

KEY PLAN

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| No. | Revision | Date | By |

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| Seal | |
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Project Name
**Upper Yonge Village
Daycare Centre**
14 St. Clements Avenue, Toronto, ON

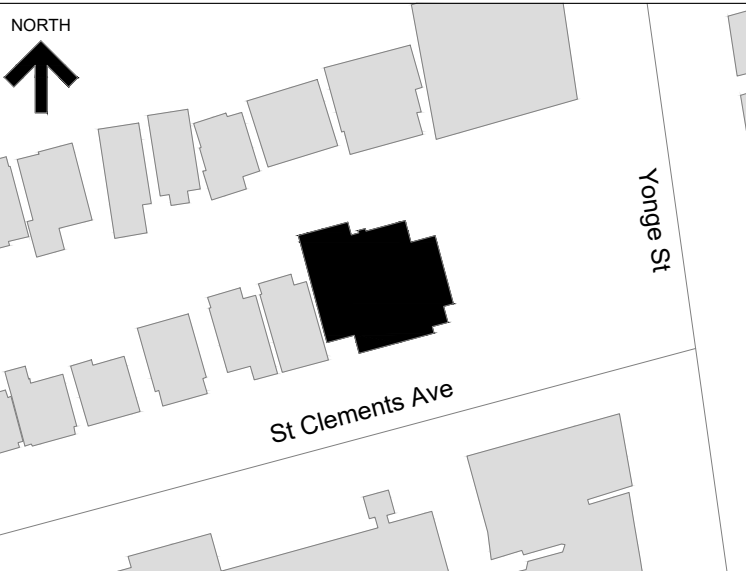
BUILDING RENOVATION

Sheet Title

Mechanical
Specifications

Drawn By **N.P.** Scale As Indicated
Designed By **J.C.** Date **March 2024**
RJC Project Number **TOR.122940.0001**
Sheet Number **M-1** Revision

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| MECHANICAL SPECIFICATIONS | | | |
| 1.0 GENERAL CONDITIONS | | | |
| 1. CONTRACT: PERFORM ALL WORK AS DETAILED ON THE DRAWINGS AND/OR SPECIFICATIONS TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL MECHANICAL SYSTEM TO THE SATISFACTION OF THE OWNER AND ENGINEER. | | | |
| 2. SECOND WORK: ALL WORK DESCRIBED OR INDICATED ON THE DRAWINGS DOES NOT DELEGATE FUNCTION TO ANY SPECIFIED SUBCONTRACTOR OR IDENTIFY ABSOLUTE CONTRACTUAL LIMITS BETWEEN MECHANICAL OR SUBCONTRACTORS. | | | |
| 3. CODES, RULES & STANDARDS: ALL WORK SHALL MEET THE DESIGN INTENT AND BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE CODES, STANDARDS, RULES AND REGULATIONS AND MEET THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. ALL CODES AND RULES MUST BE STRICTLY ADHERED TO. | | | |
| 4. PERMITS & FEES: OBTAIN ALL PERMITS (EXCLUDING BUILDING PERMIT) REQUIRED FOR THE MECHANICAL WORK, ARRANGE FOR INSPECTIONS AND TESTS. PAY ALL FEES AND COSTS FOR THE PERMITS, INSPECTIONS AND TESTS. | | | |
| 5. SCHEDULES: COMPLY WITH GENERAL CONTRACTOR'S CONSTRUCTION SCHEDULES. | | | |
| 6. PROGRAM TIME: INCLUDE COST OF PREMIUM TIME FOR WORK OUTSIDE NORMAL WORKING HOURS INCLUDING NIGHTS AND WEEKENDS THAT ARE REQUIRED TO COMPLETE THE WORK. | | | |
| 7. ALTERNATIVES: THE TENDER SHALL BE BASED ON THE MATERIALS AND MAKE OF THE EQUIPMENT NAMED. ALTERNATIVES MAY BE QUOTED WITH THE TENDER AS AN INCREASE OR DECREASE TO THE BASE BID PRICE ONLY AND DELIVERY DATES. THE QUALITY AND PERFORMANCE CHARACTERISTICS OF THE ALTERNATIVE PRODUCTS MUST BE EQUAL OR BETTER THAN THE SPECIFIED PRODUCTS. | | | |
| 8. EXAMINATION OF SITE: VISIT AND EXAMINE THE SITE WHERE THE WORKS IS TO BE PERFORMED BEFORE SUBMITTING THE TENDER. BECOME FAMILIAR WITH ALL FEATURES AND CHARACTERISTICS OF THE SITE AND SURROUNDING ENVIRONMENT. NO ALLOWANCES WILL BE MADE BY THE OWNER FOR ANY DIFFICULTIES ENCOUNTERED DUE TO CONDITIONS WHICH WERE VISIBLE UPON, OR REASONABLY INFERRABLE FROM AN EXAMINATION OF THE SITE PRIOR TO SUBMISSION OF THE TENDER. | | | |
| 9. CONTRACT DRAWINGS: CONTRACTOR SHALL EXAMINE THE MECHANICAL, STRUCTURAL, ARCHITECTURAL, ELECTRICAL, LANDSCAPING, OR ANY OTHER DRAWINGS ISSUED FOR THIS PROJECT DURING THE TENDER STAGE TO SATISFY HIMSELF THAT THE WORK CAN BE SATISFACTORILY CARRIED OUT. BEFORE COMMENCING WORK, EXAMINE THE WORK OF OTHER TRADES AND REPORT AT ONCE ANY EXISTENCY OR INTERFERENCE AFFECTING THE WORK OF THE MECHANICAL TRADE OR THE GUARANTEE OF SAME. | | | |
| 10. QUESTIONS DURING BIDDING: CONTRACTOR SHALL INQUIRE THE OWNER/ENGINEER DURING BIDDING OF ANY PROBLEMS IN MEETING THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, ANY COST SAVING IDEAS OR METHODS, AND OF ANY MISAPPREHENSIONS OF THE WORK. | | | |
| 11. ALLOWANCES FOR SITE CONDITIONS: ALLOW IN THE TENDER PRICE ADJUSTMENT IN THE LOCATION OF THE NEW EQUIPMENT (UP TO 10'-0" IN ANY DIRECTION) TO SUIT SITE CONDITIONS AS DIRECTED BY THE ENGINEER PRIOR TO INSTALLATION WITH NO EXTRA COST TO THE OWNER. | | | |
| 12. WARRANTY: A 3-YEAR WRITTEN WARRANTY SHALL BE PROVIDED FOR THE COMPLETE MECHANICAL INSTALLATION FROM DATE OF SUBSTANTIAL PERFORMANCE. ANY DEFECTIVE ITEMS FOUND DURING THE WARRANTY PERIOD SHALL BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR AT HIS OWN COST. THIS WILL INCLUDE ANY REPAIR REQUIRED TO OTHER ITEMS, MATERIALS OR EQUIPMENT DAMAGED DUE TO THE DEFECT. | | | |
| 13. CHANGE NOTICES: WHENEVER A CHANGE NOTICE IS ISSUED FOR THE PROJECT, SUBMIT A COMPLETE ITEMIZED COST OF MATERIALS, EQUIPMENT AND LABOUR FOR THE CHANGE FOR THE OWNER AND ENGINEER'S CONSIDERATION. THE OWNER SHALL BE RESPONSIBLE FOR THE COST OF THE FOLLOWING: REVISIONS TO THE DRAWINGS, TOOLS, PAYROLL, BUREAUX, HEIGHT FACTORS, WARRANTIES, STORAGE, RENTALS, TRAVEL, CARRY-UP, AS-BUILT DRAWINGS, HOISTING, FREIGHT & DELIVERY, BUT EXCLUSIVE OF OVERHEAD AND PROFIT. DO NOT START CHANGES UNTIL THE SUBMITTED COST IS ACCEPTED BY THE OWNER AND ENGINEER. | | | |
| 2.0 GENERAL REQUIREMENTS | | | |
| 1. BASE BUILDING STANDARDS: WHERE AVAILABLE, BASE BUILDING STANDARDS SHALL FORM THE BASIS OF THE CONSTRUCTION. COMPLY WITH BASE BUILDING'S STANDARD FOR MATERIALS AND EQUIPMENT AND OWNER'S/LANDLORD'S REQUIREMENTS FOR SYSTEM SHUTDOWN AND CONNECTIONS. | | | |
| 2. BASE BUILDING STANDARDS: WHERE REQUIRED, SPRINKLER WORK, CONTROL WORK, AND/OR BALANCING WORK SHALL BE COMPLETED BY OWNER'S/LANDLORD'S APPROVED CONTRACTOR AND PAID FOR UNDER THIS CONTRACT. | | | |
| 3. PROCEDURES: ALL WORK PROCEDURES, SCHEDULING OF INSTALLATION, SECURITY, MATERIAL STORAGE ETC., SHALL BE IN COMPLIANCE WITH THE OWNER, LANDLORD AND/OR GENERAL CONTRACTOR'S DIRECTIVES. | | | |
| 4. SITE COORDINATION: CONTRACTOR SHALL CO-ORDINATE HIS WORK WITH OTHER TRADES PROPERLY ON SITE TO AVOID ANY CONFLICT. ENSURE ALL WORK TO BE PERFORMED IN PROPER SEQUENCE AND THAT THE MECHANICAL WORK WILL BE FULLY ACCESSIBLE FOR MAINTENANCE AND SERVICING WHEN ALL WORK IS COMPLETED. | | | |
| 5. EQUIPMENT & MATERIALS: ALL EQUIPMENT AND MATERIALS PROVIDED MUST CONFORM TO THE DRAWINGS AND SPECIFICATIONS. ALL PRODUCTS USED MUST BE NEW AND OF TOP QUALITY AND OF UNIFORM FACTORY THROUGHOUT THE PROJECT. | | | |
| 6. WORKMANSHIP: WORKMANSHIP SHALL BE OF BEST QUALITY, EXECUTED BY TRAINED PEOPLE EXPERIENCED AND SKILLED IN THEIR RESPECTIVE DUTIES FOR WHICH THEY ARE EMPLOYED. | | | |
| 7. SITE WORK PROTECTION: PROTECT ALL MECHANICAL WORK FROM CONSTRUCTION DIRT OR DAMAGE FROM ANY CAUSE. SECURELY PLUG OR CAP ALL OPENINGS IN PIPE, DUCT, EQUIPMENT AND FUTURES TO PREVENT OBSTRUCTION. | | | |
| 8. SYSTEM SHUTDOWNS: THE SHUTDOWNS OF ANY PORTION OF EXISTING BASE BUILDING SYSTEMS, IF REQUIRED, SHALL BE PERFORMED BY THE LANDLORD'S BUILDING OPERATIONS UNIT. CO-ORDINATE WITH THE LANDLORD FOR THE TIME AND DURATION OF INTERRUPTIONS AND ADHERED TO THE LANDLORD'S INSTRUCTIONS IN THIS REGARD. | | | |
| 9. ARCHITECT'S APPROVAL: OBTAIN APPROVAL FROM THE ARCHITECT ON COLOUR, FINISH, AND/OR LOCATIONS OF ALL NEW AIR TERMINALS, THERMOSTATS, AND ACCESS DOORS PRIOR TO BEGINNING OR INSTALLATION. | | | |
| 10. BASE BUILDING COMPONENTS: EXISTING BASE BUILDING HVAC AND PLUMBING COMPONENTS WERE REMOVED I.E. LIGHT TROTTERS, DIFFUSERS, FANS, VAN BOXES, AND PLUMBING FUTURES ETC. SHALL BE TURNED OVER TO THE LANDLORD AT THEIR DIRECTION. | | | |
| 11. TEMPORARY FILTERS: PROVIDE 25mm (1") DISPOSABLE FILTERS AT ALL BASE BUILDING RETURN AIR OPENINGS WHICH REMAIN OPERATIONAL DURING CONSTRUCTION. FILTERS SHALL BE REPLACED WEEKLY DURING CONSTRUCTION. REMOVE UPON CONSTRUCTION COMPLETION. | | | |
| 12. CLEAN UP: UPON COMPLETION OF THE WORK, REMOVE ALL SURPLUS AND WASTE MATERIALS FROM SITE, CLEAN ALL EQUIPMENT AND LEAVE ALL ITEMS IN PERFECT ORDER AND READY FOR OPERATION. | | | |
| 13. COMMISSIONING: ADJUST AND SET UP ALL PARTS AND EQUIPMENT TO ACHIEVE THE DESIRED OPERATION. ALL EQUIPMENT, EXISTING AND/OR NEW, SHALL BE STARTED UP BY QUALIFIED TECHNICIANS. SUBMIT AND REPORT TO THE ENGINEER THAT ALL EQUIPMENT IS OPERATING AS INTENDED. | | | |
| 14. INSPECTIONS: DURING INSPECTIONS ARE INFORMATIVE. PRIOR TO INSTALLATION OF CEILING OR CLOSING THE WALLS, THIS CONTRACTOR SHALL CONTACT THE ENGINEER AND OWNER TO PERFORM INSPECTIONS. WHEN CEILING TILES HAVE BEEN INSTALLED OR WALLS ARE CLOSED PRIOR TO INSPECTION, IT WILL BE NECESSARY FOR THE CONTRACTOR TO REMOVE PORTIONS FOR INSPECTION AT THE CONTRACTOR'S COST. | | | |
| 3.0 BASIC MATERIALS AND METHODS | | | |
| 1. EQUIPMENT INSTALLATION: ERECT ALL EQUIPMENT IN COMPACT, NEAT AND WORKMANLIKE MANNER. ALIGN, LEVEL AND ADJUST FOR SATISFACTORY OPERATION. INSTALL IN SUCH A MANNER THAT CONNECTING AND DISCONNECTING OF PIPING AND ACCESSORIES CAN BE MADE RAPIDLY AND THAT ALL PARTS ARE EASILY ACCESSIBLE FOR INSPECTION, OPERATION, MAINTENANCE AND REPAIR. INSTALL AND START UP EQUIPMENT IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATION GUIDELINES. | | | |
| 2. CUTTING & SIZING: PROVIDE ALL CUTTING AND SIZING THAT ARE REQUIRED FOR THE WORK. PROVIDE PROPER LUTER SUPPORTS OVER WALL OPENINGS. PERMISSION MUST BE OBTAINED FROM BASE BUILDING STRUCTURAL ENGINEER BEFORE STRUCTURAL WALLS, FLOORS OR OTHER MEMBERS ARE CUT. FINAL FINISH AND PAINTING BY GENERAL CONTRACTOR. | | | |
| 3. OPENINGS: ALL OPENING SIZES SHOWN FOR THE ROOFS, WALLS OR FLOORS ON THE DRAWINGS ARE BASED ON THE EQUIPMENT NAMES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL DIMENSIONS. IF THE EQUIPMENT SUPPLIED IS NOT AS MARKED, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NECESSARY MODIFICATIONS AT HIS OWN COST. | | | |
| 4. FLASHING AND COUNTER FLASHING: PROVIDE FLASHING AND COUNTER FLASHING FOR ALL EXTERIOR PENETRATIONS OR WATERPROOFED FLOORS AS PART OF THE CONTRACT. | | | |
| 5. SLEEVES: PROVIDE SLEEVES WHERE PIPING PASSES THROUGH FOUNDATIONS, FLOORS, ROOFS OR WALLS. SLEEVES SHALL BE OF SCH. 40 BLACK STEEL OR TYPE "Y" COPPER THROUGH FOUNDATIONS, FLOORS, OR ROOFS AND OF 20 GAUGE GALVANIZED STEEL SHEET THROUGH ABOVE GRADE WALLS. SLEEVES ARE NOT REQUIRED FOR PLUMBING KNOTS. | | | |
| 6. HANGERS AND SUPPORTS: ALL EQUIPMENT, PIPING AND ACCESSORIES SHALL BE PROPERLY SUPPORTED WITH NECESSARY AND SUITABLE HANGERS, SADDLES, STRUCTURAL SUPPORTS AND/OR BRACKETS. PROVIDE AND INSTALL ALL INSERS REQUIRED. ALL HANGERS SHALL BE SUPPORTED FROM STRUCTURAL BEARINGS SUCH AS BEAMS, TOP CORRS OF STEEL JOISTS, SIZES AND SPACING AS PER ASHRAE RECOMMENDATIONS. DO NOT SUSPEND HANGERS FROM THE ROOF SHEATHING. WHERE STRUCTURAL BEARINGS DO NOT EXIST, THE CONTRACTOR SHALL PROVIDE ANGLES OR CHANNEL IRON FROM NEAREST STRUCTURAL BEARING TO SUPPORT HANGERS. ALL STEEL HANGERS OR SUPPORTS SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER, EQUAL TO C.S.S. SPECIFICATIONS 1.07.40 LATEST ISSUE. | | | |
| 7. ACCESS DOORS: PROVIDE ACCESS DOORS ON CEILINGS OR WALLS WHERE SHOWN ON THE DRAWINGS OR AS REQUIRED FOR ALL CONCEALED MECHANICAL EQUIPMENT AND SERVICES REQUIRING INSPECTION OR SERVICE. ACCESS DOORS SHALL BE EQUAL TO MCLOR OR LEVAGE, FINISH SHALL SUIT ARCHITECT'S REQUIREMENTS AND COMPATIBLE WITH CEILING/WALL TYPE AND FINISH. | | | |
| 8. PIPING INSTALLATION: UNLESS SPECIFIED OTHERWISE, ALL PIPING SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE AMERICAN STANDARD CODE FOR PRESSURE PIPING AND SECTION B31.1 TO B31.8 AS APPLICABLE SERVICE. ALL PIPING SHALL BE INSTALLED SO AS TO BE FREE FROM STRAINS AND DISTORTIONS DUE TO EXPANSION AND CONTRACTION. | | | |
| 9. PIPE PRESSURE TESTS: ALL PIPING SHALL BE PRESSURE TESTED AS REQUIRED, IN THE PRESENCE OF THE OWNER/ENGINEER. FURNISH ALL PUMPS, PIPING AND GAUGES ETC. NECESSARY FOR THE TESTS. HYDROSTATIC TEST HYDROK PIPING WITH 1-1/2 TIMES THE SYSTEM PRESSURE, NATURAL GAS SYSTEMS TO CSA B141.1, GAS OIL TO CSA B141.2, DRAMINE AND VENTING TO OGC AND AUTHORITIES HAVING JURISDICTION. DOMESTIC WATER TO 1-1/2 TIMES WORKING PRESSURE, FIRE SYSTEMS IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION. MAXIMUM TEST PRESSURE FOR 4 INCH WIDHOUS LOSS OF PRESSURE, REPAIR LEAKS IF ANY AND REPEAT TESTS UNTIL SATISFACTION. | | | |
| 10. ELECTRICAL WORK: ELECTRICAL DISCONNECTS, FUSES AND ALL POWER WIRING NECESSARY FOR THE LINE VOLTAGE POWER SUPPLY TO MECHANICAL EQUIPMENT SHALL BE SUPPLIED, INSTALLED AND CONNECTED TO THE EQUIPMENT OR CONTROL DEVICES BY THE ELECTRICAL CONTRACTOR. UNLESS OTHERWISE NOTED TO BE SUPPLIED BY EQUIPMENT MANUFACTURER AND INTERLOCKLY MOUNTED ON EQUIPMENT, STARTERS FOR NEW EQUIPMENT SHALL BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. VERIFY AND COORDINATE VOLTAGE AND PHASE WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING EQUIPMENT. | | | |
| 11. CONTROL WIRING: ALL LOW VOLTAGE ELECTRICAL INTERLOCK WIRING, CONTROL WIRING, SPECIALIZED TEMPERATURE CONTROL CABLES ETC. SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND PROPERLY RATED TO FULL LOAD CURRENTS. CONTROL COMPONENTS WHICH ARE PART OF TEMPERATURE AND/OR EQUIPMENT CONTROLS, E.G.: PRESSURE, PRESSURE, FLOW SWITCHES, THERMOSTATS, THERM, HEADS, ETC. SHALL BE SUPPLIED AND SET IN PLACE BY THE MECHANICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL POWER WIRING ONLY. PROVIDE WIRING REQUIRED FOR A PNEUMATIC SYSTEM, ALL NECESSARY CONTROL AIR PIPING FROM EXISTING CONTROL AIR MAINS TO ROOM THERMOSTATS, CONTROL VALVES, DAMPERS, AND OTHER CONTROL DEVICES AS NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM. PNEUMATIC CONTROL PIPING SHALL BE TYPE "1" COPPER TUBING AND/OR AS PER BASE BUILDING SPECIFICATIONS AND STANDARDS. PLASTIC TUBING SHALL NOT BE USED IN CEILING SPACES. | | | |
| 12. FIRE STOPS: PROVIDE FIRE STOPS AT ALL PIPES, DUCTS, CONDUCITS, ETC. PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. ALL FIRE STOPPING MATERIALS SHALL BE OF NON-HARDENING AND UL LISTED FOR THE REQUIRED SEPARATIONS. | | | |
| 13. FIRE DAMPERS: PROVIDE FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS OR FLOORS COMPLETE WITH ACCESS DOORS. | | | |
| 14. TAGS: UPON COMPLETION OF THE WORK FURNISH AND INSTALL TAGS, VALVE DIRECTION AND EQUIPMENT TAGS. | | | |
| 4.0 SHOP DRAWINGS & CLOSE OUT DOCUMENTS | | | |
| 1. SHOP DRAWINGS: CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT, COMPLETE WITH ALL PERFORMANCE DATA, DIMENSIONS AND WIRING DIAGRAMS, FOR REVIEW BY THE OWNER AND ENGINEER. DO NOT ORDER ANY EQUIPMENT UNTIL IT IS REVIEWED TO OWNER AND ENGINEER'S SATISFACTION. | | | |
| 2. BALANCING REPORTS: SUBMIT AIR AND HYDROK BALANCING REPORTS FOR ALL EQUIPMENT AND/OR SYSTEMS INSTALLED FOR THE PROJECT PRIOR TO FINAL ACCEPTANCE. ALL MECHANICAL EQUIPMENT AND SYSTEMS MUST PROVE OPERATING TO DESIGN INTENT. | | | |
| 3. O & M MANUALS: FURNISH THREE (3) COPIES OF INSTALLATION INSTRUCTIONS, START-UP INSTRUCTIONS AND MAINTENANCE MANUALS FOR ALL EQUIPMENT AS PART OF PROJECT CLOSE OUT DOCUMENTS. | | | |
| 4. AS-BUILT DRAWINGS: FURNISH TWO (2) SETS OF "AS-BUILT" DRAWINGS AS PART OF PROJECT CLOSE OUT DOCUMENTS. MAINTAIN AN ACCURATE RECORD OF ALL MECHANICAL WORK AND ALL DEVIATIONS FROM THE PRESCRIPTION OF "AS-BUILT" DRAWINGS. ALL CONCEALED PIPING RUNS, VALVES & DAMPER LOCATIONS, SERVICE LOCATIONS, ETC. MUST BE REFLECTED ON THE AS-BUILT DRAWINGS. | | | |
| 5. WARRANTY LETTER: INCLUDED IN THE O & M MANUAL. THE WRITTEN GUARANTEE THAT ALL MATERIALS AND WORKMANSHIP PROVIDED ARE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS TO GIVE EFFICIENT OPERATION AND ARE FREE FROM MECHANICAL DEFECTS. THE WARRANTY LETTER SHALL CLEARLY STATE THE COMMENCE DATE AND EXPIRY DATE OF THE WARRANTY, AND THE EXTENT AND REMEDIAL ACTION COVERED UNDER THE WARRANTY. | | | |
| 5.0 PLUMBING | | | |
| 1. PIPING MATERIALS: | | | |
| 2. VALVES: | | | |
| (NOTE: ALL SOLDER JOINTS MUST BE LEAD FREE AND MEET ALL REGULATORY REQUIREMENTS. | | | |
| SANITARY ABOVE GROUND | | | |
| PIPE SIZE 2 1/2" & SMALLER | | | |
| PIPE SIZE 3" & LARGER | | | |
| DNW COPPER PIPE WITH DRAMINE FITTINGS, SOLDER JOINTS, OR PVC PIPES & FITTINGS TO CAN/CSA B181.2, SOLVENT CEMENT JOINTS TO ASTM D2554. | | | |
| CLASS 4000 C.I. PIPE AND FITTINGS TO CAN/CSA-B70. MECHANICAL JOINTS, NEOPRENE OR BUTYL RUBBER COMPRESSION GASKETS WITH STAINLESS STEEL CLAMPS, OR PVC PIPES & FITTINGS TO CAN/CSA B181.2, SOLVENT CEMENT JOINTS TO ASTM D2554. | | | |
| SANITARY BELOW GROUND | | | |
| TYPE "1" COPPER PIPE WITH WROUGHT COPPER FITTINGS, SOLDER JOINTS, OR PVC PIPES & FITTINGS TO CAN/CSA B181.2, SOLVENT CEMENT JOINTS TO ASTM D2554. | | | |
| CLASS 4000 C.I. PIPE AND FITTINGS TO CAN/CSA-B70. MECHANICAL JOINTS, NEOPRENE OR BUTYL RUBBER COMPRESSION GASKETS WITH STAINLESS STEEL CLAMPS, OR PVC PIPES & FITTINGS TO CAN/CSA B181.2, SOLVENT CEMENT JOINTS TO ASTM D2554. | | | |
| TYPE "1" COPPER PIPE WITH DOMESTIC HOT AND COLD WATER PIPING | | | |
| TYPE "1" COPPER PIPE WITH WROUGHT COPPER FITTINGS, 95/5 TIN/ANTIMONY SOLDER JOINTS. | | | |
| | | | |
| (NOTE: ALL SOLDER JOINTS MUST BE LEAD FREE AND MEET ALL REGULATORY REQUIREMENTS. | | | |
| 2. VALVES: | | | |
| GATE VALVE | | | |
| USE BALL VALVE | | | |
| KITZ 72, Q.S. & Y IRON BODY WITH FLANGED ENDS | | | |
| BALL VALVES (INSTEAD OF GATE VALVE) | | | |
| KITZ 90 NPT OR 90 SOLDER ENDS, FULL PORT SOLDER BALL AND TEE SIZES | | | |
| N/A | | | |
| CHECK VALVE | | | |
| KITZ #22 SOLORED ENDS, MAX 1014-INCH SWING, SWING CHECK, SLANT TYPE, SLANT TYPE | | | |
| PRESSURE RELIEF | | | |
| WATTS, OR APPROVED EQUAL, A.S.M.E. RATED WITH TEST LOGS, DISCHARGE PIPES FROM ALL RELIEF VALVES SHALL BE PIPED TO FLOOR DRAIN. | | | |
| | | | |
| 3. ISOLATION VALVE: PROVIDE ISOLATION VALVES FOR EACH GROUP OF FUTURES OR EACH FEATURE AS PER CODE REQUIREMENTS. | | | |
| 4. CLEANOUTS: SUPPLY AND INSTALL CLEANOUTS WHETHER SHOWN OR NOT, AS REQUIRED BY CODE OR BY AUTHORITIES HAVING JURISDICTION, ON ALL DRAINAGE PIPES | | | |
| 5. TRAP PRIMING: EVERY FEATURE SHALL BE PROVIDED WITH TRAPS IN ACCORDANCE WITH PLUMBING REGULATIONS. EACH TRAP SHALL BE PROVIDED WITH ITS OWN BRASS PLUG AND FERRULE CLEAOUT. PROVIDE AUTOMATIC TRAP SEAL PRIMER FOR FLOOR AND HUB DRAINS. TRAP SHALL BE CONNECTED TO NEAREST WATER SUPPLY APPROVED BY THE ENGINEER. USE SMS INC. PPH-500 AUTOMATIC TRAP SEAL PRIMER. | | | |
| 6. WATER HAMMER ARRESTER: INSTALL ANCHOR SHOCK-GUARD (OR EQUAL) FOR EACH GROUP OF PLUMBING FUTURES. LOCATION AND SIZE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. UNIT SHALL BE ALL STAINLESS STEEL CONSTRUCTION WITH WELDED NESTED BELLOWS. | | | |
| 7. VENT ALL SANITARY FUTURES AS REQUIRED BY THE ONTARIO BUILDING CODE. | | | |
| 8. PROVIDE ONE PIECE CHROME PLATE ESCUTOCHONS ON ALL PIPING PASSING INTO EXPOSED AREAS. | | | |
| 9. INSTALL ALL DRAINAGE PIPES IN CONFORMITY WITH ELEVATIONS AND GRADIES INDICATED. ALL DRAINAGE PIPES SHALL BE SLOPED AS INDICATED OR AS PER OGC REQUIREMENTS. SLOPE BETWEEN ELEVATIONS SHALL BE EVEN AND CONSISTENT. | | | |
| 8.0 DUCTWORK | | | |
| 1. GENERAL REQUIREMENTS: | | | |
| 2. PRODUCTS: | | | |
| 2.1. CONSTRUCT DUCTWORK AND FITTINGS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN, BETWEEN PLenums, AIR MOVING EQUIPMENT, TERMINALS INLETS AND OUTLETS. | | | |
| 2.2. DUCTWORK AND RELATED COMPONENTS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE LATEST EDITION OF ASHRAE AND SMACNA STANDARDS, AND THE NPA'S PAMPHLET NO. 90A. | | | |
| 3. COMMERCIAL KITCHEN DUCTWORK SHALL CONFORM TO THE LATEST EDITION OF NFPA NO. 96. | | | |
| 4. DO NOT FABRICATE DUCTWORK UNTIL IT IS FULLY CO-ORDINATED WITH OTHER TRADES FOR CLEARANCE AND INTERFERENCE. | | | |
| 5. WELDING OF DUCTWORK WHERE REQUIRED SHALL BE PERFORMED BY CERTIFIED WELDERS QUALIFIED FOR WELDING IN ACCORDANCE WITH APPLICABLE PROVINCIAL REQUIREMENTS. SHEET METAL WELDING SHALL ONLY BE PERFORMED BY QUALIFIED WELDERS WITH RECENT EXPERIENCE IN SHEET METAL WELDING. | | | |
| 2. PRODUCTS: | | | |
| 2.1. SHEET METAL RECTANGULAR DUCTS: PRIME QUALITY GALVANIZED SHEET STEEL GUARANTEED TO BE BEND AND FLATTEN WITHOUT FRACTURE OF THE GALVANIZING. FREE FROM BLEMISHES, PITS AND COATING IMPERFECTIONS. DUCT THICKNESS AND REINFORCEMENT TO SUIT DUCT SIZES AND CLASS OF DUCTS SHALL BE AS PER ASHRAE AND SMACNA RECOMMENDATIONS. | | | |
| 2.2. PRE-FABRICATED SPIRAL OR FLAT GALV. DUCTS: TYPE ASTM-A-577. LOCKSEAM CONSTRUCTION WITH SMOOTH INTERIOR. FITTINGS SHALL BE FACTORY FABRICATED CONTINUOUS WELDED SEAMS WITH SLIP JOINT CONNECTIONS. ELBOWS SHALL BE LONG RADIUS 5-SECTION STYLE. FIELD FABRICATED FITTINGS AND ELBOWS ARE NOT ACCEPTABLE. | | | |
| 2.3. FLEXIBLE CONNECTORS: 4" WIDE 18/18 LISTED FIRE RETARDANT, WATERPROOF FABRIC COMPLETE WITH GALVANIZED STEEL BULB AS MANUFACTURED BY DURO DINE OF CANADA LIMITED. FLEXIBLE CONNECTORS SHALL BE AIR TIGHT FOR PRESSURE FROM -10 TO 15" WC. | | | |
| 2.4. FLEXIBLE DUCT: ALUMINUM SPIRAL WOUND TUBE CORRUGATED FOR STRENGTH WITH A THERMAL MECHANICAL LOCK AS MANUFACTURED BY FLEXIMASTER CANADA LTD., MODEL 7/A, FOR BARE DUCT AND MODEL 7/A-VT FOR INSULATED DUCT. UL LISTED AS CLASS "1" OR "0" DUCT MATERIAL. FLEXIBLE DUCT SHALL BE FULLY TESTED AND UL LISTED FOR THE REQUIRED SEPARATIONS. | | | |
| 2.5. TURNING VANES: DOUBLE WALL TYPE ON VANE RAILS. | | | |
| 2.6. TURNING DAMPERS: ONE GAUGE HEAVIER THAN SURROUNDING DUCT, REINFORCED, IF NECESSARY, FOR RIGIDITY AND FITTED WITH LOCKING TYPE QUADRANT OPERATOR. | | | |
| 2.7. VALVE CONTROL OR BALANCING DAMPERS: FOR DUCTS 14" OR LESS IN HEIGHT, SINGLE BLADE GALVANIZED STEEL MANUAL DAMPER AS MANUFACTURED BY VALVE INDUSTRIES INC. FOR DUCTS GREATER THAN 14" IN HEIGHT, OPPOSED BLADE GALVANIZED STEEL LOW LEAKAGE DAMPERS WITH MANUAL LOCKING TYPE QUADRANT. | | | |
| 2.8. FIRE DAMPERS: ALL FIRE DAMPERS SHALL BE OF AIR STREAM STYLE "B" OR "C" GALVANIZED STEEL CURTAIN TYPE DAMPERS COMPLETE WITH A REPLACEMENT FIBERGLASS TAPE TO AIR TIGHT. LONGITUDINAL JOINTS SHALL BE UNSEALED. BED DUCT TYPE IN SEALER AND RECOAT WITH MINIMUM ONE COAT OF SEALER TO MANUFACTURER'S RECOMMENDATIONS. SEAL CLASSIFICATION CLASS "C" FOR PRESSURE UP TO 500 Pa CLASS "A" FOR PRESSURE HIGHER THAN 500 Pa. | | | |
| 3.0. DUCT ACCESS PANELS: LOW LEAKAGE DE FORMED PANELS WITH CAMELOCK CLOSURE AND POSITIVE SEALING GASKETING AS MANUFACTURED BY VALOR INDUSTRIES INC. ON INSULATED DUCTS ACCESS PANELS TO BE INSULATED WITH 1" FIBERGLASS AND BRACING PLATE, AND EXTERNALLY MOUNTED TO CLEAR THE INSTALLATION. | | | |
| 4. EXECUTION | | | |
| 1. GENERAL: | | | |
| 1.1. FABRICATE DUCTWORK AS PER ASHRAE AND SMACNA GUIDELINES. ALL DUCTWORK SHALL BE SELF SUPPORTING. | | | |
| 1.2. SEAL ALL TRANSVERSE JOINTS AND CONNECTIONS WITH AN OIL-RESISTANT POLYMER TYPE DUCT SEALING COMPOUND WITH A POLY-VINYL COATED OPEN WEAKE FIBERGLASS TAPE TO AIR TIGHT. LONGITUDINAL JOINTS SHALL BE UNSEALED. BED DUCT TYPE IN SEALER AND RECOAT WITH MINIMUM ONE COAT OF SEALER TO MANUFACTURER'S RECOMMENDATIONS. SEAL CLASSIFICATION CLASS "C" FOR PRESSURE UP TO 500 Pa CLASS "A" FOR PRESSURE HIGHER THAN 500 Pa. | | | |
| 1.3. CHANGES IN DUCT SIZES SHALL BE GRADUAL, AT A RATE OF 1" FOR 4" OF DUCT LENGTH. WHERE LARGEST DIMENSION OF DUCT IS OVER 18", STIFFEN DUCT BY CROSS BRACING BETWEEN STANDING SEAMS OR REINFORCING ANGLES. | | | |
| 1.4. WHERE INSULATION IS APPLIED INTERNALLY TO THE DUCTWORK, SEAL ALL JOINTS TO FORM A CONTINUOUS VAPOUR BARRIER WITH THE SHEET METAL. ALL DUCT SIZES SHOWN ON THE DRAWINGS ARE CLEAR INTERNAL SIZES, INCREASE DUCT SIZE TO ALLOW FOR INSULATION THICKNESS. | | | |
| 1.5. SINGLE THICKNESS PARTITIONS BETWEEN DUCTS ARE NOT ACCEPTABLE. | | | |
| 1.6. STEEL ANGLES ON ALL APPARATUS AND PLENUM HANGERS SHALL BE INSTALLED ON NOT MORE THAN 4'-0" (1200MM) CENTRES AND AT ALL VERTICAL AND LONGITUDINAL SCANS OF THE PLENUM CONSTRUCTION. | | | |
| 4.1.7. DO NOT BREAK CONTINUITY OF INSULATION VAPOUR BARRIER WITH HANGERS OR RODS. INSULATE STRAP HANGERS 4" (100MM) BEYOND INSULATED DUCT. | | | |
| 4.1.8. SUPPORT RISERS IN ACCORDANCE WITH ASHRAE AND SMACNA. | | | |
| 4.1.9. INSTALL BREAK AWAY JOINTS IN DUCTWORK ON EACH SIDE OF FIRE DAMPER/FIRE SEPARATION. | | | |
| 4.1.10. MAKE CONNECTIONS FROM DUCTWORK TO GRILLES, DIFFUSERS, ETC. WITH FLEXIBLE DUCT, EXCEPT WHERE DIFFUSER COLLAR AND CONNECTING DUCT ARE SHUT-EXPOSED. | | | |
| 4.1.11. SECURE FLEXIBLE DUCT TO COLLARS WITH METAL BRIDGE CLAMP CLAMPS. PROVIDE RIGID ROUND DUCT AS REQUIRED TO LIMIT THE LENGTH OF FLEXIBLE DUCT TO 10'-0" FOR ANY CONNECTION. | | | |
| 4.1.12. WHERE SPACE REQUIREMENTS PROHIBIT FULL RADIUS TURNS, INSTALL TURNING VANES ON 2' CENTRES IN MITRED ELBOWS. | | | |
| 4.1.13. INSTALL SPLITTER BALANCING DAMPERS AT ALL BRANCH DUCT JUNCTIONS, WHETHER SHOWN ON DRAWINGS OR NOT. REINFORCE SURROUNDING DUCTWORK TO PREVENT SAGGING OR DRUMMING. | | | |
| 4.1.14. MAKE DUCT CONNECTIONS TO ALL AIR MOVING EQUIPMENT WITH FLEXIBLE CONNECTIONS. PROVIDE SUITABLE COLLARS AND SECURE SAME TO ACHIEVE LEAK PROOF CONNECTIONS. ENSURE THAT THE FLEXIBLE CONNECTION IS SUFFICIENTLY SLACK TO PERMIT NORMAL MOVEMENT OF EQUIPMENT WITHOUT TRANSMITTING VIBRATION TO THE DUCTWORK. | | | |
| 4.1.15. INSTALL ACCESS PANELS IN DUCTWORK WHERE REQUIRED FOR INSPECTING AND MAINTAINING FIRE DAMPERS, COALS AND CONTROL DEVICES ETC. COORDINATE PANEL LOCATIONS WITH SURROUNDING ENVIRONMENT TO ENSURE SUFFICIENT CLEARANCE FOR ACCESS. | | | |
| 4.2. DUCT HANGERS: | | | |
| 4.2.1. SUPPORT DUCT HANGERS FROM STRUCTURAL MEMBERS. SEE SECTION 2.0 GENERAL REQUIREMENTS ABOVE FOR DETAILS. | | | |
| 4.2.2. FOR DUCTS UP TO 18" (450MM) IN WIDTH, HANGERS SHALL BE PLACED AT NOT MORE THAN 8'-0" (2400MM) CENTRES. | | | |
| 4.2.3. FOR DUCTS MORE THAN 18" (450MM) IN WIDTH SHALL BE SUPPORTED AT NOT MORE THAN 4'-0" (1200MM) CENTRES. | | | |
| 4.2.4. IF STEEL BAND TYPE HANGERS ARE USED, ATTACH HANGERS TO DUCTWORK WITH NOT LESS THAN THREE NUTS OR SCREWS. PERFORATED BAND IRON WILL NOT BE PERMITTED. | | | |
| 4.3. TEST PLUGS: | | | |
| 4.3.1. AT EACH FAN DISCHARGE AND SECTION, AND AT EACH BRANCH, PROVIDE SUFFICIENT NUMBER OF TUBE TEST HOLES TO PERMIT TRANSVERSE VELOCITY READINGS ACROSS THE ENTIRE DUCT. | | | |
| 4.3.2. PROVIDE A RUBBER GROMMET AROUND CROUP TUBING PASSING THROUGH DUCTWORK. | | | |
| 4.3.3. PROVIDE REINFORCED HOLES IN DUCTWORK FOR ALL THERMOMETERS, SENSORS, GAUGES, ETC. | | | |
| 4.3.4. INSTALL TEST HOLES WITH 3/4" (20 MM) GUESS OPENING WITH A METAL RING PLATE, THREADED BOSS, AND MATCHING SCREWED HEAD PLUG. PROVIDE EXTENSION COLLARS ON INSULATED DUCTWORK. | | | |
| 7.0 INSULATION | | | |
| 1. PIPING: | | | |
| (6) INSULATE PIPES WHERE APPLICABLE AS LISTED BELOW AND AS INDICATED ON THE DRAWINGS, WITH PREFORMED FIBERGLASS PIPE INSULATION AS SPECIFIED: | | | |
| | | | |
| PIPE TYPE | | | |
| PIPE SIZE | | | |
| INSULATION THICKNESS | | | |
| DOMESTIC COLD WATER MAINS & CHILLED WATER PIPES | | | |
| 1-1/4" (32mm) & BELOW 1-1/2" (40mm) & UP | | | |
| 1/2" (13mm) 1" (25mm) | | | |
| DOMESTIC HOT WATER MAINS, RECYCLATION WATER LINES AND HEATING WATER PIPES FOR TEMPERATURE UP TO 200°F | | | |
| 1-1/2" (40mm) 2" (50mm) | | | |
| DOMESTIC COLD, HOT AND REHEAT: RADIATORS TO INDIVIDUAL FUTURES NOT EXCEEDING 12'-0" (3.7m) AND TRAP PRIME WATER LINES | | | |
| UP TO 2" (50mm) | | | |
| 1/2" (13mm) | | | |
| HORIZONTAL CAST IRON OR COPPER SANITARY AND HORIZONTAL CAST IRON OR COPPER SANIT | | | |

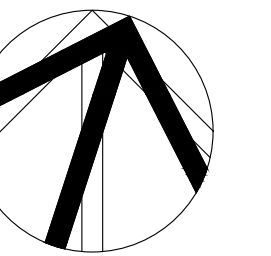


KEY PLAN

| | | | |
|-----|------------------------------|------------|------|
| 6. | ISSUED FOR ADDENDUM M-1 | Nov. 08/24 | E.C. |
| 5. | ISSUED FOR PERMIT & TENDER | Sep. 20/24 | E.C. |
| 4. | ISSUED FOR PERMIT | May. 27/24 | E.C. |
| 3. | ISSUED FOR TENDER | May. 13/24 | E.C. |
| 2. | ISSUED FOR CLIENT REVIEW | May. 10/24 | E.C. |
| 1. | ISSUED FOR 95% CLIENT REVIEW | Mar. 26/24 | E.C. |
| No. | Revision | Date | By |

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Seal



Project Name

**Upper Yonge Village
Daycare Centre**
14 St. Clements Avenue, Toronto, ON

BUILDING RENOVATION

Sheet Title

Level 1 & Basement Proposed Plan
Plumbing Layout

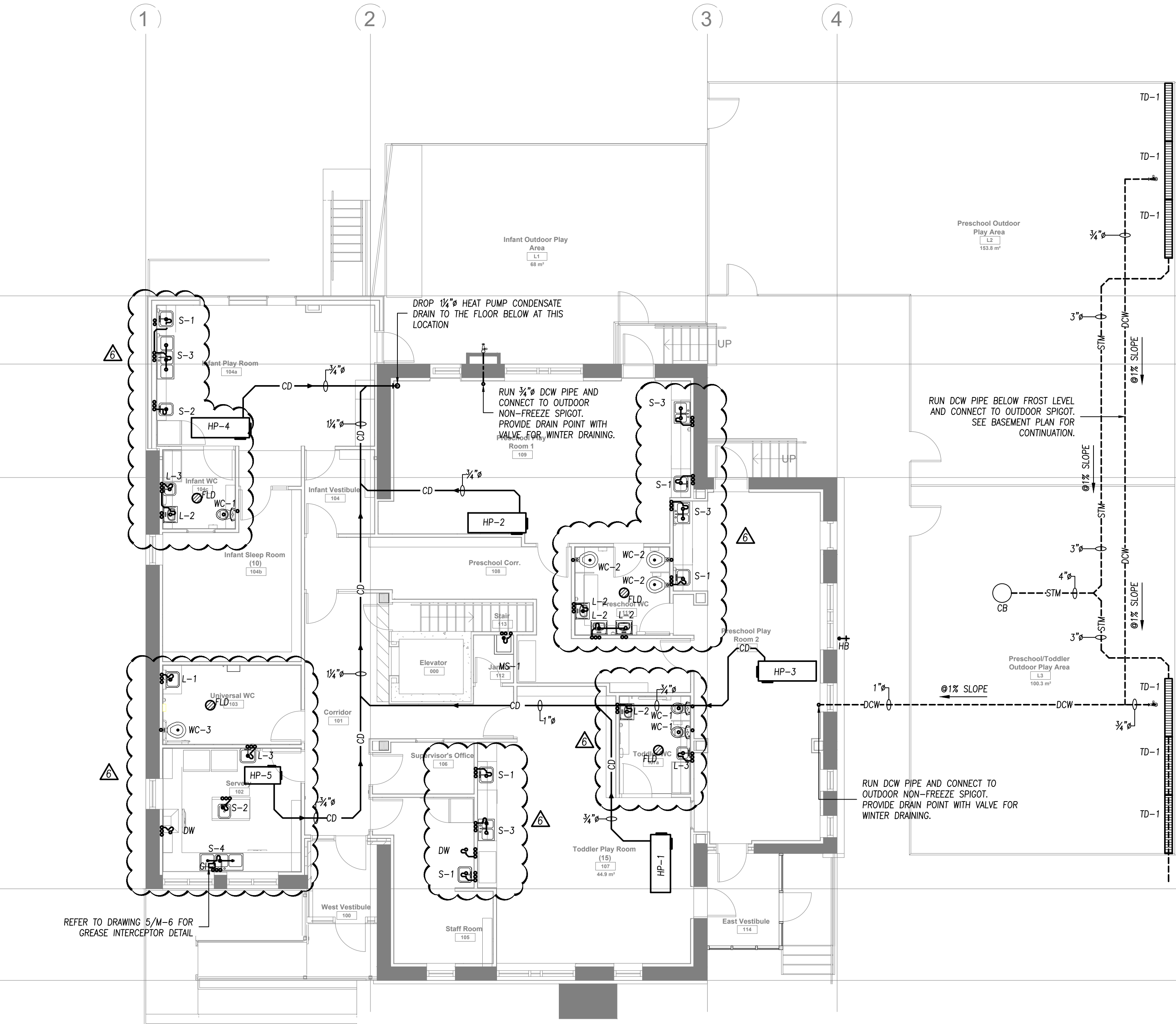
Drawn By N.P. Scale As indicated

Designed By J.C. Date March 2024

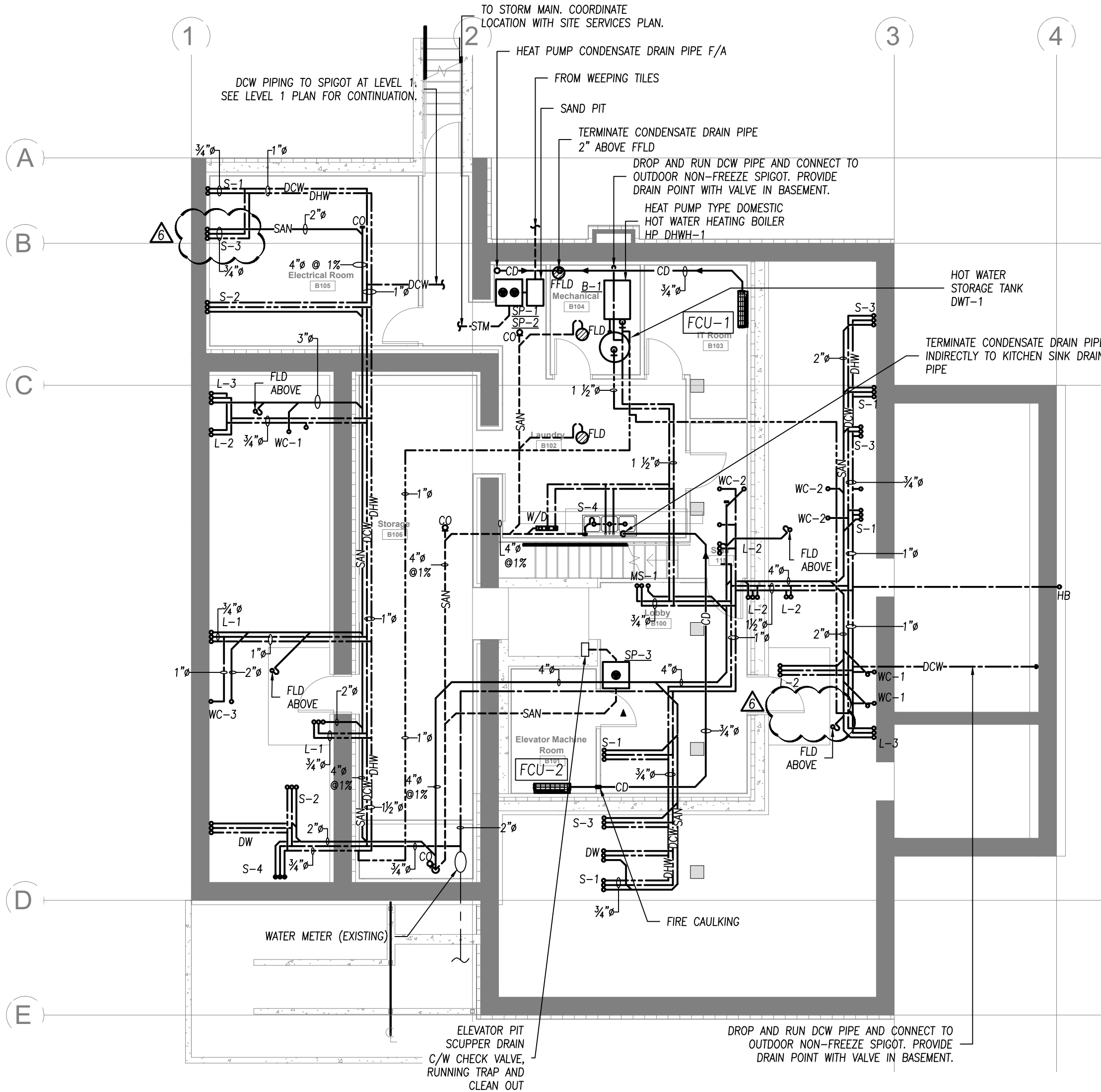
RJC Project Number TOR.122940.0001

Sheet Number Revision

M-2

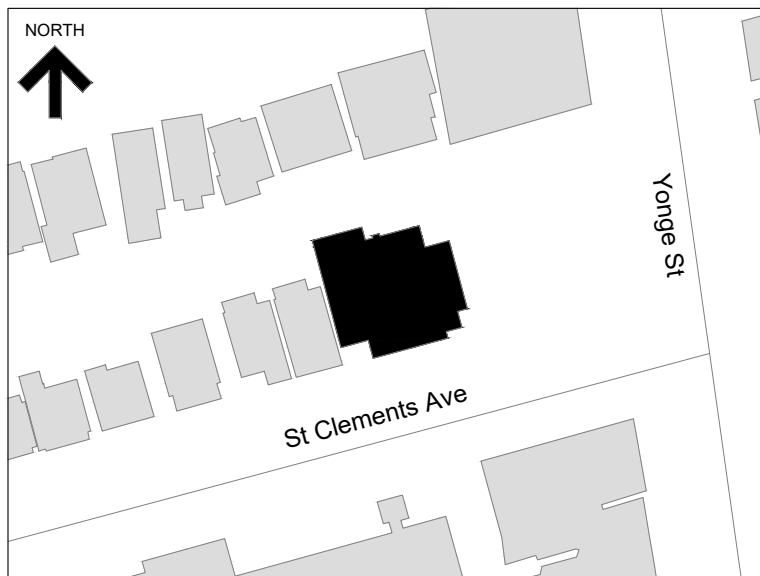


1 LEVEL 1 PROPOSED PLAN - PLUMBING & DRAINAGE
M-2 SCALE: 1/8" = 1'-0"



2 BASEMENT PROPOSED PLAN - PLUMBING & DRAINAGE
M-2 SCALE: 1/8" = 1'-0"

GENERAL NOTES:
CONTRACTOR TO PROVIDE FIRE CAULKING ON BOTH SIDES OF THE WALL ASSEMBLY ON BASEMENT LEVEL AND FLOOR ASSEMBLY BETWEEN GROUND FLOOR AND BASEMENT FOR ALL PIPE PENETRATIONS.



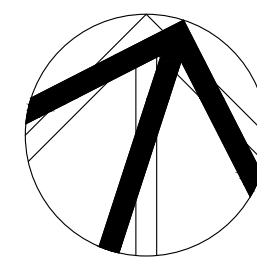
KEY PLAN

| 6. | ISSUED FOR ADDENDUM M-1 | Nov. 08/24 | E.C. |
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| 3. | ISSUED FOR TENDER | May. 13/24 | E.C. |
| 2. | ISSUED FOR CLIENT REVIEW | May. 10/24 | E.C. |
| 1. | ISSUED FOR 95% CLIENT REVIEW | Mar. 26/24 | E.C. |
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Project Name

**Upper Yonge Village
Daycare Centre**

14 St. Clements Avenue, Toronto, ON

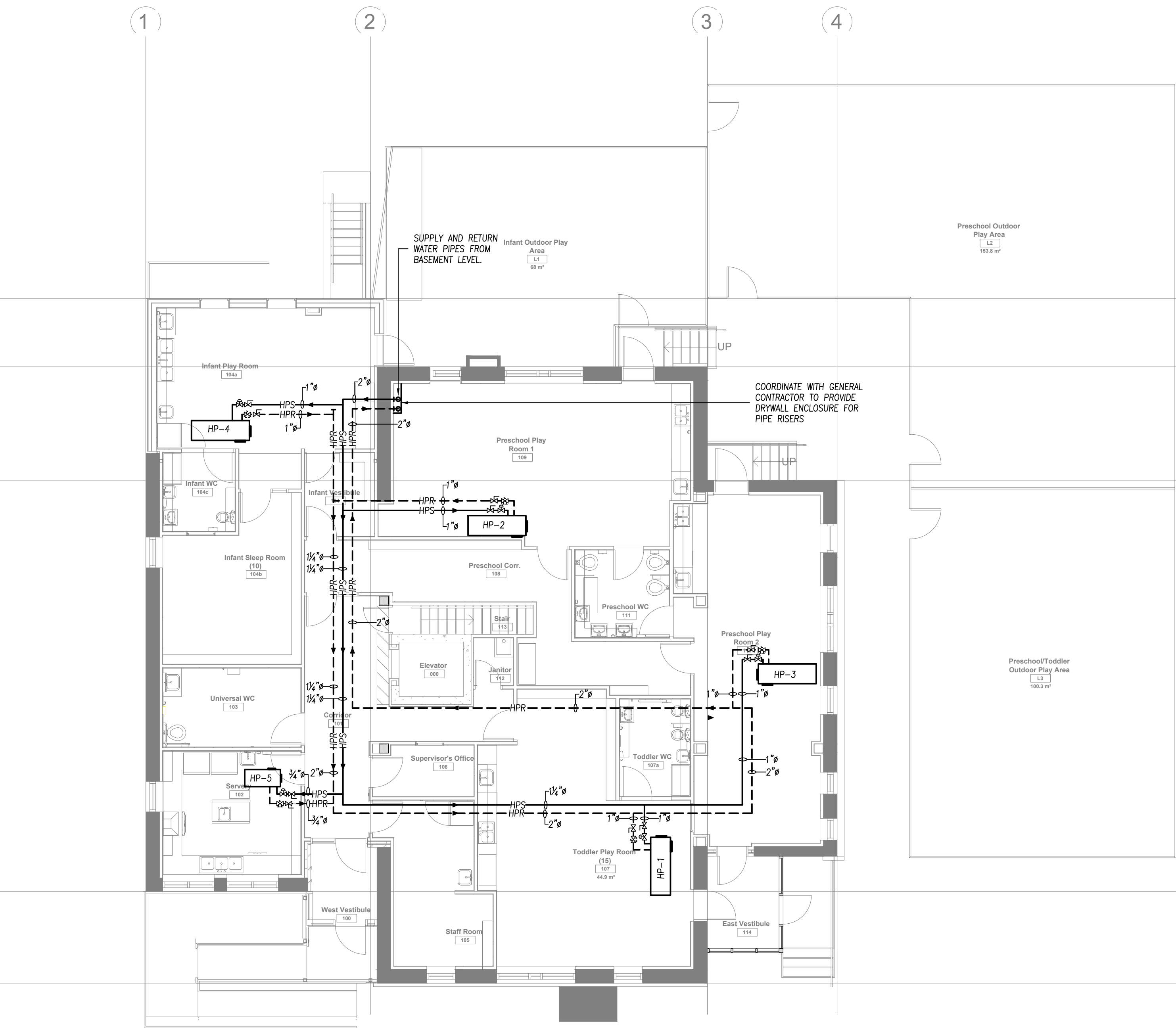
BUILDING RENOVATION

Sheet Title

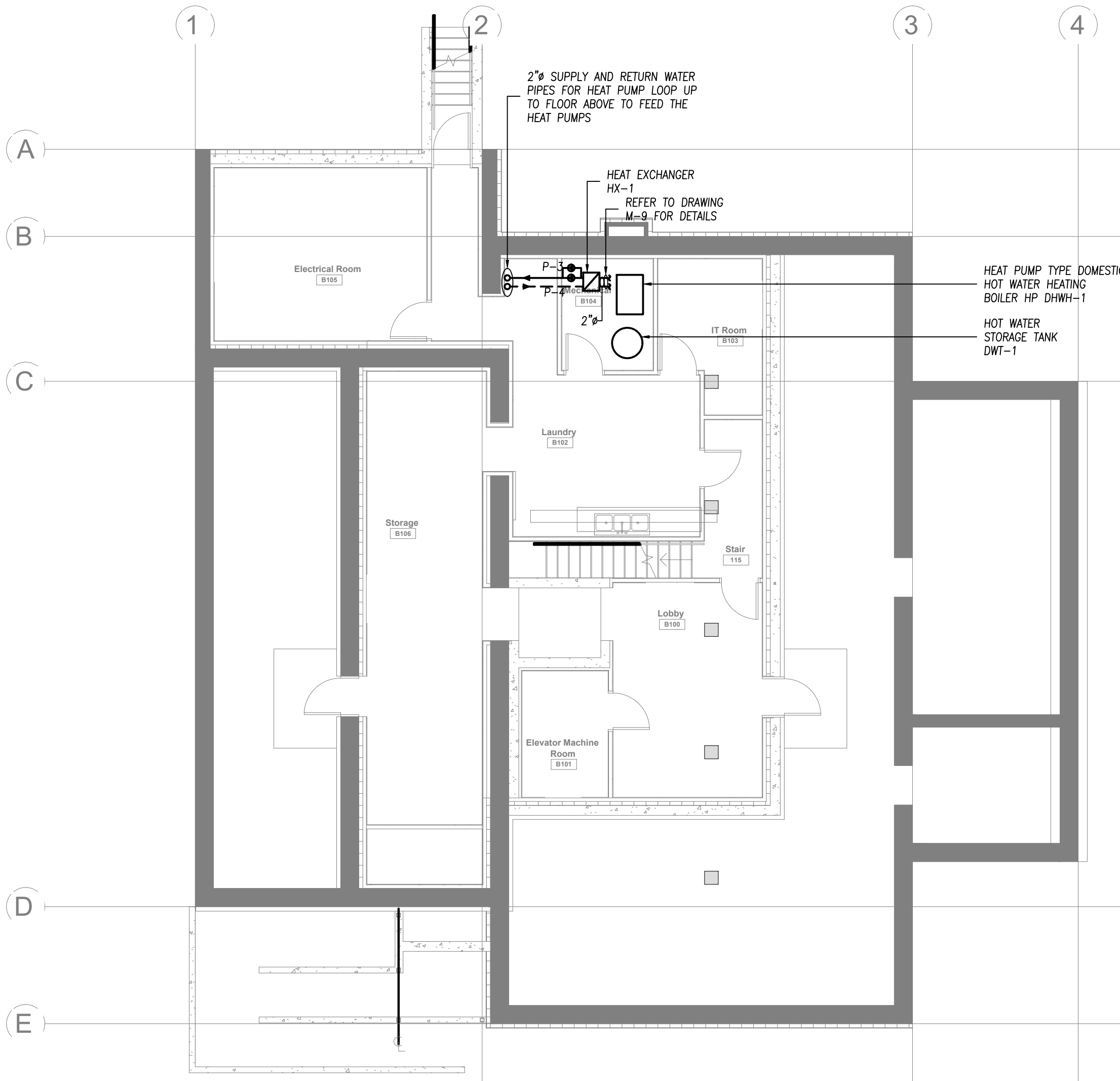
Level 1 & Basement Proposed Plan
Cooling/Heating Heat Pump Water
Circulation Piping

| | | | |
|--------------------|-----------------|-------|--------------|
| Drawn By | N.P. | Scale | As indicated |
| Designed By | J.C. | Date | March 2024 |
| RJC Project Number | TOR.122940.0001 | | |
| Sheet Number | Revision | | |

M-3



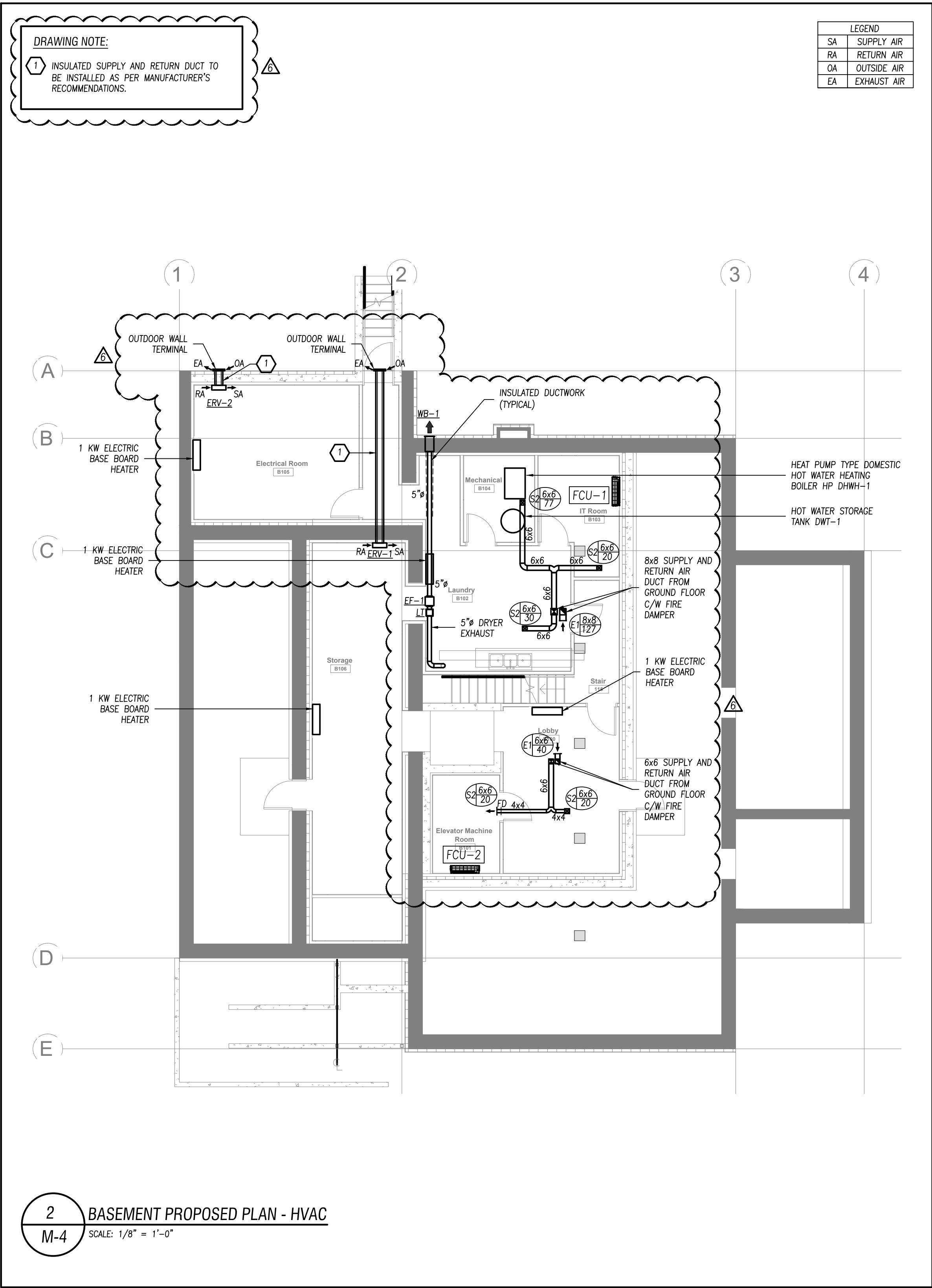
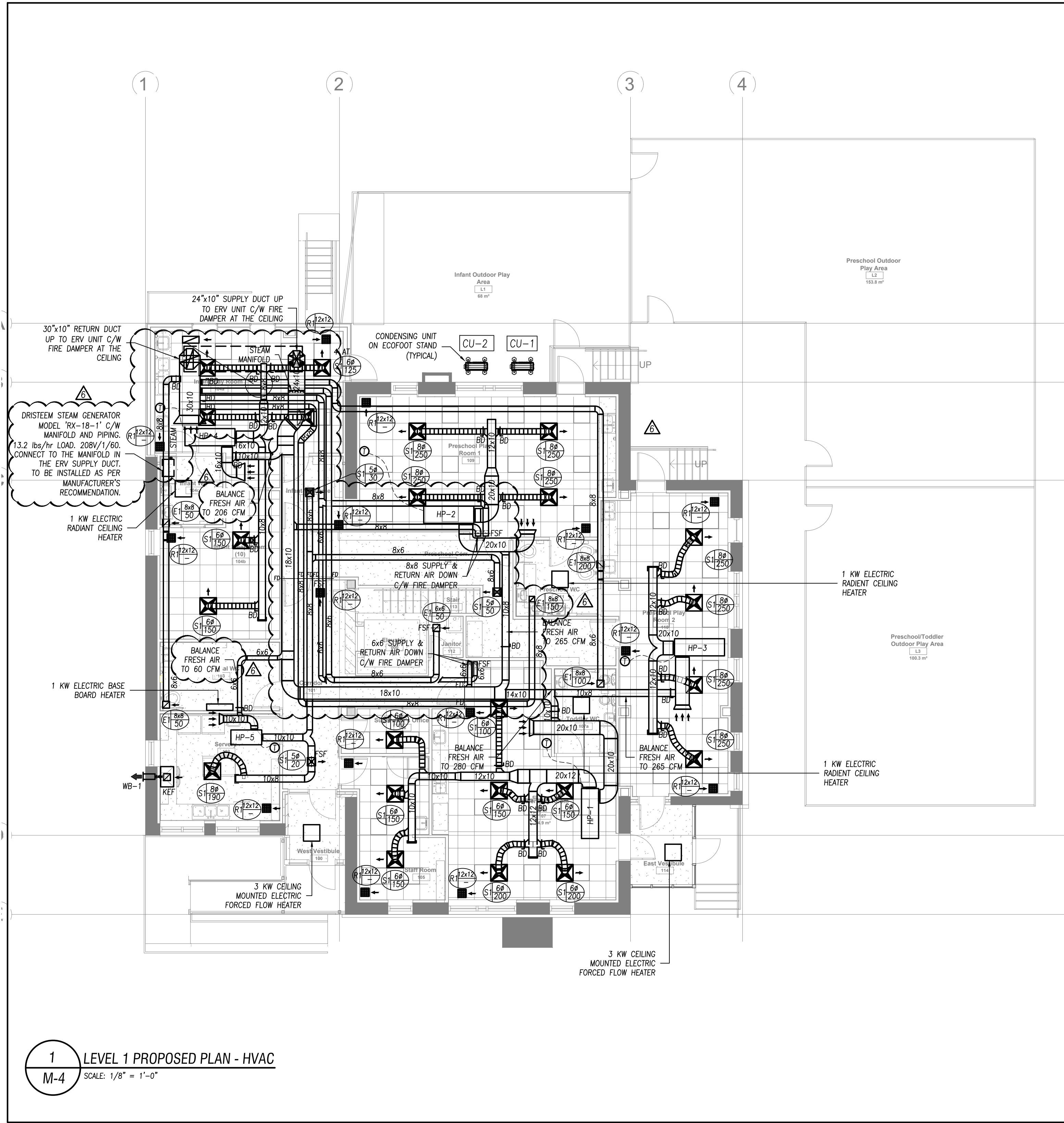
1
M-3 LEVEL 1 PROPOSED PLAN - COOLING/HEATING HEAT PUMP WATER CIRCULATION PIPING
SCALE: 1/8" = 1'-0"



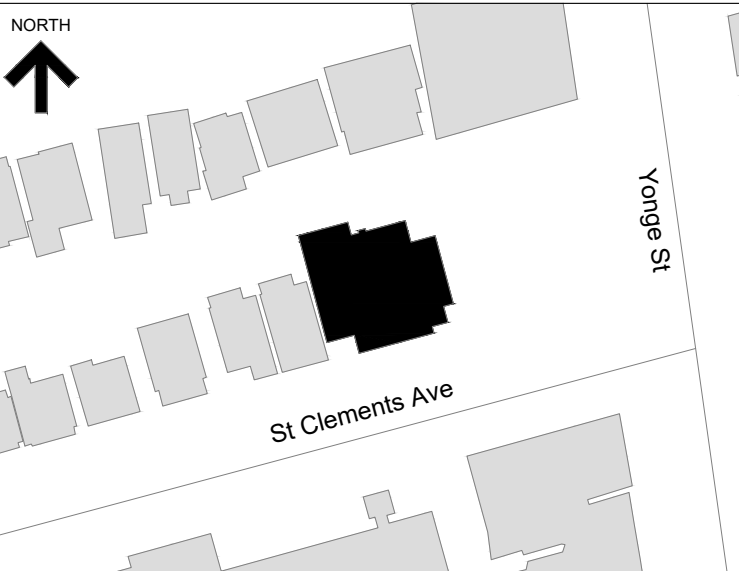
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M-3 BASEMENT PROPOSED PLAN - COOLING/HEATING HEAT PUMP WATER CIRCULATION PIPING
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

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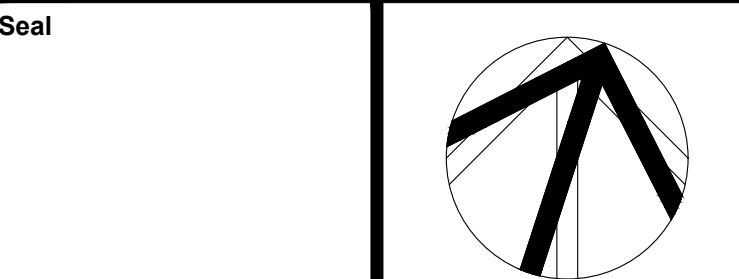
1700 LANGSTAFF ROAD SUITE 2002
VAUGHAN, ONTARIO
L4K 3S3
(416) 250-7222



KEY PLAN

| No. | Revision | Date | By |
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14 St. Clements Avenue, Toronto, ON

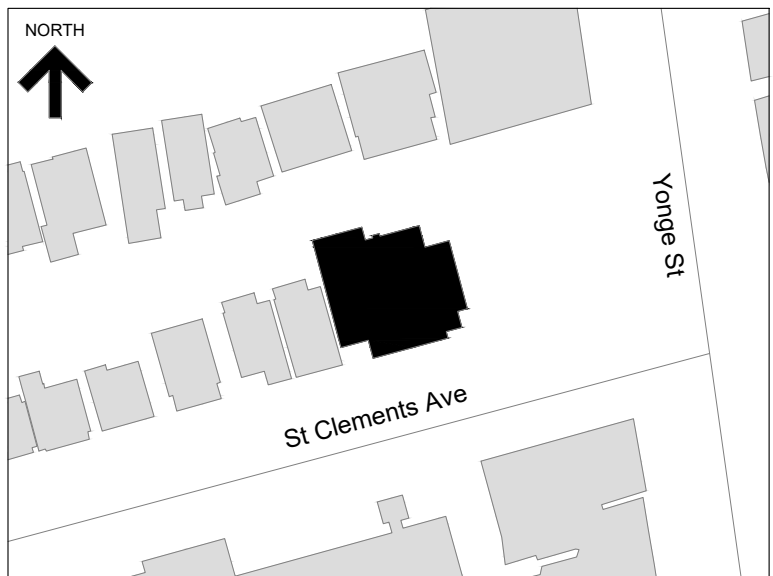
BUILDING RENOVATION

Sheet Title
**Level 1 & Basement Proposed Plan
HVAC Layout**

Drawn By N.P. Scale As indicated
Designed By J.C. Date March 2024
RJCL Project Number **TOR.122940.0001**
Sheet Number **M-4** Revision



1700 LANGSTAFF ROAD SUITE 2002
VAUGHAN, ONTARIO
L4K 3S3
(416) 250-7222



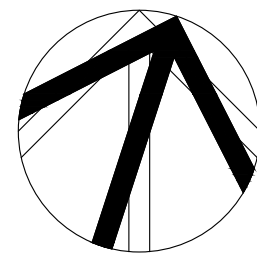
KEY PLAN

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Project Name

Upper Yonge Village
Daycare Centre
14 St. Clements Avenue, Toronto, ON

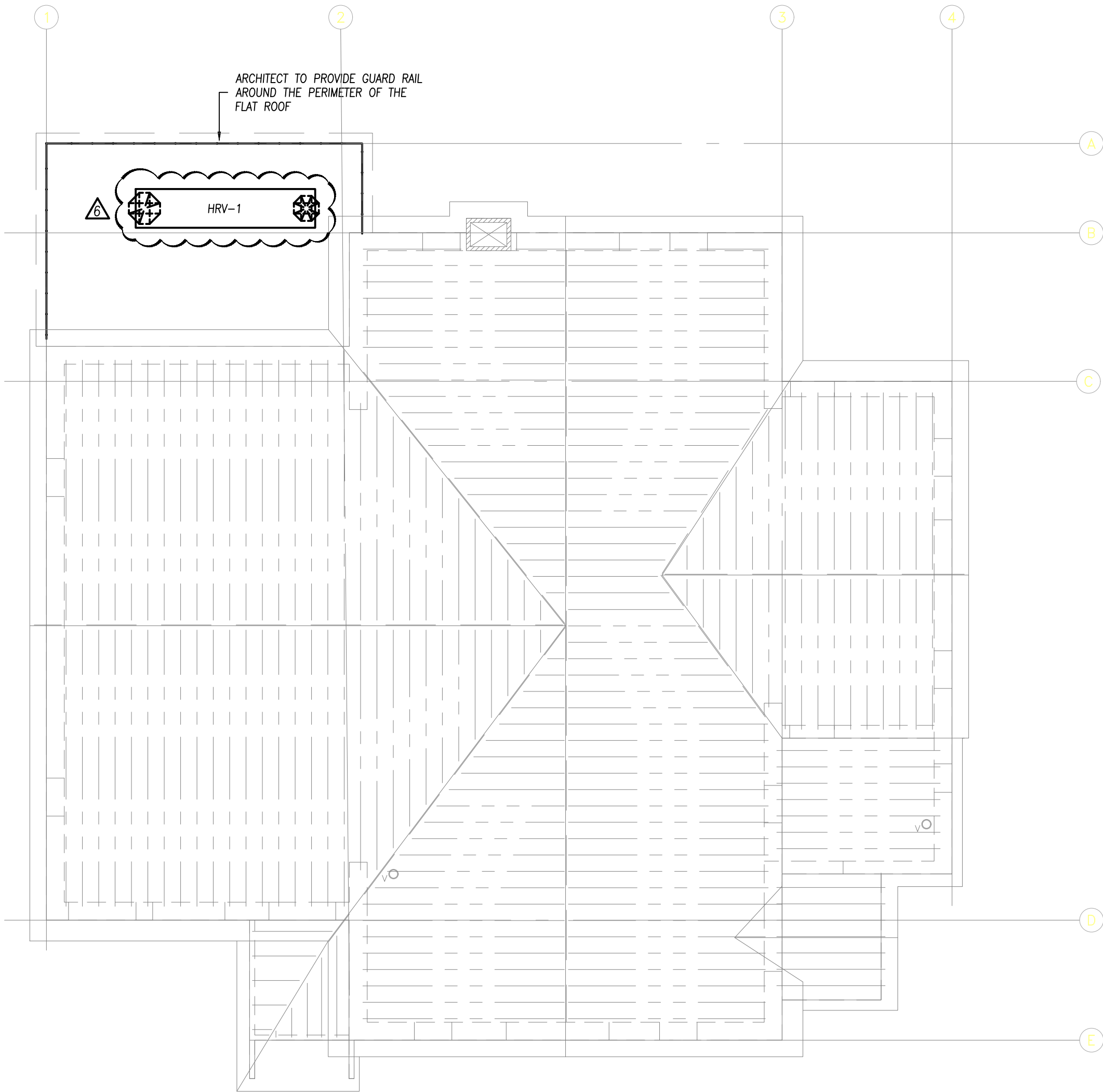
BUILDING RENOVATION

Sheet Title

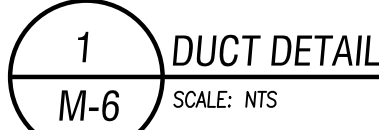
Roof Plan

| | | | |
|--------------------|-----------------|-------|--------------|
| Drawn By | N.P. | Scale | As indicated |
| Designed By | J.C. | Date | March 2024 |
| RJC Project Number | TOR.122940.0001 | | |
| Sheet Number | Revision | | |

M-5

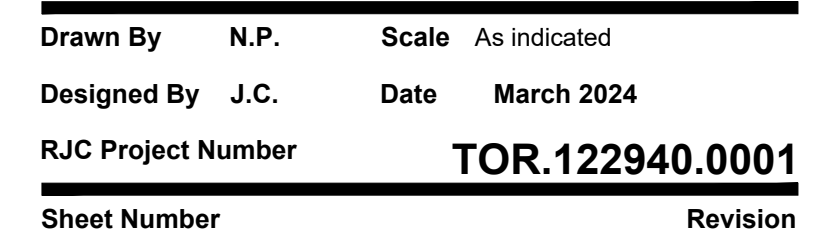


1 ROOF PLAN
M-5 SCALE: 1/8" = 1'-0"



5 FLOOR MOUNTED GREASE INTERCEPTOR DETAIL
M-6 SCALE: NTS

6 ELEVATOR SUMP DETAIL
M-6 SCALE: NTS



| HEAT PUMP SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------|----------------|----------|---------------|---|------------------|------------|----------------|----------|----------|----------|----------|----------|----------|----------------|-------------------|----------------------------|--------------|----------|----------|----------|----------|----------------|-----------------------------|--------------|--------------|------------|---------------------------------|------------|---------|----------|-------------------------------------|-------------------------------------|---|--------------------------------------|--------------------------------------|
| TAG | QTY. | MAKE & MODEL | CAPACITY | AIRFLOW (CFM) | EXTERNAL STATIC PRESSURE (IN _{H2} O) | FLUID FLOW (GPM) | FLUID TYPE | ANTIFREEZE (%) | COOLING | | | | | | | | HEATING | | | | | | ELECTRICAL | | | | | WATER PRESSURE DROP CALCULATION | | | | | | | | |
| | | | | | | | | | EWT (°F) | LWT (°F) | EAT | | LAT | | TOTAL (BTU/HR) | SENSIBLE (BTU/HR) | HEAT OF REJECTION (BTU/HR) | EER (DESIGN) | EWT (°F) | LWT (°F) | EAT | | TOTAL (BTU/HR) | HEAT OF ABSORPTION (BTU/HR) | COP (DESIGN) | VOLTAGE | COMPRESSOR | FAN MOTOR | TOTAL UNIT | MCA (A) | MAX FUSE | BASE COOL WPD (FT H ₂ O) | BASE HEAT WPD (FT H ₂ O) | MOTORIZED VALVE WPD (FT H ₂ O) | TOTAL COOL WPD (FT H ₂ O) | TOTAL HEAT WPD (FT H ₂ O) |
| | | | | | | | | | | | EDB (°F) | EWB (°F) | LDB (°F) | LWB (°F) | | | | | | | EDB (°F) | LDB (°F) | | | | | RLA | FLA | FLA | | | | | | | |
| HP-1 (ZONE-1) | 1 | DAIKIN WSH0361 | FULL | 1090.00 | 0.5 | 6.00 | WATER | 0.00 | 88.0 | 102.4 | 80.0 | 67.0 | 58.4 | 56.1 | 35832 | 25565 | 43059 | 16.9 | 50.0 | 41.4 | 70.0 | 97.8 | 32952 | 25836 | 4.6 | 208-230/60/3 | 9.0 | 5.0 | 14.0 | 16.2 | 25 | 4.09 | 4.42 | 0.78 | 4.87 | 5.2 |
| HP-2, 3, 4 (ZONE-2, 3 & 4) | 3 | DAIKIN WSH0361 | FULL | 940.00 | 0.5 | 6.00 | WATER | 0.00 | 88.0 | 102.1 | 80.0 | 67.0 | 56.4 | 54.3 | 35322 | 24105 | 42361 | 17.1 | 50.0 | 41.5 | 70.0 | 102.0 | 32640 | 25554 | 4.6 | 208-230/60/3 | 9.0 | 5.0 | 14.0 | 16.2 | 25 | 4.09 | 4.42 | 0.78 | 4.87 | 5.2 |
| HP-5 (ZONE-5) REV1 | 1 | DAIKIN WSH0091 | FULL | 311.00 | 0.5 | 3.00 | WATER | 0.00 | 88.0 | 96.1 | 80.0 | 67.0 | 58.4 | 56.4 | 10008 | 7304 | 12220 | 15.4 | 50.0 | 44.6 | 70.0 | 100.8 | 10407 | 8109 | 4.5 | 208-230/60/1 | 3.7 | 0.9 | 4.6 | 5.6 | 15 | 8.97 | 9.69 | 0.86 | 9.83 | 10.56 |
| GEO THERMAL NOTES: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. THE DESIGN AND INSTALLATION OF EARTH ENERGY SYSTEM SHALL CONFORM TO CAN/CSA-C448.1, "DESIGN AND INSTALLATION OF EARTH ENERGY SYSTEM FOR COMMERCIAL AND INSTITUTIONAL BUILDINGS". | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. COMPLETE GEO THERMAL SYSTEM INSTALLATION SHALL BE TESTED UPON COMPLETION BY INDEPENDENT ENGINEERING COMPANY AND CERTIFICATION OF THE SYSTEM WITH REPORTS AND DOCUMENTATION SHALL BE PROVIDED IN ACCORDANCE WITH CAN/CSA-C448.1 STANDARD. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. DEL RIDGE SHALL PROVIDE A 1/2 DAY TUTORIAL, HOSTED BY THE DISTRIBUTOR AND/OR MANUFACTURER, FOR THE BUILDING'S MAINTENANCE STAFF ALONG WITH MONTHLY 2-HOUR SYSTEM REVIEWS AND A 25 HOUR NUMBER FOR TECHNICAL SUPPORT AND TROUBLESHOOTING OF REQUIRED WITHIN THE FIRST YEAR OF OPERATION. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

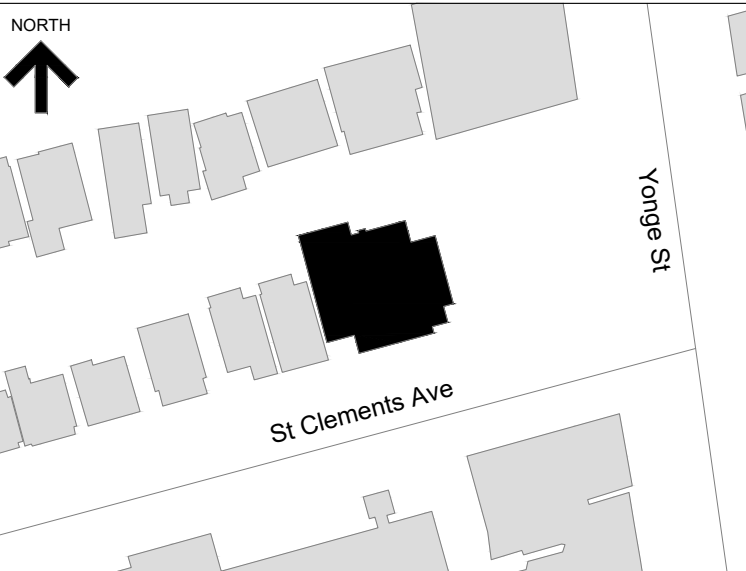
| DUAL CORE ENERGY RECOVERY MAKE-UP AIR UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|--------------|-------------------|-------------------------------|------|------|-------|------------------|-------------------------------|------|------|-------|-----------------------------|--------------------------------|--------------------------------|----------------|-----------------------------|--------------------------------|--------------------------------|----------------|------------|-------|-------|-------|-------------------------|------------------------|----------------|
| UNIT NUMBER | MANUFACTURER | MODEL NUMBER | EXHAUST | | | | | SUPPLY | | | | | ENERGY RECOVERY | | | | | | | | ELECTRICAL | | | | PHYSICAL | | |
| | | | EXHAUST AIR (CFM) | EXTERNAL STATIC PRESSURE (IN) | BHP | HP | NOTES | SUPPLY AIR (CFM) | EXTERNAL STATIC PRESSURE (IN) | BHP | HP | NOTES | WINTER | | | | SUMMER | | | | VOLTAGE | FLA | MCA | MOCP | LENGTHxWIDTHxHEIGHT | OPERATING WEIGHT (LBS) | INDOOR/OUTDOOR |
| | | | | | | | | | | | | | OUTDOOR TEMPERATURE (DEG F) | RETURN AIR TEMPERATURE (DEG F) | SUPPLY AIR TEMPERATURE (DEG F) | EFFICIENCY (%) | OUTDOOR TEMPERATURE (DEG F) | RETURN AIR TEMPERATURE (DEG F) | SUPPLY AIR TEMPERATURE (DEG F) | EFFICIENCY (%) | | | | | | | |
| HRV-1 | TEMPEFF | RG 1500 | 1300.00 | 1 | 1.03 | 2.15 | ECM | 1300.00 | 1 | 0.76 | 2.15 | ECM | -10.00/-10.00 | 72.00/54.00 | 69.27/48.60 | 96.70 | 88.00/74.00 | 75.00/63.00 | 77.20/71.00 | 82.90 | 208V/3/60 | 10.40 | 12.00 | 20.00 | 138-5/8"x37-1/4"x51.00" | 2607.00 | OUTDOOR |

| UNIT NUMBER | LOCATION | SERVICE | MAKE | MODEL | EXHAUST AIR (CFM) | SUPPLY AIR (CFM) | HEAT RECOVERY EFFICIENCY | ELECTRICAL | | | | MOTOR HP | PHYSICAL | | | REMARKS | NOTES |
|-------------|----------|-------------|--------|------------|-------------------|------------------|--------------------------|------------|-----|-----|------|----------|---------------------|------------------------|----------------|---|--|
| | | | | | | | | VOLTAGE | FLA | MCA | MOCP | | LENGTHxWIDTHxHEIGHT | OPERATING WEIGHT (LBS) | INDOOR/OUTDOOR | | |
| ERV-1 | BASEMENT | STORAGE 106 | MELTEM | M-WRG-II E | 35 | 35 | 90% | 230V/1/60 | - | - | 0.15 | 0.02 | - | 60 | INDOOR | PROVIDE 7 DAY PROGRAMMABLE TIMER FAN CONTROL. | 1. INSULATE FRESH AIR & EXHAUST AIR DUCTS FROM UNIT TO EXTERIOR WALL. 2. CO-ORDINATE LOCATION OF STARTER SWITCH ON SITE. 3. INSTALL ERV IN ACCORDANCE TO MANUFACTURERS WRITTEN INSTRUCTION & MAINTAIN REQUIRED SERVICE ACCESS. 4. SEE SPECIFICATION FOR UNIT DETAILS, CONTROL INTERFACING AND REQUIREMENTS. |
| ERV-2 | BASEMENT | STORAGE 105 | MELTEM | M-WRG-II E | 35 | 35 | 90% | 230V/1/60 | - | - | 0.15 | 0.02 | - | 60 | INDOOR | PROVIDE 7 DAY PROGRAMMABLE TIMER FAN CONTROL. | 1. INSULATE FRESH AIR & EXHAUST AIR DUCTS FROM UNIT TO EXTERIOR WALL. 2. CO-ORDINATE LOCATION OF STARTER SWITCH ON SITE. 3. INSTALL ERV IN ACCORDANCE TO MANUFACTURERS WRITTEN INSTRUCTION & MAINTAIN REQUIRED SERVICE ACCESS. 4. SEE SPECIFICATION FOR UNIT DETAILS, CONTROL INTERFACING AND REQUIREMENTS. |

| FAN COIL UNIT SCHEDULE | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|------------|-------------------------------|-------------|-------------------------------------|-------------------------------|-----------------------|--|--------------------------------|---|-----------------|-------------|------------|--|---------------------|--|
| TAG | AREA SERVING | SYSTEM | MAKE | EVAPORATOR (FCU) (INDOOR) | | | | | | CONDENSING UNIT (CU) (OUTDOOR) | | | | | | REMARK | |
| | | | | TYPE | MODEL | COOLING | HEATING @ -13°F (-25°C) | AIR FLOW RATE(CFM) | PHYSICAL SIZE (L X W X H) | ELECTRICAL SUPPLY | TYPE | MODEL | REFRIGERANT | COMPRESSOR | PHYSICAL SIZE (L X W X H) | | ELECTRICAL SUPPLY |
| FCU-1&2 & CU-1&2 | IT ROOM & ELEVATOR MACHINE ROOM | SPLIT TYPE DX UNIT | MITSUBISHI | HIGH WALL DUCTLESS UNIT | PKA-A18 HA7 | 18,000 BTU/H 5.27 (kW) | - | 400 189 L/S | 35 ⁵ / ₈ "x9 ⁵ / ₈ "x11 ⁵ / ₈ " 910MM X 230MM X 300MM | 208-1-60 1 MCA | OUTDOOR VERTICAL REMOTE CONDENSING UNIT | PUY-A18 NKA7 | R410A | - | 31 ¹ / ₈ "x14 ¹ / ₈ "x24 ¹ / ₈ " 797MM X 355MM X 620MM | 208/1/60 11A MCA | SPLIT DX UNIT WITH FACTORY MATCHING REMOTE AIR-COOLED CONDENSER. CONDENSING UNIT SHALL BE PROVIDED WITH CRANKCASE HEATER, LOW AMBIENT CONTROL, WINTER START CONTROL HARD WIRED REMOTE CONTROLLER MICRO CONDENSATE DRAIN PUMP STANDARD COOLING THERMOSTAT WIND GUARD C/W CONDENSATE PUMP |
| NOTES: 1. ALL REMOTE CONDENSING UNITS SHALL BE LOCATED ON 5" THICK CONCRETE HOUSEKEEPING PAD. 2. SIZES OF REFRIGERANT PIPES BETWEEN FAN COIL UNIT AND CONDENSING UNIT TO BE DETERMINED BY MANUFACTURER TO SUIT APPLICATION AND C/W ALL NECESSARY TX VALVES, DRIERS, SIGHT GLASS AND OTHER REFRIGERANT CIRCUIT ACCESSORIES. DO NOT ALLOW LONG PIPE APPLICATION TO AVOID UNNECESSARY DEPRECIATION OF COOLING CAPACITY. 3. ALL DISCONNECTS TO BE PROVIDED BY DIV.16 4. ALL CONTROLS AND COMMUNICATION WIRING BETWEEN INDOOR AND OUTDOOR UNITS TO BE BY MECHANICAL CONTRACTOR. | | | | | | | | | | | | | | | | | |

| EXHAUST FAN SCHEDULE | | | | | | | | | | |
|---|----------------|---------------------------|--------------|---------|------------|-----------------|-----------------|------------|-------------------|--|
| TAG | LOCATION | SERVICE | MAKE | MODEL | TYPE | FLOW RATE (CFM) | E.S.P. (W.G.) | FAN MOTOR | ELECTRICAL SUPPLY | REMARKS |
| EF-1 | LAUNDRY (B102) | DRYER BOOSTER EXHAUST FAN | REVERSOMATIC | PWS-100 | INLINE FAN | 100 47 L/S | 0.50" 124 Pa | FRACTIONAL | 120/1/60 | INTERLOCK WITH DRYER VIA CURRENT SENSOR. |
| <div>NOTES:</div> <div>1. ALL IN-LINE FANS TO BE SUSPENDED FROM CEILING SLAB/STRUCTURE W/ NEOPRENE MOUNTS.</div> <div>2. PROVIDE FLEXIBLE JOINTS AT ALL DUCT CONNECTIONS. STARTER WHERE REQUIRED TO BE PROVIDED BY DIV.16.</div> <div>3. ALL FANS TO BE C/W DISCONNECT SWITCHES AT THE FAN CABINET.</div> <div>4. ALL FAN HOUSING SHALL BE LINED W/ MINIMUM 3/4" THICK POLYMER FOAM INSULATION & BACKDRAFT DAMPERS AT OUTLET.</div> <div>5. ALL CEILING CABINET FANS TO BE C/W INTEGRAL INTAKE AIR GRILLES.</div> | | | | | | | | | | |

| MECHANICAL LEGEND | |
|-------------------|-----------------------------------|
| SYMBOL | DESCRIPTION |
| | DUCT CONTINUATION |
| | INTERNALLY INSULATED DUCT |
| | EXTERNALLY INSULATED DUCT |
| | PERIMETER HOT WATER RAD |
| | FLEXIBLE DUCTWORK |
| | SPIN COLLAR WITH BALANCING DAMPER |
| | THERMOSTAT |
| | SUPPLY CEILING DIFFUSER |
| | RETURN AIR GRILLE |
| | BALANCING DAMPER |
| | FIRE DAMPER |
| | FIRE & SMOKE FLAP |
| | CONNECT TO EXISTING |
| | WT BOX |
| | CAP-OFF |
| | DIFFUSER TAG |
| | AIR FLOW (CFM) |
| | PENDANT SPRINKLER HEAD |
| | FIRE HOSE CABINET |
| | FIRE STOP FLAP |
| | DOMESTIC HOT WATER SUPPLY LINE |
| | DOMESTIC COLD WATER SUPPLY LINE |
| | SANITARY LINE |
| | VENT LINE |



KEY PLAN

| | | | |
|-----|------------------------------|------------|------|
| 6. | ISSUED FOR ADDENDUM M-1 | Nov. 08/24 | E.C. |
| 5. | ISSUED FOR PERMIT & TENDER | Sep. 20/24 | E.C. |
| 4. | ISSUED FOR PERMIT | May. 27/24 | E.C. |
| 3. | ISSUED FOR TENDER | May. 13/24 | E.C. |
| 2. | ISSUED FOR CLIENT REVIEW | May. 10/24 | E.C. |
| 1. | ISSUED FOR 95% CLIENT REVIEW | Mar. 26/24 | E.C. |
| No. | Revision | Date | By |

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| | |
|------|--|
| Seal | |
|------|--|

Project Name

Upper Yonge Village
Daycare Centre

14 St. Clements Avenue, Toronto, ON

BUILDING RENOVATION

Sheet Title

Schedules

| HEAT EXCHANGER SCHEDULE | | | | | | | | | | | | | | | |
|-------------------------|----------------|-----------|---------------------|-------------|------------|---------------------|------------------------|-------------------------|----------------------|------------|---------------------|------------------------|--|------------------------|-------------------------|
| UNIT NUMBER | MANUFACTURER | MODEL NO. | UNIT CAPACITY (MBH) | HOT SIDE | | | | | COLD SIDE | | | | DIMENSIONS (WIDTHxHEIGHTxDEPTH) (INCHES) | OPERATING WEIGHT (LBS) | |
| | | | | FLOW MEDIUM | FLOW (GPM) | PRESSURE DROP (PSI) | TEMPERATURE IN (DEG F) | TEMPERATURE OUT (DEG F) | FLOW MEDIUM | FLOW (GPM) | PRESSURE DROP (PSI) | TEMPERATURE IN (DEG F) | | | TEMPERATURE OUT (DEG F) |
| HX-1 | BELL & GOSSETT | AP31 | 134.50 | WATER | 27.00 | 3.62 | 98.00 | 88.00 | 40% PROPYLENE GLYCOL | 27 | 4.47 | 85.00 | 95.84 | 18.00x59.00x15.75 | 758 |

| AIR SOURCE DOMESTIC HEAT PUMP WATER HEATER | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|--------------|----------------------------------|-------------|------------|--------------------|------------------------|-------------------------|-------------------|---------|---|--------------------------------------|------------------------|---------------|-----------|-----------|-------|----------|----------------------|------------------------|-------------------------------|
| UNIT NUMBER | MANUFACTURER | MODEL NUMBER | DOMESTIC HYDRONIC SIDE (HEATING) | | | | | | AIRSIDE (COOLING) | | | | | ELECTRICAL | | | | PHYSICAL | | | |
| | | | UNIT CAPACITY – HEATING (MBH) | FLOW MEDIUM | FLOW (GPM) | PRESSURE DROP (FT) | TEMPERATURE IN (DEG F) | TEMPERATURE OUT (DEG F) | HEATING C.O.P | AIRFLOW | ENTERING AIR DRY BULB TEMPERATURE (DEG F) | ENTERING AIR RELATIVE HUMIDITY (%RH) | COOLING CAPACITY (MBH) | COOLING C.O.P | VOLTAGE | TOTAL RLA | MCA | MOCp | LENGTHxWIDTHxHEIGHT | OPERATING WEIGHT (LBS) | INLET/OUTLET CONNECTIONS– FPT |
| DHWH–1 | NYLE | C90A | 110.70 | WATER | 20.00 | 10.40 | 50.00 | 150.00 | 5.25 | 2800.00 | 75.00 | 60.00 | 83.6 | 4.15 | 208V/3/60 | 39.30 | 49.00 | 50.00 | 70.25"x32.75"x40.25" | 775.00 | 1.5" REF. |

| PUMP SCHEDULE | | | | | | | | | | | | | | |
|---------------|----------------|---------------------|---------------------------------|----------------------|------------|--------------------|-----------|----------|----------|------|------|-------|--------------|---|
| UNIT NUMBER | MANUFACTURER | MODEL NUMBER | AREA SERVED | FLOW MEDIUM | FLOW (GPM) | PRESSURE DROP (FT) | VOLTAGE | BRAKE HP | MOTOR HP | FLA | MCA | MOCp | WEIGHT (LBS) | NOTES |
| P-1/P-2 | BELL & GOSSETT | e-80 1.5x1.5x7C | CONDENSER WATER LOOP | WATER | 27.00 | 40.00 | 280V/3/60 | 0.83 | 1.50 | 5.70 | 7.10 | 15.00 | 17.00 | DUTY/STANDBY, UNIT MOUNTED VFDS -- SENSORED |
| P-3/P-4 | BELL & GOSSETT | e-80 1.5x1.5x7C | GEO THERMAL SOURCE LOOP | 40% PROPYLENE GLYCOL | 27.00 | 40.00 | 280V/3/60 | 0.83 | 1.50 | 5.70 | 7.10 | 15.00 | 17.00 | DUTY/STANDBY, UNIT MOUNTED VFDS -- SENSORED |
| P-5 | BELL & GOSSETT | ECO CIRC XL N 36-45 | DOMESTIC HOT WATER RECIRC. PUMP | HOT WATER | 25.00 | 15.00 | 115V/1/60 | 0.17 | 0.17 | 5.70 | -- | -- | -- | PUMP TO OPERATE FROM AQUASTAT. |

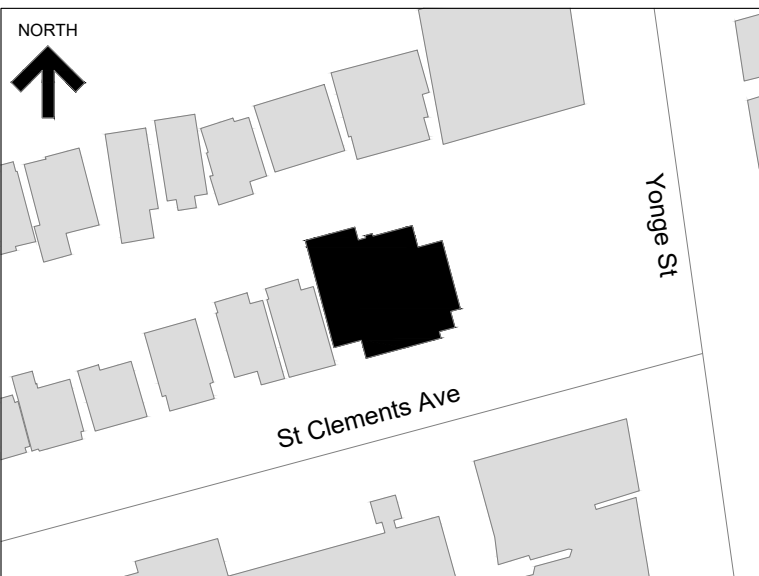
| SUMP PUMPS SCHEDULE | | | | | | | | | | | | | |
|---------------------|------------------------------|---------------------------|------------------|--------------------|---------|--------------------|----------------|-----------|-------------|-----|----------|---|--|
| TAG | LOCATION | SERVICE | TYPE | MAKE | MODEL | FLUID | FLOW RATE | HEAD | MOTOR POWER | RPM | V/PH/Hz | REMARKS | |
| | | | | | | | GPM (L/S) | FT. (M) | HP | | | | |
| SP-1 SP-2 | STORM SUMP PIT (BASEMENT) | PERIMETER WEEPING TILES | SUBMERSIBLE PUMP | PENTAIR HYDROMATIC | SPD100H | STORM WATER | 100 (6.30 L/S) | 25 (7.6M) | 1.0 | - | 120/1/60 | 1 DUTY/1 STANDBY ASSIST SUBMERSIBLE PUMP SET IN CAST IRON CONSTRUCTION WITH DYNAMICALLY BALANCED CAST IRON IMPELLER AND STAINLESS STEEL SHAFT. EQUIPPED WITH SQUIRREL CAGE INDUCTION MOTOR CONTROLLED BY DEDICATED CONTROL PANELS C/W HIGH LEVEL AUDIBLE ALARM AND FLOW SWITCHES FOR CUT IN AND CUT OUT OPERATION AND PUMP ALTERNATION. | |
| SP-3 | ELEVATOR SUMP PIT (BASEMENT) | ELEVATOR (BASEMENT LEVEL) | SUBMERSIBLE PUMP | PENTAIR HYDROMATIC | SPD50H | ELEVATOR PIT WATER | 50 (3.15 L/S) | 25 (7.6M) | ½ | - | 120/1/60 | SUBMERSIBLE PUMP SET IN CAST IRON CONSTRUCTION WITH DYNAMICALLY BALANCED CAST IRON IMPELLER AND STAINLESS STEEL SHAFT. EQUIPPED WITH SQUIRREL CAGE INDUCTION MOTOR CONTROLLED BY DEDICATED CONTROL PANELS C/W HIGH LEVEL AUDIBLE ALARM AND FLOW SWITCHES FOR CUT IN AND CUT OUT OPERATION AND PUMP ALTERNATION. | |

| PLUMBING FIXTURE SCHEDULE | | | | | | | |
|---------------------------|------------------------------------|-----|-----|------|------|---|--|
| TAG | FIXTURE | CW | HW | SAN | VENT | REMARKS | |
| WC-1 | FLOOR MOUNTED TANK--TYPE TOILET | ½"ø | -- | 3"ø | 2"ø | BABY DEVORO 10-1/4" (260MM) HIGH FLOWISE FLUSHOMETER TOILET WITH MANUAL FLUSH VALVE. ZURN Z5590 1.6 GPF CHILDRENS TWO-PIECE TOILET. | |
| WC-2 | WALL MOUNTED TOILET | 1"ø | -- | 3"ø | 2"ø | KOHLER JUVENILE ULTRA K-96059 ZURN Z5545-K ECOVANTAGE HIGH EFFICIENCY 1.28GPF | |
| WC-3 | WALL MOUNTED TOILET (BARRIER-FREE) | 1"ø | -- | 3"ø | 2"ø | AMERICAN STANDARD CADET 3 RIGHT HEIGHT ELONGATED | |
| L-1 | LAVATORY | ½"ø | ½"ø | 1¼"ø | 1¼"ø | AMERICAN STANDARD MURRO UNIVERSAL DESIGN WALL-HUNG LAVATORY WITH EVERCLEAN. MOEN COMMERCIAL ELECTRONIC FAUCET CA8302 WITH AC POWER CONNECTION. | |
| L-2 | LAVATORY | ½"ø | ½"ø | 1¼"ø | 1¼"ø | AMERICAN STANDARD DECLYN WALL-HUNG LAVATORY. MOEN COMMERCIAL ELECTRONIC FAUCET CA8302 WITH AC POWER CONNECTION | |
| L-3 | LAVATORY | ½"ø | ½"ø | 1¼"ø | 1¼"ø | AMERICAN STANDARD PENLYN WALL-HUNG LAVATORY. MOEN COMMERCIAL ELECTRONIC FAUCET CA8302 WITH AC POWER CONNECTION | |
| S-1 | LARGE SINGLE BOWL UNDERMOUNT SINK | ½"ø | ½"ø | 1½"ø | 1¼"ø | LARGE SINGLE BOWL UNDERMOUNT SINK BLANCO MODEL 440158 DECK MOUNTED 8" FIXED CENTERS HOT AND COLD WATER SINK FAUCET CHICAGO FAUCETS MODEL #1100-GN8AE3-317AB | |
| S-2 | UNDERMOUNT SINK | ½"ø | ½"ø | 1½"ø | 1¼"ø | UNDERMOUNT SINK FRANKE MODEL #UCS6808P-1 DECK MOUNTED 8" FIXED CENTERS HOT AND COLD WATER SINK FAUCET CHICAGO FAUCETS MODEL #1100-GN8AE3-317AB | |
| S-3 | DOUBLE COMPARTMENT SINK | ½"ø | ½"ø | 1½"ø | 1¼"ø | UNDERMOUNT DOUBLE SINK FRANKE MODEL #UCD6408P-1 DECK MOUNTED 8" FIXED CENTERS HOT AND COLD WATER SINK FAUCET WITH SIDE SPRAY CHICAGO FAUCETS MODEL #1102-L9E35-369ABCP | |
| S-4 | TRIPLE COMPARTMENT SINK | ½"ø | ½"ø | 1½"ø | 1¼"ø | TRIPLE BOWL COUNTERTOP MOUNT SINK, STAINLESS STEEL FRANKE LBT6410PCB-1/3 DECK MOUNTED 8" FIXED CENTERS HOT AND COLD WATER SINK FAUCET WITH SIDE SPRAY CHICAGO FAUCETS MODEL #1102-L9E35-369ABCP | |
| MS-1 | MOP SINK | ¾"ø | ¾"ø | 3"ø | 2"ø | INCLUDE VINYL BUMPER GUARD 24" X 24" X 12" FIAT MODESTO SQUARE MOP SERVICE SINK MODEL #: MSB2424100 DELTA COMMERCIAL TWO HANDLE 8" WALL MOUNT SERVICE SINK FAUCET MODEL 28T9 | |
| HB | OUTDOOR HOSE BIBB (NON-FREEZE) | ¾"ø | -- | -- | -- | NON-FREEZE HOSE BIBB C/W VACUUM BREAKER | |
| -- | OUTDOOR WATER SPIGOT | ¾"ø | -- | -- | -- | | |
| FL.D | FLOOR DRAIN | -- | -- | 3"ø | 3"ø | JAY R. SMITH #2005 3-A05NB-P050 FLOOR DRAIN, ALL DUCO COATED 9" (220MM) DIA. CAST IRON BODY, REVERSIBLE FLASHING CLAMP WITH SEEPAGE OPENINGS NO-HUB OUTLET, 3" (76MM) OUTLET ROUND STRAINER, 5" (127MM) NICKEL BRONZE, TRAP PRIMER CONNECTION 1/2" (13MM) PROVIDE AUTOMATIC ELECTRONIC SEAL PRIMER. | |
| FF.D | FUNNEL FLOOR DRAIN | -- | -- | 3"ø | 3"ø | JAY R. SMITH #2310 3-3590NB-P050 FLOOR DRAIN, ALL DUCO COATED CAST IRON BODY, FLASHING CLAMP WITH SEEPAGE OPENING, 3" (76MM) OUTLET OVAL FUNNEL 6" X 2-1/2" (150MMX64MM) NICKEL BRONZE, TRAP PRIMER CONNECTION ½" (13MM), ADJUSTABLE TOP AND BAR GRATE. PROVIDE AUTOMATIC ELECTRONIC SEAL PRIMER. | |

| DIFFUSER & GRILLE SCHEDULE | | | | | | |
|----------------------------|---------------------------|---------------|--------|-----------------------------|--|--|
| TAG | TYPE | MAKE | MODEL | SIZE | REMARKS | |
| S1 | SUPPLY CEILING DIFFUSER | EH PRICE | SPD | 24X24 FOR NECK SIZE SEE DWG | STEEL CONSTRUCTION 4-WAY DIFFUSER. 24"x24" PLAQUE DIFFUSER, SUITABLE FOR LAY-IN "T" BAR CEILING INSTALLATION. FINISH SHALL BE WHITE ENAMEL. SEE DRAWING FOR NECK SIZE. | |
| S2 | SUPPLY AIR GRILLE | EH PRICE | S20D | SEE DWG FOR SIZE | DOUBLE DEFLECTION LOUVRED SUPPLY AIR GRILLE. STEEL CONSTRUCTION C/W BALANCING DAMPER, SUITABLE FOR DRY WALL CEILING INSTALLATION. | |
| R1/E1 | EXHAUST RETURN AIR GRILLE | EH PRICE | 80 | SEE DWG FOR SIZE | ALUMINUM CONSTRUCTION EGGGRATE GRILLE SUITABLE FOR LAY-IN "T" BAR CEILING INSTALLATION WITH CHANNEL FRAME. FINISH SHALL BE WHITE WITH ½" x ½" x ½" GRID PATTERN. | |
| WB-1 | WALL BOX | REVERSO-MATIC | SWBL-8 | -- | SINGLE WALL BOX WITH LEAK-PROOF FRONT GRILLE. CONNECTION SIZE SHOWN ON DWG. COORDINATE COLOR OF WALL BOX WITH ARCHITECTURAL DRAWINGS. | |



1700 LANGSTAFF ROAD SUITE 2002
VAUGHAN, ONTARIO
L4K 3S3
(416) 250-7222



KEY PLAN

| | | | |
|-----|------------------------------|------------|------|
| 6. | ISSUED FOR ADDENDUM M-1 | Nov. 08/24 | E.C. |
| 5. | ISSUED FOR PERMIT & TENDER | Sep. 20/24 | E.C. |
| 4. | ISSUED FOR PERMIT | May. 27/24 | E.C. |
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| No. | Revision | Date | By |

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| | |
|------|--|
| Seal | |
|------|--|

Project Name
**Upper Yonge Village
Daycare Centre**
14 St. Clements Avenue, Toronto, ON

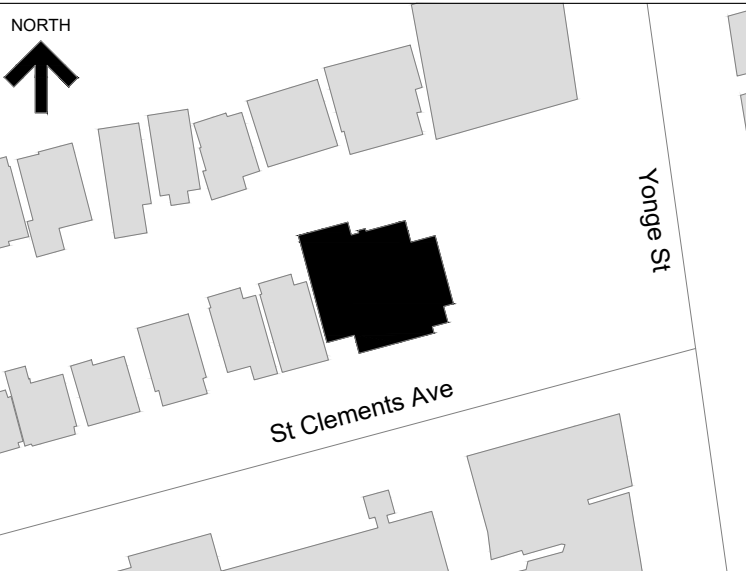
BUILDING RENOVATION

Sheet Title

Schedules

| | | | |
|--------------------|-----------------|-------|--------------|
| Drawn By | N.P. | Scale | As indicated |
| Designed By | J.C. | Date | March 2024 |
| RJC Project Number | TOR.122940.0001 | | |
| Sheet Number | Revision | | |

M-7B



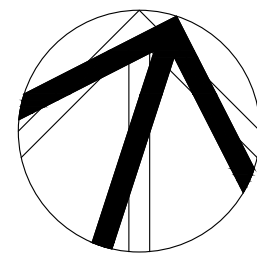
KEY PLAN

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Seal



Project Name

**Upper Yonge Village
Daycare Centre**
14 St. Clements Avenue, Toronto, ON

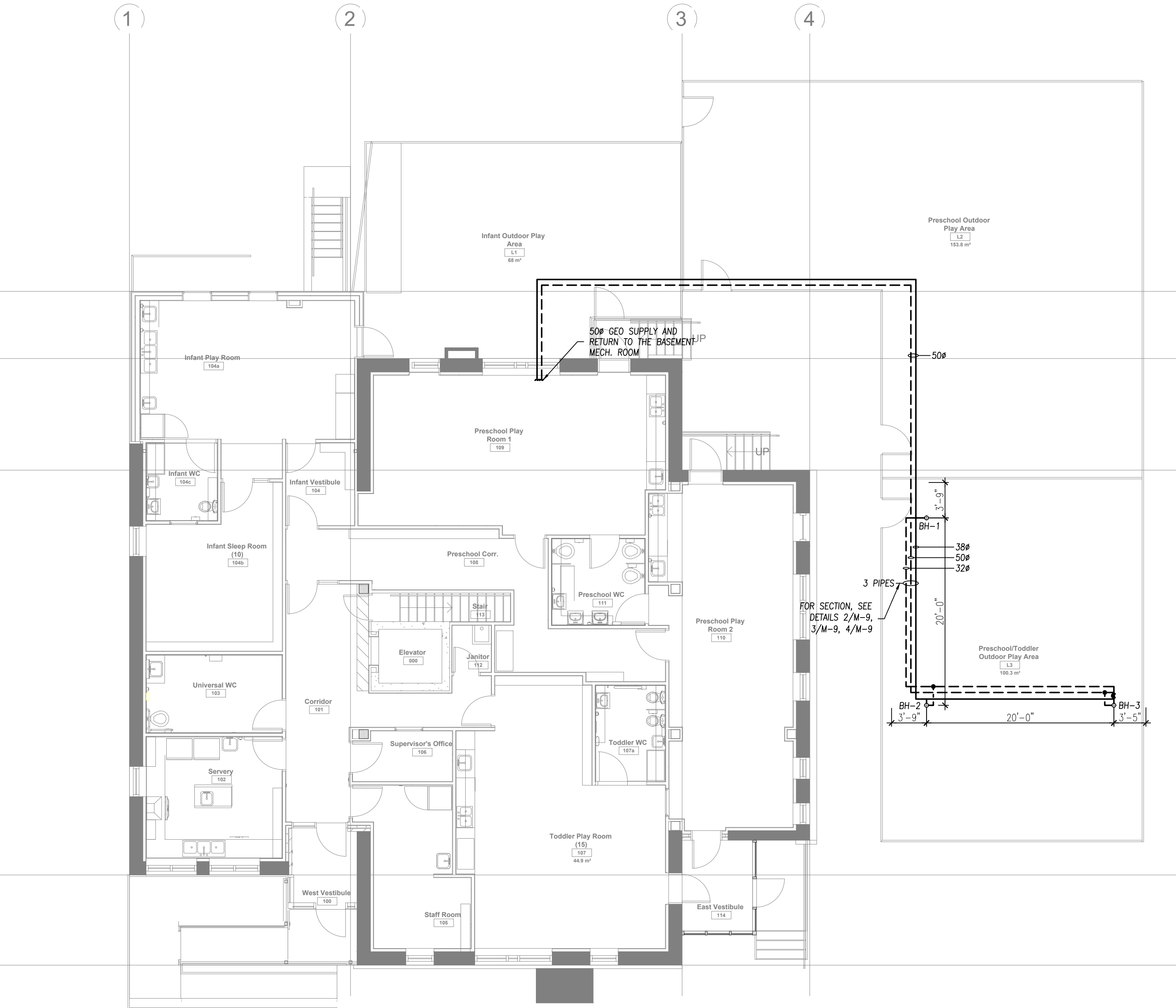
BUILDING RENOVATION

Sheet Title

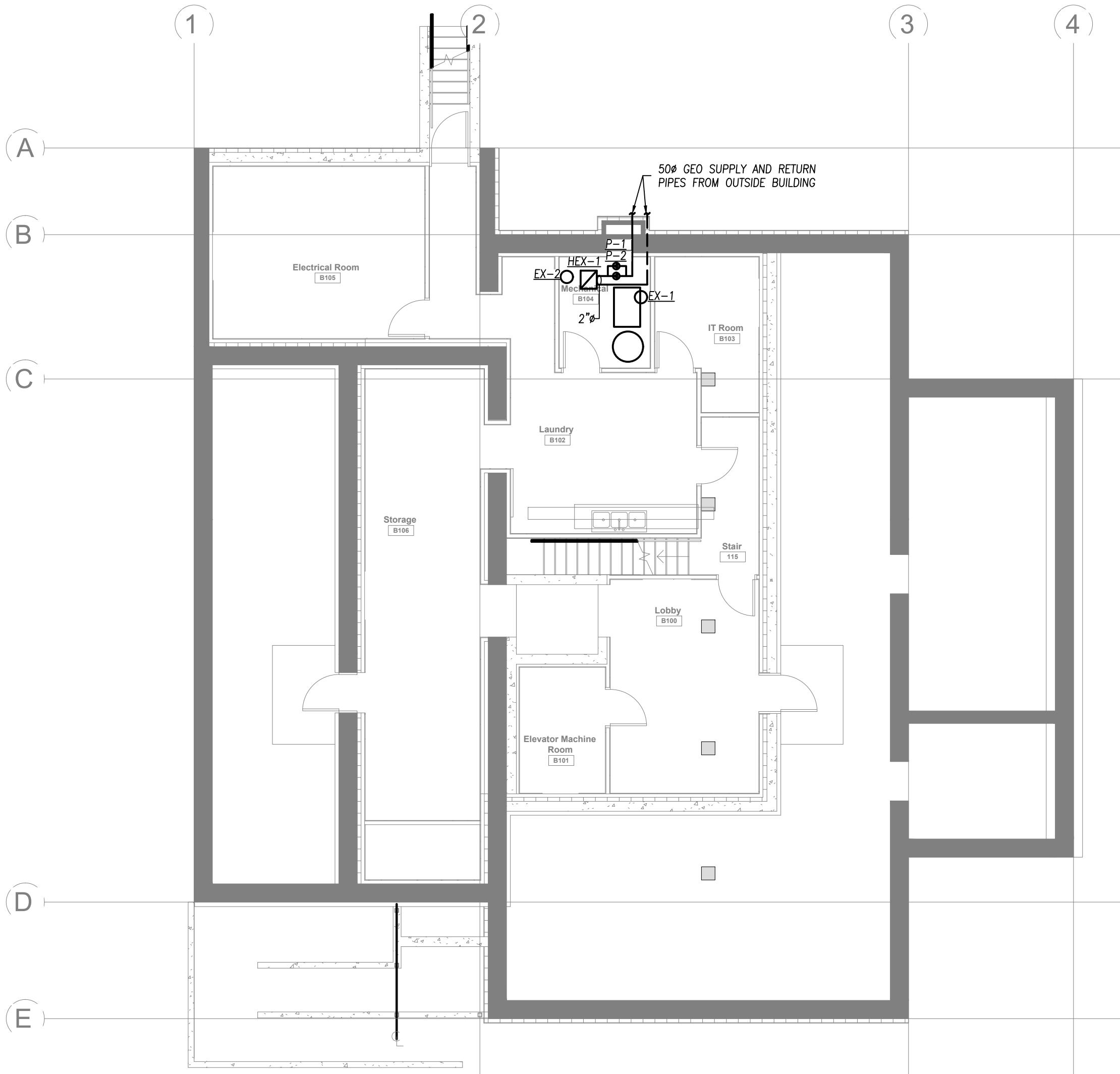
Level 1 & Basement Proposed Plan
Geothermal Layout

| | | | |
|--------------------|-----------------|-------|--------------|
| Drawn By | N.P. | Scale | As indicated |
| Designed By | J.C. | Date | March 2024 |
| RJC Project Number | TOR.122940.0001 | | |
| Sheet Number | Revision | | |

M-8



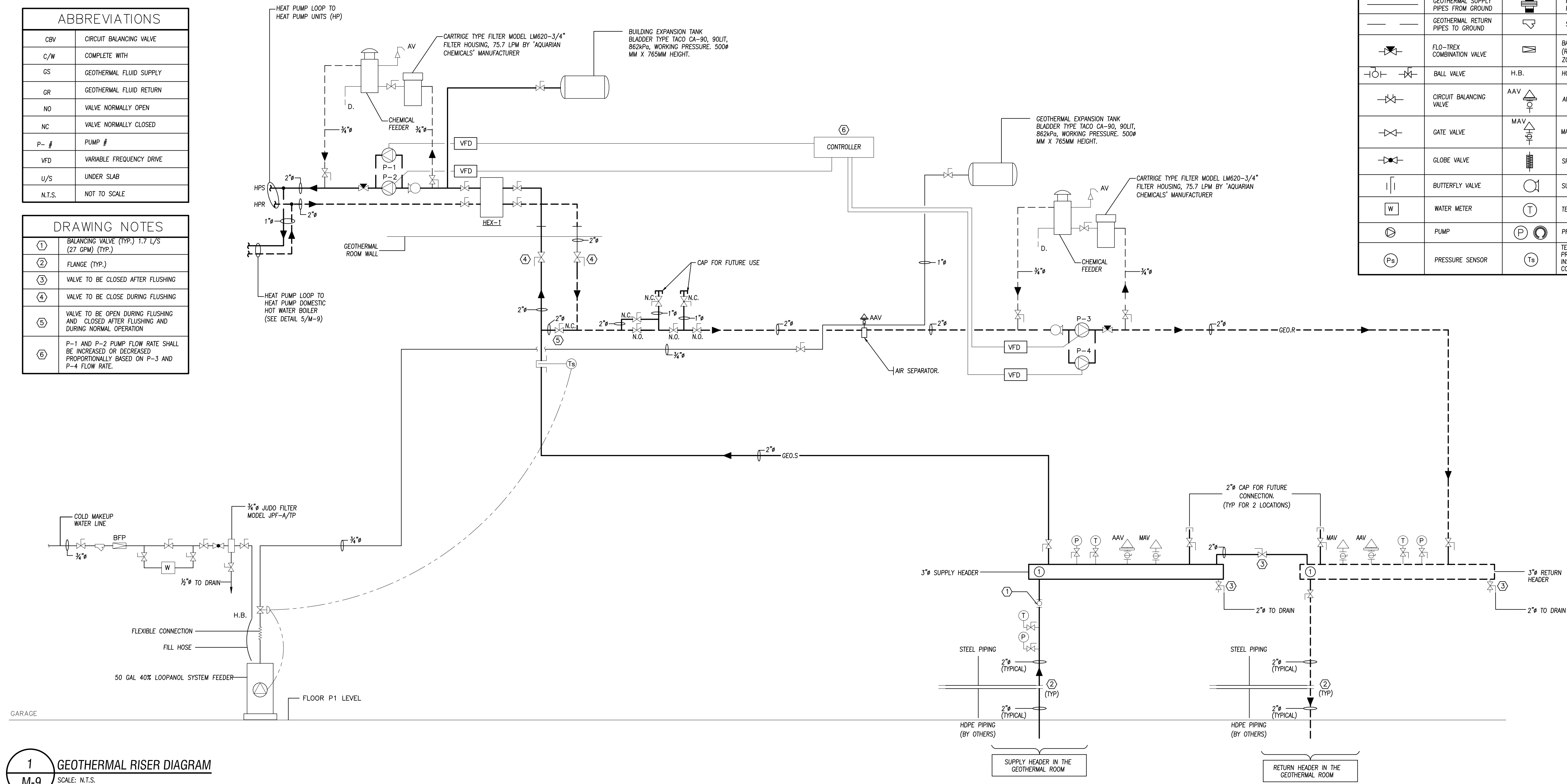
1 GEOTHERMAL PLAN
M-8 SCALE: 1/8" = 1'-0"



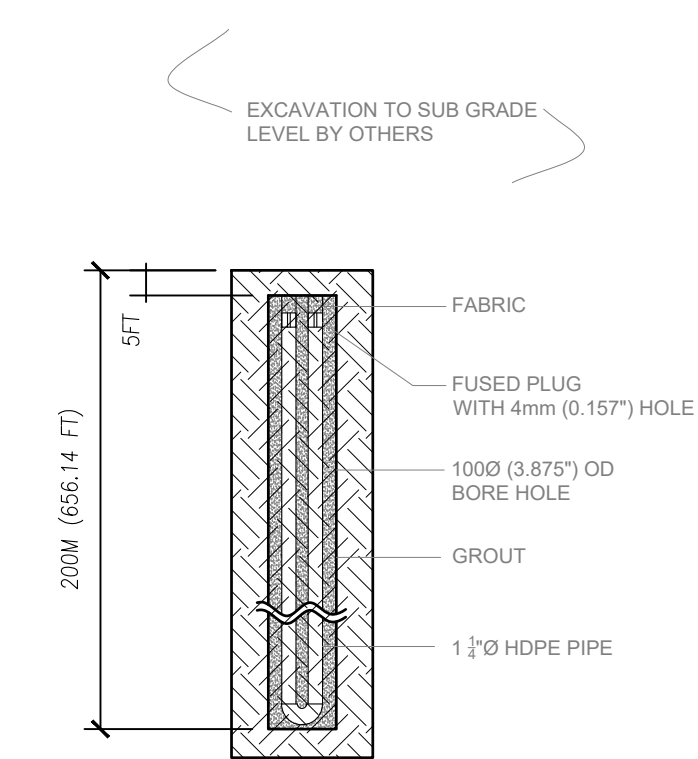
2 GEOTHERMAL PLAN - BASEMENT
M-8 SCALE: 1/8" = 1'-0"

| ABBREVIATIONS | |
|---------------|--------------------------|
| CBV | CIRCUIT BALANCING VALVE |
| C/W | COMPLETE WITH |
| GS | GEOTHERMAL FLUID SUPPLY |
| GR | GEOTHERMAL FLUID RETURN |
| NO | VALVE NORMALLY OPEN |
| NC | VALVE NORMALLY CLOSED |
| P-# | PUMP # |
| VFD | VARIABLE FREQUENCY DRIVE |
| U/S | UNDER SLAB |
| N.T.S. | NOT TO SCALE |

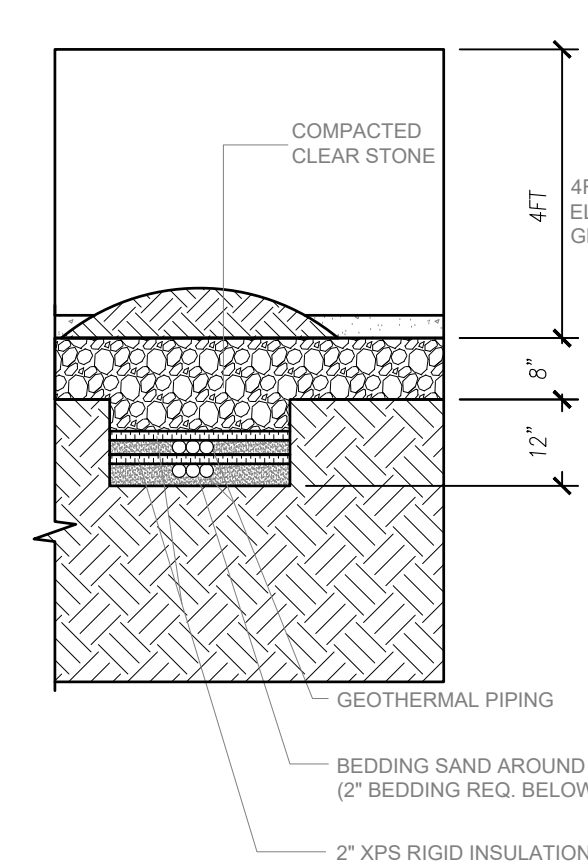
| DRAWING NOTES | |
|---------------|---|
| ① | BALANCING VALVE (TYP.) 1.7 L/S (27 GPM) (TYP.) |
| ② | FLANGE (TYP.) |
| ③ | VALVE TO BE CLOSED AFTER FLUSHING |
| ④ | VALVE TO BE CLOSE DURING FLUSHING |
| ⑤ | VALVE TO BE OPEN DURING FLUSHING AND CLOSED AFTER FLUSHING AND DURING NORMAL OPERATION |
| ⑥ | P-1 AND P-2 PUMP FLOW RATE SHALL BE INCREASED OR DECREASED PROPORTIONALLY BASED ON P-3 AND P-4 FLOW RATE. |



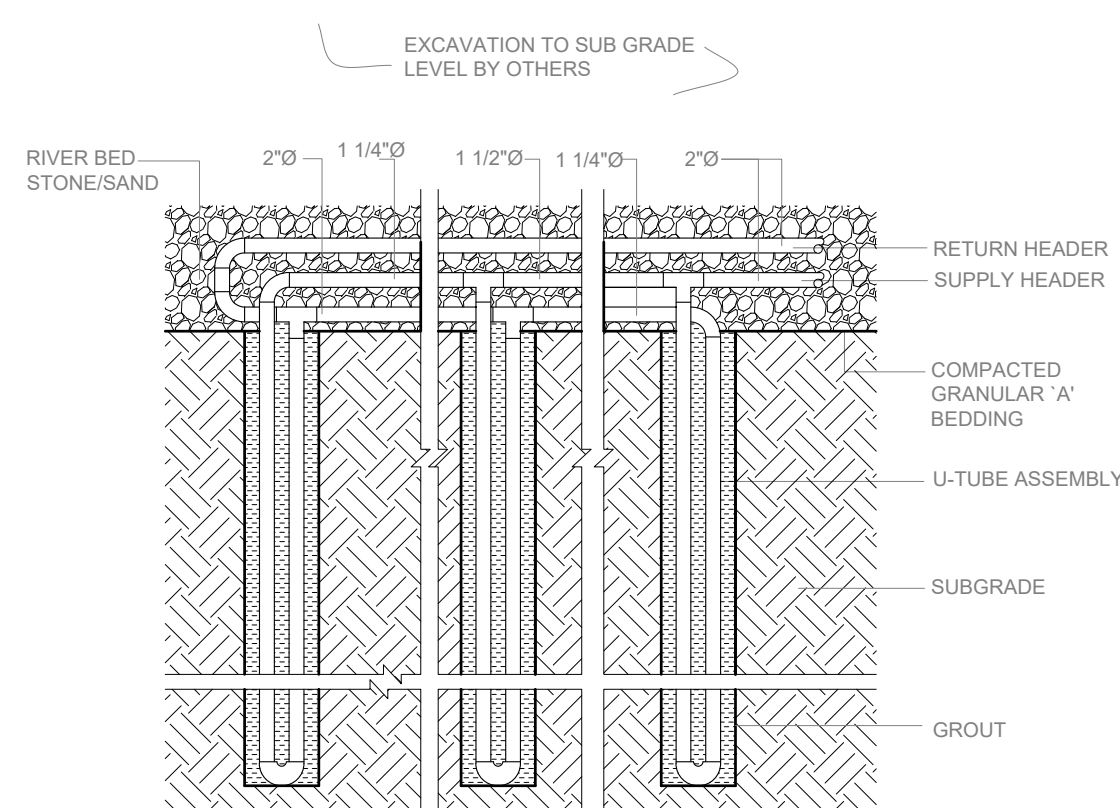
1 GEOTHERMAL RISER DIAGRAM
SCALE: N.T.S.



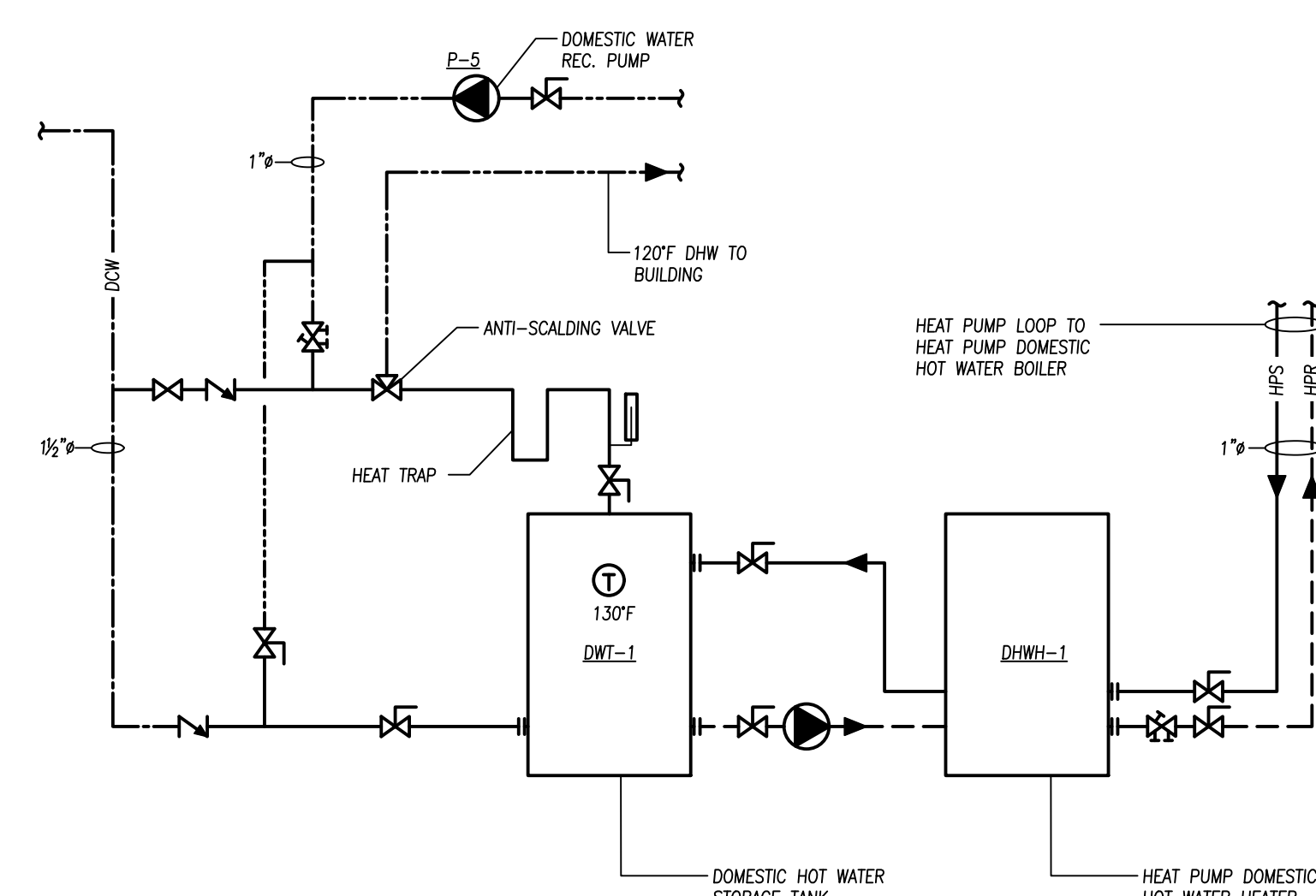
2 VERTICAL BOREHOLE DETAIL
SCALE: N.T.S.



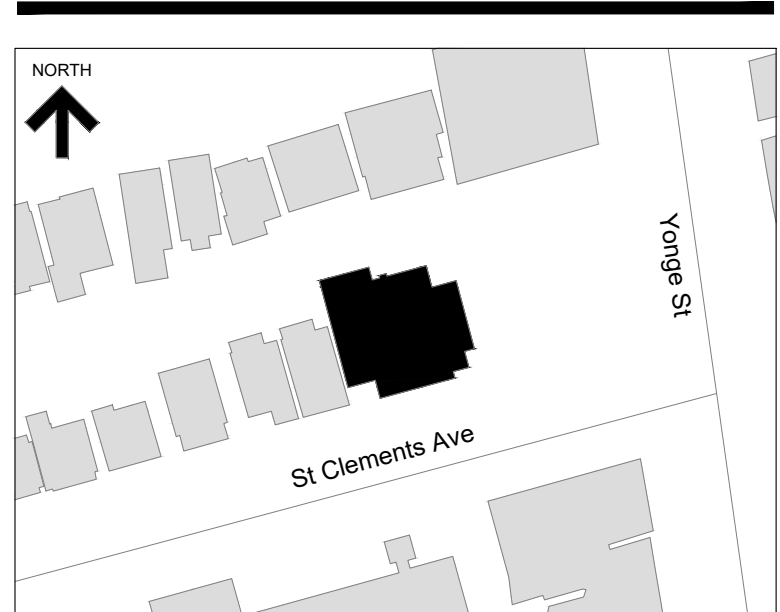
3 SECTION THRU HORIZONTAL CIRCUIT
SCALE: N.T.S.



4 TYPICAL SECTION THRU VERTICAL U-TUBE CIRCUIT
SCALE: N.T.S.



5 DOMESTIC HOT WATER HEATING SCHEMATIC
SCALE: N.T.S.



KEY PLAN

| | | | |
|-----|------------------------------|------------|------|
| 6. | ISSUED FOR ADDENDUM M-1 | Nov. 08/24 | E.C. |
| 5. | ISSUED FOR PERMIT & TENDER | Sep. 20/24 | E.C. |
| 4. | ISSUED FOR PERMIT | May. 27/24 | E.C. |
| 3. | ISSUED FOR TENDER | May. 13/24 | E.C. |
| 2. | ISSUED FOR CLIENT REVIEW | May. 10/24 | E.C. |
| 1. | ISSUED FOR 95% CLIENT REVIEW | Mar. 26/24 | E.C. |
| No. | Revision | Date | By |

Drawing Notes

- All drawings, plans, models, designs, specifications and other documents prepared by Read Jones Christoffersen Ltd. ("RJCL") and used in connection with this project are instruments of service for the work shown in them (the "Work") and as such are and remain the property of RJCL whether the Work is executed or not, and RJCL reserves the copyright in them and in the Work executed from them, and they shall not be used for any other work or project.
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Seal

Project Name

**Upper Yonge Village
Daycare Centre**
14 St. Clements Avenue, Toronto, ON

BUILDING RENOVATION

Sheet Title

Level 1 & Basement Proposed Plan
Geothermal Riser Diagram & Details

Drawn By N.P. Scale As indicated
Designed By J.C. Date March 2024
RJCL Project Number TOR.122940.0001
Sheet Number M-9 Revision