

## GENERAL NOTES

1. THE ONTARIO BUILDING CODE, 2012 EDITION (LATEST REVISIONS) SHALL BE THE BASIS FOR THE DESIGN AND CONSTRUCTION OF THIS WORK.
2. ALL DIMENSIONS GIVEN ON THE DRAWINGS MUST BE FIELD CHECKED AND ANY INCONSISTENCIES REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT 1980, REG. 213/91, LATEST REVISIONS.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT PROVINCE OF ONTARIO AND CITY OF VAUGHAN STANDARDS.

## GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR IS TO MEET ALL THE REQUIREMENTS OF THE OWNERS OF THE UTILITIES ON THIS PLAN AND MUST MAKE SATISFACTORY ARRANGEMENTS WITH THE UTILITY COMPANIES FOR CROSSING THEIR INSTALLATIONS AND FOR PROVIDING ADEQUATE PROTECTION DURING CONSTRUCTION.
2. ALL ORGANIC, UNSTABLE OR UNSUITABLE MATERIALS BENEATH THE ROAD ALLOWANCE OR FOUNDATIONS OR FLOOR SLABS MUST BE REMOVED AND THESE AREAS BACK FILLED WITH AN APPROVED FILL MATERIAL, ALL TO THE SATISFACTION OF AN INDEPENDENT TESTING COMPANY.
3. FOR ALL DISCIPLINES, ANY PIPING DAMAGED OR CUT DURING CONSTRUCTION SHALL BE REINSTATED WITH LIKE MATERIAL(S), ALL AT NO COST TO THE CLIENT.

## DEMOLITION & REMOVALS

1. REMOVE EXISTING MATERIALS AND COMPONENTS AS NOTED ON DRAWINGS. NOTIFY THE CONSULTANT IMMEDIATELY (AND PRIOR TO PROCEEDING) IF ADDITIONAL REMOVALS ARE REQUIRED IN ORDER TO FACILITATE THE COMPLETE SCOPE OF THE WORK.
2. THE CONTRACTOR SHALL NOTIFY THE CONSULTANT IF ADDITIONAL REMOVALS ARE REQUIRED IN DETERIORATED AREAS (WHERE REHABILITATION WORK IS INTENDED). CONTRACTOR IS NOT TO PROCEED UNTIL THEY HAVE WRITTEN APPROVAL TO DO SO.
3. ALL DEBRIS AND GARBAGE MUST BE PROMPTLY REMOVED FROM THE SITE AT THE END OF EACH DAY.
4. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO RECYCLE ALL BUILDING MATERIALS, WHERE FACILITIES EXIST. THE CONTRACTOR IS RESPONSIBLE FOR ALL CHARGES AND FEES ASSOCIATED WITH THE REMOVAL OF GARBAGE AND ITEMS FOR RECYCLING. THE CONTRACTOR IS ALSO ENTITLED TO ANY REIMBURSEMENT FROM THE RECYCLED MATERIALS.
5. EXERCISE SPECIAL CARE DURING REMOVALS IN FINISHED AREAS TO NOT DAMAGE EXISTING SURFACES.
6. ALL SURFACES DAMAGED DURING CONSTRUCTION ARE TO BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER.

## SITE SAFETY

1. PORTIONS OF THE SITE ARE TO REMAIN IN-USE DURING CONSTRUCTION. ENCLOSE WORK AREA WITH STEEL MODULAR FENCE.
2. CONTRACTOR TO PROVIDE SIGNAGE ON EXTERIOR AND INTERIOR SIDE OF BUILDING ADVISING THAT THE VARIOUS ITEMS OF CONSTRUCTION INSIDE AND OUTSIDE ARE UNDER CONSTRUCTION.
3. CONTRACTOR TO EXERCISE SPECIAL ATTENTION TO NOISE AND DUST GENERATION WITH RESPECT TO OCCUPANTS AND VISITORS DURING ALL PHASES OF THE WORK.
4. CONTRACTOR SHALL ERECT TEMPORARY PLATFORMS, SCAFFOLDING, SHORING, RAMPS, STAIRS ETC. AS REQUIRED FOR THE SAFE EXECUTION OF THE WORK.

## CLOSEOUT NOTE:

THE CONTRACTOR IS TO PROVIDE ALL CLOSEOUT DOCUMENTS IN ACCORDANCE WITH THE CITY'S FRONT-END. IN ADDITION, THE CONTRACTOR IS TO ENSURE THAT ALL CLOSEOUT DOCUMENTS (INCLUDING MAINTENANCE AND OPERATIONAL MANUALS) ARE PROVIDED IN PDF.

## WARRANTY NOTE:

1. AT A MINIMUM, THE CONTRACTOR IS TO PROVIDE A TWENTY-FOUR (24) MONTH WARRANTY PERIOD FOR ALL WORK UNDERTAKEN AS PART OF THIS PROJECT.
2. AT A MINIMUM, ANY SUB-CONTRACTORS AND/OR SUB-TRADES ARE TO PROVIDE A TWENTY-FOUR (24) MONTH WARRANTY PERIOD FOR ALL WORK UNDERTAKEN AS PART OF THIS PROJECT.
3. THE CONTRACTOR IS TO REFER TO THE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION ON EXTENDED WARRANTIES FOR SPECIFIC EQUIPMENT AND/OR WORK.

## EXISTING WALL/CEILING MOUNTED ITEMS:

ON ANY WALL/CEILING SURFACES REQUIRING WORK, ANY MOUNTED ITEMS WHICH ARE NOT PART OF THE SCOPE OF REMOVAL ARE TO BE CAREFULLY REMOVED AND EITHER STOCKPILED FOR REINSTALLATION OR REROUTED FOR FUNCTIONING SYSTEMS. THIS INCLUDES, BUT IS NOT LIMITED TO, LIGHT SWITCHES, ELECTRICAL PANELS, SIGNAGE, FIRST AID KITS, FIRE ALARM PANELS, ELECTRICAL OUTLETS AND/OR CONDUITS, FIRE SAFETY PLANS, NOTIFICATION BOARDS, EXIT SIGNS, LIGHTS, HEATERS, DIFFUSERS, WAYFINDINGS, VENTILATION GRILLES, ETC.

## EXISTING SIGNAGE:

IT IS IMPERATIVE THAT ANY EXIT SIGNAGE OR DIRECTIONAL SIGNAGE OR BARRIER FREE SIGNAGE OR SPECIFIC FACILITY SIGNAGE THAT IS REMOVED TO FACILITATE THE WORK IS REINSTALLED ONCE ALL WORK HAS BEEN COMPLETED. REINSTALLATION SHALL BE IN APPROVED LOCATIONS AND AT APPROVED MOUNTING HEIGHTS.

## TEMPORARY SHORING:

WHILE IT IS NOT ANTICIPATED THAT ANY TEMPORARY SHORING WILL BE REQUIRED FOR THIS PROJECT, IF TEMPORARY SHORING IS REQUIRED THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING THE TEMPORARY SHORING REQUIRED FOR THE WORKS INCLUDING WORKS ALONG THE EXISTING BUILDING FACE/EXISTING EXTERIOR WALLS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SUBMITTING CERTIFIED SHOP DRAWINGS (STAMPED BY AN ENGINEER, LICENSED TO PRACTICE IN ONTARIO) FOR THE TEMPORARY SHORING. THIS DOCUMENTATION WILL NEED TO BE SUBMITTED TO THE CONSULTANT WHO WILL FORWARD TO THE BUILDING OFFICIALS (IF REQUIRED). THE CONTRACTOR WILL BE RESPONSIBLE FOR ANSWERING ANY QUESTIONS OR SUBMITTING ANY CLARIFICATIONS/INFORMATION REQUESTED BY THE BUILDING OFFICIALS.

## GENERAL NOTES FOR ROOF PENETRATIONS

1. ALL ROOF PENETRATIONS (FOR ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, REFRIGERATION, ETC.) FOR NEW WORKS ARE TO BE REPAIRED SUCH THAT THE NEW PENETRATION IS WATERPROOF AND EXISTING ROOF DAMAGED IS REPAIRED TO A CONDITION AS GOOD AS OR BETTER THAN THE ORIGINAL.
2. IF APPLICABLE, PROVIDE NEW STACK JACK/PITCH POCKETS AS REQUIRED AND INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS INCLUDING ALL MASTIC AND/OR SEALANT.

## GENERAL NOTES FOR CONCRETE WORK

1. ALL WORK SHALL CONFORM TO CAN/CSA – A23.1–14 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION.
2. PROPER INSTALLATION OF CONCRETE IS IMPORTANT TO MINIMIZE CRACKS AND OBTAIN DESIRED CONCRETE STRENGTH. CURING: A MINIMUM AMOUNT OF CURING IS RECOMMENDED TO OBTAIN A DURABLE HARD CONCRETE. THIS CAN BE OBTAINED BY COVERING THE SURFACE WITH VISQUEEN PLASTIC IMMEDIATELY AFTER THE CONCRETE HAS HARDENED. LEAVE PLASTIC IN PLACE FOR A MINIMUM OF 7 DAYS.
  - a. COLD WEATHER INSTALLATION: DO NOT ALLOW CONCRETE TO FREEZE FOR AT LEAST 7 DAYS AFTER CONCRETE HAS SET. FOLLOW RECOMMENDATION OF ACI DOCUMENT 306 TITLED "COLD WEATHER CONCRETING".
  - b. HOT WEATHER INSTALLATION: DO NOT ALLOW SURFACE TO DRY BEFORE APPLYING VISQUEEN PLASTIC OR OTHER CURING MEDIUM. FOLLOW RECOMMENDATION OF ACI DOCUMENT 305R-10 TITLED "HOT WEATHER CONCRETING".
3. MATERIALS:
  - a. CONCRETE: 40 MPa IN 28 DAYS, 6% AIR ENTRAINMENT.
  - b. CLASS OF EXPOSURE: C-1
  - c. REBAR: Fy = 400 MPa (CSA G30.18-09)
4. FINISH OF CONCRETE AS NOTED BELOW:
  - a. RAMPS: BROOM FINISH ON SURFACE (PERPENDICULAR TO THE DIRECTION OF TRAVEL).
  - b. VERTICAL FACES: SMOOTH FORM FINISH. FILL ALL VOIDS.
5. TO AVOID UNDERMINING, BACKFILL SHOULD BE WITHIN 102 (4") OF TOP OF SLAB.
6. CONTRACTION JOINTS MUST BE CUT WITHIN 24 HOURS OF CONCRETE PLACEMENT IN INTERVALS AS SHOWN ON THE DRAWINGS.
7. MAXIMUM SLUMP IS TO BE 76 (3").
8. FOR ALL HOUSEKEEPING PADS, CHAMFER ALL EXPOSED EDGES OF CONCRETE 25 (1").
9. BRING TO THE ATTENTION OF THE ENGINEER ANY OBJECTS, OLD FOUNDATIONS OR POOR SOILS ENCOUNTERED DURING EXCAVATION.
10. REMOVE SOFTENED OR LOOSE SOIL PRIOR TO PLACING CONCRETE. RE-LEVEL AND RE-COMPACT BASE AFTER REMOVALS.
11. COMPACT BACKFILL IN 203 (8") THICK LIFTS MAXIMUM. BACKFILL TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
12. JOINT SEALANT TO BE TYPE 1 CLASS B.
13. MAINTAIN A MINIMUM OF 76 (3") COVERAGE OVER REBAR IN SLABS.

## SHOP DRAWINGS:

1. PRIOR TO THE SUBMISSION OF SHOP DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND PERFORM A DETAILED SITE SURVEY INCLUDING SITE MEASUREMENTS AND ELECTRICAL RATINGS.
2. CONTRACTOR RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS FOR THE NEW WORK AND ALL ASSOCIATED COMPONENTS. THIS IS TO INCLUDE PRODUCT CUT SHEETS FOR ALL ITEMS.

### SHOP DRAWING SUBMITTALS

THE FOLLOWING ITEMS REQUIRE TESTING OR INSPECTION BY A CERTIFIED INDEPENDENT TESTING OR INSPECTION AGENCY, UNLESS NOTED OTHERWISE. THE AGENCY SHALL SEND COPIES OF ALL TESTING AND INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.

ITEM	REQUIRED?	COMMENTS
SOIL BEARING CAPACITY	NO	BY INDEPENDENT TESTING COMPANY
SOIL COMPACTION	NO	BY INDEPENDENT TESTING COMPANY
REINFORCING STEEL PLACEMENT	NO	INSPECT FINAL PLACEMENT
CONCRETE COMPRESSIVE TESTS	NO	MINIMUM 2 SETS/100m <sup>3</sup>
CONCRETE SLUMP	NO	
STRUCTURAL STEEL BOLTING	NO	
STRUCTURAL STEEL WELDING	NO	INSPECT ALL FIELD WELDS

THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMIT TWO COPIES UNLESS NOTED OTHERWISE.

ITEM	REQUIRED	SUBMITTAL?	P.ENG. STAMP REQUIRED
REBAR SHOP DRAWINGS	NO	NO	NO
CONCRETE MIX DESIGNS	NO	NO	NO
STRUCTURAL STEEL SHOP DRAWINGS	NO	NO	YES (CONNECTIONS)
JOIST/TRUSS SHOP DRAWINGS	NO	NO	YES
MISCELLANEOUS STEEL HAND/GUARD RAILS	NO	NO	YES
DOOR SCHEDULES, DOOR HARDWARE	NO	NO	NO
WINDOW SCHEDULES, WINDOW HARDWARE	NO	NO	NO
BARRIER FREE COMPONENTS FOR DOORS/WINDOWS	NO	NO	NO
MECHANICAL EQUIPMENT	NO	NO	NO
ELECTRICAL EQUIPMENT	NO	NO	NO
REFRIGERATION EQUIPMENT	YES	NO	NO
REFRIGERATION ROOM LAYOUT	YES	NO	NO
REFRIGERATION PIPING LAYOUT	YES	NO	NO

## GENERAL NOTES FOR MASONRY WORK

### EXTERIOR/INTERIOR MASONRY REPLACEMENT:

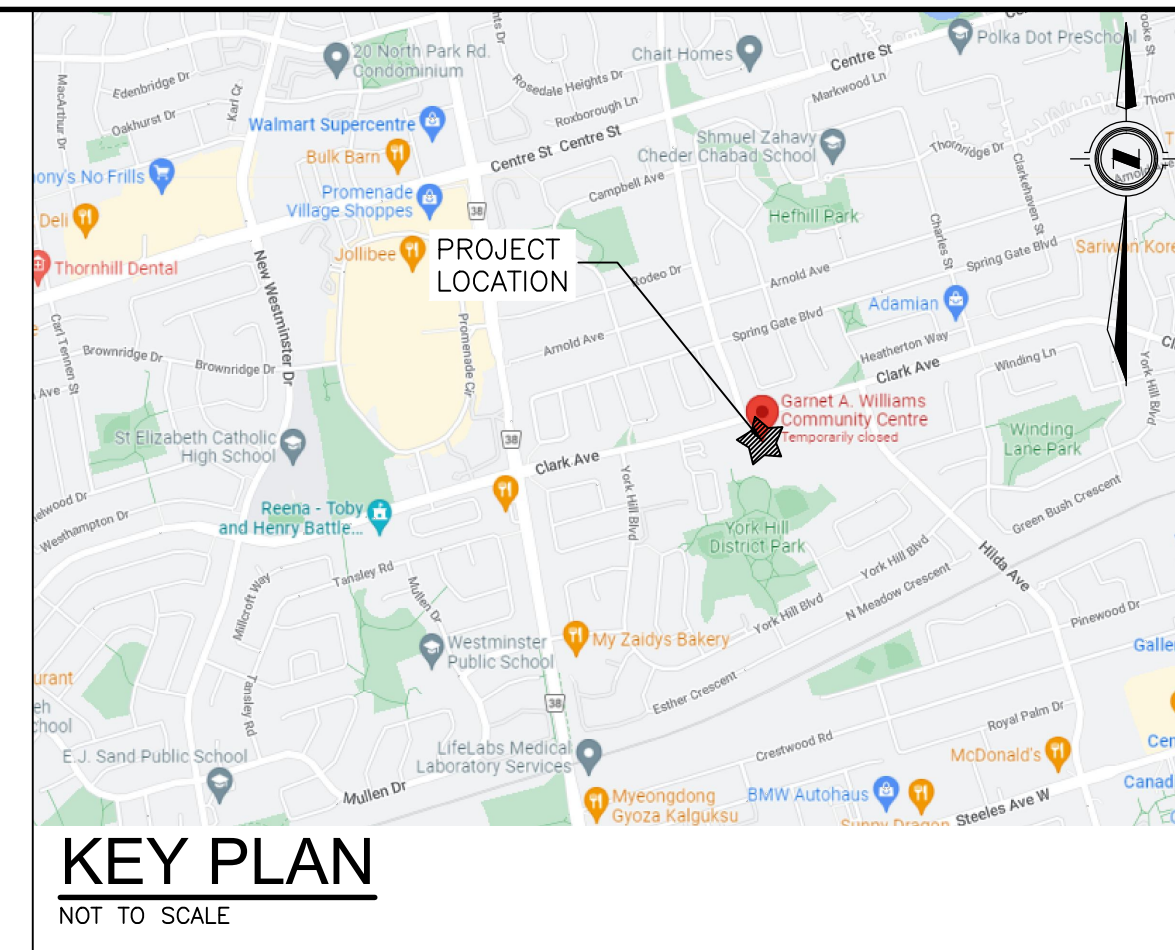
1. ALL WORK SHALL CONFORM TO CAN/CSA S304-14(R2019) DESIGN OF MASONRY STRUCTURES, CAN/CSA A370:14(R2018) CONNECTORS FOR MASONRY AND CAN/CSA A371-14(R2019) MASONRY CONSTRUCTION FOR BUILDINGS.
2. REMOVE DETERIORATED MASONRY UNITS IN LOCATIONS SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE CONSULTANT. DO NOT REMOVE SECTIONS GREATER THAN 900mm WIDE WITHOUT PROVIDING SHORING. COMPLETELY REMOVE FULL MASONRY UNITS AND ADJACENT MORTAR JOINTS – TOOTH/STEP ALL REMOVALS.
3. FIRED CLAY BRICK UNITS MUST BE SOURCED TO MATCH EXISTING SIZE AND COLOUR. MASONRY SHALL COMPLY TO CAN/CSA A82:14(R2018) BURNED CLAY BRICK (SOLID MASONRY UNITS MADE FROM CLAY OR SHALE), GRADE SW, MAXIMUM WATER ABSORPTION OF 11.5% AND A SATURATION COEFFICIENT OF 0.95 IN 24-HR COLD WATER SUBMERSION TEST AND COMPLYING WITH FREEZE-THAW TESTS UNDER THIS STANDARD. PROVIDE SAMPLES OF ALL MASONRY UNITS PROPOSED FOR REPLACEMENT FOR APPROVAL BY THE CONSULTANT AND THE OWNER SHOWING THE FULL COLOUR/PATTERN AND SIZE.
4. NEW CONCRETE BLOCK UNITS SHALL CONFORM TO CAN/CSA A165 SERIES 14(R2019), CSA STANDARDS ON CONCRETE MASONRY UNITS, CAN/CSA A371-14(R2019), MASONRY CONSTRUCTION FOR BUILDINGS AND CAN/CSA S304-14(R2019), DESIGN OF MASONRY STRUCTURES. SOURCE SIMILAR-SIZED UNITS TO MATCH EXISTING WHERE POSSIBLE. LIGHTWEIGHT BLOCK MAY BE USED IN NON-LOAD-BEARING CONDITIONS WITH APPROVAL FROM THE CONSULTANT.
5. MORTAR SHALL BE TYPE "N" OR "S" TO CAN/CSA A179-14(R2019), MORTAR AND GROUT FOR UNIT MASONRY, MIN. 12.5 MPa COMPRESSIVE STRENGTH. COLOUR GREY, TO MATCH EXISTING.
6. INSTALL NEW MASONRY UNITS TO BLEND WITH EXISTING UNITS IN COLOUR, SIZE AND CONFIGURATION. BUTTER ALL SIDES OF REPLACED MASONRY UNITS. ENSURE MORTAR JOINT SIZE, COLOUR AND CONFIGURATIONS MATCH EXISTING, AS CLOSELY AS POSSIBLE.
7. TOOL ALL JOINTS TO MATCH EXISTING SIZE & PROFILE.
8. FOR AREA WITH 3 BRICKS/BLOCKS OR MORE TO BE REPLACED, PROVIDE MASONRY ANCHORS AT 1219 (4") HORIZONTALLY AND 406 (16") VERTICALLY. ANCHORS SHALL BE "FLEX-O-LOK" ANCHORS BY BLOK-LOK FOR BLOCK WALL BACKUP OR 4.76 (3/8") STAINLESS STEEL WIRE INTO EXISTING SLOTTED ANCHORS IN STEEL STUD WALL BACKUP.

### MORTAR JOINT REPOINTING:

1. CUT CRACKED OR DETERIORATED MORTAR JOINTS WITH A MINI-GRINDER C/W DIAMOND WHEEL, MINIMUM 25 (1") DEEP. TAKE EXTRA CARE TO NOT DAMAGE ADJACENT MASONRY UNITS. CLEAN ALL DUST AND DEBRIS.
2. INSTALL NEW MORTAR TO COMPLETELY FILL ALL REMOVED AREAS. RAKE & TOOL JOINT TO MATCH EXISTING AND TO ENSURE POSITIVE DRAINAGE.
3. REPOINTING MORTAR SHALL BE TYPE "N" OR "S" TO CAN/CSA A179-14(R2019). COLOUR GREY, TO MATCH EXISTING.
4. REPAINT MORTAR JOINTS IN EXISTING TO MATCH EXISTING WHERE APPLICABLE.

### EXISTING WALL REMOVALS:

1. AT AREAS WHERE EXISTING MASONRY WALLS ARE REMOVED AND THE REMOVAL AREA WILL BE VISIBLE, PROVIDE A SMOOTH FACE EXPOSED FINISH AT THE REMOVAL LOCATION (IE, DO NOT LEAVE MASONRY GAPS OR ROUGH MASONRY RESIDUE AT REMOVAL LOCATIONS).



**KEY PLAN**  
NOT TO SCALE

## STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL INCLUDING ANCHOR BOLTS, PLATES AND ROLLED SECTIONS TO BE G40.21 – GRADE 44W.
2. ALL WELDING TO CONFORM TO:
  - 1) CSA STANDARD W59-18 "WELDED STEEL CONSTRUCTION" (METAL ARC WELDING).
  - 2) CSA STANDARD W55.3-08(R2018) "CERTIFICATION OF COMPANIES FOR RESISTANCE WELDING OF STEEL AND ALUMINUM".
3. STRUCTURAL STEEL FABRICATOR TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU (CWB) – DIVISION 2.1.
4. ALL STRUCTURAL FIELD WELDING TO BE PERFORMED BY A CANADIAN WELDING BUREAU CERTIFIED WELDER. CERTIFICATES TO BE SUBMITTED TO OWNER PRIOR TO START OF WORK.
5. STRUCTURAL STEEL ERECTOR TO BE CWB CERTIFIED.
6. ALL STRUCTURAL STEEL TO RECEIVE SHOP PAINT IN ACCORDANCE WITH CANADIAN GENERAL STANDARDS BOARD (CGSB) SPECIFICATION 1-GP-40D. PRIMER, IRON OXIDE OIL ALKYD TYPE OR APPROVED EQUAL.

## STRUCTURAL SUPPORT FOR ROOF PENETRATIONS

FOR ALL ROOF PENETRATIONS REQUIRED THROUGH ANY EXISTING ROOFING (ESPECIALLY ANY EX SIPOREX ROOFING), THE CONTRACTOR IS TO PROVIDE SEALED STRUCTURAL DRAWINGS DENOTING METHOD OF STRUCTURAL SUPPORT FOR ALL PENETRATIONS. THIS INCLUDES FOR ALL PENETRATIONS, INCLUDING PIPING, SUPPORT FRAMES, ETC.

## LIST OF DRAWINGS

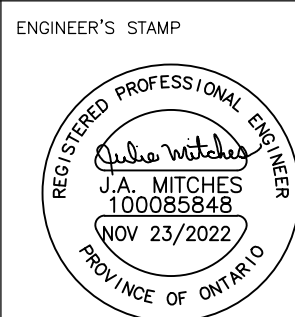
### REFRIGERATION

Sheet No.	DESCRIPTION
Sheet No. R1	REFRIGERATION PLAN KEY PLAN, GENERAL NOTES, LIST OF DRAWINGS
Sheet No. R2	REFRIGERATION PLAN COMPRESSOR ROOM DEMOLITION & NEW WORKS
Sheet No. R3	REFRIGERATION PLAN EX FLOW DIAGRAM REPLACEMENT ITEMS

REVISIONS				DATE	BY	CONSULTANT	ENGINEER'S STAMP	ENGINEER'S STAMP	SCALE	TITLE	PROJECT No.
DESIGN	PTM/JAM	1	ISSUED FOR CLIENT REVIEW	NOV 02/2022	JAM					REFRIGERATION UPGRADES AT <b>GARNET A. WILLIAMS COMMUNITY CENTRE LOCATED AT 501 CLARKE AVE. W., THORNHILL, ON L4J 4E5</b>	6528/A01-01
DRAWN	EMB	2	ISSUED TENDER	NOV 23/2022	JAM						SHEET No.
CHECKED	PTM/JAM									PLAN FILE No.	6528/A01-01
APPROVED	PTM/JAM										
DATE	OCTOBER 2022										
CAD	6528A01-01										



**Peter T. Mitches & Associates Limited**  
Project Managers & Consulting Engineers  
LONDON TORONTO



The Contractor shall check and verify all dimensions and report all errors and omissions to OWNER Designee for his/her written direction before proceeding with the Work.

- A Detail No.  
B Sheet No. where detailed

## REFRIGERATION SCOPE OF WORK

### REFRIGERATION SCOPE OF WORK:

NOT ALL EXISTING EQUIPMENT FOR THE ICE SLAB IN THE COMPRESSOR ROOM (ROOM 062) IS TO BE REMOVED AND DISPOSED OF OFF-SITE, REFER TO SPECIFICATIONS 15601 FOR REFRIGERATION WORKS.

REFER TO EXISTING REFRIGERATION EQUIPMENT LIST BELOW AND SPECIFICATIONS 15601.

ALL EXISTING HOUSEKEEPING SLABS UNDER EQUIPMENT TO BE REMOVED ARE TO BE DEMOLISHED AND DISPOSED OF OFF-SITE. PROVIDE NEW HOUSEKEEPING SLABS AS REQUIRED.

ALL REQUIRED/PROPOSED EQUIPMENT FOR FUNCTIONING ICE SLAB(S) IS TO BE NEW AND IS TO BE PROVIDED UNDER THIS CONTRACT.

FOR DETAILS ON THE REFRIGERATION EQUIPMENT, REFER TO SPECIFICATIONS 15601.

## EXISTING REFRIGERATION EQUIPMENT TO BE REUSED

### SOME EQUIPMENT CAN BE RE-USED, ISOLATE, PROTECT AND SEAL DURING CONSTRUCTION:

- ALL RECIPROCATING COMPRESSORS FOR THE INDOOR AND OUTDOOR RINK
- ALL HEAT EXCHANGERS FOR THE INDOOR AND OUTDOOR RINK
- ALL VESSELS FOR THE INDOOR AND OUTDOOR RINK
- OUTDOOR RINK COLD GLYCOL PUMP
- COMMON COMPRESSOR JACKET COOLING SYSTEM PIPING, FITTINGS, VALVES AND EXPANSION TANK
- REUSE EXISTING INDOOR RINK COLD BRINE PIPE, FITTINGS, VALVES AND INSULATION
- REUSE EXISTING INDOOR RINK WARM BRINE PIPE, FITTINGS, VALVES AND INSULATION
- REUSE EXISTING CONDENSER WATER PUMP PIPE, FITTINGS, VALVES AND INSULATION
- REFRIGERATION STARTER PANEL FOR INDOOR AND OUTDOOR RINK
- REFRIGERATION CONTROL SYSTEM FOR INDOOR AND OUTDOOR RINK
- ALL EXPANSION TANKS FOR INDOOR AND OUTDOOR RINK
- COLD BRINE AND GLYCOL SECONDARY REFRIGERANT TO BE REUSED
- INDOOR AND OUTDOOR RINK SLAB, HEADERS AND MAINS

## EXISTING REFRIGERATION EQUIPMENT

### EXISTING REFRIGERATION EQUIPMENT INSTALLED AT THIS FACILITY TO BE DEMOLISHED: (INCLUDE FOR REMOVALS OF ALL VALVES, HANGERS, PIPING, ETC.)

- ONE (1) COMMON EVAPORATIVE CONDENSER INCLUDING STARTER (ROOF TOP UNIT)
- ONE (1) COMMON EVAPORATIVE CONDENSER WATER TANK
- ONE (1) COMMON EVAPORATIVE CONDENSER WATER PUMP INCLUDING STARTER
- ONE (1) SHELL & TUBE UNDERFLOOR HEAT EXCHANGER
- ONE (1) INDOOR COLD BRINE PUMP INCLUDING STARTER
- ONE (1) INDOOR WARM BRINE PUMP INCLUDING STARTER
- ONE (1) COMMON COMPRESSOR JACKET COOLING PUMP

## NEW REFRIGERATION EQUIPMENT

### THE REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE NEW EQUIPMENT DESIGN AND INSTALLATION IS CAPABLE OF PROVIDING A PROPERLY FUNCTIONING REFRIGERATION SYSTEM.

FOR DETAILS ON ALL THE REFRIGERATION EQUIPMENT, REFER TO SPECIFICATIONS 15601.

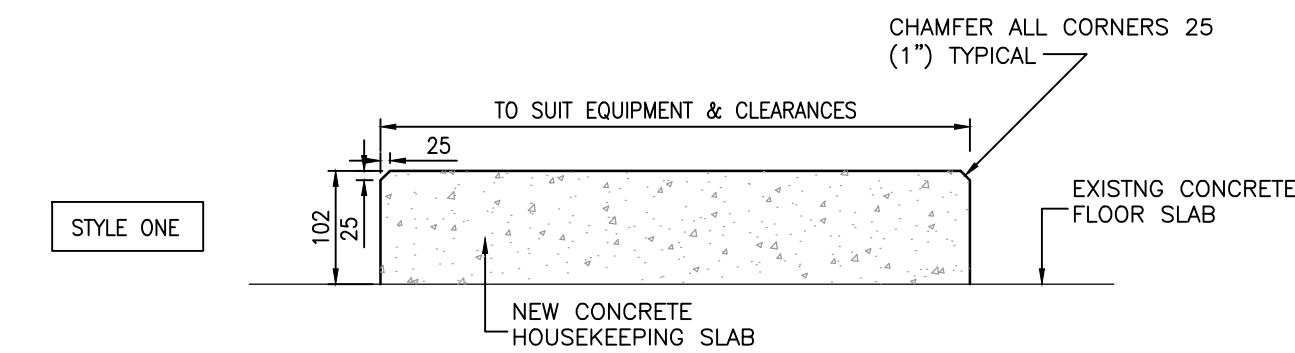
- ONE (1) COMMON EVAPORATIVE CONDENSER INCLUDING STARTER (ROOF TOP UNIT)
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- ONE (1) COMMON EVAPORATIVE CONDENSER WATER PUMP INCLUDING STARTER
- ONE (1) SHELL & TUBE UNDERFLOOR HEAT EXCHANGER
- ONE (1) INDOOR COLD BRINE PUMP INCLUDING STARTER
- ONE (1) INDOOR WARM BRINE PUMP INCLUDING STARTER
- ONE (1) COMMON COMPRESSOR JACKET COOLING PUMP
- ONE (1) WATER TREATMENT SYSTEM
- ONE (1) HOUSEKEEPING SLAB FOR NEW INDOOR COLD BRINE PUMP
- ONE (1) HOUSEKEEPING SLAB FOR NEW INDOOR WARM BRINE PUMP
- REPLACE ALL AMMONIA AND WATER PIPING ON THE ROOF. REUSE EXISTING ROOF PENETRATIONS
- REUSE AMMONIA RELIEF HEADER ON THE ROOF

## STANDARD CONCRETE HOUSEKEEPING SLABS

THERE IS ONE NEW CONCRETE HOUSEKEEPING SLAB STYLE REQUIRED FOR THIS PROJECT.

STYLE ONE IS A 102 (4") HIGH CONCRETE HOUSEKEEPING SLAB. IN ALL CASES, UNLESS NOTED OTHERWISE BY THE EQUIPMENT MANUFACTURER, PROVIDE A MINIMUM OF 152 (6") CLEARANCE AROUND EQUIPMENT AND/OR EQUIPMENT BASES MOUNTED ON THE NEW HOUSEKEEPING SLABS. THE LENGTHS AND WIDTHS OF THE HOUSEKEEPING SLABS SHALL SUIT THE NEW EQUIPMENT AND THE MINIMUM REQUIRED CLEARANCES AS NOTED ABOVE.

ALL EXISTING HOUSEKEEPING SLABS ARE TO BE REMOVED AND DISPOSED OFF-SITE. PROVIDE NEW HOUSEKEEPING SLABS FOR ALL NEW EQUIPMENT.



## STRUCTURAL SUPPORT FOR ROOF PENETRATIONS

FOR ALL ROOF PENETRATIONS REQUIRED THROUGH ANY EXISTING ROOFING (ESPECIALLY EX SIPOREX ROOFING), THE CONTRACTOR IS TO PROVIDE SEALED STRUCTURAL DRAWINGS DENOTING METHOD OF STRUCTURAL SUPPORT FOR ALL PENETRATIONS. THIS INCLUDES FOR ALL PENETRATIONS, INCLUDING PIPING, SUPPORT FRAMES, ETC.

## ROOFTOP PIPING SUPPORTS

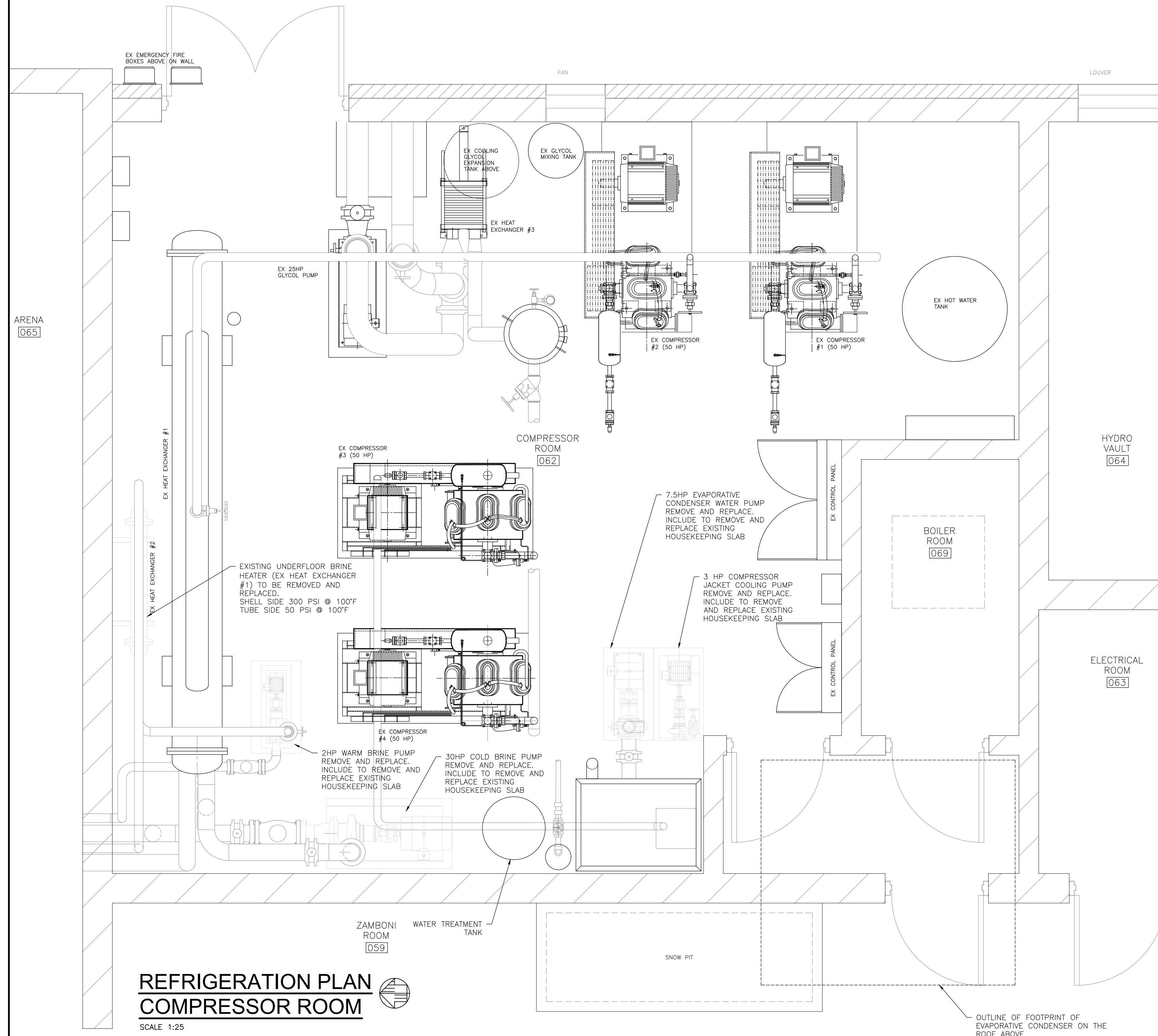
ALL ROOFTOP PIPING SUPPORTS SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO INDUSTRIAL ROOFING CONTRACTORS ASSOCIATION (OIRCA) TECHNICAL BULLETIN: 2018-01 AND CURRENT REQUIREMENTS OF CSA B149.1-15.

## ROOFTOP CONDENSER SUPPORTS

THE EXISTING ROOFTOP CONDENSER IS BEING REMOVED AND REPLACED WITH A NEW UNIT. THE BASIC FOOTPRINT IS THE SAME AND THE EXISTING STEEL FRAME SLEEPERS ARE TO BE REUSED FOR THE NEW UNIT. ONCE THE EXISTING UNIT HAS BEEN DISCONNECTED AND REMOVED FROM THE ROOF AND PRIOR TO INSTALLATION OF THE NEW UNIT, SCRAPE, GRIND AND CLEAN THE EXISTING SLEEPERS TO REMOVE SURFACE RUST AND DIRT. PAINT ENTIRE STEEL FRAME SLEEPERS WITH A ZINC RICH PAINT. PROVIDE AT LEAST TWO COATS OF ZINC RICH PAINT.



PHOTO#1: EXISTING ROOF TOP EVAPORATIVE CONDENSER, TO BE REMOVED AND REPLACED.



## REFRIGERATION PLAN COMPRESSOR ROOM

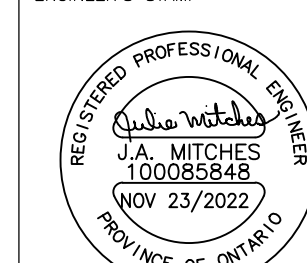
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No.	REVISIONS	DATE	BY	CONSULTANT
1	ISSUED FOR CLIENT REVIEW	NOV 02/2022	JAM	
2	ISSUED TENDER	NOV 23/2022	JAM	
	CHECKED			
	APPROVED			
	DATE	OCTOBER 2022		
	CAD	6528A01-01		



Peter T. Mitches & Associates Limited  
Project Managers & Consulting Engineers  
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ENGINEER'S STAMP



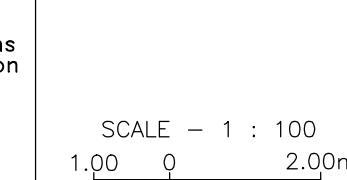
ENGINEER'S STAMP



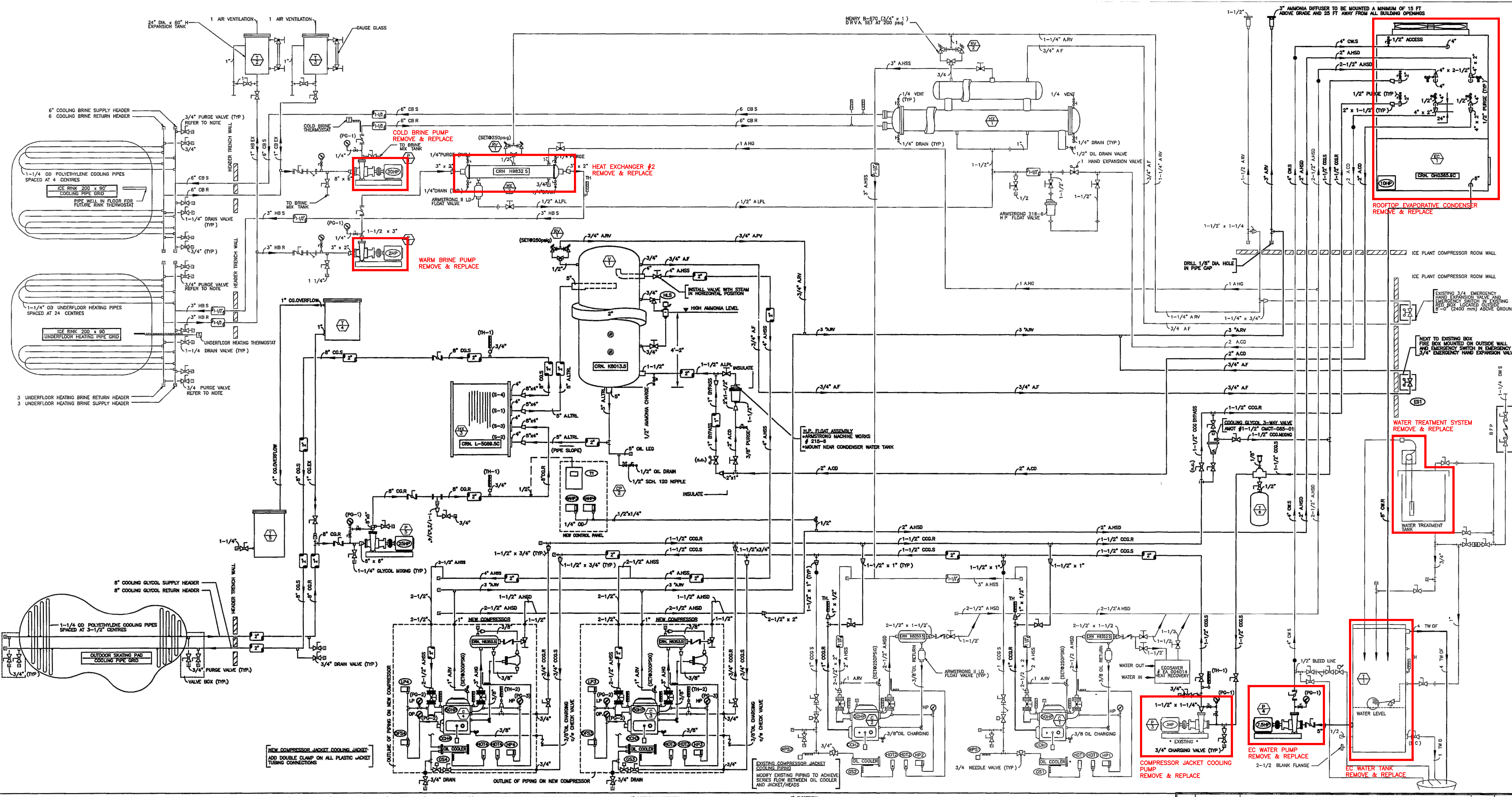
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A	Detail No.
B	Sheet No. where detailed

SCALE



TITLE		PROJECT No.
REFRIGERATION UPGRADES AT GARNET A. WILLIAMS COMMUNITY CENTRE LOCATED AT 501 CLARKE AVE. W., THORNHILL, ON L4J 4E5		6528/A01-01
REFRIGERATION PLAN COMPRESSOR ROOM DEMOLITION & NEW WORKS		SHEET No. R2
		PLAN FILE No. 6528/A01-01



NOTES: 7 SYSTEM PRESSURES, DESIGN, OPERATING, TEST 8 INSTALL ONE(1) GLYCOL DRAIN VALVE AT LOW POINT OF EACH HEADER 9) REFERENCE DRAWINGS. 10) ELECTRICAL

No.	REVISIONS	DATE	BY	CONSULTANT	
DESIGN	PTM/JAM	1	ISSUED FOR CLIENT REVIEW	NOV 02/2022	JAM
DRAWN	EMB	2	ISSUED TENDER	NOV 23/2022	JAM
CHECKED	PTM/JAM				
APPROVED	PTM/JAM				
DATE	OCTOBER 2022				
CAD	6528A01-01				

**Peter T. Mitches & Associates Limited**  
 Project Managers & Consulting Engineers  
 LONDON TORONTO

ENGINEER'S STAMP  
 REGISTERED PROFESSIONAL ENGINEER  
**PETER T. MITCHES**  
 100085848  
 NOV 23/2022  
 PROVINCE OF ONTARIO



The Contractor shall check and verify all dimensions and report all errors and omissions to OWNER Designer for his/her written direction before proceeding with the Work.

A	Detail No.
B	Sheet No. where detailed

SCALE  
 NOT TO SCALE

TITLE  
**REFRIGERATION UPGRADES AT  
 GARNET A. WILLIAMS COMMUNITY CENTRE LOCATED AT  
 501 CLARKE AVE. W., THORNHILL, ON L4J 4E5**

**REFRIGERATION PLAN  
 EX FLOW DIAGRAM  
 REPLACEMENT ITEMS**

PROJECT No.  
**6528/A01-01**

SHEET No.  
**R3**

PLAN FILE No.  
**6528/A01-01**