DEMOLITION NOTES:

1. NOT ALL CONDITIONS HAVE BEEN SHOWN. CONTRACTOR TO FIELD VERIFY CONDITIONS PRIOR TO DEMO.
2. CONTRACTOR SHALL PROTECT WORK AND EXISTING CONDITIONS ASSOCIATED WITH THIS CONTRACT FROM DAMAGE, COVER ENDS OF PIPING AND DUCTWORK THAT ARE ACTIVELY BEING WORKED ON. IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE ANY DAMAGED ITEMS THAT OCCURS DURING THIS CONSTRUCTION PROJECT AT NO COST TO THE OWNER.
3. DEMOLISH EQUIPMENT, DUCTWORK, PIPING, HANGERS, CONTROLS AND ASSOCIATED EXISTING SYSTEMS AS REQUIRED TO REPLACE EACH SYSTEM, CONTRACTOR SHALL COORDINATE DEMOLITION WITH EXISTING SYSTEMS AND COMPONENTS TO REMAIN PRIOR TO WORK COMMENCING.
4. IT IS THE CONTRACTORS RESPONSIBILITY TO CLEAN UP DEBRIS FROM THE SITE AT THE END OF EACH WORK DAY AND DISPOSE OF, EITHER IN LAY DOWN RECYCLE BINS PROVIDED BY THE CONTRACTOR OR OFFSITE ALTOGETHER.
5. DEMOLISHED EQUIPMENT SHALL BE TURNED OVER TO THE OWNER UNLESS DIRECTED OTHERWISE IF NOT REQUIRED BY THE OWNER, DISPOSE AS REQUIRED.

GENERAL NOTES:

1. THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL OF THE DETAILS FOR THE EQUIPMENT AND ENSURE THAT IF WILL FIT IN THE AVAILABLE SPACE.
2. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLATION OF COMPLETED AND OPERATIONAL SYSTEMS WITH DUE RESPECT TO ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.
3. IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY CONNECTION POINTS PRIOR TO INSTALL. NOT ALL CONNECTIONS SIZES ARE SHOWN, BUT THOSE THAT ARE APPROXIMATE AND TAKEN FROM EXISTING AS-BUILT AND FIELD OBSERVATIONS.
4. COORDINATE PIPE ROUTING WITH DUCTWORK, SPRINKLER PIPING AND ELECTRICAL POWER / LIGHTING CIRCUITING AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION.
5. CONTRACTORS TO VERIFY GRADES, DOMINIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH WORK. NOTIFY PRIME CONSULTANT OF ANY DISCREPANCIES BETWEEN DRAWING AND ACTUAL CONDITIONS BEFORE INSTALLATION.
6. MATERIALS AND INSTALLATION SHALL COMPLY WITH THE CITY OF WINNIPEG MASTER CONSTRUCTION SPECIFICATIONS.
7. COORDINATE INSTALLATION OF PIPING AND DUCTWORK WITH ELECTRICAL CONTRACTOR AND OTHER TRADES.
8. CONTRACTOR IS RESPONSIBLE FOR PERMITS NEEDED TO CONSTRUCT WORK IN THE CONSTRUCTION DOCUMENTS AND ACCOMPANYING SPECIFICATIONS.
9. IF THERE IS A CONFLICT BETWEEN THE CONSTRUCTION DOCUMENTS AND THE SPECIFICATIONS, THE MOST STRINGENT WITH APPLY.
10. EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S CONTRACT TO PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHERS DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
11. PENETRATIONS OF DUCTS, PIPES, CONDUITS, ETC IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED, FIRE STOP MATERIAL, SHALL BE UL/ULC-LISTED ASSEMBLY APPROPRIATE FOR FIRE OR SMOKE PENETRATIONS APPLICABLE AND AS APPROVED BY THE FIRE MARSHAL.
12. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL FIRE, SMOKE, OR COMBINATION SMOKE/FIRE DAMPERS AND ACCESS PANELS COMMENSURATE WITH THE RATING OF THE WALL IN DUCTWORK THAT PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON THE DRAWINGS.
13. BRANCH DUCTS SHALL HAVE VOLUME DAMPERS.
14. WHERE FLOW EXCEEDS 150 CFM, THE CONTRACTOR SHALL USE SMOOTH RADIUS ELBOWS OR TURNING VANES.
15. DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA STANDARDS.
16. DUCT DIMENSIONS ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED PROVIDED THAT THE NET FREE AREA IS MAINTAINED.
17. CONCEALED DUCTWORK SHALL BE INSULATED WITH 1" FIBERGLASS INSULATION BLANKET WITH ALUMINUM FOIL FACING.
18. DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE APPLICABLE STANDARD ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. (SMACNA).
19. PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAPS TO SUPPORT PIPES WILL NOT BE PERMITTED. REFER TO THE SPECIFICATIONS FOR MINIMUM SPACING OF PIPE SUPPORTS.
20. THE HVAC SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT / ENGINEER.
21. A BUILDING COMMISSIONING PROCESS AND FUNCTIONAL TESTING OF MECHANICAL SYSTEMS SHALL BE CARRIED OUT BY A CERTIFIED COMMISSIONING PROFESSIONAL.
22. EQUIPMENT TO BE INSTALLED ON MIN. 6" THICK CONCRETE HOUSEKEEPING PADS.
23. EQUIPMENT , DUCTS, PIPING AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
24. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
25. EXPOSED PIPING IN OCCUPIED SPACES SUBJECT TO ARCHITECTURAL APPROVAL PRIOR TO INSTALLATION.

PLUMBING

- 2" — PIPE SIZE
- XX — PIPING ROUTED BELOW SLAB OR GRADE
- DCW — DOMESTIC COLD WATER
- DHW — DOMESTIC HOT WATER
- DHWR — DOMESTIC HOT WATER RECIRCULATION
- ST — STORM DRAIN
- G — NATURAL GAS
- GV — NATURAL GAS VENT
- SAN — SANITARY DRAIN
- CA — COMPRESSED AIR
- V — VENT
- PIPE INSULATION
- FIXTURE TRAP
- PLUMBING FIXTURES

VENTILATION (HVAC)

- AIR FLOW ARROW
- 18"x12" 18"x12" — RECTANGULAR DUCT AND SIZE*
- 18"ø 18"ø — ROUND DUCT AND SIZE*
- 18"x12" 18"x12" — RECTANGULAR DUCT WITH ACOUSTIC LINING
- 18"x12" — DUCT SECTION, SUPPLY AIR. SIZE* IS HORIZONTAL DIM. x VERTICAL DIM. APPLIES TO RECT., ROUND AND OVAL
- DUCT SECTION, RETURN AIR. APPLIES TO RECT., ROUND AND OVAL
- DUCT SECTION, EXHAUST AIR. APPLIES TO RECT., ROUND AND OVAL
- FLEXIBLE DUCT
- ELBOW TURN, SUPPLY DOWN. APPLIES TO RECT., ROUND AND OVAL
- ELBOW TURN, OUTSIDE AIR DOWN. APPLIES TO RECT., ROUND AND OVAL
- ELBOW TURN, RETURN DOWN. APPLIES TO RECT., ROUND AND OVAL
- ELBOW TURN, EXHAUST DOWN. APPLIES TO RECT., ROUND AND OVAL
- UP — CHANGE IN DUCT ELEVATION RISING IN DIRECTION INDICATED
- DN — CHANGE IN DUCT ELEVATION DROPPING IN DIRECTION INDICATED
- END CAP
- ELBOW, RECTANGULAR, SMOOTH RADIUS WITH SPLITTER VANES (0.25 R/W DEFAULT)
- ELBOW, RECTANGULAR, SMOOTH RADIUS WITHOUT VANES (1.5 R/W DEFAULT)
- ELBOW, ROUND, SMOOTH RADIUS (1.5 R/W DEFAULT)
- MITERED ELBOW, RECTANGULAR, WITH TURNING VANES
- RECTANGULAR TO ROUND TRANSITION
- AD AD AD — DUCT ACCESS DOOR (TOP, SIDE, BOTTOM)
- BDD — BACKDRAFT DAMPER
- MANUAL DAMPER
- M — MOTORIZED DAMPER
- FIRE DAMPER
- SMOKE DAMPER
- SMOKE AND FIRE DAMPER
- DUCT SILENCER
- T — THERMOSTAT
- QUANTITY / TYPE / SIZE (INCHES) / VOLUME (CFM) — AIR OUTLET OR INLET TAG (REFER TO SCHEDULE)
- RECTANGULAR DIFFUSER, SUPPLY. OPTIONAL ARROWS SHOW THE FLOW DIRECTION.
- RECTANGULAR REGISTER OR GRILLE, RETURN
- RECTANGULAR REGISTER OR GRILLE, EXHAUST
- ID-# — EQUIPMENT TAG

DISCLAIMER:

SOME OF THE SYMBOLS AND LEGENDS ON THIS SHEET MIGHT NOT BE USED ON THIS PROJECT.

DRAWING LIST

SHEET NUMBER	SHEET NAME
M-001	MECHANICAL SYMBOLS AND LEGENDS
M-002	MECHANICAL SPECIFICATIONS
M-003	MECHANICAL SPECIFICATIONS
MD101	MECHANICAL DEMOLITION LAYOUT - PARTIAL PLAN A
MD102	MECHANICAL DEMOLITION LAYOUT - PARTIAL PLAN B
M-101	HVAC RENOVATION LAYOUT - PARTIAL PLAN A
M-102	HVAC RENOVATION LAYOUT - PARTIAL PLAN B
M-111	PLUMBING RENOVATION LAYOUT - PARTIAL PLAN A
M-112	PLUMBING RENOVATION LAYOUT - PARTIAL PLAN B
M-121	FIRE PROTECTION RENOVATION LAYOUT - PARTIAL PLAN A
M-122	FIRE PROTECTION RENOVATION LAYOUT - PARTIAL PLAN B
M-131	MECHANICAL RENOVATION LAYOUT - PARTIAL ROOF PLAN
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS
M-601	MECHANICAL SCHEMATIC
M-701	MECHANICAL SCHEDULES

ASHRAE 62.1 OUTDOOR AIR CALCULATION

											SUPPLY	EXHAUST	
SPACE	OCCUPANCY CATEGORY	AREA FT2 Az	# of OCCUPANTS, Pz	OCCUPANCY DENSITY FT2/occ	ASHRAE CFM/ PERSON Rp	ASHRAE CFM/ FT2, Ra	ASHRAE CFM, Vbz	ASHRAE EFFECT, Ez	ASHRAE CFM, Voz	OUTDOOR AIR FRACTION, CFM Zp	DESIGN, OUTDOOR AIR CFM Vpz	ASHRAE CFM	DESIGN, CFM
101 - CLASSROOM	EDUCATIONAL FACILITIES - CLASSROOMS (AGE 9 PLUS)	675,0	20	34	10	0,12	281,0	1	281,0	0,97	290	-	-
102 - CLASSROOM	EDUCATIONAL FACILITIES - CLASSROOMS (AGE 9 PLUS)	685,0	20	34	10	0,12	282,2	1	282,2	0,97	290	-	-
103 - KITCHEN	FOOD AND BEVERAGE SERVICE - KITCHEN (COOKING)	306,0	2	153	7,5	0,12	51,7	1	51,7	0,94	55	50	100
104 - LUNCHROOM	OFFICE BUILDINGS - BREAKROOMS	1425,0	74	19	5	0,12	541,0	1	541,0	0,99	545		
105 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	182,0	2	91	5	0,06	20,9	1	20,9	0,84	25	-	-
106 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	182,0	2	91	5	0,06	20,9	1	20,9	0,84	25	-	-
107/ 110 - CORRIDOR	GENERAL - CORRIDORS	345,0	0	-	0	0,06	20,7	1	20,7	0,83	25	-	-
108 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	150,0	2	75	5	0,06	19,0	1	19,0	0,76	25	-	-
109 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	164,0	2	82	5	0,06	19,8	1	19,8	0,79	25	-	-
111 - BOARDROOM	GENERAL CONFERENCE/ MEETING	539,0	22	25	5	0,06	142,3	1	142,3	0,98	145	-	-
112/ 113 - RECEPTION	OFFICE BUILDINGS - RECEPTION AREAS	436,0	4	109	5	0,06	46,2	1	46,2	0,92	50	-	-
114 - SAFETY OFFICERS	OFFICE BUILDINGS - OFFICE SPACE	144,0	2	72	5	0,06	18,6	1	18,6	0,75	25	-	-
115 - COPY	OFFICE BUILDINGS - OFFICE SPACE	154,0	1,00	154	5,00	0,06	14,2	1	14,2	0,57	25	77	80
116 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	120,0	1,00	120	5,00	0,06	12,2	1	12,2	0,49	25	-	-
117 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	120,0	1,00	120	5,00	0,06	12,2	1	12,2	0,49	25	-	-
118 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	120,0	1,00	120	5,00	0,06	12,2	1	12,2	0,49	25	-	-
119 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	120,0	1,00	120	5,00	0,06	12,2	1	12,2	0,49	25	-	-
											1650		
122 - LUNCH / MEETING	GENERAL CONFERENCE/ MEETING	292,0	10,00	29	10,00	0,06	117,5	1	117,5	0,94	125		
123 - COFFEE / KITCHEN	OFFICE BUILDINGS - BREAKROOMS	89,0	2,00	45	7,50	0,12	25,7	1	25,7	0,86	30	50	100
124 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	126,0	1,00	126	5,00	0,06	12,6	1	12,6	0,50	25	-	-
125 - OFFICE	OFFICE BUILDINGS - OFFICE SPACE	126,0	2,00	63	5,00	0,06	17,6	1	17,6	0,70	25	-	-
126 - ADMIN	OFFICE BUILDINGS - OFFICE SPACE	184,0	1,00	184	5,00	0,06	16,0	1	16,0	0,64	25	10	25
127/ 129 - CORRIDOR	GENERAL - CORRIDORS	369,0	0,00	-	0,00	0,06	22,1	1	22,1	0,89	25	-	-
128 - SUPERINTENDENT	OFFICE BUILDINGS - OFFICE SPACE	179,0	1,00	179	5,00	0,06	15,7	1	15,7	0,63	25	-	-
130 - PROJECT MANAGER	OFFICE BUILDINGS - OFFICE SPACE	141,0	1,00	141	5,00	0,06	13,5	1	13,5	0,54	25	-	-
131 - PROJECT COORDINATOR	OFFICE BUILDINGS - OFFICE SPACE	141,0	1,00	141	5,00	0,06	13,5	1	13,5	0,54	25	-	-
132 - NEW CONTRACT OFFICER	OFFICE BUILDINGS - OFFICE SPACE	141,0	1,00	141	5,00	0,06	13,5	1	13,5	0,54	25	-	-
133 - VISITOR CONTRACTOR	OFFICE BUILDINGS - OFFICE SPACE	141,0	1,00	141	5,00	0,06	13,5	1	13,5	0,54	25	-	-
134 - IN-CHARGE	OFFICE BUILDINGS - OFFICE SPACE	141,0	1,00	141	5,00	0,06	13,5	1	13,5	0,54	25	-	-
135/ 136 - CORRIDOR	GENERAL - CORRIDORS	669,0	0,00	-	0,00	0,06	40,1	1	40,1	0,89	45	-	-
											450		

NOTES:

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Legend

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ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Stantec Consulting Ltd.
No. 1301

PROVINCE OF MANITOBA
B.A. HAUGH
2025-06-04
REGISTERED PROFESSIONAL ENGINEER

Client/Project

WINNIPEG TRANSIT MAINTENANCE FACILITY OFFICE REDEVELOPMENT

421 OSBORNE ST. SOUTH, WINNIPEG, MB

Title

MECHANICAL SYMBOLS AND LEGENDS

Project No. 115421006

Scale

Drawing No. M-001

Sheet 1 of 16

Revision 0