## **MECHANICAL NOTES**

## MECHANICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

- CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH
- AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING:
- ONTARIO BUILDING CODE (OBC);
- NATURAL GAS AND PROPANE INSTALLATION CODE (GAS CODE);
- ASHRAE;
- **SMACNA**
- ALL OTHER RELEVANT CODES AND STANDARDS, AS APPLICABLE.
- OBTAIN ALL PERMITS REQUIRED FOR THE INSTALLATION OF MECHANICAL TRADES WORK, ARRANGE FOR INSPECTIONS AND TESTS, AND PAY ALL FEES AND COSTS FOR THE PERMITS, INSPECTIONS AND FEES. OBTAIN
- PERMITS IMMEDIATELY AFTER NOTIFICATION OF AWARD OF CONTRACT. PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE
  - SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS.
  - CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS.
- WIRING DIAGRAM OF CONTROL PANELS.
- OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
- MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR COMPONENTS OF THE EQUIPMENT.
- COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE.
- LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
- MANUFACTURERS' WARRANTIES AND GUARANTEES.
- CLEAN ALL MECHANICAL SYSTEMS AT PROJECT COMPLETION.
- COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

### **2 CONTRACTOR QUALIFICATIONS:**

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADE QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS APPLICABLE):
- PLUMBER;
- REFRIGERATION & AIR CONDITIONING SYSTEMS MECHANIC;
- SHEET METAL WORKER.
- ALL FUELS-RELATED WORK TO BE CARRIED OUT IN ACCORDANCE WITH TSSA REQUIREMENTS AND ONTARIO REGULATION 215/01, "FUEL INDUSTRY CERTIFICATES" BY PERSONS WHO HOLD THE APPROPRIATE CERTIFICATES FOR THE WORK BEING PERFORMED.

### **3 FACILITIES AND DEMOLITION:**

- LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.
- RETAIN AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.
- - RETAIN AND PROTECT ALL EXISTING SANITARY VENTS. RE-ROUTE AS NECESSARY TO SUIT NEW FLOOR PLAN AND CEILINGS. CONNECT NEW SANITARY VENTS TO EXISTING IN CEILING SPACE.
  - DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURES, AND ALL OBSOLETE PIPING.
  - CONCEAL AND CAP ALL OTHER PLUMBING IN WALLS, CEILINGS AND FLOORS WHICH ARE TO BE RETAINED.
  - DISPOSE OF ALL OBSOLETE PLUMBING FIXTURES AND EQUIPMENT.
  - EXISTING SANITARY PIPING: PERFORM A CAMERA INSPECTION OF THE EXISTING SANITARY SERVICE TO CONFIRM EXISTING
  - SANITARY PIPE SIZE, LOCATION AND CONDITION. REPORT ANY PIPE BLOCKAGES, INADEQUATE SLOPES, LOW SPOTS, AND POOR CONDITION TO ENGINEER, FOR COMMENT AND DIRECTION.
  - CONDUCT THERMAL IMAGING OF THE FLOOR IN ALL AREAS OF FLOOR CUTTING AND REMOVAL,
    - TO LOCATE BURIED ELECTRICAL SERVICES (IF ANY) CAREFULLY SAWCUT FLOOR TO PERMIT INSTALLATION OF NEW SANITARY PIPING.
  - REINSTATE FLOOR TO ORIGINAL CONDITION, FOLLOWING INSTALLATION OF NEW PLUMBING.
- EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER.
- CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK. COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND
- PATCHING.
- DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED
- DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE.
- CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST
- STANDARD PRACTICE FOR APPLICABLE WORK. HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE
- MADE WITH A HAMMER GUN. PATCHED WORK SHALL BE INVISIBLE. SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR

AS DIRECTED AT NO COST TO THE OWNER.

EXPANSION AND CONTRACTION OF SUCH PIPES.

# 4 FIXTURES AND EQUIPMENT:

- PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL MECHANICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.
- HVAC EQUIPMENT SHALL NOT USED FOR CONSTRUCTION HEATING. INSTALL ALL MECHANICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S
- EQUIPMENT AND MATERIAL TO BE CANADIAN GAS ASSOCIATION (CGA) CERTIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CGA CERTIFIED, OBTAIN TSSA FIELD APPROVAL.
- LOCATE ALL EQUIPMENT WITH CLEARANCES, AS REQUIRED BY THE MANUFACTURER, THE FUEL CODES, AND ALL OTHER CODES AND REGULATIONS, INCLUDING THE FOLLOWING CLEARANCES:
- TO PERMIT PROPER EQUIPMENT OPERATION; TO PERMIT SUFFICIENT AIRFLOW AROUND EQUIPMENT;
- FOR EQUIPMENT SERVICE;
- SUFFICIENT DISTANCE FROM COMBUSTIBLE MATERIAL;
- WITH SUFFICIENT VENT CLEARANCES; SUFFICIENT DISTANCE FROM ROOF EDGES OR OTHER HAZARDS.

### **5 EQUIPMENT SUPPLIED BY OTHERS:**

- GENERAL CONTRACTOR SHALL ASSUME FULL REPONSIBILITY FOR COORDINATING MECHANICAL SERVICES AND
- CONNECTIONS FOR ALL EQUIPMENT, SUPPLIED BY MECHANICAL OR ANY OTHER TRADES. MAKE ALL MECHANICAL SERVICE CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS.
- CONFIRM ALL SERVICE CONNECTIONS WITH MANUFACTURER AND SUPPLIER, PRIOR TO INSTALLATION. THIS SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS AND DETAILS, AND SHALL TAKE INTO ACCOUNT

## **6 PIPING AND ESCUTCHEONS**

PROVIDE DIELECTRIC UNIONS AT ALL PIPING LOCATIONS WHERE DISSIMILAR METALS ARE JOINED. PROVIDE ESCUTCHEONS ON ALL PIPES PASSING THROUGH WALLS, PARTITIONS, FLOORS AND CEILINGS, CHROME, NICKEL PLATED BRASS OR TYPE 302 STAINLESS STEEL.

### 7 ACCESS DOORS:

- SUPPLY ACCESS DOORS, AS REQUIRED IN DUCTWORK AND WALL/CEILING ASSEMBLIES, TO ALL CONCEALED MECHANICAL EQUIPMENT AND OPERATING DEVICES. ACCESS DOORS IN WALL/CEILING ASSEMBLIES TO BE INSTALLED BY OTHER TRADES.
- ACCESS DOORS SHALL BE FIRE-RATED TYPE, WHERE USED IN FIRE-RATED ASSEMBLIES, AND SHALL MATCH THE RATING OF THE ASSEMBLY.

- INSTALL IN ACCORDANCE WITH THERMAL INSULATION ASSOCIATION OF CANADA (TIAC) NATIONAL
- MAX. FLAME SPREAD RATING: 25.
- MAX. SMOKE DEVELOPED RATING: 50.
- DOMESTIC COLD WATER (DCW):
- 1" RIGID MOULDED MINERAL FIBRE WITH VAPOUR RETARDER JACKET

EQUIPMENT CLEARANCES AND INSTALLATION REQUIREMENTS.

- .2 INSULATE ALL PIPING IN FLOORS, WALLS AND CEILINGS, TO POINT OF FIXTURE CONNECTIONS.
- .5 DOMESTIC HOT WATER (DHW)
  - .1 1" RIGID MOULDED MINERAL FIBRE FOR PIPING UP TO 1-1/4" SIZE
  - .2 1-1/2" RIGID MOULDED MINERAL FIBRE FOR PIPING 1-1/2" TO 3" SIZE.
- .3 INSULATE ALL PIPING IN FLOORS, WALLS AND CEILINGS, TO POINT OF FIXTURE CONNECTIONS. .6 OUTER JACKET:
- CONCEALED LOCATIONS: ALL SERVICE JACKET.
- EXPOSED LOCATIONS: PVC JACKET. MECHANICAL/SERVICE ROOMS: PVC JACKET.

## 9 WATER SERVICE AND WATER SUPPLY PIPING:

- INSIDE BUILDING: COPPER TUBE, HARD DRAWN, TYPE L. CAN. OR US MANUFACTURE, INCLUDING FITTINGS.
- WATER SUPPLY PIPING IS SHOWN SCHEMATICALLY. ALL PIPING SHALL BE CONCEALED UNLESS OTHERWISE INSTALL TUBING CLOSE TO BUILDING STRUCTURE TO MINIMIZE FURRING, CONSERVE HEADROOM AND SPACE.
- GROUP EXPOSED PIPING AND RUN PARALLEL TO WALLS. ISOLATE ALL EQUIPMENT, FIXTURES AND BRANCHES WITH VALVES.
- TEST WATER SYSTEM AT 1½ TIMES SYSTEM OPERATING PRESSURE OR MINIMUM 860 KPA, WHICHEVER IS
- GREATER. TEST PRESSURE AND TIMEFRAME SHALL BE AS REQUIRED BY OBC 7.3.7.2. FLUSH OUT, DISINFECT AND RINSE SYSTEM, PRIOR TO CONSTRUCTION COMPLETION.

### 10 DRAINAGE, WASTE AND VENT PIPING:

- APPROXIMATE SUB-FLOOR PIPING ELEVATIONS HAVE BEEN INDICATED ON THE DRAWINGS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING FINAL INVERTS BASED ON SITE CONDITIONS.
- BELOW GROUND/FLOOR:
- .1 PVC DWV, TYPE SDR26 SDR35.
- .1 PVC DWV SOLID WALL SCHEDULE 40, CERTIFIED TO CAN/CSA STANDARD B181.2, FOR NONCOMBUSTIBLE CONSTRUCTION (FLAME-SPREAD RATING NOT MORE THAN 25 PER CAN/ULC-
- PVC DWV SOLID WALL SCHEDULE 40, CERTIFIED TO CAN/CSA STANDARD B181.2, FOR NONCOMBUSTIBLE CONSTRUCTION (FLAME-SPREAD RATING NOT MORE THAN 25 AND SMOKE
- DEVELOPED CLASSIFICATION NOT MORE THAN 50 PER CAN/ULC-S102.2). PROVIDE CLEANOUTS AS REQUIRED BY THE ONTARIO BUILDING CODE.
- VENT COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

- COORDINATE NATURAL GAS SERVICE UPGRADE AND INSTALLATION, AS FOLLOWS: MECHANICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COORDINATION OF NATURAL
- GAS SERVICE WITH THE SUPPLY AUTHORITY:
- INCLUDE DETAILED REVIEW OF EXISTING NATURAL GAS LOADS FOR SUMMATION OF BUILDING TOTAL
- COORDINATE ALL SERVICE, METER AND EQUIPMENT PRESSURES AND REGULATORS. STEEL PIPE, SCHEDULE 40, SEAMLESS, SCREWED FITTINGS.
- SUPPLY AND INSTALL:
- .1 EXPANSION CONTROL LOOPS ON PIPES SLOPE PIPING DOWN IN DIRECTION OF FLOW TO LOW POINTS.
- .5 ALL NATURAL GAS PIPING AND FITTINGS SHALL BE:
  - CLEANED AFTER ASSEMBLY; PAINTED WITH ONE BASE LAYER OF METAL PRIMER;
  - PAINTED WITH ONE TOP COAT OF EXTERIOR ENAMEL PAINT;
  - COLOUR ON EXTERIOR WALL TO MATCH WALL
- COLOUR ON ROOF AND INTERIOR OF BUILING YELLOW.
- .6 TEST SYSTEM IN ACCORDANCE WITH NATURAL GAS AND PROPANE INSTALLATION CODE.

# .1 RECTANGULAR DUCT:

- - RIGID GALVANIZED STEEL, LOCK FORMING QUALITY TO ASTM A653/A653M
- THICKNESS, FABRICATION, REINFORCEMENT AND SUPPORT/ATTACHMENT TO ASHRAE OR SMACNA. .2 ROUND DUCT:
  - RIGID GALVANIZED STEEL, LOCK FORMING QUALITY TO ASTM A653/A653M
  - THICKNESS, FABRICATION, REINFORCEMENT AND SUPPORT/ATTACHMENT TO ASHRAE OR SMACNA.
  - .3 FLEXIBLE BRANCH DUCT (PERMITTED WITHIN 1m/3ft FROM OUTLET): .1 ALL METAL TYPE: TRIPLE LOCK, ALUMINUM CORRUGATED DUCT, MANUFACTURED USING AN
- FORMING AN AIR TIGHT AND LEAKPROOF SEAM. SEAL CLASSIFICATION:
  - CLASS A: LONGITUDINAL SEAMS, TRANSVERSE JOINTS, DUCT WALL PENETRATIONS AND CONNECTIONS

ALUMINUM STRIP, WHICH IS SPIRALLY WOUND AND MECHANICALLY JOINED TOGETHER

MADE AIRTIGHT WITH SEALANT AND TAPE.

- .1 FABRICATION: TO SMACNA. RADIUSED ELBOWS.
  - RECTANGULAR: STANDARD WITH CENTRELINE RADIUS 1.5 TIMES DUCT DIMENSION, WITH
  - SINGLE THICKNESS TURNING VANES.
- ROUND: FIVE PIECE WITH CENTRELINE RADIUS 1.5 TIMES DIAMETER. MITRED ELBOWS, RECTANGULAR: WITH DOUBLE THICKNESS TURNING VANES.
- BRANCHES: .1 RECTANGULAR MAIN AND BRANCH: WITH RADIUS ON BRANCH 1.5 TIMES WIDTH OF DUCT 45 DEGREES
- ROUND MAIN AND BRANCH: ENTER MAIN DUCT AT 45 DEGREES WITH CONICAL CONNECTION.
- PROVIDE VOLUME CONTROL DAMPER IN BRANCH DUCT NEAR CONNECTION TO MAIN DUCT.
- MAIN DUCT BRANCHES: WITH SPLITTER DAMPER.
- DIVERGING: 20 DEGREES MAXIMUM INCLUDED ANGLE.
- .2 CONVERGING: 30 DEGREES MAXIMUM INCLUDED ANGLE. .7 FIRE STOPPING
- RETAINING ANGLES AROUND DUCT, ON BOTH SIDES OF FIRE SEPARATION IN ACCORDANCE WITH
- FIRE STOPPING MATERIAL AND INSTALLATION MUST NOT DISTORT DUCT.

### .8 DAMPERS: MANUFACTURE TO SMACNA STANDARDS.

- SINGLE BLADE DAMPERS:
  - FABRICATE FROM SAME MATERIAL AS DUCT, BUT ONE SHEET METAL THICKNESS HEAVIER.
- SIZE AND CONFIGURATION TO RECOMMENDATIONS OF SMACNA.
- LOCKING QUADRANT (WITH SHAFT EXTENSION TO ACCOMMODATE INSULATION THICKNESS, IF
- .4 INSIDE AND OUTSIDE NYLON END BEARINGS.
- .5 CHANNEL FRAME OF SAME MATERIAL AS ADJACENT DUCT, COMPLETE WITH ANGLE STOP. DUCT LEAKAGE: IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.
- .10 ALL DUCT AND SEAL MATERIALS TO HAVE A FLAME SPREAD RATING OF LESS THAN 25 AND A SMOKE DEVELOPED CLASSIFICATION OF LESS THAN 50.
- PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT DUCT CONNECTION POINTS.

.3 FIRE DAMPERS:

- **13 DUCT INSULATION:**
- REFER TO DRAWING FOR DUCT THAT IS IDENTIFIED TO BE INSULATED. INSTALL IN ACCORDANCE WITH THERMAL INSULATION ASSOCIATION OF CANADA (TIAC) NATIONAL
- MAX. FLAME SPREAD RATING: 25.
- MAX. SMOKE DEVELOPED RATING: 50.
- THERMAL INSULATION RECTANGULAR DUCT:
- 1" (R4.3) RIGID MINERAL FIBRE BOARD WITH VAPOUR RETARDER JACKET. .2 ALUMINUM JACKET WITH MOISTURE BARRIER.

.1 1" (R3.1) MINERAL FIBRE BLANKET WITH VAPOUR RETARDER JACKET.

.6 THERMAL INSULATION - ROUND DUCT:

# .2 ALUMINUM JACKET WITH MOISTURE BARRIER.

- 14 MECHANICAL FIRE PROTECTION:
  - MECHANICAL CONTRACTOR RESPONSIBILITY: REFER TO ARCHITECTURAL DRAWINGS, TO VERIFY LOCATION OF ALL FIRE SEPARATIONS AND FIRE-
  - PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL PIPING, DUCT AND MECHANICAL ITEMS PENETRATING OR PASSING THROUGH A FIRE SEPARATION OR FIRE-RATED
  - ASSEMBLY, FOR REVIEW BY ARCHITECT AND ENGINEER, .3 ALL PIPING, DUCT AND MECHANICAL ITEMS SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.
- .2 ALL PIPING SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.
  - .1 FIRE DAMPERS SHALL BE CAN/ULC-S112 (STANDARD METHOD OF FIRE TEST OF FIRE DAMPER ASSEMBLIES) LISTED AND LABELLED.
  - FIRE DAMPERS SHALL BE NFPA 80 (STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES), NFPA 90A (STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS), AND NFPA 101 (LIFE SAFETY CODE) COMPLIANT.

DUCTWORK SHALL BE FITTED WITH FIRE DAMPERS AT ALL FIRE SEPARATIONS AND FIRE-RATED

- SUPPLY AND INSTALL ACCESS DOORS IN ARCHITECTURAL FINISH (WALL, CEILING OR FLOOR) TO ACCESS
- DUCT. IN COMMON AREA WHERE POSSIBLE. .5 SUPPLY AND INSTALL TIGHTLY-FITTED ACCESS DOOR IN DUCT TO ACCESS, INSPECT AND RESET FIRE
- TYPES: DYNAMIC FOR USE IN AIR HANDLING SYSTEMS THAT DO NOT SHUTDOWN UPON FIRE ALARM. RATING: 1-1/2 HR (30MIN TO 2HR FIRE RESISTANCE RATING). FIRE DAMPER AND DUCT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS, AND
- SHALL BE SEALED WITH FIRESTOPPING MATERIAL. ALL MECHANICAL MATERIALS USED WITHIN CEILING RETURN AIR PLENUMS SHALL FLAME-SPREAD RATING NOT MORE THAN 25 AND SMOKE DEVELOPED CLASSIFICATION NOT MORE THAN 50 PER CAN/ULC-S102.2.
- MOCK-UPS: PREPARE MOCK-UPS OF TYPICAL FIRESTOP INSTALLATION OF THE FOLLOWING, FOR REVIEW AND

FIRE DAMPER INSTALLATION – WALL AND CEILING/FLOOR FIRE SEPARATION.

ALL FIRESTOP INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE

- APPROVAL BY THE OWNER, ENGINEER AND MUNICIPAL BUILDING INSPECTOR: SANITARY PIPING – WALL AND CEILING/FLOOR FIRE SEPARATION; DCW AND DHW PIPING – WALL AND CEILING/FLOOR FIRE SEPARATION;
- PRODUCT INSTALLATION INSTRUCTIONS, AND THE REFERENCED UL/ULC LISTING AND/OR TEST STANDARD.
- .3 SUPPLY A COPY OF THE PRODUCT INSTALLATION INSTRUCTIONS WITH ULC LISTING AND/OR TEST STANDARD REFERENCE, FOR EACH INSTALLATION. .4 MOCK-UP MAY REMAIN AS PART OF WORK.

# 15 MECHANICAL IDENTIFICATION:

IDENTIFY MECHANICAL EQUIPMENT WITH LABEL STATING – NUMBER AND NAME

# LABEL ALL PIPING AT LEAST ONCE IN EVERY ROOM, AND AT NO MORE THAN 25 FT CENTERS.

16 EARTHQUAKE LOAD: ALL MECHANICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EARTHQUAKE LOAD AND EFFECTS REQUIRED BY THE ONTARIO BUILDING CODE.

- MECHANICAL ELEMENTS AND COMPONENTS (EQUIPMENT, PIPES, DUCTS, ETC.), AND THEIR CONNECTIONS TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SMACNA/ANSI SEISMIC RESTRAINT MANUAL OR OTHER GUIDELINE REFERENCED IN THE ONTARIO BUILDING CODE
- FOLLOWING PROJECT COMPLETION, SEISMIC ENGINEER SHALL PROVIDE A LETTER OF FINAL SITE REVIEW.
- CONTRACTOR SHALL CARRY THE COST OF THE SEISMIC ENGINEERING, INCLUDING SITE REVIEWS, DESIGN AND SHOP DRAWING PREPARATION.

## 17 EQUIPMENT AND MATERIALS SUPPORT:

- ALL MECHANICAL EQUIPMENT, PIPING, DUCTWORK, AND RELATED ITEMS SHALL BE SECURELY SUPPORTED, ATTACHED AND FASTENED TO BUILDING STRUCTURE, AND SHALL NOT BE FASTENED TO THE ROOF DECK.
- PIPE HANGERS AND SUPPORTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MSS STANDARD SP-58, PIPE HANGERS AND SUPPORTS – MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION, AND
- PLATFORMS SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL MEETING THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, INCLUDING CSA STANDARD W59 WELDED STEEL CONSTRUCTION, AND THE REQUIREMENTS OF THE CANADIAN WELDING BUREAU.

- INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY
- DRAWINGS ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES AND ALLOW FOR ANY ADDITIONAL PIPING, DUCTING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID
- INTERFERENCE AND FACILITATE THE WORK. CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO
- ACCOMMODATE SITE CONDITIONS AND COORDINATION. COORDINATE ALL MECHANICAL EQUIPMENT WIRING, INCLUDING LOW VOLTAGE CONTROL WIRING, WITH

ELECTRICAL TRADES.

19 START-UP, COMMISSIONING AND TRAINING: COMMISSIONING:

PLUMBING FIXTURES;

- START-UP AND COMMISSION THE FOLLOWING SYSTEMS:
- PERFORM SYSTEMATIC TESTS, PROCEDURES AND CHECKS ON SYSTEMS, AS
- TO VERIFY OPERATION IN ACCORDANCE WITH CONTRACT DOCUMENTS, DESIGN CRITERIA AND

TO ENSURE APPROPRIATE DOCUMENTATION IS PROVIDED;

TO EFFECTIVELY TRAIN BUILDING OPERATIONAL STAFF.

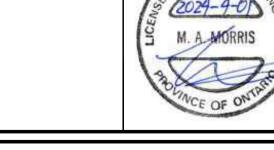
- INTENT, AND MANUFACTURER'S REQUIREMENTS;
- SYSTEMS ARE TO BE OPERATED AT FULL CAPACITY, WITH CORRECTION OF ALL DEFICIENCIES AND ADJUSTMENTS TO MEET OPTIMUM PERFORMANCE.
- PROVIDE WRITTEN REPORT AT END OF COMMISSIONING OUTLINING EQUIPMENT OPERATIONAL CONDITIONS AND PARAMETERS. TESTING, ADJUSTING AND BALANCING:
- TEST, ADJUST AND BALANCE (TAB) ALL PLUMBING AND HVAC EQUIPMENT AND SYSTEMS; INCLUDING THE FOLLOWING: .1 ROOFTOP HVAC UNITS.
- TAB PROCEDURE SHALL BE COMPLETED IN ACCORDANCE WITH ASHRAE STANDARD 111, MEASUREMENT, TESTING, ADJUSTING AND BALANCING OF BUILDING HVAC SYSTEMS. EXTERNAL STATIC PRESSURES SHALL BE MEASURED AFTER FILTER ON RETURN AIR AND BEFORE AC COIL
- .4 PROVIDE DETAILED REPORT AT END OF TAB, IN ACCORDANCE WITH THE REPORTING PROCEDURES OF
- ASHRAE STANDARD 111. DEMONSTRATION AND TRAINING:
- DEMONSTRATE OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS TO OWNER'S PERSONNEL ONE WEEK PRIOR TO DATE OF FINAL INSPECTION PRIOR TO DEMONSTRATION AND TRAINING, ENSURE THAT EQUIPMENT HAS BEEN INSPECTED AND PUT
  - INTO OPERATION, INCLUDING COMPLETION OF COMMISSIONING AND TESTING, ADJUSTING, AND DEMONSTRATE START-UP, OPERATION, CONTROL, ADJUSTMENT, TROUBLE-SHOOTING, SERVICING, AND MAINTENANCE OF EACH ITEM OF EQUIPMENT. B.O'B. 2024 04 01 ADDENDUM 1 INSTRUCT PERSONNEL IN PHASES OF OPERATION AND MAINTENANCE USING OPERATION AND MAINTENANCE MANUALS AS BASIS OF INSTRUCTION. REVIEW CONTENTS OF MANUAL IN DETAIL TO

FOR PERMIT & TENDER B.O'B. 2024 02 01 FOR REVIEW Revisions

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The contractor must check and verify all dimensions on the job prior to

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> > **MECHANICAL**

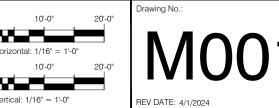
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NOTES & LEGENDS MM MM 11200-M&E

MM

B.O'B.



2023 11 30

	DESCRIPTION			PIPE SIZ			ACCEPTABLE PRODUCT	NOTES
		TRAP	WASTE	VENT	DCW	DHW		
		(in)	(in)	(in)	(in)	(in)		
		(mm)	(mm)	(mm)	(mm)	(mm)		
VC-1	WATER CLOSET - TANK	INT	3"	2"	1/2"	-	WATERCLOSET - AMERICAN STANDARD #2462 (CADET)	PRESSURE ASSISTED, ELONGATED WHITE
			75	50	13	-	SEAT - CENTOCO #820STS	HEAVY DUTY, OPEN FRONT SEAT & COVER, SS HINGE
							OR APPROVED EQUAL	MAX_WATER CONSUMPTION - 6.0 Lpf, 1.6 gpf
								DIM L x W x H - 768 x 521 x 743 mm, 30.25 x 20.5 x 29.25 in RIM HEIGHT - 381 mm, 15 in
								FLOOR FLANGE, FLANGE BOLTS & GASKET
								ISOLATING VALVE - BRASS W CHROME FINISH,
								WALL-MOUNTED, SCREWDRIVER STOP
								WALL MOONIES, CONCINENCE OF CO
WC-2	WATERCLOSET - TANK	INT	3"	2"	1/2"	-	WATERCLOSET - AMERICAN STANDARD #2467 016 (CADET)	PRESSURE ASSISTED, ELONGATED WHITE
	BARRIER FREE		75	50	13	-	SEAT - CENTOCO #820STS	HEAVY DUTY, OPEN FRONT SEAT & COVER, SS HINGE
							OR APPROVED EQUAL	MAX. WATER CONSUMPTION - 6.0 Lpf, 1.6 gpf
								DIM L x W x H - 768 x 521 x 781 mm, 30.25 x 20.5 x 30.75 in
								RIM HEIGHT - 419 mm, 16.5 in
								SEAT HEIGHT - 430 to 485 mm, 17 to 19 in (OBC 3.8.3.9)
								FLOOR FLANGE, FLANGE BOLTS & GASKET
								ISOLATING VALVE - BRASS W CHROME FINISH,
								WALL-MOUNTED, SCREWDRIVER STOP
1 / 1	LAVATORY	1 1/0	1 1/0"	4 4/40	4 /0"	4/0!!	AMEDICAN STANDADD	WHITE DOD UD DDAIN
LA-1	LAVATORY COUNTERTOP	1-1/2	1-1/2" 38	1-1/4"	1/2"	1/2" 13	AMERICAN STANDARD #9494 LAVATORY	WHITE, POP-UP DRAIN  OVERALL DIM - W x FTB x D - 533 x 445 x 165mm, 21 x 17.5 x 6.5 in
	COUNTERIOR	38	38	32	13	13	#7385 SINGLE LEVER FAUCET	BOWL DIM - W x FTB x D - 533 x 445 x 165mm, 21 x 17.5 x 6.5 in
							#1000 ONVOLE LEVENT AUGET	MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm
							OR APPROVED EQUAL	INSULATE AND COVER ALL SAN, DCW & DHW PIPE
LA-2	LAVATORY	1-1/2"	1-1/2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD	WHITE, POP-UP DRAIN
	WALL HUNG	38	38	32	13		#0954 (MURRO) LAVATORY W EVERCLEAN	OVERALL DIM - W x FTB x D - 540 x 520 x 406mm, 21.25 x 20.5 x 16 in
							#7385 SINGLE LEVER FAUCET	BOWL DIM - W x FTB x D - 394 x 343 x 127mm, 15.5 x 13.5 x 5 in
							WATTS #CA-411 FLOOR-MOUNTED, CONCEALED ARM	MAX. WATER CONSUMPTION - TO OBC
							LAVATORY CARRIER	INSTALLATION DIMENSIONS - TO OBC & ARCH DWGS
							P-TRAP - 1-1/4 (32) TRAP, CHROME PLATED BRASS	
							ISOLATING VALVE - BRASS W CHROME FINISH,	
							WALL-MOUNTED, SCREWDRIVER STOP	
							PORCELAIN SHROUD/KNEE CONTACT GUARD	
							OR ARREOVED FOUND	
LA-3	LAVATORY	1-1/2"	1-1/2"	1-1/4"	1/2"	1/2"	OR APPROVED EQUAL  AMERICAN STANDARD	WHITE, POP-UP DRAIN
LH-2	WALL HUNG	38	38	32	1/2		#0954 (MURRO) LAVATORY W EVERCLEAN	OVERALL DIM - W x FTB x D - 540 x 520 x 406mm, 21.25 x 20.5 x 16 in
	BARRIER FREE	30	30	JZ	13	13	#7385 SINGLE LEVER FAUCET	BOWL DIM - W x FTB x D - 394 x 320 x 406HiH, 21.25 x 20.5 x 16 H
	BANGER TALL						WATTS #CA-411 FLOOR-MOUNTED, CONCEALED ARM	MAX. WATER CONSUMPTION - TO OBC
							LAVATORY CARRIER	INSTALLATION DIMENSIONS - TO OBC & ARCH DWGS
							P-TRAP - 1-1/4 (32) TRAP, CHROME PLATED BRASS	
							ISOLATING VALVE - BRASS W CHROME FINISH,	
							WALL-MOUNTED, SCREWDRIVER STOP	
							PORCELAIN SHROUD/KNEE CONTACT GUARD	
							OR APPROVED EQUAL	
			1-1/2"	1-1/4"	1/2"		FRANKE KINDRED #LB6407 SINK	STAINLESS STEEL, LEVER HANDLES
SK-1	KITCHEN SINK	1-1/2"			40	13	AMERICAN STANDARD #6270 FAUCET	OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in
SK-1	KITCHEN SINK SINGLE BOWL WITH LEDGE	1-1/2" 38	38	32	13	l		DOMAN DINA MAY ETT D D OFF 100 1TO
SK-1		11 11 11 11		32	13		OR ARRESOVER FOUND	BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in
	SINGLE BOWL WITH LEDGE	38	38			4.0"	OR APPROVED EQUAL	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm
	SINGLE BOWL WITH LEDGE KITCHEN SINK	38 1-1/2"	38 1-1/2"	1-1/4"	1/2"		FRANKE KINDRED #LBD6407 SINK	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES
	SINGLE BOWL WITH LEDGE	38	38			1/2"	CONTRACT AND CO. CHIEF & C. C. CO. CO. C.	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in
	SINGLE BOWL WITH LEDGE KITCHEN SINK	38 1-1/2"	38 1-1/2"	1-1/4"	1/2"		FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE	38 1-1/2" 38	38 1-1/2" 38	1-1/4"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE  CLOTHESWASHER	38 1-1/2" 38 2"	38 1-1/2" 38 2"	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm PROVIDE RECESSED WALL BOX
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE	38 1-1/2" 38	38 1-1/2" 38	1-1/4"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE  CLOTHESWASHER	38 1-1/2" 38 2"	38 1-1/2" 38 2"	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm PROVIDE RECESSED WALL BOX
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE  CLOTHESWASHER  FIRE-RATED	38 1-1/2" 38 2" 50	38 1-1/2" 38 2" 50	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL OATEY OR EQUAL	MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm STAINLESS STEEL, LEVER HANDLES OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm PROVIDE RECESSED WALL BOX FOR SAN., DCW, DHW
SK-2	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE  CLOTHESWASHER  FIRE-RATED  FLOOR CLEANOUT	38 1-1/2" 38 2" 50	38 1-1/2" 38 2" 50	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL OATEY OR EQUAL  WATTS CO-200	MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  STAINLESS STEEL, LEVER HANDLES  OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in  BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in  MAX. WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  PROVIDE RECESSED WALL BOX  FOR SAN., DCW, DHW  SUIT FLOOR FINISH
SK-2  CW  FCO	KITCHEN SINK DOUBLE BOWL WITH LEDGE  CLOTHESWASHER FIRE-RATED  FLOOR CLEANOUT ROUND	38 1-1/2" 38 2" 50	38 1-1/2" 38 2" 50 SIZE PER	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL OATEY OR EQUAL  WATTS CO-200 ZURN  OR APPROVED EQUAL	MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  STAINLESS STEEL, LEVER HANDLES  OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in  BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in  MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  PROVIDE RECESSED WALL BOX  FOR SAN., DCW, DHW  SUIT FLOOR FINISH  CAST IRON BODY  NICKEL BRONZE TOP, GASKET  BRASS CLEANOUT PLUG, GASKET
SK-2  CW  FCO	SINGLE BOWL WITH LEDGE  KITCHEN SINK  DOUBLE BOWL WITH LEDGE  CLOTHESWASHER  FIRE-RATED  FLOOR CLEANOUT  ROUND  WALL CLEANOUT	38 1-1/2" 38 2" 50	38 1-1/2" 38 2" 50 SIZE PER PIPE	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL  OATEY OR EQUAL  WATTS CO-200 ZURN  OR APPROVED EQUAL  WATTS CO-380	MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  STAINLESS STEEL, LEVER HANDLES  OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in  BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in  MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  PROVIDE RECESSED WALL BOX  FOR SAN., DCW, DHW  SUIT FLOOR FINISH  CAST IRON BODY  NICKEL BRONZE TOP, GASKET  BRASS CLEANOUT PLUG, GASKET  SUIT WALL FINISH
SK-2  CW  FCO	KITCHEN SINK DOUBLE BOWL WITH LEDGE  CLOTHESWASHER FIRE-RATED  FLOOR CLEANOUT ROUND	38 1-1/2" 38 2" 50	38 1-1/2" 38 2" 50 SIZE PER PIPE	1-1/4" 32 1-1/2"	1/2"	13	FRANKE KINDRED #LBD6407 SINK AMERICAN STANDARD #6270 FAUCET  OR APPROVED EQUAL OATEY OR EQUAL  WATTS CO-200 ZURN  OR APPROVED EQUAL	MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  STAINLESS STEEL, LEVER HANDLES  OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in  BOWL DIM - W x FTB x D - 355 x 406 x 178mm, 14 x 16 x 7 in  MAX WATER CONSUMPTION - 8.35 Lpm, 2.2 gpm  PROVIDE RECESSED WALL BOX  FOR SAN., DCW, DHW  SUIT FLOOR FINISH  CAST IRON BODY  NICKEL BRONZE TOP, GASKET  BRASS CLEANOUT PLUG, GASKET

DESCR	IPTION	FAN				DUCT		ELE(	CTRICAL	ACCEPTABLE PRODUC	T	NOTES		
	FI	LOW	ESP	DRIVE	SONES	CONN	VOLT	PHASE	POWER					
							(V)		(W)					
EXHAUST FA	AN 3	9 L/s	3 mm	DIRECT	2.3	254 x 83 mm	120	1	39	PENN BARRY	DIM - L x W x	D - 318 x 232 x 232 mm, 12.5 x 9	.125 x 9.125 in	
	83	3 CFM	0.125 in			10 x 3.25 in				# <b>Z</b> 3	GRILLE - 280	x 337 mm, 11 x 13.25 in		
										GREENHECK	CONTROL - V	VALL SWITCH		
										OR APPROVED EQUAL	GRILLE - POL	_YMER		
											LINED HOUS	ING, BACKDRAFT DAMPER		
REGISTE	R, GRILLE &	DIFFU	SER SCH	HEDULE										
UNIT	DESCRIPTION	NC	CONST	RUCTION		CO	NFIGURATIO	ON		FRAME	FINISH	ACCEPTABLE PRODUCT	NOTES	
					PATT	ERN	BLADE	DE	FLECTION					
							SPACING		(deg)					
S1 S/	A DIFFUSER		ST	EEL	4 CC	NE	1/2		Э	LAY-IN INVERTED T	WHITE	WHITE EH PRICE		
CI	EILING				FIXE	ED				DRYWALL FLANGE		#SCD STEEL		
S	QUARE CONE				AIR PA	ITERN								

ADJUSTABLE

STANDARD

LAY-IN INVERTED T

DRYWALL FLANGE

STANDARD

32mm, 1.25in

32mm, 1.25in

19mm, 3/4 in

PARALLEL

TO LONG DIM

12x12x25mm

1/2x1/2x1in

19mm, 3/4 in PARALLEL

TO LONG DIM

DEFLECTION

**ADJUSTABLE** 

FIXED GRID

SINGLE

DEFLECTION

ADJUSTABLE

EXHAUST FAN HOOD- PENNBARRY #WCC I O			
INSULATED ROOF CURB			
		EX. ROOF	
'	HOOD	JST FAN DETAIL	

STEEL

ALUMINUM

STEEL

S2 LOUVRED SA GRILLE

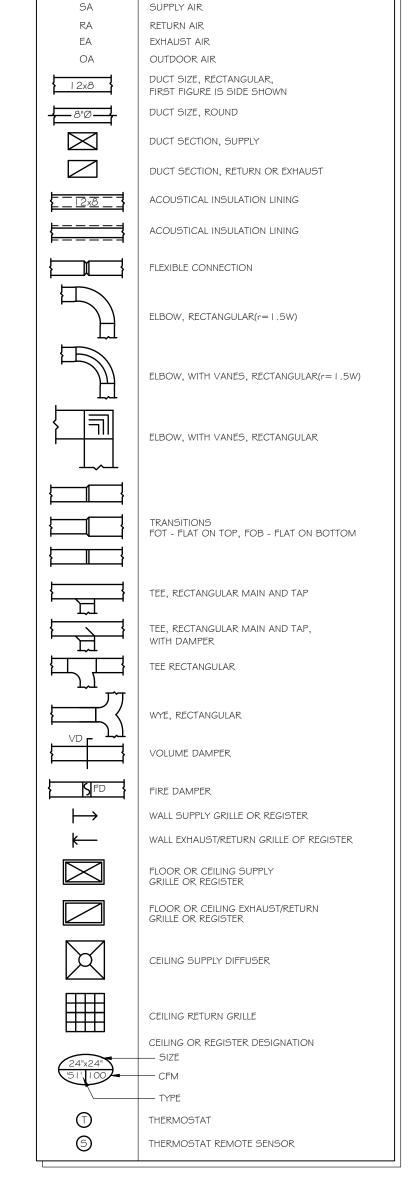
R1 EGG CRATE RA

R2 LOUVRED RA GRILLE

CEILING/WALL

CEILING

INSULATED_ROOF CURB	
E	K. ROOF
EXHAUST FAN HOOD DETAIL  SCALE:   ½" = 1'-0"	



PLUMBING LEGEND

— - - ss —

—— — SD ——

- oo - oo -

—— GAS ——

SANITARY DRAIN ABOVE FLOOR/GRADE

SANITARY DRAIN BELOW FLOOR/GRADE

STORM DRAIN ABOVE FLOOR/GRADE

STORM DRAIN BELOW FLOOR/GRADE

SANITARY VENT

WALL CLEANOUT

FLOOR CLEANOUT

DOMESTIC COLD WATER

DOMESTIC HOT WATER DHWR DOMESTIC HOT WATER RETURN

LINE CLEANOUT GCO GRADE CLEANOUT

VENT STM

STM

WCO

FCO

LCO

DCW

DHW

GAS NATURAL GAS

OR APPROVED EQUAL

OR APPROVED EQUAL

OR APPROVED EQUAL

OR APPROVED EQUAL

#530 STEEL SINGLE

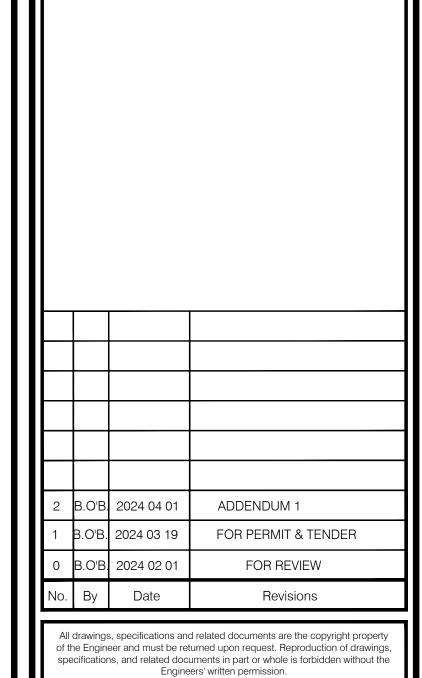
#510 STEEL SINGLE

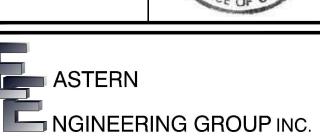
**EH PRICE** 

EH PRICE

HVAC LEGEND







The contractor must check and verify all dimensions on the job prior to

start of construction. DRAWINGS ARE NOT TO BE SCALED

CONSULTING ENGINEERS Telephone: (613) 345-0400 Apex Building 207 - 100 Strowger Blvd. Facsimile: (613) 345-0008 Brockville, Ont. K6V 5J9 www.EastEng.com

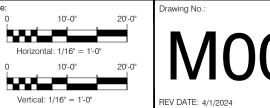
> NORTH STORMONT MUNICIPAL OFFICE

57 COCKBURN STREET,

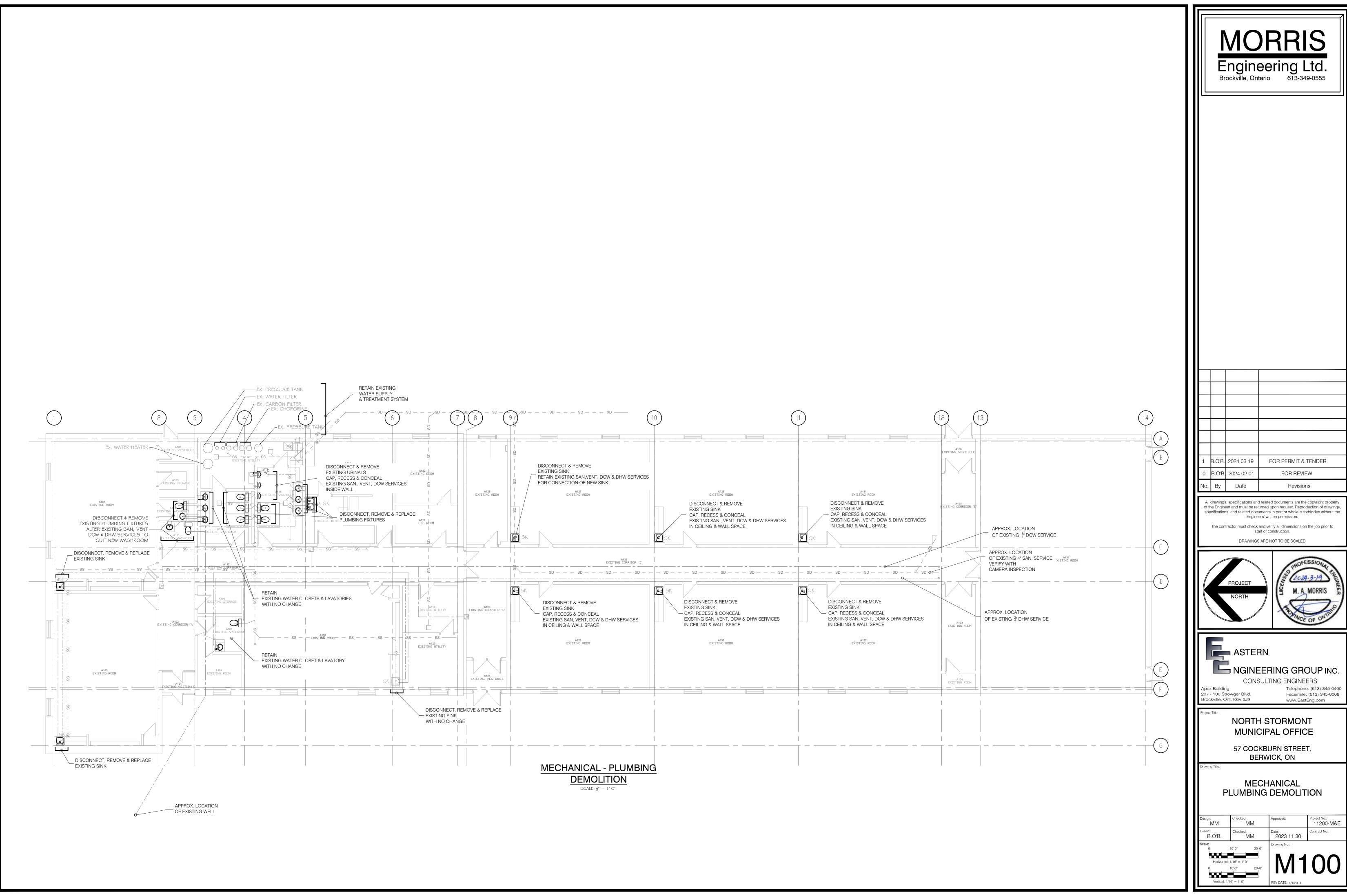
BERWICK, ON

**MECHANICAL** SCHEDULES & DETAILS

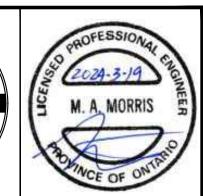
Design: MM	Checked: MM	Approved:	Project No.: 11200-M&E
Drawn: B.O'B.	Checked: MM	Date: 2023 11 30	Contract No.:
Scale:	10'-0" 20'-0"	Drawing No.:	

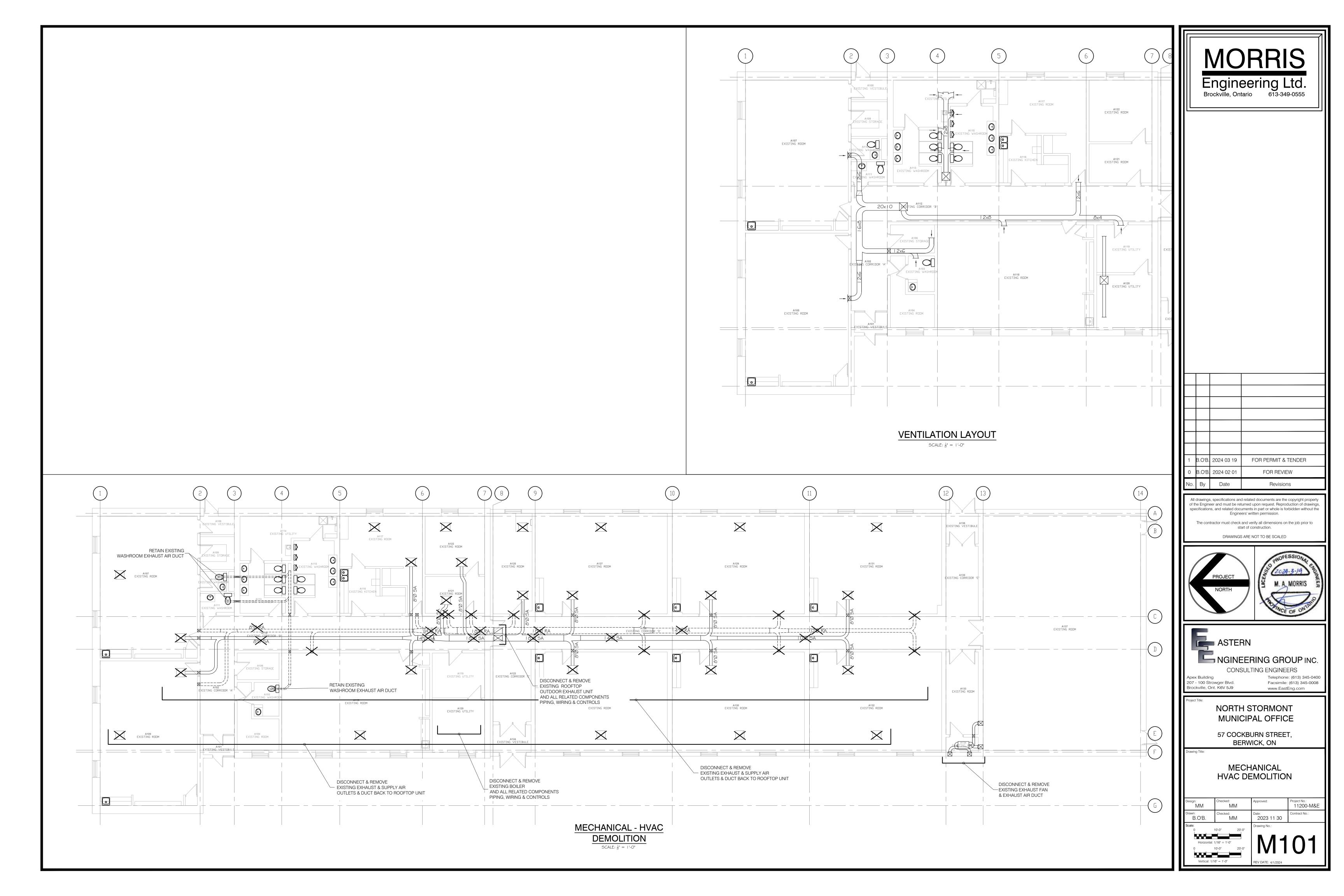


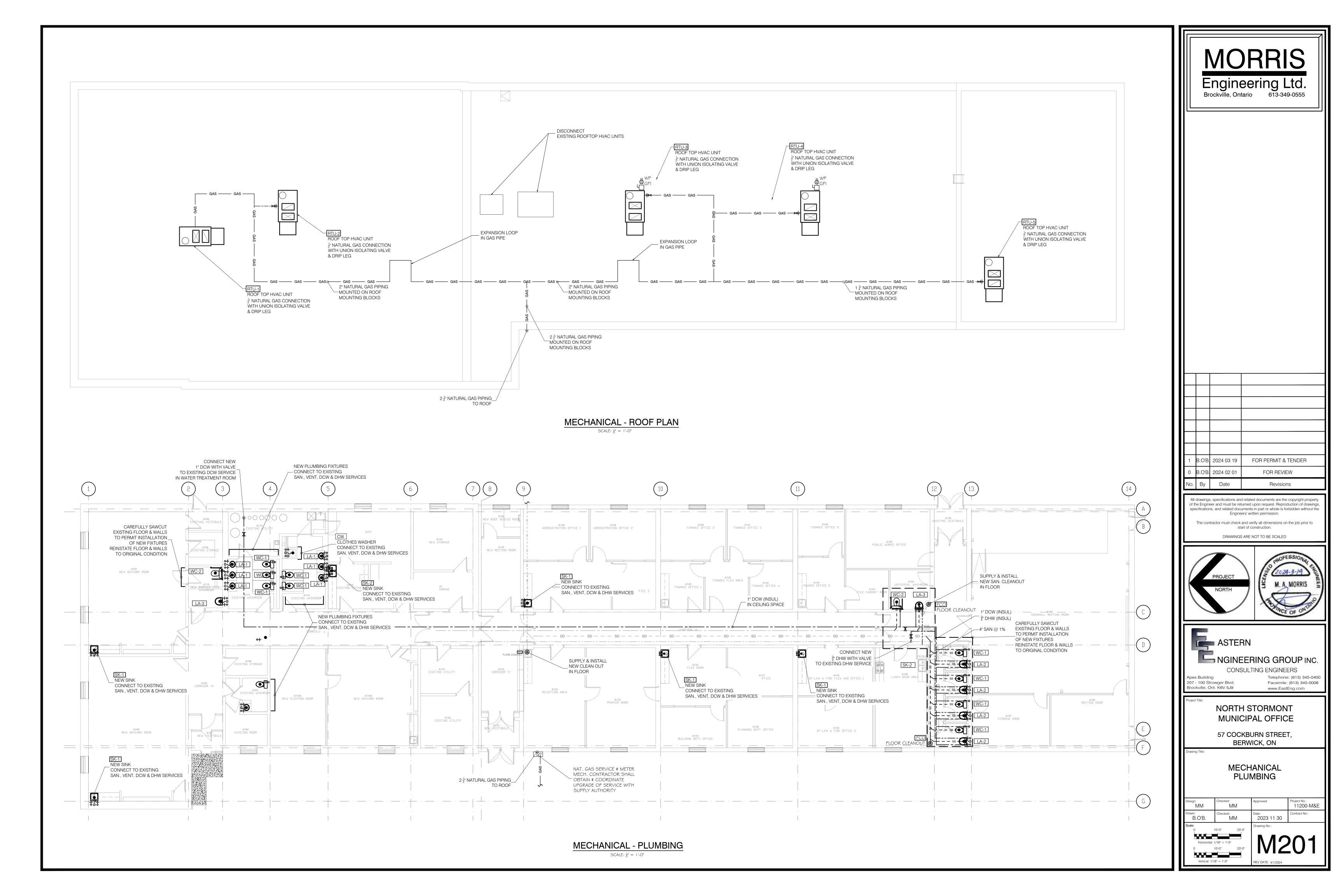
JNIT	DESCRIPTION	SUPPI	LY AIR	OUTDR	EFF.	COC	LING		<b>HEATING</b>			ELEC	TRICAL		ACCEPTABLE PRODUCT	NOTES
				AIR		TEMP	TC		OUTPUT		VOLT	PHASE	MCA	MOCP		
		(cfm)	(ESP)	(cfm)			_	-	(Mbtu/hr)							
	PACKAGED	2200	0.6	300	14	80 DB	60	115	93	1/2	208	3	29		CARRIER	BASE UNIT:
	ROOFTOP HVAC UNIT					67 WB									LENNOX	SEISMIC ROOF CURB
	ELECTRIC COOLING					95 AMB									TRANE	HOT GAS REHEAT DEHUMIDIFICATION
	NATURAL GAS HEATING															POWER EXHAUST FAN W BAROMETRIC RELIEF
TU-5																COIL/HAIL GUARDS
																CORROSION PROTECTION
																COOLING SYSTEM:
																HIGH EFFICIENCY
																TWO-STAGE
																LOW AMBIENT OPERATION THROUGH ECONOMIZER
																CONDENSATE DRAIN TRAP (PVC)
																LIEATING OVOTENA
																HEATING SYSTEM:
																TWO-STAGE
																STANDARD HEAT EXCHANGER
																COMBUSTION AIR INTAKE EXTENSION
																BLOWER:
																ECM MOTOR W ELECTRONIC SPEED CONTROL
																SOFT START
																ADJUSTABLE SP
																BLOWER PROVING SWITCH
																BEOWERT ROVING GWITCH
																INDOOR AIR QUALITY:
																HIGH PERFORMANCE ECONOMIZER W OUTDOOR AIR HOO
																MERV 8 FILTERS
																CO2 SENSOR
																COZ SENSOR
																ELECTRICAL:
																THROUGH BASE WITH WEATHERPROOF DISC. SWITCH
																NEW WEATHERPROOF DISCONNECT SWITCH
																GFCI SERVICE OUTLET WITH WEATHERPROOF COVER
																PHASE/VOLTAGE PROTECTION
																CONTROLS:
																DEMAND CONTROL VENTILATION WITH CO2 SENSOR
																7-DAY DIGITAL PROGRAMMABLE THERMOSTAT
																TO MEET ASHRAE 90.1:
																- 7 DAY SCHEDULE
																- 10 HR POWER LOSS
																- 2 HR MANUAL OVERRIDE
																- SETBACK TO 55F (13C)
																- SETUP TO 90F (32C)
																REMOTE TSTAT WITH ROOM SENSORS
																MICROPROCESSOR CONTROLS
																BACnet COMMUNICATIONS INTERFACE

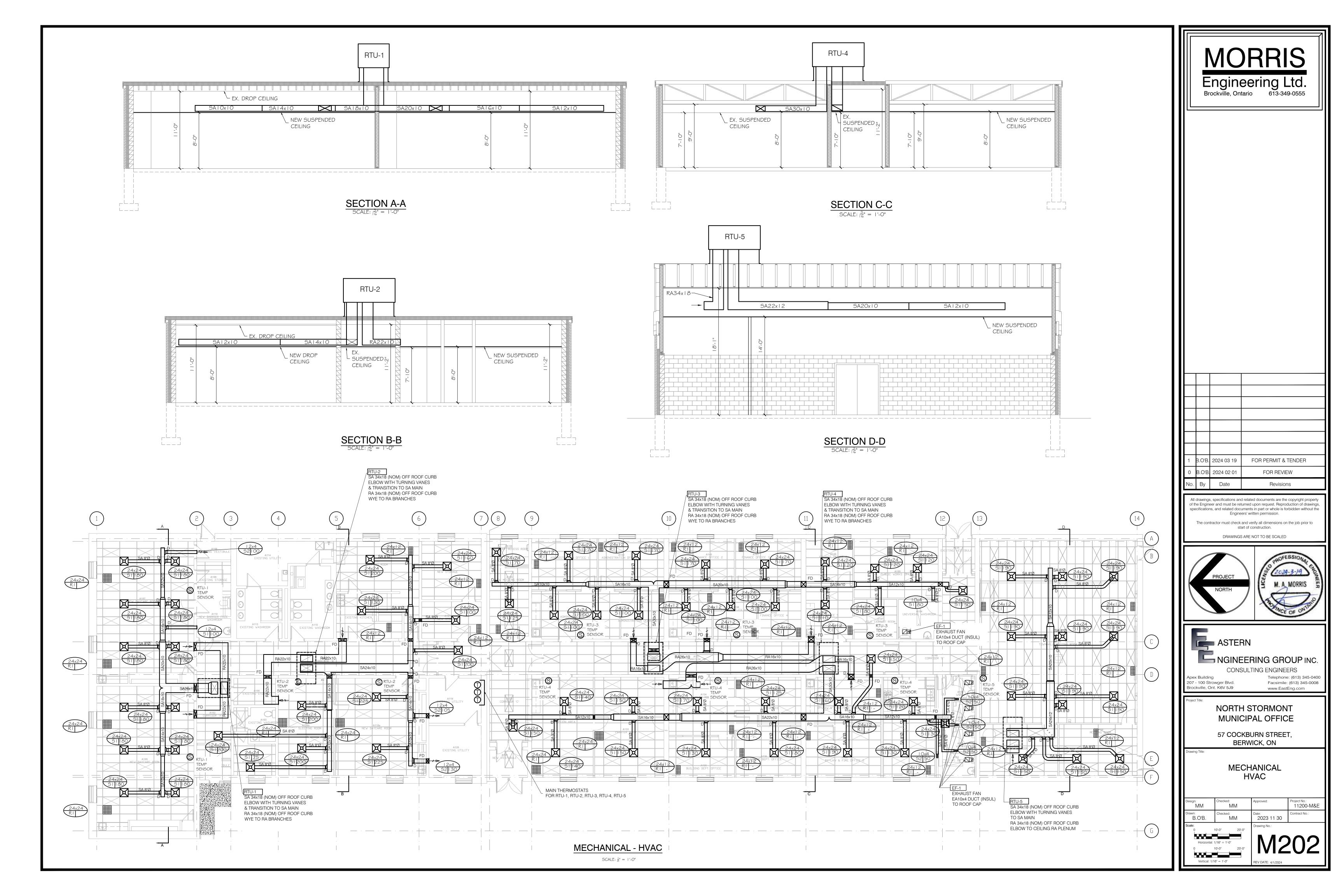


1	B.O'B.	B. 2024 03 19	FOR PERMIT & TENDER
0	B.O'B.	'B. 2024 02 01	FOR REVIEW
Nο	By	, Date	Revisions









## **ELECTRICAL NOTES**

### ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

- CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH
- AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING
- ONTARIO ELECTRICAL SAFETY CODE; ELECTRICAL SAFETY AUTHORITY;
- ELECTRICAL SUPPLY AUTHORITY. SUBMIT TO ELECTRICAL SAFETY AUTHORITY AND SUPPLY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
- GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR
- COORDINATING AND OBTAINING ELECTRICAL SERVICE LAYOUT FROM THE SUPPLY AUTHORITY.
- PAY ALL ELECTRICAL PERMIT AND INSPECTION FEES. GROUND COMPLETE SYSTEM IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND ELECTRICAL
- SAFETY AUTHORITY.
- IDENTIFICATION AND LABELLING:
- IDENTIFY ELECTRICAL EQUIPMENT WITH LAMICOID NAMEPLATES, INCLUDING AMPERAGE, VOLTAGE, PHASE AND POWER SOURCE.
- PROVIDE TYPEWRITTEN PANEL DIRECTORIES.
- PROVIDE ADHESIVE LABEL ON ALL SWITCH, RECEPTACLE AND DEVICE COVER PLATES INDICATING
- SUPPLY CIRCUIT DESIGNATION. PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR
- EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE
  - SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS.
  - CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS.
  - WIRING DIAGRAM OF CONTROL PANELS.
  - OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
  - MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR
- COMPONENTS OF THE EQUIPMENT. COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S
- NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE. LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
- MANUFACTURERS' WARRANTIES AND GUARANTEES.
- CLEAN ALL ELECTRICAL SYSTEMS AT PROJECT COMPLETION. .10 COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

- **2 CONTRACTOR QUALIFICATIONS:** ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADES QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS
- .1 ELECTRICIAN: CONSTRUCTION & MAINTENANCE.

# **3 FACILITIES AND DEMOLITION:**

- LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.
- RETAIN AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.
- CUTTING AND PATCHING: EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER. CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK.
- COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND
- PATCHING. DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE
- AS DIRECTED AT NO COST TO THE OWNER. DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE.

TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED

- CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST
- STANDARD PRACTICE FOR APPLICABLE WORK. HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE
- MADE WITH A HAMMER GUN. PATCHED WORK SHALL BE INVISIBLE, SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR
- EXPANSION AND CONTRACTION OF SUCH PIPES.

# **4 FIXTURES AND EQUIPMENT:**

- PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL ELECTRICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.
- INSTALL ALL ELECTRICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- EQUIPMENT AND MATERIAL TO BE CSA CERTIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM ELECTRICAL SAFETY AUTHORITY.

# **5 EQUIPMENT SUPPLIED BY OTHERS:**

- GENERAL CONTRACTOR SHALL ASSUME FULL REPONSIBILITY FOR COORDINATING ELECTRICAL SERVICES AND CONNECTIONS FOR ALL EQUIPMENT, INCLUDING EQUIPMENT SUPPLIED BY TRADES OTHER THAN ELECTRICAL. ELECTRICAL CONTRACTOR SHALL TAKE FULL REPONSIBILITY FOR MAKING ALL ELECTRICAL SERVICE
  - CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS, INCLUDING: REVIEW OF ALL SHOP DRAWINGS FOR EQUIPMENT SUPPLIED BY OTHERS, WHICH REQUIRE ELECTRICAL
  - CONNECTIONS. VERIFY AND CONFIRM ALL SERVICE CONNECTIONS WITH MANUFACTURER, SUPPLIER AND OTHER TRADES, PRIOR TO PROCUREMENT OF ELECTRICAL PANELS, BREAKERS, WIRE/CABLE, DISCONNECT
  - SWITCHES, MOTOR STARTERS, RECEPTACLES AND RELATED EQUIPMENT. REVIEW OF EQUIPMENT SUPPLIED BY OTHERS, SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS AND DETAILS, AND SHALL TAKE INTO ACCOUNT EQUIPMENT CLEARANCES AND INSTALLATION

# REQUIREMENTS.

- RIGID GALVANIZED STEEL, WITH THREADED FITTINGS, WHERE SUBJECT TO MECHANICAL INJURY, IN SERVICE AREAS ONLY.
- ELECTRICAL METALLIC TUBING (EMT), HOT DIPPED GALVANIZED STEEL, WITH THREADED CONNECTORS AND
- COUPLINGS, WHERE NOT SUBJECT TO MECHANICAL INJURY, IN SERVICE AREAS ONLY.
- RIGID PVC CONDUIT BELOW FLOOR AND IN CORROSIVE AREAS.

# 7 WIRES AND CABLE:

VOLTAGE DROP:

**6 CONDUITS:** 

- FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN
- **BUILDING WIRES:**
- COMMERCIAL PROJECTS IN CONDUIT SYSTEMS TO BE STRANDED COPPER CONDUCTORS FOR 10 AWG
- AND LARGER, MINIMUM SIZE 12 AWG, TYPE RW90. BUILDING WIRES IN CONCEALED LOCATIONS TO BE COPPER, MINIMUM SIZE 12 AWG, TYPE AS FOLLOWS:
- WOOD FRAMED STRUCTURES TYPE NMD90; STEEL STUD OR STEEL FRAMED STRUCTURES – TYPE AC90;

- CEILING RETURN AIR PLENUMS TYPE AC90.
- ALL WIRING, CABINETS AND BOXES SHALL BE CONCEALED IN WALLS AND CEILINGS, UNLESS OTHERWISE NOTED OR APPROVED. SURFACE-MOUNTED WIRING IS NOT PERMITTED.

### **8 SERVICE EQUIPMENT:**

- ELECTRICAL SERVICE EQUIPMENT, PANELBOARDS AND DISCONNECT SWITCHES SHALL BE PRODUCT OF ONE
- MANUFACTURER THROUGHOUT PROJECT. CIRCUIT BREAKERS:
- .1 SUPPLY AND INSTALL GROUND FAULT & ARC-FAULT CIRCUIT PROTECTION, AS REQUIRED BY THE OESC. WORKING SPACE ABOUT ELECTRICAL EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE. INCLUDING THE FOLLOWING:
- WORKING SPACE OF 3'4" (1m) WITH SECURE FOOTING;

MINIMUM HEADROOM OF 7'3" (2.2m).

- WIRING DEVICES OF ONE MANUFACTURER THROUGHOUT PROJECT HUBBELL OR LEVITON:
- OUTLET BOXES: GANG BOXES WHERE WIRING DEVICES ARE GROUPED.
- BLANK COVER PLATES FOR BOXES WITHOUT WIRING DEVICES. .2 SWITCHES:
  - HEAVY DUTY, 20A/120V; SINGLE POLE, AND THREE-WAY, AS APPLICABLE;
- COLOUR: SELECTED BY OWNER/ARCHITECT.
- .3 DUPLEX RECEPTACLES:
- EXTRA HARD USE, CSA TYPE 5-15 R, 15A/125V; GFI (GROUND FAULT CIRCUIT INTERRUPTER) WITH DETECT AND TRIP ON GROUND FAULT,
- STATUS INDICATOR LIGHT AND TEST SWITCH; TAMPER-RESISTANT WHERE REQUIRED BY CODE
- COLOUR: SELECTED BY OWNER/ARCHITECT.
- COVER PLATES:

# STAINLESS STEEL

## 10 LIGHTING:

- SUPPORT ALL LIGHTING IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND BULLETINS.
- LIGHT FIXTURES SUPPORTED BY SUSPENDED CEILING SYSTEMS SHALL HAVE ADDITIONAL SUPPORT TO BUILDING STRUCTURE IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE BULLETIN #30-4-11.
- FUNCTIONAL TESTING OF LIGHTING CONTROL, IN ACCORDANCE WITH ASHRAE 90.1 (9.4.3): LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S

### INSTALLATION INSTRUCTIONS. EXIT AND EMERGENCY LIGHTING:

- CONNECT DC CIRCUIT FROM EMERGENCY LIGHT BATTERY PACK TO ALL EXIT AND EMERGENCY LIGHTS.
- SIZE EMERGENCY LIGHTING POWER PACK TO PROVIDE FULL LOAD POWER FOR 1 HR PERIOD. EMERGENCY LIGHT BATTERY PACKS (UNIT EQUIPMENT) SHALL BE INSTALLED IN SUCH A MANNER THAT IT WILL BE AUTOMATICALLY ACTUATED UPON FAILURE OF THE POWER SUPPLY TO THE NORMAL

## 11 FIRE PROTECTION:

- ELECTRICAL CONTRACTOR RESPONSIBILITY:
- REFER TO ARCHITECTURAL DRAWINGS, TO VERIFY LOCATION OF ALL FIRE SEPARATIONS AND FIRE-

LIGHTING IN THE AREA COVERED BY THAT UNIT EQUIPMENT PER OESC 46-304(4).

- PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS PENETRATING OR PASSING
- THROUGH A FIRE SEPARATION OR FIRE-RATED ASSEMBLY, FOR REVIEW BY ARCHITECT AND ENGINEER ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS SHALL

BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-

- RATED MEMBRANES. ALL CABLING AND CONDUIT SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.
- THE FOLLOWING CONDUCTORS SHALL BE PROTECTED IN ACCORDANCE WITH OBC 3.2.7.10(2), AND SHALL CONFORM TO ULC-S139 "FIRE TEST EVALUATION OF INTEGRITY OF ELECTRICAL CABLES", TO PROVIDE A CIRCUIT INTEGRITY RATING OF NOT LESS THAN 1 HOUR (2 HOUR FOR TALL BUILDINGS OR CONTAINED USE AREAS OR INTERCONNECTED FLOOR SPACES):
  - ELECTRICAL FEEDER CONDUCTORS WHICH SERVE THE COMMERCIAL ELECTRICAL PANELS;
- BRANCH CIRCUIT CONDUCTORS WHICH SERVE EXIT AND EMERGENCY LIGHTING.
- .4 PLENUMS (OBC 3.6.4.3):
  - ALL MATERIALS WITHIN THE PLENUM SHALL A FLAME-SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED CLASSIFICATION NOT MORE THAN 50.
  - WIRE AND CABLE WITH AN FT6 RATING TO CSA C22.2 NO. 0.3, TEST METHODS FOR ELECTRICAL WIRES AND CABLES.
  - NON-METALLIC RACEWAYS WITH AN FT6 RATING TO CAN/ULC- S102.4, FIRE AND SMOKE CHARACTERISTICS OF ELECTRICAL WIRING AND CABLES.

# MOCK-UPS:

- PREPARE MOCK-UPS OF TYPICAL FIRESTOP INSTALLATION OF THE FOLLOWING, FOR REVIEW AND APPROVAL BY THE OWNER, ENGINEER AND MUNICIPAL BUILDING INSPECTOR:
- ELECTRICAL PANELS, BOXES AND OUTLETS FIRE-RATED WALL;
- CONDUIT AND CABLING WALL AND CEILING/FLOOR FIRE SEPARATION. ALL FIRESTOP INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE PRODUCT INSTALLATION INSTRUCTIONS, AND THE REFERENCED UL/ULC LISTING AND/OR TEST
- SUPPLY A COPY OF THE PRODUCT INSTALLATION INSTRUCTIONS WITH ULC LISTING AND/OR TEST
- STANDARD REFERENCE, FOR EACH INSTALLATION. MOCK-UP MAY REMAIN AS PART OF WORK.

# **12 EARTHQUAKE LOAD:**

- ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EARTHQUAKE LOAD AND EFFECTS REQUIRED BY THE ONTARIO BUILDING CODE.
- ELECTRICAL ELEMENTS AND COMPONENTS (FIXTURES, EQUIPMENT, CONDUIT, ETC.), AND THEIR CONNECTIONS TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SMACNA/ANSI SEISMIC RESTRAINT MANUAL OR OTHER GUIDELINE REFERENCED IN THE ONTARIO BUILDING CODE AND ONTARIO ELECTRICAL
- FOLLOWING PROJECT COMPLETION, SEISMIC ENGINEER SHALL PROVIDE A LETTER OF FINAL SITE REVIEW. CONTRACTOR SHALL CARRY THE COST OF THE SEISMIC ENGINEERING, INCLUDING SITE REVIEWS, DESIGN AND

SAFETY CODE.

SHOP DRAWING PREPARATION.

- .1 ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, DEVICES, AND RELATED ITEMS SHALL BE SECURELY
- SUPPORTED, ATTACHED AND FASTENED TO BUILDING STRUCTURE. HANGERS AND SUPPORTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND CSA C22.2, AS APPLICABLE

PLATFORMS SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL MEETING THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, INCLUDING CSA STANDARD W59 WELDED STEEL CONSTRUCTION, AND THE REQUIREMENTS OF THE CANADIAN WELDING BUREAU.

CONTRACTOR.

- INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY
- DRAWINGS ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES AND ALLOW FOR ANY ADDITIONAL CONDUIT, WIRING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID INTERFERENCE AND FACILITATE THE WORK.
- CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO
- COORDINATE AND VERIFY ALL ELECTRICAL BRANCH CIRCUIT REQUIREMENTS FOR EQUIPMENT SUPPLIED BY OTHERS, PRIOR TO MATERIAL PROCUREMENT OR INSTALLATION.
- PROVIDE ALL WIRING TO ALL MECHANICAL EQUIPMENT, INCLUDING WIRING BELOW 50V. COORDINATE ALL MECHANICAL EQUIPMENT WIRING WITH MECHANICAL TRADES.
- .6 ALL DEVICE AND OUTLET LOCATIONS SHALL BE CAREFULLY COORDINATED WITH THE GENERAL CONTRACTOR OR OWNER, TO ACCOMMODATE ALL FEATURES, INCLUDING PLUMBING FIXTURES, EQUIPMENT AND MILLWORK.

## 15 START-UP, COMMISSIONING AND TRAINING:

- START-UP AND COMMISSION THE FOLLOWING SYSTEMS:
- MAIN ELECTRICAL SERVICE EQUIPMENT;
- GENERAL LIGHTING;

AND PARAMETERS

- EXIT AND EMERGENCY LIGHTING.
- PERFORM SYSTEMATIC TESTS, PROCEDURES AND CHECKS ON SYSTEMS, AS FOLLOWS:
- TO VERIFY OPERATION IN ACCORDANCE WITH CONTRACT DOCUMENTS, DESIGN CRITERIA AND INTENT, AND MANUFACTURER'S REQUIREMENTS;
- TO ENSURE APPROPRIATE DOCUMENTATION IS PROVIDED;
- TO EFFECTIVELY TRAIN BUILDING OPERATIONAL STAFF.
- SYSTEMS ARE TO BE OPERATED AT FULL CAPACITY, WITH CORRECTION OF ALL DEFICIENCIES AND ADJUSTMENTS TO MEET OPTIMUM PERFORMANCE. PROVIDE WRITTEN REPORT AT END OF COMMISSIONING OUTLINING EQUIPMENT OPERATIONAL CONDITIONS
- GROUND FAULT CIRCUIT INTERRUPTER AFCI ARC FAULT CIRCUIT INTERRUPTER ABOVE COUNTER ABOVE FINISHED FLOOR WP WEATHERPROOF DISTRIBUTION DISTRIBUTION PANEL 72"/1825mm (TOP) SINGLE POLE TOGGLE SWITCH - 20A/I 20V 35.5" / 900mm ACCOMMODATE SITE CONDITIONS AND COORDINATION. 3-WAY TOGGLE SWITCH - 20A/I 20V MOTION SENSOR CONTROL - (SWITCH) 43.3 / 1100mm MOTION SENSOR CONTROL - (CEILING) MOTION SENSOR & DAYLIGHT PHOTOCELL CONTROL - (CEILING

## BRANCH CIRCUIT, HOMERUNS TO PANEL LIGHTING

ď

ELECTRICAL LEGEND

DESIGNATIONS

NOTE: HEIGHT IS FROM FINISHED FLOOR TOP TO

LINE OF EQUIPMENT, UNLESS OTHERWISE NOTED

DUPLEX RECEPTACLE (WALL) - 15A/12OV

DUPLEX RECEPTACLE (SPLIT) - 15A/12OV

NON-STANDARD RECEPTACLE

FUSED DISCONNECT SWITCH

BRANCH CIRCUIT, SWITCHED

**BRANCH CIRCUIT** 

DIRECT EQUIPMENT CONNECTION

NON-FUSED DISCONNECT SWITCH

F	FLUORESCENT LIGHT FIXTURE - RECESSED
F	FLUORESCENT LIGHT FIXTURE - SURFACE
¢	LIGHT FIXTURE F - FLUORESCENT
ф	H - HIGH INTENSITY DISCHARGE L - INCANDESCENT

HEIGHT

12"/300mm

12"/300mm

AS NOTED

AS NOTED

54"/1370mm

54"/1370mm

## DATA COMMUNICATIONS

▼	TELEPHONE OUTLET (WALL)		l 2"/300mm
	TELEPHONE OUTLET (FLOOR)	PROVIDE 3/4" CONDUIT FROM BACK BOX TO	
$\nabla$	DATA OUTLET (WALL)	SUSPENDED CEILING	l 2"/300mm
$\square$	DATA OUTLET (FLOOR)	SPACE ROUGH-IN ONLY	
lacksquare	DATA \$ TELEPHONE OUTLET (WALL)		l 2"/300mm
$\nabla$	TELEVISION OUTLET (WALL)		l 2"/300mm
M	TELEVISION OUTLET (FLOOR)		
	SPEAKER (WALL / CEILING)		
<b>a</b>	WIRELESS TRANSMITTER / RECEVER		
EXIT &	EMERGENCY LIGHTIN	IG	

$E_1$	EXIT LIGHT, SURFACE MOUNTED, SINGLE FACE	90"/2300mm
$\mathbf{E}_2$	EXIT LIGHT, END OR CEILING MOUNTED, SINGLE FACE	90"/2300mm
<b>E</b> <sub>3</sub>	EXIT LIGHT, END OR CEILING MOUNTED, DOUBLE FACE	90"/2300mm
E EL I	EXIT LIGHT, SURFACE MOUNTED, SINGLE FACE	
EL2	EMERGENCY LIGHT, BATTERY PACK	90"/2300mm
£ EL3	EMERGENCY LIGHT, DOUBLE REMOTE	90"/2300mm
₽EL4	EMERGENCY LIGHT, SINGLE REMOTE	90"/2300mm
		•

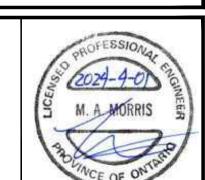
# FIRE ALARM

lacksquare	FIRE ALARM HORN / STROBE	ALL SIDS ALADM
\S / <u></u> 15cd	FIRE ALARM HORN / BELL WITH STROBE LIGHT	ALL FIRE ALARM DEVICES SHALL BE MOUNTED AND
	FIRE ALARM PULL STATION - (47" / 1 200mm)	LOCATED IN ACCORDANCE WITH CAN/ULC - 9524
×	FIRE ALARM HEAT DETECTOR	CANULC - 3324
	FIRE ALARM SMOKE DETECTOR	

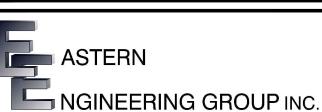
ADDENDUM 1 B.O'B. 2024 04 01 FOR PERMIT & TENDER B.O'B. 2024 03 19 0 B.O'B. 2024 02 01 FOR REVIEW Revisions

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> MUNICIPAL OFFICE 57 COCKBURN STREET,

NORTH STORMONT

BERWICK, ON

ELECTRICAL **NOTES & LEGEND** 

B.O'B. MM 

MM

2023 11 30

11200-M&E

CTRICAL LOAD CALCULATION										
HER TYPES OF OCCUPANCY (OFSIGN 040)										
HER TYPES OF OCCUPANCY (OESC 8-210)  BASIC LOAD			AREA	AREA	BASIC LOAD			DEMAND		LOAD
BAGIO EGAB			(sq.ft.)	(sq.m)	(W/sq.m.)			FACTOR		(W)
OFFICE BUILDING			8700	808	50			0.90		36372
DAYCARE			7560	702	25			1.00		17559
ADDITIONAL LOAD		QTY	LOAD	LOAD	VOLTAGE		PHASE	DEMAND		LOAD
			(W)	(Amp)	(V)		FACTOR	FACTOR		(W)
WATER HEATER		1	3000	`				1.00		3000
AR CONDITIONING:										
- Library		5		29	208		1.73	1.00		52177
TAL LOAD										
TOTAL LOAD	VOLTAGE	PHASE							(W)	109108
	(V)	FACTOR							( )	
AMPERAGE	600	1.73							(A)	105
MAIN SERVICE SIZE (DE-RATED TO 80%)									(A)	131
TES:										
ELECTRICAL LOAD CALCULATION IS BASED ON TH	E CALCULATION F	ROCEDURES	FOR MINIM	UM CIRCU	IT AMPACITY C	OF THE				

LIGHT	LIGHT FIXTURE SCHEDULE											
UNIT	DESCRIPTION	NOM.	LAMP	COLOUR	WATTS	MEAN	VOLTAGE	ACCEPTABLE PRODUCT	NOTES			
		DIM'N		TEMP		LUMENS						
		(in)		(K)								
F1	LED	W - 3.2	LED	4000	24	3000	120	BJ TAKE	DIMMABLE			
	LINEAR STRIP FIXTURE	L - 32						#BLSP				
		(NOM 4FT)						STANPRO				
								OR APPROVED EQUAL				
F24	LED	W - 24	LED	4000	36	4000	120	BJ TAKE #BLR	DIMMABLE			
	RECESSED	L - 48						STANPRO	FLANGE FOR DRYWALL			
								OR APPROVED EQUAL				

JNIT	DESCRIPTION	ELECTRICAL	ACCEPTABLE PRODUCT	NOTES
	WALL SWITCH	120V	LEVITON	PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S)
	MOTION SENSOR		#OSSMT-MAW	
	WALL SWITCH	120V	LEVITON #AW	
	MOTION SENSOR AND DIMMER		SENSOR SWITCH #WSX-D	
			OR APPROVED EQUAL	
	MOTION SENSOR		LEVITON	PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S)
	CEILING MOUNTED		#OSC05-M0W (500 SF)	24 VDC
			#OSC10-M0W (1,000 SF)	INFRARED SENSITIVITY, ULTRASONIC SENSITIVITY AND
			#OSC20-M0W (2,000 SF)	TIME DELAY CONTROL
				POWER PACK AS REQUIRED

EXIT &	EMERGENCY LIGHT	FIXTURE S	CHEDULE			
UNIT	DESCRIPTION	LAMP	HOUSING	VOLTAGE	ACCEPTABLE PRODUCT	NOTES
E1	EXIT LIGHT	LED	ALUMINUM	120VAC	EMERGI-LITE #EA	EXTRUDED ALUMINUM HOUSING
	SINGLE FACE		WHITE	12 VDC	STANPRO	AND FACE PLATE
	SELF-POWERED					GREEN PICTOGRAM
						DIRECTION ARROW (WHERE REQUIRED)
					OR APPROVED EQUAL	END OR CEILING MOUNTED
E2	EXIT AND EMERGENCY	2x6W	ALUMINUM	120VAC IN	EMERGI-LITE #EAC	LONG LIFE SEALED LEAD
	LIGHT COMBINATION	LED	WHITE	12VDC OUT	STANPRO	LED EXIT
	UNIT BATTERY PACK					PUSH TO TEST SWITCH
	2 LAMPHEADS					AC "ON" PILOT LIGHT
	SELF-POWERED					GREEN PICTOGRAM EXIT SIGN
					OR APPROVED EQUAL	DIRECTION ARROW (WHERE REQUIRED)
EL1	EMERGENCY LIGHT	2x6W	OFF-WHITE	120VAC IN	EMERGI-LITE #ESL	LONG LIFE SEALED LEAD
	BATTERY PACK WITH	LED	STEEL	12VDC OUT	STANPRO	AC LINE CORD
	WITH 2 LAMPHEADS					PUSH TO TEST SWITCH
					OR APPROVED EQUAL	AC "ON" PILOT LIGHT
EL2	EMERGENCY LIGHT	2x6W	OFF-WHITE	12VDC	EMERGI-LITE #EF9D	
	DOUBLE REMOTE HEAD	LED			STANPRO	
					OR APPROVED EQUAL	
EL3	EMERGENCY LIGHT	1x6W	OFF-WHITE	12VDC	EMERGI-LITE #EF9	
	SINGLE REMOTE HEAD	LED			STANPRO	
					OR APPROVED EQUAL	

ELECT	RIC HEATER SCHEDULE							
UNIT	DESCRIPTION	FAN	DIM'N	ELECTRICAL		L	ACCEPTABLE PRODUCT	NOTES
		CFM		WATTS	VOLT	PHASE		
EUH-1	FAN FORCED HEATER	160	16.75W	1125	208	1	DIMPLEX#RFI	WHITE
	COMMERCIAL GRADE		21.5H				STELPRO	CONTROL:
								- BUILT-IN TSTAT
							OR APPROVED EQUAL	RECESSED

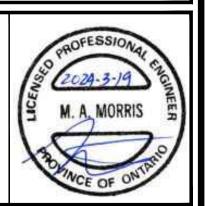


1	B.O'B.	2024 03 19	FOR PERMIT & TENDER
0	B.O'B.	2024 02 01	FOR REVIEW
No.	Ву	Date	Revisions

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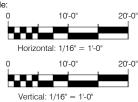
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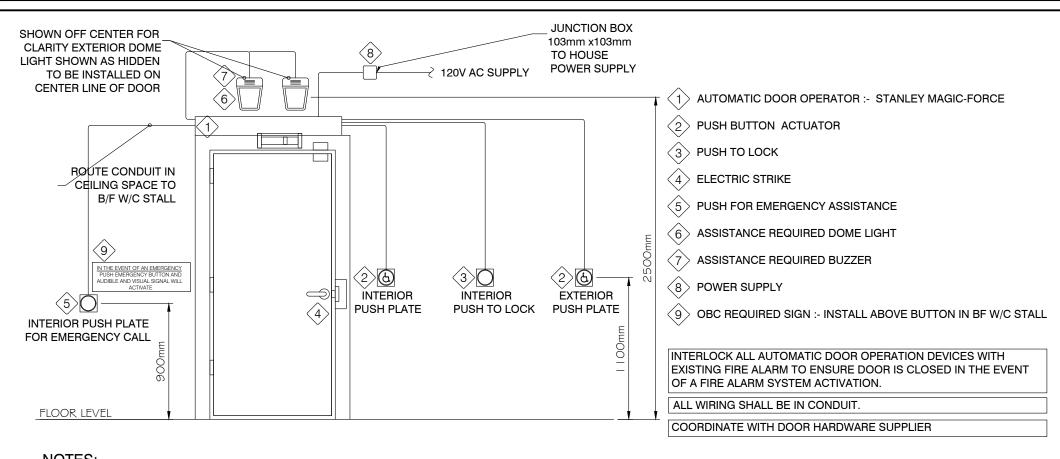
57 COCKBURN STREET, BERWICK, ON

ELECTRICAL SCHEDULES

Design: MM	Checked: MM	Approved:	Project No.: 11200-M&E
Drawn: B.O'B.	Checked: MM	Date: 2023 11 30	Contract No.:
Scale:		Drawing No ·	







- 1. POWER SUPPLY TO BE MOUNTED IN THE CEILING.
- 2. ALL WALL MOUNTED MATERIAL IS TO HAVE WIRING BROUGHT BACK TO THE POWER SUPPLY BOX.
- 3. LOW VOLTAGE AND HIGH VOLTAGE WIRING ARE NOT TO BE RUN TOGETHER.
- 4. ONE 15A CIRCUIT IS NEEDED FOR THE POWER SUPPLY BOX.
- 5. BUTTON LOCATIONS ARE TO BE CENTERED 1100mm FROM FINISHED FLOOR LEVEL.
- 6. DOME LIGHT AND BUZZER ARE TO BE CENTERED 2500mm FROM FINISHED FLOOR LEVEL.
- 7. PRIOR TO INSTALLATION CONFIRM LOCATIONS WITH OWNER.
- 8. DOME LIGHT STANDARD OF ACCEPTANCE:- DUKANE 18A524 (TWO LAMP) CORRIDOR LIGHT WITH ONE LAVATORY CALL LIGHT, FAST FLASHING RED (60ppm) FOR USE AS INSIDE AND OUTSIDE LIGHT, OR APPROVED EQUIVALENT.
- BUZZER STANDARD OF ACCEPTANCE:- MALLORY SONALERT SC628A C/W 103mm x130mm (4"x4") SURFACE MOUNT BACK BOX OR APPROVE EQUIVALENT. POWER SUPPLY STANDARD OF ACCEPTANCE:- LAB-PS241F 12-24V DC / 1A POWER SUPPLY C/W BUILT IN GEL CELL BATTERY CHARGER, AUTOMATIC SWITCHOVER TO
- STANDBY BATTERY IN CASE OF AC POWER FAILURE & JUNCTION BOX, OR APPROVED EQUIVALENT. TRANSFORMER STANDARD OF ACCEPTANCE:- TP4016 PLUG-IN TRANSFORMER 120/16V AC 40Va, OR APPROVED EQUIVALENT.
- 9. BACKBOXES, CONDUITS AND 120V CIRCUIT BY ELECTRICIAN.

EMERGENCY CALL ASSIST SYSTEM	
SCALE: NTS	

		ELECTRICAL	וו פוע	KID	ווט	UN	P	4INE	L	DP1' (EXISTING)		
_ocation:	ELECTRICAL R	OOM				Mou	ınting	:		SURFACE		
Rated Amp:	600A					Mair	ns Ar	np:		400 A MAIN BREAKER		
Voltage:	120/208V					Phas	nase, Wire:			1 PH, 3W		
Manufacturer:	Square D I-Line					Bus:	:			Aluminum		
Cabinet:	Trim, Lockable [	Door				Brea				Bolt-On		
TVSS:	Timi, Edokabie E	5001								Bolt on		
	oad	Description	F	re a ke		Isolated Ground:  Breaker				Description	Los	
Watts	Description	Description		Pole	No.				Amp	Description	Description	Watts
	200014		1		1		2	3	200	ELECTRICA L PNL P2	NEW	
					3		4				ELEC PNL	
					5		6				P2	
51000	NEW	DISCONNECT BOILER	200	3	7		8	3	60			
	ELEC PNL	CONNECT TO ELEC PNL P1			9		10					
	P1				11		12					
		DISCONNECT	40	3	13		14	3	200	ELECTRICAL PANEL		
		GYM WEST HEAT			15	-+	16			HP-2		
	1	MARK SPARE			17		18					
		DISCONNECT	40	3	19	-+	20	3	125	ELECTRICAL PANEL		
		GYM EAST HEAT			21	-	22			LP-2		
	-	MARK SPARE	12020.00		23	-	24					
		ELECTRICAL PANEL	200	3	25	-	26	3	100	ELECTRICAL PANEL		
		HP-1			27 29	_	28 30			LP-1		
51	kW	CONNECTED LOAD			29		30			CONNECTED LOAD	kW	0
31	KVV	CONNECTED LOAD				$\vdash$				TOTAL CONNECTED LOAD	kW	51

**ELECTRICAL PANEL 'P1' (NEW)** 

Location:	ELEC RM					Мо	unting	<b>j</b> :		SURFACE		
Rated Amp:	200A					Mai	ins A	np:		=		
Voltage:	120/208V						ase, V			3PH, 4W		
Manufacturer:	Square D				Bus	S:			Aluminum			
Cabinet:	Trim, Lockable	Door				Bre	akers	:		Bolt-On		
TVSS:	-							Groun	ıd:	-		
Lo	oad	Description	В	Bre a ke	er		В	reake	r	Description	Loa	d
Watts	Description		Am p	Pole	No.		No.	Pole	Amp		Description	Watts
400	2REC	RECEP - ROOF	15	1	1		2	1	15	RECEP - ROOF	3REC	600
					3		4					
					5		6				+	
					7 9		8 10				+	
					11		12					
					13		14					
					15		16					
					17		18					
					19		20					
					21		22				1	
					23		24				+	
10000	RTU-1	ROOFTOP HVAC UNIT	40	3	25 27		26 28					
					29		30				+	
10000	RTU-2	ROOFTOP HV A C UNIT	40	3	31		32	3	40	ROOFTOP HVAC UNIT	RTU-4	10000
					33		34		-			
					35		36					
10000	RTU-3	ROOFTOP HVAC UNIT	40	3	37		38	3	40	ROOFTOP HVAC UNIT	RTU-5	10000
					39		40					
					41	$\vdash$	42					
30.4	kW	CONNECTED LOAD				$\sqcup$				CONNECTED LOAD	kW	20.6

/oltage:	120/208V					Pha	se, V	se, Wire: 3PH, 4W					
/lanufacturer:	Square D					Bus	s:			Aluminum			
Cabinet:	Trim, Lockable	2 Door					akers			Bolt-On			
VSS:	Timi, Lookabie							Grour		Bolt Off			
	oad	d Description			or	1501		reake		- Description	Loa	d	
Watts		Description		Pole		$\vdash$			Amp	Description		Watts	
	Description	LIOLED 402 404 405 400 407		Pole	<u> </u>	$\vdash$			_	LICHTO 400 400 420 424	Description		
560	F1, 13F24	LIGHTS - 123,124,125,126,127	15	1	1	$\vdash$	2	1	15	LIGHTS - 128,129,130,131	12F24	480	
480	12F24	LIGHTS - 132,133	15	1	3	$\vdash$	4	1	15	LIGHTS - 134,135,136,137	12F24	480	
480	12F24	LIGHTS - 138,139,140,141,142	15	1	5	$\vdash$	6	1	15	LIGHTS - 143,144,148	11F24	440	
400	F1,9F24	LIGHTS - 145,146,147,154,155	15	1	7	H	8	1	15	LIGHTS - 136,149,150,151,152,153	6F1,5F24	440	
800	20F24	LIGHTS - 156	20	1	9	$\vdash$	10	1	15	LIGHTS - 157,158	8F24	320	
4000	0050	SPARE SPARE	15	1	11		12		2-	DEOED 405 400	5050	4000	
1200	6REC	RECEP - 123,124	15	1	13	$\vdash$	14	1	15	RECEP - 125,126	5REC	1000	
800	4REC	RECEP - 128	15	1	15	$\vdash$	16	1	15	RECEP - 129	5REC	1000	
400	REC	RECEP - 128 COUNTER	15	1	17	$\vdash$	18	1	15	RECEP - 130	5REC	1000	
800	4REC	RECEP - 131	15	1	19	H	20	1	15	RECEP - 133 PRINTER	REC	600	
600	3REC	RECEP - 132	15	1	21	$\vdash$	22	1	15	RECEP - 133 PRINTER	REC	600	
600	3REC	RECEP - 132	15	1	23	$\vdash$	24	1	15	RECEP - 133 PRINTER	REC	600	
400	2REC	RECEP - 134	15	1	25	H	26	1	15	RECEP - 133 PRINTER	REC	600	
400	REC	RECEP - 134 COUNTER	15	1	27	$\vdash$	28	1	15	RECEP - 133	2REC	400	
800	4REC	RECEP - 135	15	1	29	$\vdash$	30	1	15	RECEP - 136	4REC	800	
800	4REC	RECEP - 137	15	1	31		32	1	15	RECEP - 138	REC	200	
800	4REC	RECEP - 139	15	1	33	$\vdash$	34	1	15	RECEP - 138 PRINTER	REC	200	
800	4REC	RECEP - 140	15	1	35	$\vdash$	36	1	15	RECEP - 138 PRINTER	REC	200	
800	4REC	RECEP - 141	15	1	37	$\vdash$	38	1	15	RECEP - 142	4REC	800	
800	4REC	RECEP - 143	15	1	39	$\vdash$	40	1	15	RECEP - 144	3REC	600	
400	REC	RECEP - 143 COUNTER	15	1	41	$\vdash$	42	1	15	RECEP - 144	3REC	600	
600	3REC	RECEP - 148  RECEP - 148 COUNTER	15	1	43	$\vdash$	44	1	15	RECEP - 149,150,151,152,153	5REC	1000	
400	3REC		15	1	45 47	$\vdash$	46 48	1	15	RECEP - 145	4REC	800	
400	3REC	RECEP - 148 COUNTER	15	1				1	15	RECEP - 146	4REC	800	
400	3REC REC	RECEP - 148 COUNTER  RECEP - 148 REFRIG	15	1	49 51	H	50	1	15	RECEP - 147,154	2REC 3REC	400	
500			15	1	70.10	$\vdash$	52	1	15	RECEP - 155		600	
200	RH	RANGE HOOD	15	1	53	$\vdash$	54	1	15	RECEP - 155	2REC	400	
6000	REC	RANGE	40	2	55	$\vdash$	56	1	15	RECEP - CORRIDOR	3REC	600	
000	4050	DEOED 457	45	4	57	$\vdash$	58	1	15	RECEP - 156 WALL	4REC	800	
800	4REC 4REC	RECEP - 157  RECEP - 158	15	1	59	$\vdash$	60	1	15 15	RECEP - 156 WALL RECEP - 156 FLOOR BOX	4REC	800	
000	4000	NEGEF - 100	15	1.	61	$\vdash$	62 64	1	15 15	RECEP - 156 FLOOR BOX	2REC 2REC	400	
					65	$\vdash$	66	1	10	NLOLI - 100 FLOOR BOX	ZNEO	400	
					67	H	68						
					69	$\vdash$	70	1	15	WASHROOM - EMERG CALL	+	200	
					71	$\vdash$	72	1	15	WASHROOM - AUTO DOOR	+	200	
23.22	kW	CONNECTED LOAD				$\vdash$		-		CONNECTED LOAD	kW	18.76	
20.22	17.4.4	SOLVINESTED FOUND			I	$\forall$				TOTAL CONNECTED LOAD	kW	41.98	
		El	ECT	RIC	CAL	P	ANE	EL	TON	TES			
I.0 DEVICES:		EI  DEVICE QUANTITIES ARE APPROXI		RIC	CAL	P	ANE	EL I	NOT	TES			

ELECTRICAL PANEL 'P2' (NEW)

Mains Amp:

200 A MAIN BREAKER

Location: LUNCH ROOM

Rated Amp: 200A

	ELECTRICAL PANEL NOTES								
1.0 DEVICES:	DEVICE QUANTITIES ARE APPROXIMATE								
	DEVICES SHOWN ON FLOOR PLANS SHALL SUPERSEDE.								
2.0 IDENTIFICATION:	PERMANENT PANEL LABEL INDICATING NAME, AMP, VOLT, PHASE, WIRE								
	TYPEWRITTEN CIRCUITING DIRECTORY								
3.0 EQUIPMENT SUPPLIES	D BY OTHERS:								
	ELECTRICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR SERVICING REQUIREMENTS								
	FOR ALL EQUIPMENT SUPPLIED BY OTHERS								
	ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT WRING WITH OTHER TRADES.								
	ELECTRICAL CONTRACTOR SHALL VERIFY AND CONFIRM ALL CIRCUITING, AND								
	SHALL PROVIDE A NEW CIRCUITING LEGEND								
	FOR APPROVAL BY OWNER AND ENGINEER, PRIOR TO PROCEEDING WITH WIRING OF PANEL.								
	THIS CIRCUITING STUDY SHALL INCLUDE ALL NEW CIRCUITS.								
NOTATIONS:									
WP	WEATHERPROOF								
TBD	TO BE DETERMINED AND VERIFIED WITH OTHER TRADES								

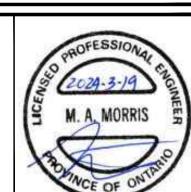


1	B.O'B.	2024 03 19	FOR PERMIT & TENDER
0	B.O'B.	2024 02 01	FOR REVIEW
No.	Ву	Date	Revisions

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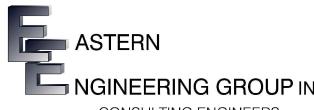
The contractor must check and verify all dimensions on the job prior to start of construction.

DRAWINGS ARE NOT TO BE SCALED



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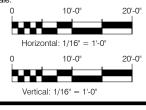
Apex Building Apex Building 207 - 100 Strowger Blvd. Brockville, Ont. K6V 5J9

> NORTH STORMONT MUNICIPAL OFFICE

57 COCKBURN STREET, BERWICK, ON

**ELECTRICAL DETAILS** 

MM	MM		11200-M&
Drawn: B.O'B.	Checked: MM	Date: 2023 11 30	Contract No.:
Scale:	10'-0" 20'-0"	Drawing No.:	



## **DEMOLITION NOTES – ELECTRICAL**

ALL OUTLETS THAT WERE VISIBLE DURING SITE REVIEW HAVE BEEN INDICATED.

ALL OUTLETS IN FLOORS, WALLS & CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

### C COMMUNICATIONS SYSTEM:

- C1 RETAIN EXISTING SPEAKER
- C2 DISCONNECT AND REMOVE EXISTING SPEAKER OR SCHOOL BELL INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING

## D DATA AND TELEPHONE:

- D1 RETAIN EXISTING DATA OR TELEPHONE OUTLET
- DISCONNECT AND REMOVE EXISTING ELECTRICAL DATA OR TELEPHONE OUTLET INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

### F FIRE ALARM DEVICES:

- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL WHERE APPLICABLE

### H ELECTRIC HEATER:

- H1 RETAIN EXISTING ELECTRIC HEATER
- H2 DISCONNECT, REMOVE AND REPLACE EXISTING ELECTRIC HEATER
- H3 DISCONNECT AND REMOVE EXISTING ELECTRIC HEATER INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL WHERE APPLICABLE

### L LIGHT FIXTURES & SWITCHES:

- L1 RETAIN EXISTING LIGHT FIXTURE
- L2 DISCONNECT, REMOVE AND REPLACE EXISTING LIGHT FIXTURE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE
- L4 RETAIN EXISTING LIGHT SWITCH LOCATION
- L5 DISCONNECT, REMOVE AND RELOCATE EXISTING LIGHT SWITCH
  ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN

SUPPLY AND INSTALL A NEW SWITCH AND COVER PLATE

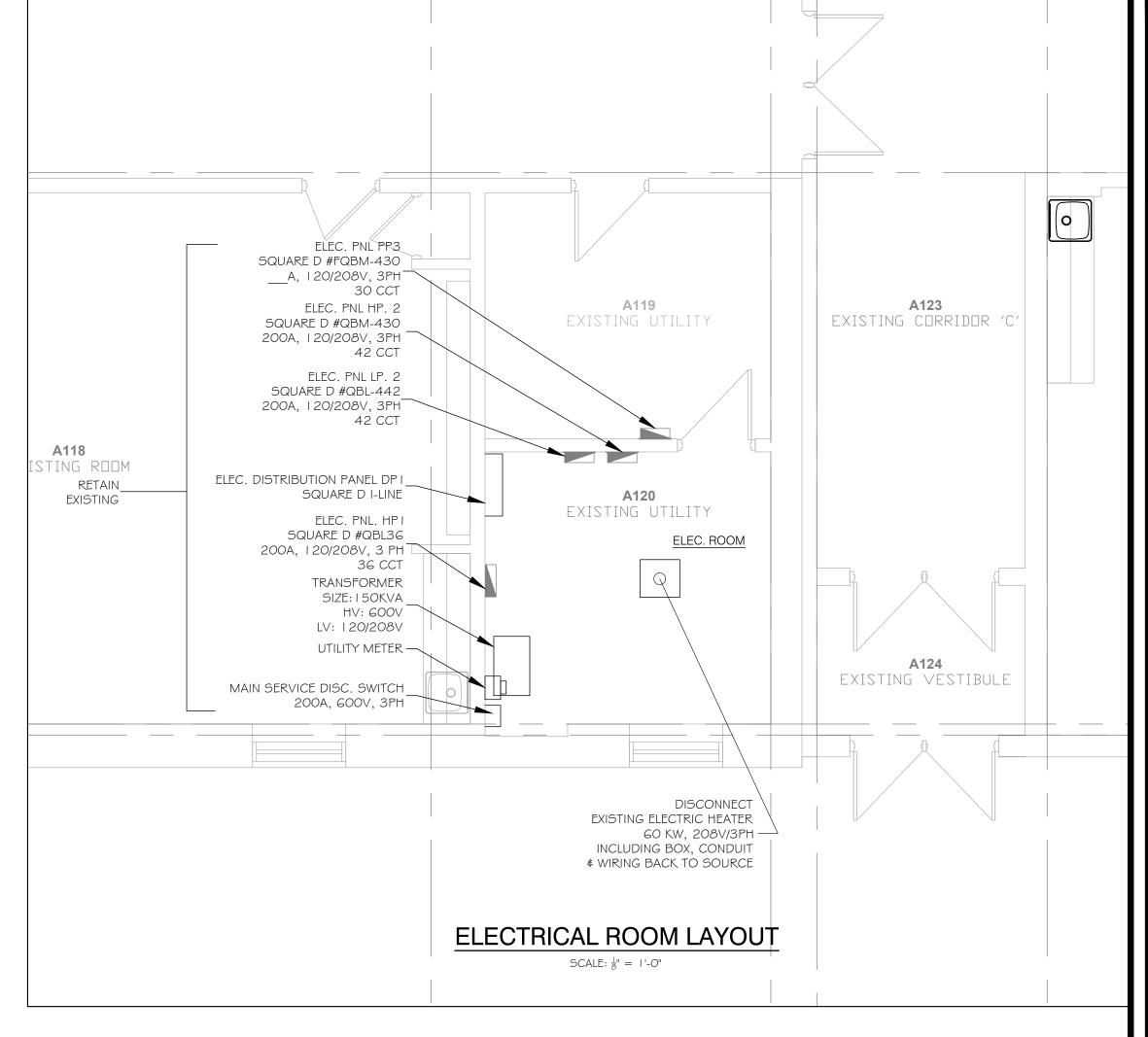
L6 DISCONNECT AND REMOVE EXISTING LIGHT SWITCH INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

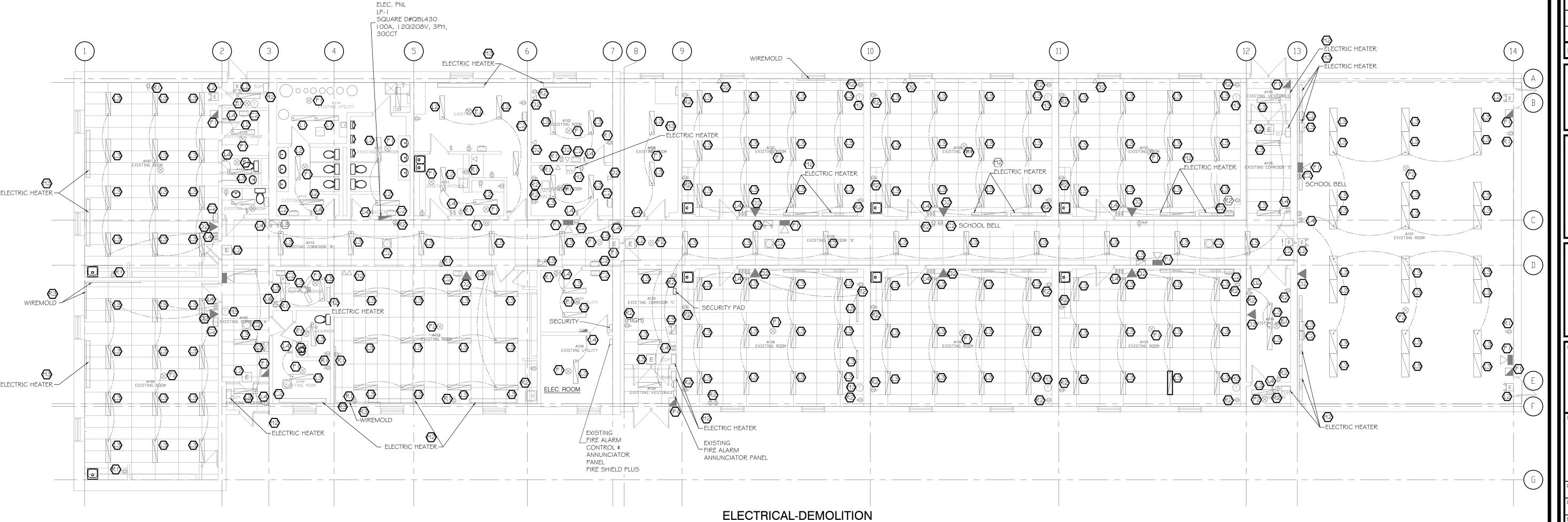
### R RECEPTACLES:

- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE
  SUPPLY AND INSTALL NEW DUPLEX RECEPTACLE AND COVER PLATE
- R2 DISCONNECT, REMOVE AND RELOCATE EXISTING ELECTRICAL RECEPTACLE

ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO RELOCATED RECEPTACLE

R3 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL





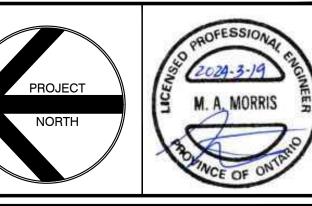
SCALE:  $\frac{1}{8}$ " = 1'-0"

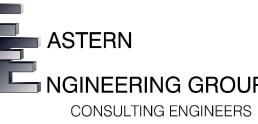


1 B.O'B 2024 03 19 FOR PERMIT & TENDER
0 B.O'B 2024 02 01 FOR REVIEW
No. By Date Revisions

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The contractor must check and verify all dimensions on the job prior to start of construction.





t. K6V 5J9

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NORTH STORMONT MUNICIPAL OFFICE

57 COCKBURN STREET, BERWICK, ON

ELECTRICAL MAIN FLOOR PLAN DEMOLITION

 Design:
 Checked:
 Approved:
 Project No.:
 11200-M&E

 Drawn:
 B.O'B.
 Checked:
 Date:
 Contract No.:

 Scale:
 0
 10'-0"
 20'-0"

 Horizontal: 1/16" = 1'-0"
 1'-0"
 1'-0"

Drawing No.:

10'-0"
20'-0"

10'-0"
20'-0"

REV DATE: 4/1/2024

