MECHANICAL SPECIFICATIONS:

1. GENERAL

1.1. VISIT THE SITE PRIOR TO TENDER AND VERIFY ALL CONDITIONS AND DIMENSIONS, INCLUDING LOCATIONS OF EXISTING CAPPED SERVICES, AND ALLOW FOR ANY RE-ROUTING OF EXISTING AND/OR NEW SERVICES AND EQUIPMENT IN TENDER PRICE. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY.

1.2. REPORT TO THE CONSULTANT ALL AMBIGUITIES, DISCREPANCIES, OMISSIONS, ERRORS, DEPARTURES FROM BUILDING BYLAWS AND/OR FROM GOOD PRACTICE PRIOR TO TENDER CLOSING.

1.3. PROVIDE ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF ALL GOVERNING AUTHORITIES AND LOCAL BY-LAWS.

1.4. APPLY FOR, OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. INCLUDE ALL PROVINCIAL AND FEDERAL SALES TAXES.

1.5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPROVED SCHEDULE TO MEET THE PROJECT COMPLETION DATE AND ALL SPECIFIED INTERIM SCHEDULES.

1.6. COMPLY WITH THE GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULE.

1.7. PROVIDE ALL CUTTING, PATCHING AND CLEAN-UP OF FLOORS, WALLS, CEILINGS, ETC. ALL SUCH WORK SHALL BE PERFORMED BY TRADESMEN SKILLED IN AND CERTIFIED FOR THIS PARTICULAR TRADE.

1.8. PROVIDE SHOP DRAWINGS OF ALL SPECIFIED PRODUCTS AND SUBMIT FOR APPROVAL TO THE CONSULTANT.

1.9. DURING PROGRESS OF WORK, SUBSTITUTE PRODUCTS WILL ONLY BE CONSIDERED WHEN TENDERED PRODUCTS BECOME UNOBTAINABLE AND WRITTEN PROOF IS SUBMITTED.

1.10. PROVIDE THE OWNER WITH A WRITTEN WARRANTY FOR ALL LABOUR, MATERIALS, AND EQUIPMENT IN THIS CONTRACT FOR A PERIOD OF ONE YEAR COMMENCING AT SUCH TIME AS THE OWNER OR HIS REPRESENTATIVE DEEMS THE WORK IS ACCEPTABLE.

1.11. OBTAIN AND PAY FOR TWO SETS OF WHITE PRINTS OF MECHANICAL DRAWINGS. AS JOB PROGRESSES, MARK UP THE WHITE PRINTS IN RED TO ACCURATELY INDICATE INSTALLED WORK. UPON COMPLETION OF THIS WORK, HAND THESE OVER TO THE CONSULTANT FOR REVIEW AND APPROVAL.

1.12. INCLUDE COST OF PREMIUM TIME IN TENDER PRICE FOR WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE NORMAL WORKING HOURS NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATION AND TO COMPLETE THE WORK.

1.13. PROVIDE A COMPLETE COST BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR COSTS ASSOCIATED WITH EACH SUBMISSION FOR EXTRA OR DELETED WORK.

1.14. CONFER WITH ALL TRADES INSTALLING EQUIPMENT WHICH MAY AFFECT THE MECHANICAL WORK AND ARRANGE THE WORK IN PROPER RELATION WITH EQUIPMENT INSTALLED UNDER ALL DIVISIONS OF THE CONTRACT.

1.15. IDENTIFY EACH DUCTED SERVICE COMPLETE WITH DIRECTIONAL FLOW ARROWS. LOCATE IDENTIFICATION AND FLOW ARROWS NOT MORE THAN 12M (40 FEET) APART IN STRAIGHT RUNS OF DUCTS. USE WORDING INDICATED ON THE MECHANICAL LEGEND. USE 50MM (2 INCHES) HIGH STENCIL LETTERS.

1.16. ALL WALL AND FLOOR OPENINGS SHALL BE PACKED AND SEALED WITH AN APPROVED FIRE RESISTANT INSULATION TO 25MM (1 INCH) FROM END SIDE OF OPENING ON BOTH SIDES OF FLOOR OR WALL. REMAINING PORTION SHALL BE SEALED WITH AN APPROVED FIRE STOP SUBSTANCE EQUAL TO 'DOW CORNING' #3-6548 SILICON RTV FOAM PENETRATION SEALANT.

1.17. IN ALL AREAS REQUIRING CORE DRILLING THROUGH EXISTING FLOOR SLABS AND STRUCTURAL WALLS FOR MECHANICAL SERVICES, ETC., ALLOW FOR ALL NECESSARY X-RAYING BY LANDLORD'S APPROVED COMPANY, TO LOCATE HIDDEN ELECTRICAL SERVICES, STRUCTURAL REINFORCING, ETC., AND INCLUDE ALL COSTS IN TENDER PRICE. CO-ORDINATE THIS WORK WITH LANDLORD AND/OR TENANT CO-ORDINATOR FOR TIME, DURATION AND LOCATIONS REQUIRED, AND ADHERE TO THE LANDLORD'S REQUIREMENTS. X-RAYING SHALL BE CARRIED OUT AFTER 11:00 PM AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION. ONLY PERSONNEL QUALIFIED IN THE USE OF THE TYPE OF EQUIPMENT REQUIRED TO X-RAY THE SAWCUTS OR DRILLING SHALL BE PERMITTED TO PERFORM THIS WORK ON THE SITE. NO CORE DRILLING SHALL PROCEED WITHOUT PRIOR WRITTEN CONSENT OF THE LANDLORD. ALL NOISE-RELATED CONSTRUCTION ACTIVITIES SHALL BE PERFORMED AFTER REGULAR BUSINESS HOURS (8:00 AM TO 6:00 PM) APPROVED BY THE LANDLORD.

1.18. CHECK AND VERIFY LOCATION OF EXISTING MECHANICAL AND ELECTRICAL INTERFERENCES BELOW FLOOR SLAB IN ALL AREAS REQUIRING CORE DRILLING AND ENSURE COMPATIBILITY OF AREA BELOW TO THE SATISFACTION OF THE LANDLORD.

1.19. ALL SHUTDOWNS OF ANY PORTION OF THE EXISTING BASE BUILDING SYSTEMS SHALL BE PERFORMED BY THE LANDLORD'S BUILDING OPERATIONS STAFF AND/OR CO-ORDINATED WITH THE LANDLORD FOR TIME AND DURATION OF INTERRUPTIONS AND ADHERED TO THE LANDLORD'S INSTRUCTIONS IN THIS REGARD. COST FOR SHUTDOWNS, DRAINING AND REFILLING OF BASE BUILDING SYSTEMS SHALL BE INCLUDED IN THE TENDER PRICE. ENSURE THAT ALL DOMESTIC HOT WATER TANKS ARE ISOLATED ELECTRICALLY PRIOR TO DRAIN DOWN OF WATER SYSTEMS.

1.20. PROVIDE ALL ACCESS DOORS WHERE SHOWN AND/OR REQUIRED BY SITE CONDITIONS, IN CEILINGS OR WALLS. ACCESS DOORS SHALL BE EQUAL TO MILCOR OR LEHAGE, AND MUST BE COMPATIBLE WITH CEILING/WALL TYPE AND ACCESS DOORS IN RATED CEILINGS OR WALLS SHALL BE ULC APPROVED FOR THE APPLICATION.

1.21. MECHANICAL CONTRACTOR SHALL CO-ORDINATE WITH GENERAL CONTRACTOR FOR SIZE, LOCATION AND INSTALLATION OF ACCESS PANELS IN DRYWALL CEILINGS TO EQUIPMENT WHERE INDICATED ON PLAN AND/OR REQUIRED FOR PROPER SERVICING OF EQUIPMENT. CEILING ACCESS PANELS SHALL BE SUPPLIED AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION AND FINAL LOCATION TO COMPLY WITH THE INTERIOR DESIGNER'S APPROVAL.

1.22. RE-USE EXISTING MATERIALS AND EQUIPMENT WHEREVER POSSIBLE AND PROVIDE NEW ONLY WHERE REQUIRED AND AS SPECIFIED TO ENSURE A COMPLETE INSTALLATION. ALL EQUIPMENT, MATERIALS AND ASSOCIATED CONTROLS SALVAGED FROM DEMOLITION NOT USED IN THIS CONTRACT SHALL BE RETURNED TO LANDLORD/OWNER.

1.23. CHECK AND VERIFY ON SITE FOR ROUTING OF NEW DUCTWORK, AND LOCATION OF NEW EQUIPMENT AND INCLUDE IN TENDER PRICE FOR ANY RELOCATIONS OF EXISTING SERVICES OR ADJUSTMENTS OF NEW SERVICES OR EQUIPMENT AS REQUIRED TO SUIT THE SITE CONDITIONS. PROVIDE OFFSETS IN DUCTWORK AS REQUIRED TO AVOID INTERFERENCES.

1.24. SEAL AIR TIGHT ALL AROUND DUCTWORK AND PIPING PENETRATIONS THROUGH PARTITIONS ABOVE CEILING.

2. BASE BUILDING REQUIREMENTS

2.1. ALL CONSTRUCTION WORK IN THE BUILDING MUST BE CARRIED OUT IN STRICT ACCORDANCE WITH LANDLORD'S TENANT CONSTRUCTION MANUAL AND BE CLEARED THROUGH PROPERTY MANAGEMENT. OBTAIN A COPY FROM LANDLORD PRIOR TO TENDER CLOSING.

2.2. DELIVERIES TO BE ARRANGED THROUGH BUILDING SUPERINTENDENT OF ANY WORK SCHEDULED AFTER NORMAL BUSINESS HOURS OR ON THE WEEKEND SO HE MAY NOTIFY SECURITY TO ALLOW CONTRACTORS ENTRANCE TO THE BUILDING.

2.3. ALL MECHANICAL WORK TO BE UNDERTAKEN BY QUALIFIED TRADESMEN WHO ARE TO SUPPLY THEIR TICKET NUMBER TO THE BUILDING SUPERINTENDENT PRIOR TO COMMENCING WORK. UNDER NO CIRCUMSTANCES SHALL AN APPRENTICE BE PERMITTED TO WORK IN THE BUILDING UNLESS DIRECTLY SUPERVISED BY A QUALIFIED TRADESMAN ON SITE.

2.4. TURN OVER TO OWNER ANY UNUSED PLUMBING FIXTURES SUCH AS TOILETS ETC.

3. PREMIUM TIME

3.1. ALL WORK WHICH SHALL REQUIRE SHUTDOWN OF MECHANICAL SERVICES AND LIFE SAFETY SYSTEMS (SPRINKLER & STANDPIPE), AND NOISE-RELATED CONSTRUCTION ACTIVITIES SHALL BE PERFORMED ON PREMIUM TIME. INCLUDE IN THE TENDER PRICE FOR SUCH WORK.

4. HEATING, VENTILATING AND AIR CONDITIONING

4.1. ALL DUCTWORK AND HANGERS SHALL BE FABRICATED FREE FROM VIBRATION, RATTLE OR DRUMMING UNDER OPERATING CONDITIONS AND IN ACCORDANCE WITH THE LATEST ASHRAE AND SMACNA RECOMMENDATIONS.

4.2. RECTANGULAR DUCTWORK:

FABRICATE RECTANGULAR DUCTWORK TO METAL THICKNESS AND CONSTRUCTION METHODS AS SPECIFIED HEREIN FOR VARIOUS SIZE RANGES OF DUCTS. GIVEN DIMENSIONS REPRESENT WIDEST SIDE OF DUCT.

GALVANIZED STEEL GAUGES AND EQUIVALENT THICKNESSES

GAUGE (GSG)	MM	LOW PRESSURE	MEDIUM PRESSURE	SLIP
26	0.49MM	UP TO 12"		
24	0.64MM	13"-30"	UP TO 18"	UP TO 30"
22	0.84MM	31"-54"	19"-48"	31"-60"

4.3. ROUND DUCTWORK:

CONSTRUCT ROUND DUCTWORK USING SPIRAL LOCK SEAM TYPE DUCT CONFORMING TO FOLLOWING GAUGES:

DUCT DIAMETER	THICKNESS OF SHEET METAL
8" & UNDER	0.5 MM (26 GA.)
9" TO 12"	0.5 MM (26 GA.)
14" & ABOVE	0.6 MM (24 GA.)

4.4. DIFFUSER BRANCH DUCTS:

PROVIDE SPIN-ON CONNECTORS COMPLETE WITH BALANCING DAMPER AT TAKE-OFF FROM MAIN DUCT.

4.5. FLEXIBLE DUCTWORK:

FLEXIBLE DUCTWORK TO HAVE A MAXIMUM LENGTH OF 3.0M (10'). CONNECT DUCTWORK TO DIFFUSERS AND RIGID DUCTWORK WITH A MINIMUM OF 3 TAPPING SCREWS. SEAL WITH DUCT SEALER AND WRAP WITH GLASS FAB TAPE. FLEXIBLE DUCTWORK TO BE SUPPORTED FROM BUILDING STRUCTURE WHERE IT IS NOT SELF-SUPPORTING AND MUST NOT BE ALLOWED TO LIE ON CEILING OR OTHER EQUIPMENT.

4.6. DUCT SEALING:

4.6.1. SUPPLY AND EXHAUST DUCTS AND PLENUMS: SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS WITH HIGH VELOCITY DUCT SEALER (BAKELITE 530-09 OR EQUIVALENT). DUCT TAPE NOT ACCEPTABLE.

4.6.2. RETURN DUCTS AND PLENUMS: SEAL ALL TRANSVERSE JOERTS WITH HIGH VELOCITY DUCT SEALER (BAKELITE 530-09 OR EQUIVALENT). DUCT TAPE NOT ACCEPTABLE.

4.7. MAKE GOOD ALL EXISTING INSULATION WHEN CONNECTING TO EXISTING SERVICES.

4.8. PROVIDE DUCT ACCESS DOORS, MINIMUM 375MM X 300MM (15" X 12") SIZE FOR EQUIPMENT SUCH AS COILS (BOTH SIDES OF COIL), FIRE DAMPERS, CONTROL AND/OR BALANCING DAMPERS, HEAT AND/OR SMOKE DETECTORS, ETC. AS REQUIRED FOR PROPER SERVICING.

4.9. PROVIDE FLEXIBLE CONNECTORS BETWEEN ALL FANS AND ADJACENT DUCTWORK CONSISTING OF A PREASSEMBLED UNIT WITH 75MM (3") LONG GALVANIZED DUCT CONNECTOR AND 150MM (6") WIDE HEAVY GLASS FIBRE FABRIC WITH ELASTOMER COATING EQUAL TO DURO DYNE 'DUROLON'.

4.10. DIFFUSERS AND GRILLES:

REFER TO DRAWINGS FOR NEW DIFFUSERS AND GRILLES TYPES.

4.11. THERMOSTATS TO BE LOCATED A MINIMUM 300 MM (12") FROM DIMMER SWITCHES. THERMOSTATS NOT TO BE LOCATED ABOVE DIMMER SWITCHES. THERMOSTATS TO BE LOCATED AT SAME MOUNTING HEIGHT AS LIGHT SWITCHES. CHECK HEIGHT WITH INTERIOR DESIGNER.

5. AIR BALANCE

5.1. THE AIR BALANCING SHALL BE PERFORMED BY OWNER'S APPROVED CONTRACTOR. ALL AIR QUANTITIES ARE TO BE BALANCED WITHIN A TOLERANCE OF ± 5%. ISSUE A REPORT AND CERTIFICATE COVERING THE FOLLOWING:

5.1.1. SPECIFIED AND ACHIEVED AIR QUANTITIES PER OUTLET COMPLETE WITH SUPPORTING SCHEMATIC DIAGRAMS.

5.1.2. TEMPERATURE AT THE DIFFUSER FARTHEST FROM THE SOURCE OF AIR SUPPLY.

5.1.3. NAMEPLATE AND ACTUAL FAN MOTOR VOLTAGE AND CURRENT OF THE EXISTING COMPARTMENTAL UNIT.

5.2. SUBMIT ONE COPY OF REPORT TO EACH OF THE OWNER AND THE CONSULTANT.

6. INSULATION

6.1. PREMOLDED PIPE INSULATION: SECTIONAL FIBREGLASS IN PREMOLDED SECTIONS 900 MM (36") LONG SPLIT AND READY FOR APPLICATION WITH MAXIMUM K FACTOR OF 0.035 AT 24 DEGREES C (75 DEGREES F) MEAN TEMPERATURE AND CAPABLE OF USE ON SERVICE FROM -40 DEGREES C (-40 DEGREES F) TO 260 DEGREES C (500 DEGREES F) AND WITH FACTORY APPLIED VAPOR SEAL JACKET OF VINYL COATED FOIL CRAFT LAMINATE WITH REINFORCING OF OPEN MESH GLASS FIBRE.

APPLICATION SCHEDULE:

- DOMESTIC COLD WATER 12MM (½") PREMOLDED
- DOMESTIC HOT WATER 12MM (½") PREMOLDED

6.2. ALL INSULATION, VAPOUR BARRIER AND PVC COVERS ARE TO MEET THE REQUIREMENTS OF NFPA-90A AND MUST HAVE A FIRE HAZARD RATING OF NOT MORE THAN 25 FOR FLAME SPREAD AND 50 FOR THE SMOKE DEVELOPED WHEN TESTED IN ACCORDANCE WITH CAN/ULC-S102.

6.3. RIGID INTERNAL DUCT LINER:

INSULATION SHALL BE 25 MM (1") THICK, 48 KG/M3 (3.0 LB/FT3) DENSITY. FIX MECHANICAL FASTENERS TO BOTH HORIZONTAL AND VERTICAL SURFACES AT APPROXIMATELY 12 INCHES CENTRES EACH DIRECTION. CUT INSULATION MATERIAL TO REQUIRED SIZE AND APPLY TO INTERIOR OF DUCT AND/OR PLENUM WITH HORIZONTAL SURFACES OVERLAPPING VERTICAL SURFACES AND EDGES TIGHTLY BUTTED TOGETHER. INSULATION SHALL BE APPLIED TO THE DUCTWORK WITH A MINIMUM 90% COVERAGE OF ADHESIVE AND MECHANICAL FASTENERS. WHERE MECHANICAL FASTENERS PENETRATE FACTORY FINISH AND AT ALL JOINTS, APPLY A HEAVY LAYER OF SEAL COATING. SEAL OFF LEADING EDGE OF INSULATION TO DUCT SURFACE WITH REINFORCED SEAL COATING.

6.4. REFRIGERANT PIPING:

ALL REFRIGERANT PIPING SHALL BE INSULATED AS PER MANUFACTURER RECOMMENDATION

7. PLUMBING

7.1. DOMESTIC WATER PIPING: TYPE L COPPER MARKED CERTIFIED FOR COMPLIANCE WITH ASTM B88-83 WITH WROUGHT COPPER OR CAST BRONZE PRESSURE SOLDER FITTINGS.

7.2. SOLDERED FITTINGS IN POTABLE WATER SYSTEMS: PROVIDE LEAD, ANTIMONY, CADMIUM ZINC FREE SOLDERS COMPOSED OF TIN/COPPER/SILVER OR NICKEL COMPONENTS.

7.3. SANITARY DRAINAGE AND VENT PIPING - SUSPENDED: DWV COPPER TO ASTM B306-68 WITH 50-50 SOLDERED CAST BRASS DRAINAGE FITTINGS TO CSA B158.1-1976 OR WROUGHT COPPER FITTINGS TO ANSI B16-29-1986.6

8. CLOSED OUT DOCUMENTS

8.1. AT THE END OF THE PROJECT, SUBMIT 3 COPIES OF CLOSED OUT DOCUMENTS CONTAINING NEW EQUIPMENT SHOP DRAWINGS REVIEWED BY THE CONSULTANT, CONTRACTOR'S WARRANTY CERTIFICATE, AIR BALANCE REPORT, & AS-BUILT DRAWINGS.

LEGEND

NOTES: EQUIPMENT SHOWN DOTTED [---] ARE EXISTING TO BE REMOVED. EQUIPMENT SHOWN [——] ARE EXISTING TO REMAIN. EQUIPMENT SHOWN BOLD [▬▬] ARE NEW OR RELOCATED.

- WALL MOUNTED THERMOSTAT
- SQUARE DIFFUSER
- TYPE OF GRILLE OR DIFFUSER
- GRILLE OR DIFFUSER SIZE
- A-68-50 — AIR QUANTITY IN CFM
- RETURN AIR GRILLE
- DUCTWORK C/W 1" INTERNAL INSULATION
- DUCTWORK C/W 1" EXTERNAL INSULATION
- ROUND DUCT TAKE-OFF C/W BALANCING DAMPER
- RIGID DUCT WORK UP/DOWN C/W BALANCING DAMPER
- AD — ACCESS DOOR ON DRYWALL CEILING (MIN. 20"x20")
- BD — BALANCING DAMPER
- EF — EXHAUST FAN
- G — GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- V — VENT LINE
- SAN — SANITARY LINE
- SAN — SANITARY LINE (UNDERGROUND)
- S — STORM LINE
- BALL VALVE
- GATE VALVE
- REDUCER
- ELBOW, TURNED DOWN AND TURNED UP
- CAPPED CONNECTION
- PIPE BREAK
- CAP OFF SERVICE
- CTE — CONNECT TO EXT'G
- CO — CLEANOUT
- FD — FLOOR DRAIN
- P-TRAP
- CTE — DENOTES CONNECT TO EXISTING. (PROVIDE NEW CONNECTION TO PLUMBING LINE AS REQUIRED)
- FE — FIRE EXTINGUISHER C/W WALL MOUNTING BRACKET (2A-10BC - RATING; CO2 - CO2 TYPE)
- RL — DENOTES RELOCATE.
- 2 — DENOTES REFER TO NOTE 2.

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No.	Date	Issued or Revised
	Dec 4, 2024	Issued for Tender
	Nov 29, 2024	Issued for Permit

STAMP

LICENSED PROFESSIONAL ENGINEER
C. W. M. CHONG
100141272
NOV 29/24
PROVINCE OF ONTARIO

PROJECT:

CITY OF TORONTO

330 BERING AVENUE
ETOBICOKE, ON

DRAWING TITLE

LEGEND & SPECIFICATION

SCALE	DATE
AS NOTED	OCT. 2024
DRAWN BY: A.L.	PROJECT NO.: 2422

DRAWING NO. M-1

ROOFTOP UNIT SCHEDULE:

UNIT NO.	DESCRIPTION	MANUFACTURER	MODEL No.	TOTAL COOLING (BTUH)	SEN. COOLING (BTUH)	HEATING INPUT (BTUH)	HEATING OUTPUT (BTUH)	SUPPLY AIR FLOW (CFM)	MIN. O/D AIR (CFM)	VOLTAGE	RUN LOAD AMP	WEIGHT
RTU-1	EXT'G ROOFTOP UNIT	LENNOX	GCS16-311-75-6P	29,200	–	75,000	60,000	1,130	113	208V/1ø	11.8 (COMPR), 3.0 (I.D. FAN), 1.1 (COND. FAN), 0.75 (COMB. FAN)	–

DIFFUSER & GRILLE SCHEDULE:

DESIGNATION	MANUFACTURER	MODEL No.	CEILING TYPE	REMARKS
A	–	–	T-BAR	EXT'G 24"x24" SQUARE CONE DIFFUSER / 3-CONE / WHITE / INLET SIZE AS SHOWN ON FLOOR PLAN
G	E.H. PRICE	520/S/L/A/B12	T-BAR	**NEW** STEEL SUPPLY AIR GRILLE / WHITE / SIZE AS SHOWN ON FLOOR PLAN
SC	E.H. PRICE	SCD/24"x24"/B12	T-BAR	**NEW** 24"x24" SQUARE CONE DIFFUSER / 3-CONE / WHITE / INLET SIZE AS SHOWN ON FLOOR PLAN
R	E.H. PRICE	80 SERIES	T-BAR	**NEW** EGGCRATE FACE RETURN GRILLE/ WHITE FINISH/ SIZE AS SHOWN ON DRAWING

OUTDOOR AIR REQUIREMENT:

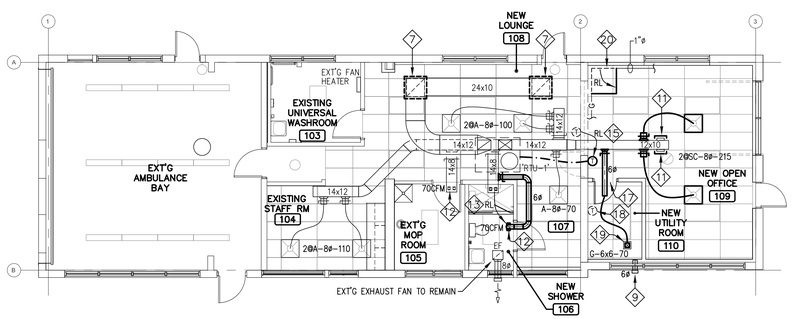
(1,133 SQFT x 0.06 SQFT + 2 x 5 CFM/PPL)/0.8
= 97.5 CFM

OUTDOOR AIR SUPPLY:

TOTAL OUTDOOR AIR SUPPLY
= SUPPLY AIR FROM RTU-1 x 10%
= 1,130 CFM x 10%
= 113 CFM

NOTES

1. ALL CONSTRUCTION WORK IN THE BUILDING MUST BE CARRIED OUT IN STRICT ACCORDANCE WITH OWNER'S RULES & REGULATIONS AND BE CLEARED THROUGH PROPERTY MANAGEMENT.
2. PROVIDE ADDITIONAL CROSS TEES FOR ALL DIFFUSERS & AIR GRILLES AS REQUIRED.
3. ALL NEW DUCT CONNECTIONS (JOINTS & SEAMS) ARE TO BE SEALED WITH DUCT SEALER TO PROVIDE AN AIR TIGHT DUCT SYSTEM. DUCT TAPE IS NOT ACCEPTABLE. PROVIDE AIR SEALANT WHEN THE ROOFTOP UNIT IS 'OFF'.
4. ALL UNUSED SPIN-ON OR DUCTWORK OPENINGS SHALL BE CAPPED OFF.
5. UNLESS OTHERWISE SHOWN, NEW FLEXIBLE DUCTWORK TO HAVE A MAXIMUM LENGTH OF 3M (10'). CONNECT DUCTWORK TO DIFFUSERS AND RIGID DUCTWORK WITH A MINIMUM OF 3 TAPPING SCREWS, SEAL WITH DUCT SEALER AND WRAP WITH GLASS FAB TAPE. FLEXIBLE DUCTWORK TO BE SUPPORTED FROM BUILDING STRUCTURE WHERE IT IS NOT SELF-SUPPORTING AND MUST NOT BE ALLOWED TO LIE ON CEILING OR OTHER EQUIPMENT.
6. HVAC CONTRACTOR SHALL COORDINATE ALL DUCTWORK INSTALLATION WITH ELECTRICAL, PLUMBING & GENERAL CONTRACTORS PRIOR TO ROUGH-IN TO AVOID INTERFERENCE.
7. PROVIDE TEMPORARY FILTERS WITH MERV 8 RATING AT THE EXT'G RETURN AIR GRILLE OPENINGS FOR THE DURATION OF THE CONSTRUCTION. REPLACE AS REQUIRED DURING CONSTRUCTION MONTHLY OR IF DAMAGED. REMOVE TEMPORARY FILTER PRIOR TO AIR BALANCING AT THE END OF THE PROJECT.
8. AT THE END OF PROJECT, WIPE & VACUUM CLEAN THE SURFACE OF ANY EXT'G & NEW DIFFUSERS & RETURN AIR GRILLES FOUND TO BE DIRTY DUE TO CONSTRUCTION WORK.
9. REMOVE EXT'G ABANDONED DRYER VENT DUCT & OUTDOOR EXHAUST GRILLE. G.C. TO FILL IN OPENING IN WALL WITH CONCRETE & BRICK TO MATCH EXT'G.
10. NOTE THAT THE EXT'G CEILING PLENUM IS NOT A RETURN AIR PLENUM. RETURN AIR IS DUCTED RETURN.
11. REMOVE EXT'G AIR GRILLE. CAP & SEAL OFF REMAINING OPENING.
12. BALANCE THIS SUPPLY AIR GRILLE TO THE AIR FLOW VALUE AS SHOWN.
13. RELOCATE EXT'G SUPPLY AIR GRILLE DUE TO INSTALLATION OF NEW SHOWER. CAP & SEAL OFF REMAINING DUCT OPENING.
14. PROVIDE AIR BALANCING FOR EXT'G ROOFTOP UNIT "RTU-1" & ALL ITS ASSOCIATED DIFFUSERS SHOWN ON THIS DRAWING. ALLOW FOR AN ADDITIONAL AIR BALANCING TRIP WITHIN 12 MONTHS FROM THE END OF THE PROJECT FOR FUTURE AIR FLOW ADJUSTMENT.
15. RELOCATE EXT'G THERMOSTAT TO NEW LOCATION AS SHOWN. EXTEND EXT'G CONTROL WIRING. PROVIDE NEW SURFACE MOUNTED CONDUIT & BACK BOX AT NEW LOCATION AS REQUIRED.
16. ALL NEW RIGID & FLEXIBLE ROUND DUCTS IN CEILING PLENUM SHALL BE EXTERNALLY INSULATED TO MATCH EXT'G.
17. G.C. TO PROVIDE 1/2" UNDERCUT AT THE DOOR FOR RETURN AIR PASSAGE.
18. REMOVE EXT'G ABANDONED THERMOSTAT & ALL ITS ASSOCIATED WIRING, CONDUITS & JUNCTION BOXES.
19. PROVIDE PLENUM BOX WITH ROUND COLLAR ABOVE AIR GRILLE.
20. REROUTE EXT'G GAS PIPING & RAISE IT HIGHER IN ORDER NOT TO INTERFERE WITH NEW T-BAR CEILING CONSTRUCTION.



GROUND FLOOR PLAN - HVAC 1 2 3 4 5 6 7 8 10 14 16
SCALE: 1/8"=1'-0"

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NOV 29/24
PROVINCE OF ONTARIO

NORTH

PROJECT:

CITY OF TORONTO

330 BERING AVENUE
ETOBICOKE, ON

DRAWING TITLE

GROUND FLOOR PLAN - HVAC

SCALE	DATE
AS NOTED	OCT, 2024
DRAWN BY: A.L.	PROJECT NO.: 2422

DRAWING NO.: M-2

PLUMBING FIXTURE CONNECTION SCHEDULE:

ITEM	DESCRIPTION	VENT	CW	HW	WASTE	
SH-1	NEW SHOWER FITTING	1 1/2"	1/2"	1/2"	3"	
FD	NEW 3" FLOOR DRAIN	1 1/2"	–	–	3"	
WC-1	EXT'G WATER CLOSET (TO BE RELOCATED)	1 1/2"	1/2"	–	3"	

PLUMBING FIXTURES

'FD' FLOOR DRAIN - FINISHED AREA:

- WATTS FD-103T-C-L5-1 FLOOR DRAIN - EPOXY COATED CAST IRON, FLOOR DRAIN,ADJUSTABLE SQUARE 13 MM (1/2") THICK REINFORCED TOP, 102 MM (3") PIPE SIZE, THREADED OUTLET, 127 MM (5") SQUARE NICKEL BRONZE STRAINER, TRAP PRIMER CONNECTION WITH PLUG.

'SH-1':

- MOEN #L2352 & L2352EP, 'CHATEAU POSI-TEMP', SINGLE-HANDLE SHOWER VALVE, 1.75,0 TO 2.5GPF.
- JAY R. SMITH #2005A03SS FLOOR DRAIN, 3"Ø PIPE SIZE, 5"Ø DIA. STAINLESS STEEL STRAINER, SECURED WITH S.S. SCREWS.

'TSPV' ELECTRONIC TRAP SEAL PRIMER VALVE (FOR FLOOR DRAINS 'FD' & SHOWER DRAIN):

- SIOUX CHIEF #695-ES01 OR EQUAL, 120V, 9.2W C/W 5-WAY SPLITTER, CONNECT TRAP SEAL PRIMER VALVE TO CW LINE. INSTALL TRAP SEAL PRIMER VALVE AS PER MANUFACTURER'S INSTRUCTION.

NOTES

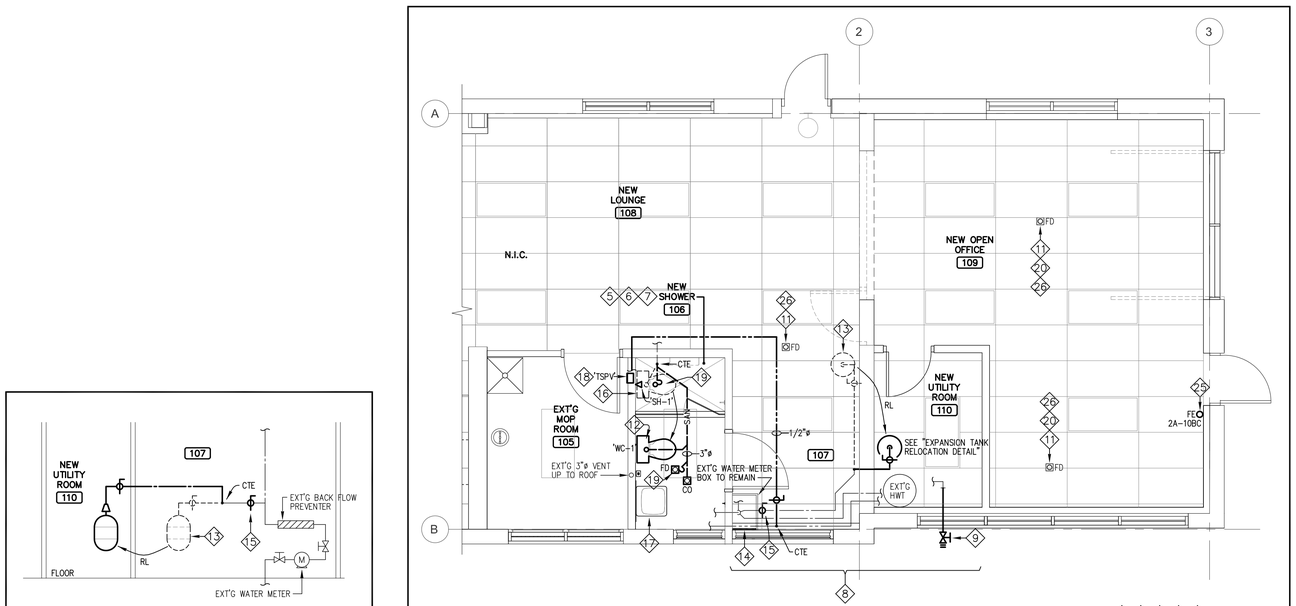
1. ALL CONSTRUCTION WORK IN THE BUILDING MUST BE CARRIED OUT IN STRICT ACCORDANCE WITH OWNER'S RULES & REGULATIONS AND BE CLEARED THROUGH PROPERTY MANAGEMENT.
2. ALL NEW CW & HW LINES SHALL BE INSULATED WITH 1/2" PREMOLDED FIBERGLASS PIPE INSULATION WITH FACTORY APPLIED VAPOUR SEAL JACKET OF VINYL COATED FOIL CRAFT LAMINATE WITH REINFORCING OF OPEN MESH GLASS FIBRE. ALL NEW HOT WATER & COLD WATER PIPING SHALL BE TYPE 'L' COPPER.
3. PIPING ROUTING ARE SHOWN DIAGRAMMATICALLY ON THE FLOOR PLAN. CONTRACTOR TO VERIFY PIPE LOCATIONS & ROUTING AT SITE PRIOR TO TENDER CLOSE.
4. PLUMBING CONTRACTOR SHALL COORDINATE PIPING INSTALLATION WITH ELECTRICAL, HVAC & GENERAL CONTRACTORS TO PREVENT INTERFERENCE.
5. ALLOW TRENCHING & BACKFILLING FOR NEW UNDERGROUND SANITARY LINE(S). PROVIDE BACK FILLING & FLOOR RESURFACING AS REQUIRED. **PROVIDE TRACING OF EXT'G UNDERGROUND PIPING (SIZES, DEPTH & LOCATIONS) IN THE BUILDING & SCANNING OF FLOOR SLAB AT THE AREA REQUIRED TRENCHING (FOR LOCATING UNDERGROUND ELECTRICAL CONDUITS) PRIOR TO TRENCHING.** ALL FLOOR SCANNING SHALL BE BY OWNER'S APPROVED X-RAYING COMPANY.
6. AT THE END OF THE PROJECT, FLUSH ALL SANITARY LINES UNTIL IT IS CLEAR OF ALL DEBRIS & DEPOSIT IN DRAIN LINE.
7. ALL NEW UNDERGROUND SANITARY PIPING SHALL BE 3"ø & AT A MINIMUM SLOPE OF 1:50.
8. EXT'G COLD & HOT WATER PIPING RUNNING ALONG PERIMETER BLOCK WALL TO REMAIN. THEY SHALL NOT BE COVERED BY FURRED OUT WALL INSUATION. COORDINATE WITH ENGINEER & G.C. PRIOR TO CONSTRUCTION OF NEW FURRED-OUT WALL.
9. REPLACE EXT'G NON-FREEZE OUTDOOR WALL HYDRANT WITH NEW. REROUTE & MODIFY EXT'G PIPING AS REQUIRED.
10. CONTRACTOR TO VERIFY WHETHER THIS IS A CLEANOUT OR A FLOOR DRAIN & PROVIDE NEW COVER PLATE AND/OR FLOOR DRAIN COVER AS REQ'D. VERIFY EXACT SIZE AT SITE PRIOR TO ORDER.
11. EXT'G FLOOR DRAIN TO REMAIN.
12. PROVIDE VENT LINE FORM TOILET TO EXT'G VENT LINE UP THROUGH ROOF. MODIFY EXT'G VENT LINE TO ACCOMMODATE NEW VENT CONNECTION.
13. RELOCATE EXT'G EXPANSION TANK & ITS EXT'G WALL MOUNT BRACKET.
14. EXT'G WATER METER & ITS ENCLOSURE BOX TO REMAIN. PROVIDE 1/2" THICK EXTRUDED POLYSTYRENE RIGID INSULATION BOARD ON THE PERIMETER BLOCK WALL.
15. PROVIDE NEW ISOLATION BALL VALVE.
16. RELOCATE EXT'G FLOOR MOUNTED TOILET. CONNECT NEW SHOWER DRAIN & NEW FLOOR DRAIN TO EXT'G SANITARY LINE AT THIS LOCATION. REROUTE & EXTEND SANITARY LINES TO NEW FLOOR DRAINS. COORDINATE EXACT DRAIN LOCATIONS WITH G.C. PRIOR TO ROUGH-IN.

    REROUTE & EXTEND EXT'G COLD WATER PIPING TO NEW SHOWER HEAD LOCATION.

    EXTEND COLD WATER LINE TO NEW TOILET LOCATION.
17. EXT'G WALL MOUNTED BASIN & ITS ASSOCIATED FAUCET TO REMAIN AS-IS.
18. PROVIDE NEW ELECTRONIC TRAP PRIMER VALVE 'TSPV', SIOUX CHIEF #695-ER05 C/W RECESSED MOUNT BOX, 5-WAY SPLITTER. MOUNT HIGHER THAN THE DOOR HEIGHT. CONNECT WATER SUPPLY TO COLD WATER LINE IN CEILING SPACE.

    RUN TWO (2) ½"Ø PRIMER LINES TO THE TWO (2) FLOOR DRAINS IN NEW SHOWER 106. THESE TWO PRIMER LINES SHALL BE INSTALLED INSIDE WALL.
19. PROVIDE VENT PIPING FOR THE TWO (2) NEW FLOOR DRAINS SHOWN IN NEW SHOWER 106.

    SEE NOTE #18 FOR THE PROVISION OF AUTOMATIC TRAP SEAL PRIMER VALVE TO SERVE THE TWO NEW FLOOR DRAINS.
20. REPLACE EXT'G FLOOR DRAIN GRILLE WITH NEW TO MATCH EXT'G FLOOR DRAIN IN NEW LOUNGE 108.
25. PROVIDE FIRE EXTINGUISHER C/W WALL MOUNTING BRACKET.
26. CONTRACTOR TO SUPPLY THREE WATERLESS TRAP SEAL (GREEN DRAIN #GD SERIES OR EQUAL) TO OWNER IF THE THREE EXT'G FLOOR DRAINS ARE FOUND TO BE WITHOUT TRAP SEAL PRIMER LINES. SIZES TO MATCH EXT'G FLOOR DRAINS.



PARTIAL GROUND FLOOR PLAN - PLUMBING & FIRE EXTINGUISHER LAYOUT 1 2 3 4 6

SCALE: 1/4"=1'-0"

EXPANSION TANK RELOCATION DETAIL

SCALE: N.T.S.

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Consulting Engineers

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No.	Date	Issued or Revised
	Dec 4, 2024	Issued for Tender
	Nov 29, 2024	Issued for Permit

STAMP

LICENSED PROFESSIONAL ENGINEER
C. W. M. CHONG
90414772
NOV 29/24
PROVINCE OF ONTARIO

NORTH

PROJECT:

CITY OF TORONTO

330 BERING AVENUE
ETOBICOKE, ON

DRAWING TITLE

PARTIAL GROUND FLOOR PLAN - PLUMBING & FIRE EXTINGUISHER LAYOUT

SCALE	DATE
AS NOTED	OCT, 2024
DRAWN BY: A.L.	PROJECT NO.: 2422

DRAWING NO.: M-3