONFORMANCE TO O.B.C EXIT REQUIREMENTS. GENERAL CONTRACTOR TO COORDINATE INSTALLATION AND LOCATIONS WITH DOOR AND HARDWARE MANUFACTURER.
7. ALL EXTERIOR DOORS TO BE INSULATED & HAVE THERMALLY BROKEN FRAMES. FILL FRAMES AND SPACE BETWEEN FRAMES AND ADJACENT MATERIALS W/ SPRAY FOAM INSULATION TO FULLY SEAL AGAINST ALL AIR INFILTRATION. PROVIDE WEATHERSTRIPPING AND THERMALLY-BROKEN THRESHOLDS AT ALL EXTERIOR DOORS, UNLESS NOTED OTHERWISE.
8. ALL GLAZING AT INTERIOR DOORS AND SCREENS TO BE FULLY TEMPERED, UNLESS NOTED OTHERWISE.
9. ALL GLAZING IN EXTERIOR OPENINGS TO BE INSULATED GLAZING UNITS. REFER TO WINDOW, CURTAIN WALL AND DOOR SCHEDULES, AS WELL AS SPECIFICATIONS FOR FULL DESCRIPTION.
10. PROVIDE ACOUSTIC SEALANT AND FILL FRAME INSULATION AT ALL DOORS AND SCREENS IN ACOUSTICALLY RATED WALL ASSEMBLIES.
11. COORDINATE FRAME SETTING HEIGHTS WITH FLOOR FINISHES, REFER TO FINISH PLANS.
12. COORDINATE DOOR HARDWARE REQUIREMENTS WITH FRAME MANUFACTURER WHERE DOORS ARE LOCATED WITHIN AN ALUMINIUM FRAME SUCH AS CURTAIN WALL, WINDOW WALL, OR STOREFRONT GLAZING.
13. COORDINATE HOLLOW METAL FRAME THROAT SIZING WITH INTERIOR PARTITIONS AS INDICATED ON THE ARCHITECTURAL FLOOR PLANS AND ASSEMBLIES SCHEDULE.
14. COORDINATE HOLLOW METAL FRAME ANCHORS WITH INTERIOR PARTITIONS AS INDICATED ON THE ARCHITECTURAL FLOOR PLANS AND ASSEMBLIES SCHEDULE.
15. PROVIDE MANUFACTURERS FLOOR ANCHOR STRAPS FOR ALL HOLLOW METAL JAMB FRAMES AND MULLION FLOOR ANCHORS FOR HOLLOW METAL MULLIONS. ANCHORS TO BE FIRE RATED TYPE.
16. SITE VERIFY AND COORDINATE EXISTING PARTITION THICKNESSES WITH FRAME THROAT WHEN INSTALLING NEW DOOR FRAMES WITHIN EXISTING CONSTRUCTION.

REFER TO SPEC. SECTION 08 80 00 FOR FULL DESCRIPTION OF GLAZING TYPE

DOOR MATERIAL LEGEND

AL	ALUMINUM
AN	CLEAR ANODIZED
BA	BATT INSULATION
CF	CLEAR FINISH
HM	HOLLOW METAL
PI	POLYISO INSULATION
PN	PAINT
SCW	SOLID CORE WOOD
ST	STAIN
WD	WOOD

HARDWARE LEGEND

ADO	AUTOMATIC DOOR OPENER
CH	COAT HOOK
CLO	CLOSER
CM	CENTRE MULLION
CS	CARD SWIPE
DC	DOOR CONTACT
DP	DOOR PULL
DS	DOOR STOP
ED	PANIC BAR EXIT DEVICE
EHO	ELECTRIC HOLD OPEN
EL	ELECTRIC LATCH
ESC	ELECTRIC SCREAMER
HO	HOLD OPEN, MAGNETIC
KP	KICKPLATE, SS.
PB	PUSH BUTTON
PH	PANIC HARDWARE
PHA	PANIC HARDWARE W/ ALARM OVERRIDE
PP	PUSH / PULL
S	DOOR SIGNAGE
TH	THRESHOLD
WS	WEATHER STRIPPING

ASSEMBLY GENERAL NOTES

1. FOR ALL ASSEMBLIES IN THE CONTRACT DOCUMENTS WITH A DESIGNATED LISTING FROM ONE OF THE TESTING AUTHORITIES (E.G. ULC) IT IS THE FULL RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY RESEARCH AND PROVIDE THE COMPLETE PUBLISHED ASSEMBLY AS DESCRIBED BY THE ASSOCIATED TESTING ATHORITIES. THE DESCRIPTION OF THE ASSEMBLIES NOTED IN THE CONTRACT DRAWINGS ARE NOTED "AS BASIS OF DESIGN" AND MAY NOT REPRESENT THE FULL CRITERIA AS DEFINED BY THE TESTING AUTHORITIES.
2. UNLESS OTHERWISE NOTED, ALL PARTITION (INCLUDING BUT NOT LIMITED TO ALL COMPONENTS THAT MAKE UP THE PARTITION) AND FURRING ASSEMBLIES ARE TO EXTEND FROM STRUCTURAL DECK/SLAB TO U/S OF STRUCTURAL DECK/SLAB ABOVE.
3. IN ADDITION TO THIS PAGE, REFER ALSO TO FIRE SEPARATION DRAWINGS FOR REQUIRED FIRE SEPARATION RATINGS. THE CONTRACTOR IS TO ENSURE THE CONTINUITY OF ALL FIRE SEPARATIONS AS REQUIRED AND PROVIDE ULC LISTED FIRESTOPPING SYSTEMS FOR ALL CONDITIONS.
4. THE CONTRACTOR IS TO PROVIDE ULC-LISTED FIRESTOP SYSTEMS AS REQUIRED FOR ALL BUILDING SERVICE PENETRATIONS THROUGH RATED ASSEMBLIES AND TO ENSURE THE CONTINUITY OF RATED ASSEMBLIES. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACT DOCUMENTS.
5. THE CONTRACTOR IS TO PROVIDE ENGINEERED SHOP DRAWINGS, SIGNED AND SEALED BY A STRUCTURAL P.ENG LICENSED WITHIN THE PROVINCE OF ONTARIO FOR ALL STEEL STUD FRAMING DENOTED AS LOAD BEARING METAL STUDS. FOR NON-LOAD BEARING STUDS WALLS, CONTRACTOR TO ENGINEER FRAMING SYSTEM TO LIMIT DEFLECTION AS REQUIRED BY WALL FINISHES. REFER TO SPECIFICATION.
6. THE CONTRACTOR IS TO PROVIDE ENGINEERED SHOP DRAWINGS, SIGNED AND SEALED BY A STRUCTURAL P.ENG LICENSED WITHIN THE PROVINCE OF ONTARIO FOR ALL EXTERIOR CLADDING PANEL SYSTEMS, INCLUDING ALL ASSOCIATED SUPPORT FRAMING AND CONNECTIONS. REFER TO SPECIFICATION
7. THE CONTRACTOR IS TO PROVIDE ENGINEERED SHOP DRAWINGS SIGNED AND SEALED BY A STRUCTURAL P.ENG FOR ALL THE LOAD BEARING STEEL STUD AND STEEL STUD FRAMING AS REQUIRED TO SUPPORT ALL EXTERIOR CURTAIN WALL, STOREFRONT GLAZING AND PUNCH WINDOW SYSTEMS AND ALL INTERIOR SCREENS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE STUD SPACING AND CONFIGURATION AS REQUIRED TO MEET CURTAIN WALL, STOREFRONT, PUNCH WINDOW, AND INTERIOR SCREEN SUPPLIER REQUIREMENTS. REFER TO SPECIFICATION.
8. CONTRACTOR TO PROVIDE TILE BACKER IN LIEU OF GYPSUM BOARD AT ALL ASSEMBLIES TO RECEIVE TILE FINISHES, REFER TO FINISH PLANS. REFER TO SPECIFICATIONS.
9. IN AREAS WITH HIGH VAPOUR CONTENT (INCLUDING BUT NOT LIMITED TO ROOMS .....) CONTRACTOR TO PROVIDE MOISTURE AND MOULD-RESISTANT GYPSUM BOARD IN LIEU OF REGULAR GYPSUM BOARD. THE CONTRACTOR IS TO VERIFY THAT THE MOISTURE AND MOULD-RESISTANT GYPSUM BOARD MEETS ALL THE ULC RATING REFERENCED IN THE ASSEMBLY SCHEDULE.
10. CONTRACTOR TO PROVIDE CONT. ACOUSTICAL SEALANT (BOTH SIDES) AT TOP AND BOTTOM OF ALL INTERIOR STUD AND GPYSUM BOARD PARTITIONS. PROVIDE ULC-LISTED FIRE STOPPING SEALANT AT ALL RATED PARTITIONS AS REQUIRED. IN ADDITION TO THIS PAGE, REFER ALSO TO FIRE SEPARATION DRAWINGS.
11. CONTRACTOR TO COORDINATE ACCESS PANELS LOCATED WITHIN SUSPENDED GYPSUM BOARD CEILING ASSEMBLIES TO BE PAINTED OUT TO MATCH THE SURROUNDING CEILING FINISH. CONTRACTOR TO PROVIDE ULC-LISTED ACCESS PANEL WHERE PANEL IS LOCATED IN A RATED CEILING. IN ADDITION TO THIS PAGE, REFER ALSO TO FIRE SEPARATION DRAWINGS. ALL ACCESS PANEL LOCATIONS IDENTIFIED IN THE MECHANICAL DOCUMENTS ARE TO BE CONFIRMED ON SITE WITH THE ARCHITECT PRIOR TO INSTALLATION.
12. CONTRACTOR TO COORDINATE ALL ACCESS PANELS LOCATED WITHIN EXTERIOR SOFFITS TO BE PAINTED OUT TO MATCH THE SURROUNDING SOFFIT FINISH.
13. UNLESS NOTED OTHERWISE, ASSEMBLIES ABOVE OR BELOW DOORS, WINDOWS, EXTERIOR OPENINGS AND INTERIOR SCREENS ARE TO BE THE SAME AS THE TYPE DENOTED ON EITHER SIDE
14. CONTRACTOR TO PROVIDE 19mm FIRE RATED PLYWOOD BLOCKING AND STUD REINFORCING IN WALLS FOR INSTALLATION OF ALL ELEMENTS NEEDING BLOCKING/REINFORCEMENT, INCLUDING BUT NOT LIMITED TO ALL FIXTURES, PLUMBING ACCESSORIES, ADULT CHANGE TABLES, MILLWORK, EQUIPMENT, ELECTRIC PANELS, ROOF ACCESS LADDER ECT. CONTRACTOR TO DESIGN/BUILD ALL BLOCKING AND STUD REINFORCING AS REQUIRED. FULLY COORDINATE ALL ADDITIONAL SUPPORT REQUIRED FOR ANCHORAGE OF MECHANICAL EQUIPMENT OR DUCTS AND ELECTRICAL FIXTURES.
15. ALL R AND RSI VALUES SHOWN ARE NOMINAL. REFER TO SPECIFICATION FOR FULL LISTING OF INSULATION TYPES AND WEATHER BARRIER TYPES.
16. ALL GWB WITHIN 1200 OF FF TO BE ABUSE RESISTANT. CONTRACTOR TO COORDINATE.
17. CONTRACTOR TO PROVIDE ALL PLUMBING CHASES AND MECHANICAL SHAFTS IN ADDITION TO ASSEMBLIES. CONTRACTOR TO COORDINATE REQUIRED DIMENSIONS AND REVIEW W/ ARCHITECT WHEN LAYING OUT WALLS.
18. CONTRACTOR TO MAINTAIN AND MAKE GOOD ALL EXISTING FIRE SEPARATIONS AND FIRE RESISTANCE RATINGS IMPACTED BY THE WORK.
19. IF FLOOR DRAINS ARE LOCATED IN A ROOM CONTRACTOR TO COORDINATE SLOPING ENTIRE FLOOR TOWARD THE DRAIN. THERE WILL BE NO FLAT FLOOR SURFACE IN THE ROOM WITH A REQUIRED FLOOR DRAIN WHERE WATER CAN PUDDLE. FLOOR TO SLOPE A MINIMUM OF 2% . THE CONTRACTOR TO REFERENCE THE MECHANICAL DOCUMENTS TO DETERMINE WHICH ROOMS HAVE FLOOR DRAINS. THE CONTRACTOR IS RESPONSIBLE TO REPAIR ANY FLOORS THAT PUDDLE WATER AND/ OR DO NOT DIRECT WATER TO THE PROPER FLOOR DRAIN.
20. THE CONTRACTOR SHALL CONFIRM THE EXISTING WALL, FLOOR, CEILING, AND ROOF ASSEMBLIES ON SITE AND SHOULD NOT RELY ON THE CONTRACT DOCUMENTS AND AS-BUILT DRAWINGS TO BASE ANY DECISIONS REQUIRED FOR ANY WORK TO THESE EXISTING ELEMENTS
21. CONTRACTOR TO REPAIR EXISTING EXTERIOR WALL VAPOUR OR AIR BARRIERS DISTURBED BY THE WORK. ADVISE CONSULTANT OF INSTANCES WHERE THIS IS DISCOVERED.
22. CONTRACTOR TO COORDINATE MINIMUM STUD SPACE REQUIRED TO SUPPORT EQUIPMENT AS NOTED ON ARCHITECTURAL AND CONSULTANT DRAWINGS.
23. CONTRACTOR TO ISOLATE ALL MECHANICAL PIPES, DUCTS, AND EQUIPMENT FROM INTERIOR PARTITIONS TO AVOID ACOUSTIC NOISE TRANSFER.
24. CONTRACTOR TO MAINTAIN CONTINUITY OF BUILDING ENVELOPE AIR AND AIR/VAPOUR BARRIER AT TRANSITIONS AND PENETRATIONS.
25. CONTRACTOR TO COORDINATE VERTICAL SERVICE SPACES THAT DO NOT EXTEND THROUGH THE ROOF AND/OR DO NOT TERMINATE AT HORIZONTAL FIRE RATED ASSEMBLY (ROOF, FLOOR, MEZZANINE, ECT.) MUST BE ENCLOSED AT THE TOP AND/OR BOTTOM WITH A ULC CONSTRUCTION ASSEMBLY HAVING A FIRE RESISTANCE RATING NOT LESS THAN THAT REQUIRED FOR THE VERTICAL SERVICE SPACE WALLS (OBC 3.6.2.6(2) & (3)).

MEMBRANE AND FLASHING LEGEND

FWP-1	FOUNDATION WATERPROOFING MEMBRANE

INSULATION LEGEND

INS-1	BATT ACOUSTIC INSULATION

GYPSUM BOARD AND SHEATHING LEGEND

GB-1	16mm GYPSUM BOARD
GB-2	16mm TYPE "X" GYPSUM BOARD
GB-3	16mm GYPSUM BOARD, MOULD RESISTANT
CB-1	16mm CEMENT BOARD
TB-1	16mm TILE BACKER BOARD
IP-1	INTERIOR GRADE PLYWOOD

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ISSUE DATE:

NO.	DATE	DESCRIPTION
2	05/02/2024	ISSUED FOR TENDER
1	11/14/2023	DESIGN DEVELOPMENT

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

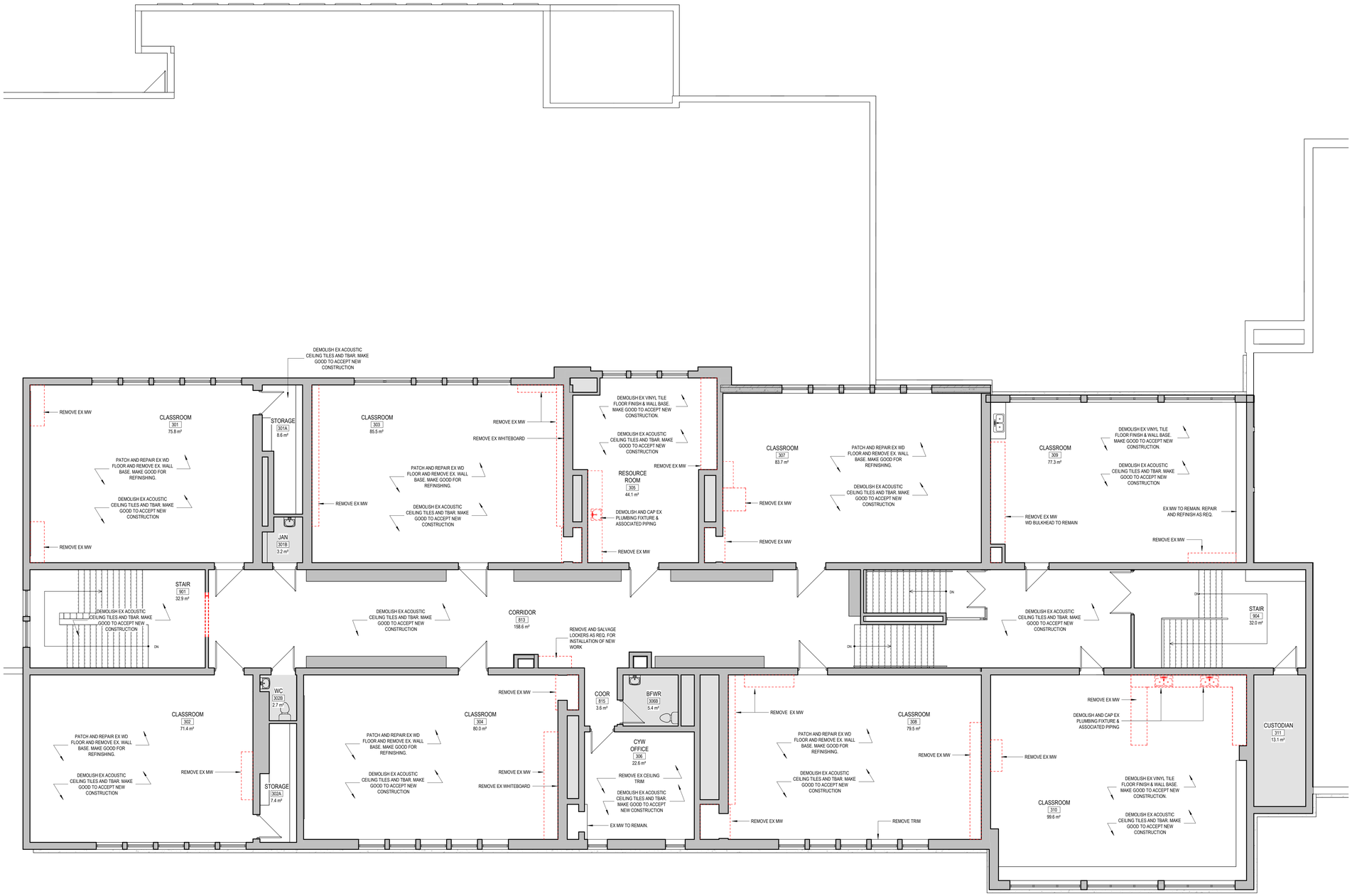
SHEET TITLE:

ASSEMBLIES SCHEDULE, DOOR SCHEDULE, NOTES, AND LEGENDS

PROJECT NO: 22988
SCALE: As indicated
DRAWN BY:
REVIEWED BY:

SHEET NO:

A003



1 A051 SECOND FLOOR PLAN BLOWUP

1 : 75

DEMOLITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING CONSTRUCTION TO BE DEMOLISHED
- EXISTING DOOR TO REMAIN

DEMOLITON GENERAL NOTES

1. THE DEMOLITION DRAWINGS ILLUSTRATE A GENERAL SCOPE OF WORK. IT IS THE FULL RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE FULL SCOPE OF DEMOLITION REQUIRED USING EXISTING SITE CONDITIONS AND THE COMPLETE CONTRACT DOCUMENT SETS INCLUSIVE OF ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, MECHANICAL, CIVIL, LANDSCAPE, AND STRUCTURAL TO ACHIEVE THE FINAL SCOPE OF WORK.
2. ALL DIMENSIONS ARE TO BE VERIFIED ON SITE. NO DIMENSIONS ARE TO BE INFERRED FROM THE DEMOLITION DRAWINGS. DRAWINGS ARE NOT TO BE SCALED FOR CONSTRUCTION AND/OR DEMOLITION PURPOSES. DRAWINGS ARE IN METRIC. DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO MAKE GOOD ALL WALLS, CEILINGS AND FLOORING TO REMAIN THAT ARE AFFECTED BY DEMOLITION. WHERE EXISTING SURFACES ARE DISTURBED MAKE GOOD EXISTING SURFACE OR ENTIRE PLANE OF SURFACE BACK TO NEAREST CORNER OR CHANGE IN MATERIAL.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL NECESSARY HOARDING TARPS, ETC TO PROTECT WORK AND MAINTAIN A DUST FREE ENVIRONMENT IN SURROUNDING AREAS.
5. CONTRACTOR TO MAKE GOOD ALL JUNCTIONS BETWEEN EXISTING STRUCTURES IDENTIFIED AS TO BE REMOVED AND EXISTING STRUCTURES IDENTIFIED AS TO REMAIN.
6. PARTITIONS AND WALLS SHALL BE REMOVED FULL HEIGHT TO STRUCTURE ABOVE.
7. REMOVAL OF EXISTING FLOOR FINISHES SHALL INCLUDE MORTAR BED, UNDERLAYMENT OR OTHER CLEAVAGE MEMBRANES, UNDERPAD, BASE, FLOOR MOULDING AND TRANSITION STRIPS TO EXISTING STRUCTURE BELOW.
8. REMOVAL OF EXISTING CEILING FINISHES SHALL INCLUDE ALL CEILING LAYERS AND RELATED MATERIAL TO EXISTING STRUCTURE ABOVE INCLUDING T-BAR, HANGERS AND LIGHTING WHERE APPLICABLE. REMOVE ALL DOUBLE CEILINGS, WHERE OLDER CEILING REMAINS OBSCURED BY EXISTING CEILING. REMOVE EXISTING BATT INSULATION.
9. CONTRACTOR TO VERIFY AND GET AUTHORIZATION FROM MUNICIPAL AUTHORITIES, CONSULTANTS AND OWNER BEFORE DISCONNECTING ANY SERVICES.
10. CONTRACTOR TO COORDINATE WITH STRUCTURAL, MECHANICAL & ELECTRICAL DOCUMENTS ALL NEW OPENINGS TO BE CUT INTO THE EXISTING AND NEW ROOF.
11. PROVIDE WASTE AUDIT REPORTS IN CONFORMANCE WITH AUTHORITIES HAVING JURISDICTION AS REQUIRED.
12. REFER TO DEMOLITION AND REMOVALS SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
13. THE ARCHITECTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE AS-BUILT, STRUCTURAL, ELECTRICAL, MECHANICAL CONSULTANTS DOCUMENTS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT PRIOR TO ANY EXECUTION OF RELATED WORK. REFER TO ELECTRICAL & MECHANICAL DEMOLITION PLANS AND COORDINATE.
14. THE CONTRACTORS SHALL ENSURE THAT THE LOCATIONS OF ALL SERVICES ARE IDENTIFIED PRIOR TO THE COMMENCEMENT OF WORK AND EXCAVATIONS. THE CONTRACTOR IS FULLY RESPONSIBLE TO REPAIR ANY DAMAGE TO SERVICES THEY HAVE COMMITTED.
15. ALL STRUCTURAL COMPONENTS TO BE TAKEN OFF THE STRUCTURAL DOCUMENTS. NO STRUCTURAL DESIGN INFORMATION SHALL BE INFERRED FROM THE ARCHITECTURAL DRAWINGS.
16. THE CONTRACTOR SHALL NOT USE THIS DRAWING TO INFER ANY SITE DIMENSIONS BUT SHALL USE THE OFFICIAL SURVEY.
17. ALL GEODETIC INFORMATION ON THIS PLAN IS FOR REFERENCE ONLY.

NOTES ON DESIGNATED SUBSTANCES

1. IN NO WAY SHOULD THE CONTRACTOR ASSUME THE SITE/BUILDING IS 100% FREE OF DESIGNATED SUBSTANCES AND AS SUCH THE CONTRACTOR SHOULD TAKE EVERY PRECAUTION WHEN WORKING IN THE BUILDINGS.
2. SHOULD THE CONTRACTOR COME IN CONTACT WITH ANY MATERIALS THAT LOOK SUSPICIOUS THEY SHOULD IMMEDIATELY STOP WORK, BOARD THE AREA OFF, TARP WITH PLASTIC AND SEAL, AND CONTACT THE CONSULTANTS IMMEDIATELY. THE OWNERS ENVIRONMENTAL CONSULTANT WILL BE ENGAGED TO INVESTIGATE FURTHER.

DEMOLITION KEYNOTES

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ISSUE DATE:

NO.	DATE	DESCRIPTION
1	05/02/2024	ISSUED FOR TENDER

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

SECOND FLOOR DEMOLITION PLAN

PROJECT NO: 22988
SCALE: As indicated
DRAWN BY: Author
REVIEWED BY: Checker

SHEET NO:

A051

FINISH SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	PRODUCT	TYPICAL LOCATION(S)	NOTES
LVT-1	LUXURY VINYL TILE, TYPE 1	TARKETT	REFER TO SPECIFICATIONS		
PNT-1	PAINT, TYPE 1	DULUX PAINTS	COLOUR:NEW CAMEO WHITE (LIGHT CREAMY WHITE) 16-510C-PITT-GLAZE WB1 SEMIGLOSS		
RBF-1	RUBBER WALL BASE FINISH	TARKETT	REFER TO SPECIFICATIONS		
WDF-1	WOOD FLOORING, (SAND AND REFINISH)		REFER TO SPECIFICATIONS		

SUMMARY OF FINISH WORK IN CLASSROOMS

ROOM NAME	ROOM NUMBER	FLOOR FINISH	CEILING FINISH	WALL FINISH	WALL BASE	WALL TRIM	MILLWORK NORTH	MILLWORK EAST	MILLWORK SOUTH	MILLWORK WEST	ACCESORIES NORTH	ACCESORIES EAST	ACCESORIES SOUTH	ACCESORIES WEST	HARDWARE
CLASSROOM	301	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1				NEW MW	NEW ROLLER BLINDS		NEW NOTICE PANEL		NEW THRESHOLD AT STOR. CLOSET
CLASSROOM	302	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1		NEW MW		NEW MW	NEW NOTICE PANEL		NEW ROLLER BLINDS		NEW THRESHOLD AT STOR. CLOSET
CLASSROOM	303	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1		NEW MW		NEW MW	NEW TACKBOARD, NEW ROLLER BLINDS	NEW TACKBOARD/NEW WHITEBOARD	NEW NOTICE PANEL/TACKBOARD	NEW TACKBOARD/NEW WHITEBOARD	
CLASSROOM	304	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1		NEW MW		NEW MW	NEW NOTICE PANEL	NEW TACKBOARD/NEW WHITEBOARD	NEW ROLLER BLINDS		
RESOURCE ROOM	305	LVT-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1		NEW MW		NEW MW	NEW ROLLER BLINDS				
CYW OFFICE	306		ACT-1	PATCH AND PAINT PNT-1		REMOVE AT CEILING, PNT-1 ALL OTHER							NEW ROLLER BLINDS		
CLASSROOM	307	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1		NEW MW		NEW MW	NEW ROLLER BLINDS	NEW ALUMINUM TROUGH	NEW NOTICE PANEL		
CLASSROOM	308	WDF-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	REMOVE BELOW WINDOWS, PNT-1 ALL OTHER LOCATIONS		NEW MW		NEW MW	NEW NOTICE PANEL	NEW TACKBOARD	NEW ROLLER BLINDS	NEW TACKBOARD/NEW WHITEBOARD	
CLASSROOM	309	LVT-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1				NEW MW	NEW ROLLER BLINDS		NEW NOTICE PANEL		
CLASSROOM	310	LVT-1	ACT-1	PATCH AND PAINT PNT-1	RBF-1	PNT-1					NEW NOTICE PANEL		NEW ROLLER BLINDS		
CORRIDOR	813		ACT-1												
STAIR	901														
WC	302B														
STORAGE	302A		ACT-1												
JAN	301B														
STORAGE	301A		ACT-1												
STAIR	904														
CUSTODIAN	311														
BFWR	306B														
COOR	815														

2 / A101 SECOND FLOOR PLAN BLOWUP
1 : 75

FLOOR PLAN GENERAL NOTES

1. ALL DIMENSIONS ARE TAKEN TO THE FINISH FACE OF THE INTERIOR PARTITIONS AND EXTERIOR WALLS, UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS AT INTERIOR DOORS ARE TAKEN TO THE OUTSIDE EDGE OF DOOR FRAME, UNLESS NOTED OTHERWISE.
3. LOCATE ROUGH OPENINGS OF INTERIOR DOORS 100mm FROM INSIDE FACE IF INTERSECTING PARTITION, UNLESS NOTED OTHERWISE.
4. CLOSET DOORS TO BE CENTERED ALONG INTERIOR CLOSET WIDTH, UNLESS NOTED OTHERWISE.
5. ALL DIMENSIONS AT INTERIOR SCREENS ARE TAKEN TO THE OUTSIDE EDGE OF THE SCREEN FRAME, UNLESS NOTED OTHERWISE.
6. ALL DIMENSIONS AT INTERIOR SCREENS ARE TAKEN TO THE OUTSIDE EDGE OF SCREEN FRAME, UNLESS NOTED OTHERWISE.
7. REFER TO MECHANICAL DOCUMENTS AND SPECIFICATIONS FOR FULL DESCRIPTION OF FLOOR DRAIN AND AREA DRAIN TYPES, REFER TO ARCHITECTURAL FOR LOCATION ONLY.
8. REFER TO LANDSCAPE DOCUMENTS FOR EXTERIOR HARDSCAPE AND PLANTING ELEMENTS, AND PAVING TERMINATION DETAILS ADJACENT TO THE BUILDING.
9.
10. REFER TO SPECIFICATIONS FOR THE TYPICAL FINISH OF CERTAIN MATERIALS, FINISH TYPES, TRANSITION STRIPS, AND CORNER PROTECTION.
11. PROVIDE CORNER PROTECTION AT ALL OUTSIDE CORNERS OF WALL TILE FINISHES , UNLESS NOTED OTHERWISE.
12. SET FLOOR DRAINS TO ENSURE DRAIN COVERS ARE FLUSH WITH ADJACENT FLOOR FINISHES.
13. EXTEND FLOOR FINISHES UNDER ALL FURNITURE, FIXTURES, EQUIPMENT, ACCESSORIES, AND MILLWORK.
14. EXTEND WALL FINISHES BEHIND ALL FURNITURE, FIXTURES, EQUIPMENT, ACCESSORIES, AND MILLWORK.
15. PROVIDE WALL BASE FINISH ON ALL MILLWORK BASES. UNLESS NOTED OTHERWISE, MILLWORK BASE TO MATCH ADJACENT WALL BASE FINISH.
16. ALL ELEVATOR CAB FINISHES, EXCEPT FLOOR FINISH TO BE PROVIDED BY ELEVATOR CAB MANUFACTURER. PROVIDE FLOOR FINISH IN ELEVATOR CAB TO MATCH FLOOR FINISH OF ADJACENT GROUND FLOOR FINISH, UNLESS NOTED OTHERWISE.
17. FINISH WALLS PRIOR TO INSTALLATION OF ALL WALL-MOUNTED GRILLES, OUTLET COVERS, AND FIXTURES.
18. ALL EXPOSED MECHANICAL AND ELECTRICAL SERVICES TO BE PAINTED UNLESS OTHERWISE NOTED. ALLOW FOR TWO COLOURS UNLESS NOTED OTHERWISE.
19. PAINTING OF SPRINKLER AND STANDPIPE SYSTEMS TO CONFORM TO NFPA-13, NFPA-14, AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
20. PAINTING OF NATURAL GAS LINES TO CONFORM TO TSSA GUIDELINES, AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
21. PAINTING OF ALL BELOW-GRADE PARKING AREAS TO CONFORM TO THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. WHERE NO LOCAL REQUIREMENTS EXIST, PAINTING ALL BELOW-GRADE PARKING AREAS TO CONFORM TO TORONTO MUNICIPAL PROPERTY STANDARDS.
22. WHERE PAINT IS INDICATED OVER INTUMESCENT COATINGS, ENSURE COMPATIBILITY OF PAINT WITH PROVIDED INTUMESCENT COATING SYSTEM.
23. REFER TO WASHROOM PLANS AND INTERIOR ELEVATIONS FOR WASHROOM FINISHES.
24. REFER TO INTERIOR ELEVATIONS FOR MORE DETAIL ON EXTENT OF FINISHES.
25. WHEN TRANSITION BETWEEN DISSIMILAR FLOOR FINISHES IS SHOWN AT DOOR, LOCATE TRANSITION ON CENTERLINE OF CLOSED DOOR LEAF.
26. TO PATCH AND REPAIR ALL FINISHES AFFECTED BY MECHANICAL AND ELECTRICAL SCOPE OF WORK AND DEMOLITIONS.
27. REMOVE EXISTING PROJECTOR SCREENS IN EACH CLASSROOM FOR WORK AND REMOUNT WHEN COMPLETE

FLOOR PLAN LEGEND

- EXISTING WALL TO REMAIN
- EXISTING FLOOR TO REMAIN
- NEW CONSTRUCTION
- EXISTING DOOR TO REMAIN
- NEW DOOR (OR RELOCATED DOOR)

FLOOR PLAN KEYNOTES

01 RESERVED

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ISSUE DATE:

NO.	DATE	DESCRIPTION
1	05/02/2024	ISSUED FOR TENDER

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

SECOND FLOOR PLAN

PROJECT NO:	22988
SCALE:	As indicated
DRAWN BY:	Author
REVIEWED BY:	Checker

SHEET NO:

A101

ROOF GENERAL NOTES

1. ALL DATUMS ARE REFERENCED TO T/O F/F GROUND UNLESS OTHERWISE NOTED
2. REFER TO ROOF DETAILS FOR ALL MECHANICAL PENETRATIONS THROUGH ROOF MEMBRANE

ROOF LEGEND

NEW ROOF

ROOF PLAN KEYNOTES

01 NEW ROOF TO TIE INTO EXISTING MEMBRANES AND BARRIERS

02 EX ROOF DRAIN

1 / A110 ROOF PLAN

1 : 75

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ISSUE DATE:

NO.	DATE	DESCRIPTION
2	05/02/2024	ISSUED FOR TENDER
1	11/14/2023	DESIGN DEVELOPMENT

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

ROOF LEVEL PLAN

PROJECT NO: 22988
SCALE: As indicated
DRAWN BY:
REVIEWED BY:

SHEET NO:

A110

1 A120 SECOND FLOOR RCP

1 : 75

REFLECTED CEILING PLAN GENERAL NOTES

1. REFER TO MECHANICAL DOCUMENTS AND SPECIFICATIONS FOR FULL DESCRIPTION OF DIFFUSER TYPES AND QUANTITIES, REFER TO ARCHITECTURAL FOR LOCATION ONLY.
2. REFER TO MECHANICAL AND ELECTRICAL DOCUMENTS FOR OTHER ITEMS TO BE INCORPORATED BUT NOT SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLAN. IF SUCH ITEMS ARE DRAWN IN ARCHITECTURAL DRAWINGS, IT IS FOR LOCATION ONLY.
3. REFLECTED CEILING PLANS ARE TO BE READ IN CONJUNCTION WITH DETAILS AND DRAWINGS SHOWN ELSEWHERE WITHIN THE CONTRACT DOCUMENTS. IN THE EVENT OF DISCREPANCIES THE MORE STRINGENT REQUIREMENTS GOVERN (IE. GYPSUM BULKHEADS SHOWN ON REFLECTED CEILING PLANS MAY NOT APPEAR IN BUILDING SECTIONS BUT ARE REQUIRED TO BE INCORPORATED.
4. UNLESS NOTED OTHERWISE: ALL INTERIOR PARTITION ASSEMBLIES AND BULKHEADS TO CONTINUE TO U/S OF FLOOR SHEATHING/DECK/SLAB/ AND ROOF SHEATHING/DECK/SLAB, WITH U/S OF BULKHEADS A MIN OF 25mm BELOW ADJACENT ACOUSTIC TILE FINISH.
5. ALL EXPOSED MECHANICAL AND ELECTRICAL SERVICES AND STRUCTURE TO PE PAINTED. REFER TO MECHANICAL AND ELECTRICAL DOCUMENTS FOR SPECIFIC EXCLUSIONS. ALLOW FOR TWO COLOURS FROM MANUFACTURES FULL RANGE, UNLESS OTHERWISE NOTED.
6. COORDINATE THE HEIGHT OF BULKHEADS WITH CEILING HEIGHTS AND INTERIOR DETAILS THROUGHOUT.
7. ALL BULKHEADS CONTAINING MECHANICAL AND/OR ELECTRICAL ELEMENTS (FOR EXAMPLE. AIR DIFFUSERS), TO BE FRAMED AND FURRED ACCORDINGLY TO ALLOW FOR CLEARANCES AND PASSAGE OF ALL SUCH ELEMENTS.
8. PROVIDE ADDITIONAL FRAMING AND HANGERS AS REQUIRED TO BRIDGE AROUND INTERFACES, INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, STRUCTURAL, AND PARTITIONS.
9. CEILING ACCESS PANELS: ABOVE SUSPENDED CEILINGS, LOCATE MECHANICAL AND ELECTRICAL ITEMS THAT NEED ACCESS, WITHIN 600mm HORIZONTALLY AND 1000mm VERTICALLY FROM ALL CEILING ACCESS PANELS.
10. CONTRACTOR TO PROVIDE CONDUIT LAYOUT SHOP DRAWINGS FOR ALL SURFACE MOUNTED CONDUIT AT EXPOSED CEILING LOCATIONS, AND EXPOSED COLUMN LOCATIONS. FOR CONSULTANT REVIEW PRIOR TO INSTALLATION. RUN CONDUIT HIDDEN ALONG BEAM LENGTHS AND BETWEEN JOISTS IN CAVITY. BENDS TO BE 90 DEGREES.

REFLECTED CEILING PLAN FIXTURE LEGEND

- EXISTING PANEL LIGHT FIXTURE
- NEW PANEL LIGHT FIXTURE
- NEW WALL MOUNTED LIGHT FIXTURE
- EXISTING DIFFUSER GRILLE
- NEW DIFFUSER GRILLE
- EXISTING SPRINKLER HEAD, SEE MECHANICAL DWGS.
- NEW SPRINKLER HEAD, SEE MECHANICAL DWGS.
- EX. REINSTATED AUDIO SYSTEM, SEE ELECTRICAL DWGS.
- EX. REINSTATED PROJECTOR SYSTEM, SEE ELECTRICAL DWGS.

REFLECTED CEILING PLAN LEGEND

- EXISTING WALL TO REMAIN
- EXISTING CEILING TO REMAIN

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ISSUE DATE:

NO.	DATE	DESCRIPTION
2	05/02/2024	ISSUED FOR TENDER
1	11/14/2023	DESIGN DEVELOPMENT

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

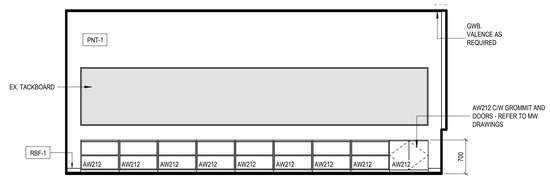
SHEET TITLE:

SECOND FLOOR REFLECTED CEILING PLAN

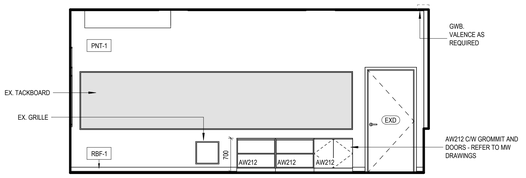
PROJECT NO: 22988
SCALE: As indicated
DRAWN BY: Author
REVIEWED BY: Checker

SHEET NO:

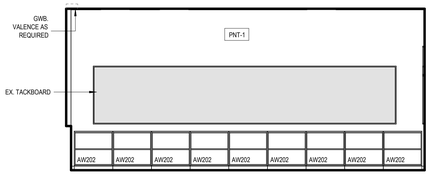
A120



1 A500 CLASSROOM 301 - WEST ELEVATION
1 : 50



2 A500 CLASSROOM 302 - EAST ELEVATION
1 : 50



3 A500 CLASSROOM 302 - WEST ELEVATION
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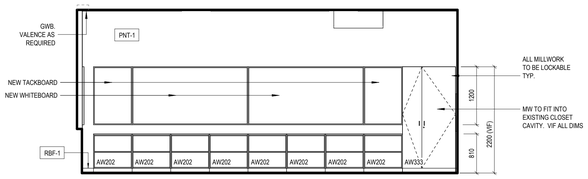

4 A500 CLASSROOM 303 - EAST ELEVATION
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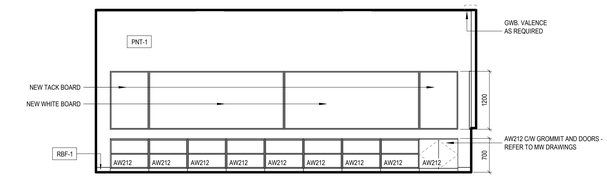

5 A500 CLASSROOM 303 - WEST ELEVATION
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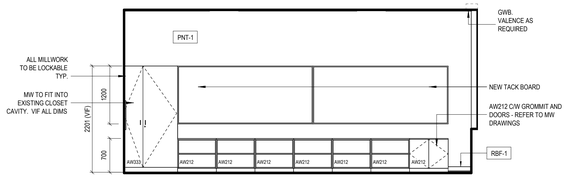

6 A500 CLASSROOM 304 - EAST ELEVATION
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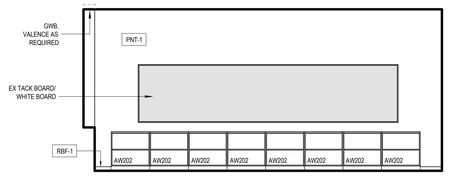

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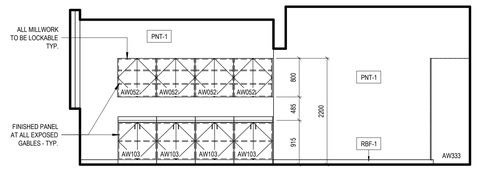

8 A500 RESOURCE ROOM 305 - EAST ELEVATION
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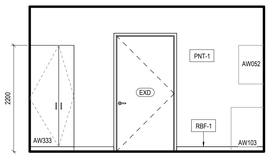

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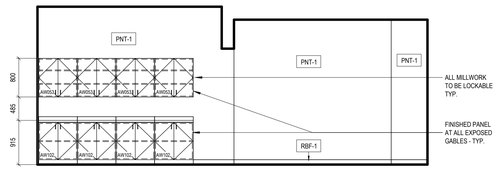

10 A500 RESOURCE ROOM 305 - WEST ELEVATION
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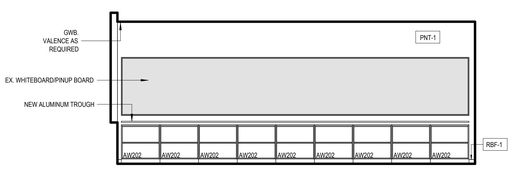

11 A500 CLASSROOM 307 - EAST ELEVATION
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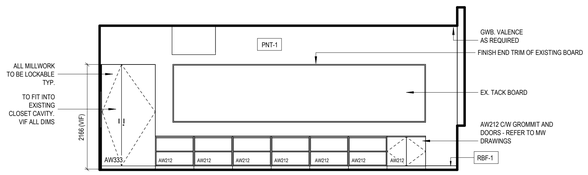

12 A500 CLASSROOM 307 - WEST ELEVATION
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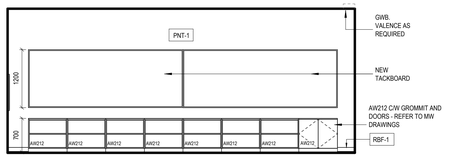

13 A500 CLASSROOM 308 - EAST ELEVATION
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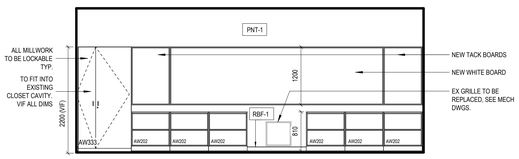

14 A500 CLASSROOM 308 - WEST ELEVATION
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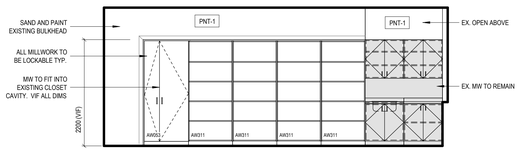

15 A500 CLASSROOM 309 - WEST ELEVATION
1 : 50

16 A500 CLASSROOM 310 - EAST ELEVATION
1 : 50

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ISSUE DATE:

NO.	DATE	DESCRIPTION
1	05/02/2024	ISSUED FOR TENDER

PROJECT:
ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

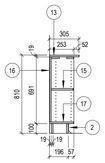
SHEET TITLE:
INTERIOR ELEVATIONS

PROJECT NO: 22988
SCALE: 1 : 50
DRAWN BY: Author
REVIEWED BY: Checker

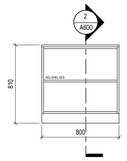
SHEET NO:
A500

MILLWORK MATERIAL LEGEND

02	100 RESILIENT BASE TOE KICK ON 19 VENEER CORE PLYWOOD
07	POST FORMED PLASTIC LAMINATE COUNTERTOP c/w 76 HIGH BACKSPLASH ON STOCK
13	19mm MELAMINE COUNTERTOP C/W 3mm PVC ON ALL EXPOSED EDGES AND BETWEEN BUTT JOINT EDGES
15	19mm MELAMINE ADJUSTABLE SHELF WITH 3mm PVC EDGES
16	16mm MELAMINE BACK c/w 3mm PVC EDGE WHERE EXPOSED
17	19mm MELAMINE TOP, BOTTOM c/w 3mm PVC EDGE
22	19mm MELAMINE FIXED SHELF c/w 3mm PVC EDGE
23	19mm MELAMINE DOOR c/w 3mm PVC EDGES ON ALL EXPOSED EDGES



11 A600 AW201 - SECTION
1 : 25



7 A600 AW201 - ELEVATION
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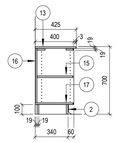
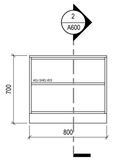
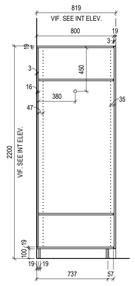


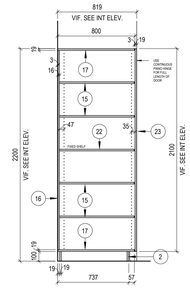
2 A600 AW212 - SECTION
1 : 25



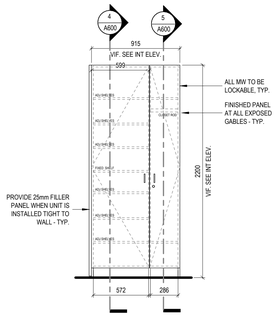
1 A600 AW212 - ELEVATION
1 : 25



5 A600 AW333 - SECTION 2
1 : 25



4 A600 AW333 - SECTION 1
1 : 25



3 A600 AW333 - ELEVATION
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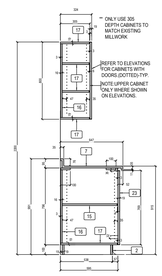

8 A600 AW103/AW052 SECTION
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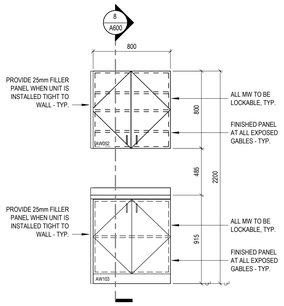
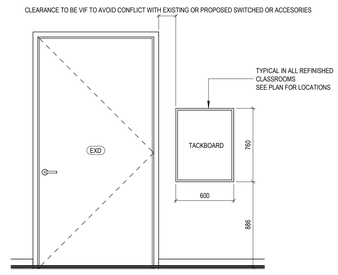
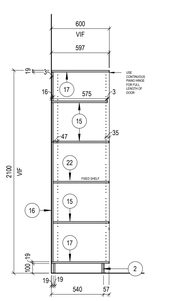


6 A600 AW103 / AW052 ELEVATION
1 : 25



12 A600 NOTICE BOARD TYP.
1 : 25



10 A600 AW312 - SECTION
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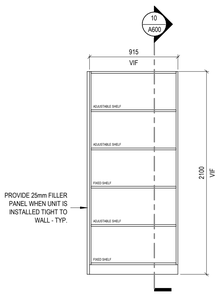

9 A600 AW311 - ELEVATION
1 : 25

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ISSUE DATE:

NO.	DATE	DESCRIPTION
1	05/02/2024	ISSUED FOR TENDER

PROJECT:

ST ANDREW'S SENIOR PUBLIC SCHOOL

65 VICTORIA AVE. CAMBRIDGE, ON N1S 1X2

SHEET TITLE:

MILLWORK

PROJECT NO:	22988
SCALE:	As indicated
DRAWN BY:	Author
REVIEWED BY:	Checker

SHEET NO:

A600