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Suite 1800  
Hamilton, ON  
L8P 1H1

**To:** **City of Brampton**  
2 Wellington St West  
  
Brampton, ON L6Y 4R2

**Addendum No:** 002  
**Date Issued:** 03 September  
2024  
**Project Number** 12303  
**Bid Number** T2024-220

**Project** **City of Brampton Fire Station 215**  
10539 Goreway Drive, Brampton.

### GENERAL INSTRUCTIONS

1. The following information supplements and/or supersedes the bid documents issued on Friday July 26, 2024.
2. This Addendum forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all contained herein is to be included in the contract price.
3. The following revisions supersede the information contained in the original drawings and specifications issued for the named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender Form. Failure to do so may subject the bidder to disqualification.

### 1. AFFECTED SECTIONS OF THE PROJECT MANUAL

#### .1 Revisions

.i *None*

#### .2 Deletions

.i *None*

#### .3 Additions

.i *Insert section 32 33 00 - Site Furnishings*

### AFFECTED ARCHITECTURAL DRAWINGS

#### 1. **A02.08 - CANOPY DETAILS, FOUNDATION, RCP & ROOF PLAN**

.i Delete issued for Tender drawing A02.08 in its entirety and substitute drawing A02.08 barring revision 6 appended to this document.

#### 2. **A05.05 - WALL SECTIONS**

.i Delete issued for Tender drawing A05.05 in its entirety and substitute drawing A05.05 barring revision 6 appended to this document.

#### 3. **A05.06 - WALL SECTIONS**

.i Delete issued for Tender drawing A05.06 in its entirety and substitute drawing A05.06 barring revision 6 appended to this document.

#### 4. **A05.07 - WALL SECTIONS**

.i Delete issued for Tender drawing A05.06 in its entirety and substitute drawing A05.06 barring revision 6 appended to this document.

#### 5. **A05.08 - WALL SECTIONS**

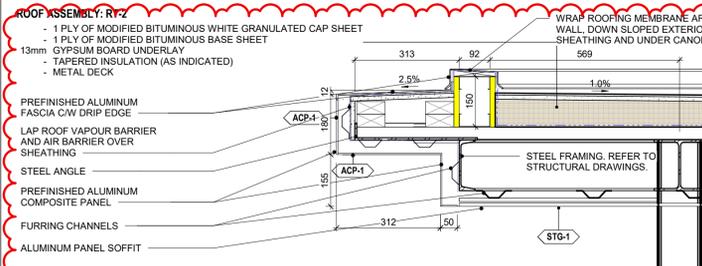
.i Delete issued for Tender drawing A05.06 in its entirety and substitute drawing A05.06 barring revision 6 appended to this document.

#### 6. **A05.09 - WALL SECTIONS**

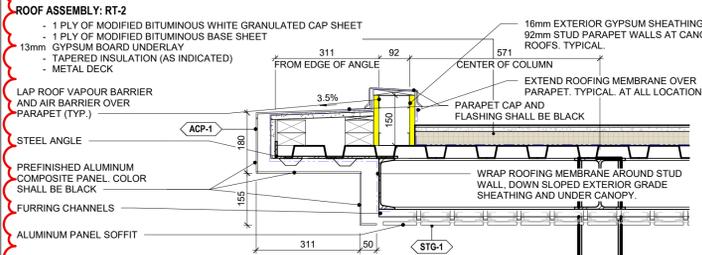
.i Delete issued for Tender drawing A05.09 in its entirety and substitute drawing A05.09 barring revision 6 appended to this document.

### END OF ARCHITECTURAL ADDENDUM No. 02

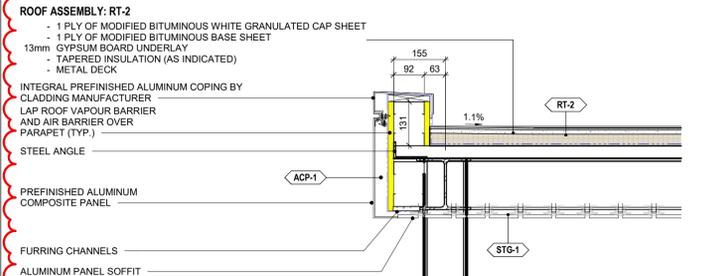
**Per:** Sebastian Lubczynski, Senior Architect, OAA



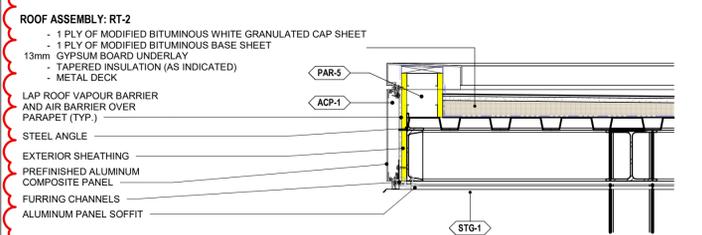
**18 SECTION DETAIL**  
1 : 10



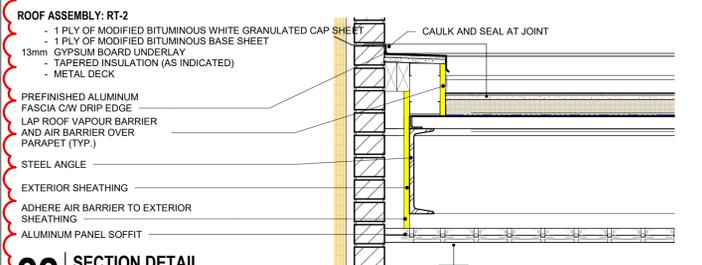
**19 SECTION DETAIL**  
1 : 10



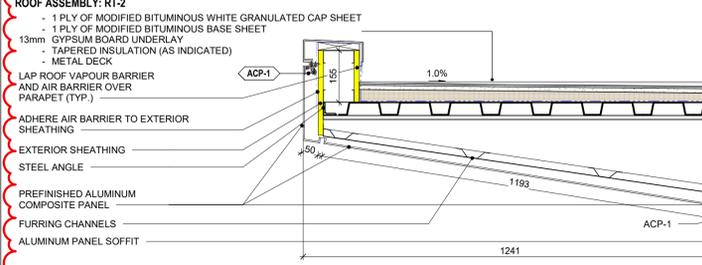
**20 SECTION DETAIL**  
1 : 10



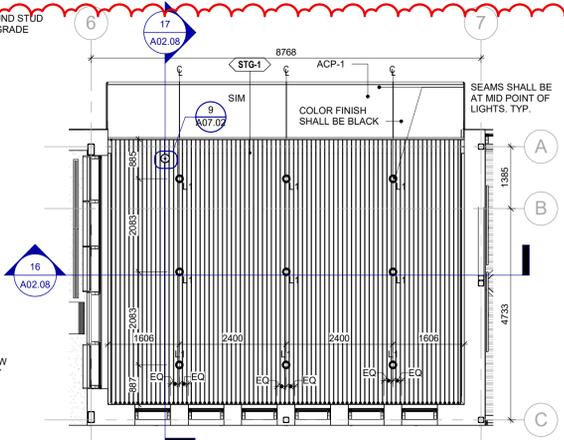
**21 SECTION DETAIL**  
1 : 10



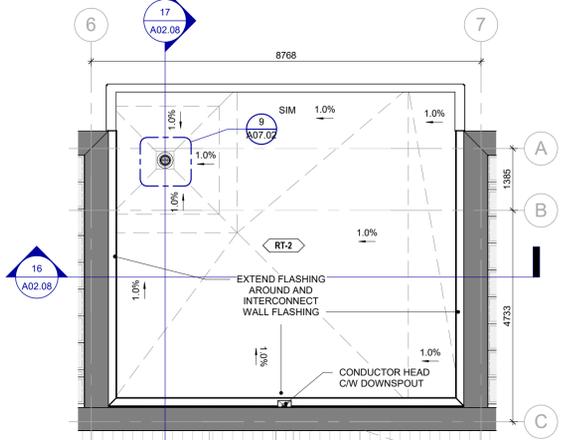
**22 SECTION DETAIL**  
1 : 10



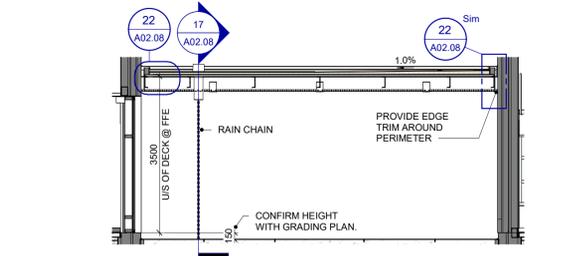
**23 SECTION DETAIL**  
1 : 10



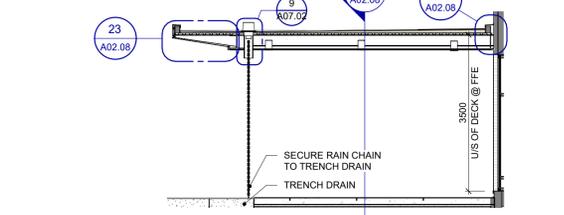
**10 PATIO CANOPY RCP**  
1 : 75



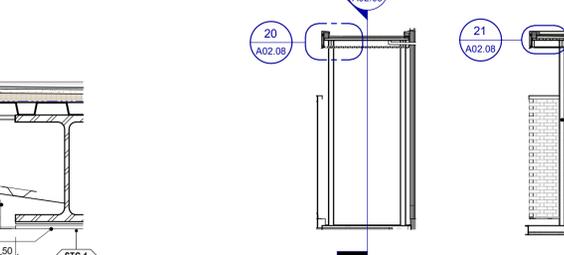
**11 PATIO CANOPY ROOF PLAN**  
1 : 75



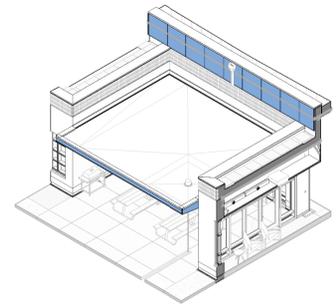
**16 CANOPY SECTION**  
1 : 75



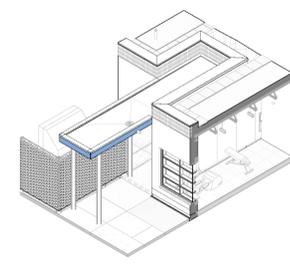
**15 CANOPY SECTION**  
1 : 75



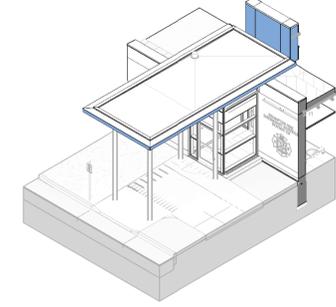
**14 CANOPY SECTION**  
1 : 75



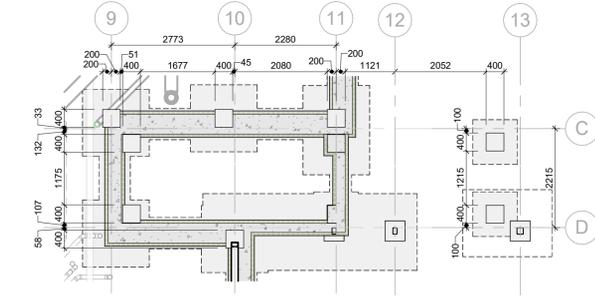
**3 STAFF PATIO CANOPY AXO**



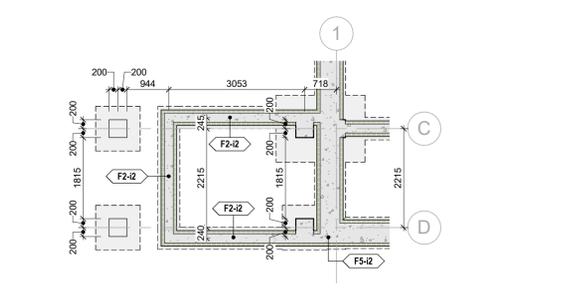
**2 REAR ENTRANCE CANOPY AXO**



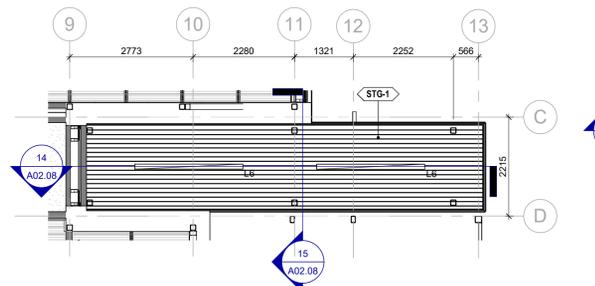
**1 ENTRANCE CANOPY AXO**



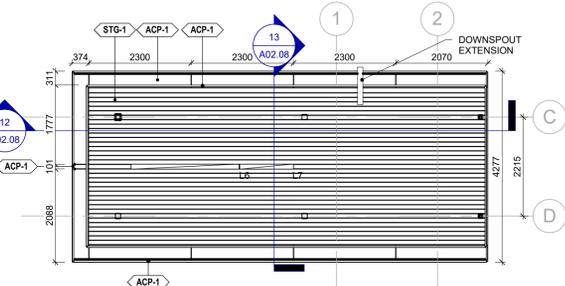
**7 FOUNDATION PLAN**  
1 : 75



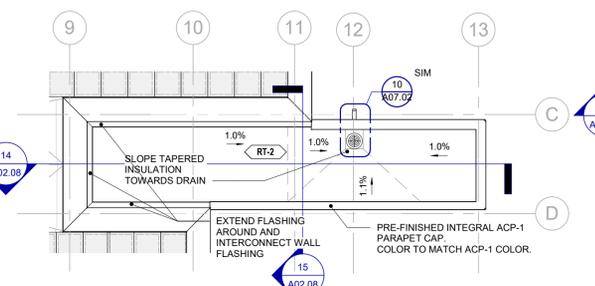
**4 FOUNDATION PLAN**  
1 : 75



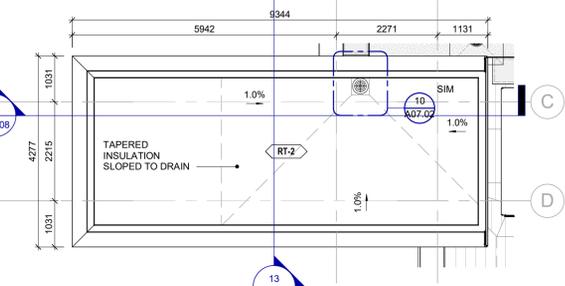
**8 REAR CANOPY RCP**  
1 : 75



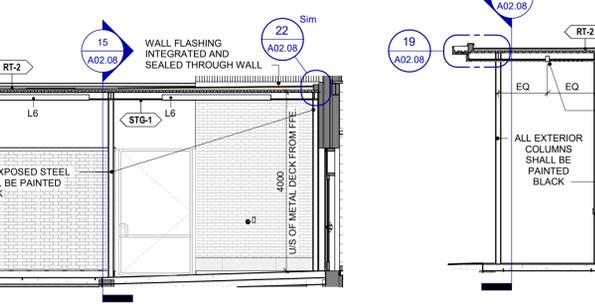
**5 ENTRANCE CANOPY RCP**  
1 : 75



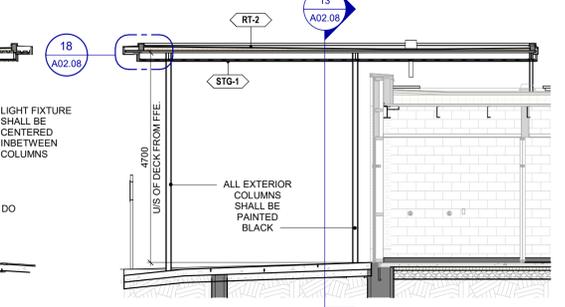
**9 REAR CANOPY ROOF PLAN**  
1 : 75



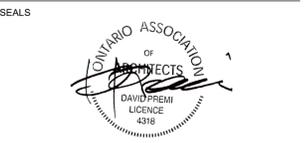
**6 ENTRANCE CANOPY ROOF PLAN**  
1 : 75



**13 CANOPY SECTION**  
1 : 75

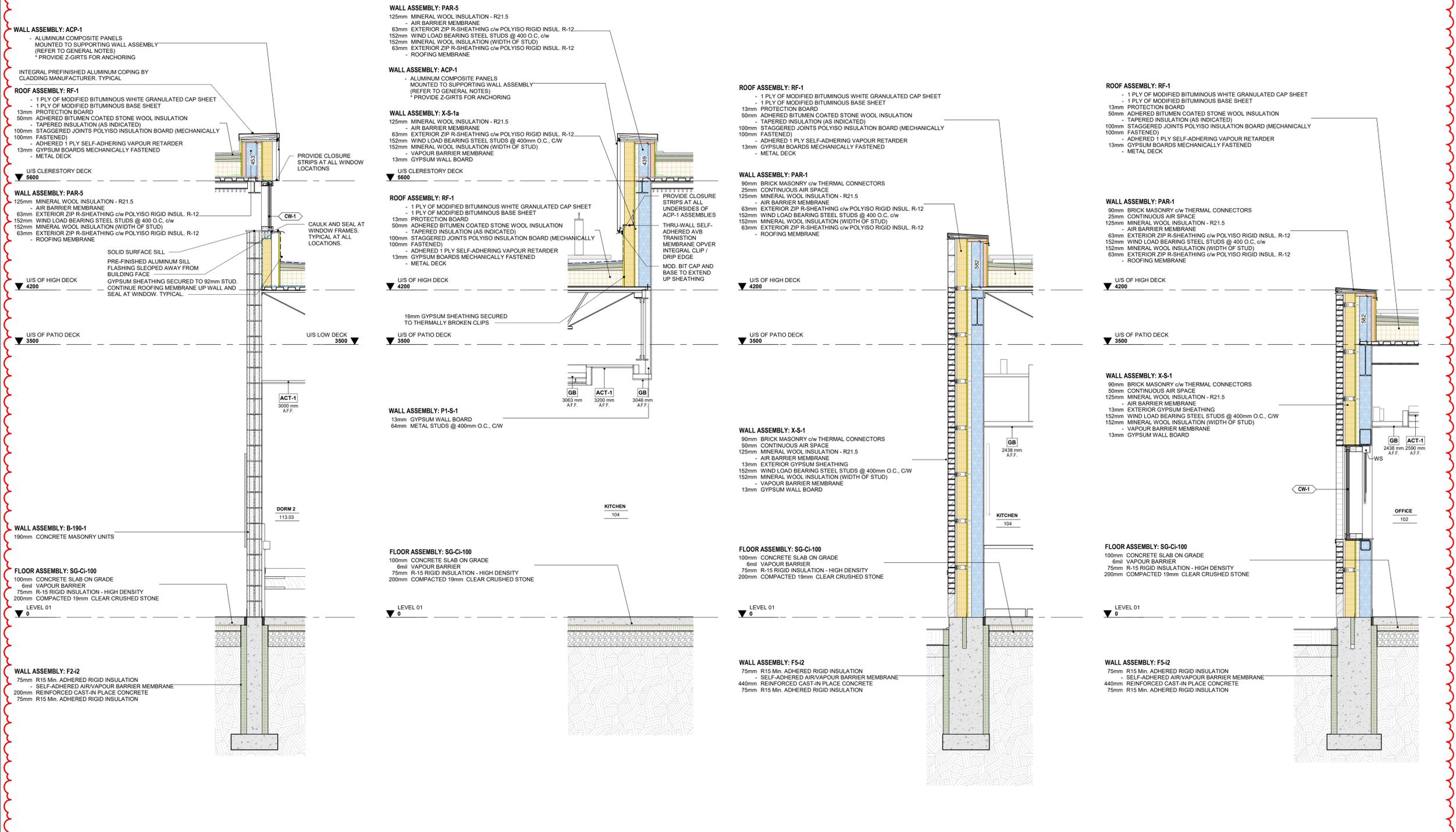


**12 SECTION DETAIL**  
1 : 75



NO.	ISSUES/REVISIONS	DATE
10	ADDENDUM 02	09/03/2024
9	TENDER	07/16/2024
8	CLASS A ESTIMATE	05/21/2024
7	90% CONTRACT DOCUMENTS	05/21/2024
6	SPA 1 RESUBMISSION	05/15/2024
5	PRE-APPLICATION SUBMISSION 2	04/24/2024
4	60% CONTRACT DOCUMENTS	04/16/2024
3	CLASS B ESTIMATE	08/01/2024
2	DESIGN DEVELOPMENT 100%	08/01/2024
1	SPA 1 RESUBMISSION	20/09/2023
0	DESIGN DEVELOPMENT 50%	20/09/2023

DRAWING TITLE:	
CANOPY DETAILS, FOUNDATION, RCP & ROOF PLAN	
ISSUE DATE:	09/03/2024
DRAWN BY:	SL
CHECKED BY:	SL
PROJECT NO.:	12303
SCALE:	As indicated
DRAWING NO.:	REVISION:



**4** WALL SECTION  
1 : 25

**3** WALL SECTION  
1 : 25

**2** WALL SECTION  
1 : 25

**1** WALL SECTION  
1 : 25

NO.	ISSUES/REVISIONS	DATE
7	ADDENDUM 02	09/03/2024
6	TENDER	07/16/2024
5	CLASS A ESTIMATE	05/21/2024
4	90% CONTRACT DOCUMENTS	05/21/2024
3	60% CONTRACT DOCUMENTS	04/16/2024
2	CLASS B ESTIMATE	08/01/2024
1	DESIGN DEVELOPMENT 100%	08/01/2024
0	DESIGN DEVELOPMENT 50%	20/09/2023

DRAWING TITLE: **WALL SECTIONS**

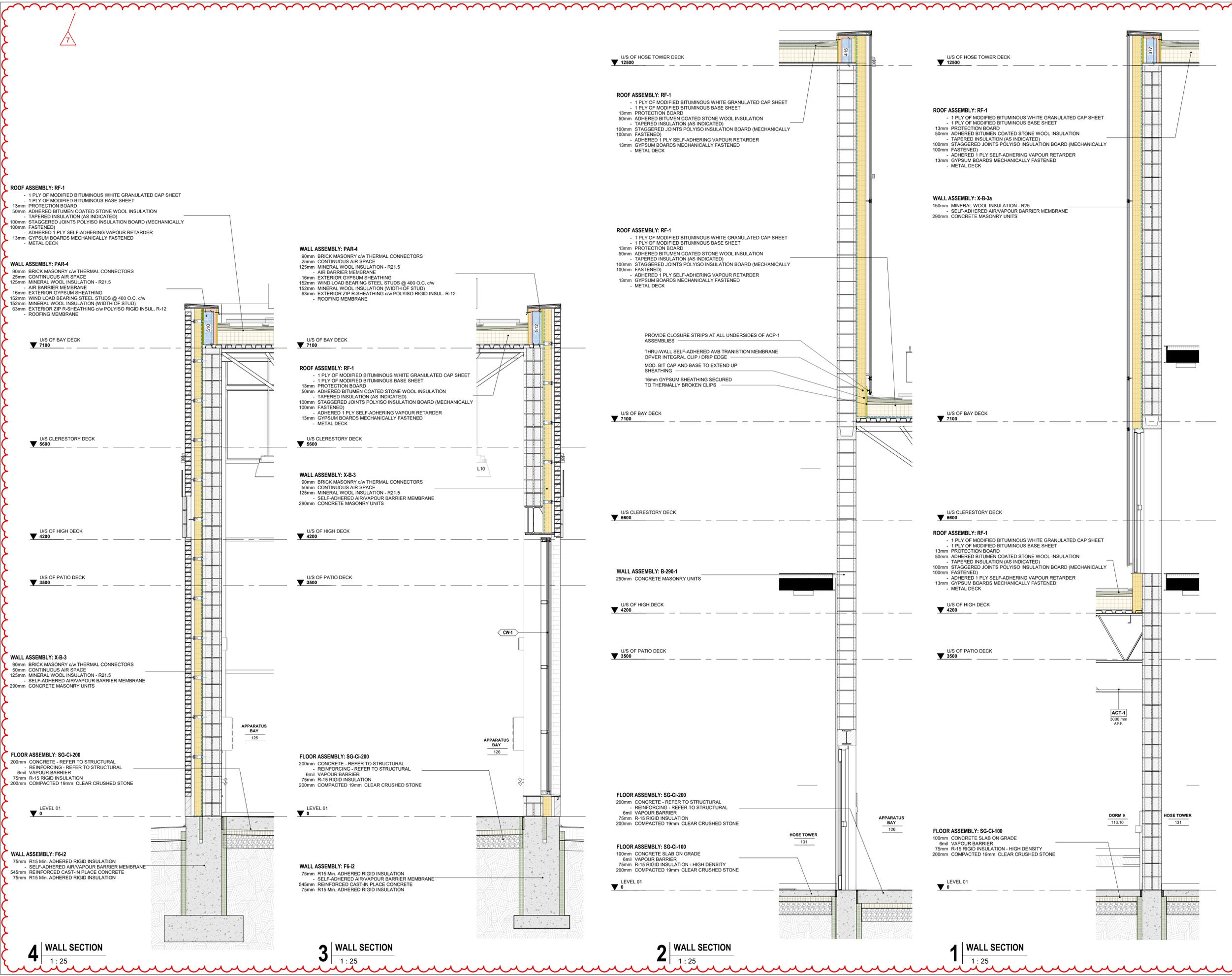
ISSUE DATE: 09/03/2024

DRAWN BY: AR / SL CHECKED BY: Checker

PROJECT NO.: 12303 SCALE: 1 : 25

DRAWING NO.: REVISION:

**A05.05** **7**



7	ADDENDUM 02	09/03/2024
6	TENDER	07/16/2024
5	CLASS A ESTIMATE	05/21/2024
4	90% CONTRACT DOCUMENTS	05/21/2024
3	60% CONTRACT DOCUMENTS	04/16/2024
2	CLASS B ESTIMATE	08/01/2024
1	DESIGN DEVELOPMENT 100%	08/01/2024
0	DESIGN DEVELOPMENT 50%	20/09/2023

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

**WALL SECTIONS**

ISSUE DATE: 09/03/2024  
DRAWN BY: AR / SL CHECKED BY: Checker  
PROJECT NO.: 12303 SCALE: 1:25  
DRAWING NO.: REVISION:

**A05.06** **7**









**Project Name:** Brampton Fire Station 215

**MTE File No.:** 53251-100

**Client:** DPAI Architecture Inc

**Date:** August 16, 2024

**Client File No:** 12303

**Addendum No.:** 02

This Addendum forms part of the Contract Documents and amends the original Drawings, issued June 26, 2024, as noted below.

This Addendum consists of one (1) page(s).

Item 1	Garbage Enclosure
S1.0	1. Remove retaining walls from first row of Concrete Mix Properties Table. 2. Add row for Retaining Walls & Retaining Wall Footings to Concrete Mix Properties Table.
S8.0	1. Add sheet S8.0 Garbage Enclosure. 2. Add reinforced concrete garbage enclosure plan and section details.

**End of Addendum 02**

NO1	GENERAL NOTES
1.	CONFORM TO THE REQUIREMENTS OF THE LATEST ONTARIO BUILDING CODE (OBC) INCLUDING ALL THE LATEST STANDARDS REFERENCED THEREIN, AND ANY APPLICABLE ACTS OF AUTHORITY HAVING JURISDICTION. THE LATEST VERSION OF ALL STANDARDS AND CODES LISTED BELOW SHALL BE USED.
2.	READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS AND CONTRACT DOCUMENTS.
3.	WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND APPLICABLE CODES AND ACTS, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL CHECK ALL DIMENSIONS ON WORKING DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
4.	THESE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE BY THE PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS ENTERED INTO A CONTRACT AND THERE ARE NO REPRESENTATIONS OF ANY KIND MADE BY THE DESIGN PROFESSIONAL TO ANY PARTY WITH WHOM THE DESIGN PROFESSIONAL HAS NOT ENTERED INTO A CONTRACT.
5.	THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISION COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED 'ISSUED FOR CONSTRUCTION' BY MTE CONSULTANTS.
6.	UNDER NO CIRCUMSTANCES ARE THESE DRAWINGS TO BE SCALED, INCLUDING FOR PREPARATION OF SHOP DRAWINGS, CONSTRUCTION LAYOUT, OR BIDDING PURPOSES. ERRORS MADE BY PERSONS SCALING THESE DRAWINGS SHALL NOT BE THE RESPONSIBILITY OF MTE CONSULTANTS.
7.	SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF FITS, BASES, HOUSE KEEPING PADS, SLUMPS, TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS AND SLOPES NOT SHOWN ON STRUCTURAL DRAWINGS.
8.	BEFORE PROCEEDING WITH WORK, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH ALL CHARACTERISTICS AFFECTING NEW AND EXISTING CONSTRUCTION. ANY CHANGES, ALTERATIONS OR REVISIONS MUST BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
9.	SUBSTITUTIONS FROM SPECIFIED PRODUCTS AND MATERIALS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO ORDERING OF MATERIALS. THE CONTRACTOR SHALL REIMBURSE ALL CONSULTANTS FOR ADDITIONAL COSTS INCURRED AS A RESULT OF REVIEWING ANY CHANGES MADE TO THE CONTRACT DOCUMENTS.
10.	ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS - OREG 213/91.
11.	IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN ALL SHORING AND TEMPORARY BRACING AS PER OREG 213/91 AND THE CONTRACTOR SHALL RETAIN AN ENGINEER AS REQUIRED.
12.	THE CONTRACTOR SHALL RETAIN AN INDEPENDENT INSPECTION AND TESTING COMPANY TO ENSURE THAT ALL WORK IS DONE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. REQUIRED TESTING SHALL BE AS PER THE TESTING AND INSPECTION TABLE BELOW.
13.	MTE CONSULTANTS WILL PROVIDE GENERAL REVIEW OF CONSTRUCTION IN ACCORDANCE WITH THE PERFORMANCE STANDARDS OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ONTARIO BY MEANS OF A RATIONAL SAMPLING PROCEDURE TO DETERMINE WHETHER THE CONSTRUCTION OF THAT WORK SHOWN ON THE MTE DRAWINGS IS IN GENERAL CONFORMITY WITH THE PLANS, SKETCHES, DRAWINGS, AND SPECIFICATIONS FORMING PART OF THE CONTRACT DOCUMENTS PREPARED BY 'MTE'. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL AND THE PERFORMANCE OF THE WORK IN ACCORDANCE WITH THE CONTRACT. 'MTE' SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB-CONTRACTOR, OR ANY OTHER PERSON PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14.	IT IS THE RESPONSIBILITY OF BOTH THE OWNER AND THE CONTRACTOR TO NOTIFY THE ENGINEER OF CONSTRUCTION PROGRESS SO THE ENGINEER CAN COMPLETE GENERAL REVIEWS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE PRIOR TO STARTING THE WORK. GENERALLY, REVIEWS BY THE ENGINEER WILL BE REQUIRED FOR REBAR PRIOR TO CONCRETE PLACEMENT, FOOTING AND FOUNDATIONS PRIOR TO BACKFILLING, AND ABOVE GRADE FRAMING PRIOR TO INSTALLATION OF INTERIOR FINISHES.

NO2	TESTING AND INSPECTION	
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 STRUCTURAL TESTING AND INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.		
ITEM	REQD	COMMENTS
SOIL BEARING CAPACITY	YES	BY SOILS ENGINEER
SOIL COMPACTION	YES	BY SOILS ENGINEER
REINFORCING STEEL PLACEMENT	YES	INSPECT FINAL PLACEMENT
CONC. COMPRESSIVE TESTS	YES	MIN. 2 SETS PER 100 CUBIC METRES
CONCRETE SLUMP	YES	
STRUCTURAL STEEL BOLTING	YES	INSPECT ALL FIELD WELDS
STRUCTURAL STEEL WELDING	YES	INSPECT ALL FIELD WELDS
MORTAR CUBES	YES	

NO3	REQUIRED SUBMITTALS		
THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.			
ITEM	REQD SUBMITTAL?	ENGINEERS STAMP REQD?	NOTES
REBAR SHOP DRAWINGS	YES	NO	INCL. CONC. BLOCK REINF.
CONCRETE MIX DESIGNS	YES	NO	
MASONRY GROUT MIX DESIGN	YES	NO	
BLOCK MILL REPORT	YES	NO	
STRUCTURAL STEEL SHOP DRAWINGS	YES	YES	FOR CONNECTIONS ONLY
MISCELLANEOUS STEEL SHOP DRAWINGS	YES	YES	STAMP FOR STAIRS, LADDERS AND GUARDS
STEEL DECK SHOP DRAWINGS	YES	YES	
COLD FORMED STEEL FRAMING SHOP DWGS.	YES	YES	
FALL ARREST ANCHORS	NO	NO	

NO4	PROJECT DESIGN DATA TABLE	
BUILDING IMPORTANCE CATEGORY	POST-DISASTER	
FLOOR AND ROOF DESIGN LOADS AS NOTED ON FRAMING PLANS		
SPECIFIED WIND LOADS		
HOURLY WIND PRESSURE (1/50) DESIGN DATA	0.44 kPa	
WIND DESIGN CATEGORY	CATEGORY 3	
TERRAIN	OPEN	
SPECIFIED SNOW LOADS		
BASIC ROOF SNOW LOAD	S	1.80 kPa
	Sr	1.30 kPa
SNOW AND RAIN LOADING (1/50) DESIGN DATA	Sr	0.40 kPa
	24HR RAIN	119mm
	Cb	0.80
	Cw	1.00
	Cs	1.00
	Ca	1.00
ADDITIONAL SNOW ACCUMULATION AROUND OBSTRUCTIONS AND ADJACENT TO HIGHER ROOF LEVELS OR WALLS IS INDICATED ON THE DRAWINGS.		
SPECIFIED EARTHQUAKE LOADS		
SEISMIC LOADING DESIGN DATA	Sa (0.2)	0.168
	Sa (0.5)	0.096
	Sa (1.0)	0.052
	Sa (2.0)	0.0260
	Sa (5.0)	0.0094
	Sa (10.0)	0.0025
	PGA	0.097
	PGV	0.068
SITE CLASS IS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER	SITE CLASS	C
SEISMIC FORCE MODIFICATION FACTORS FOR SEISMIC FORCE RESISTING SYSTEM	Rd	2.0
	Fo	1.3
SEISMIC HAZARD INDEX	hlfSa (0.2)	0.25
NO STRUCTURAL IRREGULARITIES		
SFRS - LIMITED-DUCTILE STEEL BRACED FRAMES / MOMENT FRAMES & MASONRY SHEAR WALLS Ie = 1.5 (POST DISASTER)		
NOTES:		
1. ALL LOADS AND ANALYSIS CONFORM TO THE 2012 OBC DIV B PART 4 (INCLUDING AMENDMENTS MADE NO MAY 12, 2023) AND THE USER'S GUIDE - NBC 2015 STRUCTURAL COMMENTARIES		
2. ALL DESIGN DATA ABOVE IS FROM THE 2012 OBC SUPPLEMENTARY STANDARD SB-1 TABLE 2 AND 3		
3. WIND LOADING IS BASED ON THE STATIC PROCEDURE.		
4. SEISMIC LOADING IS BASED ON THE EQUIVALENT STATIC FORCE PROCEDURE.		
5. THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE EXTENSION UNLESS NOTED.		

NO5	FOUNDATION
1.	ALL BOREHOLE INFORMATION AND GEOTECHNICAL DATA HAS BEEN OBTAINED FROM THE SOIL INVESTIGATION PERFORMED BY WOOD ENVIRONMENTAL & INFRASTRUCTURE SOLUTIONS AS REPORTED IN THEIR SOIL REPORT NO. QESR2109-4000 DATED APRIL 18, 2022. CONTRACTOR TO READ THESE REPORTS, AND BE THOROUGHLY FAMILIARIZED WITH ITS FINDINGS.
2.	ALL COLUMN AND WALL FOOTINGS SHALL BEAR DIRECTLY ON UNDISTURBED NATIVE SOIL WITH A MINIMUM SOIL BEARING CAPACITY OF 200 kPa (SL5) AND 300 kPa (LSL) AT THE DEPTHS INDICATED ON THE DRAWINGS. EXISTING FILL MAY BE ENCOUNTERED. USE OF THIS FILL MUST BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF FOOTINGS.
3.	NO FOUNDATION MAY BE FOUDED BEFORE THE BEARING MATERIAL HAS BEEN APPROVED BY THE GEOTECHNICAL ENGINEER. NOTIFY THE GEOTECHNICAL ENGINEER A MINIMUM OF 24 HOURS BEFORE THE INTENDED CONCRETE POUR.
4.	REMOVE ALL TOPSOIL, ORGANIC LOOSE FILL AND OTHER DELETERIOUS MATERIAL FROM BUILDING AREA BEFORE STARTING CONSTRUCTION.
5.	WHERE APPROVED, GRANULAR FILL UNDER ALL FOOTINGS ON GRADE SHALL BE COMPACTED IN 150 mm (6") LAYERS TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMD).
6.	FOUND NEW FOOTINGS WHICH ARE LOCATED ADJACENT TO EXISTING FOOTINGS, AT THE SAME ELEVATION AS THE EXISTING FOOTINGS, UNLESS NOTED OTHERWISE, ANY NECESSARY PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT EXISTING FOOTINGS ARE NOT DISTURBED OR UNDERMINED IN ANY WAY DURING EXCAVATION.
7.	FOUND ALL FOOTINGS BELOW THE LEVEL AT WHICH THE POTENTIAL DAMAGE RESULTING FROM FROST ACTION CAN OCCUR FOR THE FINISHED STRUCTURE, BUT A MINIMUM 1200 mm (4 FT.) BELOW FINISHED EXTERIOR GRADE, UNLESS NOTED OTHERWISE, UNDER NO CIRCUMSTANCES SHOULD DEPTH BE LESS THAN LOCAL FROST PENETRATION REQUIREMENTS.
8.	PROTECT ALL SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOUNDATIONS DURING CONSTRUCTION.
9.	INSULATION IS SHOWN WHERE REQUIRED FOR PROTECTION OF THE FOUNDATIONS FROM DAMAGE DUE TO FROST ACTION ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR FOUNDATION INSULATION NOT SHOWN ON THE STRUCTURAL DRAWINGS.
10.	SLABS ON GRADE:
a.	PLACE SLABS ON GRADE ON MATERIAL CAPABLE OF SAFELY SUPPORTING 25 kPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOUNDATIONS.
b.	PROOF-ROLL EXISTING FILL MATERIAL. REMOVE ANY LOOSE OR SOFTENED AREAS BENEATH SLAB-ON-GRADE BEFORE PLACING GRANULAR FILL.
c.	APPROVED GRANULAR FILL UNDER ALL FLOOR SLABS ON GRADE SHALL BE COMPACTED IN 150 mm (6") LAYERS TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMD).
d.	BEFORE CASTING THE SLAB PLACE 200 mm (8") OF 19 mm (3/4") CLEAR CRUSHED STONE OVER THE SUB-BASE AND THOROUGHLY ROLL AND CONSOLIDATE TO THE LEVELS REQUIRED.
e.	WHERE THE SLAB-ON-GRADE IS USED TO LATERALLY RESTRAIN THE TOP OF AN EARTH-RETAINING WALL, ADEQUATELY SHORE THE WALL UNTIL THE SLAB HAS BEEN CAST AND ATTAINED 70% OF ITS SPECIFIED STRENGTH.
f.	PROVIDE 25 mm (1") RIGID STYROFOAM INSULATION BENEATH FLOOR SLABS IN UNHEATED AREAS.
11.	CARRY OUT BACKFILLING AGAINST FOUNDATION WALLS WHERE THERE IS GRADE ON BOTH SIDES IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500 mm (20") DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL, EXCEPT WHERE TEMPORARY SHORING FOR THE WALL IS PROVIDED.
12.	DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVERED RETAINING WALLS) UNTIL THE WALLS AND THE FLOOR CONSTRUCTIONS AT THE TOP AND BOTTOM OF THE WALLS HAVE BEEN CAST AND HAD ATTAINED 100% OF THEIR DESIGN STRENGTH.
13.	IN NO CASE SHALL HORIZONTAL CONTROL JOINTS BE ALLOWED IN ANY VERTICALLY SPANNING CONCRETE WALLS WITHOUT THE CONSENT OF THE ENGINEER.

NO6	CONCRETE AND REINFORCING			
1.	ALL CONCRETE WORK TO CONFORM TO THE LATEST REQUIREMENTS OF CSA STANDARDS A23.1, A23.2 & A23.3.			
2.	REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.18 GRADE 400M FOR REINFORCING STEEL AND BE DEFORMED HI-BOND HARD GRADE WITH MINIMUM YIELD STRENGTH OF $f_y = 400$ MPa.			
3.	WELDED WIRE MESH AND WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA G30.5 WITH A MINIMUM YIELD STRENGTH OF $f_y = 450$ MPa. ALL WELDED WIRE PRODUCTS ARE TO BE SUPPLIED AS FLAT SHEETS AND SHALL BE LAPPED A MINIMUM OF 150mm (6") AT JOINTS (U.N.O.).			
4.	DETAILING AND PLACING OF ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE REINFORCING STEEL INSTITUTE OF CANADA MANUAL OF STANDARD PRACTICE.			
5.	ALL REINFORCING STEEL SHALL BE SHOP FABRICATED TO INCLUDE HOOKS AND BENDS AS REQUIRED.			
6.	ALL REINFORCING LAP SPLICES SHALL CONFORM TO THE LATEST CSA STANDARD A23.3 AND ALL BAR SPLICES SHALL BE CLASS 'B' TENSION SPLICES (U.N.O.). a. NO BAR SPLICES SHALL BE LESS THAN IN THE TABLE BELOW. b. INCREASE HORIZONTAL SPLICE LENGTHS IN THE TABLE BY 1.3 WHERE MORE THAN 300MM (12") OF FRESH CONCRETE IS CAST BELOW THE SPLICE.			
CONCRETE MIX PROPERTIES TABLE				
CONCRETE MIX SIZE	TENSION SPLICE			COMPRESSION SPLICE
	25 MPa	30 MPa	35 MPa	
10M	400 (16")	400 (16")	400 (16")	450 (18")
15M	600 (24")	600 (24")	600 (24")	450 (18")
20M	800 (32")	800 (32")	800 (32")	600 (24")
25M	1200 (48")	1100 (44")	1000 (40")	750 (30")
30M	1400 (56")	1300 (52")	1200 (48")	900 (36")
35M	1650 (66")	1500 (60")	1400 (56")	1050 (42")
7.	ALL DOWEL EMBEDMENT SHALL MATCH THE ABOVE TENSION SPLICE LENGTH, UNLESS NOTED OTHERWISE.			
8.	ALL REINFORCING STEEL FABRICATION AND PLACEMENT DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.			
9.	PLACE REINFORCING BARS SYMMETRICALLY OVER SUPPORTS AND SYMMETRICALLY IN SPANS, UNLESS NOTED OTHERWISE.			
10.	REINFORCING BARS, DOWELS AND ANCHOR BOLTS SHALL BE SECURELY TIED IN PLACE SO AS TO MAINTAIN THEIR EXACT POSITION BEFORE AND DURING PLACEMENT OF CONCRETE. BAR SUPPORTS SHALL ONLY BE MADE OF PRECAST CONCRETE BLOCKS, PLASTIC OR WIRE.			
11.	ALL OIL, GREASE, MUD AND DEBRIS SHALL BE ENTIRELY REMOVED FROM THE REINFORCING STEEL AND ANCHOR BOLTS PRIOR TO THE PLACEMENT OF CONCRETE. REBAR SHALL BE STORED ON SITE IN A MANNER TO BE KEPT CLEAN AND FREE FROM DELETERIOUS MATERIALS.			
12.	WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.			
13.	CONFORM TO THE CONCRETE COVER REQUIREMENTS OF CSA A23.1 AND THE FOLLOWING, UNLESS NOTED OTHERWISE: a. CONCRETE CAST AGAINST EARTH: 75 mm (3") b. PIERS AND WALL: 40 mm (1.5") c. EXPOSED TO DE-ICING CHEMICALS: 60 mm (2.5") d. INTERIOR BEAMS: 50 mm e. INTERIOR SLABS: 25 mm (1")			
14.	CONCRETE PROPERTIES: a. ALL CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 35 MPa UNLESS OTHERWISE SPECIFIED. b. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO USE AT JOB SITE.			
15.	WHEN SUPER-PLASTICIZERS ARE USED, THE SLUMP MAY BE INCREASED BEYOND THE VALUES GIVEN, BUT SHALL BE BELOW THE POINT WHERE SEGREGATION WILL OCCUR. THE COST OF SUPER-PLASTICIZERS SHALL BE INCLUDED IN THE COST OF CONCRETE.			
16.	DO NOT ADD WATER TO CONCRETE UNLESS WRITTEN APPROVAL GIVEN BY THE ENGINEER. IF HIGHER SLUMP CONCRETE IS DESIRED, CONCRETE SUPPLIER SHALL DESIGN AND SUPPLY ACCORDINGLY.			
17.	HOT AND COLD WEATHER CONCRETING SHALL COMPLY WITH ALL REQUIREMENTS OF CSA STANDARD A23.1. CALCIUM CHLORIDE ADDITIVES WILL NOT BE PERMITTED.			
18.	ALL CONCRETE FORMWORK TOLERANCES AND SURFACE FINISHES SHALL COMPLY WITH CSA STANDARD A23.1 UNLESS NOTED OTHERWISE ON THE ARCHITECTURAL DRAWINGS.			
19.	ALL CONCRETE FORMS TO BE WET THOROUGHLY BEFORE POURING CONCRETE.			
20.	WATER CURING OF CONCRETE IS RECOMMENDED. CURE AND PROTECT ALL CONCRETE IN ACCORDANCE WITH CSA A23.1 SECTION 7.4.			
21.	ALL CONCRETE EXCEPT SLABS ON GRADE 150mm (6") THICK OR LESS SHALL BE MECHANICALLY VIBRATED SO AS TO COMPLETELY FILL THE FORM WITHOUT CAUSING UNDESIRED SEGREGATION. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE SATISFACTORILY REPAIRED OR SHALL BE REPLACED.			
22.	CONTROL JOINTS IN SLABS ON GRADE SHALL BE 1/4 THE THICKNESS OF THE SLAB. SPACING OF CONTROL JOINTS IN CONCRETE SLABS ON GRADE SHALL NOT EXCEED THE GREATER OF 25 TIMES THE THICKNESS OF THE SLAB OR 3000 MM (10'-0") UNLESS NOTED ON THE DRAWINGS.			
23.	WHERE STEEL BEARING PLATES ARE SHOWN ON THE DRAWINGS, THEY SHALL BE ANCHORED WITH A MINIMUM OF TWO 12 mm DIA X 450MM LONG + 50 mm (1/2" DIA X 18" LONG + 2") HOOKED ANCHOR BOLTS WELDED TO THE PLATES AND EMBEDDED INTO THE CONCRETE.			
24. Check all structural, architectural, mechanical, electrical, civil, landscape and all other relevant drawings for locations and sizes of bolts, sleeves and openings.				

NO6	CONCRETE AND REINFORCING (CONT.)
25.	SUPPLY AND SET ANCHOR BOLTS, SLEEVES, PIPE HANGERS, JOISTS AND OTHER INSERTS AND OPENINGS AS INDICATED OR SPECIFIED ELSEWHERE. FOR BEAMS AND COLUMNS; NO SLEEVES, DUCTS, PIPES OR OTHER OPENINGS SHALL PASS VERTICALLY OR HORIZONTALLY EXCEPT WHERE EXPLICITLY DETAILED ON STRUCTURAL DRAWINGS OR WHERE APPROVED IN ADVANCE BY ENGINEER. FOR SLABS AND WALLS: ALL SLEEVES AND OPENINGS GREATER THAN 100 mm (4") IN ANY DIMENSION OR REQUIRING THE CUTTING OF ANY REINFORCEMENT, AND NOT INDICATED ON STRUCTURAL DRAWINGS, MUST BE APPROVED BY THE ENGINEER. FOR MULTIPLE OPENINGS OR SLEEVES, IF WITHIN 600 mm (24") OF EACH OTHER CONSULT ENGINEER FOR DIRECTION.
26.	CAST IN ANCHOR BOLTS SHALL CONFORM TO THE LATEST CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPa AND SHALL BE SET TRUE AS TO LOCATION, ELEVATION AND PROJECTION TO THE FOLLOWING TOLERANCES: ANCHOR BOLT LOCATION = ± 3mm (1/8") ANCHOR BOLT PROJECTION = ± 6mm (1/4")
27.	CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 1000 mm (30'-0"), UNLESS CONTROL JOINTS ARE PROVIDED AS PER TYPICAL DETAIL. TOTAL LENGTH OF POUR TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING.
28.	CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY, JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID SPAN IF POSSIBLE AND BE CLEAR OF SUPPORTS AND POINT LOADS.
29.	INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM. BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.
30.	ELECTRICAL CONDUITS SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM WHICH IT IS EMBEDDED. SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER UNLESS APPROVED AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.
31.	TYPE 'S' CONCRETE TO BE USED FOR ALL ELEMENTS.
32.	CONCRETE MIX DESIGNS SHALL CONFORM TO REDUCED CARBON MIXES AS DESCRIBED IN LATEST EDITION OF CRMA MEMBER INDUSTRY-WIDE EPD FOR CANADIAN READ-MIXED CONCRETE, EPD NUMBER EPD10092

NO7	STEEL DECK
1.	DESIGN METAL DECK IN CONFORMANCE WITH THE REQUIREMENTS OF CSA S136 FOR THE LOADS INDICATED ON THE DRAWINGS.
2.	SUBMIT SHOP DRAWINGS INDICATING WELDS, MATERIALS AND FINISHES, AND BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO FOR REVIEW BY THE ENGINEER. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO PROCEEDING WITH ANY FABRICATION.
3.	UNLESS NOTED OTHERWISE, a. ROOF DECK SHALL BE 38 mm x 0.76 mm (1.5" x .030") VIC WEST STEEL INC. RD 938 (OR APPROVED EQUAL), MINIMUM 3 SPANS CONTINUOUS. b. FLOOR DECK SHALL BE 38 mm x 0.76 mm (1.5" x .030") VIC WEST STEEL INC. HB 938 (OR APPROVED EQUAL), MINIMUM 3 SPANS CONTINUOUS.
4.	METAL DECK SHALL BE LIGHT ZINC COATED STRUCTURAL STEEL SHEET FABRICATED AND ERECTED IN ACCORDANCE WITH CSSBI 10M, CAN/CSA S136, AND CSSBI 101M. THE MINIMUM ZINC COATING DESIGNATION SHALL BE ZF075 (U.N.O.).
5.	DECK SHALL OVERLAP A MINIMUM OF 50 mm (2") AT ALL END JOINTS AND HAVE A MINIMUM BEARING LENGTH OF 50 mm (2") ON ALL STRUCTURAL STEEL.
6.	DECK HAS BEEN DESIGNED FOR DIAPHRAGM ACTION (SEE ROOF PLAN NOTES)
7.	DECK WELDS SHALL BE TOUCHED UP WITH APPROVED PAINT BY THE DECK ERECTOR.
8.	PROTECT ROOF AND FLOOR DECK FROM DAMAGE DURING SHIPPING STORAGE AND ERECTION. CONTRACTOR SHALL REPLACE ANY FURNITURED, DENTED OR WELD PERFORATED DECK.
9.	STEEL DECK WORK SHALL INCLUDE THE SUPPLY AND INSTALLATION OF ALL SHEET STEEL ANGLES, COVER PLATES, CLOSURES, STIFFENERS AND ANY OTHER ACCESSORIES REQUIRED.
10.	CUT EDGES AND REINFORCE EDGES AS REQUIRED FOR PIPES, DUCTS, ETC. a. THE MAXIMUM SIZE OF AN UNREINFORCED OPENING IS 150 mm (6"). b. REINFORCE ALL OPENINGS LARGER THAN 150 mm (6"), BUT NOT EXCEEDING 450 mm (18"), AS INDICATED BY THE METAL DECK SUPPLIER. c. FOR OPENINGS GREATER THAN 450mm (18") NOT SHOWN ON THE DRAWINGS, CONTACT ENGINEER FOR DIRECTION.
11.	HANGER WIRE FOR SUSPENDED CEILINGS SHOULD PIERCE BOTH SIDES OF THE FLUTE AND BE LOOPED AROUND AND TIED.

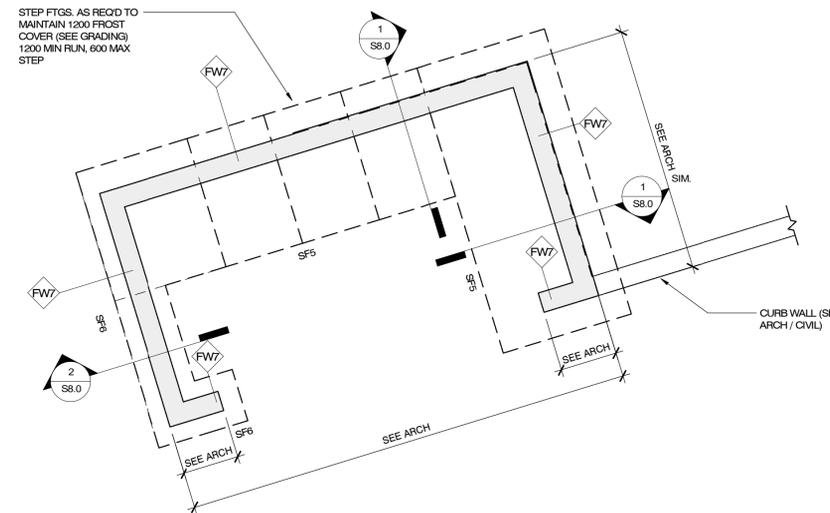
NO10	SHOP DRAWING REVIEW
1.	ERECTION AND FABRICATION SHOP DRAWINGS FOR ALL BUILDING COMPONENTS AS LISTED IN THE REQUIRED SUBMITTALS TABLE AND ANY RELATED WORKS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE COMMENCING WITH FABRICATION.
2.	AS PART OF THEIR FIELD SERVICES, MTE CONSULTANTS ('MTE') WILL REVIEW SHOP DRAWINGS PERTAINING TO WORK SHOWN ON MTE CONSULTANTS' DRAWINGS BY MEANS OF APPROPRIATE RATIONAL SAMPLING PROCEDURES AND COMMENT ON THE ACCURACY WITH WHICH THE CONTRACTOR PREPARED THE DRAWINGS.
3.	REVIEW OF THE SHOP DRAWINGS IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND IS NOT AN APPROVAL OF THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING THEM. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS IN THE SHOP DRAWINGS OR FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INFORMATION PERTAINING TO THE FABRICATION PROCESS TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES.
4.	THE APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF THE FITTING OF BUILDING COMPONENTS. ANY DISCREPANCIES IN THE SHOP DRAWINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
5.	ALL SHOP DRAWINGS MUST BEAR THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN ONTARIO UNLESS NOTED OTHERWISE IN THE SUBMITTALS TABLE BELOW. UNSEALED SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS ALTERNATIVE ARRANGEMENTS HAVE BEEN AGREED UPON.

NO8	STRUCTURAL STEEL
1.	ALL STRUCTURAL STEEL AND CONNECTIONS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST CSA STANDARD S16
2.	STRUCTURAL STEEL SHALL CONFORM TO CAN/CSA G40.20 FOR GENERAL REQUIREMENTS, AND CAN/CSA G40.21 FOR QUALITY a. GRADE 350W CLASS C FOR H.S.S. b. GRADE 350W FOR W SHAPES, S SHAPES, AND TEES. c. ALL OTHER MISCELLANEOUS METAL SHALL BE MINIMUM GRADE 300W (U.N.O.)
3.	BOLTED CONNECTIONS SHALL USE ASTM A325 BOLTS. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 EXCEPT THAT ANCHOR BOLTS SHALL BE FABRICATED FROM STEEL ROD CONFORMING TO CSA STANDARD G40.21 OR ASTM F1554 WITH A MINIMUM YIELD STRENGTH OF 250 MPa.
4.	STEEL COATINGS - UNLESS NOTED OTHERWISE ALL STRUCTURAL STEEL SHALL BE CLEANED AND PREPARED TO A MINIMUM LEVEL OF SSPC SP-3 AND IN ACCORDANCE WITH CSA STANDARD S16: a. ALL INTERIOR STEEL THAT IS TO BE PROTECTED BY A SPRAY APPLIED CEMENTITIOUS FIRE PROOFING SHALL BE CLEANED AND REMAIN UNCOATED. b. ALL OTHER INTERIOR STRUCTURAL STEEL SHALL BE SHOP PRIME PAINTED AS PER CSA/CAN S-16, SHOP PRIMER SHALL CONFORM TO CISC/CAN/A-73A c. ALL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED IN ACCORDANCE TO CAN/CSA-G164. TOUCH UP OF WELDS, CUTS OR SCRATCHES TO GALVANIZING SHALL BE DONE WITH A MINIMUM OF 3 COATS OF ZINC RICH PAINT.
5.	WELDING OF STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD W59 AND SHALL BE UNDERTAKEN BY A FABRICATOR AND ERECTOR FULLY APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA STANDARD W47, DIVISION 1 AND DIVISION 2. FABRICATOR TO SUPPLY CERTIFICATION OF FUSION WELDING, AND WELDING MAY ONLY BE CARRIED OUT IN ACCORDANCE WITH OWNER'S SAFETY REGULATIONS REGARDING WELDING.
6.	FABRICATOR SHALL DESIGN CONNECTIONS AND THE LIKE IN ACCORDANCE WITH THE 2012 OBC FOR THE FORCES SHOWN ON THE DRAWINGS. WHERE FORCES ARE NOT NOTED ON THE DRAWINGS, BEAM REACTIONS SHALL BE TAKEN AS ONE-HALF OF THE TOTAL UNIFORMLY DISTRIBUTED FACTORED LOADS NOTED ON THE BEAM LOAD TABLES OF PART V OF CISC'S HANDBOOK OF STEEL CONSTRUCTION, LATEST EDITION. PROVIDED NO POINT LOADS ACT ON THE BEAM, ALL WELDS SHALL BE 5 mm (3/16") MIN. FILLET. ALL BOLTS SHALL BE MIN. M20 (3/4") DIAMETER AND PROVIDE MIN. (2) BOLTS PER CONNECTION.
7.	WHERE MOMENT CONNECTIONS ARE CALLED FOR BUT VALUES ARE NOT INDICATED, DESIGN CONNECTIONS FOR FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
8.	SPLICES SHALL BE DESIGNED TO DEVELOP THE FULL CAPACITY OF THE MEMBER AT THE POINT OF THE SPLICE. MEMBERS SHALL NOT BE SPLICED AT POINTS OF MAXIMUM STRESS. NO SPLICES SHALL BE MADE UNLESS SHOWN ON THE DRAWINGS OR REVIEWED AND APPROVED BY THE ENGINEER.
9.	MOMENT FRAME AND X-BRACE CONNECTIONS SHALL HAVE ASTM A325 FRICTION TYPE M20 (3/4") MINIMUM DIAMETER BOLTS (U.N.O.).
10.	SHAPE AND SIZE GUSSET PLATES TO CLEAR ARCHITECTURAL FINISHES AND MECHANICAL DUCTS AND PIPES AND ELEVATOR SHAFTS.
11.	SHOP DRAWINGS OF STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION.
12.	ALL BEAMS CANTILEVERED OR CONTINUOUS OVER A COLUMN OR OTHER SUPPORT, AND BEAMS SUPPORTING POINTS OF CONCENTRATED LOAD, SHALL HAVE A MIN. OF 2-10 mm (3/8") STIFFENERS EACH SIDE OF WEB UNLESS OTHERWISE NOTED.
13.	TOP OF COLUMNS WHICH ARE NOT BRACED BY JOISTS OR BEAMS SHALL BE BRACED DIAGONALLY TO THE ROOF OR FLOOR BY A MINIMUM OF 4-76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR INTERIOR COLUMNS, A MINIMUM 2-76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLES FOR EXTERIOR COLUMNS. BRACING SHALL BE BETWEEN TOP OF COLUMN AND TOP CHORD OF JOISTS.
14.	COLUMN BASE PLATES AND BEAM BEARING PLATES SHALL BE GROUTED WITH 40 mm (1.5") NON-SHRINK 10 MPa GROUT.
15.	ALL COLUMNS BUILT INTO MASONRY WALLS SHALL HAVE ADJUSTABLE ANCHORS AT MINIMUM 400 mm (16") O.C.
16.	STEEL BEAMS AND LINTELS SHALL HAVE 200 mm (8") MINIMUM END BEARING ON MASONRY AND 65 mm (2 1/2") MINIMUM BEARING ON STEEL UNLESS INDICATED OTHERWISE.
17.	FOR ALL BEAMS AND LINTELS ON STEEL BEARING PLATES: a. BEARING PLATES ARE TO BE CENTRED BELOW ALL BEAMS OR LINTELS U.N.O. ON THE DRAWINGS. b. WELD TO BEARING PLATE WITH A MINIMUM 50 mm x 5 mm (2" x 3/16") FILLET ON BOTH SIDES OF BEAM.
18.	WHERE BACK TO BACK ANGLES ARE USED AS LINTELS OR SUPPORTS, STITCH WELD TOGETHER AT A MAXIMUM SPACING OF 300mm (12") O.C.
19.	ALL ROOF OPENINGS TO BE REINFORCED BY FRAMES COMPRISED OF C130x10 (C5x6.7) CHANNEL MEMBERS UNLESS NOTED OTHERWISE. MAXIMUM SPAN 2250 mm (7'-6").
20.	SUPPORT AT COLUMNS AND IRREGULARITIES: a. INSTALL L76 x 76 x 6.4 mm (L3 x 3 x 1/4") ANGLE SEATS FOR STEEL DECK AT CONNECTIONS, AT COLUMNS OR OTHER IRREGULARITIES, TO PROVIDE SUPPORT TO THE RISBS OF THE DECK. b. INSTALL L102 x 102 x 7.9 mm (L4 x 4 x 5/16") ANGLE SEATS FOR PRECAST SUPPORT AT CONNECTIONS, AT COLUMNS OR OTHER IRREGULARITIES, TO PROVIDE BEARING FOR PRECAST PLANKS.
21.	NO STRUCTURAL STEEL SHALL BE CUT IN THE FIELD UNLESS REVIEWED AND APPROVED BY THE ENGINEER.
22.	MAINTAIN ERECTION BRACING UNTIL COMPLETION OF ENTIRE STRUCTURE, INCLUDING ROOF DECKS AND OTHER ELEMENTS WHICH ARE PART OF THE LATERAL LOAD RESISTING SYSTEM.
23.	ARCHITECTUR

GARBAGE ENCLOSURE FOUNDATION WALL SCHEDULE		
TYPE	WIDTH	REINFORCEMENT
FW7	300	SEE SECTIONS

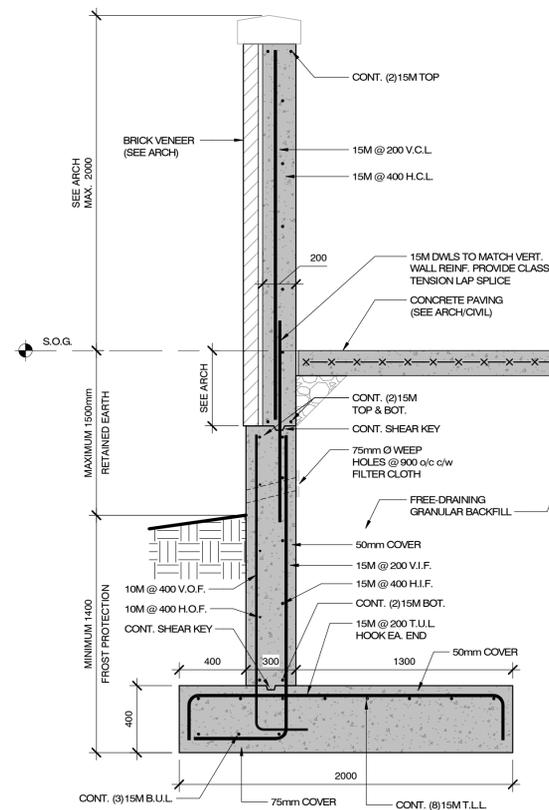
GARBAGE ENCLOSURE STRIP FOOTING SCHEDULE			
TYPE	WIDTH	THICKNESS	REINFORCEMENT
SF5	2000	400	SEE SECTIONS
SF6	800	300	3-15M CONT. BOTTOM

- NOTES:**
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, OPENINGS AND SLOPES NOT SHOWN ON THIS DRAWINGS
  - UNDERSIDE OF ALL FOOTINGS TO BE MINIMUM 1400mm BELOW FINISHED GRADE. (SEE GEOTECHNICAL REPORT). COORDINATE STEPPED FOOTING ELEVATIONS WITH GRADING PLAN.
  - REFER TO TYPICAL DETAILS FOR STEPPED FOUNDATIONS.
  - REFER TO GENERAL NOTES FOR RETAINING WALL / FOOTING CONCRETE STRENGTH.

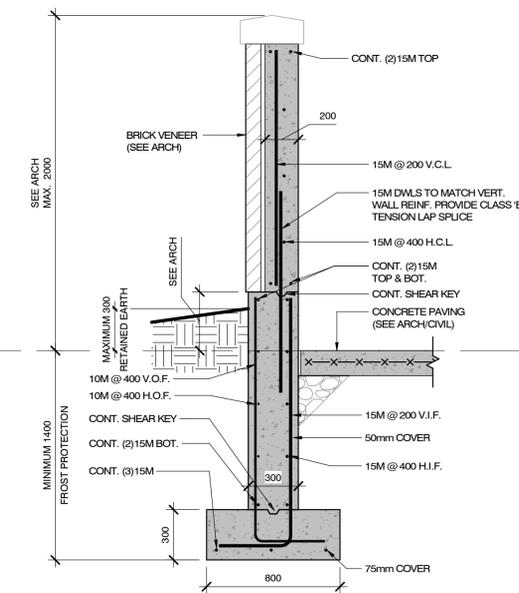


### GARBAGE ENCLOSURE PLAN

1 : 50



**SECTION DETAIL**  
1  
S8.0  
1 : 20



**SECTION DETAIL**  
2  
S8.0  
1 : 20

**NOTE TO CONTRACTOR:**  
DO NOT SCALE DRAWINGS.

CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

ALL DRAWINGS REMAIN THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR REUSED WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

THE OWNER/ARCHITECT/CONTRACTOR IS ADVISED THAT M.T.E. CONSULTANTS INC. CANNOT CERTIFY ANY COMPONENT OF THE SITE WORKS NOT INSPECTED DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO NOTIFY M.T.E. CONSULTANTS INC. PRIOR TO COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR INSPECTION.

ADDENDUM 02	ISSUANCE	7	AUG. 16, 2024
		ID	DATE



Engineers, Scientists, Surveyors

Ph. (905) 639-2552 www.mte85.com

CLIENT  
**DPAI ARCHITECTURE INC**

PROJECT  
**BRAMPTON FIRE STATION  
215**

GOREWAY DRIVE, BRAMPTON ONTARIO

DRAWING  
**GARBAGE ENCLOSURE**

Project Manager:	MXC	Start Date:	AUGUST 2023
Design By:	MYB	Project No.:	53251-100
Drawn By:	JDG	Drawing No.:	<b>S8.0</b>
Scale:	AS NOTED		

<b>Project Name:</b>	City of Brampton Fire Station 215 10539 Goreway Drive, Brampton, ON	<b>Date Issued:</b>	August 22, 2024
<b>Quasar Project #:</b>	CM-22-269		
<b>DPAI Project #:</b>	12303		

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**Addendum #:** M02

**Revision #:** 0

This Addendum forms part of the Contract Specifications and Drawings, and modifies the Bidding Documents, with Amendments and Additions noted below. This Addendum shall be added to the front of the specifications as issued. Bidders shall acknowledge receipt of this Addendum in the space provided in the Bid Form and include in bid amount.

This addendum includes modifications to the drawings as summarized below. Unless otherwise noted, all drawings listed below are attached herewith.

**1.0 Revisions to Specifications [Refer to the attached specifications for details]:**

- .1 25 06 00.00 - Integrated Automation Points Schedule
  - i) Updated Integrated Automation Point Schedule.

**2.0 Revisions to Drawings [Refer to attached drawings for details]:**

- .1 **Drawing M-301 – LEVEL 01 PLAN - VENTILATION**
  - i) Added tagging for exhaust tail pipe guide rail.
  - ii) Added symbol for SO2
- .2 **Drawing M-751– MECHANICAL CONTROL SEQUENCES I**
  - i) Updated apparatus bay fan control sequence
  - ii) Updated ceiling mounted destratification fan(HVLS) control sequence
- .3 **Drawing M-753– MECHANICAL CONTROL SEQUENCES III**
  - i) Added domestic hot water tank control sequence
- .4 **Drawing M-754– MECHANICAL CONTROL SEQUENCES IV**
  - i) Added VRF fan coil unit control sequence
  - ii) Added energy recovery ventilators control sequence
  - iii) Added desiccant dehumidifier control sequence
  - iv) Added kitchen exhaust fan control sequence
- .5 **Drawing M-755– MECHANICAL CONTROL SEQUENCES V**
  - i) Added Exhaust Fan (EF-2, EF-3, EF-4 & EF-6) control sequence
  - ii) Added DX fan coil unit control sequence

Quasar Consulting Group

George Mikhael P.Eng

Sector Lead

SECTION 25 06 00 - INTEGRATED AUTOMATION POINTS SCHEDULE  
LIST CITY OF BRAMPTON FIRE STATION 125

System Identifier	Location	Power Panel	Sequence	Serving	
<i>Destratification Fan</i>	Apparatus Bay			Apparatus Bay	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	APHVLS1_CMD	Apparatus Bay Destratification Fan 1 Command	Do	On/Off	
New Points	APHVLS1_STS	Apparatus Bay Destratification Fan 1 Status	Di	On/Off	
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Destratification Fan</i>	Bunker Gear			Bunker Gear	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	BUHVLS2_CMD	Bunker Gear Bay Destratification Fan 2 Command	Do	On/Off	
New Points	BUHVLS2_STS	Bunker Gear Destratification Fan 2 Status	Di	On/Off	
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Destratification Fan</i>	Fitness			Fitness	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	FTHVLS3_CMD	Fitness Destratification Fan 3 Command	Do	On/Off	
New Points	FTHVLS3_STS	Fitness Destratification Fan 3 Status	Di	On/Off	
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Roof			Apparatus Bay	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	APEF1_CMD	Apparatus Exhaust Fan 1 Command	Do	On/Off	
New Points	APEF1_STS	Apparatus Exhaust Fan 1 Status	Di	On/Off	
New Point	APEF1_SPT	Apparatus Exhaust Fan 1 Space Setpoint	VP	CO, CO2, NO2 & SO2	Virtual Point
New Point	APEF1_COCO2NO2SO2	Apparatus Exhaust Fan 1 Space CO, CO2, NO2 & SO2 LEVEL	Ai	CO, CO2, NO2 & SO2	Sensor Installed in Space
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Roof			Bunker Gear Room	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	BREF2_CMD	Bunker Gear Room Exhaust Fan 2 Command	Do	On/Off	
New Points	BREF2_STS	Bunker Gear Room Exhaust Fan 2 Status	Di	On/Off	
New Point	BREF2_SPT	Bunker Gear Room Exhaust Fan 2 Space Setpoint	VP	°C & %Humidity	Virtual Point
New Point	BREF2_TH	Bunker Gear Room Exhaust Fan 2 Space Temperature & Humidity	Ai	°C & %Humidity	Sensor Installed in Room
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Roof			Bunker gear Laundry	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	BLEF3_CMD	Bunker Gear Laundry Exhaust Fan 3 Command	Do	On/Off	
New Points	BLEF3_STS	Bunker Gear Laundry Exhaust Fan 3 Status	Di	On/Off	
New Point	BLEF3_SPT	Bunker Gear Laundry Exhaust Fan 3 Space Setpoint	VP	°C & %Humidity	Virtual Point
New Point	BLEF3_TH	Bunker Gear Laundry Exhaust Fan 3 Space Temperature & Humidity	Ai	°C & %Humidity	Sensor Installed in Room
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Roof			Clean Room	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	CREF4_CMD	Clean Room Exhaust Fan 4 Command	Do	On/Off	
New Points	CREF4_STS	Clean Room Exhaust Fan 4 Status	Di	On/Off	
New Point	CREF4_SPT	Clean Room Exhaust Fan 4 Space Setpoint	VP	°C & %Humidity	Virtual Point
New Point	CREF4_TH	Clean Room Exhaust Fan 4 Space Temperature & Humidity	Ai	°C & %Humidity	Sensor Installed in Room
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Vehicle Exhaust Fan</i>	Apparatus Bay			Vehicle Exhaust Tail Pipe	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	APEF5_CMD	Apparatus Bay Vehicle Exhaust Fan 5 Command	Do	On/Off	
New Points	APEF5_STS	Apparatus Bay Vehicle Exhaust Fan 5 Status	Di	On/Off	
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Roof			Hose Tower	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	HTEF6_CMD	Hose Tower Exhaust Fan 6 Command	Do	On/Off	

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System Identifier	Location	Power Panel	Sequence	Serving	
New Points	HTEF6_STS	Hose Tower Exhaust Fan 6 Status	Di	On/Off	
New Point	HTEF6_SPT	Hose Tower Exhaust Fan 6 Space Setpoint	VP	°C & %Humidity	Virtual Point
New Point	HTEF6_TH	Hose Tower Exhaust Fan 6 Space Temperature & Humidity	Ai	°C & %Humidity	Sensor Installed in Room
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Exhaust Fan</i>	Kitchen Range Hood			Kitchen	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Points	RH1_CMD	Kitchen Range Hood Exhaust Fan 1 Command	Do	On/Off	
New Points	RH1_STS	Kitchen Range Hood Exhaust Fan 1 Status	Di	On/Off	
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Split Air Conditioning</i>	Rooftop & IT Room			IT Room	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Point	SCU1BACNET_COM	Split Condenser Unit 1 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	SAC1BACNET_COM	Split AC 1 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	SCU1_CMD	Split Condenser Unit 1 Command	Do	On/Off	
New Point	SAC1_CMD	Split AC 1 Command	Do	On/Off	
New Point	SCU1_STS	Split Condenser Unit 1 Status	Di	On/Off	
New Point	SAC1_STS	Split AC 1 Status	Di	On/Off	
New Point	SAC1SAT_T	Split AC 1 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	SAC1RAT_T	Split AC 1 Return Air Temperature	VP	°C	Point read via BACNet
New Point	SAC1SAT_SPT_WINT	Split AC 1 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	SAC1SAT_SPT_SUMM	Split AC 1 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	SAC1SAT_SPT_CLG	Split AC 1 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	SAC1ITRM_SPT	Split AC 1 Space Setpoint	VP	°C	Virtual Point
New Point	SAC1ITRMT123_T	Split AC 1 IT Room Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
System Identifier	Location	Power Panel	Sequence	Serving	
<i>Split Air Conditioning</i>	Rooftop & Electrical Room			Electrical Room	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Point	SCU2BACNET_COM	Split Condenser Unit 2 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	SAC2BACNET_COM	Split AC 2 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	CND2_CMD	Split Condenser Unit 2 Command	Do	On/Off	
New Point	SAC2_CMD	Split AC 2 Command	Do	On/Off	
New Point	CND2_STS	Split Condenser Unit 2 Status	Di	On/Off	
New Point	SAC2_STS	Split AC 2 Status	Di	On/Off	
New Point	SAC2SAT_T	Split AC 2 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	SAC2RAT_T	Split AC 2 Return Air Temperature	VP	°C	Point read via BACNet
New Point	SAC2SAT_SPT_WINT	Split AC 2 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	SAC2SAT_SPT_SUMM	Split AC 2 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	SAC2SAT_SPT_CLG	Split AC 2 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	SAC2ERM_SPT	Split AC 2 Space Setpoint	VP	°C	Virtual Point
New Point	SAC2ERMT135_T	Split AC 2 Electrical Room Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
System Identifier	Location	Power Panel	Sequence	Serving	
<i>VRF 1</i>	Rooftop & Various Rooms			Various Rooms	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Point	CU1BACNET_COM	Condensing Unit 1 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC4BACNET_COM	Fan Coil 4 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC5BACNET_COM	Fan Coil 5 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC6BACNET_COM	Fan Coil 6 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC7BACNET_COM	Fan Coil 7 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC8BACNET_COM	Fan Coil 8 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	CU1_CMD	Condensing Unit 1 Command	Do	On/Off	
New Point	FC4_CMD	Fan Coil 4 Command	Do	On/Off	
New Point	FC5_CMD	Fan Coil 5 Command	Do	On/Off	
New Point	FC6_CMD	Fan Coil 6 Command	Do	On/Off	
New Point	FC7_CMD	Fan Coil 7 Command	Do	On/Off	
New Point	FC8_CMD	Fan Coil 8 Command	Do	On/Off	
New Point	CU1_STS	Condensing Unit 1 Status	Di	On/Off	

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System Identifier	Location	Power Panel	Sequence	Serving	
New Point	FC4_STS	Fan Coil 4 Status	Di	On/Off	
New Point	FC5_STS	Fan Coil 5 Status	Di	On/Off	
New Point	FC6_STS	Fan Coil 6 Status	Di	On/Off	
New Point	FC7_STS	Fan Coil 7 Status	Di	On/Off	
New Point	FC8_STS	Fan Coil 8 Status	Di	On/Off	
New Point	FC4MODE_CMD	Fan Coil 4 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC5MODE_CMD	Fan Coil 5 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC6MODE_CMD	Fan Coil 6 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC7MODE_CMD	Fan Coil 7 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC8MODE_CMD	Fan Coil 8 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC4SAT_T	Fan Coil 4 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC5SAT_T	Fan Coil 5 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC6SAT_T	Fan Coil 6 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC7SAT_T	Fan Coil 7 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC8SAT_T	Fan Coil 8 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC4RAT_T	Fan Coil 4 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC5RAT_T	Fan Coil 5 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC6RAT_T	Fan Coil 6 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC7RAT_T	Fan Coil 7 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC8RAT_T	Fan Coil 8 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC4SAT_SPT_WINT	Fan Coil 4 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC5SAT_SPT_WINT	Fan Coil 5 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC6SAT_SPT_WINT	Fan Coil 6 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC7SAT_SPT_WINT	Fan Coil 7 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC8SAT_SPT_WINT	Fan Coil 8 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC4SAT_SPT_SUMM	Fan Coil 4 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC5SAT_SPT_SUMM	Fan Coil 5 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC6SAT_SPT_SUMM	Fan Coil 6 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC7SAT_SPT_SUMM	Fan Coil 7 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC8SAT_SPT_SUMM	Fan Coil 8 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC4SAT_SPT_CLG	Fan Coil 4 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC5SAT_SPT_CLG	Fan Coil 5 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC6SAT_SPT_CLG	Fan Coil 6 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC7SAT_SPT_CLG	Fan Coil 7 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC8SAT_SPT_CLG	Fan Coil 8 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC4_SPT	Fan Coil 4 Space Setpoint	VP	°C	Virtual Point
New Point	FC5_SPT	Fan Coil 5 Space Setpoint	VP	°C	Virtual Point
New Point	FC6_SPT	Fan Coil 6 Space Setpoint	VP	°C	Virtual Point
New Point	FC7_SPT	Fan Coil 7 Space Setpoint	VP	°C	Virtual Point
New Point	FC8_SPT	Fan Coil 8 Space Setpoint	VP	°C	Virtual Point
New Point	FC4_T	Fan Coil 4 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC5_T	Fan Coil 5 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC6_T	Fan Coil 6 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC7_T	Fan Coil 7 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC8_T	Fan Coil 8 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
System Identifier	Location	Power Panel	Sequence	Serving	
<b>VRF 2</b>	Rooftop & Various Rooms			Various Rooms	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Point	CU2BACNET_COM	Condensing Unit 2 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC1BACNET_COM	Fan Coil 1 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC2BACNET_COM	Fan Coil 2 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	FC3BACNET_COM	Fan Coil 3 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	CU2_CMD	Condensing Unit 2 Command	Do	On/Off	
New Point	FC1_CMD	Fan Coil 1 Command	Do	On/Off	
New Point	FC2_CMD	Fan Coil 2 Command	Do	On/Off	
New Point	FC3_CMD	Fan Coil 3 Command	Do	On/Off	
New Point	CU2_STS	Condensing Unit 2 Status	Di	On/Off	
New Point	FC1_STS	Fan Coil 1 Status	Di	On/Off	
New Point	FC2_STS	Fan Coil 2 Status	Di	On/Off	

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System Identifier	Location	Power Panel	Sequence	Serving	
New Point	FC3_STS	Fan Coil 3 Status	Di	On/Off	
New Point	FC1MODE_CMD	Fan Coil 1 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC2MODE_CMD	Fan Coil 2 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC3MODE_CMD	Fan Coil 3 Control Mode	VP	Unoccupied/Ventilation	Control point via BACNet
New Point	FC1SAT_T	Fan Coil 1 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC2SAT_T	Fan Coil 2 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC3SAT_T	Fan Coil 3 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	FC1RAT_T	Fan Coil 1 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC2RAT_T	Fan Coil 2 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC3RAT_T	Fan Coil 3 Return Air Temperature	VP	°C	Point read via BACNet
New Point	FC1SAT_SPT_WINT	Fan Coil 1 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC2SAT_SPT_WINT	Fan Coil 2 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC3SAT_SPT_WINT	Fan Coil 3 Winter Supply Air Setpoint	VP	°C	Virtual Point
New Point	FC1SAT_SPT_SUMM	Fan Coil 1 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC2SAT_SPT_SUMM	Fan Coil 2 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC3SAT_SPT_SUMM	Fan Coil 3 Summer Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC1SAT_SPT_CLG	Fan Coil 1 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC2SAT_SPT_CLG	Fan Coil 2 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC3SAT_SPT_CLG	Fan Coil 3 Cooling Supply Air Setpoint	VP	°C	Virtual Point - May not be required if Cooling is not enabled
New Point	FC1_SPT	Fan Coil 1 Space Setpoint	VP	°C	Virtual Point
New Point	FC2_SPT	Fan Coil 2 Space Setpoint	VP	°C	Virtual Point
New Point	FC3_SPT	Fan Coil 3 Space Setpoint	VP	°C	Virtual Point
New Point	FC1_T	Fan Coil 1 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC2_T	Fan Coil 2 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	FC3_T	Fan Coil 3 Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
System Identifier	Location	Power Panel	Sequence	Serving	
<b>UNIT HEATER</b>	Various Area			Various Area	
Existing Point Name	Tag	Point Description	Type	Units in Display	Comments
New Point	UH1BACNET_COM	Unit Heater 1 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH2BACNET_COM	Unit Heater 2 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH3BACNET_COM	Unit Heater 3 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH4BACNET_COM	Unit Heater 4 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH5BACNET_COM	Unit Heater 5 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH6BACNET_COM	Unit Heater 6 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH7BACNET_COM	Unit Heater 7 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH8BACNET_COM	Unit Heater 8 BacNet Communication (MS/TP)	COM	Online/Offline	
New Point	UH1_CMD	Unit Heater 1 Command	Do	On/Off	
New Point	UH2_CMD	Unit Heater 2 Command	Do	On/Off	
New Point	UH3_CMD	Unit Heater 3 Command	Do	On/Off	
New Point	UH4_CMD	Unit Heater 4 Command	Do	On/Off	
New Point	UH5_CMD	Unit Heater 5 Command	Do	On/Off	
New Point	UH6_CMD	Unit Heater 6 Command	Do	On/Off	
New Point	UH7_CMD	Unit Heater 7 Command	Do	On/Off	
New Point	UH8_CMD	Unit Heater 8 Command	Do	On/Off	
New Point	UH1_STS	Unit Heater 1 Status	Di	On/Off	
New Point	UH2_STS	Unit Heater 2 Status	Di	On/Off	
New Point	UH3_STS	Unit Heater 3 Status	Di	On/Off	
New Point	UH4_STS	Unit Heater 4 Status	Di	On/Off	
New Point	UH5_STS	Unit Heater 5 Status	Di	On/Off	
New Point	UH6_STS	Unit Heater 6 Status	Di	On/Off	
New Point	UH7_STS	Unit Heater 7 Status	Di	On/Off	
New Point	UH8_STS	Unit Heater 8 Status	Di	On/Off	
New Point	UH1MODE_CMD	Unit Heater 1 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH2MODE_CMD	Unit Heater 2 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH3MODE_CMD	Unit Heater 3 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH4MODE_CMD	Unit Heater 4 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH5MODE_CMD	Unit Heater 5 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH6MODE_CMD	Unit Heater 6 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH7MODE_CMD	Unit Heater 7 Control Mode	VP	Unoccupied	Control point via BACNet

System Identifier	Location	Power Panel	Sequence	Serving	
New Point	UH8MODE_CMD	Unit Heater 8 Control Mode	VP	Unoccupied	Control point via BACNet
New Point	UH1SAT_T	Unit Heater 1 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH2SAT_T	Unit Heater 2 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH3SAT_T	Unit Heater 3 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH4SAT_T	Unit Heater 4 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH5SAT_T	Unit Heater 5 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH6SAT_T	Unit Heater 6 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH7SAT_T	Unit Heater 7 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH8SAT_T	Unit Heater 8 Supply Air Temperature	VP	°C	Point read via BACNet
New Point	UH1VES100_SPT	Unit Heater 1 Space Setpoint	VP	°C	Virtual Point
New Point	UH2SP134_SPT	Unit Heater 2 Space Setpoint	VP	°C	Virtual Point
New Point	UH3VES112_SPT	Unit Heater 3 Space Setpoint	VP	°C	Virtual Point
New Point	UH4DL128_SPT	Unit Heater 4 Space Setpoint	VP	°C	Virtual Point
New Point	UH5OS141_SPT	Unit Heater 5 Space Setpoint	VP	°C	Virtual Point
New Point	UH6APB130_SPT	Unit Heater 6 Space Setpoint	VP	°C	Virtual Point
New Point	UH7APB130_SPT	Unit Heater 7 Space Setpoint	VP	°C	Virtual Point
New Point	UH8APB130_SPT	Unit Heater 8 Space Setpoint	VP	°C	Virtual Point
New Point	UH1_T	Unit Heater 1 Vestibule Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH2_T	Unit Heater 2 Sprinkler Room Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH3_T	Unit Heater 3 Vestibule Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH4_T	Unit Heater 4 Dayroom Lounge Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH5_T	Unit Heater 5 Outdoor Storage Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH6_T	Unit Heater 6 Apparatus Bay Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH7_T	Unit Heater 7 Apparatus Bay Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space
New Point	UH8_T	Unit Heater 8 Apparatus Bay Space Temperature	Ai	°C	New Flat Plate Sensor Installed in Space

END OF SECTION



BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
TEL: 905-607-0800  
WEB: WWW.QUASARCG.COM

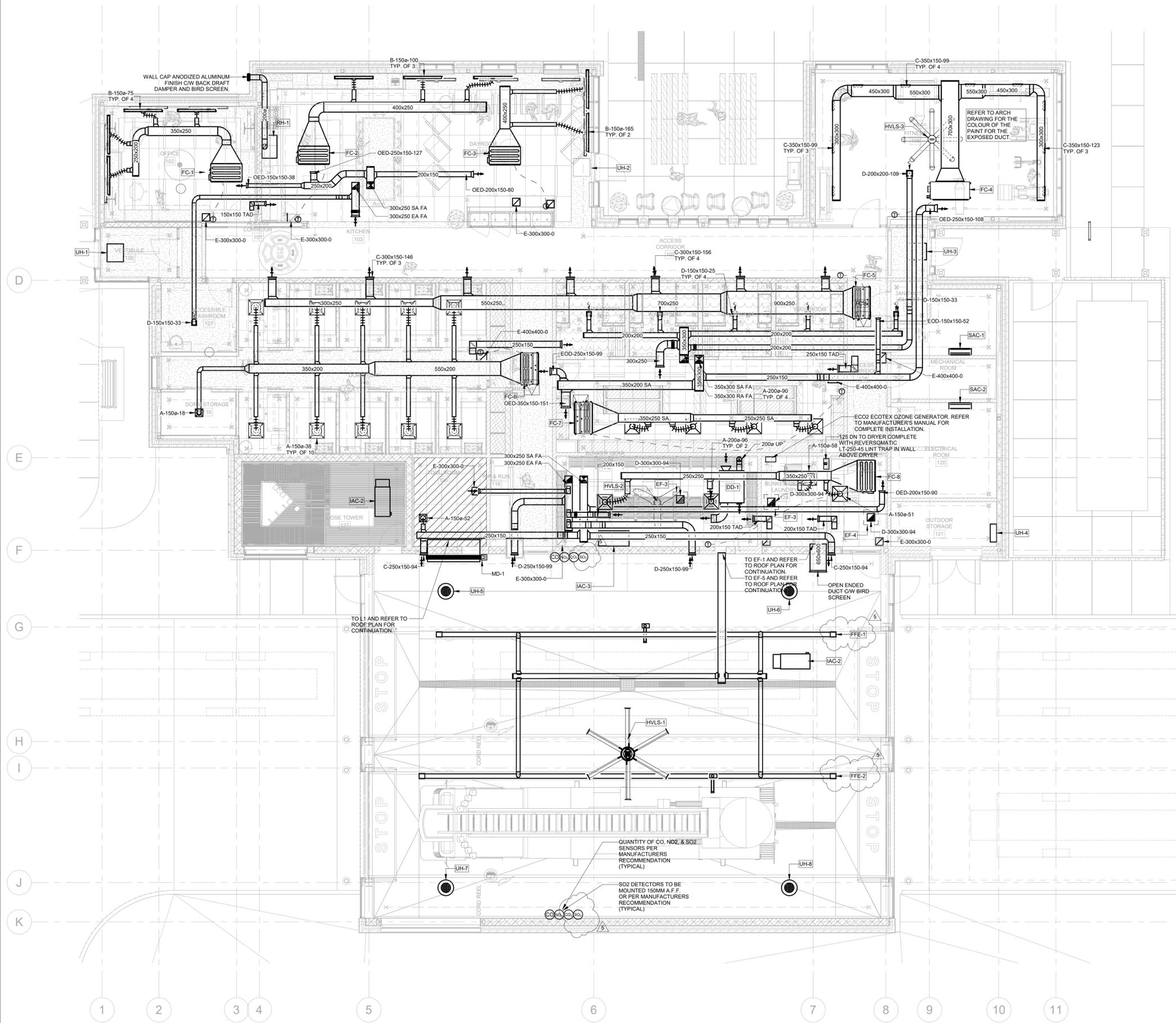
DRAWINGS ARE NOT TO BE SCALED.

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO ARCHITECTS BEFORE PROCEEDING WITH WORK.

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK.

SEALS

- GENERAL NOTES:
1. DRAWINGS ARE DIAGNOMATIC AND INDICATE GENERAL LOCATIONS OF EQUIPMENT AND CONNECTING SERVICES. DRAWINGS ARE NOT TO BE DIMENSIONED OR SCALED.
  2. NOTE THAT ANY REFERENCE TO CONTRACTOR ON MECHANICAL DRAWINGS IS NOT EXCLUSIVE TO MECHANICAL CONTRACTOR OR ON PARTICULAR SUB-TRADE. IT IS UNDERSTOOD THAT THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATE OF ALL TRADES' WORK AND AS SUCH SHALL BE RESPONSIBLE FOR REVIEW OF DOCUMENTS PREPARED BY ALL DISCIPLINES (I.E. MECHANICAL AND ELECTRICAL) AND INCLUDING ALL ASSOCIATED COSTS FOR THE SCOPE OF WORK AS IDENTIFIED IN ALL SUB-DISCIPLINES DOCUMENTS.
  3. ALL WORK TO BE DONE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE AND ALL OTHER REGULATORY REQUIREMENTS.
  4. SUPPLY ALL LABOUR AND MATERIALS TO PROVIDE A COMPLETE MECHANICAL INSTALLATION. ITEMS NOT EXPLICITLY ILLUSTRATED ON THE DRAWINGS ARE NOT TO BE EXCLUDED FROM THE SCOPE OF WORK IF REQUIRED AS PART OF A PROPER INSTALLATION. PERMITS, TESTING, BALANCING, AND OCCUPANT OPERATIONAL TRAINING WILL BE PART OF THE WORK.
  5. EXACT LOCATION OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES ARE DETAILED ON ARCHITECTURAL REFLECTED CEILING PLANS.
  6. THE LOCATION OF ALL ROOF OPENINGS SHALL BE AS INDICATED ON THE MECHANICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS. COORDINATE EXACT SIZES OF OPENINGS AS REQUIRED.
  7. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS ETC AS REQUIRED FOR COMPLETE WORKABLE INSTALLATION.
  8. DUCTWORK SHALL BE INSULATED OR LINED PER SPECIFICATIONS AND/OR AS NOTED ON DRAWINGS. ALL DUCT JOINTS AND SEAMS SHALL BE SEAL PER SPECIFICATIONS.
  9. DUCT AND PLENUM SIZES ARE CLEAR INSIDE DIMENSIONS. WHERE DUCTWORK AND PLENUMS ARE INTERNALLY LINED, THEIR SIZES SHALL BE ADJUSTED TO PROVIDE THE INSIDE CLEAR DIMENSIONS INDICATED ON THE DRAWINGS.
  10. MANUAL BALANCING DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES AND IN ALL BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES AND REGISTERS, WHETHER SHOWN OR NOT.
  11. ALL DUCTWORK LOCATED OUTSIDE THE BUILDING SHALL BE WEATHERPROOFED.
  12. CONTRACTOR SHALL INSTALL ANY DUCT MOUNTED SMOKE DETECTORS FURNISHED BY THE ELECTRICAL CONTRACTOR.
  13. LIMIT LENGTHS OF FLEXIBLE DUCT TO 1200mm.
  14. COORDINATE LOCATIONS OF WALL MOUNTED SENSORS WITH ARCHITECTURAL DRAWINGS.
  15. MINIMUM DUCT SIZE TO DIFFUSERS TO MATCH DIFFUSER NEXT SIZE UNLESS OTHERWISE INDICATED.



5	ISSUED FOR ADD-M01	2024-08-22
4	ISSUED FOR TENDER	2024-06-28
3	ISSUED FOR TENDER REVIEW	2024-06-11
2	ISSUED FOR PERMIT	2024-05-06
1	ISSUED FOR 60% CD	2024-04-18

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### LEVEL 01 PLAN - VENTILATION

ISSUE DATE: 2024-08-22

DRAWN BY: Author CHECKED BY: Checker

PROJECT NO.: CM-22-269 SCALE: As indicated

DRAWING NO.:



# M-301

## 1 LEVEL 01 PLAN - HVAC 1:75

PLT DT DATE: 8/22/2024 9:34:09 AM J



BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
TEL: 905-507-0800  
WEB: WWW.QUASARCG.COM

DRAWINGS ARE NOT TO BE SCALED.

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO ARCHITECTS BEFORE PROCEEDING WITH WORK.

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK.

SEALS

7	ISSUED FOR ADD-M01	2024-08-22
6	ISSUED FOR TENDER	2024-06-28
5	ISSUED FOR TENDER REVIEW	2024-06-11
4	ISSUED FOR PERMIT	2024-05-06
3	ISSUED FOR 60% CD	2024-04-18
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### MECHANICAL CONTROL SEQUENCES I

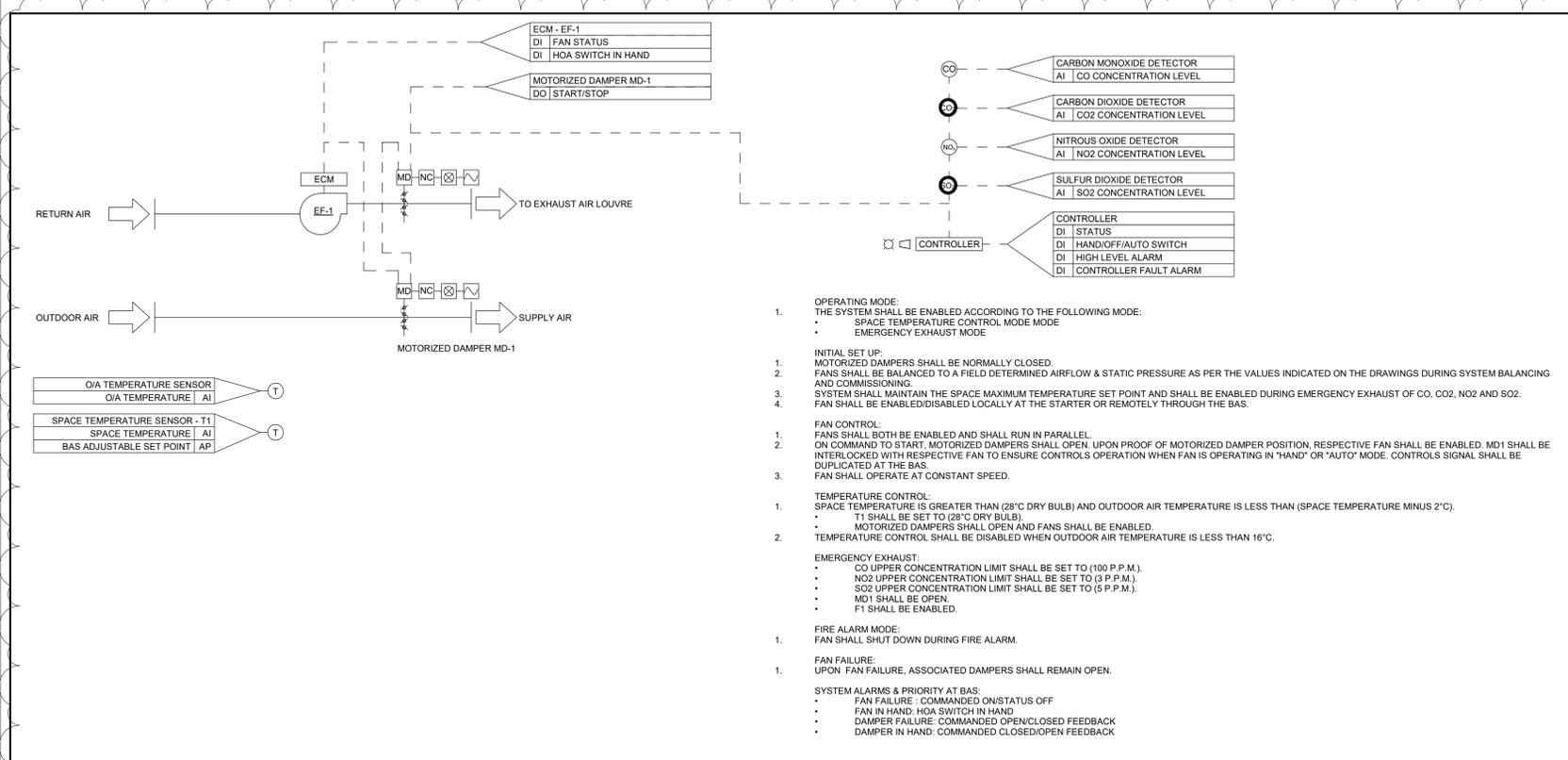
ISSUE DATE: 2024-08-22

DRAWN BY: Author CHECKED BY: Checker

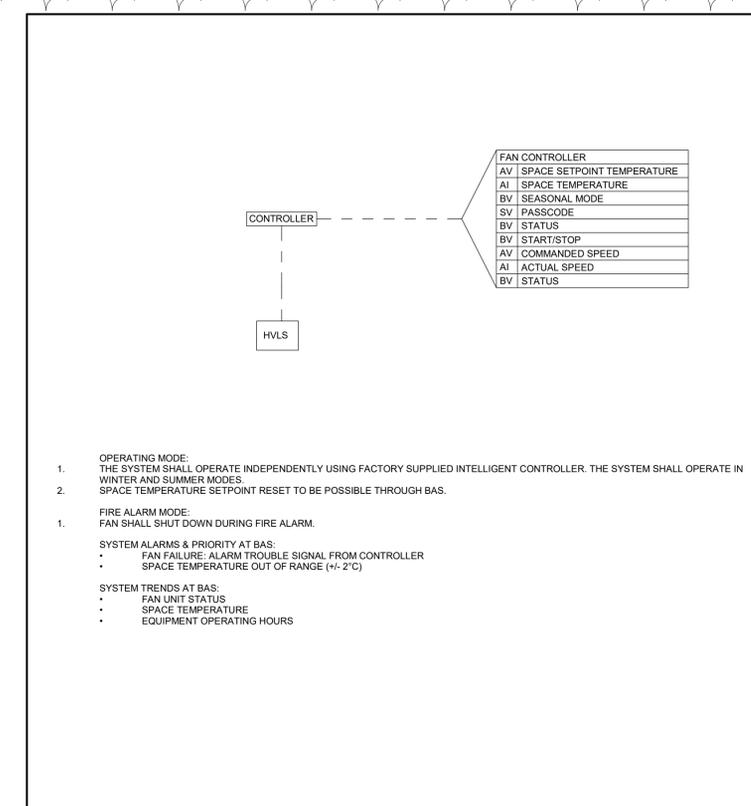
PROJECT NO.: CM-22-269 SCALE: N.T.S.

DRAWING NO.:

# M-751



**1 APPARATUS BAY FAN CONTROL SEQUENCE**  
N.T.S.



**2 CEILING MOUNTED DESTRATIFICATION FAN (HVLS) CONTROL SEQUENCE TYPICAL**  
N.T.S.



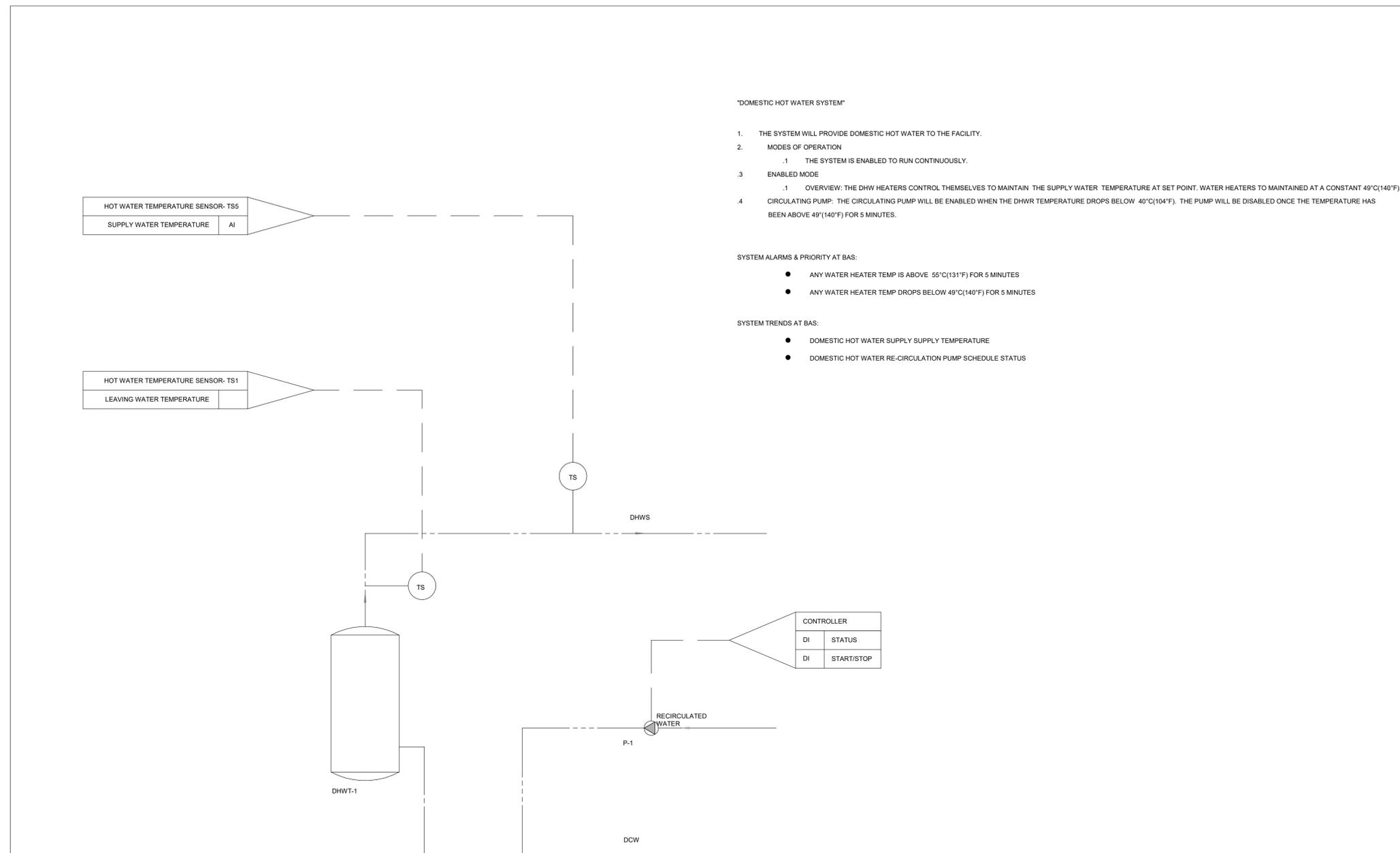
BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
TEL: 905-507-0800  
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SEALS



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6	ISSUED FOR TENDER	2024-06-28
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3	ISSUED FOR 60% CD	2024-04-18
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO.	ISSUES/REVISIONS	DATE
-----	------------------	------

DRAWING TITLE:

### MECHANICAL CONTROL SEQUENCES III

ISSUE DATE: 2024-08-22

DRAWN BY: Author CHECKED BY: Checker

PROJECT NO.: CM-22-269 SCALE: NTS

DRAWING NO.:

# M-753

## 1 DOMESTIC HOT WATER TANK CONTROL SEQUENCE

NTS



BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD. WOODBRIDGE, ON  
 TEL: 905-507-0800  
 WEB: WWW.QUASARCG.COM

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SEALS

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6	ISSUED FOR TENDER	2024-06-28
5	ISSUED FOR TENDER REVIEW	2024-06-11
4	ISSUED FOR PERMIT	2024-05-06
3	ISSUED FOR 60% CD	2024-04-18
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

**MECHANICAL CONTROL SEQUENCES IV**

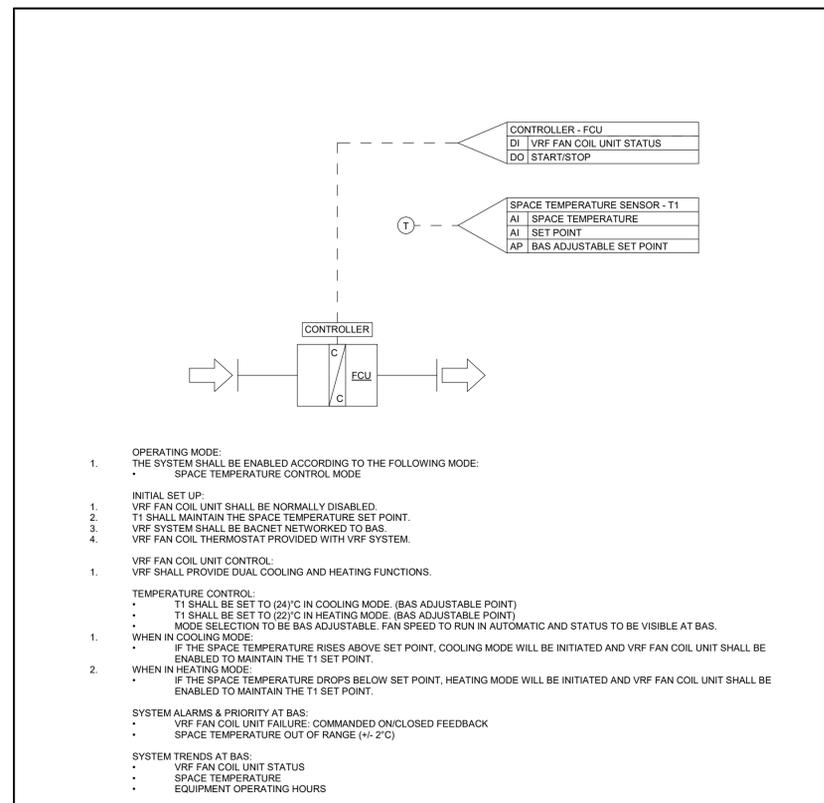
ISSUE DATE: 2024-08-22

DRAWN BY: Author CHECKED BY: Checker

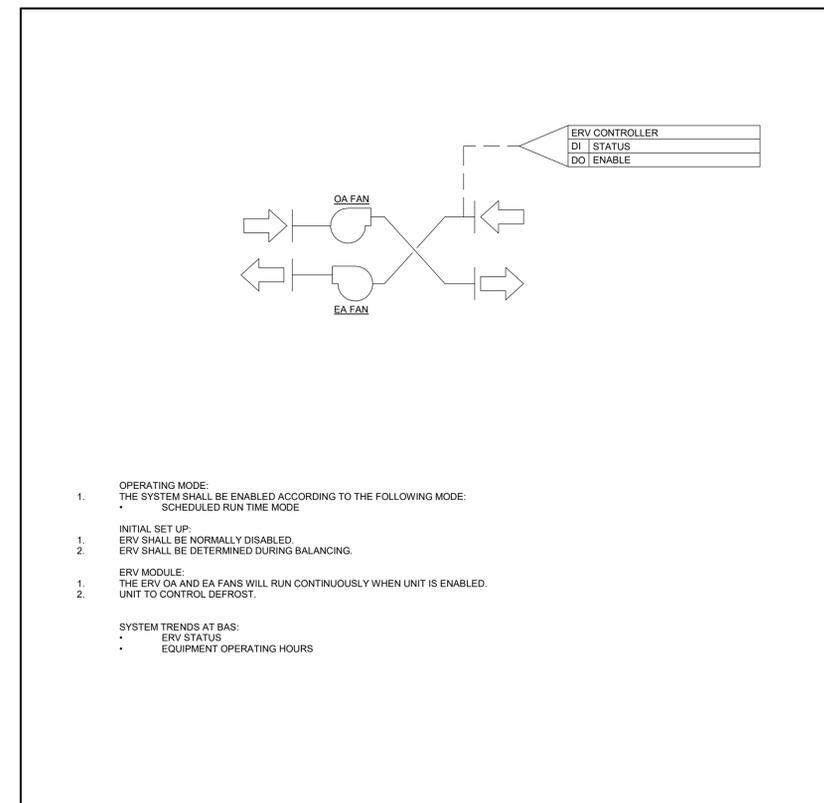
PROJECT NO.: CM-22-269 SCALE: NTS

DRAWING NO.:

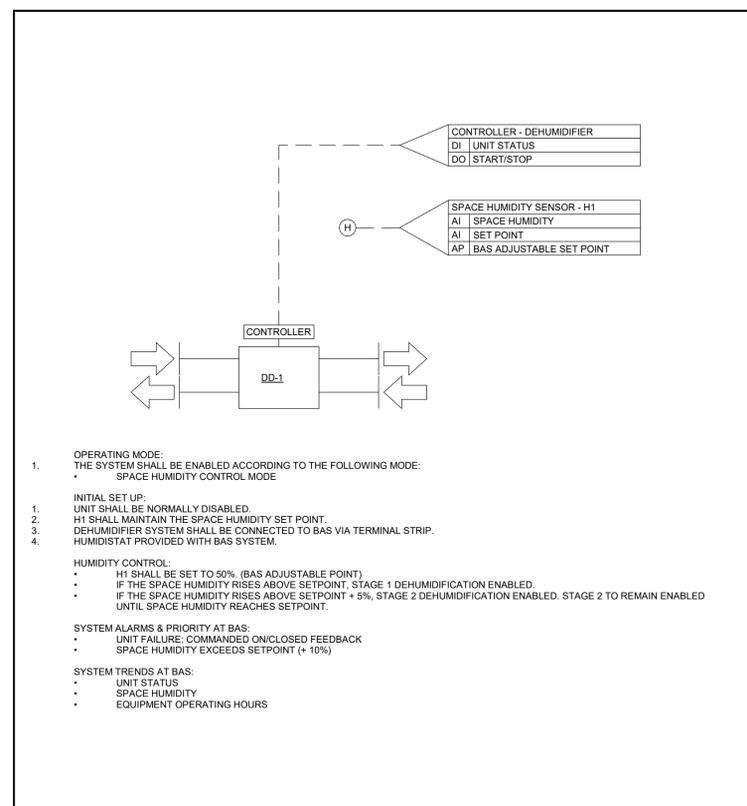
**M-754**



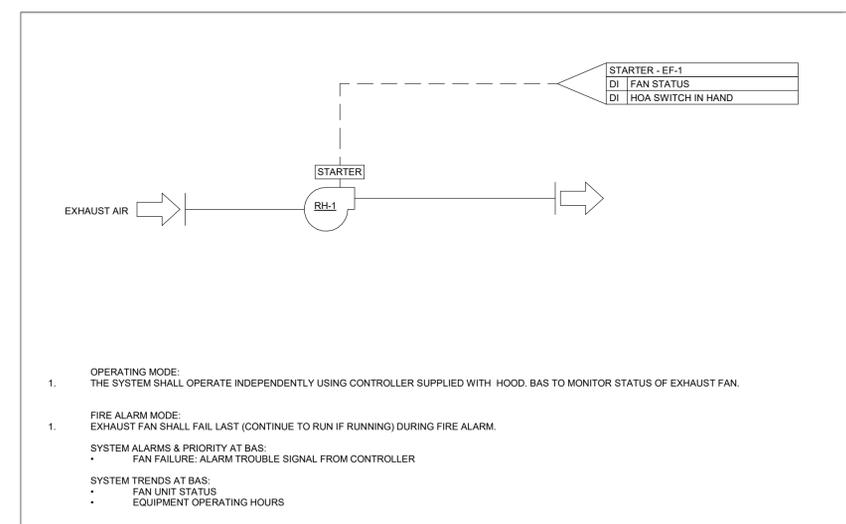
**1 VRV FAN COIL UNIT CONTROL SEQUENCE**  
 N.T.S.



**2 ENERGY RECOVERY VENTILATORS CONTROL SEQUENCE**  
 N.T.S.



**3 DESICCANT DEHUMIDIFIER CONTROL SEQUENCE**  
 N.T.S.



**4 KITCHEN EXHAUST FAN CONTROL SEQUENCE**  
 N.T.S.



BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
 TEL: 905-507-0800  
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2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

**MECHANICAL CONTROL SEQUENCES V**

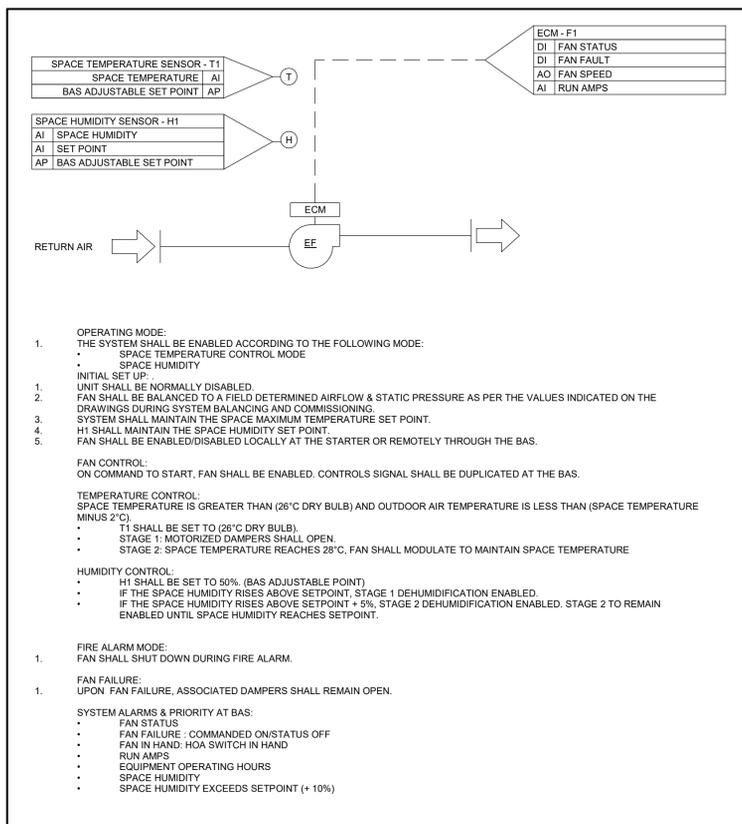
ISSUE DATE: 2024-08-22

DRAWN BY: Author CHECKED BY: Checker

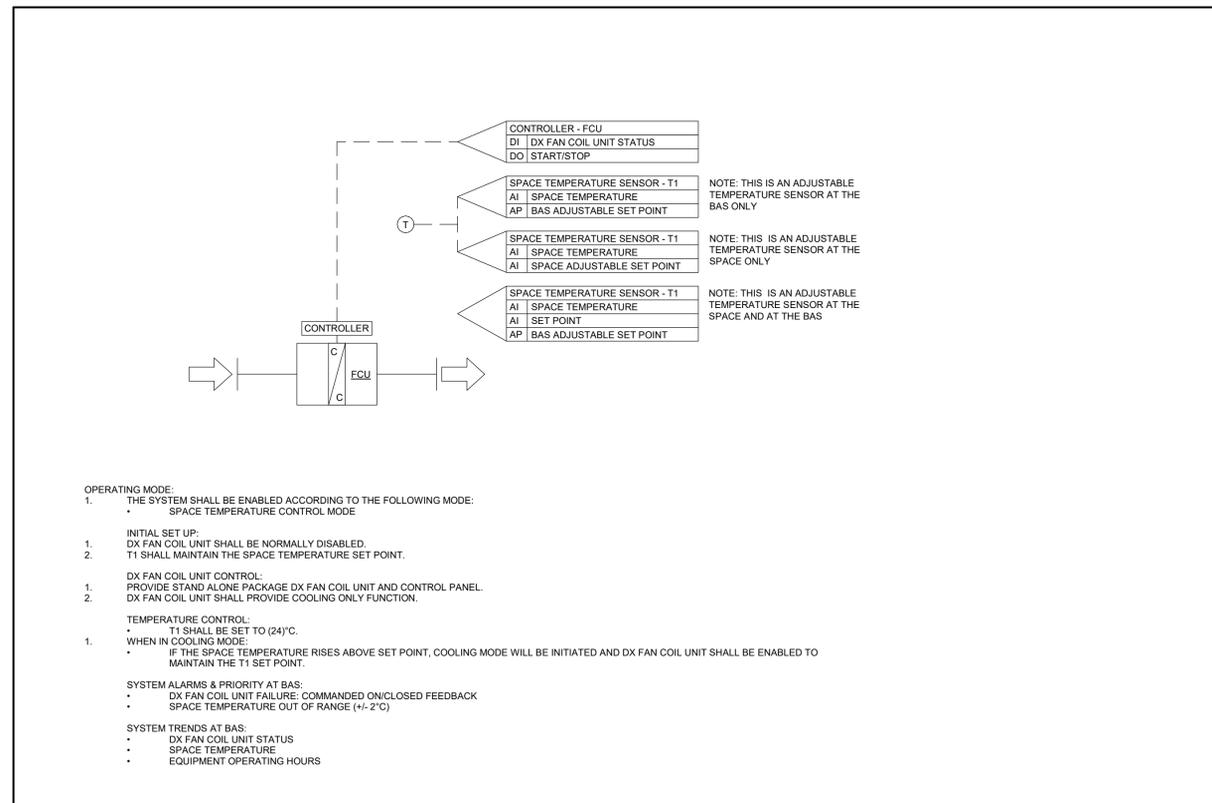
PROJECT NO.: CM-22-269 SCALE: N.T.S.

DRAWING NO.:

**M-755**



**1 EXHAUST FAN (EF-2, EF-3, EF-4 & EF-6) CONTROL SEQUENCE**  
 N.T.S.



**2 DX FAN COIL UNIT CONTROL SEQUENCE**  
 N.T.S.

<b>Project Name:</b>	City of Brampton Fire Station 215 10539 Goreway Drive, Brampton, ON	<b>Date Issued:</b>	August 16, 2024
<b>Quasar Project #:</b>	CM-22-269		
<b>DPAI Project #:</b>	12303		

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Quasar Consulting Group	Dayton Chuck	<a href="mailto:Dayton.chuck@quasarcg.com">Dayton.chuck@quasarcg.com</a>

**Addendum #:** E02

**Revision #:** 0

This Addendum forms part of the Contract Specifications and Drawings, and modifies the Bidding Documents, with Amendments and Additions noted below. This Addendum shall be added to the front of the specifications as issued. Bidders shall acknowledge receipt of this Addendum in the space provided in the Bid Form and include in bid amount.

This addendum includes modifications to the drawings as summarized below. Unless otherwise noted, all drawings listed below are attached herewith.

**1.0 Revisions to Specifications [Refer to the attached specifications for details]:**

- .1 Specification – 26 32 13.16 - Gas-Engine-Driven Generator Sets [Skin-Tight Enclosure]**
  - i) Revised generator kW rating to 500kW matching the drawings.
- .2 Specification - 27 05 28.63 - Pathways for Video Surveillance**
  - i) Cash Allowance section deleted. This scope of work is part of the base bid.

**2.0 Revisions to Drawings [Refer to attached drawings for details]:**

- .1 Drawing E-001 – ELECTRICAL LEGENDS AND GENERAL NOTES**
  - i) Refer to drawing revisions.
- .2 Drawing E-002 – ELECTRICAL SITE PLAN**
  - i) Refer to drawing revisions.
  - ii) EV Charging station notes were revised.
  - iii) Primary Duct Bank detail notes revised.
  - iv) Added note keynote S1.
- .3 Drawing E-003 – ELECTRICAL SITE LIGHTING PLAN**
  - i) Refer to drawing revisions.
  - ii) Pole mounted security camera note revised.
- .4 Drawing E-103 – ELECTRICAL SITE PLAN DETAILS**
  - i) Refer to drawing revisions.
  - ii) Detail 3 Ampacity values added.
- .5 Drawing E-201 – LEVEL 01 PLAN - LIGHTING**
  - i) Refer to drawing revisions.
  - ii) An exit sign circuit was added to the drawings.
- .6 Drawing E-202 – LEVEL 01 PLAN – POWER & SYSTEMS**
  - i) Refer to drawing revisions.
  - ii) Add 100A,3P Disconnect switch for EV Fire truck feed.
  - iii) 100A Coord reel note revised.

- iv) Add transformer TX-UEV2 in electrical room.
- .7 Drawing E-302 – ROOF PLAN – POWER & SYSTEMS**
  - i) Refer to drawing revisions.
  - ii) Add tag to inverter combiner panel DP-PV.
- .8 Drawing E-808 – EV FIRE TRUCK CHARGER DETAILS**
  - i) Refer to drawing revisions.
  - ii) Add general note 1.
- .9 Drawing E-901 – SINGLE LINE DIAGRAM**
  - i) Refer to drawing revisions.
  - ii) Add note for solar pv.
  - iii) Revised note for generator duct bank.
  - iv) Revised note for ATS-1 switch.
  - v) Add transformer TX-UEV2.
  - vi) Add future transformer TX-UEV3.
  - vii) Add note for fire truck EV charging station.
  - viii) Revise EVSE-2.2 to future work.
  - ix) Revise fault current note to 26.6 kA.
  - x) Revised transformer secondary duct bank conductor size.
- .10 Drawing E-904 – Electrical Panelboard Schedules I**
  - i) Refer to drawing revisions.
  - ii) Deleted circuits on panel RP-M2
- .11 Drawing E-905 – Electrical Panelboard Schedules II**
  - i) Refer to drawing revisions.
  - ii) Add exit signs to circuit 23 on panel RP-L.

**Quasar Consulting Group**

**Antonio Zuniga**, MSc., PMP, LEED AP BD+C

Team Lead

GENERAL NOTES

- GENERAL**
- ALL DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY AND SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS FOR LOCATION OF ALL LUMINAIRES, LIGHTING CONTROL DEVICES, OUTLETS, SYSTEM DEVICES, DIMENSIONS, MOUNTING HEIGHTS, AND CONSTRUCTION DETAILS.
  - ALL OPENINGS THROUGH RATED WALLS OR FLOORS (APPLIES TO ALL INSTANCES) SHALL BE SEALED WITH APPROVED FIRE STOPPING MATERIAL. ANY FIREPROOFING MATERIAL REMOVED WILL BE REPLACED WITH A SUITABLE AND APPROVED FIREPROOFING MATERIAL AND SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS TO APPLICABLE BUILDING AND FIRE CODES.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIR OF DAMAGED BUILDING AREAS AND FINISHES AFFECTED BY THE WORK AS OUTLINED UNDER SCOPE OF WORK OF THIS PROJECT.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND DISTRIBUTION OF TEMPORARY POWER AND LIGHTING WITHIN THE PREMISES DURING THE CONSTRUCTION PERIOD.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL THE WORK WITH ALL OTHER TRADES, CONSULTANTS, AND THE OWNER.
  - ALL NEW DEVICES INSTALLED WHERE NEW FINISHES OCCUR SHALL BE FLUSH MOUNTED, UNLESS OTHERWISE INDICATED.
  - ALL CONDUIT RUNS SHOWN ON PLANS ARE FOR INFORMATION AND DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL VERIFY EXACT LOCATION AND ROUTING OF ALL RUNS ON SITE PRIOR TO BEGINNING WORK.
  - PROVIDE SEISMIC RESTRAINTS WHERE REQUIRED BY LOCAL CODE REQUIREMENTS. OBTAIN THE SERVICES OF A SEISMIC RESTRAINT ENGINEER AND COMPLY WITH ALL REQUIREMENTS IN THEIR REPORT. SUBMIT A COPY OF THE REPORT TO MECHANICAL AND ELECTRICAL CONSULTANTS AND INCLUDE IN MAINTENANCE MANUAL.
- LIGHTING**
- PROVIDE SUPPORT CHAINS FOR ALL LUMINAIRES. SUPPORT ALL LUMINAIRES DIRECTLY TO CEILING SLAB STRUCTURE, NOT TO CEILING HANGERS, T-BAR, DUCTWORK, PIPING, CABLE TRAYS, ROOF DECK, ETC.
- POWER**
- NEW ELECTRICAL WIRING AND CABLES EXPOSED WITHIN THE CEILING SPACES SHALL CONFORM TO THE PLENUM REQUIREMENTS OF THE LOCAL BUILDING CODE.
  - PROPERLY LABEL ALL ELECTRICAL PANELS, CLEARLY INDICATING ALL INFORMATION INCLUDING CIRCUIT NUMBERS, CIRCUITING SHOWN ON DRAWING IS DIAGRAMMATIC TO SHOW GENERAL CIRCUIT ARRANGEMENT AND PANEL DESIGNATION.
  - PROVIDE 2#12AWG + G IN 21MMC FOR ALL 15A AND 20A CIRCUITS WITH A NOMINAL VOLTAGE OF 120V UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE OVERSIZED TO SUIT VOLTAGE DROP AS PER SPECIFICATIONS FOR CIRCUIT LENGTH EXCEEDING 90 FEET.
  - PROVIDE A SEPARATE NEUTRAL AND GROUNDING TO ALL CIRCUITS SERVING A RECEPTACLE FOR A COPIER/PRINTER. COORDINATE RECEPTACLES CONFIGURATION WITH THE COPIER SUPPLIER AND TENANT PRIOR TO ROUGH-IN.
- COMMUNICATIONS**
- ALL COMMUNICATIONS SCOPE OF WORK TO FOLLOW CITY OF BRAMPTON IT PERFORMANCE SPECIFICATION. REFER TO SPECIFICATION SECTION 27 00 00 FOR MORE INFORMATION INCLUDING MOUNTING HEIGHTS OF DEVICES, CABLING INSTALLATIONS, ETC. PRIOR TO INSTALLATION.
  - VOICE & DATA EMPTY CONDUIT AND BACK BOXES FOR COMMUNICATION CABLE AND DATA OUTLET SHALL BE SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. DATA FACE PLATE AND COMMUNICATION CABLE BY COMMUNICATION CONTRACTOR.
  - CABLES FOR VOICE AND DATA SYSTEMS ARE TO BE SUPPLIED, INSTALLED AND TERMINATED BY COMMUNICATIONS CONTRACTOR.
  - ELECTRICAL CONTRACTOR TO COORDINATE THE INSTALLATION OF ALL DATA WALL AND FLOOR OUTLET BOXES AND ASSOCIATED DATA CONDUIT SIZES WITH ELECTRICAL DRAWINGS AND COMMUNICATIONS CONTRACTORS.
  - COMMUNICATIONS CONTRACTOR MUST BE COMSCOPE SYSTEMX CERTIFIED.
  - COMMUNICATIONS CONTRACTOR WILL BE RESPONSIBLE TO INSTALL WIRELESS ACCESS POINTS THAT WILL BE PROVIDED BY THE CITY OF BRAMPTON.
  - COMMUNICATIONS SYSTEM IS TO BE AN END TO END COMSCOPE SYSTEMX CERTIFIED SOLUTION. ALL PATCH CABLES MUST BE PROVIDED TO ACCOMMODATE ALL DROPS INSTALLED. CABLES TO BE ORDERED AS PER CITY OF BRAMPTON IT PERFORMANCE SPECIFICATION V1.6 (SECTION 27 00 00).
- LIFE SAFETY**
- PROVIDE MEASUREMENT OF LIGHT LEVELS TO OBTAIN LOCAL INSPECTION APPROVALS AND PERMITS. AN AUTHORIZED TECHNICIAN OF THE MANUFACTURER SHALL PREPARE AND PROVIDE A SIGNED TEST REPORT VERIFYING THAT THE SYSTEM IS PROPERLY WORKING AND THAT LIGHT LEVELS MEET LOCAL CODE REQUIREMENTS. INCLUDE REQUIRED TEST MEASUREMENTS IN REPORT AND SUBMIT TO CONSULTANT FOR REVIEW. ALL COST FOR TESTING/VERIFICATION SHALL BE INCLUDED IN THE TENDER BID.
  - SUBMIT FIRE ALARM VERIFICATION REPORT CONFORMING TO CANULC-S537 TO CONSULTANT FOR REVIEW. AUDIBILITY REPORT SHALL HAVE 15 SEPARATE READINGS IN VARIOUS LOCATIONS THROUGHOUT FLOOR AREA INDICATING SOUND PRESSURE PRODUCED BY FIRE ALARM SIGNALING DEVICES.
  - PROVIDE LABOUR AND MATERIAL TO CONDUIT THE INTEGRATED SYSTEMS TESTING OF INTERCONNECTED LIFE SAFETY SYSTEMS IN ACCORDANCE WITH CANULC-S1001-11.

ELECTRICAL DRAWING LIST

DRAWING #	DRAWING NAME
E-000	COVER PAGE
E-001	ELECTRICAL LEGEND AND GENERAL NOTES
E-002	ELECTRICAL SITE PLAN
E-103	ELECTRICAL SITE PLAN DETAILS
E-104	ELECTRICAL SITE PLAN - ALECTRA DETAILS I
E-105	ELECTRICAL SITE PLAN - ALECTRA DETAILS II
E-201	LEVEL 01 PLAN - LIGHTING
E-202	LEVEL 01 PLAN - POWER & SYSTEMS
E-302	ROOF PLAN - POWER & SYSTEMS
E-401	LEVEL 01 PLAN - TELECOMMUNICATIONS
E-501	FIRE ALARM ZONING PLAN
E-801	ELECTRICAL DETAILS I
E-802	ELECTRICAL DETAILS II
E-803	ELECTRICAL DETAILS III
E-804	ELECTRICAL DETAILS IV
E-805	ELECTRICAL DETAILS V
E-806	ELECTRICAL DETAILS VI
E-807	ELECTRICAL DETAILS VII
E-808	EV FIRE TRUCK CHARGER DETAILS
E-901	SINGLE LINE DIAGRAM
E-902	SCHEDULES FOR LIGHTING
E-903	EQUIPMENT WIRING SCHEDULE
E-904	ELECTRICAL PANELBOARD SCHEDULES I
E-905	ELECTRICAL PANELBOARD SCHEDULES II

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
LINETYPES	
————	NEW WORK
-----	WORK TO BE DEMOLISHED, OR REMOVED
-----	EXISTING MATERIAL/EQUIPMENT/SERVICES TO REMAIN
-----	FUTURE WORK (NOT IN SCOPE)
-----	EXTENTS OF FIRE ALARM ZONE, WET LOCATION, OR OTHER AREA AS NOTED ON PLANS
ABBREVIATIONS	
E	EXISTING TO REMAIN
R	EXISTING TO BE DEMOLISHED/REMOVED
ER	EXISTING IN RELOCATED POSITION
RR	REMOVE AND RELOCATE
C	CEILING MOUNTED CONNECTION
W	WALL MOUNTED CONNECTION
F	FLOOR MOUNTED CONNECTION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
O/C	OVER COUNTER
U/C	UNDER CABINET
CCT	CIRCUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
TL	TWIST LOCK
BDO	BAY DOOR OPERATOR
WG	WIRE GUARD
WP	WEATHER PROOF
RI	ROUGH-IN ONLY
NIC	NOT IN CONTRACT
SIM	SIMILAR TO
TYP.	TYPICAL
ABBREVIATIONS - CODES AND STANDARDS	
OBC	ONTARIO BUILDING CODE
OESC	ONTARIO ELECTRICAL SAFETY CODE
OFC	ONTARIO FIRE CODE
ABBREVIATIONS - CEILING TYPES	
ACT	ACOUSTIC CEILING TILE (T-BAR)
EXP	EXPOSED CEILING
GB	GYPSUM BOARD CEILING
OWSJ	OPEN WEB STEEL JOISTS
WD	WOOD CEILING
ANNOTATIONS	
CL	CLOSET
WR	WASHROOM
PLUMBING	
PTP	ELECTRONIC TRAP PRIMER
PSC	PLUMBING SENSOR CONTROL (TOUCHLESS FAUCETS)
HVAC	
⊙	THERMOSTAT OR TEMPERATURE SENSOR
⏰	TIMER CONTROL
BBH	ELECTRIC BASEBOARD HEATER (BBH)
FFH	FORCED FLOW HEATER
ERV	ENERGY RECOVERY VENTILATOR
HRU	HEAT RECOVERY UNIT
MUA	MAKE-UP AIR UNIT
CONDUIT AND BOXES	
—	CONDUIT WITH END BUSHING
—○	CONDUIT UP
—↓	CONDUIT DOWN
—	CONDUIT CONTINUES
Ⓜ	JUNCTION BOX
Ⓟ	PULL BOX
Ⓜ	HAND HOLE
CONNECTIONS TO EQUIPMENT	
DR	DISHWASHER
FR	FRIDGE
MW	MICROWAVE
HD	HAND DRYER, ALLOW UP TO 208V-1PH-20A
⊙	1-PHASE DIRECT CONNECTION OUTLET AS NOTED.
⊙	3-PHASE DIRECT CONNECTION OUTLET AS NOTED.
⊙	CONNECTION TO SINGLE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
⊙	THREE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
LIGHTING CONTROLS	
REFER TO SPECIFICATIONS AND RESPECTIVE SCHEDULES FOR EXACT REQUIREMENTS	
Ⓜ	SWITCH OR OTHER USER INTERFACE DEVICE AS DESCRIBED ON LIGHTING CONTROLS SCHEDULE.
Ⓜ	3-WAY SWITCH
DIM	ADJACENT TO SWITCH, DENOTES DIMMING SWITCH.
T	ADJACENT TO SWITCH, DENOTES COUNTDOWN TIMER SWITCH
AT	ADJACENT TO SWITCH, DENOTES ASTRONOMICAL TIMER SWITCH
DS	ADJACENT TO SWITCH, DENOTES DOOR SWITCH
DT	DUAL TECHNOLOGY SENSOR
M	ADJACENT TO SWITCH, DENOTES MASTER CONTROL FOR ALL LUMINAIRES IN A ROOM OR SPACE, OR AS NOTED.
Ⓜ	WALL MOUNTED SWITCH/OCCUPANCY SENSOR. PIR DENOTES PASSIVE INFRARED, DT DENOTES DUAL PASSIVE INFRARED/ULTRASONIC, LINE VOLTAGE TO SUIT CONTROLLED CIRCUIT, OR AS NOTED.
PP	POWER PACK
SC	SCENE CONTROLLER.
Ⓟ	PHOTOCELL SENSOR.
Ⓟ	CEILING MOUNTED OCCUPANCY SENSOR. PIR DENOTES PASSIVE INFRARED, UT DENOTES ULTRASONIC OR MICROPHONIC, DT DENOTES DUAL TECHNOLOGY, OS DENOTES UNKNOWN TECHNOLOGY.
Ⓜ	WALL MOUNTED OCCUPANCY SENSOR.
DISTRIBUTION EQUIPMENT	
Ⓜ	TRANSFORMER - FLOOR MOUNTED, PLAN VIEW. 'C' DENOTES CEILING MOUNTED
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
■	SURFACE MOUNTED LIGHTING AND RECEPTACLE PANELBOARD
■	RECESSED RECEPTACLE AND LIGHTING PANELBOARD
□	DISTRIBUTION PANELBOARD
⊞	DISCONNECT SWITCH
⊞	FUSED DISCONNECT SWITCH
Ⓜ	CONTACTOR
⊞	LOOSE STARTER. COORDINATE STARTING CHARACTERISTIC WITH EQUIPMENT REQUIREMENTS.
⊞	COMBINATION STARTER.
VFD	ADJACENT TO STARTER, DENOTES VARIABLE FREQUENCY DRIVE
POWER RECEPTACLES AND BOXES	
⊞	120V U-GROUND DUPLEX RECEPTACLE.
⊞	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
⊞	120V U-GROUND 20A DUPLEX RECEPTACLE.
⊞	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
⊞	120V U-GROUND DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
⊞	120V U-GROUND 20A DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
⊞	120V U-GROUND DUPLEX RECEPTACLE - HALF OF RECEPTACLE AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
⊞	SPLIT RECEPTACLE. IF MANUALLY CONTROLLED, SHOWN CONNECTED TO SWITCH.
⊞	SPLIT RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
⊞	120V U-GROUND 20A QUAD RECEPTACLE ABOVE GROUND.
⊞	120V U-GROUND QUAD RECEPTACLE.
⊞	INDICATES DUPLEX RECEPTACLE COMPLETE WITH ONE TYPE A AND ONE TYPE C USB CHARGING PORTS. TOP RECEPTACLE TO BE CONTROLLED BY SINGLE-POLE SWITCH AS INDICATED ON DRAWINGS.
⊞	14-30R RECEPTACLE FOR LAUNDRY DRYER, OR OTHER RECEPTACLE AS NOTED.
⊞	14-50R RECEPTACLE FOR ELECTRIC RANGE, OR OTHER RECEPTACLE AS NOTED. PROVIDE 40A/2P BREAKER TO SUIT.
⊞	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
⊞	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO ROUGH-IN.
⊞	FLOOR RECEPTACLE OR RECEPTACLE IN FLOOR BOX (POWER ONLY)
⊞	SERVICE POLE. PROVIDE POWER TO JUNCTION BOX IN CEILING SPACE ABOVE. DEVICES ON POLE AS NOTED ON PLANS.
FB1	ADJACENT TO FLOOR RECEPTACLE, DENOTES FLOOR BOX TYPE
DENOTES FIRE STATION ALERTING DEVICE	
LIGHTING FIXTURES	
SYMBOLS IN ACCORDANCE WITH IES DG-300 AND IES HB-110-11 WHERE NOT DETAILED OTHERWISE HERE.	
REFER TO LIGHTING FIXTURE SCHEDULE FOR FURTHER DETAILS AND EXACT FIXTURE REQUIREMENTS.	
Ⓜ	LINEAR LUMINAIRE, SURFACE MOUNTED TO CEILING
Ⓜ	LINEAR LUMINAIRE, RECESSED IN CEILING
Ⓜ	LINEAR LUMINAIRE, SUSPENDED, PENDANT, CHAIN, STEM, OR AIRCRAFT CABLE HUNG TO SUIT APPLICATION, OR AS NOTED IN SCHEDULE 'X', WHEN USED DENOTES POWER FEED LOCATION.
Ⓜ	LINEAR LUMINAIRE, WALL MOUNTED
Ⓜ	ROUND OR SQUARE DOWNLIGHT, RECESSED
Ⓜ	ROUND SUSPENDED LUMINAIRE
Ⓜ	WALL SCONCE OR OTHER WALL MOUNTED LUMINAIRES.
EM	CONNECTED TO EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
NL	LUMINAIRE CONNECTED TO NON-EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
A, B, Z1, Z2, ETC.	DENOTES ZONING/CIRCUITING ASSIGNMENTS FOR LUMINAIRES AND CONTROLS IN THE SAME SPACE.
EMERGENCY LIGHTING	
REFER TO EMERGENCY LIGHTING FIXTURE SCHEDULE FOR EXACT FIXTURE REQUIREMENTS.	
Ⓜ	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN, SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS.
Ⓜ	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN, SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS.
Ⓜ	EMERGENCY LIGHTING BATTERY UNIT, WITH AND WITHOUT HEADS.
Ⓜ	ONE, TWO, AND THREE HEAD WALL MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
Ⓜ	ONE, TWO, AND THREE HEAD CEILING MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
Ⓜ	RECESSED EMERGENCY REMOTE HEAD.
EM	DENOTES "EMERGENCY"
CCT	CORRELATED COLOUR TEMPERATURE
CRI	COLOUR RENDERING INDEX
EXTERIOR LIGHTING	
Ⓜ	ARM MOUNTED LUMINAIRE ON POLE. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
Ⓜ	POST TOP LUMINAIRE ON POLE. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
Ⓜ	LIGHTING BOLLARD. DIRECTIONAL ARROW, WHERE INDICATED DENOTES PRIMARY LUMEN ORIENTATION.
Ⓜ	GROUND MOUNTED FLOOD LIGHT
TELECOMMUNICATIONS	
Ⓜ	WALL MOUNTED DATA (D) OR VOICE (V) OUTLET. PROVIDE 2D UNLESS NOTED OTHERWISE.
Ⓜ	WALL MOUNTED VOICE (TELEPHONE) OUTLET. PROVIDE 1V UNLESS NOTED OTHERWISE.
Ⓜ	WALL MOUNTED DATA OUTLET. PROVIDE 2D UNLESS NOTED OTHERWISE.
Ⓜ	WALL MOUNTED TELEVISION OUTLET
Ⓜ	VOICE, DATA, OR TV OUTLET AS DESCRIBED ABOVE, MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
B	ADJACENT TO COMMUNICATIONS OUTLET, INDICATES BLANK-OFF PLATE.
HDMI	HDMI OUTLET.
AV	AUDIO VIDEO GANG, AS NOTED.
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
Ⓜ	WIRELESS ACCESS POINT (WIFI), PROVIDE 2D UNLESS OTHERWISE NOTED.
Ⓜ	PUBLIC ADDRESS SYSTEM SPEAKER, CEILING MOUNTED.
Ⓜ	PUBLIC ADDRESS SYSTEM SPEAKER, WALL MOUNTED.
Ⓜ	PUBLIC ADDRESS HORN SPEAKER WALL MOUNTED.
Ⓜ	PUBLIC ADDRESS SYSTEM HANDSET
Ⓜ	PUBLIC ADDRESS SYSTEM ADMIN CONTROL, CONSOLE
Ⓜ	PUBLIC ADDRESS SPEAKER VOLUME CONTROL SWITCH.
Ⓜ	INTERCOM
Ⓜ	VIDEO INTERCOM SYSTEM DOOR CALL STATION
Ⓜ	VIDEO INTERCOM SYSTEM MASTER STATION
Ⓜ	CLOCK.
Ⓜ	GPS CLOCK SYSTEM MASTER TRANSMITTER
Ⓜ	GPS CLOCK SYSTEM GPS RECEIVER
Ⓜ	GPS CLOCK SYSTEM SATELLITE TRANSMITTER (REPEATER)
Ⓜ	GPS CLOCK SYSTEM RECEIVER SWITCH
ACCESS CONTROL AND DOOR HARDWARE	
Ⓜ	CARD READER
Ⓜ	DOOR ALARM SOUNDER
Ⓜ	DOOR CONTACT
Ⓜ	ELECTRIC STRIKE
Ⓜ	KEY SWITCH
Ⓜ	ELECTROMAGNETIC LOCK
Ⓜ	REQUEST TO EXIT SENSOR
Ⓜ	MUSHROOM HEAD PUSH BUTTON FOR 'REQUEST TO EXIT' MAGLOCK RELEASE, OR OTHER PUSH BUTTON AS INDICATED
Ⓜ	DOOR RELEASE ADJACENT TO THE ABOVE, PUSHBUTTON INTEGRATED WITH ELECTRIFIED DOOR HARDWARE DEVICE.
Ⓜ	BARRIER FREE DOOR OPERATOR PUSH BUTTON
Ⓜ	TOUCHLESS 'WAVE SWITCH' FOR DOOR OPERATOR CONTROL
Ⓜ	DOOR BELL C/W SOUNDER AND STROBE
Ⓜ	DOOR BELL (SOUNDER ONLY)
INTRUSION DETECTION	
Ⓜ	GLASS BREAK (GB)
Ⓜ	MOTION DETECTOR (MD)
Ⓜ	KEYPAD (KP)
VIDEO SURVEILLANCE	
Ⓜ	CCTV CAMERA
C/P	CCTV CAMERA, CEILING OR POLE MOUNTED
Ⓜ	CCTV CAMERA, WALL MOUNTED
PTZ	PAN-TILT-ZOOM
DURESS SYSTEM	
Ⓜ	DURESS BUTTON (MOUNTED ON UNDERSIDE OF TABLETOP)
Ⓜ	WALL MOUNTED DURESS BUTTON WITH POLYCARBONATE ANTI-TAMPER COVER
Ⓜ	DURESS SYSTEM STROBE LIGHT
FIRE DETECTION AND ALARM - GENERAL	
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAPG	FIRE ALARM PASSIVE GRAPHIC
FAMP	FIRE ALARM ULC MONITORING PANEL
FAZ	FIRE ALARM ZONE
FSZ	FIRE ALARM SUPERVISORY ZONE
Ⓜ	FIRE ALARM PANEL (FACP, FAAP, FAMP) AS DENOTED ON PLANS.
FIRE DETECTION - INITIATION DEVICES	
Ⓜ	MANUAL PULL STATION (MPS)
LX	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W POLYCARBONATE (LEXAN) COVER.
WG	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W WIRE GUARD COVERS.
A	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS OR DETECTOR, DENOTES DEVICE C/W AUXILIARY CONTACT.
Ⓜ	PHOTOELECTRIC SMOKE DETECTOR
Ⓜ	SAME AS ABOVE, WALL MOUNTED
Ⓜ	DUCT MOUNTED SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
Ⓜ	HEAT DETECTOR - 58 DEGREES C (135 DEGREES F) FIXED TEMPERATURE AND RATE OF RISE, RESTORABLE
Ⓜ	SAME AS ABOVE, WALL MOUNTED
HT	ADJACENT TO HEAT DETECTOR, DENOTES "HIGH TEMPERATURE", 94 DEGREES C (200 DEGREES F) OR AS NOTED ON PLANS.
Ⓜ	HEAT DETECTOR - 58 DEGREES C (135 DEGREES F) FIXED TEMPERATURE, NON-RESTORABLE
Ⓜ	HEAT DETECTOR - 94 DEGREES C (200 DEGREES F) FIXED TEMPERATURE, NON-RESTORABLE
Ⓜ	RESIDENTIAL SMOKE ALARM, 120V, COMPLETE WITH STROBE. FOR AREAS AS INDICATED ON PLANS BY 'CO', PROVIDE INTEGRAL CARBON MONOXIDE DETECTION
FLOW SWITCH	
FIRE DETECTION AND ALARM - SUPERVISORY DEVICES	
LL	LOW TANK LEVEL
LP	LOSS OF POWER
LT	LOW TEMPERATURE
PS	PRESSURE SWITCH
SV	SUPERVISED VALVE
Ⓜ	FIRE ALARM MONITORING POINT, REFER TO FLOOR PLANS FOR DETAILS.
FIRE DETECTION AND ALARM - SIGNALLING DEVICES	
Ⓜ	FIRE ALARM BELL, WALL MOUNTED.
C	ADJACENT TO BELL OR HORN, DENOTES CEILING MOUNTED.
Ⓜ	FIRE ALARM HORN
M	ADJACENT TO FIRE ALARM HORN, DENOTES 'MINI' HORN
Ⓜ	FIRE ALARM HORN/STROBE, WALL MOUNTED.
Ⓜ	SILENCE SWITCH
Ⓜ	FIRE ALARM WALL MOUNTED STROBE LIGHT
FIRE DETECTION AND ALARM - OTHER DEVICES	
Ⓜ	END OF LINE DEVICE
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
WG	WIRE GUARD
DNE	"DO NOT ENTER" SIGN
CM	CONTROL MODULE
MM	MONITOR MODULE
MS	MAGNETIC DOOR HOLDER AND RELEASING DEVICE ("HOLD OPEN")
SD	FIRE SUPPRESSION ABORT STATION
SINGLE LINE DIAGRAM	
Ⓜ	AIR CIRCUIT BREAKER
Ⓜ	MOLDED CASE CIRCUIT BREAKER
Ⓜ	DISCONNECT (UNFUSED)
Ⓜ	DISCONNECT (FUSED)
Ⓜ	FUSE
Ⓜ	METERING CABINET
Ⓜ	TRANSFORMER
Ⓜ	GENERATOR
Ⓜ	AUTOMATIC TRANSFER SWITCH
Ⓜ	AUTOMATIC TRANSFER SWITCH C/W SINGLE SIDED BYPASS ISOLATION
Ⓜ	AUTOMATIC TRANSFER SWITCH C/W DOUBLE SIDED BYPASS ISOLATION
ATS	AUTOMATIC TRANSFER SWITCH
C	CONTACTOR
DP	DISTRIBUTION PANELBOARD
LP	LIGHTING PANELBOARD
RP	RECEPTACLE PANELBOARD
SPD	SURGE PROTECTIVE DEVICE
TX	TRANSFORMER
UPS	UNINTERRUPTIBLE POWER SUPPLY
DETAIL REFERENCES	
1	SHEET KEYNOTE
1 E101	REFER TO DETAIL, EXAMPLE SHOWN INDICATES REFERENCE TO DETAIL 1 ON DRAWING E101
1	REVISION NUMBER
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	



BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
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DRAWINGS ARE NOT TO BE SCALED.

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO ARCHITECTS BEFORE PROCEEDING WITH WORK.

ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK.

SEALS

NO.	ISSUES/REVISIONS	DATE
8	ISSUED FOR ADD-E02	2024-08-16
7	ISSUED FOR TENDER	2024-06-28
6	ISSUED FOR TENDER REVIEW	



BRAMPTON FIRE STATION 215

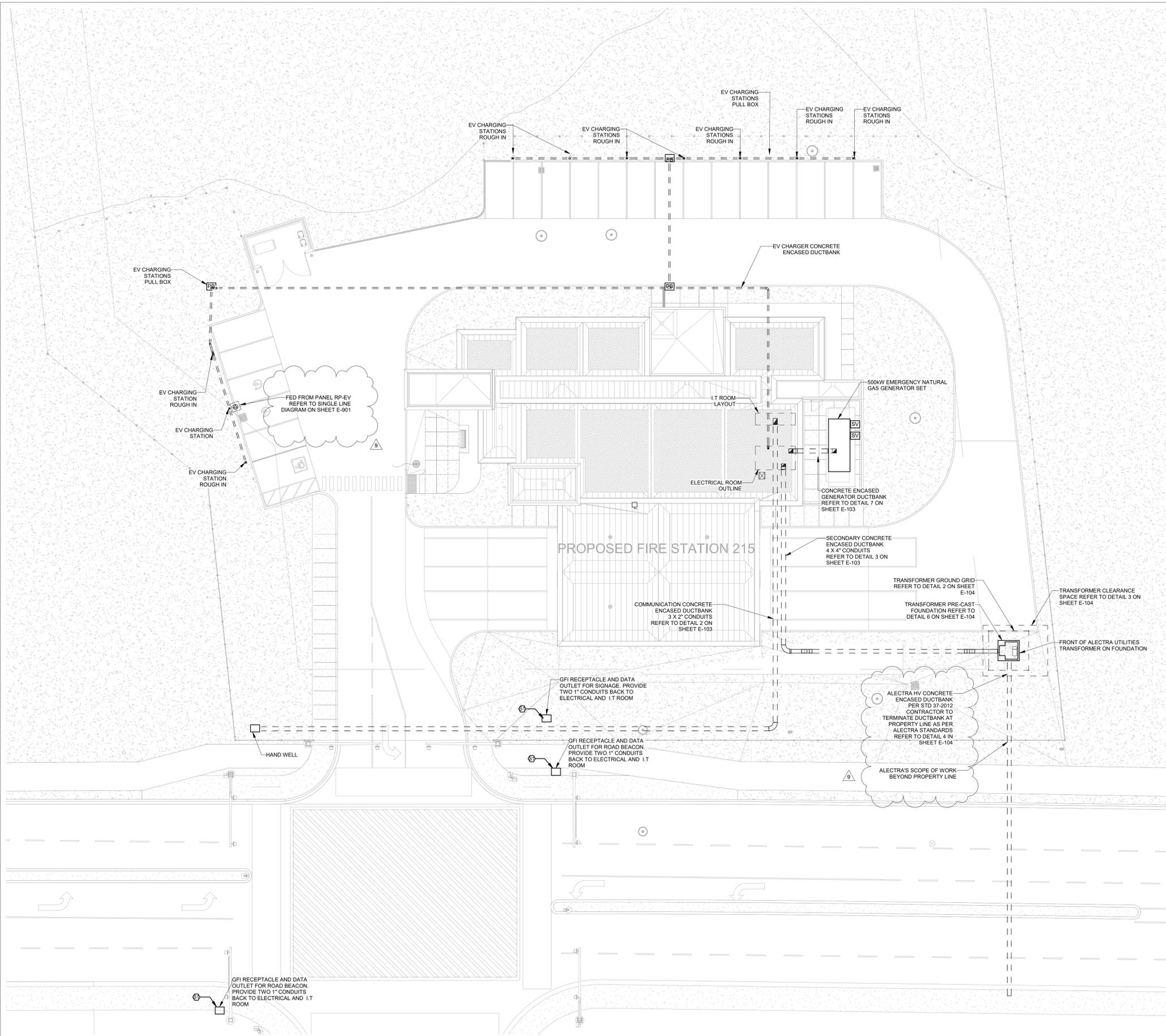


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SEALS

KEYNOTE LEGEND1	
Key Value	Keynote Text
S1	PROVIDE AS SEPARATE COST. OWNER TO CONFIRM IF PART OF SCOPE OF WORK.



**1 ELECTRICAL SITE PLAN**  
1 : 200

9	ISSUED FOR ADD-E02	2024-08-16
8	ISSUED FOR TENDER	2024-06-28
7	ISSUED FOR TENDER REVIEW	2024-06-11
6	ISSUED FOR PERMIT	2024-05-06
5	ISSUED FOR ESA REVIEW	2024-04-23
4	ISSUED FOR ALECTRA REVIEW	2024-04-23
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

**ELECTRICAL SITE PLAN**

ISSUE DATE: 2024-08-16

DRAWN BY: Author CHECKED BY: T.S

PROJECT NO.: CM-22-269 SCALE: 1 : 200

DRAWING NO.:

**E-002**

PLANT DATE: 8/15/2024 3:46 PM



BRAMPTON FIRE STATION 215

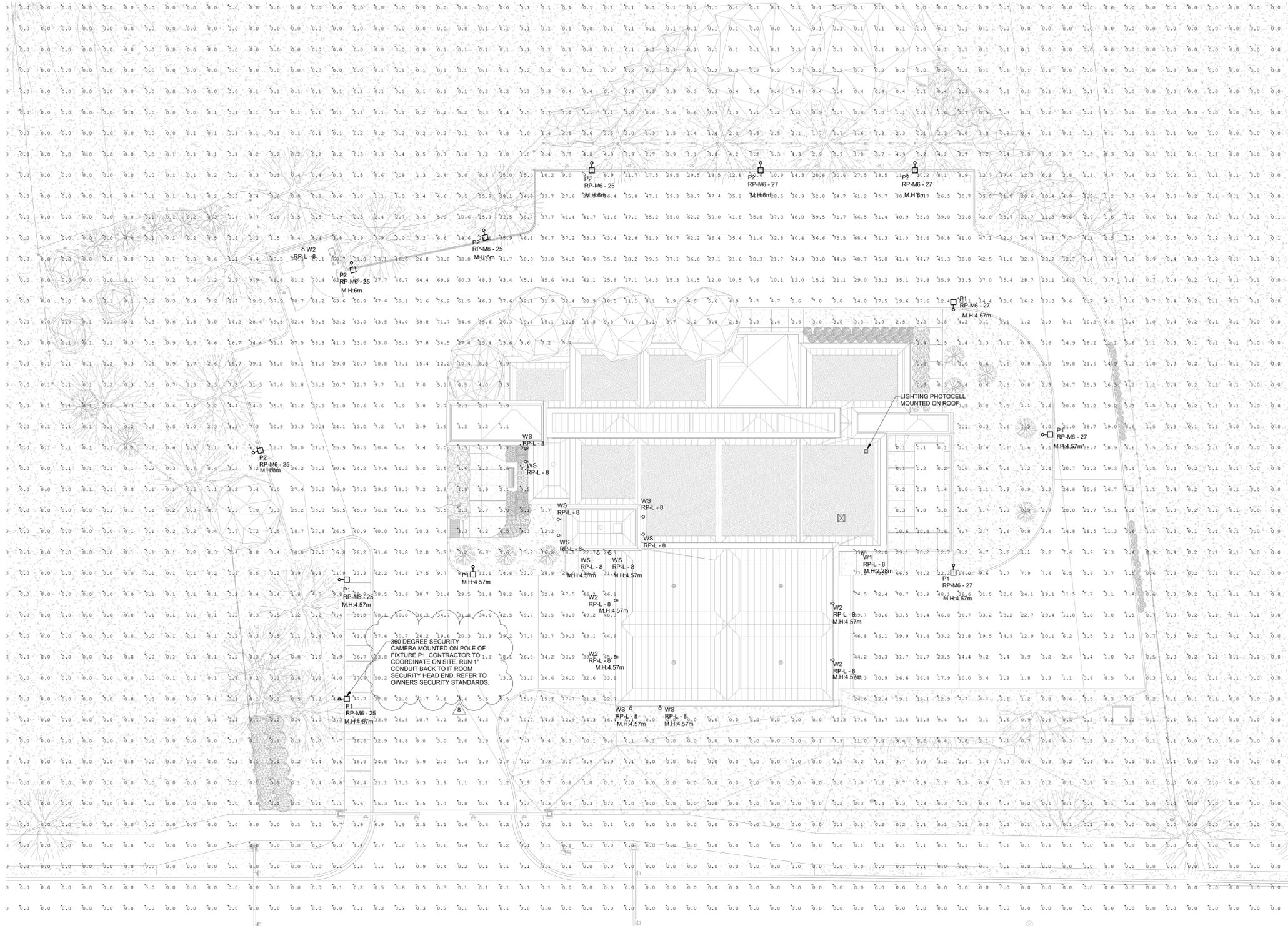


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SEALS



360 DEGREE SECURITY CAMERA MOUNTED ON POLE OF COORDINATE ON SITE. RUN 1" CONDUIT BACK TO IT ROOM SECURITY HEAD END. REFER TO OWNERS SECURITY STANDARDS.

Fixture Schedule	Label	Manufacturer	Description	HPF	Sensitive	Non-sensitive	Total	SHADFACT	Mounting Height	Watt Rating
RP-M6-25	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
RP-M6-27	P2	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
RP-L-8	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
WS	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
MH-4.57m	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10

Fixture Schedule	Label	Manufacturer	Description	HPF	Sensitive	Non-sensitive	Total	SHADFACT	Mounting Height	Watt Rating
RP-L-8	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
WS	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10
MH-4.57m	P1	Signage	MSL-745-700-100-3-30	0.700	2400	7710	22110	100	1.7	1000-10

8	ISSUED FOR ADD-E02	2024-08-16
7	ISSUED FOR TENDER	2024-06-28
6	ISSUED FOR TENDER REVIEW	2024-06-11
5	ISSUED FOR PERMIT	2024-05-08
4	ISSUED FOR ESA REVIEW	2024-04-23
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### ELECTRICAL SITE LIGHTING PLAN

ISSUE DATE: 2024-08-16  
DRAWN BY: E.S. CHECKED BY: T.S.  
PROJECT NO.: CM-22-269 SCALE: 1:200

DRAWING NO.: E-003



BRAMPTON FIRE STATION 215



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TEL: 905-507-0800  
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DRAWINGS ARE NOT TO BE SCALED.  
CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO ARCHITECTS BEFORE PROCEEDING WITH WORK.

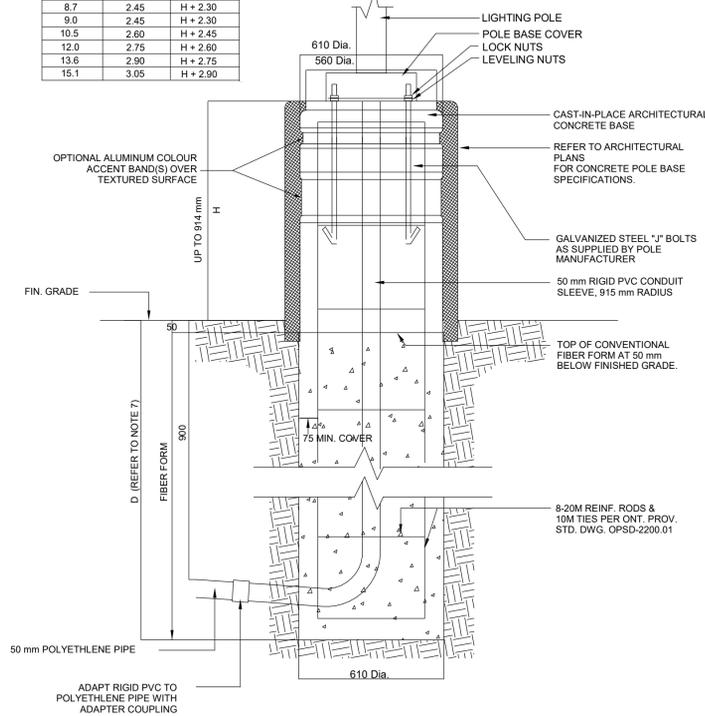
ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF THE ARCHITECT AND MUST BE RETURNED AT THE COMPLETION OF THE WORK.

SEALS

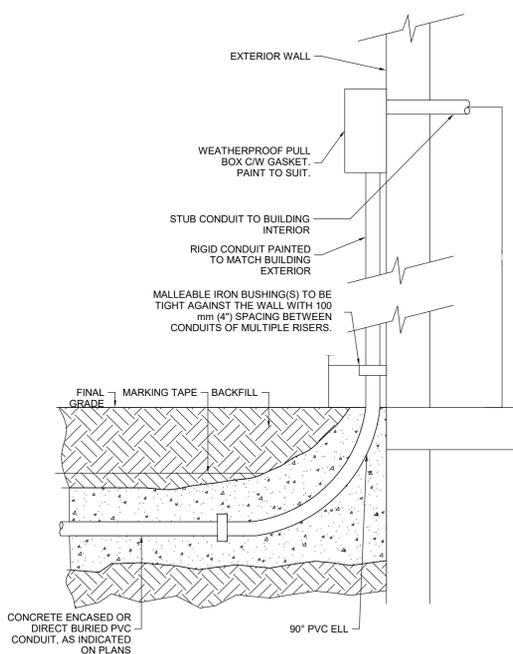
POLE LENGTH (m)	BASE BURIAL DEPTH D (m)	REINF. ROD LENGTH (m)
3.0	1.50	H + 1.35
5.6	2.15	H + 2.00
7.0	2.15	H + 2.00
7.5	2.15	H + 2.00
8.7	2.45	H + 2.30
9.0	2.45	H + 2.30
10.5	2.60	H + 2.45
12.0	2.75	H + 2.60
13.6	2.90	H + 2.75
15.1	3.05	H + 2.90

NOTES:

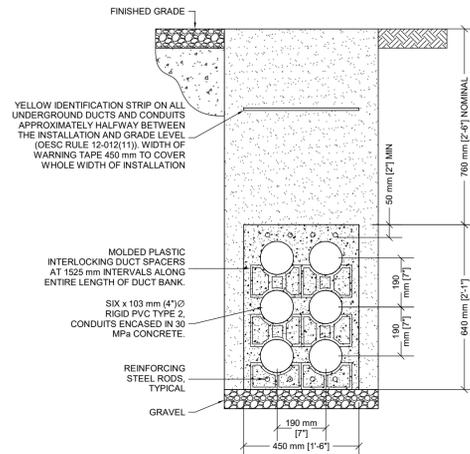
1. ALL DIMENSIONS ARE IN MILLIMETRES OR METRES
2. TOP OF FOUNDATION SHALL BE TROWELLED SMOOTH & LEVEL.
3. NOT USED.
4. MINIMUM OF TWO SLEEVES REQUIRED FOR EACH CONC. FOUNDATION UNLESS OTHERWISE SHOWN.
5. NOT USED.
6. CONTRACTOR TO VERIFY OPENING SIZE IN POLE BASE PLATE PRIOR TO SETTING CONDUIT SLEEVES
7. SUBJECT TO SOIL CONDITIONS, REFER TO SOIL REPORT.



1 LIGHTING STANDARD ARCHITECTURAL BASE  
N.T.S.



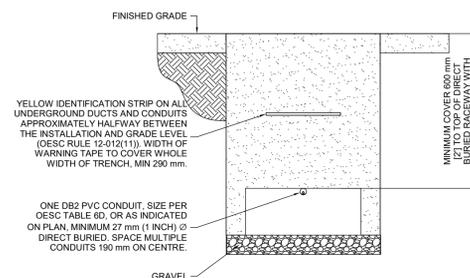
5 UNDERGROUND CONDUIT TRANSITION VIA BUILDING EXTERIOR  
N.T.S.



DETAIL NOTES:

1. DUCT BANK TO BE INSPECTED PRIOR TO POURING OF CONCRETE AND PRIOR TO BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION AND RECEIVE ALL NECESSARY APPROVALS.
2. 3x2 ALTERNATE DUCT BANK CONFIGURATION MAY ALSO BE USED.

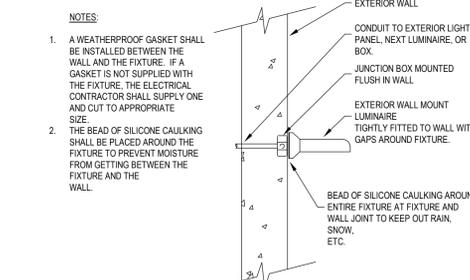
2 6-WAY COMMUNICATIONS DUCT BANK DETAIL  
N.T.S.



NOTES:

1. METRIC DIMENSIONS GOVERN.
2. DIRECT BURIED RACEWAY DUCTS TO BE IN COMPLIANCE WITH 2018 ONTARIO ELECTRICAL SAFETY CODE (OESC), TABLE 53. MINIMUM COVER DEPTH MAY BE REDUCED BASED ON CRITERIA DESCRIBED IN TABLE 53.
3. DIRECT BURIED RACEWAY DUCTS TO BE INSPECTED PRIOR BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION (ESA) AND RECEIVE ALL NECESSARY APPROVALS.
4. THIS DETAIL DOES NOT APPLY WHERE CONDUCTOR SIZE IS #10 OR GREATER IN A DIRECT BURIED RACEWAY. PROVIDE AN AMPACITY CALCULATION IN ACCORDANCE WITH IEEE 835.

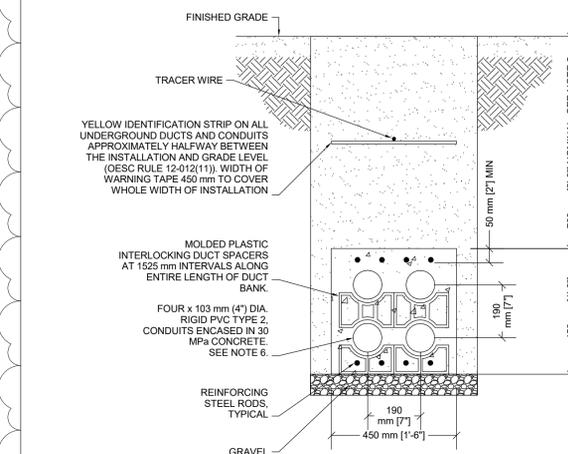
4 SINGLE DIRECT BURIED RACEWAY  
N.T.S.



NOTES:

1. A WEATHERPROOF GASKET SHALL BE INSTALLED BETWEEN THE WALL AND THE FIXTURE. IF A GASKET IS NOT SUPPLIED WITH THE FIXTURE, THE ELECTRICAL CONTRACTOR SHALL SUPPLY ONE AND CUT TO APPROPRIATE SIZE.
2. THE BEAD OF SILICONE CAULKING SHALL BE PLACED AROUND THE FIXTURE TO PREVENT MOISTURE FROM GETTING BETWEEN THE FIXTURE AND THE WALL.

6 SEALING OF WALL MOUNTED EXTERIOR LUMINAIRE  
N.T.S.

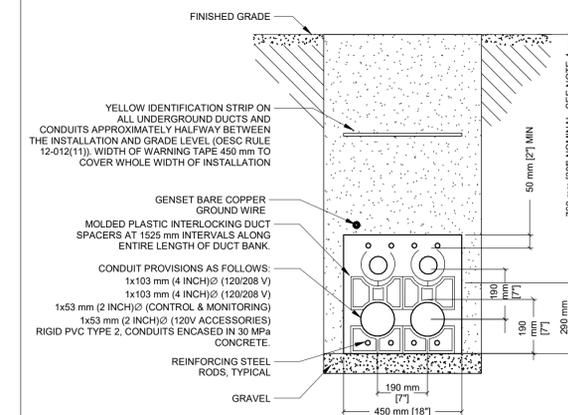


LOW VOLTAGE (BELOW 750 VOLT) DUCT BANK SECTION

NOTES:

1. DUCT BANK TO BE IN COMPLIANCE WITH 2021 ONTARIO ELECTRICAL SAFETY CODE (OESC), DIAGRAM D11, DETAIL 4, OR LATEST EDITION, WHERE ANY CONTRADICTION EXISTS BETWEEN THIS DETAIL AND THE OESC, THE OESC DIMENSIONS GOVERN.
2. DUCT BANK TO BE INSPECTED PRIOR TO POURING OF CONCRETE AND PRIOR TO BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION AND RECEIVE ALL NECESSARY APPROVALS.
3. AMPACITY OF COPPER 3-PHASE + NEUTRAL + GROUND FEEDER BASED ON 2018 OESC TABLES LISTED BELOW, LOWER OF TWO VALUES (LESS APPLICABLE VOLTAGE DROP):  
3.1. TABLE D11A, "4PHASE DETAIL 4", SIZE 4/0 AWG: 4 x 229 AMPS = 916 AMPS.  
3.2. TABLE 2, SIZE 4/0 AWG: 4 x 230 AMPS = 920 AMPS.
4. ALTERNATE DUCT BANK CONFIGURATION MAY ONLY BE CONSIDERED BY THE CONSULTANT IF THE SAME FEEDER METHODOLOGY ABOVE IS CONSIDERED, OR AN AMPACITY CALCULATION IS PROVIDED IN ACCORDANCE WITH IEEE 835.
5. GREATER DEPTH THAN THE NOTED DIMENSION WILL RESULT IN A DECREASE IN THE DUCT BANK AMPACITY. REDUCTION IN THE DEPTH REQUIRES COORDINATION WITH OESC TABLE 53.
6. CONDUIT FILL IN ACCORDANCE WITH 2021 OESC RULE 12-910.

3 4-WAY LV DUCT BANK SECTION  
N.T.S.



NOTES:

1. DUCT BANK TO BE IN COMPLIANCE WITH 2021 ONTARIO ELECTRICAL SAFETY CODE (OESC), DIAGRAM D11, OR LATEST EDITION, WHERE ANY CONTRADICTION EXISTS BETWEEN THIS DETAIL AND THE OESC, THE OESC DIMENSIONS GOVERN.
2. DUCT BANK TO BE INSPECTED PRIOR TO POURING OF CONCRETE AND PRIOR TO BACKFILL. COORDINATE WITH AUTHORITY HAVING JURISDICTION AND RECEIVE ALL NECESSARY APPROVALS.
3. AMPACITY OF COPPER FEEDER BASED ON 2021 OESC TABLES LISTED BELOW, LOWER OF THE TWO VALUES: REQUIRED: 800 A CAPACITY (NOT INCLUDING VOLTAGE DROP) FEEDER, ONE (1) CONDUCTOR PER PHASE (3 PHASE), PLUS GROUND 3.1 TABLE D11A - "3PHASE", SIZE 300 MCM = 658 A
4. UPPER TWO DUCTS (120 VOLT ACCESSORIES, AND MONITORING/CONTROL) INSTALLATION PER OESC RULE 12-012(3)(d).
5. ALTERNATE DUCT BANK CONFIGURATION MAY ONLY BE CONSIDERED BY THE CONSULTANT IF THE SAME FEEDER METHODOLOGY ABOVE IS CONSIDERED, OR AN AMPACITY CALCULATION IS PROVIDED IN ACCORDANCE WITH IEEE 835.
6. GREATER DEPTH THAN THE NOTED DIMENSION WILL RESULT IN A DECREASE IN THE DUCT BANK AMPACITY. REDUCTION IN THE DEPTH REQUIRES COORDINATION WITH OESC TABLE 53.
7. CONDUIT FILL IN ACCORDANCE WITH 2021 OESC RULE 12-910

7 GENERATOR DUCT BANK SECTION  
N.T.S.

NO.	ISSUES/REVISIONS	DATE
9	ISSUED FOR ADD-E02	2024-08-16
8	ISSUED FOR TENDER	2024-06-28
7	ISSUED FOR TENDER REVIEW	2024-06-11
6	ISSUED FOR PERMIT	2024-05-06
5	ISSUED FOR ESA REVIEW	2024-04-23
4	ISSUED FOR ALECTRA REVIEW	2024-04-23
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

DRAWING TITLE:

ELECTRICAL SITE PLAN DETAILS

ISSUE DATE: 2024-08-16  
DRAWN BY: E.S. CHECKED BY: T.S.  
PROJECT NO.: CM-22-269 SCALE: As indicated

DRAWING NO.:





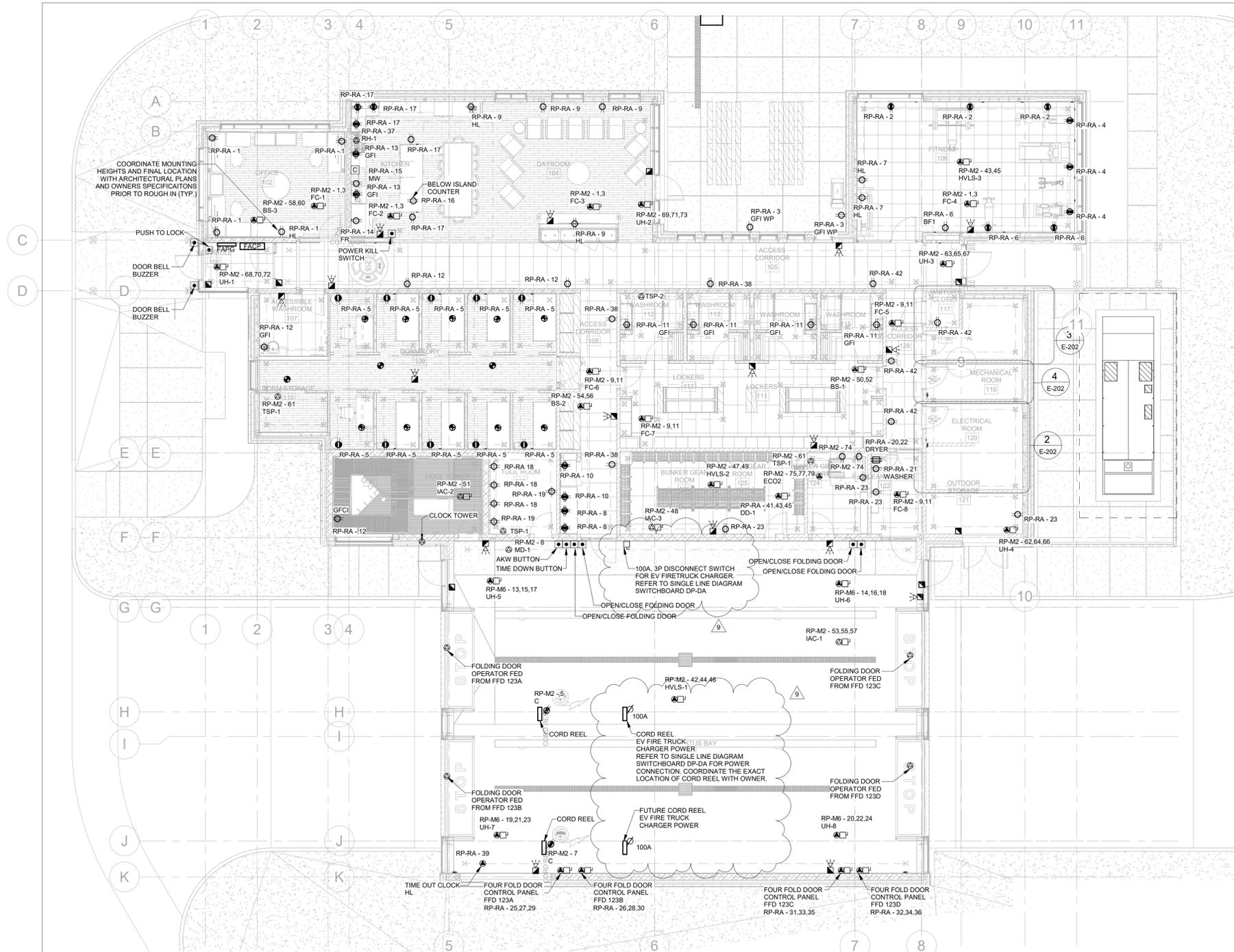
BRAMPTON FIRE STATION 215



250 ROWNTREE DAIRY RD, WOODBRIDGE, ON  
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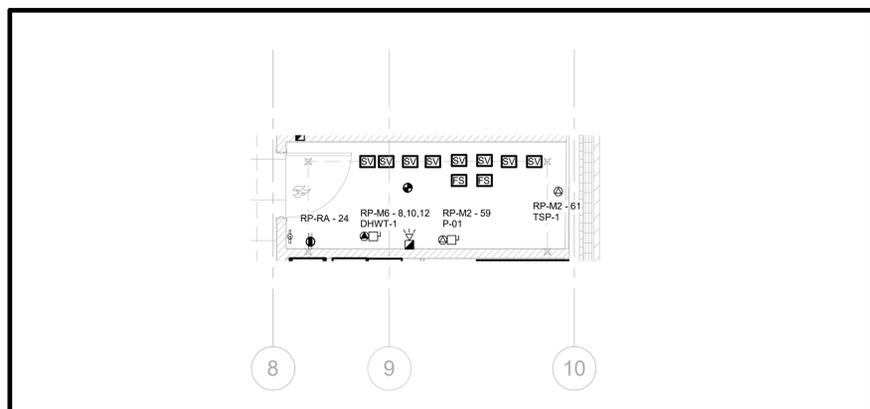
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SEALS

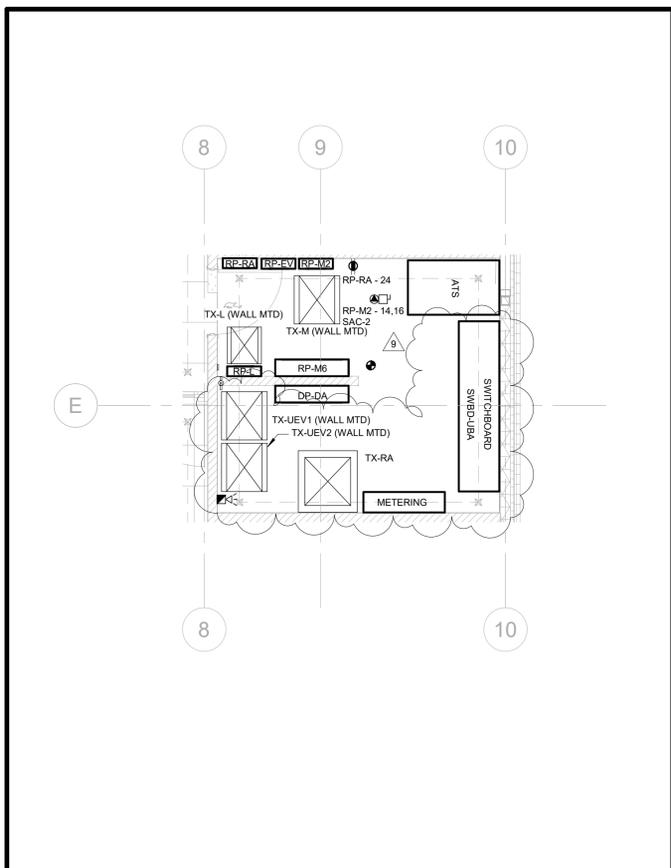


1 LEVEL 01 PLAN - POWER & SYSTEMS  
1 : 100

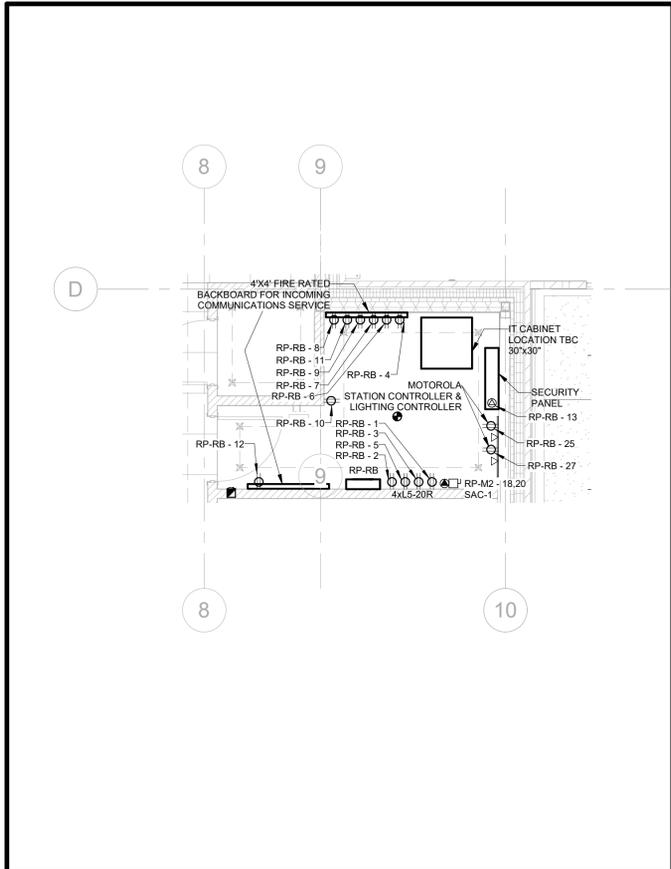
**GENERAL NOTES**  
1. APPARATUS BAY IS TO BE CONSIDERED A WET LOACTION, DEFINED AS CATAGORY 1 IN OESC SECTION 22.



4 MECHANICAL ROOM 119 LAYOUT  
1 : 50



2 ELECTRICAL ROOM 120 - LAYOUT  
1 : 50



3 IT ROOM 118 - LAYOUT  
1 : 50

NO.	ISSUES/REVISIONS	DATE
9	ISSUED FOR ADD-E02	2024-08-16
8	ISSUED FOR ADD-E01	2024-08-09
7	ISSUED FOR TENDER	2024-06-28
6	ISSUED FOR TENDER REVIEW	2024-06-11
5	ISSUED FOR PERMIT	2024-05-08
4	ISSUED FOR ESA REVIEW	2024-04-23
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

DRAWING TITLE:

LEVEL 01 PLAN - POWER & SYSTEMS

ISSUE DATE: 2024-08-16  
DRAWN BY: E.S. CHECKED BY: T.S.  
PROJECT NO.: CM-22-269 SCALE: As indicated

DRAWING NO.: E-202



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SEALS

9	ISSUED FOR ADD-E02	2024-08-16
8	ISSUED FOR ADD-E01	2024-08-09
7	ISSUED FOR TENDER	2024-06-28
6	ISSUED FOR TENDER REVIEW	2024-06-11
5	ISSUED FOR PERMIT	2024-05-08
4	ISSUED FOR ESA REVIEW	2024-04-23
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### ROOF PLAN - POWER & SYSTEMS

ISSUE DATE: 2024-08-16

DRAWN BY: E.S. CHECKED BY: T.S

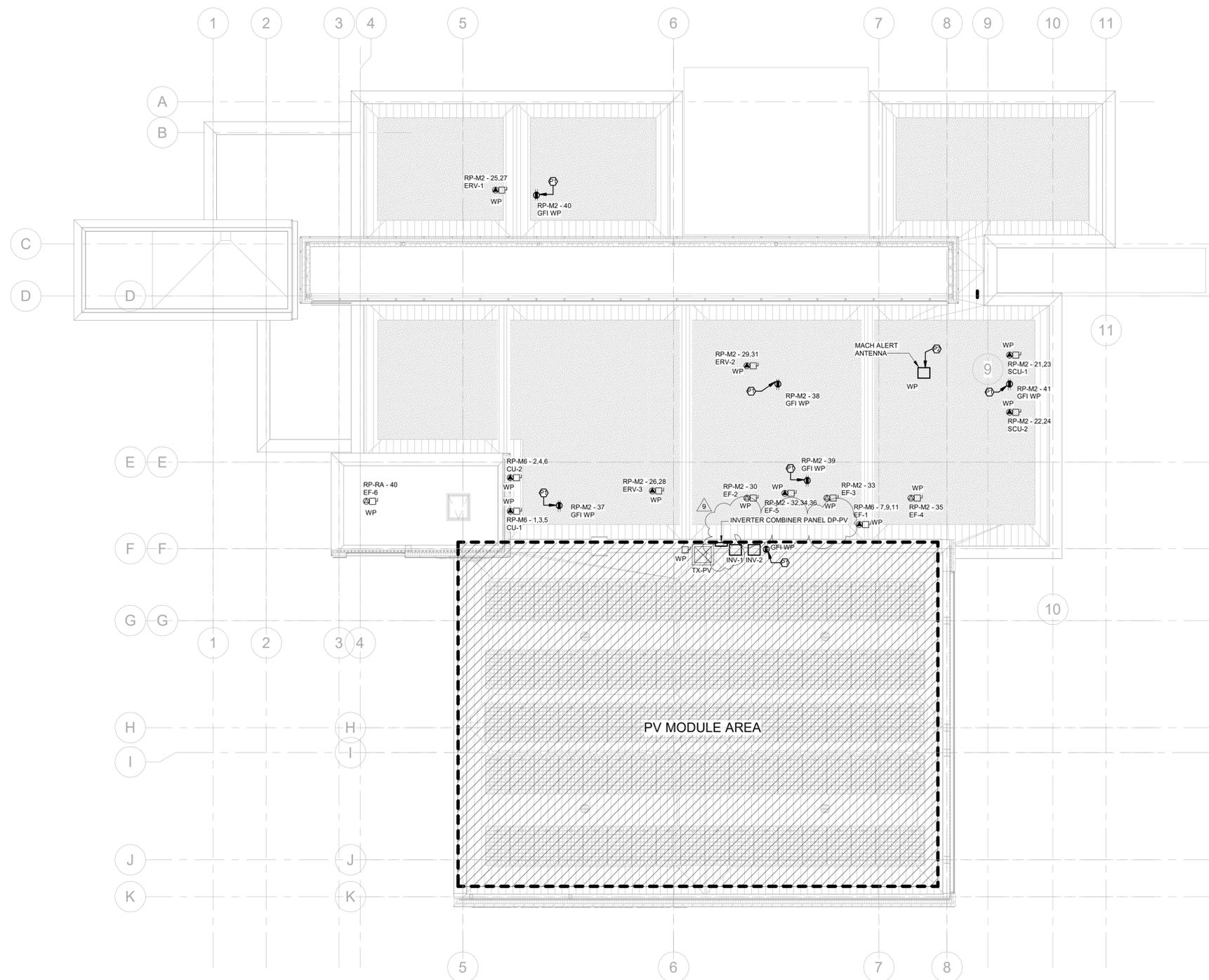
PROJECT NO.: CM-22-269 SCALE: 1:100

DRAWING NO.:



# E-302

KEYNOTE LEGEND	
Key Value	Keynote Text
P1	PROVIDE WP GFI 5-20R @ 750mm (30") ABOVE FINISHED ROOF LEVEL CW WET LOCATION COVER PLATE FOR POWER TO ROOF MOUNTED HVAC EQUIPMENT. TYPICAL. LOCATE WITHIN 7500mm (25 FEET) OF NEW HVAC EQUIPMENT, AND AT LEAST 200mm (6.5 FEET) AWAY FROM ROOF LINE. COVER PLATE TO BE MARKED "EXTRA DUTY". REFER TO 2021 OESC RULES 2-316, 26-708, AND 28-710, AND OESC BULLETIN 26-27 - OR LATEST EDITION LABEL RECEPTACLE WITH PHENOLIC (LAMACOID) NAMEPLATE WITH PANELBOARD ID, CIRCUIT NUMBER, AND PANELBOARD LOCATION.
P2	ELECTRICAL CONTRACTOR TO PROVIDE A WEATHER PROOF BOX AT MACH ALERT ANTENNA AND 3/4" CONDUIT BACK TO MOTOROLA STATION CONTROLLER LOCATED IN IT ROOM 118. COORDINATE FINAL LOCATION OF ANTENNA WITH SUPPLIER.



**1** ROOF PLAN - POWER & SYSTEMS  
1:100

**50kW DC Mobile Charger CCS1 UL**  
**Product Code HE9819025-01**



The Heliox 50 kW Mobile charger is a high powered Level 3 DC charger that provides cost effective, flexible mobile charging for fleet owners, transit operators and EV service and maintenance providers. It is powerful enough to provide entry level depot charging solutions for EV owners starting out with electrification of fleets but not yet ready to invest in an expensive fixed depot charging installation.

This charger is typically used by:

- ❖ OEM's charging BEV's on their production line and for interoperability testing
- ❖ Transit operators charging small fleets or as a backup charger for fixed chargers installation
- ❖ Fleet operators purchasing their first BEV's
- ❖ In maintenance garages of Transit and Fleet operators to charge BEV's in for service

This charger is made in America is UL listed and can normally be delivered out of stock with a short lead time.

**Power requirements**

480Vac  
 3 phase (no neutral)  
 65 A circuit (minimum) 100A recommended



**Vehicle Charging Port: CCS Combo Type 2**

- possibility for AC and DC charging, depending on the available charging infrastructure
- located on driver's side
- serves as vehicle's "shoreline" in fire department (enables permanent electric supply and ensures air system with HV-compressor)

	AC	DC
<b>Performance</b>	@ 400V AC up to 11kW [M911] or up to 22kW [M912]	@ 650V DC up to 90kW [M911] or up to 150kW [M912]
<b>Time*</b> (* estimated for M911-vehicle + SOC 0-80% + best conditions)	~ 4,5 hours	~ 30 min
<b>Time*</b> (* estimated for M912-vehicle + SOC 0-80% + best conditions)	~ 4,5 hours	~ 45 min
<b>Charging connection</b>		



	DiniTech AC NRG kick	Heliox DC 40 kW	Heliox DC 88 kW	Designwerk DC 88 kW	Kreisel DC Chimerio	ABB DC Terra 54	ABB DC HVC depot	Charge Point Express 250
<b>Dimension (LxWxH)</b>	215 x 90 x 84 mm	500 x 500 x 900 mm	508 x 508 x 914 mm	500 x 380 x 900 mm	1.000 x 1.310 x 2.340 mm	780 x 565 x 1.900 mm	1.770 x 770 x 2.300 + 600 x 400 x 1.914 mm	1.177 x 441 x 2.241 mm
<b>Weight</b>	4 kg	120 kg	123 kg	48 kg	1.976 kg	350 kg	1.340 + 181 kg	250 kg
<b>Power input</b>	22 kW CEE32A (11 kW CEE16A)	40 kW CEE63A	54 kVA	88 kW CEE125A, (40 kW CEE63A)	88 kW CEE125A, (40 kW CEE63A)	400V AC 50Hz 480V AC 60Hz	400V AC 50Hz/60Hz	400V AC 96A 50Hz 480V AC 80A 60Hz
<b>Power output</b>	up to 22 kW	up to 40 kW	up to 50 kW	up to 83 kW	up to 160 kW (75 kWh battery)	up to 50 kW	up to 150 kW	up to 62,5 kW (2x paired 125 kW)
<b>Certification</b>	CE	CE	UL	CE	CE	CE, UL	CE, UL	CE, UL
<b>Tested with RT by RED</b>	✓				✓			
<b>charging time*</b>	~ 4,5 h	~ 1,5 h	~ 1,5 h	~ 1 h	~ 45 min			

\* estimated for M911 >> 1BATT (50 kWh; Pcharge,max AC: 11kW, DC: 60kW)  
 \* estimated for M912 >> 2BATT (100 kWh; Pcharge,max AC: 22kW, DC: 150kW)

**Mobile Charger**  
**Fast DC 50 mobile**

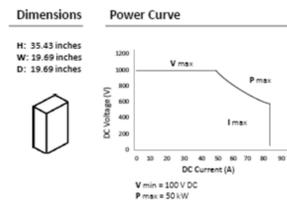


The Heliox mobile charger is the ideal solution for bus depots, truck workshops or during driving events. The FAST DC 50 mobile\* is lightweight, mobile, easy to handle and designed with service and maintenance personnel in mind.

Using this charger is very straight forward. Thanks to SAE J1772 charging standard it is plug and play, once connected to the vehicle the charging process will automatically start.

The yellow frame with wheels creates flexibility and protection. Available with SAE J1772 compliant CCS-1 up to 1000Vdc.

The extra long 9.10 ft CCS-cable gives you ultimate flexibility.



**Specifications**

General	Charger
Environment operating	Indoor/Outdoor
Temperature	-4 to 104 °F
Charging standard	SAE J1772
Compliance and safety	UL 2202* / UL2231*
Output DC voltage range	100 - 1000 V (CCS)
Rated DC output power	50 kW
Rated DC output current	84 A
Input connections	3P + PE
Input power rating; full load / idle	54 kVA / 15 VA
Input AC line-line voltage range	480 V +/-10%
Input AC phase current; maximum	65, inrush current limited
Power factor	> 0,95
Power conversion efficiency	> 93%
Dielectric withstand	2500 V RMS
Network connection	GPS / 3G modem
Protection	NEMA 3R / IK10
Operational noise level	<55 dB(A) @ 3.28 ft
System weight	273.37 lbs

\* Specifications are subject to change without notice.  
 \* Under development

**GENERAL NOTES**

- EV FIRE TRUCK MOBILE CHARGER IS OWNER SUPPLIED. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE AC POWER SUPPLY TO THE EV CHARGER. REFER TO SINGLE LINE DIAGRAM ON SHEET E-901.

6



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SEALS

NO.	ISSUES/REVISIONS	DATE
6	ISSUED FOR ADD-E02	2024-08-16
5	ISSUED FOR TENDER	2024-06-28
4	ISSUED FOR TENDER REVIEW	2024-06-11
3	ISSUED FOR PERMIT	2024-05-06
2	ISSUED FOR ESA REVIEW	2024-04-23
1	ISSUED FOR 60% CD	2024-04-16

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

**EV FIRE TRUCK  
 CHARGER DETAILS**

ISSUE DATE: 2024-08-16

DRAWN BY: E.S. CHECKED BY: T.S

PROJECT NO.: CM-22-269 SCALE: 12" = 1'-0"

DRAWING NO.:

**E-808**





BRAMPTON FIRE STATION 215



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SEALS

3	ISSUED FOR ADD-E02	2024-08-16
2	ISSUED FOR ADD-E01	2024-08-09
1	ISSUED FOR TENDER	2024-06-28

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### ELECTRICAL PANELBOARD SCHEDULES I

ISSUE DATE: 2024-08-16

DRAWN BY: Author CHECKED BY: Checker

PROJECT NO.: CM-22-269 SCALE:

DRAWING NO.:

# E-904

### Branch Panel: RP-RA

Location: ELECTRICAL ROOM 120  
Supply From:  
Mounting:  
Enclosure:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating:  
Mains Type:  
Mains Rating:  
MCB Rating: 1 A

Notes:

CKT	Circuit Description	QTY	Trip	Poles	A	B	C	Poles	Trip	QTY	Circuit Description	CKT		
1	RECEPTACLE	4	15 A	1	720 VA	540 VA				1	20 A	3	POWER	2
3	POWER	2	20 A	1		360 VA	540 VA			1	20 A	3	POWER	4
5	POWER	10	20 A	1			1800 VA	540 VA		1	20 A	3	POWER	6
7	POWER	2	20 A	1	360 VA	360 VA				1	20 A	2	POWER	8
9	POWER	4	20 A	1		720 VA	360 VA			1	20 A	2	POWER	10
11	POWER	4	20 A	1			720 VA	720 VA		1	20 A	4	POWER	12
13	POWER	2	20 A	1	360 VA	180 VA				1	20 A	1	FRIDGE	14
15	MICROWAVE	1	20 A	1		180 VA	180 VA			1	20 A	1	POWER	16
17	POWER	5	20 A	1			900 VA	540 VA		1	20 A	3	POWER	18
19	POWER	2	20 A	1	360 VA	2496 VA				2	20 A	1	POWER	20
21	POWER	1	20 A	1		180 VA	2496 VA			1	20 A	1	POWER	22
23	POWER	4	20 A	1			720 VA	360 VA		1	20 A	2	POWER	24
25					167 VA	167 VA								26
27	POWER	1	20 A	3		167 VA	167 VA			3	20 A	1	POWER	28
29					167 VA	167 VA		167 VA	167 VA					30
31					167 VA	167 VA								32
33	POWER	1	20 A	3		167 VA	167 VA			3	20 A	1	POWER	34
35							167 VA	167 VA						36
37	POWER	1	20 A	1	500 VA	540 VA				1	20 A	3	POWER	38
39	POWER	1	20 A	1			500 VA	500 VA		1	20 A	1	POWER	40
41							167 VA	720 VA		1	20 A	4	POWER	42
43	POWER	1	20 A	3	167 VA	500 VA				2	20 A	2	POWER	44
45						167 VA	500 VA			2	20 A	2	POWER	46
47	POWER	2	20 A	2	500 VA	500 VA		500 VA	500 VA	2	20 A	2	POWER	48
49					500 VA	500 VA		500 VA	500 VA	2	20 A	2	POWER	50
51	POWER	2	20 A	2	500 VA		500 VA	500 VA		2	20 A	2	POWER	52
53					500 VA		500 VA	500 VA		2	20 A	2	POWER	54
55	POWER	2	20 A	2		500 VA								56
57						500 VA								58
59							500 VA							60
<b>Total Load:</b>					9249 VA	8849 VA	9853 VA							
<b>Total Amps:</b>					78 A	74 A	83 A							

**Legend:**

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
POWER	27952 VA	100.00%	27952 VA	<b>Total Conn. Load:</b> 27952 VA <b>Total Est. Demand:</b> 27952 VA <b>Total Conn.:</b> 78 A <b>Total Est. Demand:</b> 78 A

**Notes:**

### Branch Panel: RP-RB

Location: I.T. 118  
Supply From:  
Mounting:  
Enclosure:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating:  
Mains Type:  
Mains Rating:  
MCB Rating:

Notes:

CKT	Circuit Description	QTY	Trip	Poles	A	B	C	A	B	C	Poles	Trip	QTY	Circuit Description	CKT
1	POWER	1	20 A	1	180 VA			180 VA			1	20 A	1	POWER	2
3	POWER	1	20 A	1		180 VA			180 VA		1	20 A	1	POWER	4
5	POWER	1	20 A	1		180 VA	180 VA			180 VA	1	20 A	1	POWER	6
7	POWER	1	20 A	1	180 VA			180 VA			1	20 A	1	POWER	8
9	POWER	1	20 A	1		180 VA			180 VA		1	20 A	1	POWER	10
11	POWER	1	20 A	1			180 VA			180 VA	1	20 A	1	POWER	12
13	POWER	1	20 A	1	500 VA			0 VA			1	20 A	--	SPARE	14
15	SPARE	--	20 A	1		0 VA		0 VA			1	20 A	--	SPARE	16
17	SPARE	--	20 A	1			0 VA		0 VA		1	20 A	--	SPARE	18
19	SPARE	--	20 A	1	0 VA			0 VA			1	20 A	--	SPARE	20
21	SPARE	--	20 A	1		0 VA		0 VA			1	20 A	--	SPARE	22
23	SPARE	--	20 A	1		0 VA	0 VA		0 VA		1	20 A	--	SPARE	24
25	POWER	1	15 A	1	180 VA						1	20 A	--	SPARE	26
27	POWER	1	15 A	1		180 VA									28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
<b>Total Load:</b>					1400 VA	900 VA	720 VA								
<b>Total Amps:</b>					12 A	8 A	6 A								

**Legend:**

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
POWER	3020 VA	100.00%	3020 VA	<b>Total Conn. Load:</b> 3020 VA <b>Total Est. Demand:</b> 3020 VA <b>Total Conn.:</b> 8 A <b>Total Est. Demand:</b> 8 A

**Notes:**

### Branch Panel: RP-M2

Location: ELECTRICAL ROOM 120  
Supply From:  
Mounting:  
Enclosure:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating:  
Mains Type:  
Mains Rating:  
MCB Rating: 1 A

Notes:

CKT	Circuit Description	QTY	Trip	Poles	A	B	C	Poles	Trip	QTY	Circuit Description	CKT			
1	FC-1, FC-2, FC-3, FC-4	4	20 A	2	1000 VA							2			
3						1000 VA						4			
5	POWER	1	20 A	1			180 VA					6			
7	POWER	1	20 A	1	180 VA	500 VA				1	20 A	1	POWER	8	
9	FC-5, FC-6, FC-7, FC-8	4	20 A	2			1000 VA					10			
11							1000 VA					12			
13					250 VA							14			
15						250 VA				2	20 A	1	SAC-2	16	
17							250 VA			2	20 A	1	SAC-1	18	
19					250 VA									20	
21	SCU-1	1	30 A	2		250 VA	250 VA	250 VA	250 VA	2	30 A	1	SCU-2	22	
23						250 VA	250 VA							24	
25	ERV-1	1	15 A	2	250 VA	250 VA		250 VA	250 VA	2	15 A	1	ERV-3	26	
27						250 VA	250 VA							28	
29	ERV-2	1	15 A	2	250 VA	167 VA		250 VA	500 VA	1	20 A	1	EF-2	30	
31														32	
33	EF-3	1	20 A	1			500 VA	167 VA		3	20 A	1	EF-5	34	
35	EF-4	1	20 A	1					500 VA	167 VA	3	20 A	1	EF-5	36
37	RECEPTACLE	1	20 A	1	180 VA	180 VA			500 VA	167 VA	1	20 A	1	RECEPTACLE	38
39	RECEPTACLE	1	20 A	1			180 VA	180 VA			1	20 A	1	RECEPTACLE	40
41	RECEPTACLE	1	20 A	1				180 VA	167 VA						42
43	HVLS-3	1	20 A	2	250 VA	167 VA				3	20 A	1	HVLS-1	44	
45						250 VA	167 VA								46
47	HVLS-2	1	20 A	2	250 VA	250 VA		250 VA	500 VA	1	20 A	1	IAC-3	48	
49					250 VA	250 VA		500 VA	250 VA	2	20 A	1	BS-1	50	
51	IAC-2	1	20 A	1			500 VA	250 VA							52
53								167 VA	250 VA	2	20 A	1	BS-2	54	
55	IAC-1	1	20 A	3	167 VA	250 VA									56
57						167 VA	250 VA			2	20 A	1	BS-3	58	
59	P-01	1	20 A	1				500 VA	250 VA	2	20 A	1	BS-3	60	
61	POWER	3	20 A	1	1500 VA	167 VA									62
63						167 VA	167 VA			3	15 A	1	UH-4	64	
65	UH-3	1	15 A	3		167 VA	167 VA								66
67					167 VA	167 VA									68
69						167 VA	167 VA			3	15 A	1	UH-1	70	
71	UH-2	1	15 A	3				167 VA	167 VA						72
73					167 VA	360 VA				1	20 A	2	POWER	74	
75						167 VA									76
77	POWER	1	20 A	3				167 VA							78
79					167 VA										80
81	SPARE	--	20 A	1		0 VA	0 VA			1	20 A	--	SPARE	82	
83	SPARE	--	20 A	1			0 VA	0 VA		1	20 A	--	SPARE	84	
<b>Total Load:</b>					7483 VA	6693 VA	6443 VA								
<b>Total Amps:</b>					63 A	56 A	54 A								

**Legend:**

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
POWER	20620 VA	100.00%	20620 VA	<b>Total Conn. Load:</b> 20620 VA <b>Total Est. Demand:</b> 20620 VA <b>Total Conn.:</b> 57 A <b>Total Est. Demand:</b> 57 A

**Notes:**



BRAMPTON FIRE STATION 215



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SEALS

7	ISSUED FOR ADD-E02	2024-08-16
6	ISSUED FOR TENDER	2024-06-28
5	ISSUED FOR TENDER REVIEW	2024-06-11
4	ISSUED FOR PERMIT	2024-05-06
3	ISSUED FOR 60% CD	2024-04-16
2	ISSUED FOR 100% DD	2024-01-05
1	ISSUED FOR 60% DD	2023-09-14

NO. ISSUES/REVISIONS DATE

DRAWING TITLE:

### ELECTRICAL PANELBOARD SCHEDULES II

ISSUE DATE: 2024-08-16

DRAWN BY: E.S. CHECKED BY: T.S.

PROJECT NO.: CM-22-269 SCALE:

DRAWING NO.:



# E-905

### Branch Panel: RP-M6

Location: ELECTRICAL ROOM 120  
Supply From:  
Mounting:  
Enclosure:

Volts: 347/600V  
Phases: 3  
Wires: 4

A.I.C. Rating:  
Mains Type:  
Mains Rating:  
MCB Rating:

Notes:

CKT	Circuit Description	QTY	Trip	Poles	A	B	C	A	B	C	Poles	Trip	QTY	Circuit Description	CKT
1					167 VA			167 VA							2
3	CU-1	1	50 A	3		167 VA		167 VA	167 VA		3	20 A	1	CU-2	4
5							167 VA			167 VA					6
7					167 VA			167 VA							8
9	EF-1	1	20 A	3		167 VA		167 VA	167 VA		3	20 A	1	DHWT-1	10
11							167 VA			167 VA					12
13					167 VA			167 VA							14
15	UH-5	1	20 A	3		167 VA		167 VA	167 VA		3	20 A	1	UH-6	16
17							167 VA			167 VA					18
19					167 VA			167 VA							20
21	UH-7	1	20 A	3		167 VA		167 VA	167 VA		3	20 A	1	UH-8	22
23							167 VA			167 VA					24
25	LIGHTING - EXTERIOR	6	20 A	1	436 VA										26
27	LIGHTING - EXTERIOR	5	20 A	1		294 VA									28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
<b>Total Load:</b>					1753 VA		1615 VA		1333 VA						
<b>Total Amps:</b>					5 A		5 A		4 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting - Exterior	730 VA	125.00%	912 VA	
POWER	4000 VA	100.00%	4000 VA	
				<b>Total Conn. Load: 4699 VA</b>
				<b>Total Est. Demand: 4875 VA</b>
				<b>Total Conn.: 5 A</b>
				<b>Total Est. Demand: 5 A</b>

Notes:

### Branch Panel: RP-L

Location: ELECTRICAL ROOM 120  
Supply From:  
Mounting:  
Enclosure:

Volts: 120/208 Wye  
Phases: 3  
Wires: 4

A.I.C. Rating:  
Mains Type:  
Mains Rating:  
MCB Rating:

Notes:

CKT	Circuit Description	QTY	Trip	Poles	A	B	C	A	B	C	Poles	Trip	QTY	Circuit Description	CKT
1	LIGHTING	8	15 A	1	742 VA			239 VA			1	15 A	13	LIGHTING	2
3	LIGHTING	16	15 A	1		700 VA			557 VA		1	15 A	13	LIGHTING	4
5	LIGHTING	22	15 A	1			524 VA			620 VA	1	15 A	31	LIGHTING	6
7	LIGHTING	20	15 A	1	650 VA			320 VA			1	20 A	16	LIGHTING	8
9	LIGHTING	12	15 A	1		559 VA			1219 VA		1	15 A	12	LIGHTING	10
11	LIGHTING	17	15 A	1			1023 VA			97 VA	1	15 A	15	LIGHTING	12
13	SPARE	--	15 A	1	0 VA			0 VA			1	15 A	--	SPARE	14
15	SPARE	--	15 A	1	0 VA			0 VA			1	15 A	--	SPARE	16
17	SPARE	--	15 A	1	0 VA			0 VA			1	15 A	--	SPARE	18
19	SPARE	--	15 A	1	0 VA			0 VA			1	15 A	--	SPARE	20
21	SPARE	--	15 A	1	0 VA			0 VA			1	15 A	--	SPARE	22
23	EXIT SIGNS	17	20 A	1			620 VA			0 VA	1	15 A	--	SPARE	24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
<b>Total Load:</b>					1950 VA		3007 VA		2879 VA						
<b>Total Amps:</b>					16 A		26 A		25 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
LIGHTING	7329 VA	100.00%	7329 VA	
POWER	500 VA	100.00%	500 VA	
				<b>Total Conn. Load: 7827 VA</b>
				<b>Total Est. Demand: 7827 VA</b>
				<b>Total Conn.: 22 A</b>
				<b>Total Est. Demand: 22 A</b>

Notes:

## **1 GENERAL**

### **1.01 RELATED REQUIREMENTS**

- .1 Section 03 30 00 – Cast-in-Place Concrete

### **1.02 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Provide manufacturer's instructions, printed product literature and data sheets for furniture and include product characteristics, performance criteria, physical size, finish, and limitations.
- .3 Shop Drawings:
  - .1 Submit shop drawings indicating dimensions, sizes, assembly, anchorage, and installation details for each furnishing specified.

### **1.03 CLOSEOUT SUBMITTALS**

- .1 Provide maintenance data for care and cleaning of site furnishings for incorporation into manual specified in Section 01 77 00 – Contract Closeout Procedures and Submittals.

### **1.04 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 60 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations.
  - .2 Store and protect furnishings from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## **2 PRODUCTS**

### **2.01 BENCHES**

- .1 One (1) Glide surface mount backed bench with arms by Landscape Forms or approved equal. Installed as per manufacturer's instructions.
  - .1 Materials: Extruded aluminum and high-density polyethylene (HDPE).
  - .2 Dimensions:

- .1 Height: 793.75mm.
- .2 Length: 1905mm.
- .3 Depth: 685.8mm.
  
- .3 Finish:
  - .1 All metal components are finished with proprietary polyester powdercoat.
  
- .4 Colour: Apple red or approved equal.

## **2.04 BICYCLE RACK**

- .1 Two (2) Key bike rack by Landscape Forms or approved equal. Installed as per manufacturer's instructions
  - .1 Basic Construction Material: steel tube with colored polyurethane plastic mold.
  - .1 Colour: Red or approved equal.
  
  - .2 Dimensions:
    - .1 Height: 812.8mm.
    - .2 Circle Width: 584.2mm.
    - .3 Frame Width: 76.2mm.
  
  - .3 Finish: Polyurethane plastic mold.

## **3 EXECUTION**

### **3.01 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for exterior site furnishing installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Consultant.
  - .2 Inform Consultant of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.

### **3.02 PREPARATION**

- .1 Locate and protect utility lines.
  
- .2 Notify and acquire written acknowledgement from utility authorities before beginning installation.

### **3.03 INSTALLATION**

- .1 Assemble furnishings in accordance with manufacturer's written recommendations.
- .2 Install furnishings true, plumb, anchored firmly, and supported as directed by Consultant.
- .3 Touch-up damaged finishes to approval of Consultant.

### **3.04 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 13 – Progressive Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 13 - Progressive Cleaning.

### **3.05 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by site furnishings installation.

**END OF SECTION**