930 The East Mall, Suite 100
Toronto, Ontario
M9B 6J9
416.568.8300

Square Vis Architects Inc.
www.sqvis.ca

Addendum ADD#2

Date: June 1, 2026
Project Name: Verona Housing
Project Address: 6094 Carleton Dr, Verona, ON K0H 0B8
Project Number: 26001

THIS ADDENDUM IS ISSUED TO PROVIDE FOR MODIFICATIONS AND/OR CLARIFICATIONS DURING BIDDING AND FORMS PART OF BID AND CONTRACT DOCUMENTS FOR ABOVE PROJECT. INCLUDE IN YOUR BID AMOUNT FOR THE FOLLOWING ITEMS OF ADDITION, DELETION OR CLARIFICATION.

INDICATE IN THE SPACE PROVIDED ON THE BID FORM THAT YOU HAVE RECEIVED AND INCLUDED FOR THE REQUIREMENTS OF THIS ADDENDUM.

EXCEPT AS OTHERWISE SPECIFIED HEREIN, WORK REQUIRED BY THIS ADDENDUM SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS ACCOMPANYING SAME.

1. **Reference:**
   - 1.1.1. Architectural Drawings
   - 1.1.2. Civil Drawings
   - 1.1.3. Structural Drawings
   - 1.1.4. Mechanical Drawings
   - 1.1.5. Electrical Drawings

2. **Description**
   - a. A001.1: Roof assembly ‘WR1’ Asphalt Shingle is specified to be (SRI 0-29) and Insulation R value updated to R60.
   - b. A001.1: New assemblies ‘FW2’, ‘F1’, and ‘CL6’ added.
   - c. A001.1: ‘WP4b’ insulation thickness updated.
   - d. A001.2: Note 27. Plywood Backup updated to ¾”.
   - e. A001.2: Note 45 Radon Prevention notes and details added.
   - f. A003: Item C15 – Change table added to the Equipment Schedule.
   - g. A003: Additional information and specifications added to items: TCL, CNC, FBG, VB1, TL1, and TL2.
   - h. A004: D109 leaf type is changed to type ‘D’.
   - i. A004: D110, Privacy Lock hardware is removed and the push-to-clock button is added.
   - j. A004: D200, Astragal hardware added.
   - k. A004: T01, Kickplate hardware added.
   - l. A004: T01 and T02, viewed hardware added.
   - m. A004: T10, Privacy Lockset hardware added.
   - n. A004: Door Hardware specifications updated.
   - o. A100: ECOFLO Units labelled.
   - p. A200: Note added to install 4” PVC pipe through the foundation wall as indicated within the granular layer below the slab as part of the Radon Mitigation Measures.
   - q. A201: Furring wall added to the corridor wall at Grid 17/XE.

r. A201: Furring wall added to accommodate the hose bib installation at Grid 13/XG.
s. A201: Closet wall type changed in Suite 112.
t. A201: Housekeeping concrete pad added in Storage 008.
u. A301: Corridor drywall ceiling is changed to a suspended T-bar ceiling system.
v. A302: Corridor drywall ceiling is changed to a suspended T-bar ceiling system.
w. A303: Note for stair floor finish added
x. A303: FM1 Floor Mat area shown for reference
y. A304: Note for concrete pad at AHU added in room 517
z. A400, A401: LV1, MT-3, MT-4 and RF1 added to the elevation legend and tags added to the elevation views. Additional RL1 and WD1 tags added to the elevation views.
aa. A451: Detail reference added to the roof overhang, and roof insulation is extended to the wall.
bb. A451: Corridor ceiling is changed to CL6.
cc. A451: Additional notes added for AHU coordination.
dd. A500: Tactile attention indicator note and additional dimensions added to Stair A and B Second floor plan.
ee. A500: Detail 12, Guardrail at Landing added.
ff. A500: Note added for the stringers to be painted and cap ends.
gg. A500: Note added to provide concrete sealer at exposed concrete.
hh. A500: Drywall framing is removed from the steel stair detail 4.
ii. A650: Detail 1: Aluminum siding added to the exposed face of the firewall.
jj. A651: Additional notes added to details 4 and 13.
kk. A651: Exterior Gypsum sheathing size updated in details 5, 6, 9, and 10.
ll. A651: Detail 8: Door sill is updated to an aluminum sill.
mm. A651: Detail14: Decking finish updated and additional note added.
nn. A651: Detail 15: Bulkhead framing is changed to wood framing.
oo. A651: Detail 16: Type 'X' gypsum board encloser added.
pp. A652: Detail 2 updated to match structural drawings.
qq. A652: Detail 6 Privacy Screen Elevation added.
rr. A700: Note added for all exposed pipes to be insulated in Barrier Free suite kitchens and bathrooms.
ss. A700: Details 9 and 10: tub faucet tag is updated to W6.
tt. A700: Shelves added to the suite kitchens.
uu. A701: Change table tag C15 added to detail 1.
vv. A701: Finishes tags added to detail 2-9.
ww. A701: Shelves added to detail 11.
xx. A702: New interior Section Detail sheet added.

3. Attachments:

- A001.1 – Construction Assemblies
- A001.2 – Construction Notes
- A003 – Schedules
- A004 – Door Schedule
- A100 – Site Plan
- A200 – Footing Plan
- A201 - 1st Floor Plan

- A301 – 1st Floor Reflected Ceiling Plan
- A302 – 2nd Floor Reflected Ceiling Plan
- A303 – 1st Floor Finishes Plan
- A400 – North and South Elevations
- A401 - West and East Elevations
- A451 – Cross Section
- A500 – Stair Plan and Sections
- A650 – Wall Sections
- A651 – Section Details
- A652 – Section Details
- A700 – Interior Elevations – Suite Kitchens and Bathrooms
- A701 – Interior Elevations – Common Area
- A702 – Interior Section Detail
- Civil Addendum #1
- Structural Addendum #1
- Mechanical Addendum #1
- Electrical Addendum #1

4. **Explanation:**
   a. **Additional notes, clarifications, and minor revisions have been incorporated as part of the ongoing design development.**

END

Reason: Design Development

GROUNDWORK ENGINEERING LIMITED

Addendum ADD#1

Date: May 28, 2026
Project Name: Verona Housing
Project Address: 6094 Carleton Dr, Verona, ON K0H 0B8
Project Number: 26001

THIS ADDENDUM IS ISSUED TO PROVIDE FOR MODIFICATIONS AND/OR CLARIFICATIONS DURING BIDDING AND FORMS PART OF BID AND CONTRACT DOCUMENTS FOR ABOVE PROJECT. INCLUDE IN YOUR BID AMOUNT FOR THE FOLLOWING ITEMS OF ADDITION, DELETION OR CLARIFICATION.

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1. **Reference:**
   1.1. Civil Drawings

2. **Description**
   a. C-103: Revise note for payment of Hydro One work on electrical service
   b. C-103: Revise note for payment of water pump replacement and treatment system supply and installation
   c. C-104: Revise note for payment of sanitary forcemain testing

3. **Attachments:**
   - C-103 – Site Servicing-01
   - C-104 – Site Servicing-02

4. **Explanation:**
   a. **Additional notes and clarification provided along with minor changes as part of the design development.**

Sincerely,

MBurger

Martin Burger
M.Eng., P.Eng.

May 28, 2026
Our File: 25-10031PR

Tender Addendum

Addendum #1

Structural Addendum #1

Address: 6094 Carleton Drive, Verona, ON, K0H2W0, Canada

The following tender addendum will form part of the Mechanical Construction Document – Issued for Tender, and will become part of the contract documents. Contractors are required to acknowledge receipt of this addendum by inserting its number in the bid form and signing this form.

Related Drawings:

S4-100 – Footing Layout – Re-Issued
S4-101 – Floor One Layout – Re-Issued
S4-102 – Floor Two Layout – Re-Issued
S4-103 – Roof Layout – Re-Issued
S4-104 – Details – Re-Issued

Addendum Details:

S4-100

- Updated note relating to providing masonry lintel to duct banks going through foundation wall. Included the diameter size of a hole in the CMU wall for when a masonry lintel is required.
- Updated Note 1 for the concrete slab.
- Included structural sheet list.
- Provided locations for 5” diameter holes in the foundation wall for the 4” PVC pipes.

S4-101

- Updated steel stair note.
- Revised suspended concrete slab and adjacent framing for new AHU.

S4-102

- Updated steel stair note.
- Updated size of concrete slab for new AHU.
- Updated granular fill note for details 3 and 5.
- Updated existing foundation wall note for details 3 and 5.

S4-103

- Provided two regions that must be accommodated during truss design for the attic ducts.

S4-104

- Updated suspended concrete design for new AHU.

We hereby acknowledge receipt of the amended instructions and/or revisions and accept these modifications as being part of the contract documents.

Contractor: _____

Contractor's Representative: _____

Representative's Signature: _____

Date: _____

May 28, 2026
Our File: 25-10031PR

Tender Addendum

Addendum #1

Mechanical Addendum #1

Project:	Verona
Address:	6094 Carleton Drive, Verona, ON

The following tender addendum will form part of the Mechanical Construction Document – Issued for Tender, and will become part of the contract documents. Contractors are required to acknowledge receipt of this addendum by inserting its number in the bid form and signing this form.

Related Drawings:

M001 – Drawing List, Legend, and Mechanical Specifications – Re-Issued
M002 – Standard Details – Re-Issued
M003 – Standard Details – Re-Issued
M010 – Equipment Schedules – Re-Issued
M020 – Potable Water and Sanitary Riser Diagrams – Re-Issued
M030 – Mechanical Water Treatment and Solar Hot Water Schematic – Re-Issued
M040 – Controls – Re-Issued
M100F – Proposed HVAC Layout – Foundation – Radon – Issued
M100 – Proposed HVAC Layout – First Floor – Re-Issued
M200 – Proposed HVAC Layout - Second Floor – Re-Issued
M300 – Proposed Mechanical Layout – Typical Suites – Re-Issued
M400 – Enlarged Mechanical Plans and Sections – Re-Issued
P001 – Proposed Drainage Layout Foundation – Re-Issued
P100 – Proposed Plumbing Layout – First Floor – Re-Issued
P200 – Proposed Plumbing & Drainage Layout – Second Floor – Re-Issued

Addendum Details:

M001

- Revise HVAC piping specification to Hydronic Piping – Solar Thermal Glycol Loop.
- Update drawing list.

M002

- Updated electric duct heater detail to include access door requirement.

M003

- AHU-1 detail provided.

M010
- Update AHU-1 as detailed – hot gas reheat added.
- Update Remote DX Condensing Unit schedule as detailed.
- Updated Solar Hot Water Heating System and provided contact information for system supplier and updates.
- Updated Water Treatment System Schedule to include RO filtration system and minor updates.
- Updated pump schedule as indicated.
- Added CFFD-1 in Drainage Schedule.

M020
- Updated schematic to include RO system.

M030
- Updated schematic to include RO system and pipe size clarification.
- Clarified vendor vs general and mechanical contractor's scope of work for water filtration system.
- Updated solar hot water heating schematic.

M040
- Updated AHU-1 sequence of operation to incorporate hot-gas reheat.
- Provided contact information for JCI controls – The BAS vendor required to be used on this project.

M100F, M100
- New foundation drawing added for Radon prevention rough-ins.

M200
- Addition of Radon gas prevention and exhaust system rough-in as indicated.
- Updated AHU-1 to include HGRH.
- Deleted duct-mounted pre-heater; pre-heater will be integral to AHU-1.

M300
- Updated drawing to include RO system distribution.
- Revised type 'C' grilles to type 'A' grilles.

M400
- Updated housekeeping pad locations.
- Added two combination funnel floor drains.
- Added well pump VFD.

P001
- Added three combination funnel floor drains.
- Relocated end-of-line cleanout to outside of Stair B.

P100

- Added RO system and associated pipe distribution.
- Updated KS-1 and KS-2 specifications to include 1 extra hole in sink ledge and additional filtered water faucet.
- Added hot gas reheat refrigerant piping from CU-1 to AHU-1.

P200

- Added hot gas reheat refrigerant piping from CU-1 to AHU-1.

We hereby acknowledge receipt of the amended instructions and/or revisions and accept these modifications as being part of the contract documents.

Contractor: _____

Contractor's Representative: _____

Representative's Signature: _____

Date: _____

ELECTRICAL ADDENDUM

Project Name:	6094 Carlton Drive, Verona McMullen Manor		
Project No.:	26-108	Instruction No..:	EAD-01
To:	Square Vis Architects Inc		
Attention:	Natalie Taleb	Date:	May 28, 2026
From:	Foroud Rasti P.Eng		

The following additions, deletions and/or items of clarification shall be included as an integral part of the Tender Documents.

DRAWINGS:

1. **Drawing E100 (Re Issued)**
   1.1. Revise drawing as indicated.

2. **Drawing E101A - E102B (Re Issued)**
   2.1. Revise lighting as indicated.
   2.2. Revise power connections as indicated.
   2.3. Revise key notes as indicated.

3. **Drawing E104 (Re Issued)**
   3.1. Revise the single line diagram as indicated.
   3.2. Revise panel schedules as indicated.

4. **Drawing E105 (Re Issued)**
   4.1. Revise key notes.

5. **Drawing E106 (Re Issued)**
   5.1. Revise the fire alarm schedule as indicated.

6. **Drawing E200 (Re Issued)**
   6.1. Revise drawing as indicated.

END OF EAD-01

CMU WALLS

B1

4" (100 mm) CONCRETE BLOCK

THICKNESS = 4" (100 mm)

B2

6" (143 mm) CONCRETE BLOCK

THICKNESS = 6" (143 mm)

B2a

6" (143 mm) CONCRETE BLOCK

THICKNESS = 6" (143 mm)
FRR = 1 HR, CCMPA
STC = 51

B2b

6" (143 mm) CONCRETE BLOCK, SOLID CORE

THICKNESS = 6" (143 mm)
FRR = 2 HR, CCMPA
STC = 44

B3

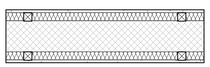
8" (194 mm) CONCRETE BLOCK

THICKNESS = 8" (194 mm)
FRR = 1 HR, CCMPA
STC = 44

B3a

8" (194 mm) CONCRETE BLOCK, SOLID CORE

THICKNESS = 8" (194 mm)
FRR = 2 HR, CCMPA
STC = 44



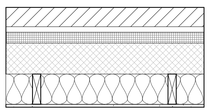
FW1

FIREWALL: CONCRETE BLOCK AND 38X38mm INSULATED FURRED WALL

1/2" (13mm)GYPSUM WALL BOARD, TYPE 'X'
2X2 (38X38mm) WOOD STRAPPING @ 400mm O.C
1 1/2" (38mm) SOUND ATTENUATION BATT INSULATION
6" (143mm) CONCRETE BLOCK
2X2 (38X38mm) WOOD STRAPPING @ 400mm O.C (STAGGERED)
1 1/2" (38mm) SOUND ATTENUATION BATT INSULATION
1/2" (13mm)GYPSUM WALL BOARD, TYPE 'X'

FRR = 2 HR, O.B.C 86a, CCMPA
STC = 57

7



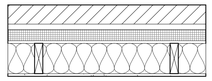
FW2

FIREWALL: EXTERIOR BRICK AT 2X6 WOOD STUD

3 1/2" BRICK FINISH
1" (25mm) AIR SPACE
2" (50mm) POLYSTYRENE INSULATION MIN R10 (RSI=1.76) CONTINUOUS
AIR BARRIER
6" (143mm) CONCRETE BLOCK
2X6 (38mmX140mm WOOD STUDS @ 16" (400mm) O.C
5 1/2" (140mm) BATT INSULATION MIN R=22(RSI=3.87)
6mil POLYETHYLENE VB
5/8" (16mm) GYPSUM BOARD, TYPE 'X'

FRR = 2 HR, CCMPA
STC = 57

EXTERIOR WALLS

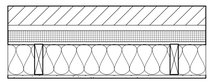


WB1

EXTERIOR BRICK AT 2X6 WOOD STUD

3 1/2" BRICK FINISH
1" (25mm) AIR SPACE
2" (50mm) POLYSTYRENE INSULATION MIN R10 (RSI=1.76) CONTINUOUS
AIR BARRIER
1/2" (13mm) EXTERIOR GYPSUM SHEATHING
2X6 (38mmX140mm WOOD STUDS @ 16" (400mm) O.C
5 1/2" (140mm) BATT INSULATION MIN R=22(RSI=3.87)
6mil POLYETHYLENE VB
1/2" (13mm) GYPSUM BOARD

FRR = N/A

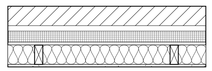


WB1a

EXTERIOR BRICK AT 2X6 WOOD STUD

3 1/2" BRICK FINISH
1" (25mm) AIR SPACE
2" (50mm) POLYSTYRENE INSULATION MIN R10 (RSI=1.76) CONTINUOUS
AIR BARRIER
1/2" (13mm) EXTERIOR GYPSUM SHEATHING (FIRE-RATED)
2X6 (38mmX140mm WOOD STUDS @ 16" (400mm) O.C
5 1/2" (140mm) BATT INSULATION MIN R=22(RSI=3.87)
6mil POLYETHYLENE VB
5/8" (16mm) GYPSUM BOARD, TYPE 'X'

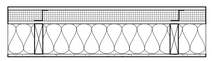
FRR = 1 HR, SB-2 2.3.4A.C
(40MIN FROM GB, 20MIN FROM STUDS AT 400MM O.C)



WB2

EXTERIOR BRICK AT 2X4 WOOD STUD (AT ROOF LEVEL)

3 1/2" BRICK FINISH
1" (25mm) AIR SPACE
2" (50mm) POLYSTYRENE INSULATION MIN R10 (RSI=1.76) CONTINUOUS
AIR BARRIER
1/2" (13mm) EXTERIOR GYPSUM SHEATHING
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) BATT INSULATION MIN R=15(RSI=2.6)
6mil POLYETHYLENE VB
1/2" (13mm) GYPSUM BOARD

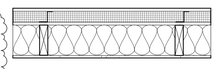


WS1

EXTERIOR ALUMINUM SIDING AT 2X6 WOOD STUD

1/2" (14mm) WOOD LOOKING ALUMINUM SIDING
2" (50mm) ADJUSTABLE GALV Z-GIRTS AS REQUIRED (SHOWN HORIZONTALLY)
2" (50mm) NON-COMBUSTIBLE SEMI-RIGID INSULATION R10 (RSI=1.76)
AIR BARRIER
1/2" (13mm) EXTERIOR GYPSUM SHEATHING
2X6 (38mmX140mm WOOD STUDS @ 16" (400mm) O.C
5 1/2" (140mm) BATT INSULATION MIN R=22(RSI=3.69)
6mil POLYETHYLENE VB
1/2" (13mm) GYPSUM BOARD

FRR = N/A



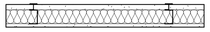
WS2

EXTERIOR ALUMINUM SIDING AT 2X4 WOOD STUD (AT ROOF LEVEL)

1/2" (14mm) WOOD LOOKING ALUMINUM SIDING
2" (50mm) ADJUSTABLE GALV Z-GIRTS AS REQUIRED (SHOWN HORIZONTALLY)
2" (50mm) NON-COMBUSTIBLE SEMI-RIGID INSULATION R10 (RSI=1.76)
AIR BARRIER
1/2" (13mm) EXTERIOR GYPSUM SHEATHING
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) BATT INSULATION MIN R=15(RSI=2.6)
6mil POLYETHYLENE VB
1/2" (13mm) GYPSUM BOARD

FRR = N/A

INTERIOR WALLS GYPSUM BOARD PARTITIONS



SW1

SHAFT WALL - 1HR FRR

25mm GYPSUM BOARD LINER PANEL
2 1/2" (64mm) CSC C-H STUDS 25-GAUGE 24" (610mm) O.C
76mm INS-13
5/8" (16mm) GYPSUM BOARD, TYPE 'X'

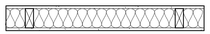
NOTE: CARRY PARTITION TO UNDERSIDE OF FLOOR ABOVE.

FRR = 1 HR, ULC W452 SYSTEM A
STC = 39

WP3

INTERIOR PARTITION, 2"x4" WOOD STUDS

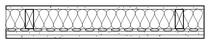
1/2" (13mm) GYPSUM BOARD
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
1/2" (13mm) GYPSUM BOARD



WP3a

INSULATED INTERIOR PARTITION, 2"x4" WOOD STUDS

1/2" (13mm) GYPSUM BOARD
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) BATT INSULATION MIN R=21(RSI=3.69)
1/2" (13mm) GYPSUM BOARD



WP3b

INSULATED INTERIOR PARTITION, 2"x4" WOOD STUDS

5/8" (16mm) GYPSUM BOARD TYPE 'X'
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) BATT INSULATION MIN R=21(RSI=3.69)
RESILIENT METAL CHANNELS @ 16" (400mm) O.C
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR, W4a (SB3)
STC = 51

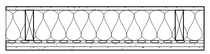
WP3c

IN-SUITE WALL IN ATTIC SPACE

5/8" (16mm) GYPSUM BOARD TYPE 'X'
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
5/8" (16mm) GYPSUM BOARD TYPE 'X'

NOTE: CARRY PARTITION TO UNDERSIDE OF ROOF ABOVE. WRAP ENDS OF WALL WITH GB TO MAINTAIN FIRE-RATING.

FRR = 1 HR, SB-3 W1d



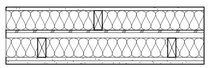
WP4b

7

INSULATED INTERIOR PARTITION, 2"x6" WOOD STUDS

5/8" (16mm) GYPSUM BOARD TYPE 'X'
2X6 (38mmX140mm WOOD STUDS @ 16" (400mm) O.C
5 1/2" (140mm) BATT INSULATION MIN R=22(RSI=3.69)
RESILIENT METAL CHANNELS @ 16" (400mm) O.C
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR, W4a (SB3)
STC = 51



WP2a

SUITE TO SUITE DEMISING WALL, 2"x4" WOOD STUDS

5/8" (16mm) GYPSUM BOARD TYPE 'X'
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) SOUND ATTENUATION BATT INSULATION
1/2" (11mm) OSB SHEATHING AS REQUIRED
1" (25mm) AIR SPACE
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C (STAGGERED)
3 1/2" (89mm) SOUND ATTENUATION BATT INSULATION
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

NOTE: CARRY PARTITION TO UNDERSIDE OF FLOOR ABOVE. ADD ONE LAYER OF WATER RESISTANT TILE BACKER BOARD AT TUBS AND SHOWERS.

FRR = 1 HR, W4a (SB-3)
STC = 61 W4a (SB-3)

FURRING WALLS GYPSUM BOARD

FRP

WALL PROTECTION

6' HIGH FRP PANEL OVER GYPSUM BOARD

7

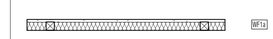
F1

1/2" (13mm) GYPSUM BOARD

WF1

FURRED WALL 2" WOOD STRAPPING

1/2" (13mm) GYPSUM BOARD
2X2 (38mmX38mm WOOD STRAPPING @ 16" (400mm) O.C



WF1a

INSULATED FURRED WALL 2" WOOD STRAPPING

1/2" (13mm) GYPSUM BOARD
2X2 (38mmX38mm WOOD STRAPPING @ 16" (400mm) O.C
1 1/2" (38mm) SOUND ATTENUATION BATT INSULATION

WF2

FURRED WALL 2"x2" WOOD STUDS

1/2" (13mm) GYPSUM BOARD
2X3 (38mmX64mm WOOD STUDS @ 16" (400mm) O.C

WF2a

INSULATED FURRED WALL 2"x2" WOOD STUDS

1/2" (13mm) GYPSUM BOARD
2X3 (38mmX64mm WOOD STUDS @ 16" (400mm) O.C
2 1/2" (64mm) SOUND ATTENUATION BATT INSULATION

WF2b

INSULATED FURRED WALL 2"x2" WOOD STUDS

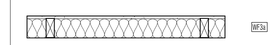
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'
2X3 (38mmX64mm WOOD STUDS @ 16" (400mm) O.C
2 1/2" (64mm) SOUND ATTENUATION BATT INSULATION

FRR = 1 HR

WF3

FURRED WALL 2"x4" WOOD STUDS

1/2" (13mm) GYPSUM BOARD
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C

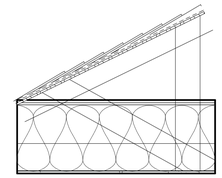


WF3a

INSULATED FURRED WALL 2"x4" WOOD STUDS

1/2" (13mm) GYPSUM BOARD
2X4 (38mmX89mm WOOD STUDS @ 16" (400mm) O.C
3 1/2" (89mm) SOUND ATTENUATION BATT INSULATION

FLOORS AND CEILINGS

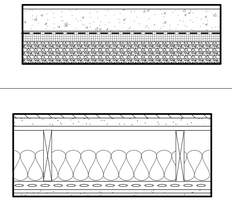


7

WR1

SLOPED ASPHALT SHINGLE MECHANICAL ROOM ROOF

ASPHALT SHINGLES (SR-0,29)
EAVE PROTECTION (TYPE-2) MIN 900mm UP ROOF SURFACE TO NOT LESS THAN 300mm BEYOND INNER FACE OF EXTERIOR WALL)
3/8" (9.5mm) PLYWOOD SHEATHING WITH H-CLIPS
ENGINEERED ROOF TRUSSES WITH CROSS-BRACING AS REQUIRED (REFER TO TRUSS PACKAGE FOR SPACING AND SIZES)
7 1/2" (190mm) BLOWN-IN INSULATION MIN R=60
6 mil POLYETHYLENE VB
1/2" (13mm) GYPSUM BOARD



CF1

CAST-IN-PLACE CONCRETE SLAB ON GRADE, OCCUPIED SPACE

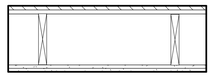
FLOOR COVERING AS SPECIFIED
CAST-IN-PLACE CONCRETE SLAB ON GRADE
AIR AND SOIL GAS BARRIER
15MIL VAPOUR BARRIER
2" (50mm) EXTRUDED POLYSTYRENE HIGH DENSITY INSULATION
8" (200mm) CLEAR CRUSHED STONE COMPACTED GRAVEL

WJ1

INTERIOR SECOND FLOOR

3/4" (19mm) VINYL FLOORING
1 1/2" (37mm) ACOUSTICAL TOPPING
3/4" (19mm) T&G PLYWOOD OR OSB
2X10 JOISTS (REFER TO STRUCTURAL FOR SPACING AND DETAILS)
SOUND ATTENUATION BATT INSULATION
RESILIENT METAL CHANNELS @16" (610mm) O.C
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR, F84 (SB3)
STC = 54

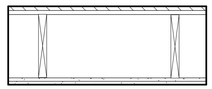


WJ2

INTERIOR SECOND FLOOR

3/4" (19mm) FINISH FLOOR
3/4" (19mm) T&G PLYWOOD OR OSB
2X10 JOISTS (REFER TO STRUCTURAL FOR SPACING AND DETAILS)
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR, F4a (SB-3)
STC = 33

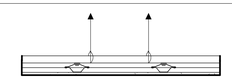


WJ3

INTERIOR SECOND FLOOR

3/4" (19mm) FINISH FLOOR
3/4" (19mm) T&G PLYWOOD OR OSB
2X12 JOISTS (REFER TO STRUCTURAL FOR SPACING AND DETAILS)
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR, F4a (SB-3)
STC = 33

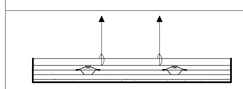


CL4

SUSPENDED GYPSUM BOARD CEILING

36mm GALV STEEL CHANNELS @ 1200mm O.C
22mm GALV FURRING CHANNELS @ 400mm O.C
13mm GYPSUM BOARD

THICKNESS = VARIES



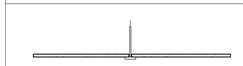
CL5

FRR GYPSUM BOARD CEILING

36mm GALV STEEL CHANNELS @ 1200mm O.C
22mm GALV FURRING CHANNELS @ 400mm O.C
5/8" (16mm) GYPSUM BOARD TYPE 'X'
5/8" (16mm) GYPSUM BOARD TYPE 'X'

FRR = 1 HR

7



CL6

SUSPENDED ACOUSTICAL TILE CEILING

SUSPENDED T-BAR CEILING
DROP-IN ACOUSTICAL CEILING TILES AS SPECIFIED (SEE FINISH SCHEDULE)

THICKNESS = VARIES

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
CONSTRUCTION ASSEMBLIES

SCALE: AS SHOWN

SHEET NUMBER:
A001.1

2026-06-01 1:35:40 PM C:\Users\Shirin\Documents\26001- 6094 Carleton Dr_srahimiRBOEB.rvt

PLAN DETAIL REFERENCE	2 / A005
SECTION DETAIL REFERENCE	1 / A605
BUILDING SECTION REFERENCE	1 / A005 — 1 / A005
EXTERIOR ELEVATION REFERENCE	3 / A005
INTERIOR ELEVATION REFERENCE	4 / 7 / A005 / 5 / 6
GRID REFERENCE & GRID LINE	7
CONSTRUCTION ASSEMBLY REFERENCES	1A B3 F4 — B3 F4 — B3
DOOR REFERENCE	D1
WINDOW & SCREEN REFERENCE	W101 S101
FLOOR LEVEL & HEIGHT REFERENCE	GROUND FLOOR 0.00
ELEVATION CLADDING REFERENCE	M1
SPOT ELEVATION REFERENCE	###.### TOS
EXISTING SPOT ELEVATION REFERENCE	###.### TOC
TOC - TOP OF CURB TOFR - TOP OF FINISHED ROOF TOP - TOP OF PARAPET TOS - TOP OF SLAB TOW - TOP OF WALL	
CEILING MATERIAL & HEIGHT REFERENCE	GB 150
FLOOR FINISH REFERENCE	N7
INTERIOR FINISH REFERENCE	B / G7
MILLWORK FINISH REFERENCE	N7
KEYNOTE REFERENCE	N7
FLOOR FINISH TRANSITION REFERENCE	TRAN #
REVISION REFERENCE	1

NOTATION LEGEND
1 : 200

CB 000.00	CATCH BASIN (WITH SPOT ELEVATION)
FD 000.00	PARKING SLAB FLOOR DRAIN (WITH SPOT ELEVATION)
AD or RD 000.00	AREA DRAIN or ROOF DRAIN (WITH SPOT ELEVATION)
FD	FLOOR DRAIN
	BLOCK WALL (NEW)
	BRICK WALL (NEW)
	PRECAST CONCRETE WALL (NEW)
	CONCRETE WALL (NEW)
	EXISTING WALL
	DOOR
	EXISTING DOOR
W/D	STACKED WASHER & DRYER
W	WASHER
D	DRYER
DW	DISHWASHER (UNDERCOUNTER)
	RANGE
F	REFRIGERATOR
A/C	AIR CONDITIONER UNIT (NOT INCLUDED)
T	THERMOSTAT
EP or CP	ELECTRICAL PANEL or COMMUNICATION PANEL
	HEATPUMP or FAN COIL UNIT
FHC or SVC	FIRE HOSE CABINET or SPRINKLER VALVE CABINET
	SURFACE ROOF ANCHOR
	RECESSED ROOF ANCHOR
	RECESSED DAVIT BASE
	RECESSED DAVIT BASE WITH ANCHOR
SC	SCUPPER DRAIN
	ROOF ACCESS HATCH
RWL	RAIN WATER LEADER
	MAIN BUILDING ENTRANCE
	BUILDING ENTRANCE (SECONDARY)
	BUILDING EXIT
	OVERHEAD DOOR
	TYPE 'G' LOADING BAY
HB	HOSE BIB
	SIAMESE CONNECTION
	FIRE HYDRANT
GM	GAS METER
MH	MAINTENANCE HOLE COVER
HMH	HYDRO MAINTENANCE HOLE COVER
HP	HYDRO POLE
LS	LIGHT STANDARD
CR	CARD READER
ES	ELECTRIC STRIKE
PB	PUSH BUTTON AUTOMATIC DOOR OPENER
	BARRIER FREE
	BARRIER FREE TURNING RADIUS (1500mm, 1600mm or 1670mm diameter as noted)
	TYPICAL BULKHEAD (MIN 2100mm AFF)
	SECONDARY HEIGHT BULKHEAD
	FIRE RATED BULKHEAD
	INSULATED SOFFIT IN PARKING GARAGE
	FLUORESCENT LIGHT FIXTURE
	POT LIGHT
	RECESSED POT LIGHT
	WALL MOUNTED LIGHT FIXTURE
	SUPPLY AIR DIFFUSER
BBH	BASEBOARD HEATER
	RETURN AIR VENT
S	SPEAKER
	SPRINKLER HEAD
FFH	CEILING MOUNTED HEATER
	CEILING FAN
CO	CARBON MONOXIDE DETECTOR
SD	SMOKE DETECTOR
FA	FIRE ALARM SPEAKER/STROBE
	EXIT SIGN
	MANUAL PULL STATION
	EMERGENCY REMOTE HEAD
	BICYCLE STORAGE (FLOOR MOUNTED)
	BICYCLE STORAGE (WALL MOUNTED)
	WIRE MESH LOCKER ENCLOSURE & GATE
	3 cu yd GARBAGE or RECYCLING BIN
	2 cu yd ORGANIC BIN
℄	CENTERLINE

SYMBOLS LEGEND
1 : 100

CONSTRUCTION NOTES
(Construction notes apply typically throughout all applicable construction.)

1. Concrete Block Walls, Height and Lateral Support

FRR and STC ratings for concrete block per Canadian Concrete Masonry Producer's Association and as noted in the assemblies listed in drawing 1/A001.

The maximum heights of block walls as per OBC 2012 9.20.10.1 as listed below for interior and exterior assemblies:

Size	Interior	Exterior
90mm	3240mm high	1800mm high
140mm	5040mm high	2800mm high
190mm	6840mm high	3800mm high
240mm	8640mm high	4800mm high
290mm	10440mm high	5800mm high

Provide steel lateral supports (hot dipped galvanized at exterior walls) at top of concrete block walls.

2. Steel Stud Walls, Spacing and Height

The size, spacing and height of steel studs for non-loadbearing interior walls shall conform to OBC 2012 9.24.2.1 as listed below:

Minimum Stud Size	Max Stud Spacing	Max Wall Height
32 x 41 mm	406 mm	3.0 m
	610 mm	2.7 m
32 x 64 mm	305 mm	4.4 m
	406 mm	4.0 m
	610 mm	3.5 m
32 x 89 (92) mm	305 mm	5.2 m
	406 mm	4.6 m
	610 mm	3.9 m
32 x 152 mm	305 mm	6.6 m
	406 mm	5.8 m
	610 mm	4.9 m

3. Reserved

3A. Reserved

4. Concrete Thickness Relating to Fire Resistance Rating

Minimum Thickness of Reinforced and Prestressed Concrete Floor or Roof Slabs (mm) as per OBC 2012 SB2 2.2.1. as listed below:

Type	Fire Resistance Rating						
	30min	45min	1HR	1.5HR	2HR	3HR	4HR
S	60	77	90	112	130	158	180
N	59	74	87	108	124	150	171
L40S or L	49	62	72	89	103	124	140

Minimum Concrete Cover over Reinforcement in Concrete Slabs (mm) as per OBC 2012 SB2 2.2.1. as listed below:

Type	Fire Resistance Rating						
	30min	45min	1HR	1.5HR	2HR	3HR	4HR
S, N, L40S or L	20	20	20	20	25	32	39
Prestressed S, N, L40S or L	20	25	25	32	39	50	64

5. Weep Holes and Cavity Ventilation (Mass Cavity)

Provide weep holes and vents at maximum 600mm o.c. or two full bricks at all points of brick support, i.e. top of foundation wall, all lintels, etc. Provide brick vents at second brick course from the top of the cavity except at window sills or tops of parapets.

5A. Weep Holes and Cavity Ventilation (Precast)

Provide minimum two weep holes and vent per panel at maximum 600mm oc horizontally at top and bottom of panels.

6. Flashings

Provide through wall, spandrel, sill and head flashing at locations indicated or implied on the Drawings. Seal joints, ends and corners to maintain continuity. Upturn ends to create dams at the sides of openings.

7. Compression and Slip Joints

Provide continuous 12mm compression joint below each floor slab for masonry walls.

8. Precast Compression Joints

Allow 12mm compression joint over windows, sliding glass doors and door heads. Provide slip joint construction below beams or slabs that could deflect more than 6mm.

9. Prefinished Metal Parapet Cap Flashing

Prefinished metal cap flashing complete with continuous metal flashing clips on roofing membrane over 19mm plywood. Anchor wood blocking to top of exterior cladding system. Slope away from exterior building face with minimum 2% slope. Coordinate colour of flashing with consultant.

10. Air Barrier - GB

Maintain air barrier continuity at exterior walls. GB at exterior walls (where noted) acts as an air barrier and shall be effectively and continuously sealed at perimeter edges and openings. GB shall be returned and sealed to exterior window and door frames, including under window sills. GB at exterior walls must be continuous behind adjoining interior partitions, bulkheads, drop ceilings and pipe chases. Air barrier to be continuous at electrical fixtures and boxes by sealing GB and conduits to vapour barrier boxes. Apply foam-in-place 'air retarder' at duct penetrations through exterior walls.

11. Vapour Barrier

Provide continuous exterior vapour barrier. Overlap and seal joints over solid backing. Return vapour barrier beside window, studs and door openings and seal to frames. Extend vapour barrier past 'J' mould and trim and seal after GB is in place. Seal wall boxes at exterior wall. Seal to concrete slabs and concrete walls.

12. Acoustical Sealants

Seal entire perimeter of both sides of acoustically separated partitions. Typically between suites, between suites and corridors and elsewhere as noted.

13. Wall and Floor Penetrations

Maintain full integrity of fire separated and acoustically separated assemblies. No wall penetrations shall be back to back. Provide necessary firestopping at penetrations of fire rated assemblies, and acoustical sealing at
penetrations of acoustically separated assemblies. Furr out recesses and penetrations as required to maintain sound and fire ratings. Use ULC or CUL listed firestop assemblies. Use fire rated acoustical sealant to maintain sound separations. Provide 38mm sound attenuation blankets around outlets and wall penetrations.

14. Partition Continuity and Anchoring

Carry all wall assemblies to underside of structure above in all fire rated partitions. Construct all rated wall assemblies prior to constructing adjoining un-rated assemblies.

15. Partitions Acting as Guards

Stud partitions separating changes of level greater than 600mm shall be constructed to resist loading requirements of OBC article 4.1.5.14. Provide Shop Drawings stamped by
Licensed Professional Engineer registered at the Place of Work.

16. Control Joints

Ensure that laps in through-wall flashing do not occur at vertical control joint locations.

17. Compartmentalization of Exterior Wall Cavity

Provide continuous vertical fire stop in the exterior and parapet wall cavities with break-shape aluminum with spacing not to exceed 20m.

18. Sound Attenuation Batts

Provide sound attenuation batts in dropped ceilings in suite bathrooms, pipe offsets, and at common area washrooms as well as locations indicated or implied on Drawings or in construction assemblies.

19. Firestopping at Service Penetrations

Firestop and smoke seal service penetrations using ULC or CUL listed assemblies.

20. Fire Resistance Rating

Refer to applicable testing agency's documentation or OBC for exact construction methods.

21. Exposed Cast-in-place Concrete

Provide 20mm (12mm x 12mm) 45° corner chamfer
typically to exposed cast-in-place concrete exterior corners at columns, walls, drops, beams, etc. Architectural finish to include filling all holes on all exposed concrete walls including concrete planter walls, concrete parking garage ramp walls, exposed concrete columns, etc. Provide sandblasted finish where specified.

22. Sealants

Seal perimeter of exterior envelope openings and penetrations. Seal joints at dissimilar materials.

23. Reserved

24. Tempered Glazing

Orient tempered glass in uniform direction. Utilize vertical orientation unless otherwise noted. Ensure label is on bottom right corner.

25. Access Panels at Suspended GB Ceilings

Provide access panels as required at suspended GB ceilings and soffits. Review and coordinate proposed locations with consultant.

26.Tile Backer Board and Mould Resistant Gypsum Board in Bathrooms and Wet or High Humidity Areas.

Provide full height water resistant tile backer board on the walls and ceilings in all bathrooms and wet or high moisture areas behind tile finish. Provide full height mould resistant gypsum board on the walls and ceilings in all bathrooms and wet or high humidity areas where gypsum board will be exposed.

6

27. Plywood Back-up

Provide 3/4" plywood back-up behind GB at grab bar anchoring in washrooms, and at towel bars, closet rods, curtain rods, and similar wall mounted equipment and furnishings. Where enclosing walls are stud walls, provide 13mm plywood back-up at the main bathroom in each suite to accommodate the installation of future grab bars at one toilet and one bathtub or shower.

28. Showers

Provide self-adhesive flexible water-proofing membrane under showers.

29. Closets

Provide interior intermediate supports including plywood blocking at rods and shelves in each closet to a maximum spacing of 1500mm.

30. Electrical Wall Boxes

Electrical wall boxes shall not coincide at opposite sides of demising or corridor walls and are to be smoke and sound sealed at acoustic and fire rated assemblies.

31. Mould Removal

Where mould is evident, remove infected material according to recommended practices to ensure that no particles are made airborne in the removal process.

32. Paint-outs

Service fixtures in public areas are to be painted to match adjacent surfaces. Exposed grilles, access and electrical panels in suites are to be painted to match adjacent surfaces.

33. Galvanic Corrosion

Dissimilar metals are to be separated by inert material to prevent galvanic corrosion/reaction (e.g. use vinyl j-mould at aluminium window frames).

34. Device Heights

Electrical receptacles, telephones and cable outlets to be mounted typically, unless otherwise noted, in a ganged box in a neat and orderly fashion. Wall devices such as sprinklers, smoke detectors, minihorns, strobes, etc., are to be grouped and arranged in an orderly, orthogonal fashion.

35. Exterior Balcony Guards

Refer to Part 4 and Table 4.1.3.2 of Division B of the Ontario Building Code when calculating the load combinations to be taken into consideration in the design of exterior balcony guards. Refer to Table 2.1.1.1 of SB-13 in the Ontario Building Code for glass requirements. Ensure that the glass in the guards is not in direct contact with any metal or similar hard elements and that sufficient deflection and movement allowances are provided for.

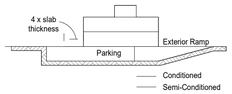
36. Acoustic Underlayment

Provide acoustic underlayment under hard surface floor finishes (tile, engineered hardwood, etc.). Refer to floor plans for required locations.

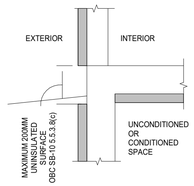
37. Insulation Continuity at Slab/Wall/Footing Intersections

Refer to Section 5.5.3.5.1 to 5.5.3.5.8 inclusive of SB-10 in the Ontario Building Code for insulation continuity requirements through slab/wall/footing intersections.

Insulation at Conditioned and Semi-Conditioned Spaces



Maximum Uninsulated Surface of Foundation Wall



CONSTRUCTION NOTES
1 : 10

38. Air Barrier - Cast-in-Place Concrete

Maintain air barrier continuity at exterior walls. Where concrete is identified as an air barrier ensure holes, cracks and/or gaps are filled.

39. Control Joints (Mass Cavity)

Provide control joints with adequate seal where sound/fire ratings are required. Ensure that laps in through-wall flashing do not occur at vertical control joint locations.

40. Windows

40.1 Minimum Bedroom Window: Except where a door on the same floor level as the bedroom provides direct access to the exterior, every floor level containing a bedroom is to have at least one outside window w/ min. 0.35m2 unobstructed open portion w/ no dimension less than 1'-3" (380), capable of maintaining the opening without the need for additional support, and must conform to 9.7.1.3 (& 9.7.1.4 for basement windows).

40.2 minimum bedroom window: a guard or a window with a maximum restricted opening width of 4" (100) is required where the top of the window sill is located less than 1'-7" (480) above fin. Floor and the distance from the fin. Floor to the adjacent grade is greater than 5'-11" (1800).

40.3 window in exit stairways: windows in exit stairways that extend to less than 3'-6" (1070) shall be protected by guards in accordance with note #2 (above). Or the window shall be non-operable and designed to withstand the specified loads for balcony guards as provided in part 4 of the ontario building code.

41 GUARDS/RAILINGS -O.B.C. 9.8-

Finished non-climbable guard/railing (4" to 35" above floor) with 4" (100) o.c. maximum spacing between pickets.
-The minimum specified horizontal load applied any point at the minimum required height of the required guards shall be 0.5 kn/m or concentrated load of 1.0 kn applied at any point.
-The minimum specified horizontal load applied inward or outward on elements within the guard, including solid panels and pickets shall be 0.5 kn applied over a maximum width of 300 mm and a height of 300 mm
-The minimum specified evenly distributed vertical load applied at the top of the guard shall be 1.5 kn/m.
Guards -o.b.c. 9.8.8-
Interior guards: 3'-6" (1070) min.
Exterior guards: 3'-6" (1070) min.

42 STUD WALL REINFORCEMENT - OBC 9.5.2.3:

Provide stud wall reinforcement in main bathroom conforming to o.b.c. 3.8.3.8.(1)(d) for water closets and o.b.c. 3.8.3.13.(1)(f) for showers or bathtubs.

43 GRAB BAR 9.5.2.3. (1)

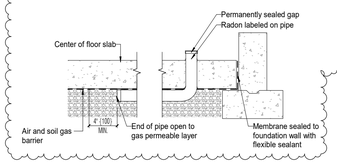
Install reinforcement for future installation of grab bar for water closet as per [3.8.3.8.(3)] and for shower as per [3 3.8.3.13.(2)(f)], and for bathtub as per 3.8.3.13.(4)(c).

44 FLASHING

Flashing materials and installation shall conform to O.B.C. sections 9.20.13., 9.26.4. & 9.27.3.

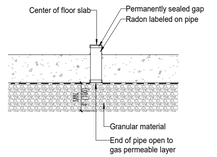
45 RADON PREVENTION:

A. All floor assemblies separating conditioned space from the ground shall be protected by an air barrier system which meets the following criteria:
1. Materials used to provide a barrier to the ingress of air through floors-on-ground shall conform to CAN/CGSB-51.34, "Polyethylene sheet for use in building construction - Material specification.
2. Shall be constructed so as to include an air barrier system that will provide a continuous barrier to air leakage:
a. From the interior of the building into wall, or floor spaces, sufficient to prevent excessive moisture condensation in such spaces during the winter, and
b. From the exterior or the ground inward sufficient to:
• Prevent moisture condensation on the room side during winter,
• Ensure comfortable conditions for the occupants, and
• Minimize the ingress of soil gas.
3. Possess the characteristics necessary to provide an effective barrier to air infiltration and exfiltration under differential air pressure due to stack effect, mechanical systems or wind.
4. Where the floor-on-ground is a concrete slab, the air barrier shall be:
a. Installed below the slab, or
b. Applied to the top of the slab, provided a separate floor is installed over the slab.
5. Where the air barrier installed below a floor-on-ground is flexible sheet material, joints in the barrier shall be lapped not less than 300 mm.
6. Shall be sealed around its perimeter to the inner surfaces of adjacent walls using flexible sealant.
7. All penetrations that are required to drain water from the floor surface shall be sealed in a manner that prevents the upward flow of air without preventing the downward flow of liquid water.
8. Where installed in conjunction with a framed floor-on-ground or above a floor-on-ground, the air barrier shall be installed to meet the following criteria
a. Where the air barrier system consists of an air-impermeable panel-type material, all joints shall be sealed to prevent air leakage.
b. Where the air barrier system consists of flexible sheet material, all joints shall be:
• Sealed, or
• Lapped not less than 100 mm and clamped, such as between framing members, furring or blocking, and rigid panels.
c. Where an interior wall meets a floor required to be provided with air barrier protection, the air barrier system shall extend across the intersection.
d. Penetrations of the air barrier system, such as those created by the installation of electrical wiring, piping or ductwork, shall be sealed to maintain the integrity of the air barrier system over the entire surface.
e. Where access hatches and sump pit covers are installed through assemblies constructed with an air barrier system, they shall be weatherstripped around their perimeters to prevent air leakage.
• (020 Note A-9.13.4.).
f. A pipe not less than 100 mm in diameter installed through the floor, such that:



6

B. Unless the space between the air barrier system and the ground is designed to be accessible for the future installation
of a subfloor depressurization system, dwelling units and buildings containing residential occupancies shall be provided with the rough-in for a radon extraction system which meets the following criteria:
1. The rough-in for subfloor depressurization must consist of:
a. A gas-permeable layer, an inlet and an outlet which meets the following requirements:
• A gas-permeable layer installed in the space between the air barrier and the ground to allow the depressurization of that space,
• An inlet that allows for the effective depressurization of the gas-permeable layer (see NBCC 2020 Note A-9.13.4.3.(2)(b) and (3)(b)(i)), and
• An outlet in the conditioned space that:
1. permits connection to depressurization equipment,
2. is sealed to maintain the integrity of the air barrier system, and
3. is clearly labeled to indicate that it is intended only for the removal of radon from below the floor-on- ground.
b. Clean granular material and a pipe which meets the following criteria:
• Not less than 100mm of course clean granular material containing not more than 10% of material that will pass a 4 mm sieve shall be placed beneath floors-on-ground (see NBCC 2020 Note A-9.13.4.).
a. A pipe not less than 100 mm in diameter installed through the floor, such that:

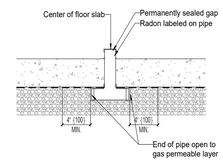


C.
• Its bottom end opens into the granular layer required in clause B.1(b) at or near the centre of the floor and not less than 100 mm of granular material projects beyond the terminus of the pipe measured along its axis (see NBCC 2020 Note A-9.13.4.3.(2)(b) and (3)(b)(i)).
• Its top end permits connection to depressurization equipment and is provided with an airtight cap, and
• The pipe is clearly labeled near the cap and, if applicable, every 1.8 m and at every change in direction to indicate that it is intended only for the removal of radon from below the floor-on-ground.

Where buildings are used other than those described in the Sentence (B), protection from radon ingress and the means to address high radon concentrations in the future must meet either of the following requirements:
1. A rough-in for subfloor depressurization be provided to the floors-on-ground which must consist of:
a. A gas-permeable layer, an inlet and an outlet which meets the following requirements:
• A gas-permeable layer installed in the space between the air barrier and the ground to allow the depressurization of that space,
• An inlet that allows for the effective depressurization of the gas-permeable layer (see NBCC 2020 Note A-9.13.4.3.(2)(b) and (3)(b)(i)), and
• An outlet in the conditioned space that:
2. permits connection to depressurization equipment,
3. is sealed to maintain the integrity of the air barrier system, and
4. is clearly labeled to indicate that it is intended only for the removal of radon from below the floor-on- ground.
b. Clean granular material and a pipe which meets the following criteria:
c. Not less than 100mm of course clean granular material containing not more than 10% of material that will pass a 4 mm sieve shall be placed beneath floors-on-ground (see NBCC 2020 Note A-9.13.4.).

A pipe not less than 100 mm in diameter installed through the floor, such that:
• Its bottom end opens into the granular layer required in clause B.1(b) at or near the centre of the floor and not less than 100 mm of granular material projects beyond the terminus of the pipe measured along its axis (see NBCC 2020 Note A-9.13.4.3.(2)(b) and (3)(b)(i)).
• Its top end permits connection to depressurization equipment and is provided with an airtight cap, and
• The pipe is clearly labeled near the cap and, if applicable, every 1.8 m and at every change in direction to indicate that it is intended only for the removal of radon from below the floor-on-ground.

1. A ventilation system which shall be designed, constructed and installed in conformance with good engineering practice such as that described in EPA 625/R-92/016, "Radon Prevention in the Design and Construction of Schools and Other Large Buildings,". In addition this system must meet the following criteria:
a. Where a building component or assembly separates interior conditioned space from exterior space, interior space from the ground, or environmentally dissimilar interior spaces, the properties and position of the materials and components in those components or assemblies shall be such that they control air leakage or permit venting to the exterior so as to:
• Provide acceptable conditions for the building occupants,
• Maintain appropriate conditions for the intended use of the building
• Minimize the accumulation of condensation in and the penetration of precipitation into the building Component or assembly,
• Control heat transfer to roofs where ice damming can occur
• Minimize the ingress of airborne radon and other soil gases from the ground with an aim to controlling the indoor concentrations of these gases to an acceptable level, and
• Not compromise the operation of building services.
b. An air barrier system shall be designed and constructed to provide the principal resistance to air leakage to meet the requirements of clause C.2(a).
c. The air barrier system shall incorporate air barrier assemblies that meet the appropriate Performance Class as defined in NBCC 202 Table 5.4.1.1. (See NBCC 2020 Note A-5.4.1.1.(3).).
d. The air barrier system shall be designed and constructed to be continuous:
• Across construction, control and expansion joints
• Across junctions between different air barrier assemblies, and
• Around penetrations through air barrier assemblies.
a. The structural design of air barrier assemblies, including junctions between air barrier assemblies, subject to air pressure loads shall comply with NBCC 2020 Article 5.1.4.1. and Subsection 5.2.2.
b. The maximum air leakage rates specified in NBCC 2020 Table 5.4.1.1. are permitted to be increased where it can be shown that the higher rate will not adversely affect any of:
• The health or safety of the building users,
• The intended use of the building, or
• The operation of building services.



AB	Air barrier
AC	Air conditioner
AD	Area drain
AFF	Above finish floor
AL	Aluminum
AN	Anodized
AO	Automatic door operator
AP	Acoustic panel
APC	Architectural precast concrete
APPROX	Approximate
AS	Acoustic seal
AST	Astragal
ASTM	American Society for Testing Materials
AT	Acoustic ceiling tile
AVB	Air/vapour barrier
AVG	Average
BF	Barrier free
BLDG	Building
BR	Brick
CACF	Central Alarm Control Facility
CB	Catch basin
CCMPA	Can. Concrete Masonry Producers Assos.
CCN	Contemplated change notice
CG	Corner guard
CH	Coat hook
CID	Clear inside dimension
CIP	Cast-in-place
CJ	Construction joint
CL	Closer
CLC	Closer, Concealed
CLG	Ceiling
CLR	Clear finish
CLT	Closet
CMU	Concrete masonry unit
COL	Column
CONC	Concrete
CP	Communications panel
CPT	Carpet
CR	Card reader
CSA	Canadian Standards Association
CT	Ceramic tile
C/W	Complete with
CYL	Cylinder
D	Depth/Deep
DB	Dead bolt
DC	Door contact
DIA, ø	Diameter
DIM	Dimension
DN	Down
DP	Door pull
DPR	Door pull - recessed
DSD	Door stop - door mounted
DSF	Door stop - floor mounted
DSO	Door stop - overhead recessed
DSW	Door stop - wall mounted
DW	Dishwasher
DWG	Drawing
ED	Exit device
EIFS	Exterior insulating finish system
EJ	Expansion joint
ELEC	Electrical
ELEV	Elevator
EOS	Edge of slab
EP	Electrical panel
ESP	Escutcheon plate
EQ	Equal
EQUIP	Equipment
ES	Electric strike
(E)	Existing
(E/R)	Existing/relocated
EXT	Exterior
FAP	Fire alarm pull
FC	Fan coil
FD	Floor drain
FE	Fire Extinguisher
FEC	Fire Extinguisher with Cabinet
FFE	Fire fighter's elevator
FFH	Fire fighter's handset
FFL	Finished floor level
FG	Fixed glazing
FH	Fire hydrant
FHC	Fire hose cabinet
FIN	Finish
FL	Floor
FLUOR	Fluorescent
FP	Fireplace
FPL	Flush pull
FRR	Fire resistance rating
FSI	Floor space index
GA	Gauge
GALV	Galvanized
GB	Gypsum board
GFA	Gross floor area
GFI	Ground fault interrupter
GK	Gasket
GL	Glazing, glass
GLB	Glass - back painted
GLL	Glass - laminated
GLT	Glass - tempered
GLS	Glass - safety
GRB	Grab bar
GLFCG	Georgian wire glass
H	Height/high
HB	Hose bib
HC	Hollow core
HCC	Honey comb core
HDF	High density fibreboard
HG	Hinge
HGPC	Hinge, centre pivot
HGPO	Hinge, offset pivot
HM	Hollow metal
HP	High point
HR	Hour
HSS	Hollow steel section
HTP	Heat pump
ID	Interior design
IFP	Intumescent fireproofing
INSUL	Insulated, insulation
INT	Interior
JAN	Janitor
KP	Kick plate
L	Length/long
LA	Latch
LAV	Lavatory
LIN	Linen closet/shelves
LN	Linoleum
LP	Low point
LS	Lock set
LV	Louvre
MAG	Magnetic lock
MAX	Maximum
MDF	Medium density fibreboard
MECH	Mechanical
MFR	Manufacturer
MIN	Minimum
MISC	Miscellaneous
MILL	Millwork
MIR	Mirror
MO	Masonry opening
MP	Metal panel
MRGB	Moisture resistant gypsum board
MTL	Metal
M/W	Microwave
(N)	New
N/A	Not applicable
NBC	National Building Code
NIC	Not in contract
NTS	Not to scale
OBC	Ontario Building Code
OC	On centre
OP	Operable panel
OSB	Oriented strand board
PB	Push button
PCT	Porcelain tile
PERF	Perforated
PLAM	Plastic laminate
PLY	Plywood
PNL	Panel
PP	Push plates
PQ	Parquet flooring
PS	Passage set
PT	Paint, painted
PVC	Polyvinyl chloride
(R)	Relocated
R	Radius
RB	Resilient base
RC	Roller catch
RD	Roof drain
REF	Reference
REV	Revision
RF	Resilient flooring
RFM	Recessed floor mat
RH	Rangehood
RM	Room
RO	Rough opening
RR	Remote release
RVR	Reverse
RWL	Rain water leader
SAFB	Sound attenuation fire blankets
SB	Site bulletin
SBO	
SC	Solid core
SD	Scupper drain
SI	Site instruction
SIM	Similar
SK	Skim coat
SL	Sealer, seal
SP	Spandrel panel
SPT	Spray texture
SS	Stainless steel
SSM	Solid surface material
ST	Stone
STC	Sound transmission classification
STD	Stained, stain
STL	Steel
STRUC	Structural
T	Tile
TB	Tack board
TBD	To be determined
TC	Traffic coating
TD	Terrace drain
TEL	Telephone
TEMP	Temporary
TER	Terrazzo
TERR	Terrace
TH	Threshold
THK	Thick
TOC	Top of curb
TOF	Top of finish
TOFR	Top of finished roof
TOG	Top of grade
TOP	Top of parapet
TOS	Top of slab/steel
TOW	Top of wall
TRR	Temperature rise rating
TT	Thumb turn
TYP	Typical
UH	Unit heater
U/R	Urinal
U/S	Underside
ULC	
UNO	Unless noted otherwise
VB	Vapour barrier
VCT	Vinyl composite tile
VEST	Vestibule
VFI	Vinyl-faced insulation
VG	Vinyl graphic
VNR	Veneer
VP	Visitor's parking
W	Width/wide
WB	White board
WC	Water closet
WCV	Wall covering
WD	Wood
W/D	Washer/Dryer
W/C	Walk-in closet
WPS	Waterproof surface
WR	Waste receptacle
WS	Weatherstripping
WT	Window treatment

ABBREVIATION
1 : 100

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: CONSTRUCTION NOTES
SCALE: AS SHOWN
SHEET NUMBER: A001.2

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EQUIPMENT SCHEDULE

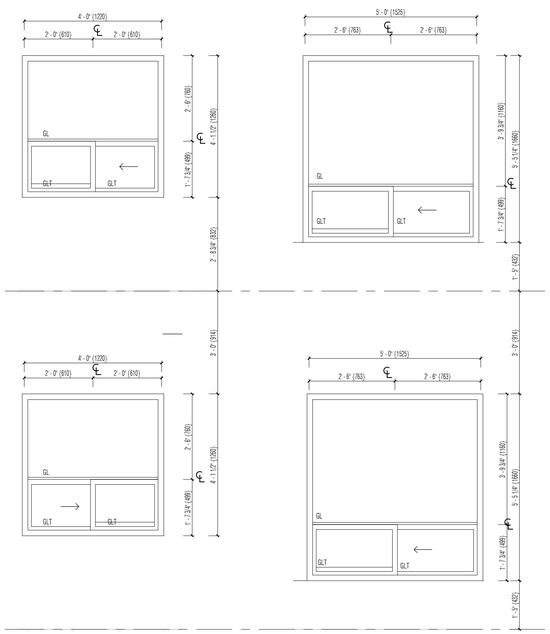
ITEM#	DESCRIPTION	MANUFACTURER	PRODUCT NUMBER	SUPPLIED BY	INSTALLED BY	NOTES
KITCHEN						
K1	RANGE	AMANA	30-INCH ELECTRIC RANGE WITH BAKE ASSIST TEMPS YACR4503MMS	KFHC	GC	
K2	COOKTOP - BARRIER FREE	SUMMIT	24" WIDE 240V 4-BURNER COIL COOKTOP CRASS24	KFHC	GC	
K3	WALL OVEN - BARRIER FREE	FRIGIDAIRE	GALLERY 27" SINGLE ELECTRIC WALL OVEN FGEW276SPF	KFHC	GC	
K4	FRIDGE - BARRIER FREE	MIDEA	19 CU. FT BOTTOM FREEZER MRB19B7AST	KFHC	GC	
K5	FRIDGE	MIDEA	20 CU. FT TOP MOUNT FREEZER MRT21D2BST	KFHC	GC	
K6	RANGE HOOD	BROAN	30" - CLDA1303S	KFHC	GC	ENSURE A MINIMUM CLEARANCE THAT EXCEEDS THE REQUIRED DIMENSION BY AT LEAST 1". ALL STOVES AND COOKTOPS ARE EQUIPPED WITH A SMART BURNER, WHICH ADDS APPROXIMATELY ¼" TO THE OVERALL HEIGHT.
K7	ADA SINK	FRANKE COMMERCIAL	ALBS7306P-1	GC	GC	
K8	SINK	FRANKE COMMERCIAL	LBS7308P-1	GC	GC	
K9	FAUCET	AMERICAN STANDARD	COLONY PRO - 7074000.020	GC	GC	
WASHROOM						
W1	ADA TOILET AND SEAT	AMERICAN STANDARD	2153AA155.020 - SEAT: CENTOCO 800STS-001 FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC	GC	GC	
W2	TOILET AND SEAT	AMERICAN STANDARD	2153CA154.020 - SEAT: CENTOCO 800STS-001 FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC	GC	GC	
W3	BASIN	AMERICAN STANDARD	0476028.020 - COUNTER MOUNTED	GC	GC	
W4	FAUCET	AMERICAN STANDARD	COLONY - MANUAL - 7075004.002	GC	GC	
W5	ADA SHOWER TRIM	GROHE 14468000	SHOWER VALVE: 35110000 SHOWERHEAD: 26251001 SHOWER ARM: 27414000 HAND SHOWER: 27276000 SLIDE BAR: 27500000 WALL SUPPLY: 26634000 SHOWER HOSE: 28155001 SHOWER HOLDER: 27693000 DIVERTER TRIM: 29033001 DIVERTER VALVES: 29902000	GC	GC	
W6	TUB FAUCET KIT	GROHE	SHOWER TRIM: 14468000 SHOWER VALVE: 35110000 SHOWERHEAD: 26251001 SHOWER ARM: 27414000 TUB SPOUT: 13611000	GC	GC	
W7	TUB	MIROLIN	HAMPTON ONE PIECE - 60" TUB SHOWER TSH51 L/R	GC	GC	
W8	ROLL-IN SHOWER	MIROLIN	ACCESS ROLL-IN SHOWER:66" ARS66L/R	GC	GC	
W9	3 PIECE TOWEL ROD, AND TOILET PAPER HOLDER	MOEN	BOLT CHROME 3-PIECE	GC	GC	ACCESSORIES TO BE MECHANICALLY FASTENED TO THE WALL
W10	CURTAIN ROD	MOEN	SF2143 - STANDARD STRAIGHT FIXED ROD	GC	GC	ACCESSORIES TO BE MECHANICALLY FASTENED TO THE WALL
W11	MIRROR	BOBRICK	290			
COMMON AREA						
C1	WASHING MACHINE	HUEBSCH BY ALLIANCE LAUNDRY SYSTEM	QUANTUM GOLD	KFHC	GC	
C2	DRYER	HUEBSCH BY ALLIANCE LAUNDRY SYSTEM	QUANTUM GOLD	KFHC	GC	
C3	BF WASHROOM TOILET	AMERICAN STANDARD	2467800.020 - SEAT: CENTOCO HL820STS-001 FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC	GC	GC	
C4	BF WASHROOM BASIN	AMERICAN STANDARD	9020404EC.020	GC	GC	EXPOSED PIPE TO BE INSULATED
C5	MOP SINK AND FAUCET	FIAT	MSB24241100-MSG24-889CC- 1453BB-E77AA FAUCET: CHICAGO MANUAL	GC	GC	

EQUIPMENT SCHEDULE

ITEM#	DESCRIPTION	MANUFACTURER	PRODUCT NUMBER	SUPPLIED BY	INSTALLED BY
COMMON AREA					
C6	PAPER TOWEL DISP.	BOBRICK	B-262	GC	GC
C7	SOAP DISP.	BOBRICK	B-2012	GC	GC
C8	WASTE BIN	BOBRICK	B-279	GC	GC
C9	SANITARY NAPKIN DISP.	BOBRICK	B-270	GC	GC
C10	TOILET PAPER DISP.	BOBRICK	B-6699	GC	GC
C11	COAT HOOK	BOBRICK	B-9541	GC	GC
C12	90 DEGREE GRAB BAR	BOBRICK	90 DEGREE	GC	GC
C13	GRAB BAR	BOBRICK	24"	GC	GC
C14	MIRROR	BOBRICK	B-166	GC	GC
C15	CHANGE TABLE	KOALABEAR	KB2600	GC	GC

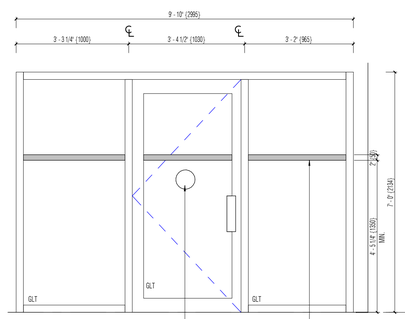
FINISH SCHEDULE

ITEM#	DESCRIPTION	MANUFACTURER	PRODUCT NUMBER	COLOUR	NOTES
CEILING					
GWB	GYPSUM BOARD CEILING	-	-	PT1	PROVIDE MOISTURE RESISTANT DRYWALL IN WASHROOMS AND WET AREAS
TCL	T-BAR CEILING	ARMSTRONG	CALLA VECTOR PRELUDE XL 15/16"	WHITE	SIZE: 24" X 48"
FLOORING					
CNC	COATING ON CONCRETE	TREMCO	VULKEM 360NF/950	GREY	
FBG	EXTERIOR BALCONY FINISH	LES PRODUITS ALUMINIUM P.S. INC.	FIBREGLASS BALCONY FLOOR : SELECT BALCONIES	GREY	INSTALL PER MANUFACTURER'S STANDARDS
LVP	LUXURY VINYL PLANK	ARMSTRONG	UNIFY	J7208 - ELMSHORN	INSTALL:
WB1	BASE	BRENLO OR EQUIVALANT	316 - 5" x 5/8"	PT3	
VB1	BASE	JOHNSONITE	TRADITIONAL VINYL	32 PEBBLE	
TL1	TILE FLOORING	OLYMPIA TILE	MUSE	WHITE - MATT	INSTALL - MINIMAL GROUT LINES ~1/8". 4" BASE TO MATCH THE FLOORING. GROUT: MAPEI 77 FROST SIZE: 24" x 24"
TL2	TILE FLOORING	OLYMPIA TILE	MARMI PEREGIATI	TAUPE - MATT	INSTALL - MINIMAL GROUT LINES ~1/8". 4" BASE TO MATCH THE FLOORING. GROUT: MAPEI 77 FROST SIZE: 24" x 24"
RM1	FLOOR MAT				BY KFHC
LAMINATE					
LM1	MILLWORK FINISHES	FORMICA	6372 WHITE WASH BIRCHPLY	MATT FINISH	
LM2	MILLWORK FINISHES	FORMICA	7408-43 ICE ONYX	MATT FINISH	
PAINT					
PT1	CEILING PAINT	BENJAMIN MOORE	EGGSHELL	CHANTILY LACE OC-65	PRIME (1 COAT MIN) AND PAINT (2 COATS MIN) AS NEEDED
PT2	SUITE GENERAL WALLS	BENJAMIN MOORE	EGGSHELL	OC-121 MOUNTAIN PEAK WHITE	
PT3	SUITE INTERIOR DOOR FRAMES AND BASEBOARD	BENJAMIN MOORE	SATIN	CHANTILY LACE OC-65	
PT4	COMMON AREA WALLS	BENJAMIN MOORE	EGGSHELL	CHANTILY LACE OC-65	PRIME (1 COAT MIN) AND PAINT (2 COATS MIN) AS NEEDED
PT5	SUITE ENTRY AND COMMON AREA DOOR AND FRAMES	BENJAMIN MOORE	SATIN	ASHWOOD MOSS 1484	
PT6	CORRIDOR	BENJAMIN MOORE	EGGSHELL	BARELY BEIGE 1066	
PT7	CORRIDOR	BENJAMIN MOORE	EGGSHELL	TOPAZ 070	
PT8	CORRIDOR	BENJAMIN MOORE	EGGSHELL	GRAY WISP 1570	
PT9	CORRIDOR	BENJAMIN MOORE	EGGSHELL	TURRET OC-604	
PT10	CORRIDOR	BENJAMIN MOORE	EGGSHELL	CONCORD IVORY HC-12	
PT11	CORRIDOR	BENJAMIN MOORE	EGGSHELL	DRY SAGE 2142-40	
PT12	CORRIDOR	BENJAMIN MOORE	EGGSHELL		
WALL TILE					
WT1	WALL TILE	DALTILE	COLOUR WHEEL	WHITE	4"X12"
STONE					
ST1	PAVERS	BEST WAY STONE	STANDARD - 60 MM	GREY MIX	
GENERAL					
TS1	TRANSITION STRIP	SCHLUTER	RENO U-PROFILE	CLEAR ANODIZED	
TS2	WALL TILE PROFILE	SCHLUTER	JOLLY, L SHAPED	BRUSHED CHROME ANODIZED ALUMINUM	
RW1	CABINET PULL	RICHELIEU	4" FUNCTIONAL ALUMINUM PULL - 221	BRUSHED CHROME	



4 W103
1 : 25

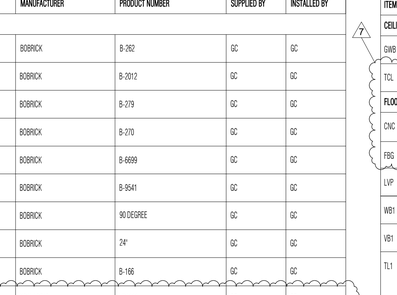
3 W102
1 : 25



5 W101
1 : 25

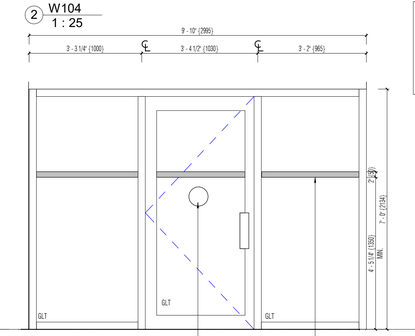
AUTOMATIC DOOR CAUTION SIGN WITH INTERNATIONAL SYMBOL OF ACCESS

OPAQUE VISION STRIP PER O.B.C 3.8.3.3 (15)



2 W104
1 : 25

NOTE: CONTRACTOR TO PROVIDE WINDOW LIMITERS AT ALL OPERABLE SECOND-STOREY WINDOWS TO RESTRICT OPENING IN ACCORDANCE WITH APPLICABLE BUILDING CODE AND SAFETY REQUIREMENTS. COORDINATE LIMITER TYPE AND INSTALLATION REQUIREMENTS WITH WINDOW MANUFACTURER AND PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL.



1 W100
1 : 25

AUTOMATIC DOOR CAUTION SIGN WITH INTERNATIONAL SYMBOL OF ACCESS

OPAQUE VISION STRIP PER O.B.C 3.8.3.3 (15)

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
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6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
SCHEDULES

SCALE: AS SHOWN

SHEET NUMBER:
A003

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DOOR SCHEDULE - GROUND TO SECOND FLOOR

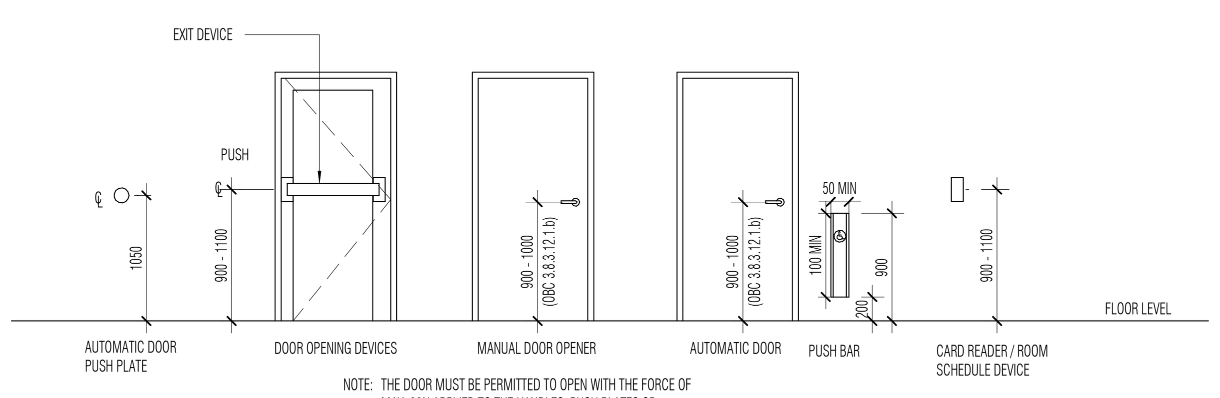
			DOOR													DOOR HARDWARE																												
			PANEL									FRAME																													ACCESSORIES			
DOOR NUMBER	OUTSIDE	INSIDE	NUMBER OF LEAFS	LEAF 1 WIDTH	LEAF 2 WIDTH	HEIGHT	THICKNESS	LEAF TYPE	MATERIAL	FINISH	CORE	TYPE	MATERIAL	FINISH	FIRE RATING	CLOSER	EXIT DEVICE	BF PUSH BUTTON	AUTOMATIC OPERATOR	CLASSROOM FUNCTION	DOOR PULL	DUMMY SET w/ ROLLER CATCH	OFFICE FUNCTION LOCK SET	PASSAGE SET	PRIVACY LOCK SET	STORAGE ROOM LOCK SET	SUITE ENTRY LOCK SET	CARD READER	DOOR CONTACT	ELECTRIC STRIKE	MAGLOCK	MAGLOCK RELEASE	REMOTE RELEASE	PUSH TO LOCK	BOLT	ACOUSTIC SEAL	DOOR SWEEP	SMOKE/AIR SEAL	THRESHOLD	WEATHER STRIP	DOOR STOP AS REQ'D	KICK PLATE	COAT HOOK	NOTES
D100	ENTRANCE VEST.	EXTERIOR	1	965		2134	AS REQ'D	G	AL/GLT	PT	INSUL	A	AL	PT	-	CL	ED	PB	AO		YES								DC	ES									TH	WS				DOOR SWEEP, VISION STRIP, SS DOOR PULL REFER TO WINDOW SCHEDULE
D101	CORRIDOR	ENTRANCE VEST.	1	965		2134	AS REQ'D	G	AL/GLT	PT	INSUL	A	AL	PT	-	CL	ED	PB	AO		YES							CR	DC	ES			RR						TH	WS				RESIDENT TELEPHONE RELEASE, MORTISE LOCK
D102	CORRIDOR	LAUNDRY RM	1	965		2134	44	'D'	HM	PT	SC	A	HM	PT	60 MIN	CL	ED									SR		CR	DC	ES												KP		
D103	CORRIDOR	GARBAGE RM	1	965		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL	ED							PS				CR	DC	ES										WS		KP		
D104	GARBAGE RM	EXTERIOR	1	2134		2134	AS REQ'D	Z1	MTL	-		A	MTL	PT					AO														RR											
D105	CORRIDOR	STAIR A	1	965		2135	44	'B'	HM/GWG	PT		A	HM	PT	60 MIN	CL	ED							PS														SMS						
D106	STAIR A	EXTERIOR	1	965		2135	44	'B'	HM/GWG	PT	INSUL	A	HM	PT		CL	ED							PS																WS				
D107	EXTERIOR	COMMON RM	1	965		2135	44	'G'	HM	PT	INSUL	A	HM	PT		CL										SR		CR	DC	ES										WS				
D109	CORRIDOR	COMMON RM	1	965		2134	44	'D'	AL/GWG	PT		A	AL	PT	60 MIN	CL	ED	PB	AO				OF					CR	DC	ES														
D110	CORRIDOR	UNIVERSAL W/C	1	965		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL		PB	AO										DC	ES				PTL								KP		LEVER WITH PUSH TO LOCK BUTTON. REFER TO ELECTRICAL SHEET E105 FOR MORE DETAILS
D111	CORRIDOR	JANITOR RM	1	914		2134	44	A.	HM	PT	-	A.	HM	PT	60 MIN	CL										SR		CR		ES												KP		
D112	CORRIDOR	STORAGE	1	914		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL										SR		CR	DC	ES								SMS				KP		
D113	CORRIDOR	ELECTRICAL RM	1	914		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL										SR		CR	DC	ES										WS				
D114	STORAGE	EXTERIOR	1	2134		2134	AS REQ'D	Z1	MTL	-		A	MTL	PT					AO														RR											
D115	CORRIDOR	MECH. RM	1	914		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL										SR		CR	DC	ES										WS				
D116	CORRIDOR	ELEC. CLOSET	1	965		2134	44	A.	HM	PT		A.	HM	HM	90 MIN	CL	ED					DMS								ES							DS	SMS		WS		KP		
D117	ELEC. CLOSET	CORRIDOR	1	965		2134	44	A.	HM	PT		A.	HM	HM	90 MIN	CL	ED					DMS								ES							DS	SMS		WS		KP		
D118	STAIR B	ELEC. CLOSET	1	965		2135	44	'B'	HM/GWG	PT		A	HM	PT	60 MIN	CL	ED							PS														SMS						
D119	STAIR B	EXTERIOR	1	965		2135	44	'B'	HM/GWG	PT	INSUL	A	HM	PT		CL	ED							PS																WS				
D120	CARD ROOM	CORRIDOR	1	965		2134	44	'D'	HM	PT		A	HM	PT	60 MIN	CL	ED									SR		CR	DC	ES														
D121	CORRIDOR	PARCEL RM	1	914		2134	44	A.	HM	PT		A.	HM	PT	60 MIN	CL										SR																KP		
D200	CORRIDOR	STORAGE AND FAN RM	2	915	915	2135	44	A2	HM	PT		B	HM	PT	60 MIN	CL										SR		CR	DC	ES														PROVIDE ASTRAGAL
D202	CORRIDOR	STAIR A	1	915		2135	44	'B'	HM/GWG	PT		A	HM	PT	60 MIN	CL	ED							PS														SMS						
D203	CORRIDOR	CORRIDOR	1	914		2134	44	A.	HM	PT		A.	HM	HM	90 MIN	CL	ED					DMS								ES							DS	SMS		WS		KP		
D204	CORRIDOR	CORRIDOR	1	914		2134	44	A.	HM	PT		A.	HM	HM	90 MIN	CL	ED					DMS								ES							DS	SMS		WS		KP		
D205	STAIR B	CORRIDOR	1	915		2135	44	'B'	HM/GWG	PT		A	HM	PT	60 MIN	CL	ED							PS														SMS						

7

DOOR SCHEDULE - TYPICAL SUITE

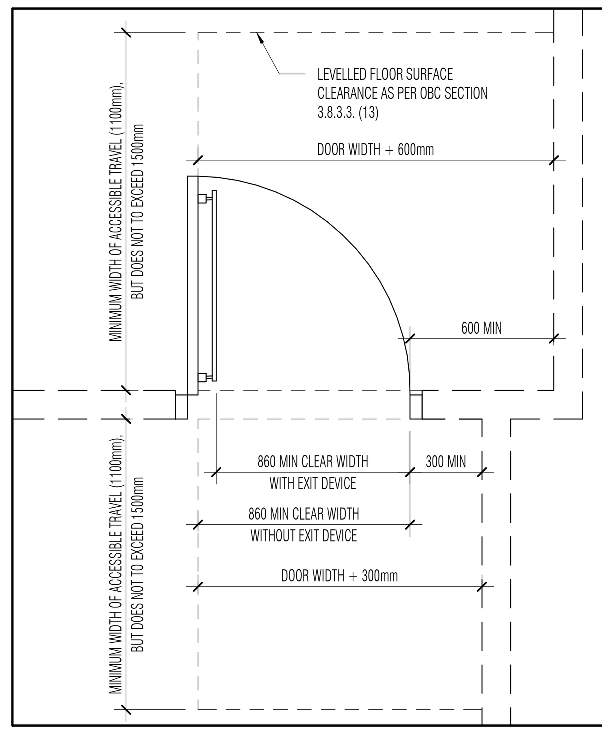
		DOOR													DOOR HARDWARE																												
		PANEL									FRAME																													ACCESSORIES			
DOOR NUMBER	LOCATION	NUMBER OF LEAFS	LEAF 1 WIDTH	LEAF 2 WIDTH	HEIGHT	THICKNESS	LEAF TYPE	MATERIAL	FINISH	CORE	TYPE	MATERIAL	FINISH	FIRE RATING	CLOSER	EXIT DEVICE	BF PUSH BUTTON	AUTOMATIC OPERATOR	CLASSROOM FUNCTION	DOOR PULL	DUMMY SET w/ ROLLER CATCH	OFFICE FUNCTION LOCK SET	PASSAGE SET	PRIVACY LOCK SET	STORAGE ROOM LOCK SET	SUITE ENTRY LOCK SET	CARD READER	DOOR CONTACT	ELECTRIC STRIKE	MAGLOCK	MAGLOCK RELEASE	REMOTE RELEASE	PUSH TO LOCK	BOLT	ACOUSTIC SEAL	DOOR SWEEP	SMOKE/AIR SEAL	THRESHOLD	WEATHER STRIP	DOOR STOP AS REQ'D	KICK PLATE	COAT HOOK	NOTES
T01	BF SUITE ENTRANCE	1	965		2134	44	'A3'	WD	VNR/STD	SC	A	WD	PT	20 MIN	CL											SE												TH			KP		VIEWER. PT5
T02	SUITE ENTRANCE	1	914		2134	44	'A3'	WD	VNR/STD	SC	A	WD	PT	20 MIN	CL											SE												TH					VIEWER. PT5
T03	SUITE INTERIOR	1	965		2134	44	A.	WD	PT	-	A.	WD	PT	-									PS																				PRIVACY LOCK AT WASHROOM. PT3
T04	SUITE INTERIOR	1	813		2134	44	'A'	WD	PT	-	A	WD	PT	-									PS																				PRIVACY LOCK AT WASHROOM. PT3
T05	SUITE INTERIOR	1	559		2134	44	'A'	WD	PT	-	A	WD	PT	-									PS																				PT3
T06	CLOSET SLIDING	2	762	762	2134	44	'L'	WD	PT	-	-	WD	PT	-																													SLIDING TRACK. PT3
T07	CLOSET SLIDING	2	610	610	2134	44	'L'	WD	PT	-	-	WD	PT	-																													SLIDING TRACK. PT3
T08	CLOSET SLIDING	2	457	457	2134	44	'L'	WD	PT	-	-	WD	PT	-																													SLIDING TRACK. PT3
T10	EXTERIOR TERRACE	1	813		2135	44	'G'	MTL	PT	INSUL	A	MTL	PT	-										PL														TH	WS				PT5

7



NOTE: THE DOOR MUST BE PERMITTED TO OPEN WITH THE FORCE OF MAX. 38N APPLIED TO THE HANDLES, PUSH PLATES OR LATCH- RELEASING DEVICES IN THE CASE OF EXTERIOR DOORS AND MAX. 22N IN THE CASE OF INTERIOR DOORS.

BARRIER FREE EQUIPMENT MOUNTING HEIGHT
1 : 50



BARRIER-FREE NOTES:

1. ALL DOORS IN A BARRIER FREE PATH OF TRAVEL MUST MAINTAIN THE MINIMUM CLEARANCES NOTED IN
2. COORDINATE ALL EXIT DEVICES AND DOOR THICKNESSES TO MAINTAIN A MINIMUM BARRIER FREE PATH
3. ALL DOORS THAT OCCUR IN A BARRIER FREE PATH OF TRAVEL ARE TO RECEIVE LEVER TYPE DOOR
4. THRESHOLDS IN A BARRIER FREE PATH OF TRAVEL TO BE MAXIMUM 13mm HIGH.

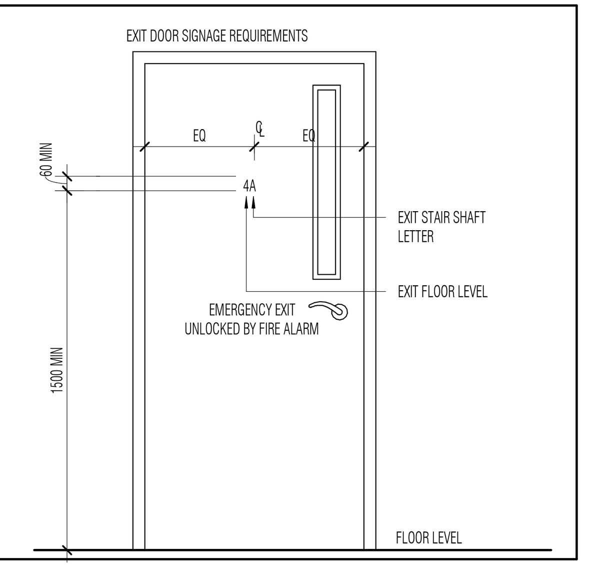
BARRIER FREE NOTES
1 : 50

EXIT DOOR SIGNAGE REQUIREMENT NOTES:

1. ALL EXIT DOORS ENTERING AN EXIT STAIR SHAFT SHALL DESIGNATE THE FLOOR LEVEL AND EXIT STAIR SHAFT IDENTIFICATION ON BOTH SIDES OF THE DOOR IN COMPLIANCE WITH OBC SECTION 3.4.6.18 (2012).

2. ALL EXIT DOORS EQUIPPED WITH ELECTROMAGNETIC DOOR LOCKS MUST BE SIGNED ON BOTH SIDES OF THE DOOR IN COMPLIANCE WITH OBC SECTION 3.4.6.15 (4)(g)(h) (2012).

3. COLOUR OF DOOR SIGNAGE USED MUST BE IN CONTRAST WITH SURFACE OF DOOR TO WHICH THEY ARE APPLIED. PROVIDE SAMPLES AND MOCK UP FOR REVIEW BY ARCHITECT.

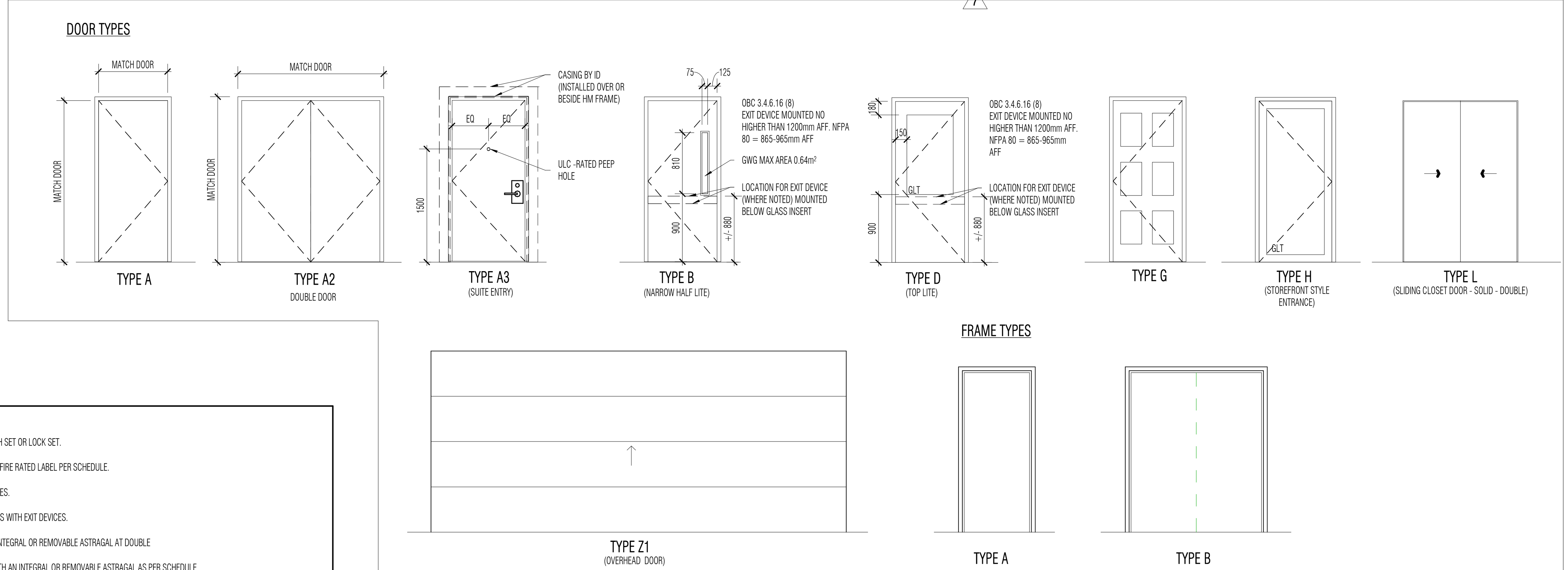


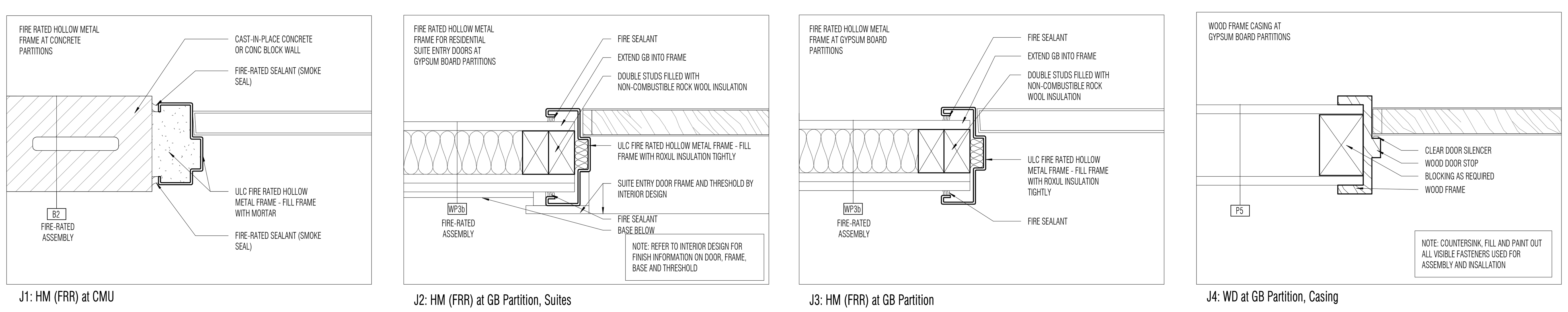
EXIT DOOR SIGNAGE
1 : 50

NOTES:

1. ALL FIRE RATED DOORS TO HAVE CLOSERS AND LATCH SET OR LOCK SET.
2. ALL FIRE RATED DOORS AND FRAMES TO HAVE A ULC FIRE RATED LABEL PER SCHEDULE.
3. ALL LATCH SETS AND LOCK SETS TO BE LEVER HANDLES.
4. COORDINATE LOCATIONS OF HORIZONTAL DOOR STILES WITH EXIT DEVICES.
5. ALL EXTERIOR DOORS C/W WEATHERSTRIPPING AND INTEGRAL OR REMOVABLE ASTRAGAL AT DOUBLE
6. ALL FIRE RATED DOUBLE DOORS TO BE COMPLETE WITH AN INTEGRAL OR REMOVABLE ASTRAGAL AS PER SCHEDULE
7. ALL FRAMED EXTERIOR GLAZED DOORS TO BE COMPLETE WITH DOUBLE GLAZED THERMAL UNITS.
8. ALL OVERHEAD DOORS TO BE MOTORIZED.
9. REFER TO MECHANICAL DRAWINGS FOR DOOR UNDERCUTS AND GRILLES.
10. ALL INSULATED EXTERIOR DOORS TO HAVE INSULATED, THERMALLY BROKEN FRAMES.
11. SMOKE SEALS AT ALL FIRE RATED DOORS.
12. HARDWARE NOTED FOR CODE REQUIREMENTS ONLY.

DOOR GENERAL NOTES
1 : 50





1 DOOR JAMB DETAIL
1 : 5

7

DOOR HARDWARE SPECIFICATIONS

~~MORTISE LEVER:~~
MANUFACTURER: HAGER
SERIES: 3500 SERIES LEVER
FINISH: BRUSHED NICKEL (SUITE INTERIOR)
FINISH: MATT BLACK (UNIT ENTRANCE)
DEADBOLT: HAGER - 3200 SERIES

HINGES: HAGER - BB1279
EXIT DEVICES: HAGER - 4700 SERIES
CONTINUOUS GEARED HINGES: PEMKO _FM_SLF_HD
CONTINUOUS STEEL HINGES: PEMKO
PIVOTS: IVES
FLUSH BOLTS AND ACCESSORIES: IVES - COR SERIES
CYLINDERS: ASSA TWIN MAX+, ASSA TWIN 6000
ELECTRIFIED LOCKSET: SARGENT
ELECTRIC STRIKES: HES 1006 SERIES
STANDARD STRIKES: HES 5200 SERIES (NON-FIRE RATED OPENINGS), HES 5300 SERIES (FIRE RATED OPENINGS)
SURFACE MOUNTED STRIKES: HES 9400 (NON-FIRE RATED OPENINGS), HES 9500 (FIRE RATED OPENINGS)
DOOR CLOSERS (SURFACE MOUNT): HAGER - 5400 SERIES
DOOR CLOSERS (HEAVY DUTY): HAGER - 5100 SERIES
WALL MOUNTED DOOR STOP: HAGER - 236W
FLOOR MOUNTED STOP: HAGER - 243F
AUTOMATIC DOOR OPERATORS: BESAM SW200i
KICK PLATE: HAGER - 190S
SUITE DOOR VIEWER: IVES - U696
FOB SYSTEM: ASSA ABLOY - ACCENTRA

GENERAL NOTES

1. REFER TO HARDWARE SCHEDULE FOR DETAILED SPECIFICATIONS AS SUPPLIED BY: CONTRACTOR

2. REFER TO FLOOR PLAN FOR DOOR SWINGS.

3. PROVIDE SHOP DRAWINGS OF DOOR/FRAME DETAILS FOR DESIGNERS APPROVAL BEFORE PROCEEDING WITH WORK.

4. FINISHES:
- REFER TO WALL FINISHED PLAN FOR PAINT SPECIFICATIONS.
- ALL PAINTED DOOR/FRAMES (INCLUDING SIDELIGHTS) : TO BE SHOP FINISHED.

5. SECURITY:
TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

6. KEYING
- CONTRACTOR IS TO WORK WITH OWNER FOR KEYING REQUIREMENTS.
- KEYING IS TO BE INCLUDED IN SCOPE OF WORK . CONTACT CLIENT TO DETERMINE KEYING REQUIREMENTS.
- ALL SUITE LOCKS TO BE KEYED TO SUB MASTER AND BUILDING MASTER SYSTEM.
- CONTRACTOR TO PROVIDE 3 SETS OF KEYS TO THE CLIENT.
- BASE BUILDING KEYING PROVIDED BY OWNER.
- BASE BUILDING KEY WAY IS TO BE CONFIRMED BY OWNER.

7. REFER TO DOOR HARDWARE SCHEDULE FOR DETAILED SPECIFICATIONS AS SUPPLIED BY SENECA.

AFF	Above finish floor
AL	Aluminum
AN	Anodized
AO	Automatic door operator
AS	Acoustic seal
AST	Astragal
BF	Barrier free, barrier free hardware
CH	Coat hook
CID	Clear inside dimension
CL	Closer
CLC	Closer, Concealed
CLR	Clear finish
CR	Card reader
CYL	Cylinder
DB	Dead bolt
DC	Door contact
DP	Door pull
DPR	Door pull - recessed
DS	Door sweep
DSD	Door stop - door mounted
DSF	Door stop - floor mounted
DSO	Door stop - overhead recessed
DSW	Door stop - wall mounted
ED	Exit device
ESP	Escutcheon plate
EQ	Equal
ES	Electric strike
(E)	Existing
(E/R)	Existing/relocated
FFL	Finished floor level
FG	Fixed glazing
FIN	Finish
FL	Floor
FPL	Flush pull
FRR	Fire resistance rating
GALV	Galvanized
GK	Gasket
GL	Glazing, glass
GLB	Glass - back painted
GLFCG	Glass - fire rated ceramic glass
GLL	Glass - laminated
GLT	Glass - tempered
GLS	Glass - safety
GWG	Georgian wire glass
HC	Hollow core
HCC	Honey comb core
HG	Hinge
HGPC	Hinge, centre pivot
HGPO	Hinge, offset pivot
HM	Hollow metal (doors and frames to be ULC fire rated per schedule, insulated at exterior)
HR	Hour
ID	Interior design
INSUL	Insulated, insulation
KP	Kick plate
L	Length/long
LA	Latch
LS	Lock set
MAG	Magnetic lock
MTL	Metal
(N)	New
PB	Push button
PP	Push plates
PS	Passage set
PT	Paint, painted
(R)	Relocated
RC	Roller catch
RR	Remote release
SC	Solid core
SS	Stainless steel
STD	Stained, stain
STL	Steel
TBD	To be determined
TH	Threshold
THK	Thick
TRR	Temperature rise rating
TT	Thumb turn
VNR	Veneer
WD	Wood
WS	Weatherstripping

DOOR ABBREVIATION
1 : 50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQ VIS
SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
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2	2026-02-05	SR	ISSUED FOR COORDINATION
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5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: DOOR SCHEDULE

SCALE: AS SHOWN

SHEET NUMBER: A004

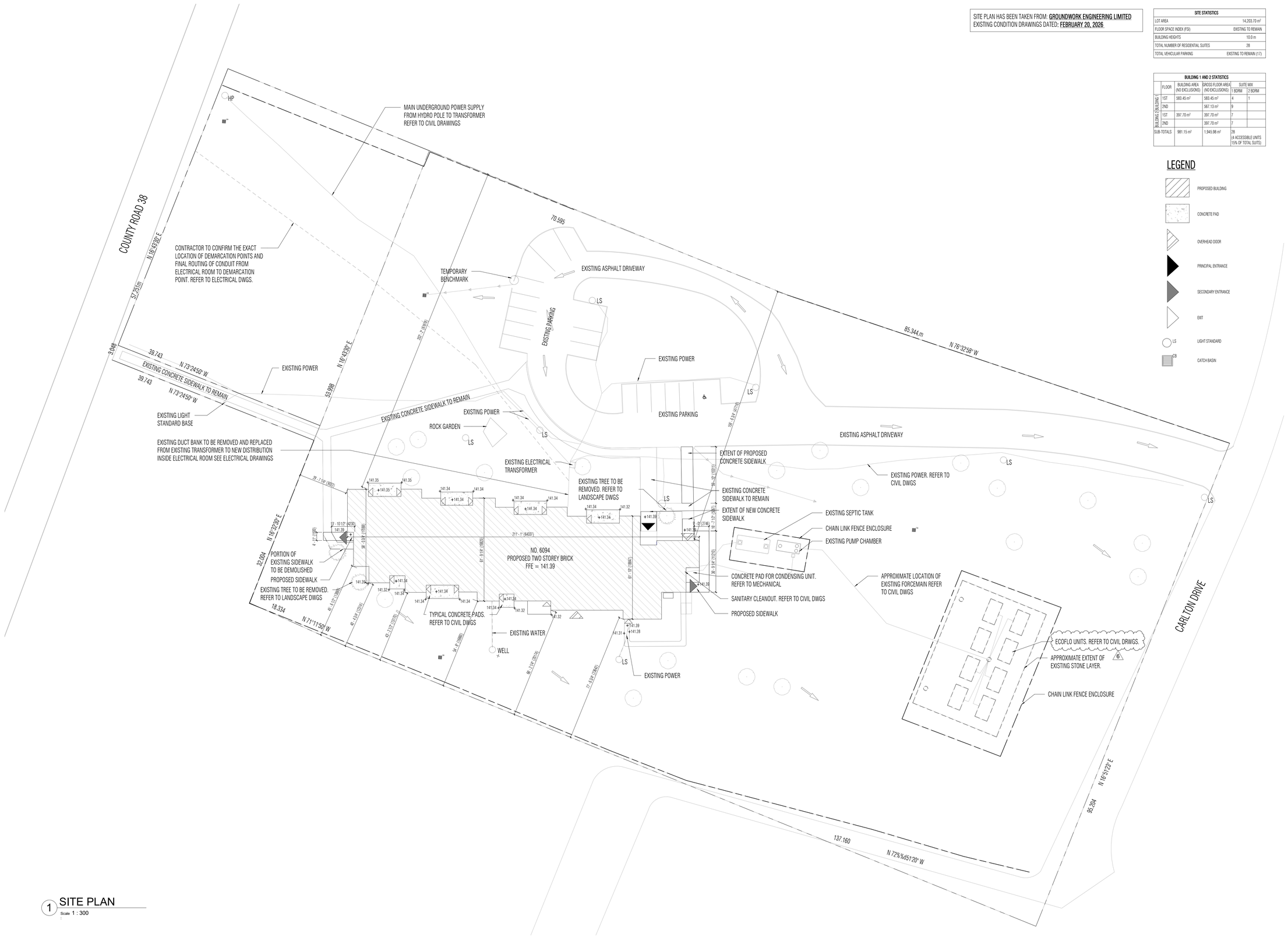
SITE PLAN HAS BEEN TAKEN FROM: **GROUNDWORK ENGINEERING LIMITED**
EXISTING CONDITION DRAWINGS DATED: **FEBRUARY 20, 2026**

SITE STATISTICS	
LOT AREA	14,203.70 m²
FLOOR SPACE INDEX (FSI)	EXISTING TO REMAIN
BUILDING HEIGHTS	10.0 m
TOTAL NUMBER OF RESIDENTIAL SUITES	28
TOTAL VEHICULAR PARKING	EXISTING TO REMAIN (17)

BUILDING 1 AND 2 STATISTICS					
	FLOOR	BUILDING AREA (NO EXCLUSIONS)	GROSS FLOOR AREA (NO EXCLUSIONS)	SUITE MIX	
				1 BDRM	2 BDRM
BUILDING 1	1ST	583.45 m²	583.45 m²	4	1
	2ND		567.13 m²	9	
BUILDING 2	1ST	397.70 m²	397.70 m²	7	
	2ND		397.70 m²	7	
SUB-TOTALS		981.15 m²	1,945.98 m²	28 (4 ACCESSIBLE UNITS 15% OF TOTAL SUITS)	

LEGEND

- PROPOSED BUILDING
- CONCRETE PAD
- OVERHEAD DOOR
- PRINCIPAL ENTRANCE
- SECONDARY ENTRANCE
- EXIT
- LS — LIGHT STANDARD
- CB — CATCH BASIN



1 SITE PLAN
Scale 1 : 300

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule			
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ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: SITE PLAN
SCALE: AS SHOWN

SHEET NUMBER: A100

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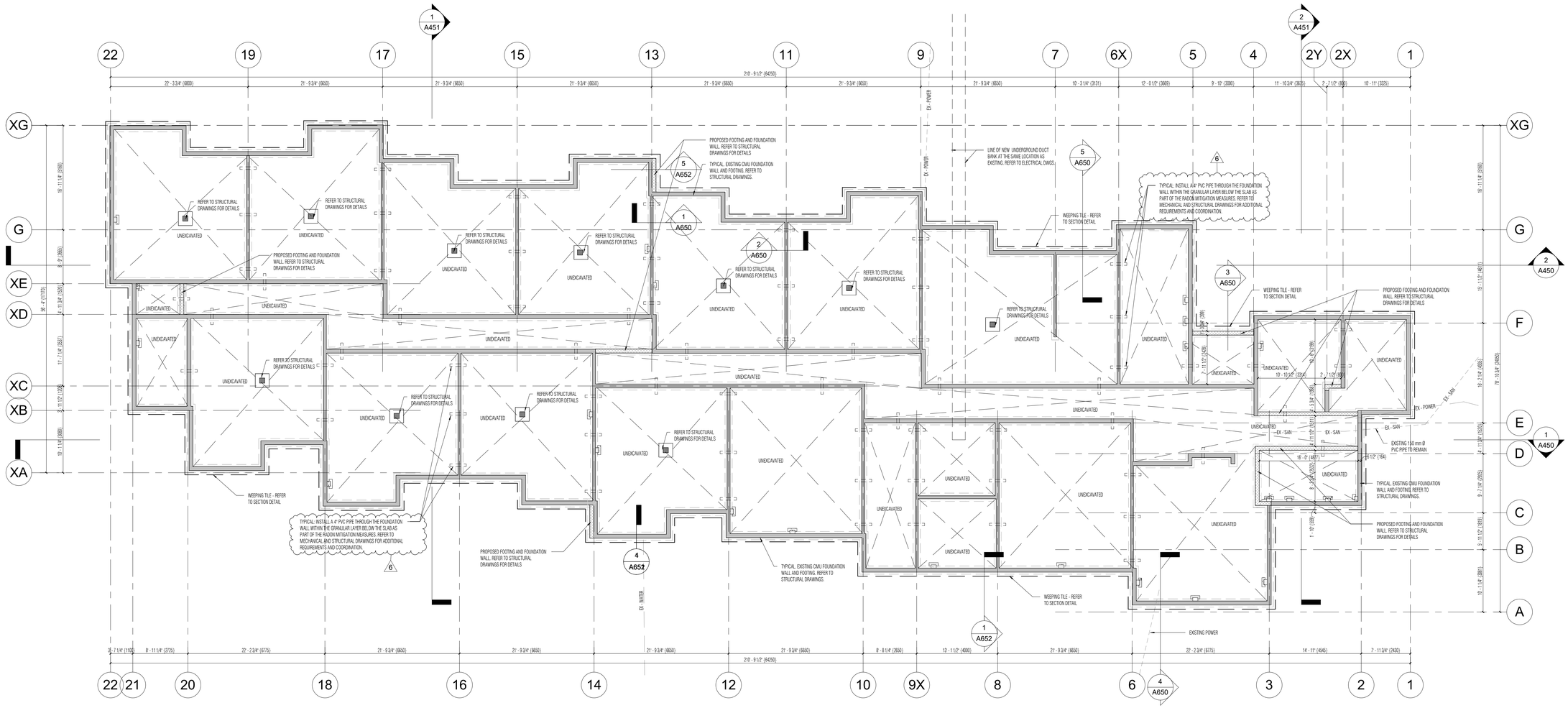
NOTE: FOOTING AND FOUNDATION PLAN HAS BEEN TAKEN FROM **T-SMITH ENGINEERING INC. ARCHITECTURAL RESTORATION PLAN. DATE: MAY 7, 2021**

ALL DIMENSIONS ARE +/- CONTRACTOR TO REVIEW SITE CONDITIONS AND REPORT BACK ANY DISCREPANCIES

CONTRACTOR TO PROVIDE NEW DAMPPROOFING, DRAINAGE BOARD, AND ASSOCIATED DRAINAGE SYSTEM WHERE THE FIRST COURSE OF CMU IS BEING DEMOLISHED, AND TO ENSURE PROPER TIE-IN AND CONTINUITY WITH THE EXISTING DRAINAGE SYSTEM. TO BE INCLUDED IN THE BASE BID.

CONTRACTOR SHALL INSPECT EXISTING WEEPING TILE, DAMPPROOFING AND DRAINAGE BOARD. IF ANY COMPONENTS ARE FOUND TO BE DAMAGED, DETERIORATED, OR NOT INTACT, THE CONTRACTOR SHALL ALLOW FOR THEIR FULL REPLACEMENT AND ENSURING CONTINUITY OF THE WATERPROOFING AND DRAINAGE SYSTEM. REFER TO CASH ALLOWANCE



1 FOOTING PLAN

Scale 1 : 100

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025

DRAWN BY:

CHECKED BY:

SHEET TITLE: FOOTING PLAN

SCALE: AS SHOWN

SHEET NUMBER: A200

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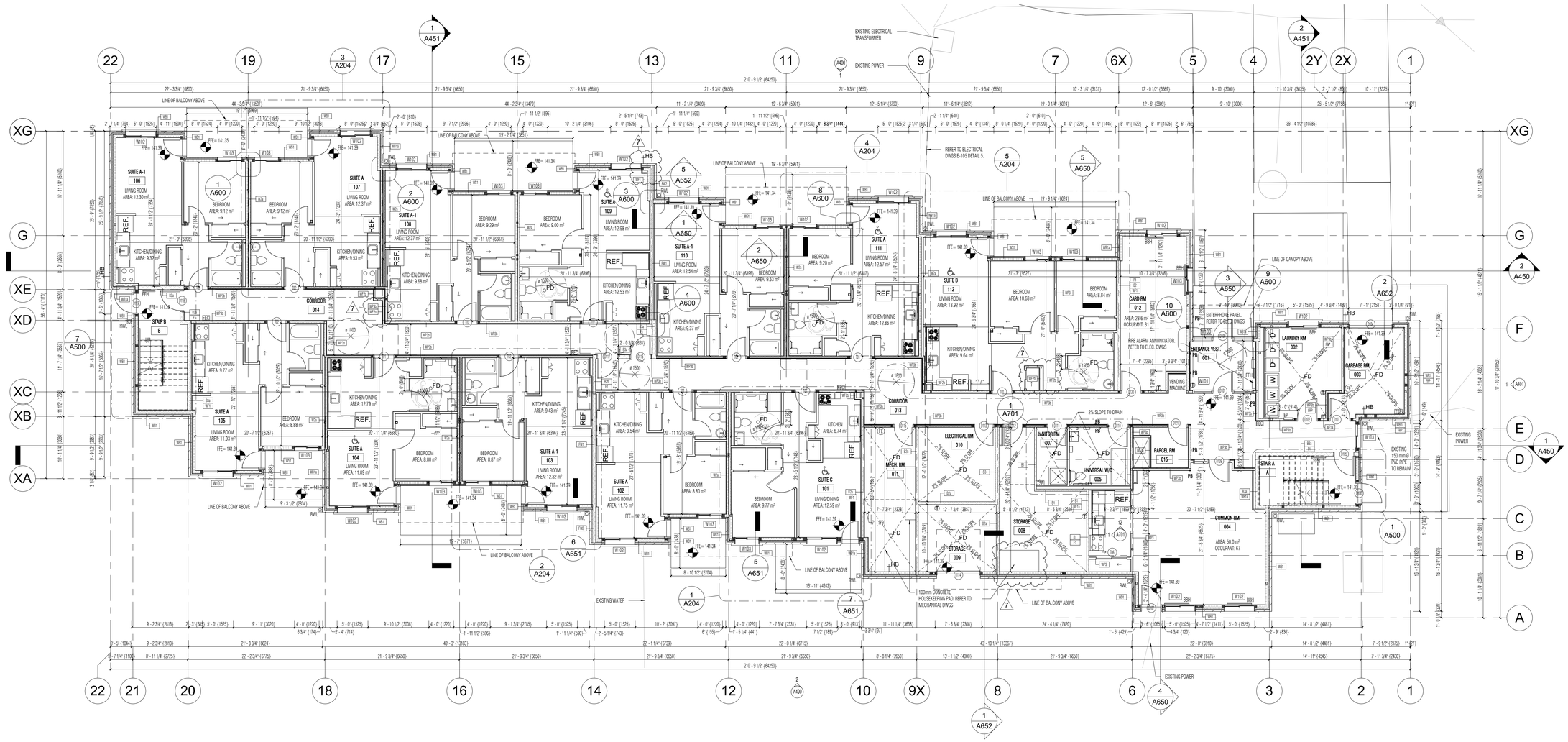

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: 1ST FLOOR PLAN
SCALE: AS SHOWN

SHEET NUMBER: A201

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DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025

DRAWN BY:

CHECKED BY:

SHEET TITLE: 1ST FLOOR REFLECTED CEILING PLAN

SCALE: AS SHOWN

SHEET NUMBER: A301

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DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-03-20	SR	ISSUED FOR PERMIT
5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA

PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
2ND FLOOR REFLECTED CEILING PLAN

SCALE: AS SHOWN

SHEET NUMBER:
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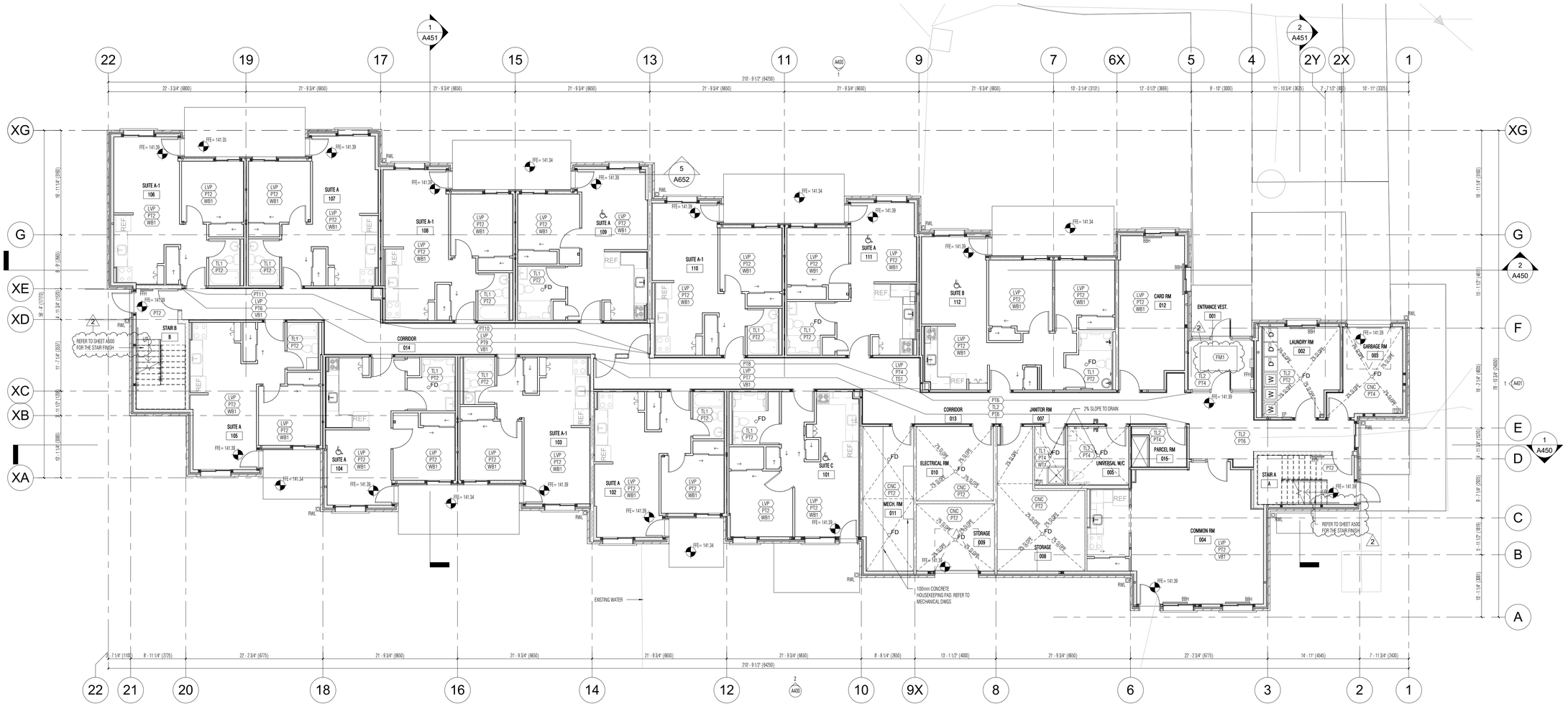

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-05-11	SR	ISSUED FOR TENDER
2	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025

DRAWN BY:

CHECKED BY:

SHEET TITLE: 1ST FLOOR - FINISHES PLAN

SCALE: AS SHOWN

SHEET NUMBER: A303

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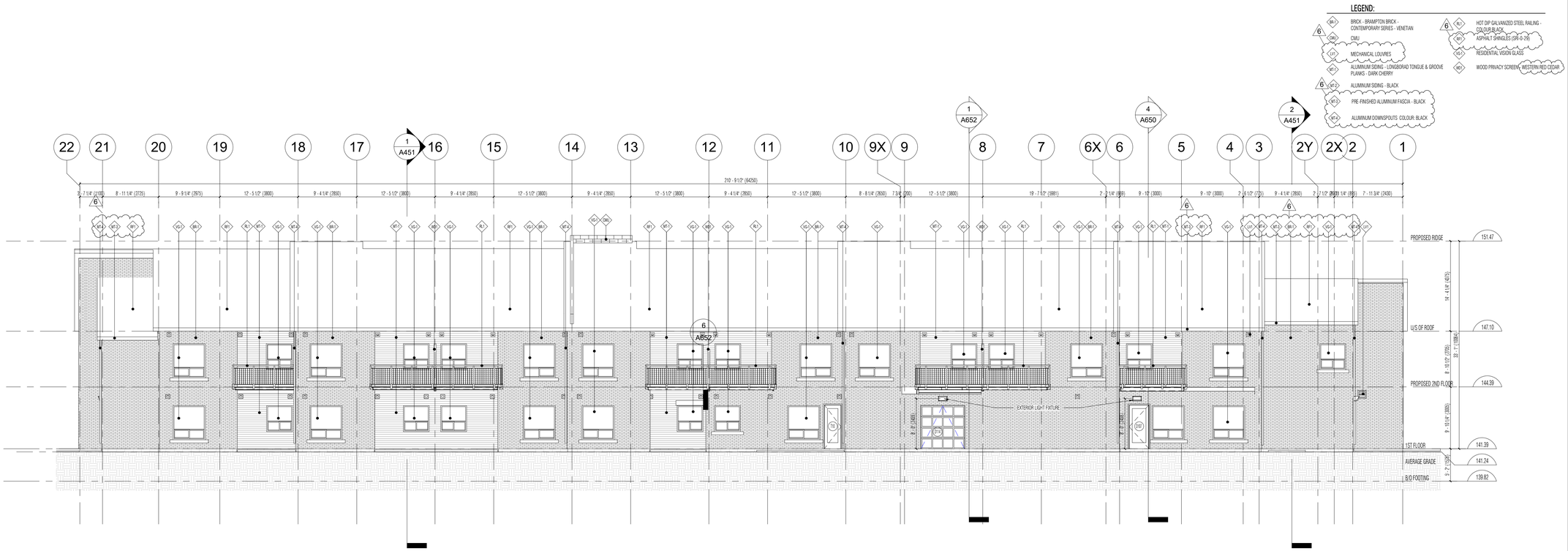
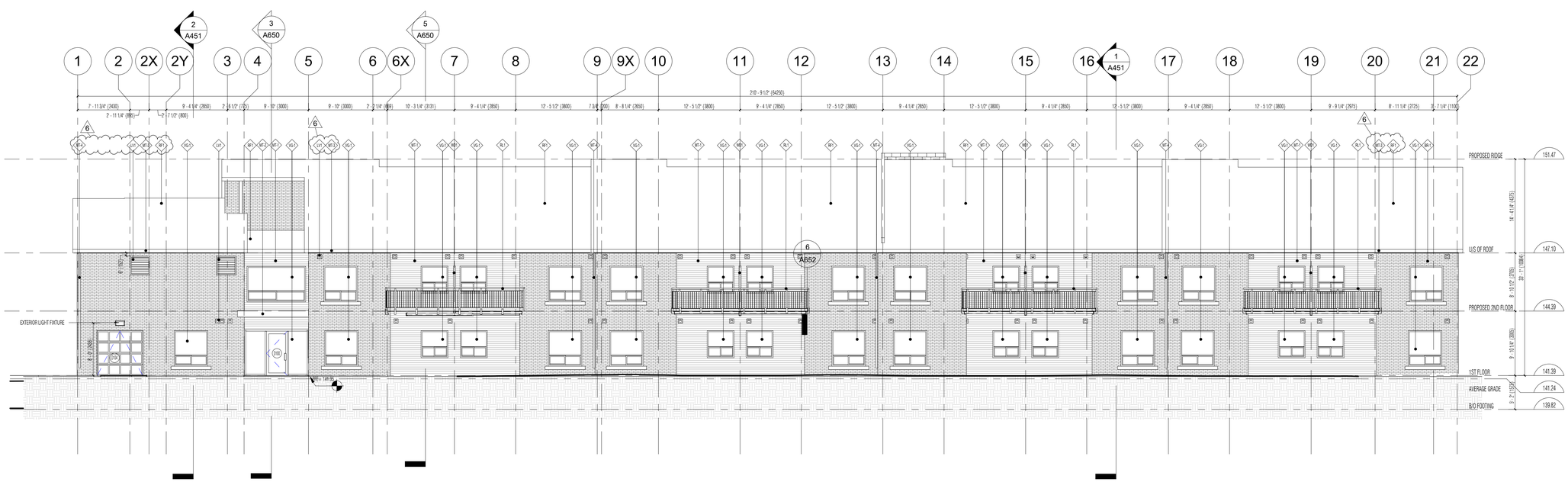


2 Elevation South
1 : 100



1 Elevation North
1 : 100

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

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5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
NORTH AND SOUTH ELEVATIONS

SCALE: AS SHOWN

SHEET NUMBER:
A400

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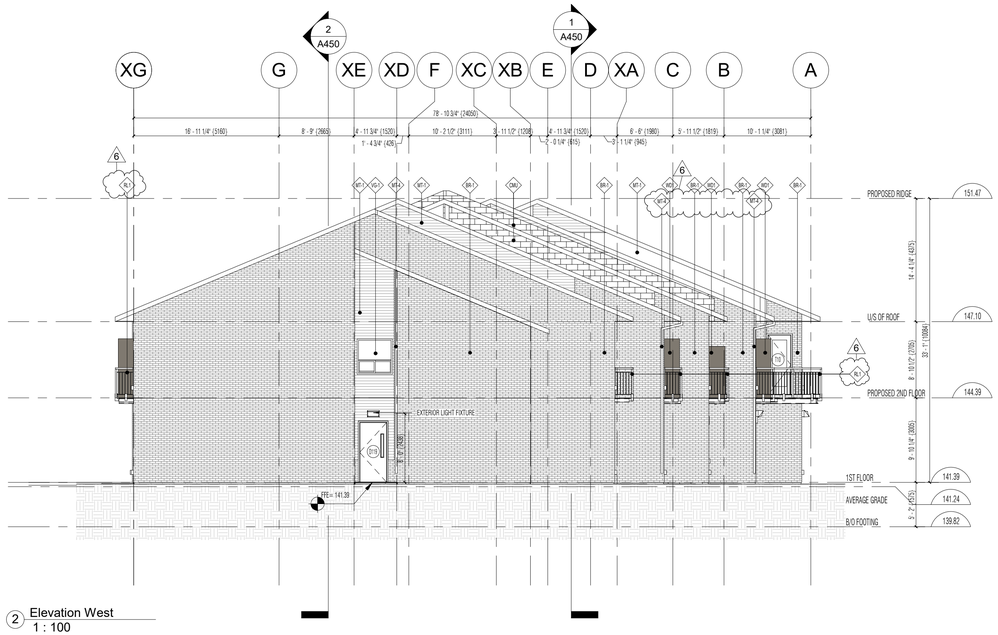
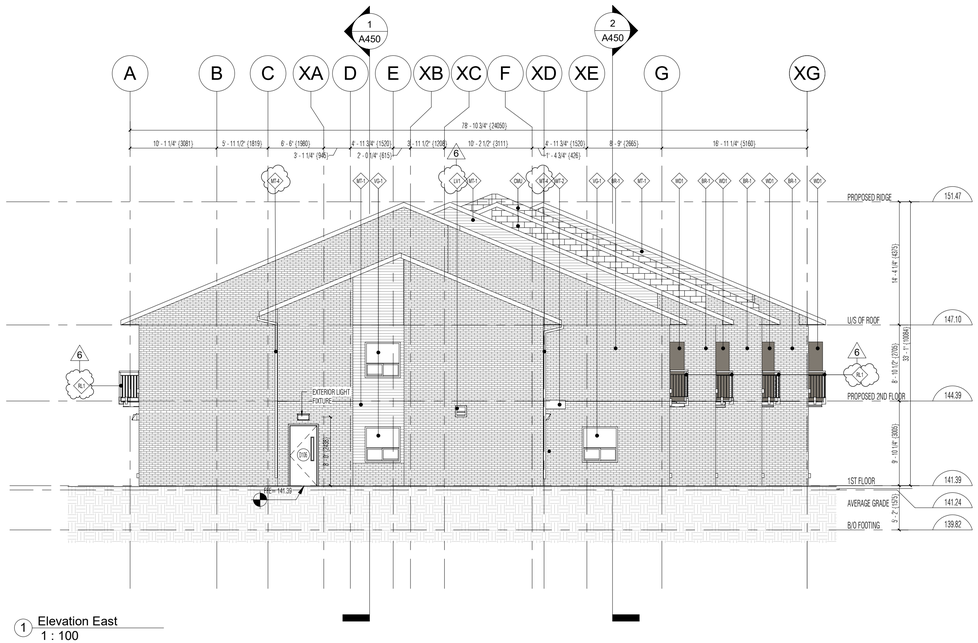


2 Elevation West
1 : 100



1 Elevation East
1 : 100

LEGEND:

- BR-1 — BRICK - BRAMPTON BRICK - CONTEMPORARY SERIES - VENETIAN
- CMU — CMU
- LV1 — MECHANICAL LOUVRES
- MT-1 — ALUMINUM SIDING - LONGBORAD TONGUE & GROOVE PLANKS - DARK CHERRY
- MT-2 — ALUMINUM SIDING - BLACK
- MT-3 — PRE-FINISHED ALUMINUM FASCIA - BLACK
- MT-4 — ALUMINUM DOWNSPOUTS COLOUR: BLACK
- RL1 — HOT DIP GALVANIZED STEEL RAILING - COLOUR:BLACK
- RS1 — ASPHALT SHINGLES (SR-0-28)
- VG-1 — RESIDENTIAL VISION GLASS
- WD1 — WOOD PRIVACY SCREEN (WESTERN RED CEDAR)

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

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5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA

PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
WEST AND EAST ELEVATIONS

SCALE: AS SHOWN

SHEET NUMBER:
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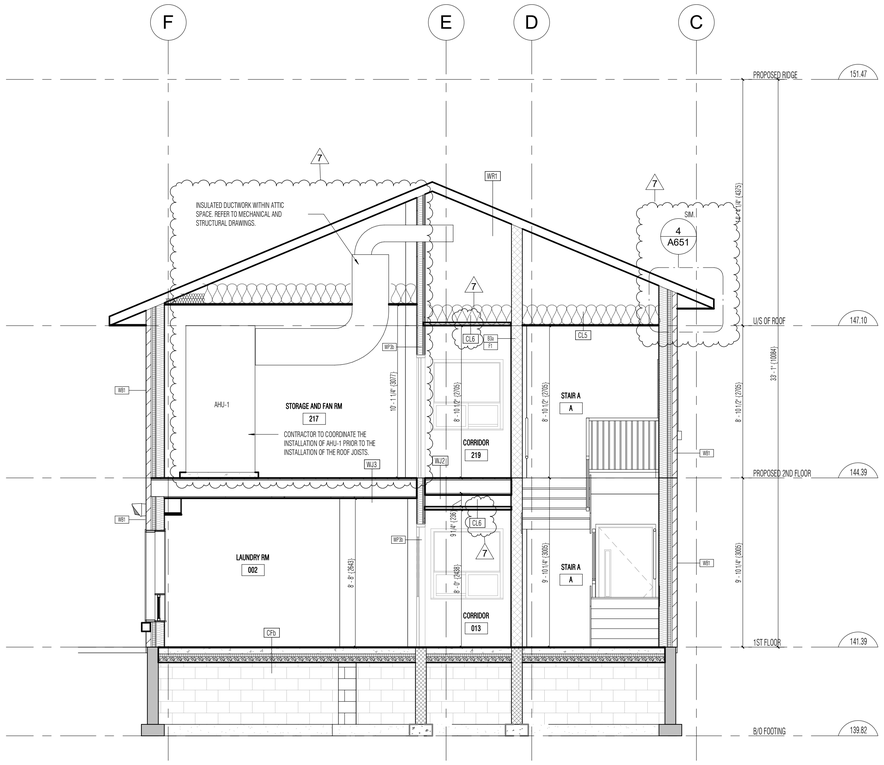

2 CROSS SECTION 2
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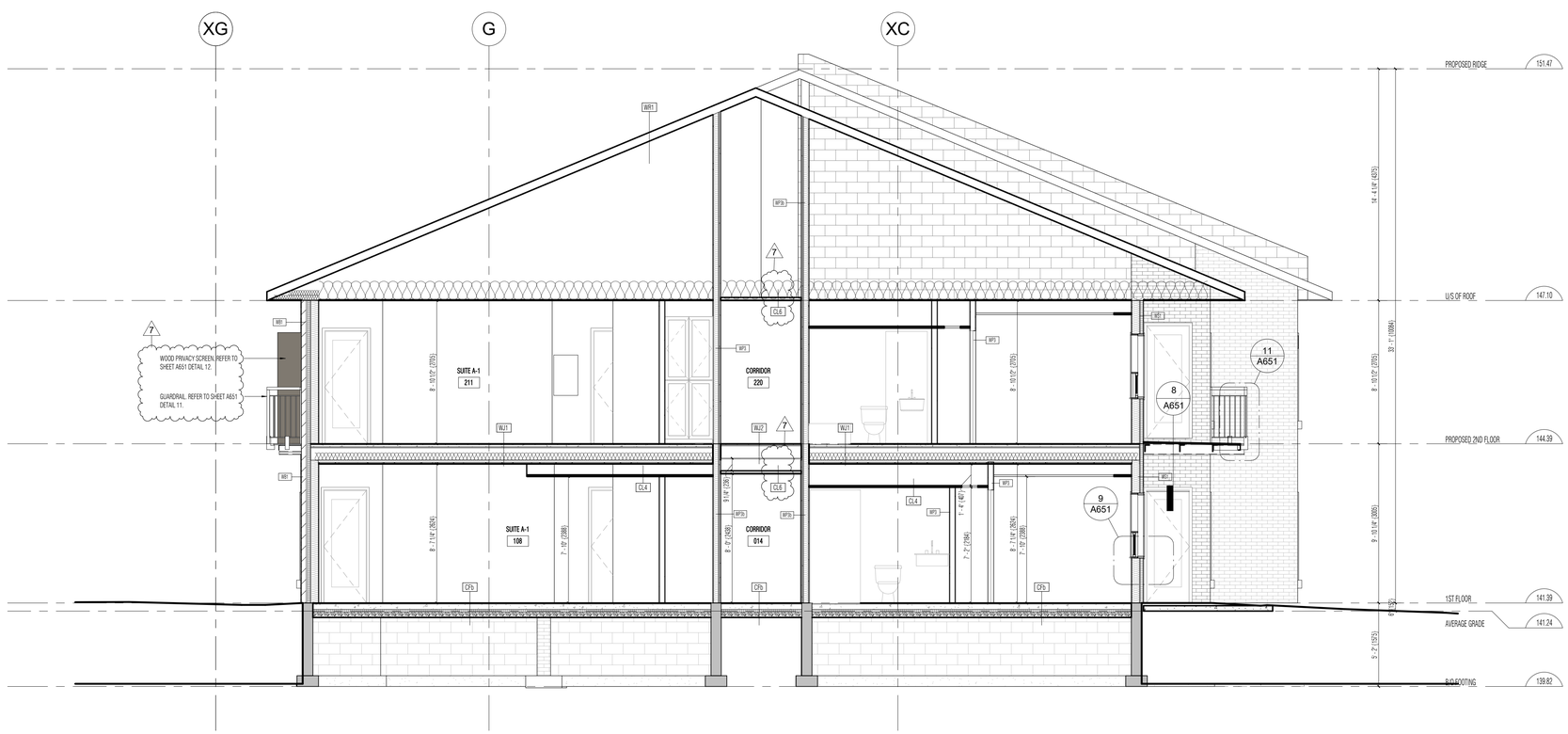

1 CROSS SECTION
1 : 50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

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6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA

PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
CROSS SECTION

SCALE: AS SHOWN

SHEET NUMBER:
A451

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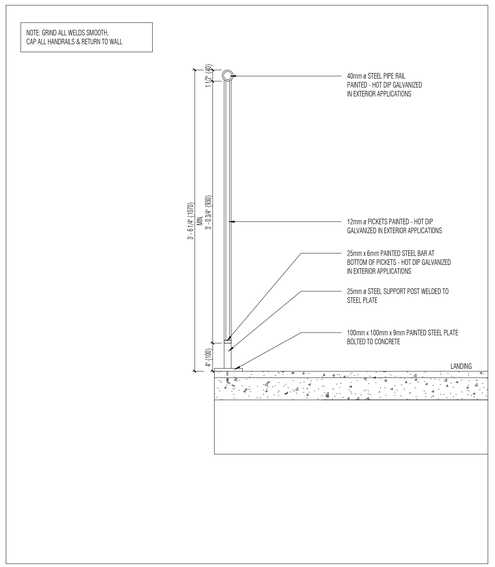
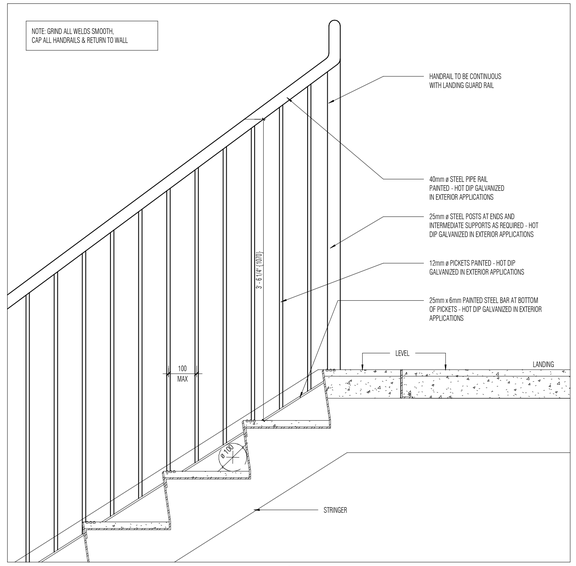
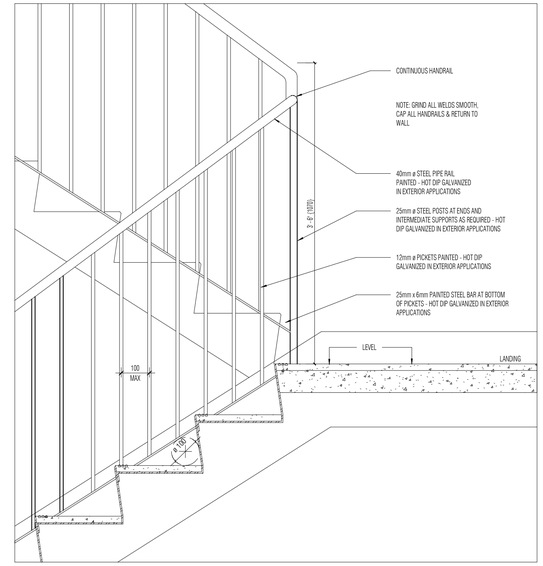


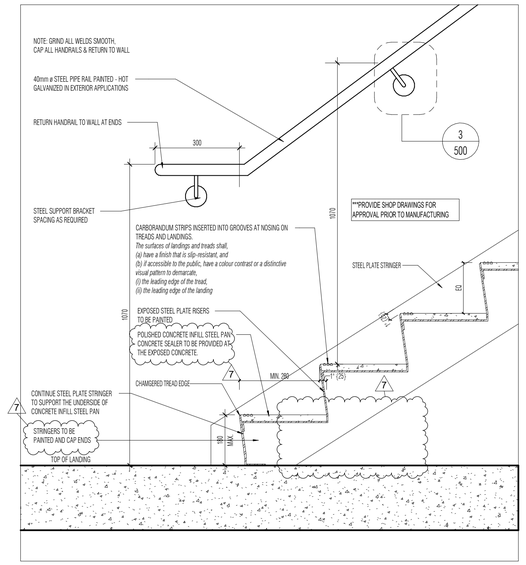
12 GUARDRAIL AT LANDING
1 : 10



11 STEEL STAIR AT TOP LANDING WITH CENTER RAIL
1 : 10



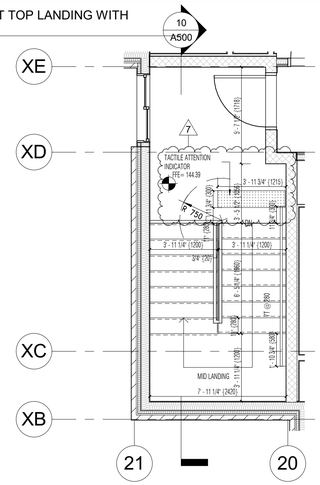
6 STEEL STAIR AT MID LANDING
1 : 10



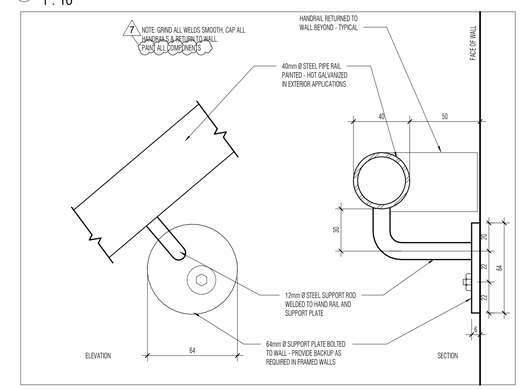
4 STEEL STAIR AT BOTTOM LANDING
1 : 10

ALL GUARDS TO CONFORM TO O.B.C ARTICLE 3.3.1.17., ARTICLE 4.1.5.14. AND SUPPLEMENTARY STANDARD SB-13

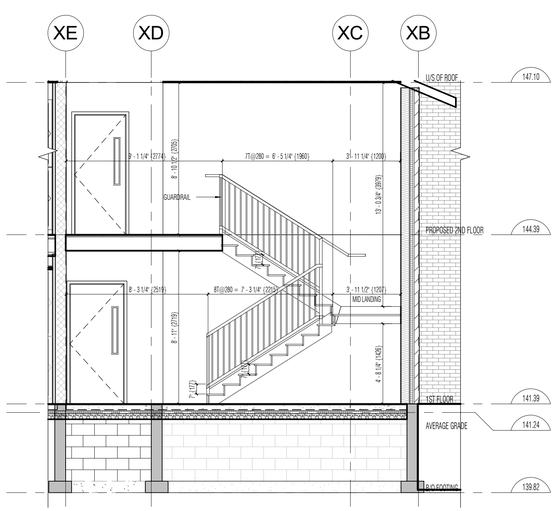
GUARD AND GUARD CONNECTION DETAIL BY OTHERS, PROVIDE SHOP DRAWINGS C/W P. ENGINEERING STAMP FOR REVIEW



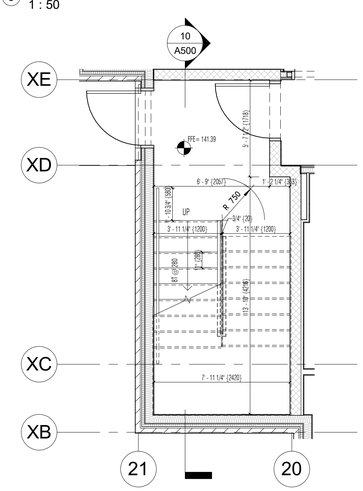
8 STAIR B - SECOND FLOOR PLAN
1 : 50



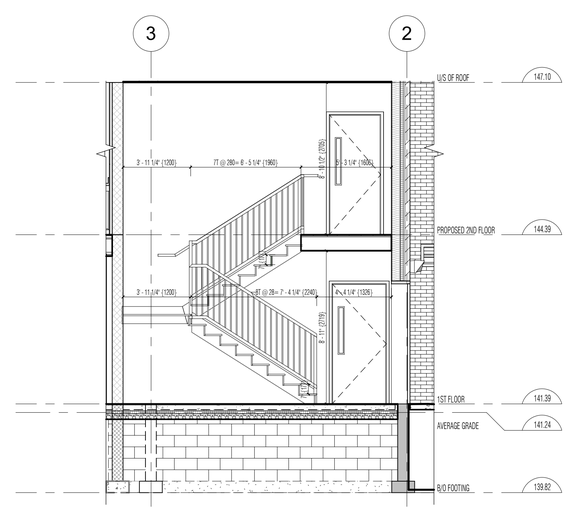
3 HANDRAIL
1 : 2



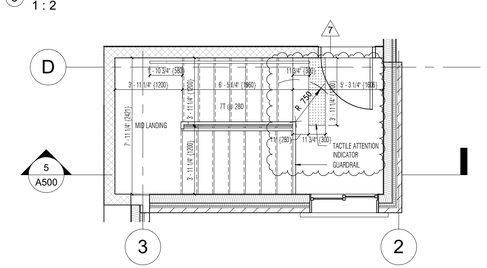
10 STAIR B - SECTION
1 : 50



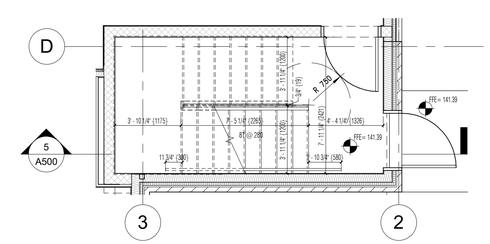
7 STAIR B - FIRST FLOOR PLAN
1 : 50



5 STAIR A - SECTION
1 : 50



2 STAIR A - SECOND FLOOR PLAN
1 : 50



1 STAIR A - FIRST FLOOR PLAN
1 : 50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

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5	2026-05-11	SR	ISSUED FOR TENDER
6	2026-05-15	SR	RE-ISSUED FOR PERMIT
7	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: STAIR PLAN AND SECTIONS
SCALE: AS SHOWN

SHEET NUMBER: A500

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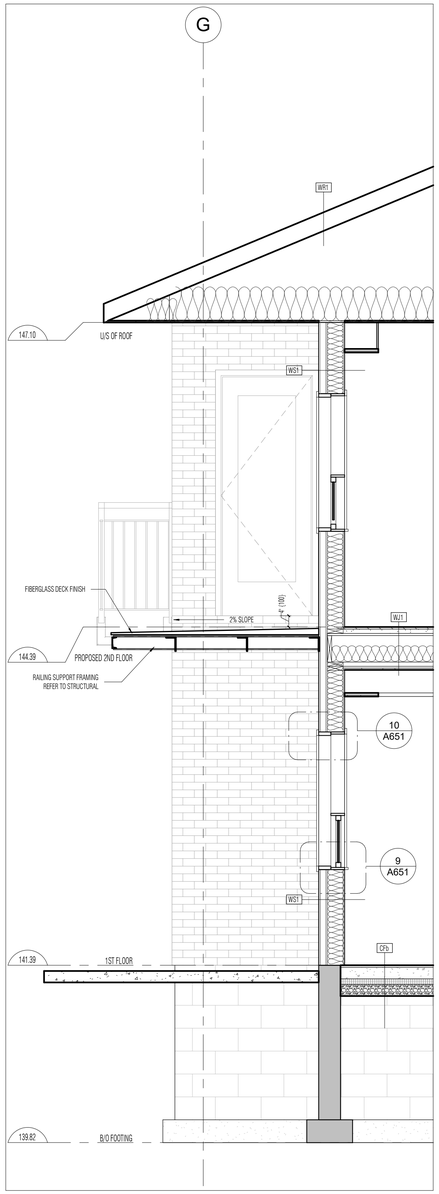
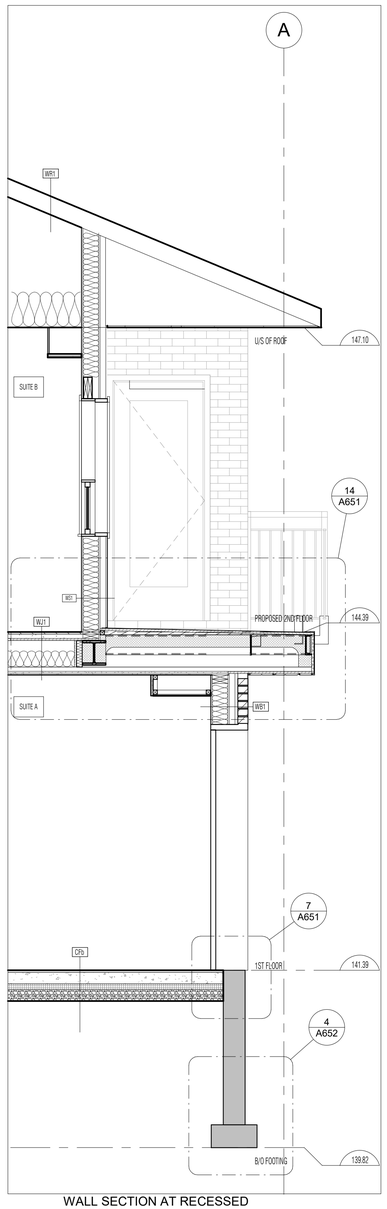


5 SECTION AT TYPICAL BALCONY
1 : 25



4 WALL SECTION AT RECESSED BALCONY
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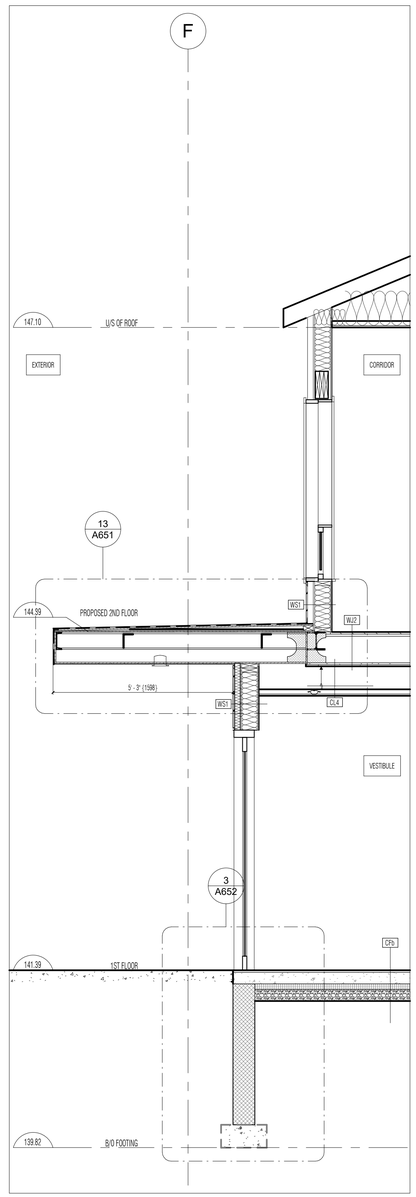

3 SECTION AT ENTRANCE
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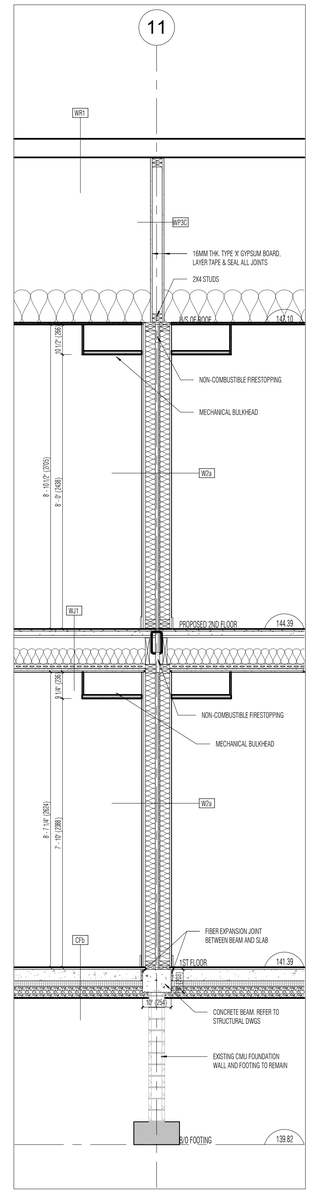

2 SECTION TYPICAL DEMISING WALL
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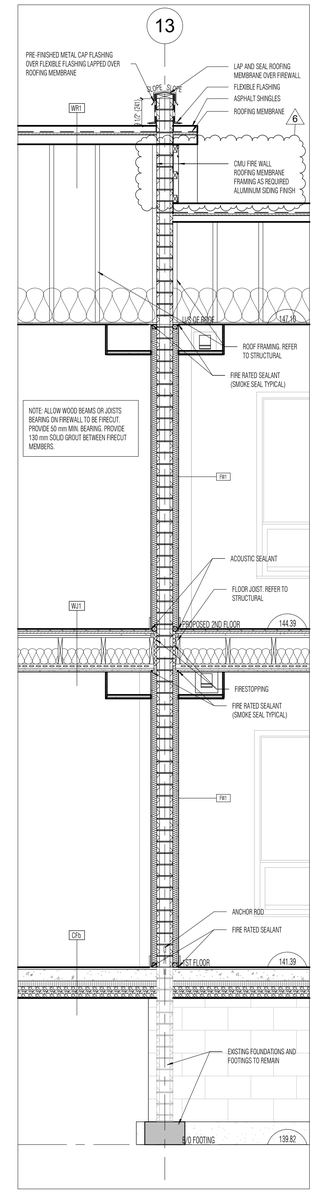

1 SECTION AT FIRE WALL
1 : 25

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
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6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
WALL SECTIONS

SCALE: AS SHOWN

SHEET NUMBER:
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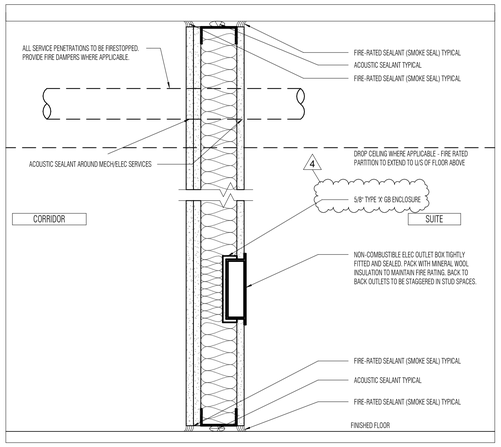
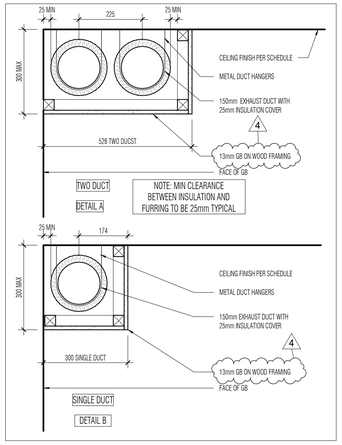


16 PENETRATION AT FRR WALL
1 : 10



15 EXHAUST DUCT DETAIL
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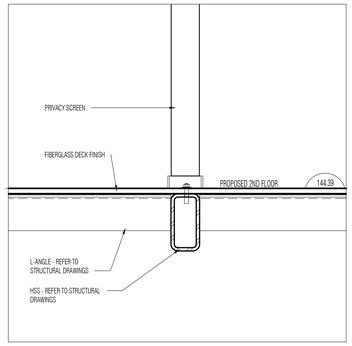
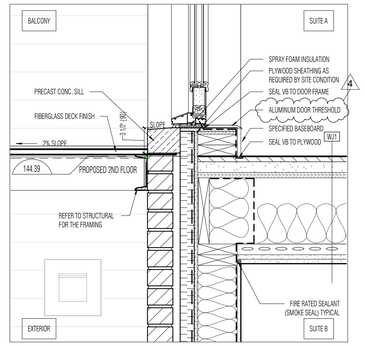
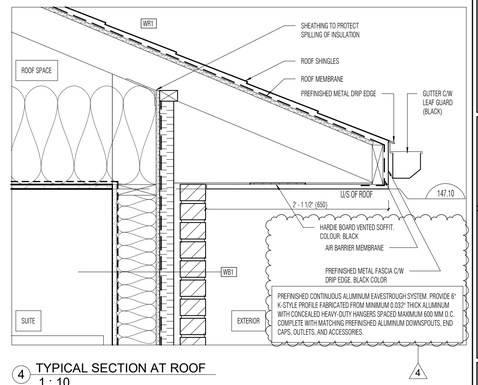


12 PRIVACY SCREEN DETAIL
1 : 10



8 DOOR AT SECOND FLOOR BALCONY
1 : 10



4 TYPICAL SECTION AT ROOF
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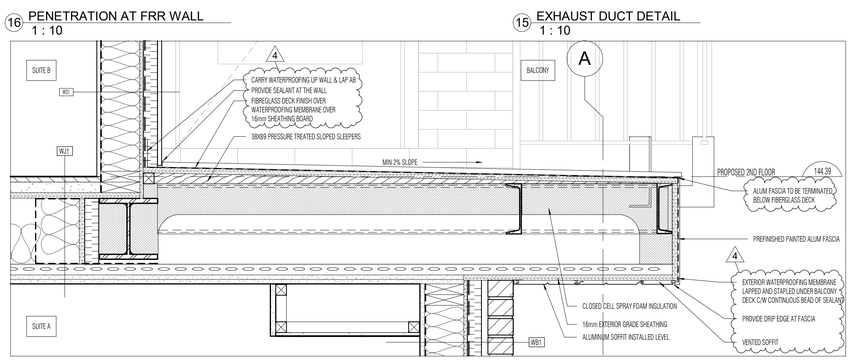

14 SECTION AT RECESSED BALCONY
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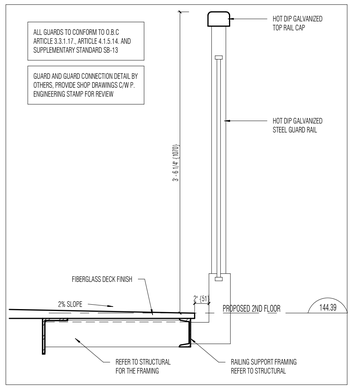

11 SECTION AT RAILING
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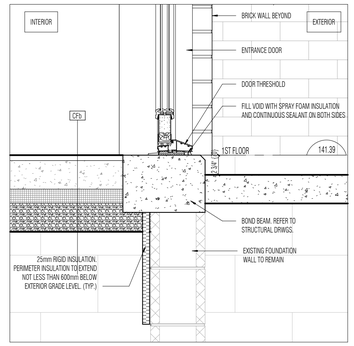
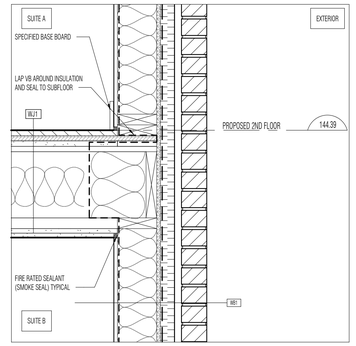
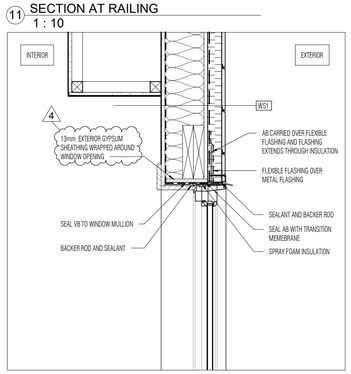


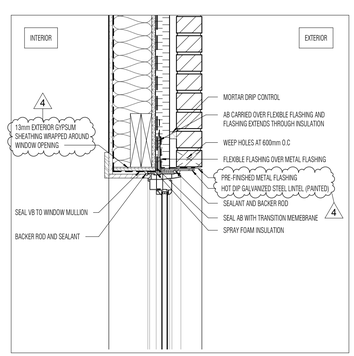
7 DOOR AT GROUND FLOOR
1 : 10



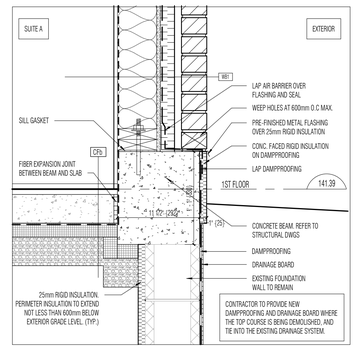
3 TYPICAL SECTION AT MASONRY CLADDING AT SECOND FLOOR
1 : 10



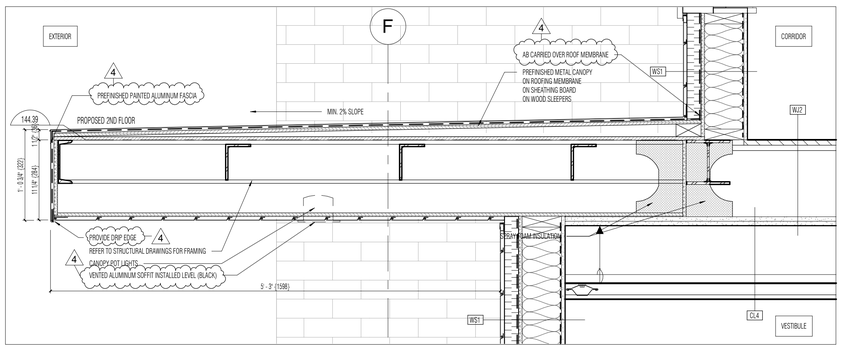
10 WINDOW AT ALUMINUM SIDING
1 : 10



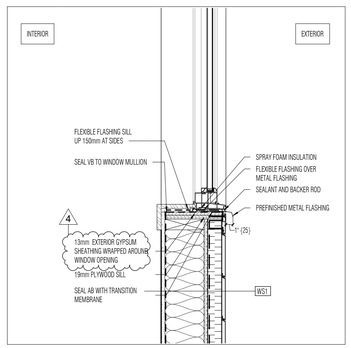
6 WINDOW AT BRICK
1 : 10



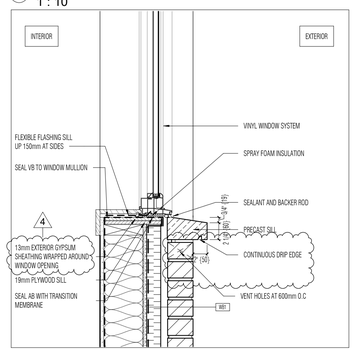
2 TYPICAL SECTION AT MASONRY CLADDING AT FOUNDATION WALL
1 : 10



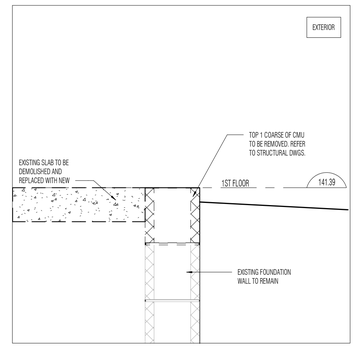
13 ENTRANCE CANOPY
1 : 10



9 WINDOW SILL AT ALUMINUM SIDING
1 : 10



5 WINDOW SILL AT BRICK
1 : 10



1 SLAB DEMOLITION AT FOUNDATION
1 : 10

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-03-20	SR	ISSUED FOR PERMIT
2	2026-05-11	SR	ISSUED FOR TENDER
3	2026-05-15	SR	RE-ISSUED FOR PERMIT
4	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: SECTION DETAILS
SCALE: AS SHOWN

SHEET NUMBER: A651

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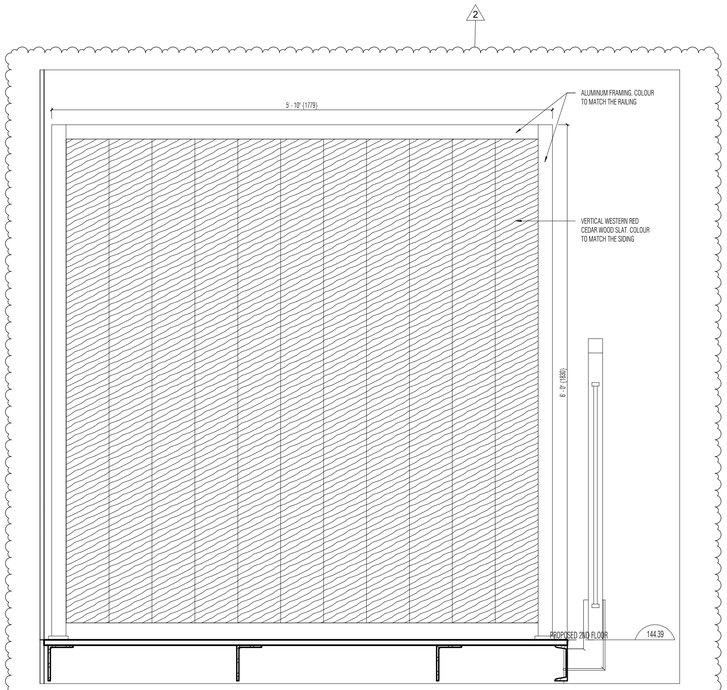
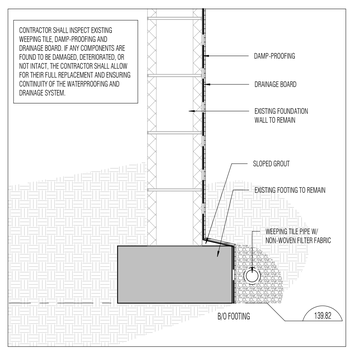
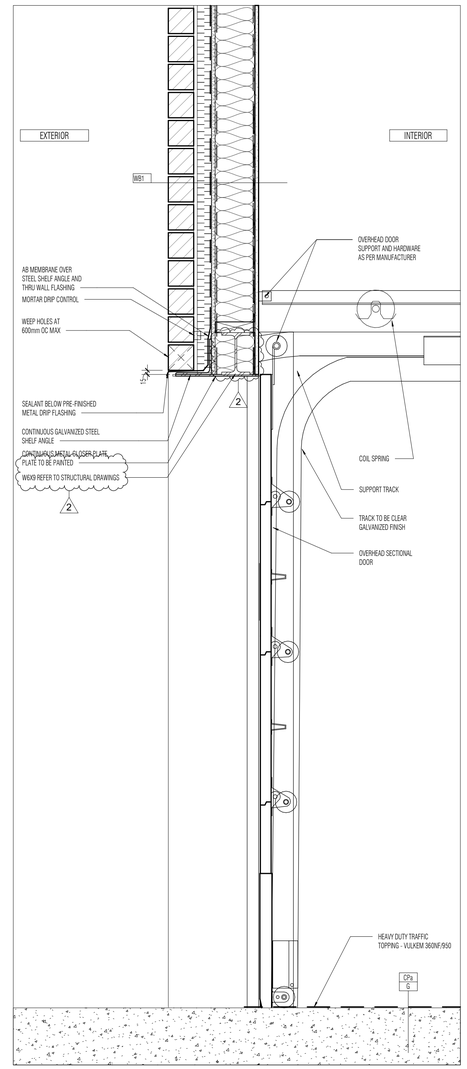


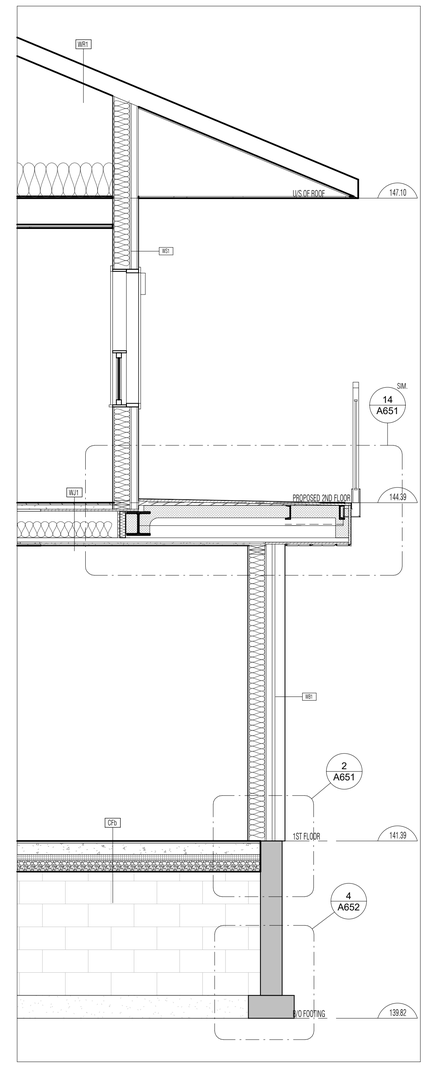
6 PRIVACY SCREEN ELEVATION
1 : 10



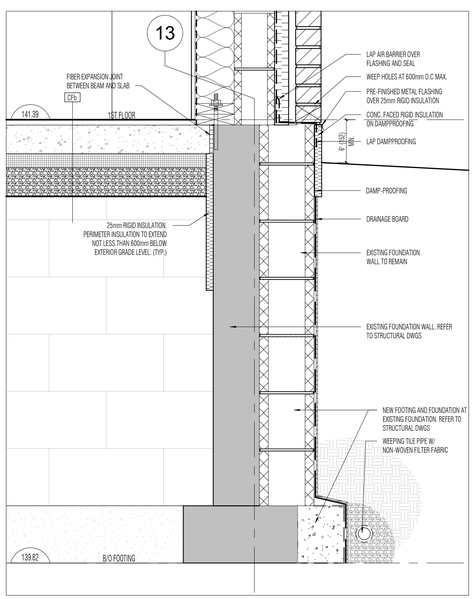
4 TYPICAL SECTION AT EXISTING FOOTING AND FOUNDATION
1 : 10



2 OVERHEAD DOOR
1 : 10



1 WALL SECTION AT RECESSED BALCONY-2
1 : 25



5 SECTION AT FIRE WALL EXTERIOR SIDE
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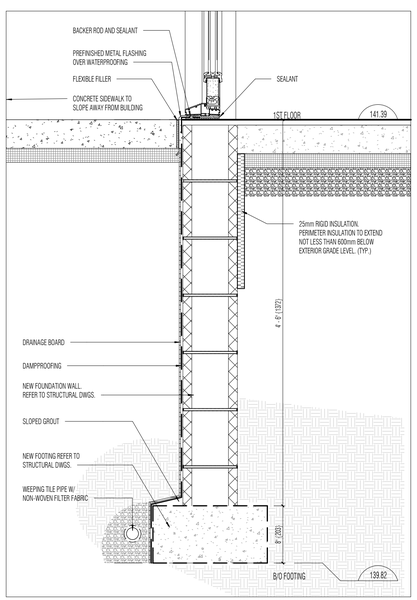

3 SECTION AT NEW FOOTING AND FOUNDATION
1 : 10

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-05-11	SR	ISSUED FOR TENDER
2	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: SECTION DETAILS
SCALE: AS SHOWN

SHEET NUMBER: A652

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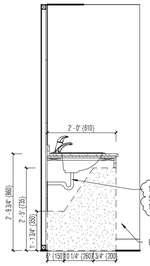
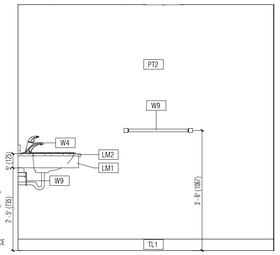
***NOTE:

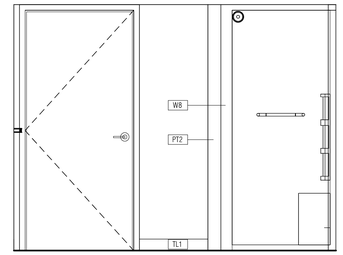
1. AS PER O.B.C 9.10.22.2 (1). FRAMING, FINISHES AND CABINETRY INSTALLED DIRECTLY ABOVE THE LOCATION OF THE COOKTOP SHALL NOT BE LESS THAN 750 mm ABOVE THE LEVEL OF COOKTOP BURNERS OR ELEMENTS.
2. CONTRACTOR TO PROVIDE SOFT CLOSER ON HINGES FOR MILLWORK.
3. ALL FINISHES: PROVIDE SAMPLE TO ARCHITECT FOR APPROVAL PRIOR TO MANUFACTURING.
4. ALL CABINET INTERIORS TO BE WHITE MELAMINE UNLESS NOTED OTHERWISE.
5. MILLWORK CONTRACTOR TO SUBMIT TO THE ARCHITECT A FULL SET OF SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
6. ALL MILLWORK EDGES TO BE EASED EDGE (TYPICAL)
7. REFER TO REFLECTED CEILING PLAN FOR THE FINISHED CEILING HEIGHT.



17 BF BATHROOM VANITY
1 : 25



16 BF BATHROOM - VANITY SIDE
1 : 25



15 BF BATHROOM - BACK WALL
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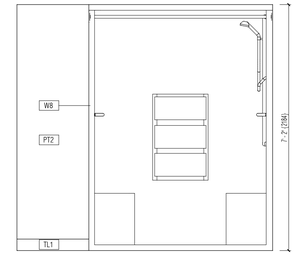
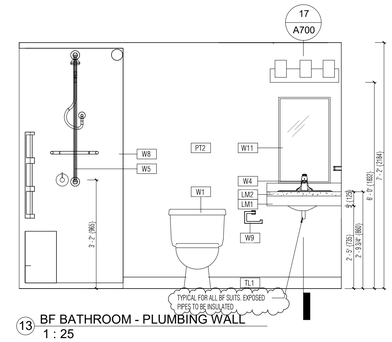
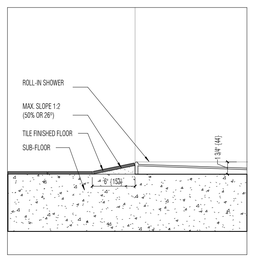


14 BF BATHROOM - SHOWER SIDE
1 : 25



13 BF BATHROOM - PLUMBING WALL
1 : 25



19 RECESSED SHOWER DETAIL
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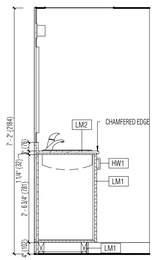
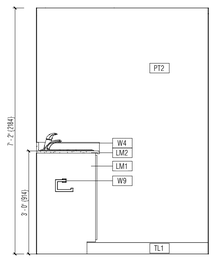


18 TYPICAL BATHROOM VANITY
1 : 25



12 TYPICAL BATHROOM - VANITY SIDE
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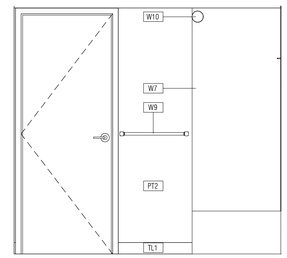
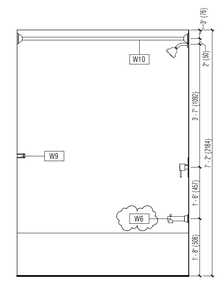
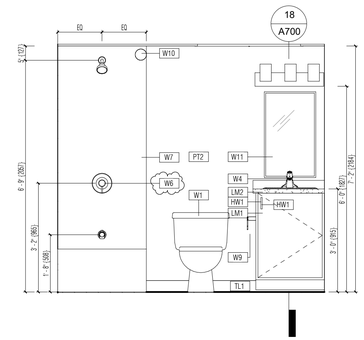


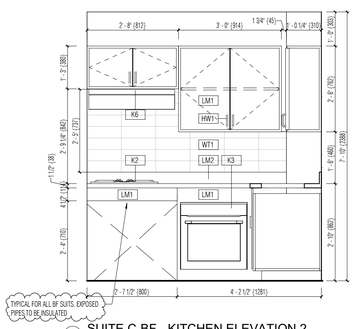
11 TYPICAL BATHROOM - BACK WALL
1 : 25



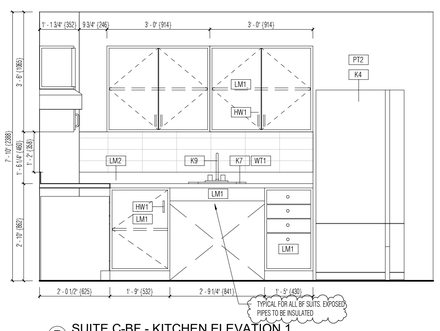
10 TYPICAL BATHROOM - TUB SIDE
1 : 25



9 TYPICAL BATHROOM - PLUMBING WALL
1 : 25



8 SUITE C-BF - KITCHEN ELEVATION 2
1 : 25



7 SUITE C-BF - KITCHEN ELEVATION 1
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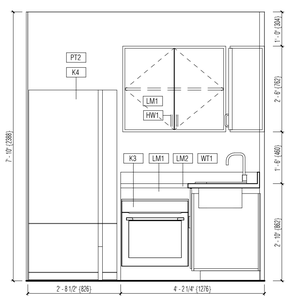
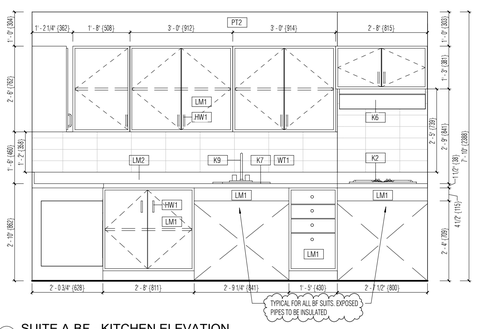
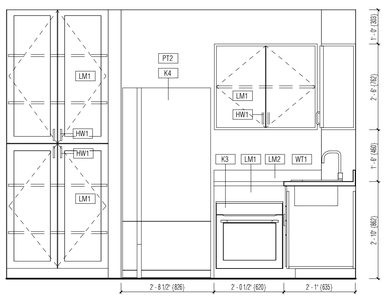


6 SUITE A-BF - KITCHEN ELEVATION 2
1 : 25



5 SUITE A-BF - KITCHEN ELEVATION
1 : 25



4 SUITE B-BF - KITCHEN ELEVATION 2
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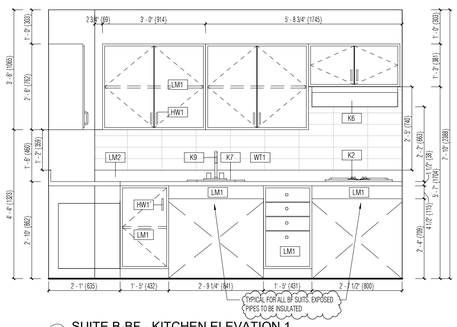
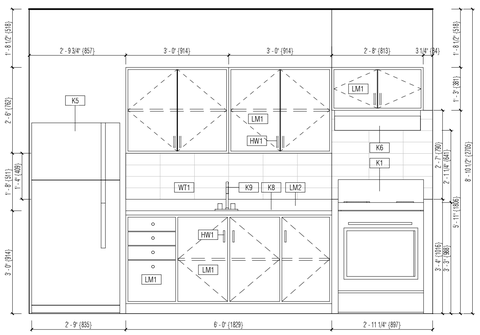
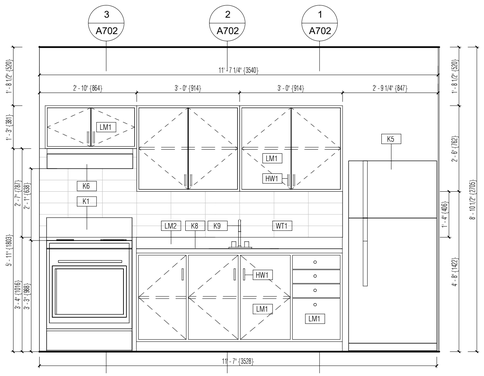


3 SUITE B-BF - KITCHEN ELEVATION 1
1 : 25



2 SUITE A - KITCHEN ELEVATION
1 : 25



SUITE A-1 KITCHEN ELEVATIONS - 2ND FLOOR
1 : 25

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-03	SR	ISSUED FOR CLIENT REVIEW
2	2026-02-05	SR	ISSUED FOR COORDINATION
3	2026-03-02	SR	ISSUED FOR 90% REVIEW
4	2026-05-11	SR	ISSUED FOR TENDER
5	2026-05-15	SR	RE-ISSUED FOR PERMIT
6	2026-06-01	SR	ADDENDUM-2

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE: INTERIOR ELEVATIONS - SUITE KITCHENS AND BATHROOMS
SCALE: AS SHOWN

SHEET NUMBER: A700

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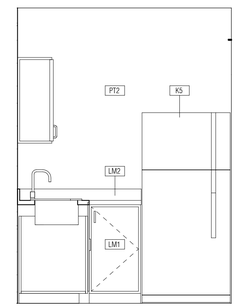
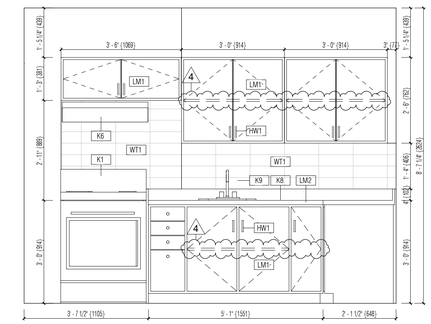
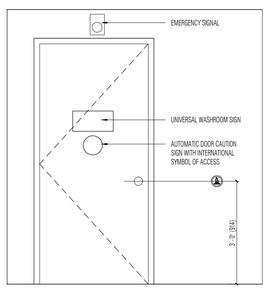


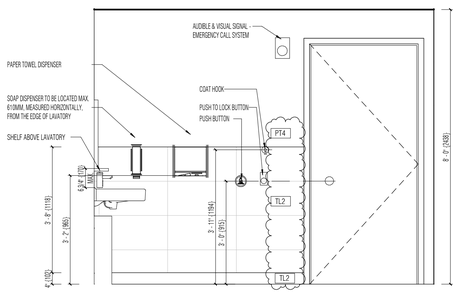
12 COMMON RM KITCHEN - SIDE
1 : 25



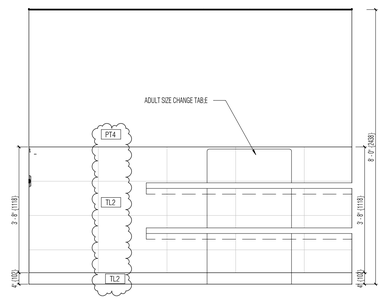
11 COMMON RM KITCHEN - FRON
1 : 25



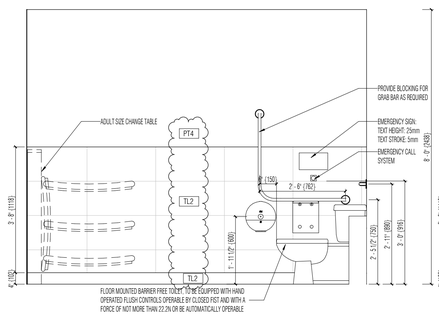
10 UNIVERSAL W/C DOOR - EXTERIOR
1 : 25



9 UNIVERSAL W/C LAVATORY SIDE
1 : 25



8 UNIVERSAL W/C - REAR WALL
1 : 25



7 UNIVERSAL W/C- CHANGE TABLE
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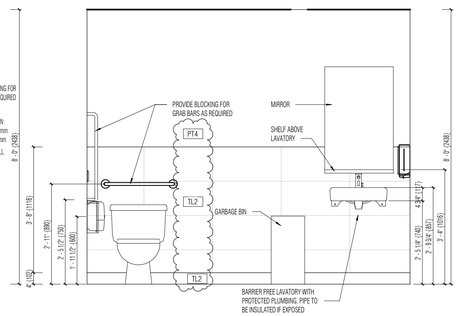
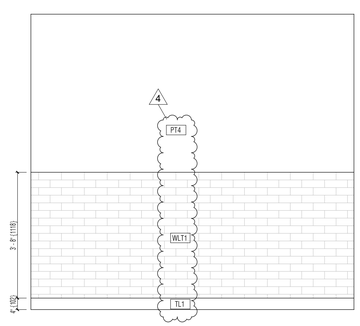
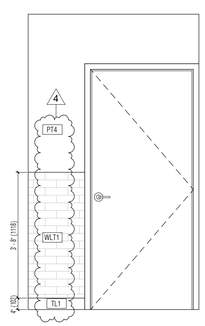


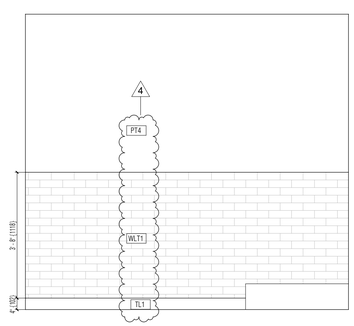
6 UNIVERSAL W/C - PLUMBING WALL
1 : 25



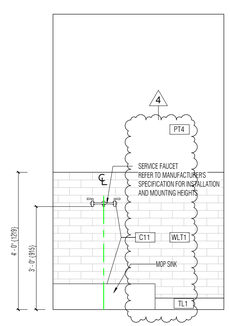
5 JANITOR RM - SIDE WALL
1 : 25



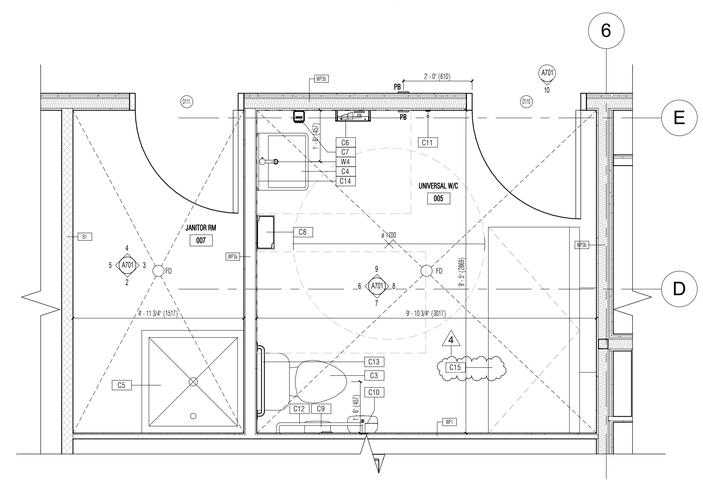
4 JANITOR RM - BACK WALL
1 : 25



3 JANITOR RM - MOP SINK SIDE WALL
1 : 25



2 JANITOR RM - PLUMBING WALL
1 : 25



1 UNIVERSAL W/C AND JANITOR ROM
1 : 25

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-03-02	SR	ISSUED FOR 90% REVIEW
2	2026-05-11	SR	ISSUED FOR TENDER
3	2026-05-15	SR	RE-ISSUED FOR PERMIT
4	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
INTERIOR ELEVATIONS - COMMON AREA

SCALE: AS SHOWN

SHEET NUMBER:
A701

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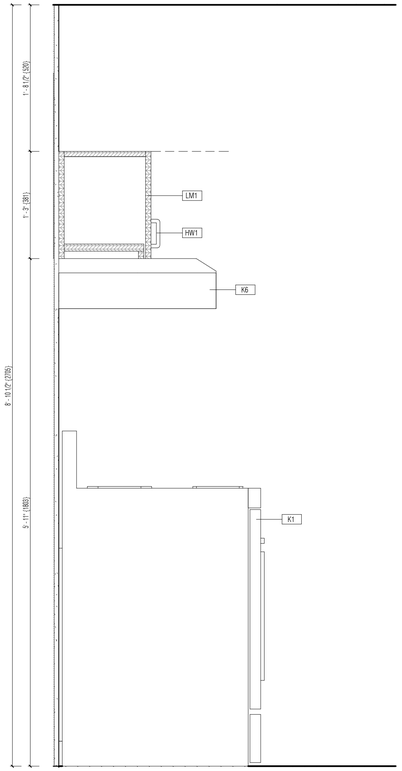
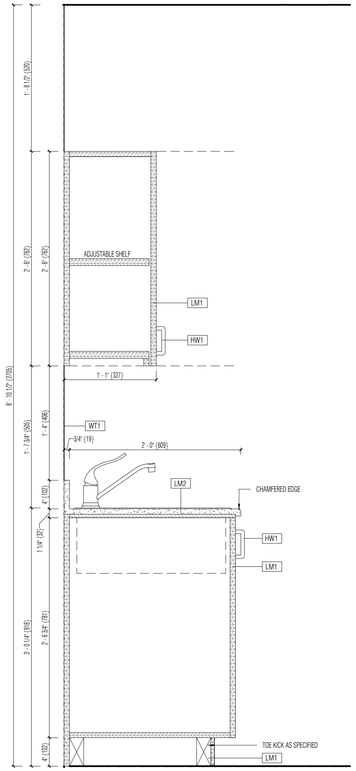
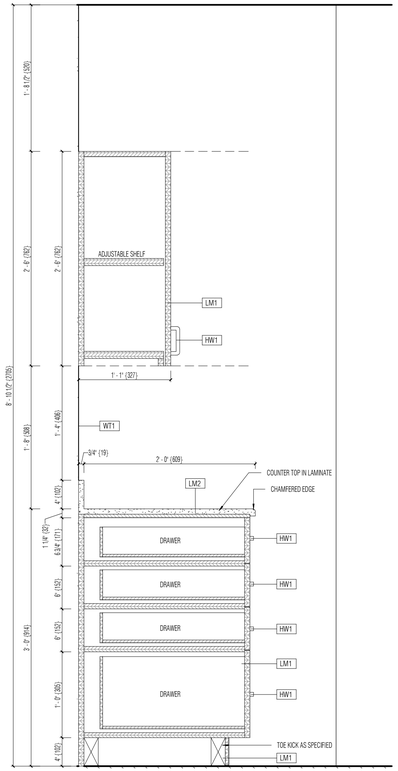


3 SECTION AT RANGER
1 : 10



2 SECTION AT SINK
1 : 10



1 SECTION AT DRAWER
1 : 10

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

SQUARE VIS ARCHITECTS INC.
930 THE EAST MALL, SUITE 100
ETOBICOKE, ON M9B 6J9

SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-06-01	SR	ADDENDUM-2

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 01/06/2025
DRAWN BY:
CHECKED BY:

SHEET TITLE:
INTERIOR SECTION DETAIL

SCALE: AS SHOWN

SHEET NUMBER:
A702

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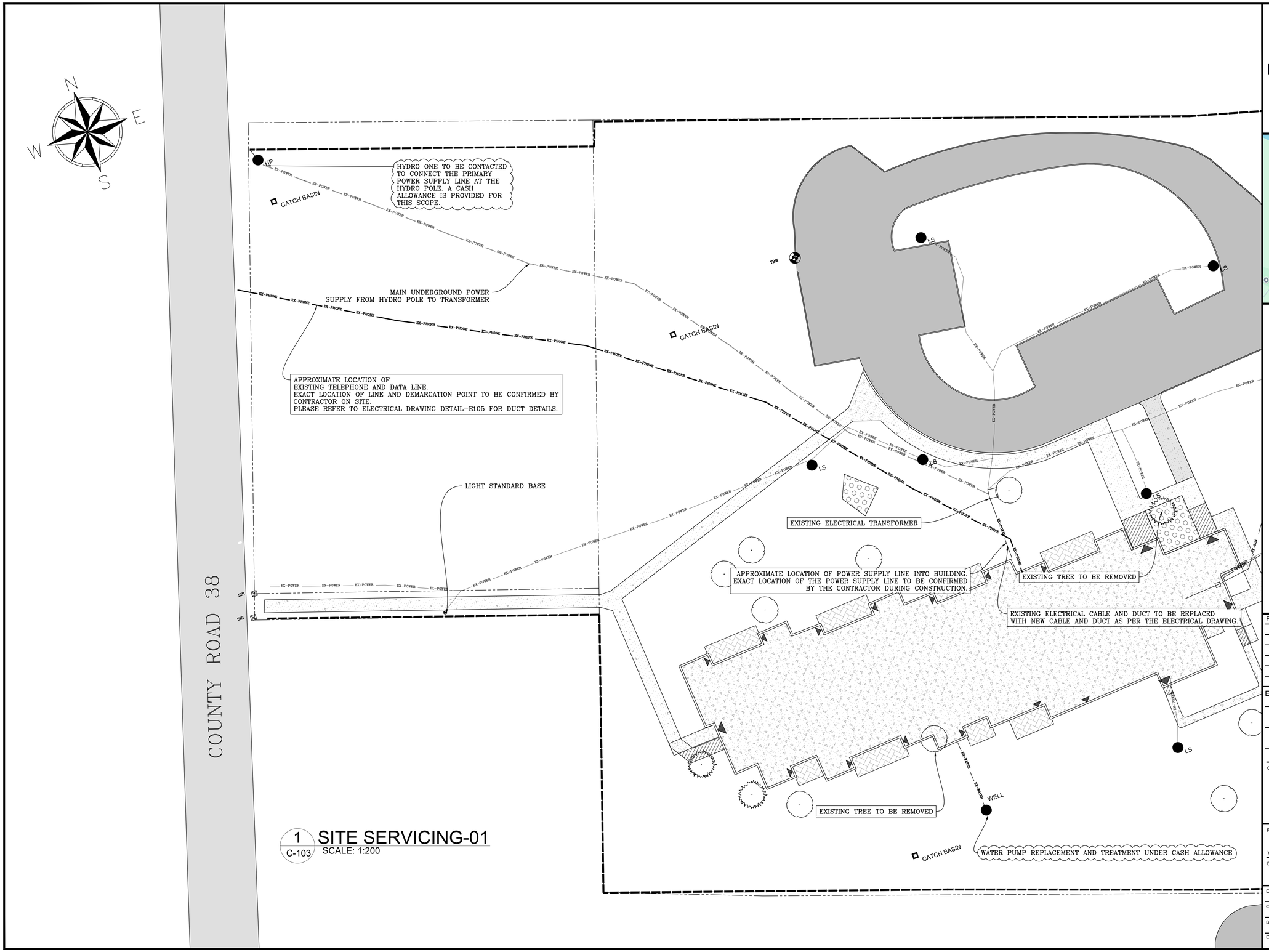

1 C-103 SITE SERVICING-01
SCALE: 1:200

GROUNDWORK ENGINEERING LIMITED

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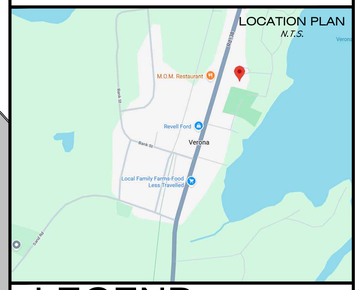
UNIT 640 - 654 NORRIS COURT
KINGSTON ONTARIO
OFFICE (613) 634-1789
www.groundengineer.ca

LOCATION PLAN
N.T.S.



LEGEND:

- ASPHALT AREA
- EX-POWER — EXISTING HYDRO LINE
- EX-POWER — EXISTING MAIN HYDRO TO TRANSFORMER
- EX-PHONE — EXISTING PHONE AND DATA LINE
- EX-WATER — EXISTING WATER SUPPLY LINE
- EX-SAN — EXISTING SANITARY LINE
- r — EXISTING FORCEMAIN
- PROPERTY BOUNDARY
- FENCE LINE
- CONCRETE SIDEWALK
- LS — LIGHT STANDARD
- HP — HYDRO POLE
- WELL — DRILLED WELL
- CATCH BASIN
- EXTERIOR CONCRETE PATIO
- GARDEN AREA

REVISIONS

1.	PRELIMINARY DESIGN	2026/01/30
2.	CLIENT'S REVISION #1	2026/02/26
3.	ISSUED FOR PERMIT	2026/03/19
4.	ISSUED FOR PRE-TENDER	2026/04/14
5.	ISSUED FOR TENDER	2026/05/05
6.	ISSUED FOR ADDENDUM #1	2026/05/27

BENCHMARK:

No.	DESCRIPTION	ELEVATION
1.	STANDARD IRON BAR	140.58
2.	STANDARD IRON BAR (BENT)	140.60
3.	IRON NAIL ON TOP OF CURB	141.73

LICENSED PROFESSIONAL ENGINEER
May 27/26
M. H. BURGER
PROVINCE OF ONTARIO

Client / Land Owner:

KINGSTON AND FRONTENAC HOUSING CORPORATION

Project:

6094 CARLETON DRIVE

VERONA ONTARIO

Drawing Title:

SITE SERVICING-01

Drawn by: UM	Project Number: GW-26006
Checked By: MB	
Scale: 24"x36" 1:200	Drawing Number: C-103
Date: MAY 27, 2026	SHEET 1 of 4

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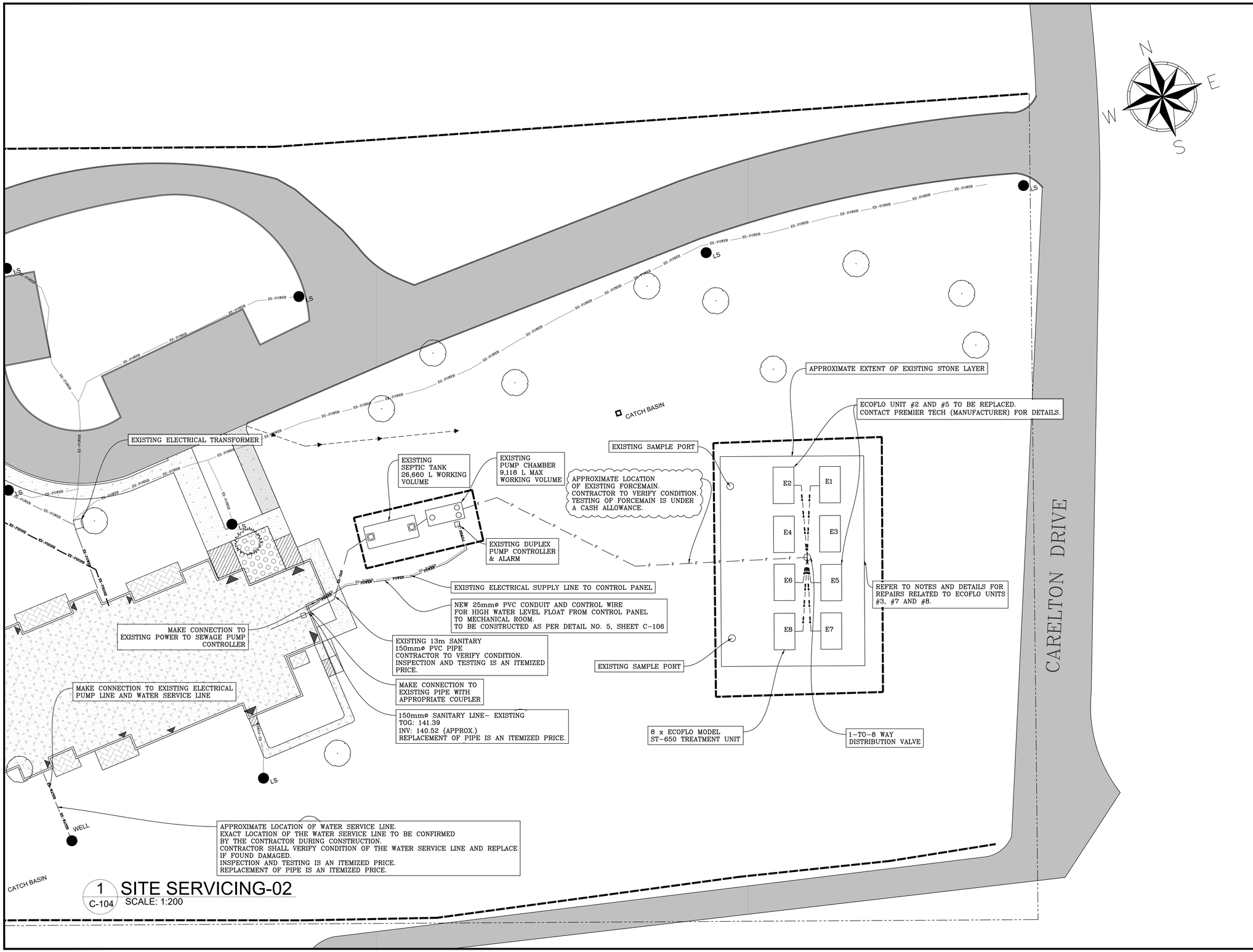

1 / C-104 SITE SERVICING-02
SCALE: 1:200

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KINGSTON ONTARIO
OFFICE (613) 634-1789
www.groundengineer.ca

LOCATION PLAN
N.T.S.

LEGEND:

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- GARDEN AREA

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LICENSED PROFESSIONAL ENGINEER M. H. BURGER PROVINCE OF ONTARIO

Client / Land Owner:

KINGSTON AND FRONTENAC HOUSING CORPORATION

Project:

6094 CARLETON DRIVE

VERONA ONTARIO

Drawing Title:

SITE SERVICING-02

Drawn by: UM
Checked By: MB
Scale: 24"x36" 1:200
Date: MAY 27, 2026

Project Number: GW-26006
Drawing Number: C-104
SHEET 2 of 4

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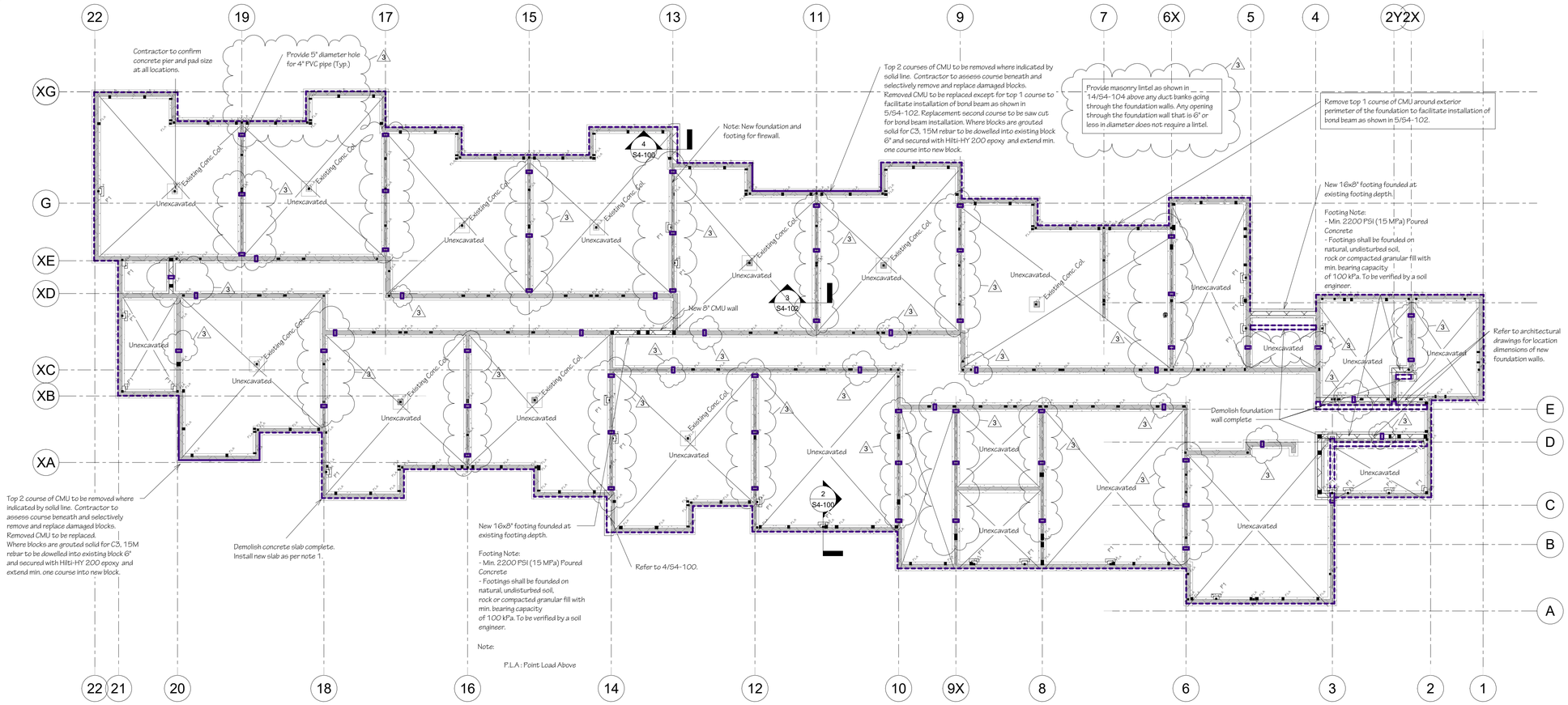
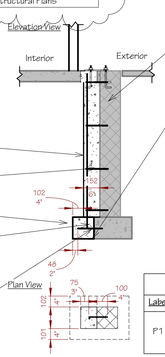


1 Phase 4 - Restoration A
Structural Plan, 4_S__t/o Footing
1 : 96

Structural Sheet List

Sheet Number	Sheet Name
4 Restoration	
S4-100	Structural Plans
S4-101	Structural Plans
S4-102	Structural Plans
S4-103	Structural Plans
S4-104	Structural Plans

All excavations must comply with the current Occupational Health and Safety Act and Regulations for Construction Projects



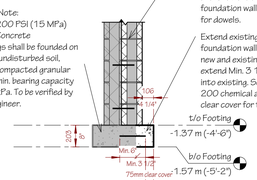
CMU cores to be core filled at same time as new col. poured

Footing Note:
- Min. 2200 PSI (15 MPa) Poured Concrete
- Footings shall be founded on natural, undisturbed soil, rock or compacted granular fill with min. bearing capacity of 100 kPa. To be verified by a soil engineer.

Foundation Pier Legend	
Label	Foundation Pier
P1	New concrete foundation and col. to be constructed at each point load as per 2/S4-100

2 Section at New Concrete Column
1 : 24

Footing Note:
- Min. 2200 PSI (15 MPa) Poured Concrete
- Footings shall be founded on natural, undisturbed soil, rock or compacted granular fill with min. bearing capacity of 100 kPa. To be verified by a soil engineer.



4 Phase 4 - Restoration A
Structural Section, Section 24
1 : 24

Structural Steel

1.0 All structural steel must conform to CSA G40.21 M S350 grade.
2.0 All bolts must conform to ASTM A325 and all welding material shall conform to CSA standard W48 with electrode classifications matching the specified steel.
3.0 The steel erector must be certified by the canadian welding bureau to the requirements of CSA W47. All welding must conform to CSA W59.
4.0 Structural steel construction must conform to CSA S16.1-94 (Limit states design of structural steel).
5.0 The contractor must verify all dimensions on site prior to fabrication.
6.0 Copies of all shop drawings must be provided to the project engineer prior to fabrication.

Concrete and Masonry Notes:

1.0 All masonry construction must be completed in conformance with CSA S304.1-04 (R2010) -(Design of Masonry Structures), CSA A370-14 (Connectors for Masonry), CSA A371-14 (Masonry construction for buildings) and CSA A165 Series-14 (CSA standards on concrete masonry units).
2.0 Chimneys and fireplaces must conform to CSA A405-M87 (R2000) - (Design and construction of masonry chimneys and fireplaces).
3.0 Calcium chloride must not be added to any concrete, mortar or grout mix.
4.0 When conducting masonry repairs dampen the edges of adjacent units prior to application of mortar to existing components.
5.0 All concrete construction must conform to CSA A23.3 (design of concrete structures).
6.0 Reinforcing steel shall be deformed bars conforming to CSA G30.18_M grade 400
7.0 All structural concrete must be placed with a slump of not more than 4" (100mm), specified strengths are 28 day strength (25 MPa or better unless otherwise specified).
8.0 Provide temporary weather protection and heat to keep mortar, concrete and grout from freezing for 48 hours following completion of placement.
9.0 Unless specified otherwise garage, carport and exterior slabs and exterior steps shall be 32 MPa concrete with 5 - 8% air entrainment, other slabs 25 MPa psi concrete, or 15 MPa over 2 layers polyethylene vapor retarder lapped not less than 24". Floor slabs are to be a minimum 4" thick, placed on a minimum 4" of coarse, clean, granular material (3/4" clear stone or better). All fill other than coarse clean material placed beneath concrete slabs shall be compacted to provide uniform support.
10.0 Concrete slabs in attached garages shall be sloped to drain to the exterior, interior slabs shall be sloped to available drainage.
11.0 Concrete unit masonry (block) foundation walls must have 1 course at grade filled solid to prevent convective heat transfer within the wall cavity.
12.0 Circular piers shall extend to minimum 4'0" below grade level (to below frost depth), be formed with Sonotube or equivalent, wrapped in not less than 2 layers 6 mil poly sheeting (exterior to Sonotube) to prevent addfreezing. Piers to extend minimum 8" above finished grade.

General Notes:

Steel Framing Notes:
Provide shop drawings for steel framing to project engineer for review prior to construction

All coped beams assume that one bolt lined required for securement. If two bolt lines are required the project engineer must be contacted to re-design with two bolt lines.

Where steel beams are to support wood members, install a nailer plate on top as shown in 7/S4-102.

Steel stairs to be designed by fabricators. Connection between steel stairs and concrete foundation to be designed by fabricators.

All shop drawings for all steel framing including stairs shall be provided to the project engineer to review prior to purchase.

Balcony Notes:
Balconies to be sloped min 2% to exterior

CMU Notes:
Where structural members are bearing, CMU to be solid grouted at and 2 courses below bearing location.

Note 1 Concrete Slab:

Backfill excavation with granular "B" or better, compact in 12" lifts to 98% SPMDD or backfill with 0.3 MPa non-shrink fill

New Concrete Slab Installation -
install new concrete slab:
-Min 6" thickness
-25 MPa
-Install 6"x6" welded wire mesh supported on 6" granular base compacted to 98% SPMDD
-New concrete floor must match existing floor elevation. new concrete to be graded to existing floor drain if existing.

Note 2: General Repairs

1. Damaged curb and walkways to be repaired as required.
2. All CMU cores to have debris removed from them prior to construction.

Design Loads:

Floors:

Dead Load in residential units	1.23kPa
Dead load everywhere else	0.58kPa
Live Load (units)	1.9kPa
Live Load (corridors and stairwells)	4.8kPa
Live Load (garbage room, fan & storage room)	3.6kPa

Balconies:

Dead Load	0.5kPa
Live Load	4.8kPa

Roof:

Roof Snow Load	1.8kPa
Low Sloped Roof Snow Load	2.7 kPa
+ Solar Panel Accumulation	1.0 kPa
+ Drift Accumulation (see plans)	
Dead Load	0.75kPa
Live Load (Attic)	0.35kPa

Load-Bearing Walls:

Exterior	2.0 kPa
Interior	0.5 kPa

Wind Design Loads:

- q 1/50: 0.47 Kpa
- Building exposure: Open terrain
- Building importance (I_w): Normal (1.0)
- Roof Slope = 23°

Primary Structure Action

building surface		1	1E	2	2E	3	3E	4	4E	5	5E	6	6E
Load Case A	C_pC_g	1.01	1.45	-.85	-1.35	-0.87	-1.22	-0.77	-1.12	n/a	n/a	n/a	n/a
	ULS (kPa)	0.45	0.65	-0.38	-0.6	-0.39	-0.54	-0.35	-.50	n/a	n/a	n/a	n/a
Load Case B	C_pC_g	-0.85	-0.9	-1.3	-2.0	-0.7	-1.0	-0.85	-0.9	0.75	1.15	-0.55	-0.8
	ULS (kPa)	-0.38	-0.4	-0.58	-0.89	-0.31	-0.45	-0.38	-0.40	0.33	0.51	-0.25	-0.27

T Smith Engineering Inc.
707 Kipling Ave, Toronto, ON, M8Z 5G4
Tel. (416) 798-8770
tSmithEngineering.com

General Notes:
1. All information that is shown and described as existing shall be checked and verified by the contractor/client prior to commencement of any work and all discrepancies shall be reported to the project engineer.
2. All dimensions must be verified on site by the contractor and client, drawings shall not be scaled.
3. The scope of work outlined on the drawings is a minimum requirement. Deviations or substitutions from the enclosed specifications must be greater than or equal to the outlined scope, and all changes must be approved by the project engineer in writing. All construction and repair must be conducted in conformance with the requirements of all applicable codes, regulations and bylaws.
4. All framing lumber must be Spruce-Pine-Fir no 1. Grade or better unless specified otherwise.
5. Falsework and shoring not specified on these drawings is the responsibility of the constructor, all falsework and shoring shall be designed and inspected by a licensed professional engineer.

Note:

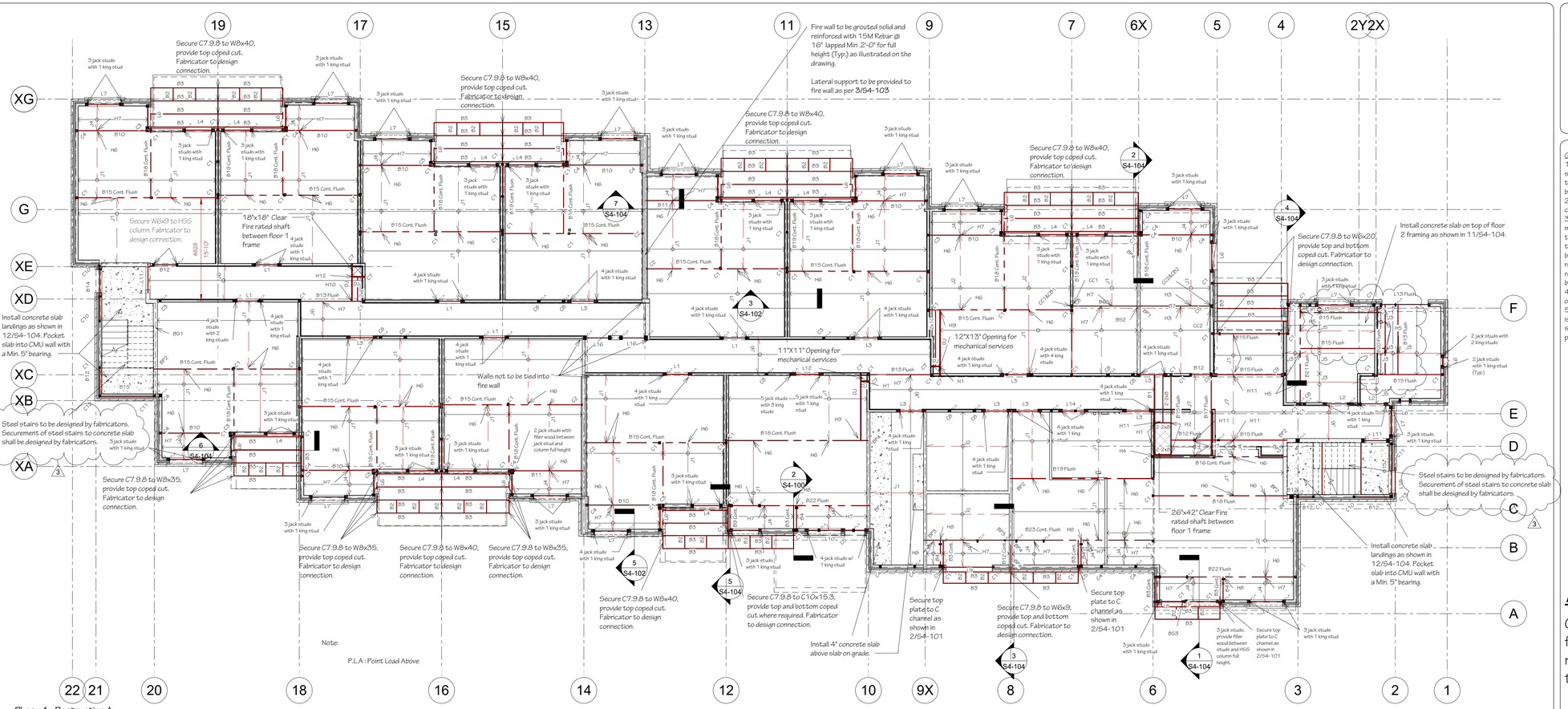
Contractor to verify foundation layout and report any discrepancies to the project engineer.

LICENSED PROFESSIONAL ENGINEER
100012996
T.D. SMITH
May 28/26
PROVINCE OF ONTARIO

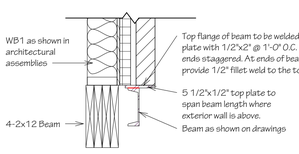
#	Description	Date
3	Revised for Addendum	May 28/26
2	Issued for Tender	May 13/26
1	Issued For Permit	March 19/26

Client	Kingston Frontenac Housing Corp.
Address	6094 Carleton Drive, Verona, ON
File	25-10031PR
Title	Structural Plans
Sheet	S4-100

Drawings Remain The Property Of T Smith Engineering Inc



Phase 4 - Restoration A
Structural Plan, 4_S_Floor 1
1 : 96



Detail, C Channel Top Plate
1 : 12

Joist Schedule

Label	Joist Size
J1	2x10 @ 16" oc
J2	2x10 @ 12" oc
J3	2x12 @ 12" oc
J4	2x6 @ 16" oc
J5	2x12 @ 12" oc
J6	2x8 @ 16" oc
J7	2-2x8 @ 12" oc

Baseplate Schedule

Label	Plate Size
BP1	4 1/2"x 4 1/2"x 1/2"
BP2	7 1/2" x 7 1/2" x 1/2"
BP3	5 1/2" x 11"x 1/2"
BP4	5 1/2"x9"x1/2"

Lintel Schedule

Label	Header Size	Bearing	Label	Header Size	Bearing
L1	2 - 2x8		L9	W6x9 + L 3 1/2" x 3 1/2" x 1/4"	6" minimum for steel angle
L2	2 - 2x10		L10	3 - 1 3/4" x 7 1/4" 2.0E LVL + L 5" x 3 1/2" x 5/16"	6" minimum for steel angle
L3	2 - 2x12		L11	L 5" x 3" x 1/2"	6" minimum
L4	3 - 2x6		L12	2 - 1 3/4" x 9 1/4" 2.0E LVL	
L5	3 - 2x8		L13	W6x20 + L 3 1/2" x 3 1/2" x 1/4"	
L6	3 - 2x6 + L 3 1/2" x 3 1/2" x 1/4"	6" minimum for steel angle	L14	2 - 1 3/4" x 7 1/4" 2.0E LVL	
L7	3 - 2x8 + L 3 1/2" x 3 1/2" x 1/4"	6" minimum for steel angle	L15	L 3 1/2" x 3 1/2" x 1/4"	6" minimum
L8	3 - 1 3/4" x 5 1/2" 2.0E LVL + L 5" x 3 1/2" x 5/16"	6" minimum for steel angle	L16	Lintel as per 13/S4-104	8" minimum

Beam Schedule

Label	Beam Size
B1	2 - 1 3/4" x 9 1/4" 2.0E LVL
B2	C3x3.5
B3	C7x9.8
B4	4-2x6
B5	C10x30
B6	3 - 1 3/4" x 9 1/4" 2.0E LVL
B7	4 - 1 3/4" x 9 1/4" 2.0E LVL
B8	3-2x10
B9	C10x15.3
B10	2 - 1 3/4" x 9 1/4" 2.0E LVL
B11	3 - 1 3/4" x 9 1/4" 2.0E LVL
B12	W6x9
B13	W6x12
B14	W6x15
B15	W6x20
B16	W8x21
B17	W8x24
B18	W8x35
B19	W8x40
B20	W10x19
B21	W10x26
B22	W10x45
B23	W10x49
B24	3-2x12

Hanger Schedule

Label	Hanger	Top Flange Fasteners	Face Fasteners	Joist Fasteners
H1	LUS28-2		(6) 10HDG (0.148" x 3" HDG 10d Common)	(4) 10HDG (0.148" x 3" HDG 10d Common)
H2	HWP 3 1/4" W, 7 1/4" H	Weld to top flange using 3/16" x 11/2" fillet welds at each end.		
H3	LU28L		(8) 10HDG (0.148" x 3" HDG 10d Common)	(6) N10 (0.148" x 1 1/2" HDG)
H4	HWP 3 1/2" W, 9 1/4" H	Weld to top flange using 3/16" x 11/2" fillet welds at each end.		
H5	JB212A	(4) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)
H6	JB210A	(4) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)
H7	JB26	(2) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)	(2) PRONGS
H8	HWP 6 1/4" W, 9 1/4" H	Weld to top flange using 3/16" x 11/2" fillet welds at each end.		
H9	BA210-2	(6) N10 (0.148" x 1 1/2" HDG)	(4) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)
H10	WP26-2	(4) N10 (0.148" x 1 1/2" HDG)		(2) N10 (0.148" x 1 1/2" HDG)
H11	BA28-2	(6) N10 (0.148" x 1 1/2" HDG)	(4) N10 (0.148" x 1 1/2" HDG)	(2) N10 (0.148" x 1 1/2" HDG)
H12	LU26-2L		(6) 10HDG (0.148" x 3" HDG 10d Common)	(4) N10 (0.148" x 1 1/2" HDG)

Wood Beam Seat Legend

Label	Beam Seat	Fasteners	Notes
BS1	GLB5A	1 - 1/2" bolt	
BS2	CC0 1/8	4 - 3/4" bolts	Provide a 1/4" fillet weld around perimeter where it meets the base plate.
BS3	CC04.62-3.62.	4 - 5/8" bolts	Provide a 1/4" fillet weld around perimeter where it meets the top plate.

Wood Column Cap Legend

Label	Column Cap	Beam Fasteners	Post Fasteners
CC1	ECCQ5-65DS2.5	14-No.1/4"x2 1/2" SDS screws	14-No.1/4"x2 1/2" SDS screws
CC2	ECCQ7.1-65DS2.5	14-No.1/4"x2 1/2" SDS screws	14-No.1/4"x2 1/2" SDS screws

Wood Column Base Legend

Label	Column Base	Fasteners	Notes
CB1	RCPS4HDG	4- 16d nails	Provide solid grout 2 courses below
CB2	RCPS5.5HDG	4- 16d nails	Provide solid grout 2 courses below

Notes:
1. Provide filler wood where required to make connection snug.

Column Schedule

Label	Column	Baseplate	Topplate
C1	H.S.S 3 1/2"x3 1/2" x 3/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C2	HSS 3" x1 1.2" x1/8"	Baseplate as per 9/S4-104	Topplate as per 8/S4-104
C3	3-2x4		
C4	3-2x6		
C5	4-2x6		
C6	2-2x6		
C7	2-2x4		
C8	4-2x4		
C9	H.S.S 5"x3" x 6/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C10	HSS 3" 1/2" x 3 1/2 x 5/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C11	HSS 4" x 4" x 5/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C12	HSS 4" x 4" x 1/2"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C13	HSS 5" x 5" x 6/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104

T Smith Engineering Inc.
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Tel. (416) 798-8770
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4. All framing lumber must be Spruce-Pine-Fir no 1. Grade or better unless specified otherwise.
5. Falsework and shoring not specified on these drawings is the responsibility of the constructor. all falsework and shoring shall be designed and inspected by a licensed professional engineer.

Note:

Contractor to verify foundation layout and report any discrepancies to the project engineer.

LICENSED PROFESSIONAL ENGINEER
100012990
T.D. SMITH
May 28/26
PROVINCE OF ONTARIO

#	Description	Date
3	Revised for Addendum	May 28/26
2	Issued for Tender	May 15/26
1	Issued For Permit	March 19/26

Client: Kingston Frontenac Housing Corp.

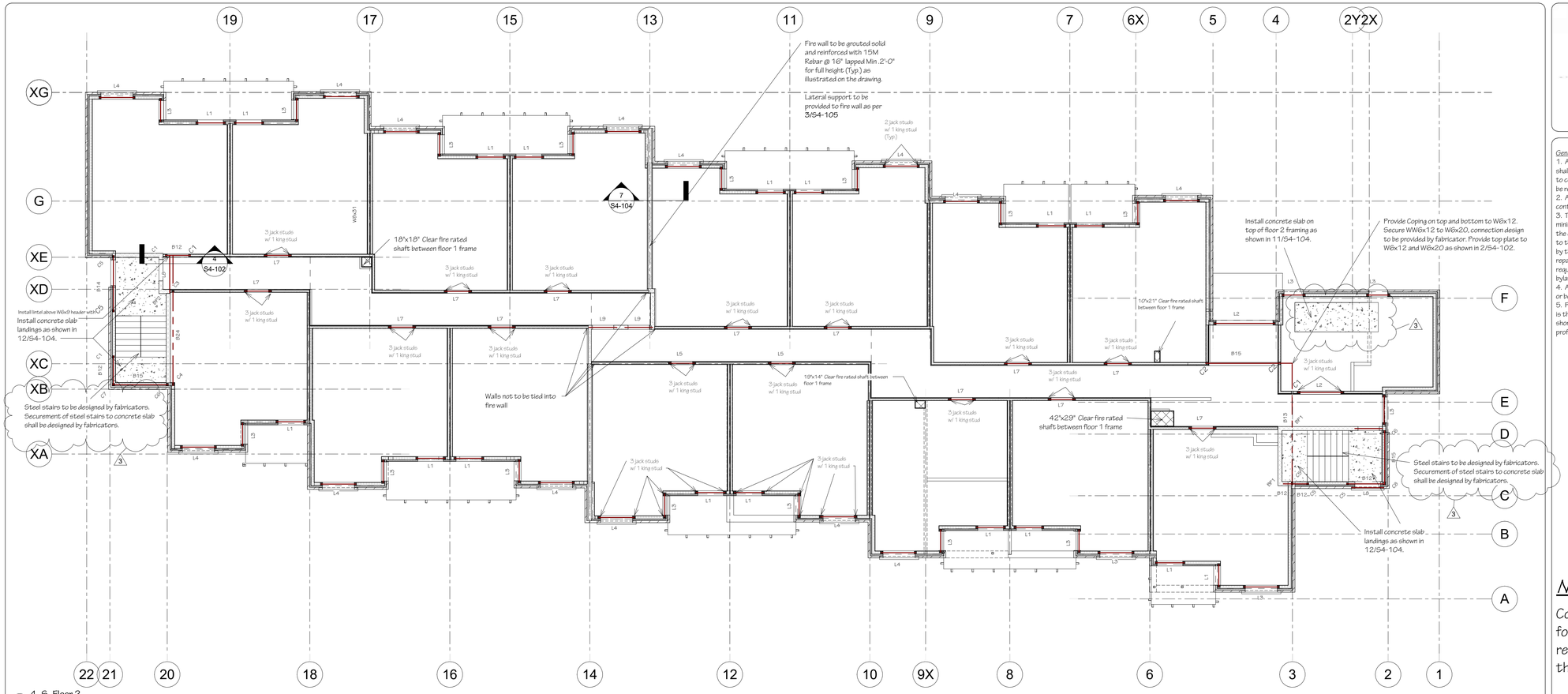
Address: 6094 Carleton Drive, Verona, ON

File: 25-10031PR

Title: Structural Plans

Sheet: S4-101

Drawings Remain The Property Of T Smith Engineering Inc



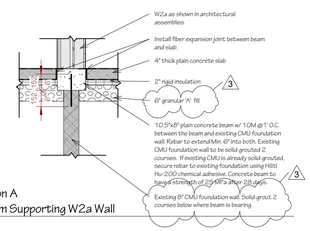
1 4_S_Floor 2
1 : 96

Beam Schedule	
Label	Beam Size
B1	2 - 1 3/4" x 9 1/4" 2.0E LVL
B2	C3x3.5
B3	C7x9.8
B4	4-2x6
B5	C10x30
B6	3 - 1 3/4" x 9 1/4" 2.0E LVL
B7	4 - 1 3/4" x 9 1/4" 2.0E LVL
B8	3-2x10
B9	C10x15.3
B10	2 - 1 3/4" x 9 1/4" 2.0E LVL
B11	3 - 1 3/4" x 9 1/4" 2.0E LVL
B12	W6x9
B13	W6x12
B14	W6x15
B15	W6x20
B16	W8x21
B17	W8x24
B18	W8x35
B19	W8x40
B20	W10x19
B21	W10x26
B22	W10x45
B23	W10x49
B24	3-2x12

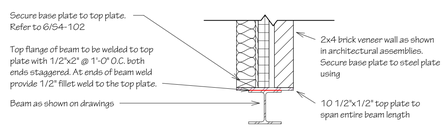
Column Schedule			
Label	Column	Baseplate	Topplate
C1	H.S.S 3 1/2"x3 1/2" x 3/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C2	H.S.S 5"x3" x 6/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C3	3-2x4		
C4	3-2x6		
C5	HSS 3" 1/2" x 3 1/2 x 5/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C6	HSS 4" x 4" x 5/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C7	HSS 4" x 4" x 1/2"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104
C8	HSS 5" x 5" x 6/16"	Baseplate as per 10/S4-104	Topplate as per 8/S4-104

Lintel Schedule		
Label	Header Size	Bearing
L1	3 - 2x10	
L2	3 - 2x12	
L3	3 - 2x10 + L 3 1/2" x 3 1/2" x 1/4"	6" minimum for steel angle
L4	3 - 2x12 + L 3 1/2" x 3 1/2" x 1/4"	6" minimum for steel angle
L5	2-2x12	
L6	L 5" x 3" x 1/2"	6" minimum
L7	2-2x10	
L8	L 3 1/2" x 3 1/2" x 1/4"	6" minimum
L9	Lintel as per 13/S4-104	8" minimum

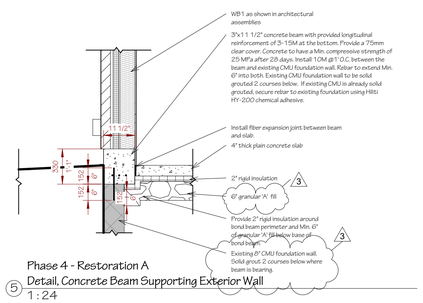
Baseplate Schedule	
Label	Plate Size
BP1	7 1/2"x7"x1/2"
BP2	5 1/2"x7"x1/2"



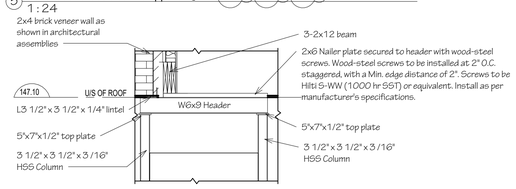
Phase 4 - Restoration A
3 Detail, Concrete Beam Supporting W2a Wall
1 : 24



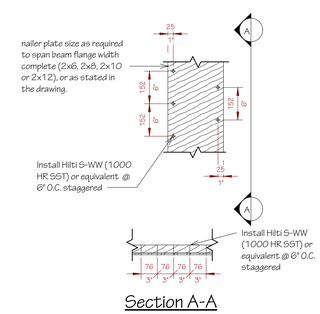
2 Detail, Beam with Plate
1 : 12



Phase 4 - Restoration A
5 Detail, Concrete Beam Supporting Exterior Wall
1 : 24



Phase 4 - Restoration A
4 Detail, Detail 2
1 : 24



6 Detail, Nailer Plate Nailing Pattern
1 : 12

T Smith Engineering Inc.
707 Kipling Ave, Toronto, ON, M8Z 5G4
Tel. (416) 798-8770
tSmithEngineering.com

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4. All framing lumber must be Spruce-Pine-Fir no 1. Grade or better unless specified otherwise.
5. Falsework and shoring not specified on these drawings is the responsibility of the constructor, all falsework and shoring shall be designed and inspected by a licensed professional engineer.

Note:

Contractor to verify foundation layout and report any discrepancies to the project engineer.

LICENSED PROFESSIONAL ENGINEER
100012990
T.D. SMITH
May 28/26
PROVINCE OF ONTARIO

#	Description	Date
3	Revised for Addendum	May 28/26
2	Issued for Tender	May 15/26
1	Issued For Permit	March 19/26

Client	Kingston Frontenac Housing Corp.
Address	6094 Carleton Drive, Verona, ON
File	25-10031PR
Title	Structural Plans
Sheet	S4-102

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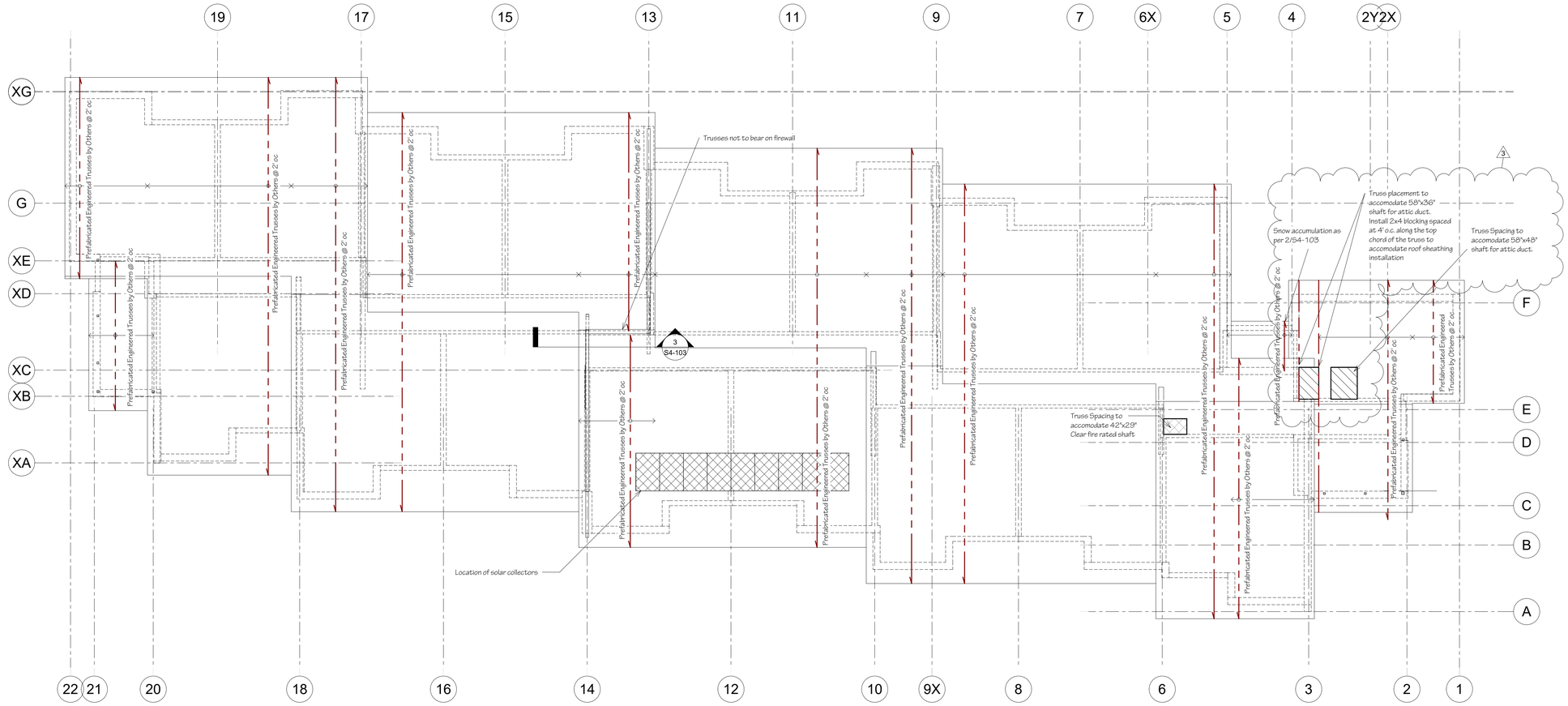
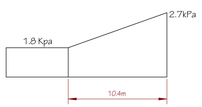


Phase 4 - Restoration A
Structural Plan, 4_S_Roof
1 : 96

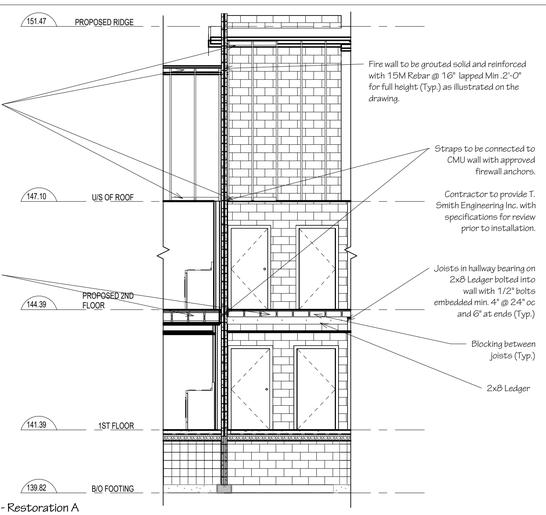


Snow Accumulation Diagram

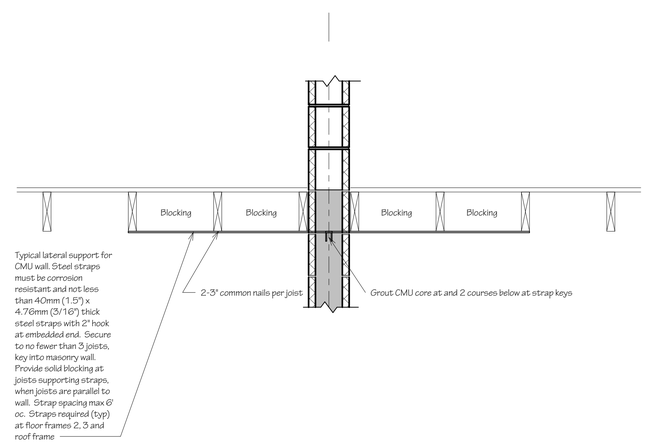
Snow Accumulation
2 1 : 96

Roof Notes:
Contractor to field verify truss dimensions with shop drawings.
Truss shop drawings to be provided for project engineer review and permit application prior to fabrication.
Roof design loads: Ss=2.4 kPa; Sr=0.4kPa, superimposed dead load 0.75 kPa
Sheathing to be a minimum ½" plywood (exterior grade) or as stated in truss manufacturers specifications, installed in full sheets, where feasible, supported on all edges with tongue and groove material, 2x2" wood blocking, or edge clips with staggered joints
Soffits to be fully vented, install moore vents and 1 roof vent per 200SF of ceiling area
Supply and Install ice and water shield at eaves, valleys etc..
Supply and install new asphalt shingles
Supply and Install all flashing, eaves trough, downspout, roof trim, fascia board and soffit.

Solar Collector System Notes:
The panels Manufacture is Viessmann. The model number is SV2F, and each panel weighs 90 lbs. The panels will be installed on a mounting kit to increase the slope of the panels.
snow accumulation around solar as per 4/S4-103
See system package for additional information



Phase 4 - Restoration A
Detail, Firewall Section
3 1 : 64



Detail, Lateral Support
4 1 : 12

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5. Falsework and shoring not specified on these drawings is the responsibility of the constructor, all falsework and shoring shall be designed and inspected by a licensed professional engineer.

Note:

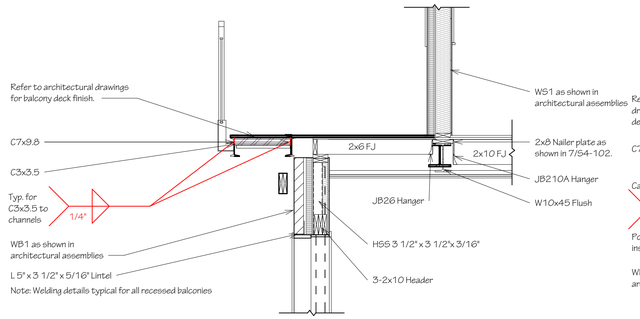
Contractor to verify foundation layout and report any discrepancies to the project engineer.

LICENSED PROFESSIONAL ENGINEER
100012996
T.D. SMITH
May 28/26
PROVINCE OF ONTARIO

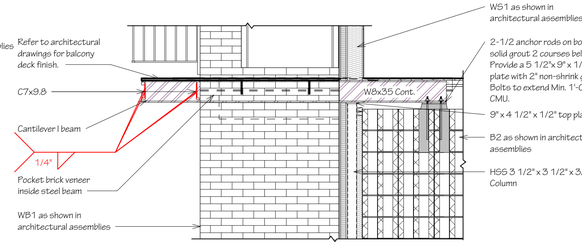
#	Description	Date
3	Revised for Addendum	May 28/26
2	Issued for Tender	May 13/26
1	Issued For Permit	March 19/26

Client	Kingston Frontenac Housing Corp.
Address	6094 Carleton Drive, Verona, ON
File	25-10031PR
Title	Structural Plans
Sheet	S4-103

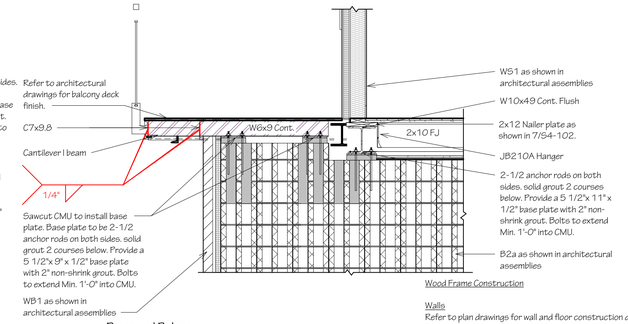
Drawings Remain The Property Of T Smith Engineering Inc



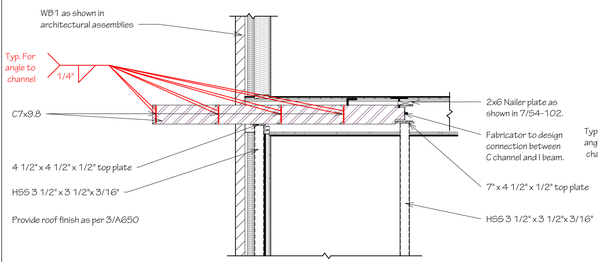
1 Recessed Balcony
1 : 24



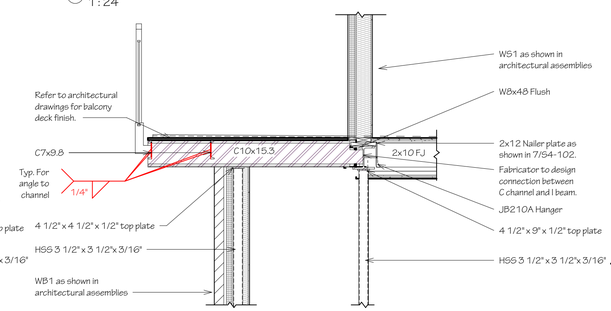
2 Exposed balcony
1 : 24



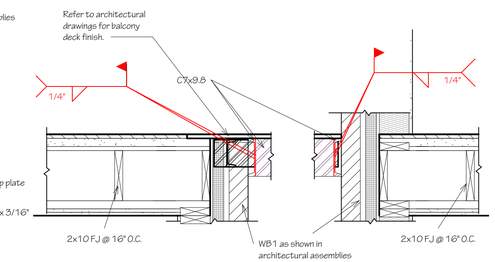
3 Recessed Balcony
1 : 24



4 Entrance Roof
1 : 24



5 Recessed Balcony
1 : 24



6 Angle Welds to Channel
1 : 12

Wood Frame Construction

Walls
Refer to plan drawings for wall and floor construction details.

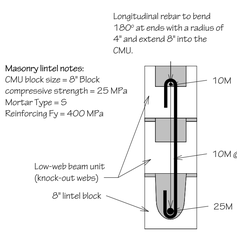
Floors
Refer to plan drawings for floor joist size and spacing requirements
Joists to have minimum 1½" of end bearing
Joists shall bear on a sill plate fixed to foundation with ½" anchor bolts @ 7'10" O.C., with anchor bolts installed within 12" of corners, embed anchors minimum 4" into foundation wall or grouted CMU cores.
Header joists between 3'11" and 10'6" in length shall be doubled. Header joists exceeding 10'6" shall be sized by calculations
Trimmer joists shall be doubled when supported header is between 2'7" and 6'7".
Trimmer joists shall be sized by calculations when supported header exceeds 6'7"
2 x 2 cross bridging required not more than 6'11" from each support and from other rows of bridging
Joists shall be supported on joist hangers at all flush beams, trimmers, and headers.
Joist hangers must use nails with diameter not less than that of 3" common nail, all holes in joist hangers must be filled, joist hangers must be properly sized for supported elements.
Joists located under parallel non-loadbearing partitions shall be doubled or supported on solid blocking @ 24" oc.
See plan drawings for subflooring requirements. Replacement of subflooring must be conducted in full sheets where practical, fully support all edges, install solid blocking as required during floor repairs.

Ceiling & Roof Frame
See plan drawings for rafter, roof joist and ceiling joist size and spacing requirements
Hip and valley rafter shall be 2" deeper than common rafters
2 x 4 collar ties @ rafter spacing with 1 x 4 continuous brace at mid span if collar tie exceeds 7'10" in length
Pitched roof sheathing to be not less than 1/2" plywood or OSB.

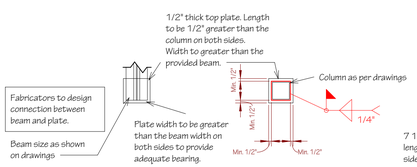
Notching & Drilling of Trusses, Joists, Rafters
Holes in floor, roof and ceiling members to be maximum ¼ x actual depth of member and not less than 2" from edges
Notches in floor, roof and ceiling members to be located on top of the member within ⅓ the actual depth from the edge of bearing and not greater than ⅓ joist depth
Wall studs may be notched or drilled provided that no less than ⅔ the depth of the stud remains, if load bearing, and 1 9/16" if non-load bearing
Roof truss members shall not be notched, drilled or weakened unless accommodated in the design. Copies of truss layout and shop fabrication drawings must be provided to T. Smith Engineering Inc. prior to fabrication. Contractor must verify all dimensions including roof truss measurements and roof slope.

Wood Frame Construction
All lumber shall be spruce-pine-fir No. 1 & 2, and shall be identified by a grade stamp, unless otherwise specified on plans.
Maximum moisture content 19% at time of installation
Existing lumber shall be dried to less than 12% WME before insulation placement.
Concrete shall have moisture content of 4% or less prior to installation of moisture susceptible finish or coating.
Wood framing members which are supported on concrete or masonry in direct contact with soil shall be separated from the concrete with 6 mil polyethylene or blueskin membrane.

Columns, Beams & Lintels
Steel beams and columns shall be shop primed.
Minimum 3½ end bearing for wood and steel beams, with 7 7/8" solid masonry beneath the beam, provide damp break between wood and masonry or concrete.
Steel columns to have minimum outside diameter of 2 7/8" and minimum wall thickness of 3/16"
Wood columns for carports and garages shall be minimum 3½" x 3½"; in all other cases either 5½" x 5½" or 7¼" round, unless calculations based on actual loads show lesser sizes are adequate. All columns shall be not less than the width of the supported member or be provided with specified bearing plates installed to fully support the width of the member.
Masonry columns shall be a minimum of 11 3/8" x 11 3/8" or 9½" x 15"
Provide solid blocking the full width of the supported member under all concentrated loads
Provide ribbon strapping at u/s of joists at both sides of steel beam bottom flanges, for lateral support, unless otherwise noted.

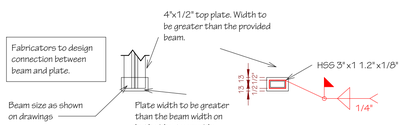


13 Detail, Masonry Lintel
1 : 10



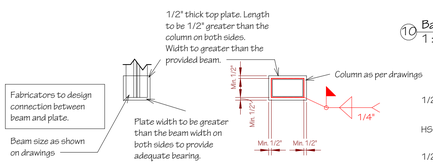
Beam bolted to plate Column weld to plate

For HSS square columns



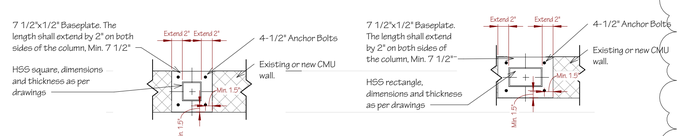
Beam bolted to plate Column weld to plate

For HSS 3" x 1 1/2" columns

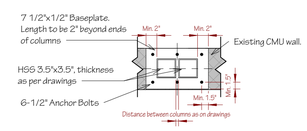


Beam bolted to plate Column weld to plate

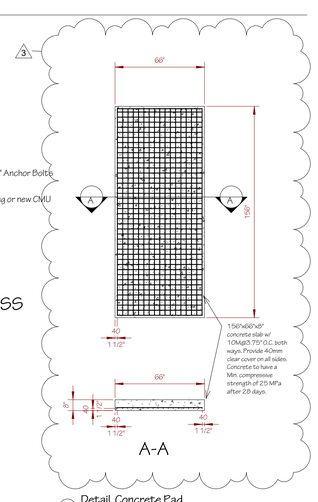
For HSS rectagnel columns



No Columns Nearby Square HSS No Columns Nearby Rectangle HSS

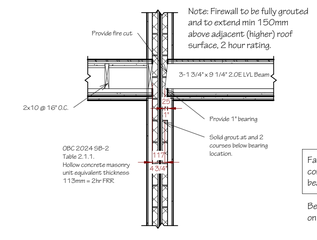


Nearby Columns Present Square HSS

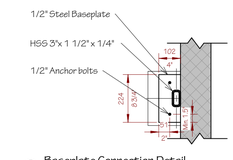


A-A

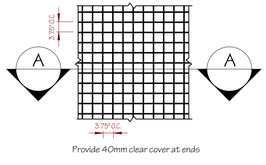
11 Detail, Concrete Pad
1 : 48



7 Wood Beam in Firewall
1 : 24

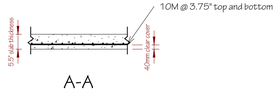


9 Baseplate Connection Detail
1 : 12



Landing Slab Size and Reinforcement

12 Detail, Landing Slab
1 : 24



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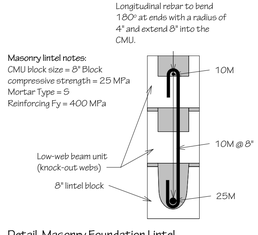

14 Detail, Masonry Foundation Lintel
1 : 10

T Smith Engineering Inc.
707 Kipling Ave, Toronto, ON, M8Z 5G4
Tel. (416) 798-8770
tSmithEngineering.com

General Notes:
1. All information that is shown and described as existing shall be checked and verified by the contractor/client prior to commencement of any work and all discrepancies shall be reported to the project engineer.
2. All dimensions must be verified on site by the contractor and client, drawings shall not be scaled.
3. The scope of work outlined on the drawings is a minimum requirement. Deviations or substitutions from the enclosed specifications must be greater than or equal to the outlined scope, and all changes must be approved by the project engineer in writing. All construction and repair must be conducted in conformance with the requirements of all applicable codes, regulations and bylaws.
4. All framing lumber must be Spruce-Pine-Fir no 1. Grade or better unless specified otherwise.
5. Falsework and shoring not specified on these drawings is the responsibility of the constructor. all falsework and shoring shall be designed and inspected by a licensed professional engineer.

Note:

Contractor to verify foundation layout and report any discrepancies to the project engineer.

LICENSED PROFESSIONAL ENGINEER
100012996
T.D. SMITH
May 28/26
PROVINCE OF ONTARIO

#	Description	Date
3	Revised for Addendum	May 28/26
2	Issued for Tender	May 15/26
1	Issued For Permit	March 19/26

Client	Kingston Frontenac Housing Corp.
Address	6094 Carleton Drive, Verona, ON
File	25-10031PR
Title	Structural Plans
Sheet	S4-104

Drawings Remain The Property Of T Smith Engineering Inc

T SMITH ENGINEERING DRAWING SPECIFICATIONS

1. General Requirements

1.1. Contract Requirements

1.1.1. Perform all mechanical work detailed on these contract documents.

1.1.2. Provide a complete and fully functional mechanical and fire protection systems to the satisfaction of the mechanical consultant.

1.1.3. Work described in these contract documents do not delegate works to any specific subcontractor or identify contractual limits between mechanical or sub- contractors.

1.1.4. Premium time costs shall be included for outside of normal working hours.

1.1.5. Any shutdown of mechanical systems affecting the current occupancy shall be conducted afterhours and on weekends, unless provided with written approval. Mechanical contractor shall allow for all overtime and premium time labour required to perform shut-downs in their cost.

1.1.6. The most rigorous of this specification and base building standards shall for the basis for this contract. Comply with Landlord's requirements for system shutdown and connection. Valves identified on drawings are those that are available for Contractor use. Allow for pipe freezing and similar processes to minimize system shutdown and disruptions.

1.1.7. Perform all work in accordance with all applicable municipal, provincial, and national codes and bylaws having jurisdiction, and best industry practices.

1.1.8. Permits and fees required by the Authorities Having Jurisdiction shall be obtained and paid for by the Mechanical Contractor, including all applicable taxes. Submit all documents to the Authority in the format required including paper copies and/or electronic documents.

1.1.9. Existing site conditions affecting the work outlined on these contract documents shall be reviewed on site prior to tender submission. Failing to review does not relieve the contractor of full contract responsibility. No change will be issued or extra cost will be entertained for site conditions that were reasonably visible during the tender walkthrough.

1.1.10. Cutting, patching, and core drilling shall be paid for under this contract by this contractor. X-ray concrete structure in accordance with Owner/Landlord Structural Engineer's requirements. Provide details of new openings through structural components for Engineer's approval. Incur all related costs for structural approval.

1.1.11. Fire stop all pipe penetrations through rated assemblies. Repair/provide all fire stopping required to maintain original ratings. Fire stopping shall be ULC listed and installed per the manufacturer's requirements.

1.1.12. Flashing and counter-flashing for exterior penetrations or waterproofed floors shall be provided under this contract. Flash all mechanical parts passing through, or built into a roof, outside wall, or waterproofed floor. Use prefabricated aluminum or PVC flashing for roof and membrane or copper for walls and floors. Ensure all openings are weather, water, and fireproof using approved flexible sealants.

1.1.13. Submit shop drawings electronically to all consultants and allow one (1) week engineer's review.

1.1.13.1. Provide shop drawings for all scheduled and specified equipment

1.1.14. Shop drawings shall be reviewed by the Contractor for accuracy and complete with Contractor's review stamp prior to submission. Any submitted shop drawing that does not bear the Contractor's review stamp will not be reviewed and will be returned back to the Contractor.

1.1.15. Equipment substitutions after award of contract will not be considered without written explanation and consultant's written authorization. The quality and performance characteristics of a substituted product shall be equivalent to the specified product. All substitute products shall be approved by consultants. Any additional costs incurred by all trades for the substituted equipment installation must be paid for by the Mechanical Contractor under this contract, and at no additional cost to the consultants or the client.

1.2.3.3. This contractor shall provide detailed scaled drawings (1:50 or 1/4'=1'-0") for the alternative equipment/product and associated revisions needed to accommodate said equipment. Submit the same to for engineer's review.

1.2.4. Control wiring and devices shall be provided under this contract. Control work shall be completed by the Owner's/Landlord approved contractor and paid for under this contract when connecting to base building controls systems.

1.2.5. Provide a complete and fully functioning system operating in accordance with the sequence of operations. Install all systems to allow for all future maintenance. Align all access doors, unit access locations, and piping/duct connections to ensure future serviceability of all systems.

1.2.6. Load-side wiring and electrical devices shall be provided including wiring, starters, disconnects, VFD's etc. Verify and coordinate voltage and phase with electrical contractor and consultant prior to ordering equipment.

1.2.7. Access doors shall be provided for all inaccessible mechanical equipment and services requiring inspection or maintenance. Finish shall suit Architect/Designers requirements. Access doors shall be recessed as required to suit wall/ceiling finish. Provide fire rated access doors in fire rated partitions.

1.2.8. Architect/Designer approval of air terminal, thermostat, and access door locations must be obtained prior to installation.

1.2.9. Written warranty shall be provided for the complete mechanical installation for one (1) year from the date of substantial completion.

1.2.10. As-built drawings shall be completed utilizing AutoCAD. Record accurately, installed work indicating exact locations, inverts and elevations, and sizes, dimensioned from column/grid lines, on white prints and transfer to AutoCAD. Submit both copies upon completion. Keep one set on site for consultant review. As-built drawings are to solely note "Issued for As-Builts" complete with contractor's title block. All consultant information is to be removed from as-built drawings.

1.2.11. Operation and maintenance manuals containing reviewed shop drawings, balancing reports, startup reports, and manufacturer's operation and maintenance manuals shall be submitted for consultant review. Manuals shall be submitted electronically for consultant review. Make all corrections requested by consultant and resubmit for review. Allow for printing of physical copy upon Owner's/Landlord's request.

1.2.12. Change notice quotations shall be submitted complete with cost breakdown of labour and materials. Mechanical changes notices shall be priced in accordance with Mechanical Contractor Association (MCA) labour units. For material cost, use Allpriser less 20%.

1.2.13. Temporary filters 25mm (1") shall be provided at all base building return air openings. Filters to be replaced weekly and removed upon construction completion.

1.2.14. During construction, each contractor shall keep their work tidy. The premises shall be free of garbage and surplus materials. Clean daily.

1.2.15. Contractors are responsible for all damage to property or adjacent property as a result of work under these contract documents.

1.2.16. Contractors are responsible for maintaining safe practices and conditions in accordance with Occupational Health and Safety, security regulations, and fire safety regulations.

1.2.17. Plug all duct open ends, pipe open ends, and drains to prevent the entrance of foreign materials. Additional cleaning/flushing will be completed at no additional cost to the Owner.

1.2.18. Mechanical contractor shall take on the responsibility of coordinating installation of all mechanical systems with other trades. Produce a fully coordinated set of drawings showing all architectural, structural, electrical, fire protection, and mechanical services as a shop drawing for Consultant's review. Do not proceed to fabricate and install mechanical systems until shop drawings have been reviewed.

1.2.18.1. The mechanical contractor shall hold weekly coordination meetings with all trades to ensure coordination drawings are being followed and updated as required.

1.3. Supplementary Definitions

1.3.1. Supply - Furnish to site in location required or directed, complete with all accessories and ancillary equipment.

1.3.2. Install - Secured in placed and all services connected up for operation as noted or directed.

1.3.3. Provide - To supply and install as described above.

1.3.4. Delete or Remove - Disconnect, make safe, and properly dispose off site all obsolete materials and ancillary devices noted on drawings and plans. Patch and repair all finished surfaces to match adjoining finishes in like kind and quality.

1.3.5. Exposed - Within the line of sight of any person standing or sitting in the occupied space.

1.3.6. Concealed - not exposed, hidden from normal sight in furred spaces, shafts, ceiling spaces, walls, floors, and partitions.

1.3.7. Listed - Materials or equipment that are tested in accordance with applicable standards and are approved and listed for their intended use by a testing company approved by the Authorities Having Jurisdiction.

1.4. Materials and Alternatives

1.4.1. Use only new materials, unless otherwise noted.

1.4.2. Materials and equipment shall meet or exceed base building standards and shall have Owner's/Tenant's approval prior to ordering.

1.4.3. Tender price to be per contract documents. Alternative equipment and associated cost savings to be indicated separately in tender submission.

1.5. Identification

1.5.1. Provide lamacoid name plates for all mechanical equipment. Text to be 10mm (3/8") high white lettering on black background. Identify equipment designation, voltage, phasing, unit #, and service.

1.5.2. Identify all valves with tags. Framed list of tagged valves to be provided to Owner/Tenant indicating valve location and use.

1.5.3. Provide labels for all mechanical systems associated with these contract documents. Identify fluid flow direction and system type. Labels to be visible behind each access door. Identify exposed mechanical services along line of site and as the service enters and exits a space. Allow for additional labeling at Consultant's request.

1.5.4. Identify capped future provisions.

1.6. Inspection

1.6.1. Arrange for required inspections with the Authorities Having Jurisdiction. All changes and alterations required as a result of these inspections are to be carried out promptly and without charge.

1.6.2. Mechanical consultant inspection(s) are required for the completion of this contract and the closing of permits obtained for this project.

1.6.3. Prior to complete installation of wall and ceiling finishes, or concealment of any buried services, contact T. Smith Engineering (inspections@tsmithengineering.com) to confirm and coordinate inspections. When ceilings or walls have been installed, it may be necessary for the contractor to remove portions to allow for inspection.

1.7. Structural Consultant Review

1.7.1. Mechanical equipment weights and opening requirements to be reviewed by a structural engineer.

1.7.2. Penetrations through structural slabs and members to be reviewed by Structural Engineer and base building consultant(s) prior to proceeding with work.

1.7.3. Structural Engineer review to be included as part of this contract.

1.8. Inserts and Sleeves

1.8.1. Provide sleeves for piping passing through walls, floors, and ceilings as detailed and as required per firestop listing requirements.

1.8.2. Sleeves are to be schedule 40 black steel and packed tight for water/air seal, sound transmission, fire proofing, and smoke proofing per applicable details and listings.

1.8.3. Provide Link-Seals in all pipe sleeves exposed to unexcavated areas to ensure a complete watertight seal.

1.9. Hangers and Supports

1.9.1. Provide hangers and supports per industry best practices and standards.

1.9.2. Support from building structure. Supporting from equipment, piping, and ductwork will not be accepted.

1.9.3. Provide oversized hangers to maintain vapour barriers as outlined in insulation specification. Coordinate with insulation contractor to ensure hangers and supports do not penetrate vapour barriers.

1.10. Demolition

1.10.1. Refer to drawings for extent of demolition work.

1.10.2. Existing services indicated are approximate locations. Investigate exact locations on site prior to demolition work.

1.10.3. Coordinate demolition activities with Owner/Landlord for noise control and work in adjacent spaces.

1.10.4. Demolition work requiring the use of vibrating tools, such as jack hammer, shall only be performed afterhours unless written approval is provided by the Consultant.

1.10.5. Dispose of all materials and debris per the requirements of the Authority Having Jurisdiction.

1.10.6. Salvageable materials and equipment to be coordinated with Owner/Landlord prior to disposal or storage.

1.10.7. Submit demolition plan including demolition sequence, temporary supports, and protection of existing services.

1.10.8. Include for maintaining active drainage systems.

1.10.9. Include for heating and cooling of critical areas during system shutdown. Coordinate with Owner/Landlord and consultants. This includes protection of services to prevent freezing.

1.10.10. Demolition work to be achieved with minimal shutdowns. Provide valves such that reconnecting to existing systems does not require additional shutdowns.

1.10.11. Patch and make good all fire separations upon removal of mechanical services.

1.10.12. In the event of damages during construction/demolition activities notify Owner/Landlord immediately and make good all damages at not additional cost to the Owner/Landlord.

1.10.13. Coordinate will all trades involved to ensure equipment and services are made safe prior to demolition.

1.10.14. Coordinate all interruptions of existing services and system shutdowns with Owner/Landlord in writing 72 hours in advance. Receive approval prior to commencement of work.

1.10.15. Premium time required to accommodate service interruptions meeting the Owner/Landlords requirements shall be included as part of this contract. No additional costs will be allowed due to failure to coordinate these activities at the time of tender.

2. Fire Protection

2.1. General

2.2. Design and install systems indicated per the requirements of NFPA, the OFC, and the Authority Having Jurisdiction.

2.3. Unless otherwise noted, sprinkler system shall be hydraulically designed.

2.4. Provide hazard category and zoning as indicated.

2.5. Upon completion of project submit NFPA (NFPA 13 and/or 14) compliance letter signed and sealed by the installing contractor's engineer.

2.6. Submit hydraulic calculations and layout drawings signed and sealed by installing contractor's engineer prior to installation. Hydraulic calculations may be omitted at the discretion of the contractor's engineer when not required by the Authority Having Jurisdiction.

2.7. Sprinkler contractor's engineer shall become the engineer of record for all sprinkler and standpipe design and installation.

2.8. Sprinkler contractor shall apply for all permits and submissions required to the Authority Having Jurisdiction.

2.9. Retain Certified Systems Testing Contractor to perform fire protection and life safety systems integration testing of the entire system as a whole in accordance with CAN/ULC-S1001, "Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems", to verify that all systems have been properly integrated.

2.10. All sprinkler heads are to be hard piped. Flexible type sprinkler heads are to be proposed and accepted by the Owner/Landlord and consultants on a case by case basis prior installation. Flexible type sprinkler heads installed prior to this review and written approval will be removed and reinstalled with hard piped sprinkler heads per specifications at the Contractor's expense.

2.11. All components shall be ULC listed.

2.12. Sprinkler installation shall be by Owner/Landlord's preferred contractor if requested.

2.13. Coordinate sprinkler head locations with final reflected ceiling plans and other ceiling mounted items. Sprinkler heads to be centered in ceiling tiles and aligned with all other ceiling features.

2.14. All piping to be schedule 40 black iron. Weld piping in inaccessible areas where repairs cannot be easily achieved due to access.

2.15. Provide tamper proof alarm switches for each valve. Refer to electrical drawings for alarm wiring and connections to fire panel.

2.16. Valves to be identified with metal signs with white letters on red background suspended from chains.

2.17. Provide guards for sprinkler heads in elevator machine rooms, mechanical rooms, storage rooms, garbage rooms, walk-in coolers/freezers, and where indicated.

2.18. Protect sprinkler heads during painting. Replace damages or painted components.

2.19. Unless noted otherwise, all exposed sprinkler piping shall be painted red.

2.20. Provide spare sprinkler head box complete with minimum spare sprinklers as required by NFPA 13 and sprinkler wrench.

2.21. Testing: Test sprinkler and standpipe system per NFPA 13 and 14 requirements. Submit final and passed test result to the landlord and consultant.

2.22. Design and install fire extinguisher systems as indicated per the requirements of NFPA 10, the OFC, and the Authority Having Jurisdiction.

2.23. Provide fire extinguishers of the type, size, and rating as indicated on the drawings. Where not indicated, select extinguisher type appropriate to the hazard classification of the occupancy in accordance with NFPA 10.

2.24. Mount all fire extinguishers in ULC listed wall brackets or cabinets at locations indicated. Mounting height shall comply with NFPA 10. All components shall be ULC listed. Submit NFPA 10 compliance letter signed and sealed by the responsible contractor upon completion of the project.

2.25. Where fire extinguisher cabinets occur in fire rated wall assemblies, provide ULC listed cabinets specifically rated for use in fire rated assemblies. Provide custom colour painted finish or stainless steel finish as indicated or directed by the Architect. Where finish is not indicated, coordinate with Architect prior to procurement.

3. Plumbing and Drainage

3.1. General

3.1.1. Provide all domestic water systems and connections to plumbing fixtures and equipment requiring water connections.

3.1.2. Provide all drainage and vent systems inside the building and up to 1.5m (5ft) past the foundation walls. Venting to conform with applicable codes and the Authorities Having Jurisdiction.

3.1.3. Provide all trenching and backfilling required to achieve the indicated plumbing work.

3.1.4. Existing sanitary and storm drain locations and invert elevations shall be verified on site prior to commencement of work.

3.1.5. Flush and scope existing sanitary and storm drains and perform a full inspection of the existing sanitary system prior to commencement of work.

3.1.6. Provide electronic trap priming devices and prime all traps per code requirements.

3.1.6.1. Electronic trap priming devices shall be an engineered, pre-fabricated, and factory tested assembly, equal to PPP Inc.

3.1.7. Provide all plumbing fixtures including all required trim and supports.

3.1.8. Provide shutoff valves, in accessible locations, on domestic water supplies to plumbing fixtures and equipment.

3.1.9. Verify all existing drainage locations and inverts on site prior to commencing work. Ensure drainage runs can meet site service inverts. Notify consultants when apparent difficulties and discrepancies are encountered. No additional costs will be paid after for rerouting drains because site inverts cannot be met.

3.1.10. Perform all tests required by the Authorities Having Jurisdiction and obtain certification upon completion. Repeat tests as required to obtain certification.

3.1.11. Ball test all drains.

3.1.12. Water test all drainage and vent systems to ensure there is no leakage.

3.1.13. Pressure test all piping systems per applicable code and the requirements of the Authority Having Jurisdiction. Submit report(s) to Owner/Landlord and consultants. Include reports in final closeout package.

3.1.14. Test plumbing systems before covering.

3.1.15. Separate dissimilar metals per best industry practices.

3.1.16. Slope all domestic water piping to low points to ensure ease of drainage for maintenance. Provide drain valves at low points.

3.1.17. Provide water hammer arrestors on all piping serving fixtures or equipment with quick closing valves. Arrestors to be manufactured by Zurn or Watts with NSF compliant construction. Size and install arrestors per manufacturer's guidelines. Coordinate locations and access with general trade and architectural consultant.

3.1.18. Exposed piping and fittings in washrooms to be chrome plated. Provide chrome plated escutcheons on all piping passing through finished surfaces or millwork.

3.2. Cleaning, Flushing, and Disinfecting Plumbing Piping

3.2.1. Flush all drains until deposits of earth and foreign materials have been removed.

3.2.2. Flush all systems with clean potable water to remove scale and sediment upon filling.

3.2.3. Ensure operation of isolation and check valves such that disinfecting solution does not flow into adjacent systems.

3.2.4. Sterilize all domestic water piping per local municipal requirements.

3.2.5. Disinfect mains in accordance with AWWA Standard C651-86 upon completion of test and flushing. Repeat process until test results are satisfactory. Include final test report in closeout package.

3.2.6. Water quality tests by a recognized independent testing agency to be arranges and payed for under this project. Obtain certificates confirming safety of potable water supply and include reports in closeout package.

3.3. Materials

3.3.1. Below ground sanitary

3.3.1.1. Less that 75mm (3") to be CAN/CSA approved ABS or PVC sewer pipe with solvent welded joints.

3.3.1.2. 75mm (3") and larger to be CSA Class 4000 cast iron piping and fittings, CSA approved SDR35 PVC with gasketed joints, or CAN/CSA approved ABS.

3.3.2. Above ground sanitary

3.3.2.1. Less that 75mm (3") to be DWV copper with drainage fittings and 95/5 solder joints, or IPEX System XFR.

3.3.2.2. 75mm (3") and larger to be CSA Class 4000 cast iron piping and fittings, or IPEX System XFR.

3.3.2.3. Combustible piping such as CAN/CSA approved ABS piping or IPEX System 15 PVC piping may be used where combustible construction material is permitted, where it is not routed in air plenums, and only when approved by the engineer. Do not use combustible piping without written approval from the engineer.

3.3.3. Below ground storm

3.3.3.1. 75mm (3") and larger to be CSA Class 4000 cast iron piping and fittings or CSA approved SDR35 PVC with gasketed joints.

3.3.3. Below ground vent

3.3.3.1. Less that 75mm (3") to be Type 'L' copper with wrought copper fittings and 95/5 solder joints, or IPEX System XFR.

3.3.3.2. 75mm (3") and larger to be CSA Class 4000 cast iron piping and fittings, or IPEX System XFR.

3.3.3.3. Combustible piping such as CAN/CSA approved ABS piping or IPEX System 15 PVC piping may be used where combustible construction material is permitted, where it is not routed in air plenums, and only when approved by the engineer. Do not use combustible piping without written approval from the engineer

3.3.4. Above ground vent

3.3.4.1. Less that 75mm (3") to be DWV copper with drainage fittings and 95/5 solder joints, or IPEX System XFR.

3.3.4.2. 75mm (3") and larger to be CSA Class 4000 cast iron piping and fittings, or IPEX System XFR.

3.3.4.3. Combustible piping such as CAN/CSA approved ABS piping or IPEX System 15 PVC piping may be used where combustible construction material is permitted, where it is not routed in air plenums, and only when approved by the engineer. Do not use combustible piping without written approval from the engineer.

3.3.5. Below ground domestic water

3.3.5.1. Type 'K' soft copper tube shall be used for below ground domestic water service. Piping shall be installed as a single continuous run with no joints, couplings, or fittings permitted below ground. Copper piping and fittings shall not be used downstream of any reverse osmosis (RO) treatment equipment.

3.3.5.2. Where below ground domestic water piping is required downstream of reverse osmosis (RO) treatment equipment, crosslinked polyethylene (PEX-A) tubing conforming to CSA B137.5 shall be used. Piping shall be installed as a single continuous run with no joints, couplings, or fittings permitted below ground. Installation shall be in accordance with the manufacturer's instructions, properly supported, and installed without induced stress or strain on the tubing or fittings.

3.3.5.3. All below ground piping shall be sleeved or bedded in accordance with applicable code requirements and manufacturer's recommendations. Piping shall be protected against soil corrosion, external loads, and ground movement. Below ground piping shall transition to the approved above ground material at the first accessible point above finished floor or grade, prior to any connection, valve, or fitting.

3.3.6. Above ground domestic water

3.3.6.1. Type 'K' or 'L' copper pipe with wrought copper fittings and 95/5 solder joints shall be used for standard domestic water distribution. Copper piping and fittings shall not be used downstream of any reverse osmosis (RO) treatment equipment.

3.3.6.2. Grooved copper piping systems with working pressures up to 2100 kPa (300 psig) may be used in accessible areas. Use Victaulic couplings with Grade E gaskets. Grooved copper systems shall not be used downstream of reverse osmosis (RO) treatment equipment.

3.3.6.3. Where combustible materials are permitted and piping is not routed in air plenums, CPVC piping conforming to CSA B137.6 with fittings conforming to ASTM F439 Schedule 80 CPVC may be used, subject to written approval by the engineer. CPVC shall be the required piping material for all domestic water distribution downstream of reverse osmosis (RO) treatment equipment, for both hot and cold water service up to 93°C (200°F). All fittings used in RO water service shall be lead-free compatible CPVC or polysulfone. Standard brass or copper-alloy fittings shall not be used in RO water service. Do not use combustible piping and fittings without written approval from the engineer.

3.3.6.3.1. Crosslinked polyethylene (PEX-A) tubing conforming to CSA B137.5 may be used for final domestic water drops from ceiling to fixture connections within wall cavities, where combustible materials are permitted. PEX-A shall be the required material for all final drops and fixture connections downstream of reverse osmosis (RO) treatment equipment, in lieu of copper, and is suitable for both hot and cold RO water service up to 93°C (200°F). Installation shall be in accordance with the manufacturer's instructions, properly supported at required intervals, and installed without induced stress or strain on the tubing or fittings.

3.3.6.3.2. Where PEX-A tubing penetrates fire-rated floor, wall, or ceiling assemblies, the penetration shall be sealed with a listed intumescent firestop system tested and approved for use with flexible plastic piping in accordance with CAN/ULC-S115. Firestop systems shall be installed strictly in accordance with the manufacturer's published system drawing applicable to the specific rated assembly. Standard non-intumescent sealants shall not be permitted for PEX-A penetrations through fire-rated separations.

3.3.6.4. Where domestic water piping is required to be routed through return air plenums, IPEX Aquarise CPVC piping and fittings, listed and approved for air plenum installation in accordance with CAN/ULC-S102.2, shall be used. Aquarise piping shall conform to CSA B137.6 and shall be installed in accordance with the manufacturer's instructions and all applicable code requirements. All fittings and joining methods shall be manufacturer-approved and compatible with reverse osmosis treated water service. IPEX Aquarise shall be the required material for all plenum-routed piping downstream of reverse osmosis (RO) treatment equipment.

3.3.6.5. All domestic water piping downstream of reverse osmosis (RO) treatment equipment shall be clearly and permanently identified at maximum 3,000 mm intervals and at every valve, fitting, and branch connection with labelling indicating "RO WATER SERVICE." Material substitutions within RO water service piping shall not be permitted without written approval from the engineer. The following materials are strictly prohibited in RO water service: copper pipe and fittings, standard brass fittings, galvanized pipe and fittings, and PVC piping in hot water service above 60°C (140°F).

3.3.7. Condensate drain

3.3.6.1. Type 'K' or 'L' copper pipe with wrought copper fittings and 95/5 solder joints.

3.3.6.2. Grooved copper piping systems with working pressures up to 2100kPa (300psig) may be used in accessible areas. Use Victaulic couplings with Grade E gaskets.

3.4. Valves

3.4.1. Valves are to be manufactured by Kitz, Jenkins, Apolo

3.4.2. Valves 50mm (2") and smaller to have soldered connections.

3.4.3. Valves 65mm (2-1/2") and large to have flanged connections.

4. HVAC Equipment

4.1. Provide HVAC equipment and accessories as per equipment schedule.

4.2. Submit shop drawing for review prior to purchasing. Shop drawing shall include manufacturer's printed product literature and data sheets, performance data, and all listed options.

4.3. Deliver, store, and handle in accordance with manufacturer's requirements. Protect all products from damages, and replace all damaged products with new.

4.4. Install all equipment in accordance with manufacturer's written recommendations, instructions, all applicable codes, and best industry practices.

4.5. Provide equipment startup and commissioning by a factory trained technician. Submit startup and commissioning report for review.

5. Heat Tracing

5.1. Install in accordance with manufacturer's instructions.

5.2. Use 400V megger to test cables for continuity and insulation value, and record readings before, during, and after installation

6. Ductwork

6.1. Ductwork to be fabricated from G-60 galvanized sheet metal.

6.2. Ductwork shall be smooth on the inside, free of obstructions, vibrations, and rattles.

6.3. Duct sizes noted on plans are clear internal dimensions. Where duct liners are specified, increase the size of the duct by the total thickness added by the liners.

6.4. Construct and seal ductwork per SMACNA standards. (Tables 1-1 and 1-3)

6.5. Ductwork shall be sealed per SMACNA standard and in accordance with the system pressure.

6.5.1. Seal Class A - (4" WC and above) All transverse joints and longitudinal seams and duct wall penetrations shall be sealed. Pressure sensitive tape shall not be used as primary sealant. Max. 2 to 5 percent total system leakage.

6.5.2. Seal Class B - (2" to 4" WC) All transverse joints and longitudinal seams shall be sealed. Pressure sensitive tape shall not be used as primary sealant. Max. 3 to 10 percent total system leakage.

6.5.3. Seal Class C - (up to 2" WC) All transverse joints shall be sealed. Max. 5 to 20 percent total system leakage.

6.6. Acceptable Sealant: oil resistant, polymer type flame resistant duct sealant. Acceptable material Duro Dyne S-2 or equivalent.

6.7. Hangers and reinforcement shall be fabricated and installed per SMACNA standards.

6.8. Round ductwork shall be spiral pipe formed by rolling sheet metal into a rigid steel tube with a 4-ply spiral lockseam.

6.9. Flexible ductwork shall be spiral wound aluminum. Secure to rigid duct with gear clamps. Flexible duct shall be installed as one continuous piece and not exceed 3000mm (10') in length. Bends shall not be less than 1 duct diameter center line radius.

6.10. Flexible duct connections shall be provided between air handling equipment and ductwork. Connections shall be Durodyne Metal Fab Neoprene (MFN) and installed with a continuous 50mm (2") gap between seams. Pinched or stretched connections will not be accepted.

6.11. Transfer air openings without ductwork are to be coordinated with general trades.

6.12. Balancing dampers shall be provided in new and existing ductwork to facilitate a complete and balanced system. Coordinate damper locations and requirements with Balancing Contractor.

6.13. Access doors shall be double wall with 1" thick insulation, 24 gauge, mounting frame with notched knock over tabs, 1/4" thick by 1/2" wide close cell neoprene gasketing between door and frame, and 1/8" thick by 1/2" wide close cell neoprene gasketing between frame and duct. Cam latch shall be self tightening and hand operated.

6.14. Provide fire dampers as indicated and as required to maintain fire ratings indicated on architectural drawings. Fire dampers shall be dynamic type (4,000 FPM @ 4"w.g.), out of air stream (Type B or C), and ULC labeled. Installation to comply with NFPA 90A. Dampers shall be equal to Ruskin DFD or DIBD series.

6.15. Required Rating:

6.15.1. For fire separations with fire-resistance rating of 2 hours or less, provide 1.5 hour rated dampers.

6.15.2. For fire separations with fire-resistance rating of more than 2 hours, provide 3 hour rated dampers.

6.15.3. Refer to architectural drawings for fire-resistance rating of all fire separations and provide appropriately rated fire dampers accordingly.

7. Hangers and Supports

7.1. Inserts

7.1.1. Inserts shall be malleable iron case or [galvanized] steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms.

7.1.2. Size inserts to suit threaded hanger rods.

7.2. Pipe Hanger and Supports

7.2.1. Hangers: Pipe sizes 15 mm to 40 mm: Adjustable wrought steel ring.

7.2.2. Hangers: Pipe sizes 50 mm to 100 mm and Cold Pipe Sizes 150 mm Over: Adjustable wrought steel clevis.

7.2.3. Hangers: Hot Pipe Sizes 150 mm and Over: Adjustable steel yoke and cast iron roll.

7.2.4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods, cast iron roll and stand for hot pipe sizes 150 mm and over.

7.2.5. Wall Support: Pipe Sizes to 80 mm: Cast iron hook.

7.2.6. Wall Support: Pipe Sizes 100 mm and Over: Welded steel bracket and wrought steel clamp, adjustable steel yoke and cast iron roll for hot pipe sizes 150 mm and over.

7.2.7. Vertical Support: Steel riser clamp.

7.2.8. Floor Support: Pipe Sizes to 100 mm and All Cold Pipe Sizes: Cast iron adjustable pipe saddle, locknut nipple, floor flange and concrete pier to steel support.

7.2.9. Floor Support: Hot Pipe Sizes 150 mm and over: Adjustable cast iron roll and stand, steel screws and concrete pier or steel support.

7.2.10. Design hangers so they cannot become disengaged by movements of supported pipe.

7.2.11. Provide copper plated hangers and supports for copper piping or provide sheet lead packing between hanger or support and piping.

7.2.12. Insulate aluminum piping from dissimilar metal supports.

7.2.13. Oversize hangers to allow continuous pipe insulation accordingly, including insulation shield.

7.3. Hanger Rods

7.4. Provide steel hanger rods, threaded both ends, threaded one end, or continuous threaded.

7.5. Duct Hangers and Supports

7.5.1. Hangers: To SMACNA standards and configuration.

7.5.1.1. Galvanized steel band iron or rolled angle and 10 mm rods.

7.5.2. Wall Supports: Galvanized steel band iron or fabricated angle bracket.

7.5.3. Vertical Support at Floor: Rolled angle.

8. Insulation

8.1. Provide all thermal insulation as indicated in drawings and as specified in the following.

8.2. Protect insulation work from being defaced or damaged by other trades. Make good any damages and leave in condition ready for paint.

8.3. Insulation to be protected in storage and during installation such that water is not absorbed by the insulation. Insulation found to have absorbed water is to be replaced immediately at no additional cost to the Owner/Landlord.

8.4. Surfaces to be dry,clean, and free of rust prior to insulation installation.

8.5. All insulation sections to be firmly butted together.

8.6. Maintain ambient temperatures within manufacturer's specifications to ensure adhesives work as intended.

8.7. Insulation to be manufactured in a registered ISO 9000 facility.

8.8. All insulation pertaining to the work identified in these contract documents is to be carried by a single firm. Similar products from multiple manufacturers are not to be mixed.

8.9. Insulation to be manufactured by Owens Corning, Johns Manville, Manson Insulation, and Knauf Insulation.

8.10. Provide non-combustible insulation materials meeting or exceeding a flame spread/smoke development rating of 25/50 meeting CAN/ULC S-102 requirements.

8.11. Provide a complete and continuous vapour barrier as specified below and on all exterior mechanical services.

8.12. Provide high density insulation insert and support shield for all piping larger than 32mm (1-1/4") specified with vapour barrier such that insulation is not crushed and vapour barrier is not penetrated.

8.13. Provide flexible unicellular tubular elastomer insulation with vapour retarder jacket to CGSB 51-GP-52Ma for refrigerant piping. Certified by the manufacturer to be free of potential stress corrosion cracking corrodents.

8.14. Provide high density insulation insert and sheet metal support shield for all exterior ductwork.

8.15. Provide PVC sanitary protective covering kit on p-traps and water supplies on all barrier free lavatories.

8.16. Insulation over 65mm (1-1/2") thickness in two layers with staggered joints.

8.17. Insulation to have a minimal thermal conductivity of 0.24BTU.in/(hr. sq.ftF) at 100F mean temperature.

8.18. Insulate fittings with fabricated mitered or pre-formed sections.

8.19. Insulate flanges and mechanical couplings with specified insulation thickness. Infill transition with insulation of similar material and performance. Transitions to be made such that the specified insulation thickness is maintained throughout.

8.20. Insulate valves and inline components with flexible insulation. Insulation density to be 3/4 lbs/cu.ft. Insulation must not be compressed more than 50% of the original thickness.

8.21. Terminal unit automatic control valves are not to be insulated when installed in hot piping systems. Terminal unit automatic control valves installed in cold piping systems are not to be insulated when located over condensate drip pans.

8.22. Piping Insulation

8.22.1. Owens Corning 850 Pipe Insulation, Johns Manville Micro-Lok AP-T Plus Pipe Insulation, Manson Pipe Insulation, and Knauf Pipe Insulation.

8.22.2. Domestic Cold Water

8.22.2.1. 15mm (1/2") thick

8.22.2.2. Vapour barrier

8.22.3. Domestic Hot Water and Hot Water Recirculation

8.22.3.1. 50mm (2") and less

8.22.3.1.1. 25mm (1") thick

8.22.3.2. 65mm (2-1/2") and larger

8.22.3.2.1. 40mm (1-1/2") thick

8.22.4. Horizontal Storm and Sanitary Drainage

8.22.4.1. 25mm (1") thick

8.22.4.2. Vapour barrier

8.22.4.3. Insulate vertical sections of piping when horizontal section is within 600mm (2') of slab or roof.

8.22.5. Horizontal Condensate Drains

8.22.5.1. 5.22.5.2 15mm (1") thick

8.22.5.2. Vapour barrier

8.22.6. Heating water

8.22.6.1. 150mm (6") and less

8.22.6.1.1. 25mm (1") thick

8.22.6.2. 200mm (8") and larger

8.22.7. 40mm (1-1/2") thick

8.22.8. Piping Heat Traced for Freeze Protection

8.22.8.1. 75mm (3") and less

8.22.8.1.1. 25mm (1") thick

8.22.8.2. 100mm (4") and larger

8.22.8.2.1. 65mm (1-1/2") thick

8.22.9. Refrigerant Piping

8.22.9.1. 50mm (2") and less

8.22.9.1.1. 25mm (1") thick

8.22.9.1.2. Vapour Barrier

8.22.9.2. 65mm (2.5") and larger

8.22.9.2.1. 38mm (1.5") thick

8.22.9.2.2. Vapour Barrier

8.22.10. Jacketing

8.22.10.1. Provide PVC jacketing on all indoor exposed insulated piping. Jacketing shall be a minimum 20 mil thick PVC sheet, installed over insulation with all joints sealed with matching PVC tape or solvent weld adhesive. Provide pre-formed PVC fitting covers at all elbows, tees, valves, and fittings. Jacket colour shall be as indicated on the drawings or as directed by the Architect.

8.22.10.2. Provide aluminum jacketing on all outdoor exposed insulated piping. Jacketing shall be a minimum 0.016" (0.4mm) thick aluminum sheet with moisture barrier backing, installed with all longitudinal seams positioned to shed water and secured with aluminum bands or screws at maximum 300mm (12") spacing. Provide pre-formed aluminum fitting covers at all elbows, tees, valves, and fittings. All joints and terminations shall be sealed with weather-resistant sealant to prevent moisture ingress.

8.23. Sheet Metal Insulation

8.23.1. Rigid insulation to be Owens Corning Rigid Vapour Seal Duct Insulation, John Mansville 814 Spin-Glas with FSK Facing, Manson Spin-Glas Rigid Insulating Board with reinforced foil facing, or Knauf Rigid Insulation Board with FSK Facing.

8.23.2. Flexible insulation to be Owens Corning Flexible Duct Insulation, Johns Manville Microlites Type 75 Duct Wrap, Manson Microlite Insulation, or Knauf Duct Wrap with factory applied reinforced foil facing.

8.23.3. Silencers and acoustic plenums do not require external insulation.

8.23.4. Sheet metal with 25mm (1") acoustic insulation or more do not require external insulation.

8.23.5. Supply and Ventilation Ductwork

8.23.5.1. Flexible type 50mm (2") thick

8.23.5.2. Vapour barrier

8.23.6. 10' of ductwork entering and exiting building

8.23.6.1. Rigid type 25mm (1") thick

8.23.6.2. Vapour Barrier

8.23.7. Exposed ductwork

8.23.7.1. In conditioned space as indicated

8.23.7.2. Rigid type 25mm (1") thick

8.23.7.3. Vapour Barrier

8.23.8. Ductwork outside of building or exposed to outdoor conditions

8.23.8.1. Rigid type 25mm (1") thick

8.23.8.2. Vapour Barrier

8.23.8.3. Stainless steel jacket complete with stainless steel bands

8.23.9. Panels behind unused portions of louvres

8.23.9.1. Rigid type 50mm (2") thick

8.23.9.2. Vapour barrier

9. Acoustic Duct Lining

9.1. Provide 25mm (1") acoustic duct lining within 10 feet of air handling equipment and fans, and where indicated.

9.2. Duct lining to have a noise reduction coefficient of 70 or higher.

9.3. Duct lining shall be plenum rated (FSR 24, SDR 50)

9.4. ASTM C 1071, ASTM G 21, ASTM G 22, ASTM C 423, ASTM C 916, ULC-S102

9.5. Unless indicated otherwise, acoustically lined ductwork does not require insulation.

9.6. Provide fiber free duct liner where noted on plans.

10. Refrigerant Piping

10.1. Install in accordance with CSA B52, EPS1/RA/1 and ASME B31.5.

10.2. All material used shall be in conformance with ASME, ASTM, and CSA standards and requirements.

10.3. Tubing: Processed for refigeration installations, deoxidized, dehydrated and sealed. Hard copper to ASTM B 280, Annealed copper to ASTM B280 with minimum wall thickness as per CSA B52.

10.4. Fittings: Service design pressure 2070 kPAa and temperature 121°C.

10.5. Brazed fittings shall be wrought copper to ASME B16.22. Joints shall be silver solder or copper-phosphorous, with maximum 5% lead content, and non-corrosive flux.

10.6. Flanged fittings shall be bronze or brass to BSME B16.24, Class 150 and Class 300. Gaskets shall be suitable for the intended service. Bolts, uts and washers shall be to ASTM A307, heavy series.

10.7. Flared fittings shall be bronze or brass for refrigeration to ASME B16.26.

10.8. Pipe sleeves shall be provided at all wall and floor penetrations, and shall be hard copper or steel, sized to provide 6mm clearance around between sleeve and uninsulated pipe, or between sleeve and insulation. Seal with fire caulking where penetrations are through fire and/or smoke separations.

10.9. Valves: 22mm and under shall be Class 500, 3.5 Mpa, globe or angle non-directional type, diaphragm, packless type, with forged brass body and bonnet, moisture proof seal for below freezing applications, brazed connections.

10.10. Valves: over 22mm shall be Class 375, 2.5 Mpa, globe or angle type, diaphragm, packless type, back-seating, cap seal, with cast bronze body and bonnet, moisture proof seal for below freezing applications, brazed connections.

10.11. Execution: Comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

10.12. Piping Installation: Minimize the use of fittings. For soft annealed copper tubing, bend without crimping or constriction. Pitch hot gas lines at leas 1:240 down in direction of flow ro prevent oil return to compressor during operations. Provide trap at base of risers greater than 2.4m high and at each 7.6m thereafter. Provide inverted deep trap at the top of risers.

10.13. Pressure and leak test system to CSA B52 before evacuation to 2 MPa and 1 MPa on high and low sides respectively. Build pressure up to 35 kPa with refrigerant gas on high and low sides. Supplement with nitrogen to required test pressure. Test for leaks with electronic or halide detectors. Repair leaks and repeat tests.

11. Electrical and Control

11.1. The mechanical contractor shall provide all necessary hard wiring between controlling devices and associated equipment.

11.2. Low Voltage - Provide transformer and low voltage wiring from transformer to equipment and controlling devices.

11.3. Line Voltage - Where control devices are operating line voltage, the mechanical contractor shall provide all wiring between equipment and controlling devices. Mechanical contractor shall retain a licensed electrician to perform all installation to ESA and all applicable codes and standards.

11.4. Wiring:

11.4.1. All copper conductors with chemically cross-linked thermosetting polyethylene insulation rated RW90 and 600V.

11.4.2. Wire gauge shall match or exceed breaker size. Provide wire gauge in accordance with the Electrical Safety Code (ESC), the Ontario Electrical Safety Code (OESC), and the Canadian Electrical Code (CEC).

11.4.3. Field wiring to digital devices shall be #18 AWG or 20 AWG stranded twisted pair.

11.4.4. Analogue input and output wiring shall be #18 minimum solid copper or #20 minimum stranded twisted pair. Wiring must be continuous without joints.

11.5. Conduits:

11.5.1. In wall - All electrical and control wiring shall be installed in electrical metallic tubing to CAN/CSA C22.2 No. 83.

11.5.2. Exposed Outdoor - Flexible and Liquid Tight Conduit to CAN/CSA C22.2 No. 56.

11.6. Starters, Control Devices

11.6.1. Across-the-line magnetic starter shall be in CSA Type 1 enclosures unless otherwise specified. Size, type, and rating to suit motors.

11.6.2. Starter Diagrams: Provide copy of wiring and schematic diagrams - mount one copy in each starter with additional copies for operation and maintenance manual.

11.6.3. Auxiliary Control Devices:

11.6.3.1. Control transformers: 60 HZ, primary voltage to suit supply, secondary voltage to suit equipment and controls requirements. VA rating to suit load plust 20% margin.

11.6.3.2. Auxiliary Contacts: One "Normally Open" and one "Normally Closed" spare auxiliary contacts in addition to maintained auxiliary contacts as indicated.

11.6.3.3. Hand-Off-Automatic Switch: Heavy duty type, knob lever operator.

11.6.3.4. Double voltage relays: with barrier to separate relay contacts from operating magnet. Operating coil voltage and contact rating as indicated.

12. Testing and Air Balancing

12.1. Perform equipment startup and testing on all mechanical HVAC equipment. Submit startup report to the engineer for review and approval.

12.2. Mechanical contractor shall retain the services of a balancing contractor for air and water systems.

12.3. Air and water balancing shall be conducted and recorded in accordance with ANSI, AABC, and NEBB standards, latest edition.

12.4. Balancing Contractor shall be a member in good standing of AABC or NEBB.

12.5. Balancing Contractor shall be Owner's/Landlords approved contractor and paid for under this contract at the Owner's/Landlord's request.

12.6. Submit balancing report to the consultants and owner free of contractor/construction deficiencies.

12.7. Balancing report to indicate terminal design and measured flow rates. Systems to be balanced to +/-5% of design values.

12.8. Provide two (2) additional days of balancing work for comfort balancing within one year of occupancy.

12.9. Provide new sheaves, belts, and all labour required to balance all air handling equipment to specified values. For existing equipment, coordinate adjustments and replacements of sheaves, belts, and pulleys with Owner/Landlord.

12.10. Coordinate balancing activities with construction schedule. Coordinate with general trades to provide access to balancing dampers prior to or after ceiling/wall closure.

13. Hydronic Piping - Solar Thermal Glycol Loop

13.1. Piping material for hydronic systems shall be Type L hard-drawn copper tubing conforming to ASTM B88. Solder-joint connections are not permitted on any solar thermal glycol piping. All joints shall be brazed or grooved as specified herein.

13.2. Piping under 65mm (2-1/2") shall be joined using one of the following methods, as applicable:

13.2.1. Brazed Joint (Standard — All Locations): Wrought copper fittings conforming to ASME B16.22, joined with Sil-Fos brazing alloy (BCuP-5). BCuP-5 is self-fluxing on copper-to-copper joints; use appropriate flux when joining to brass or bronze fittings. Brazing shall be performed by qualified brazers in accordance with ASME Section IX or AWS B2.2. Brazed joints are required in all concealed, inaccessible, buried, and high-temperature locations, and within 1.5m (5 ft) of all solar collector connections.

13.2.2. Grooved Joint (Exposed and Accessible Locations Only): Grooved copper rigid couplings as specified in 13.3 are permitted on piping under 65mm (2-1/2") only in exposed locations where couplings are visible and accessible for routine inspection and gasket replacement. Grooved joints are not permitted within 1.5m (5 ft) of solar collector outlets or in any concealed, buried, or inaccessible location.

13.3. Isolation Valves

13.3.1. Ball valves shall be full-port, bronze body, with copper brazed-joint or grooved ends as applicable, rated for a minimum of 2070 kPa (300 psi) CWP, manufactured by Watts, Apollo, or Nibco.

13.3.2. Butterfly valves 65mm (2-1/2") and larger shall be lug-style or wafer-style, bronze or aluminum-bronze disc, with high-temperature EPDM or silicone seat rated for a minimum of 177°C (350°F), suitable for solar thermal glycol service, manufactured by Watts, Nibco, or Victaulic.

13.3.3. All valve trim, seats, and packing shall be compatible with 40% propylene glycol solution and continuous operating temperatures up to 177°C (350°F). Standard EPDM seats and packing are not permitted unless specifically rated for the specified service temperature by the manufacturer. Manufacturer data sheets confirming temperature and chemical compatibility shall be submitted for Engineer's review prior to installation.

13.4. Circuit Balancing Valves

13.4.1. Provide balancing valves, in addition to those indicated, as required to achieve design flow rates.

13.4.2. Balancing valves shall be bronze body with copper brazed-joint ends, manufactured by Armstrong, Tour & Andersson, or Caleffi, and rated for service with 40% propylene glycol at solar thermal operating temperatures.

13.4.3. Balancing valves shall feature a vernier-type handwheel for precision settings and tamper-proof hidden memory stop.

13.5. Circuit balancing valves to be selected such that at 100% open, a pressure drop between 3.0kPa (1ft) and 21kPa (7ft) is achieved.

13.6. Provide strainers upstream of each pump and as indicated on drawings. Strainer shall be bronze body, y-type with ss screens rated for solar thermal glycol service.

13.7. Provide automatic air vents at all high points of piping. Air vents shall be brass or bronze body, float-type, with a minimum working pressure rating of 1035 kPa (150 psi) and compatible with 40% propylene glycol service.

13.8. Provide ball valve points at all low points of piping and bottoms of risers. Drains to be 25mm (1") for piping less than 75mm (3") and 50mm (2") for piping 75mm (3") and larger.

13.9. Hydrostatically pressure test all new and modified hydronic piping at 150% of system design working pressure, but not less than 700kPa (100psi). Ensure that no pressure drop is observed for a minimum of 4hrs. Remove and replace all components that fail testing. Produce a test report for each pressure test indicating the piping tested, test pressure, date of test, person carrying out test, and witness. Include test reports in closeouts.

13.10. Flush and chemically clean all new hydronic piping. Chemical detergent to be low foaming and shall not adversely affect system components.

13.11. Provide spring-loaded, direct-acting, bronze body pressure relief valves (PRVs) at the solar collector array and at all locations where isolation valves could trap fluid between two closed points. PRVs shall be rated for a minimum of 177°C (350°F), compatible with 40% propylene glycol, set at or below the lowest pressure rating of any system component, and manufactured by Watts, Caleffi, or Amtrol. Discharge piping shall be full-bore copper brazed joint, pitched to drain, and terminated at a safe visible location. PRVs shall be sized for full stagnation conditions in accordance with ASME Section VIII and the collector manufacturer's requirements.

14. Closeout of Project

14.1. Remove waste and surplus materials, rubbish, and construction facilities from the site.

14.2. Prepare operation and maintenance manual in soft and hard copy formats.

14.3. Two weeks prior to substantial performance of work, submit the operation and maintenance manual to the engineer for review.

14.4. Organize data as instructional manual.

14.5. Soft copy of the operation and maintenance manual shall be submitted on a USB key in PDF format.

14.6. Binders: vinyl, hard covered, 3 'D' ring, with spine and face pockets.

14.7. When multiple binders are used correlate data into related consistent groupings. Identify contents of each binder on spine.

14.8. Cover: identify each binder with type or printed project title; list title of project and identify subject matter of contents.

14.9. Arrange content by systems under Section numbers and sequence of Table of Contents.

14.10. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

14.11. Text: manufacturer's printed data, or typewritten data.

14.12. Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

14.13. Provide as-built drawings in CAD and PDF formats, scale to match engineering drawings. Provide three full size hard copy prints in binder, and one soft copy on USB key.

14.14. Contents

14.14.1. Contractor Contact Information.

14.14.2. Manufacturer and supplier's contact information.

14.14.3. Warranty Detail and Information

14.14.4. Product Data - Approved Shop Drawings.

14.14.5. Operation and Maintenance Manuals of all equipment installed.

14.14.6. Valve chart and flow diagrams.

14.14.7. As-Built drawings

DRAWING LIST

SHEET #	DESCRIPTION	SCALE	ISSUED
M001	DRAWING LIST, LEGEND, AND MECHANICAL SPECIFICATIONS	N.T.S.	Y
M002	STANDARD DETAILS	N.T.S.	Y
M003	STANDARD DETAILS	N.T.S.	Y
M010	EQUIPMENT SCHEDULES	N.T.S.	Y
M020	POTABLE WATER AND SANITARY RISER DIAGRAMS	N.T.S.	Y
M030	MECHANCIAL WATER TREATMENT AND SOLAR HOT WATER SCHEMATICS	N.T.S.	Y
M040	CONTROLS	N.T.S.	Y
M100F	PROPOSED HVAC LAYOUT - FOUNDATION - RADON	AS SHOWN	Y
M100	PROPOSED HVAC LAYOUT - FIRST FLOOR	AS SHOWN	Y
M200	PROPOSED HVAC LAYOUT - SECOND FLOOR	AS SHOWN	Y
M300	PROPOSED MECHANCIAL LAYOUT - TYPICAL SUITES	AS SHOWN	Y
M400	ENLARGED MECHANCIAL PLANS AND SECTIONS	AS SHOWN	Y
P001	PROPOSED DRAINAGE LAYOUT - FOUNDATION	AS SHOWN	Y
P100	PROPOSED PLUMBING LAYOUT - FIRST FLOOR	AS SHOWN	Y
P200	PROPOSED PLUMBING LAYOUT - SECOND FLOOR	AS SHOWN	Y
F100	PROPOSED FIRE PROTECTION LAYOUT - FIRST FLOOR	AS SHOWN	Y
F200	PROPOSED FIRE PROTECTION LAYOUT - SECOND FLOOR	AS SHOWN	Y

LEGEND		LEGEND	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER		DOUBLE LINE DUCT
	DOMESTIC HOT WATER		ACOUSTICALLY LINED DUCT
	DOMESTIC HOT WATER RECIRCULATION		INSULATED DUCT (REMOVE IF SPEC)
SAN	SANITARY DRAIN		INSULATED DUCT WITH FIRE-RATED DUCT WRAP
SAN	BURIED SANITARY DRAIN		ROUND SPIRAL DUCT
ST	STORM DRAIN		SUPPLY OR VENTILATION DUCT
ST	BURIED STORM DRAIN		RETURN OR EXHAUST DUCT
CD	CONDENSATE DRAIN		DUCT DOWN
CO	DRAIN WITH CLEANOUT		DUCT UP
CO	DRAIN WITH FLOOR CLEANOUT		SINGLE LINE RIGID DUCT
CO	RUNNING TRAP WITH CLEANOUT		SINGLE LINE DUCT WITH ACOUSTIC LINING
HB	HOSE BIBB		FLEXIBLE DUCT
NFWH	NON-FREEZE WALL HYDRANT		FLEXIBLE DUCT CONNECTOR
FD FD	FLOOR DRAIN		SIDEWALL GRILLE / REGISTER
CFFD	COMBINATION FUNNEL FLOOR DRAIN		SUPPLY AIR DIFFUSER
HD	HUB DRAIN		RETURN AIR GRILLE
AD AD	AREA DRAIN	100Ø - A CFM COMMENTS	AIR TERMINAL TAG
SH	SHOWER HEAD	FD	FIRE DAMPER
WC	WATER CLOSET	MD	MOTORIZED DAMPER
L	LAV	BD	MANUAL BALANCING DAMPER
U	URINAL	S/D	SPLITTER DAMPER
SS	SINK	BDD	BACKDRAFT DAMPER
MS	MOP / JANITOR SINK	T T G	THERMOSTAT, WITH AND WITHOUT GUARD
KS	KITCHEN SINK	H	HUMIDISTAT
TSP	TRAP SEAL PRIMER	S	SENSOR
TMV	THERMOSTATIC MIXING VALVE	E	ENTHALPY SENSOR
SP	SPRINKLER LINE (WET)	RL	REFRIGERANT (LIQUID)
	UPRIGHT SPRINKLER	RS	REFRIGERANT (SUCTION)
	SIDEWALL SPRINKLER	GS	GLYCOL SUPPLY
	SIAMESE PUMPER CONENCTION	GR	GLYCOL RETURN
FE	FIRE EXTINGUISHER		GATE VALVE
FE	FIRE EXTINGUISHER WITH CABINET		BALL VALVE
AD	ACCESS DOOR		CHECK VALVE
AP	ACCESS PANEL		CIRCUIT BALANCING VALVE
CTE	CONNECT TO EXISTING		NEEDLE VALVE
LT	LINT TRAP		PLUG VALVE
SA	SUPPLY AIR	PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR	PRV	PRESSURE REGULATING VALVE
OA	OUTDOOR AIR	S	SUPERVISED VALVE
EA	EXHAUST AIR		VALVED AND CAPPED
VA	VENTILATION AIR		VALVE IN RISER
TA	TRANSFER AIR		BACKWATER VALVE
DG	DOOR GRILLE		CAPPED PIPE
UC	DOOR UNDERCUT		CONTINUOUS PIPE
RWL	RAINWATER LEADER		DIRECTION OF FLOW
SS	SOIL STACK		PIPE DOWN
VTR	VENT THROUGH ROOF		PIPE UP
VS	VENT STACK		STRAINER
WS	WASTE STACK		UNION
FDC	FIRE DEPARTMENT CONNECTION	M	METER
SPR	SPRINKLER		THERMOMETER
SV	SUPERVISED VALVE	P	PRESSURE GAUGE WITH COCK
			PUMP
			STARTER
			SAFETY RELIEF VALVE

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SEAL

2026-03-19

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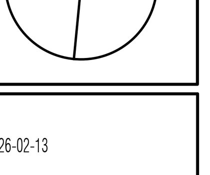
5	2026-05-19	AS	CITY'S COMMENTS
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON



ISSUE DATE: 2026-02-13

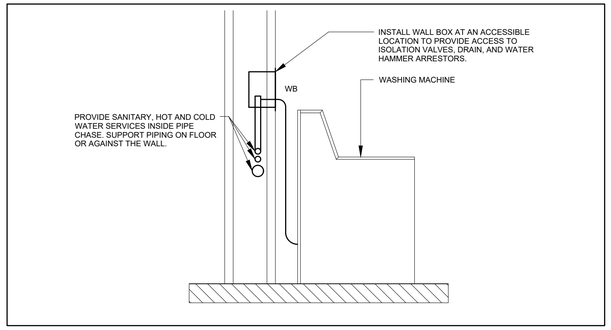
DRAWN BY:

CHECKED BY: AS

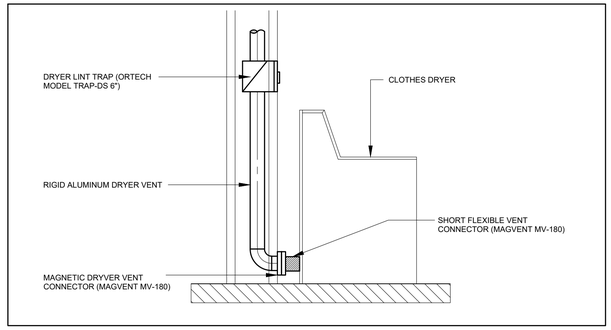
SHEET TITLE: DRAWING LIST, LEGEND, AND MECHANICAL SPECIFICATIONS

SCALE: AS SHOWN

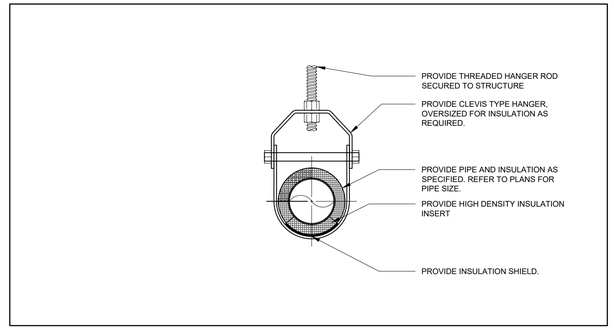
SHEET NUMBER: M001



LAUNDRY MACHINE WATER AND DRAIN DETAIL
SCALE: N.T.S.



BASE MOUNTED PIPE SUPPORT DETAIL
SCALE: N.T.S.



PIPE HANGER DETAIL
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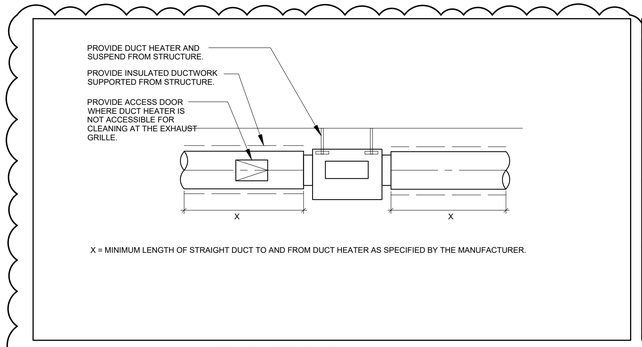
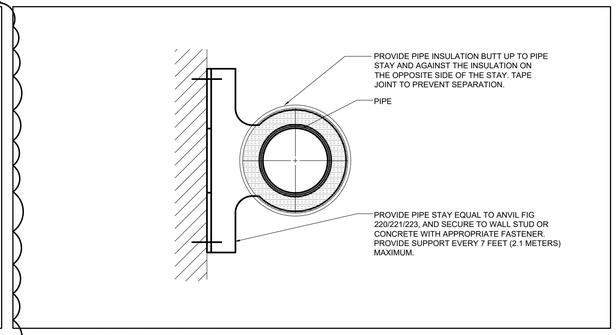


IN-SUITE ELECTRIC DUCT HEATER DETAIL
SCALE: N.T.S.



WALL PIPE SUPPORT DETAIL
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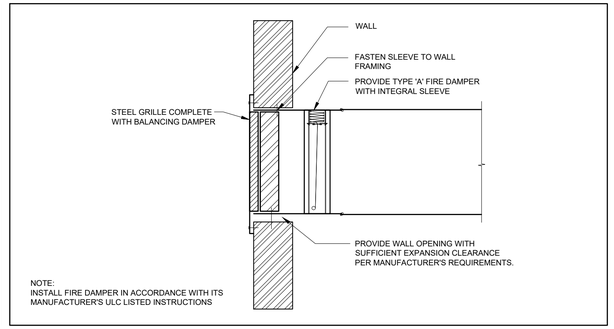
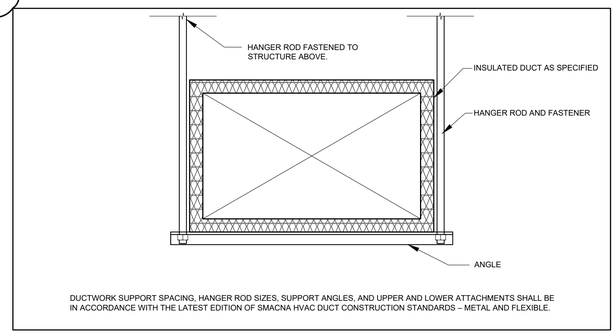
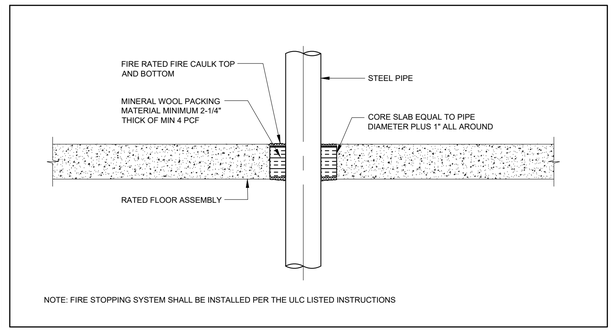


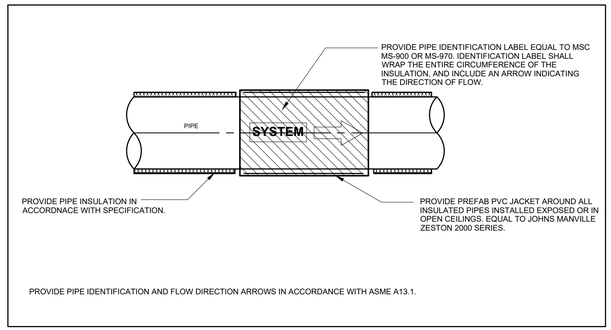
VERTICAL FIRE DAMPER - OUT OF WALL FOR GRILLE AND REGISTER DETAIL
SCALE: N.T.S.



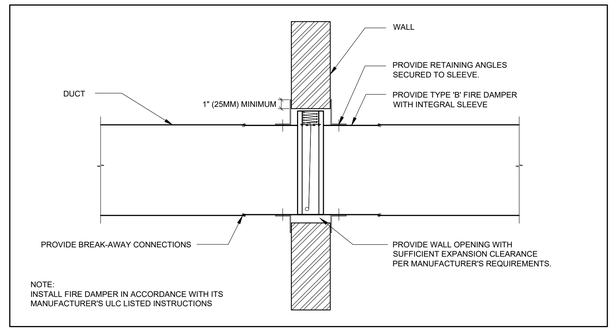
RECTANGULAR DUCT HANGER DETAIL
N.T.S.



PIPE PENETRATION THROUGH FIRE SEPARATION DETAIL
SCALE: N.T.S.



PIPE LABEL DETAIL
SCALE: N.T.S.



VERTICAL FIRE DAMPER DETAIL
SCALE: N.T.S.

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6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

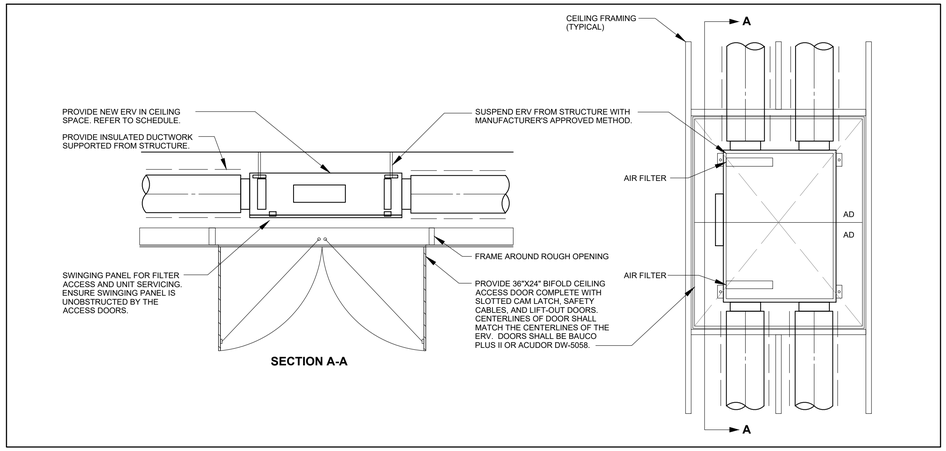
DRAWN BY:

CHECKED BY: AS

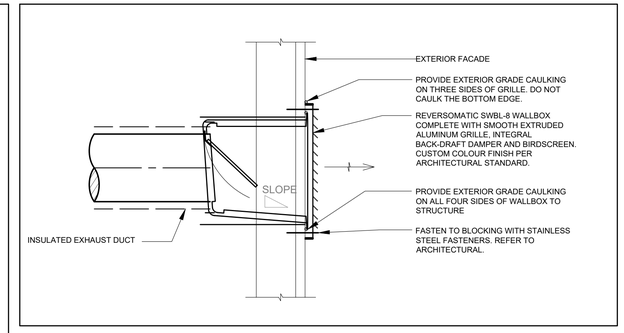
SHEET TITLE: STANDARD DETAILS

SCALE: AS SHOWN

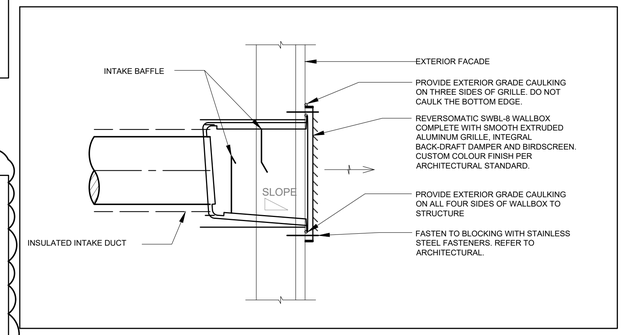
SHEET NUMBER: M002



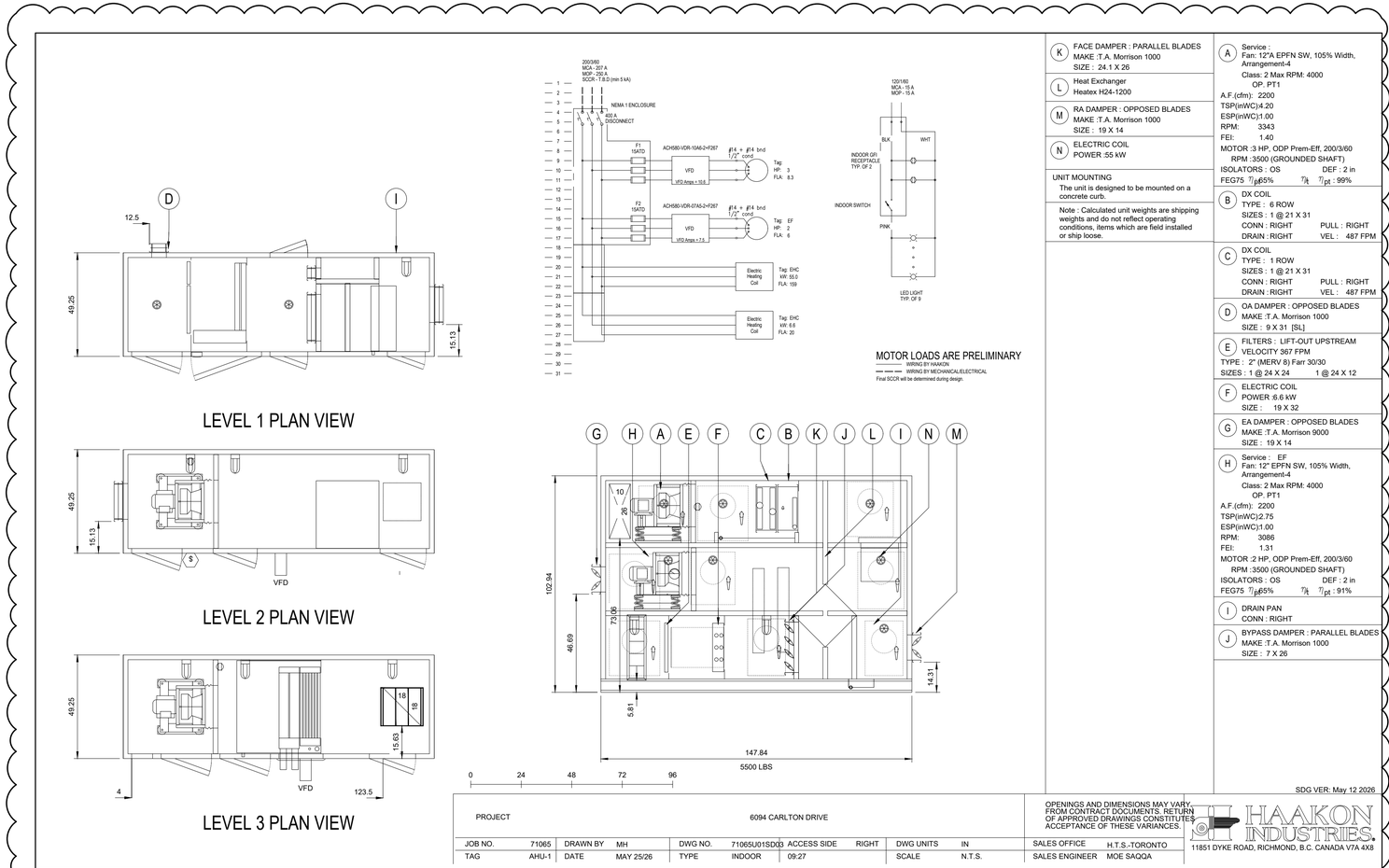
IN-SUITE ERV DETAIL
SCALE: N.T.S.



EXHAUST WALL CAP DETAIL
SCALE: N.T.S.



FRESH AIR INTAKE WALL CAP DETAIL
SCALE: N.T.S.



(K) FACE DAMPER : PARALLEL BLADES MAKE :T.A. Morrison 1000 SIZE : 24.1 X 26	(A) Service : Fan: 12"A EPFN SW, 105% Width, Arrangement-4 Class: 2 Max RPM: 4000 OP. PT1 A.F.(cfm): 2200 TSP(inWC):4.20 ESP(inWC):1.00 RPM: 3343 FEI: 1.40 MOTOR :3 HP, ODP Prem-Eff, 200/3/60 RPM :3500 (GROUNDED SHAFT) ISOLATORS : OS DEF : 2 in FEG75 η65% ηt ηpt : 99%
(L) Heat Exchanger Heatex H24-1200	(B) DX COIL TYPE : 6 ROW SIZES : 1 @ 21 X 31 CONN : RIGHT PULL : RIGHT DRAIN : RIGHT VEL : 487 FPM
(M) RA DAMPER : OPPOSED BLADES MAKE :T.A. Morrison 1000 SIZE : 19 X 14	(C) DX COIL TYPE : 1 ROW SIZES : 1 @ 21 X 31 CONN : RIGHT PULL : RIGHT DRAIN : RIGHT VEL : 487 FPM
(N) ELECTRIC COIL POWER :55 kW	(D) OA DAMPER : OPPOSED BLADES MAKE :T.A. Morrison 1000 SIZE : 9 X 31 [SL]
UNIT MOUNTING The unit is designed to be mounted on a concrete curb. Note : Calculated unit weights are shipping weights and do not reflect operating conditions, items which are field installed or ship loose.	(E) FILTERS : LIFT-OUT UPSTREAM VELOCITY 367 FPM TYPE : 2" (MERV 8) Farr 30/30 SIZES : 1 @ 24 X 24 1 @ 24 X 12
	(F) ELECTRIC COIL POWER :6.6 kW SIZE : 19 X 32
	(G) EA DAMPER : OPPOSED BLADES MAKE :T.A. Morrison 9000 SIZE : 19 X 14
	(H) Service : EF Fan: 12" EPFN SW, 105% Width, Arrangement-4 Class: 2 Max RPM: 4000 OP. PT1 A.F.(cfm): 2200 TSP(inWC):2.75 ESP(inWC):1.00 RPM: 3086 FEI: 1.31 MOTOR :2 HP, ODP Prem-Eff, 200/3/60 RPM :3500 (GROUNDED SHAFT) ISOLATORS : OS DEF : 2 in FEG75 η65% ηt ηpt : 91%
	(I) DRAIN PAN CONN : RIGHT
	(J) BYPASS DAMPER : PARALLEL BLADES MAKE :T.A. Morrison 1000 SIZE : 7 X 26

SDG VER: May 12 2026

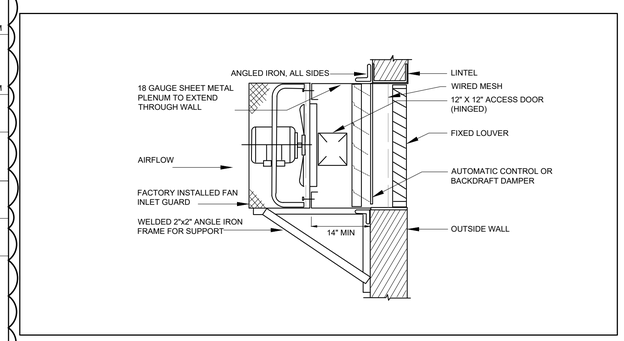
PROJECT		6094 CARLTON DRIVE							
JOB NO.	71065	DRAWN BY	MH	DWG NO.	71065U01SD03	ACCESS SIDE	RIGHT	DWG UNITS	IN
TAG	AHU-1	DATE	MAY 25/26	TYPE	INDOOR	09:27		SCALE	N.T.S.

OPENINGS AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS. RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES.

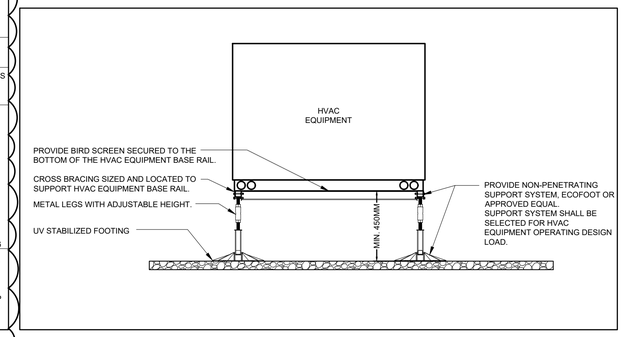
SALES OFFICE H.T.S.-TORONTO
SALES ENGINEER MOE SAQQA

HAAKON INDUSTRIES
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4X8

AHU-1 DETAIL
SCALE: N.T.S.



SIDEWALL EXHAUST FAN DETAIL
SCALE: N.T.S.



OUTDOOR EQUIPMENT SUPPORT DETAIL
SCALE: N.T.S.

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6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE: STANDARD DETAILS

SCALE: AS SHOWN

SHEET NUMBER: M003

MAKEUP AIR UNIT WITH HEAT RECOVERY

TAG	SERVICE	LOCATION	MANUFACTURER	REFRIGERANT	SUPPLY FAN						RETURN FAN						COOLING AND REHEAT COIL PERFORMANCE								ELECTRIC HEATER						FILTER			SEASON	TOTAL EFFECTIVENESS	HEAT RECOVERY				DEFROST	ELECTRICAL					WEIGHT		COMMENTS
					AIRFLOW (CFM)	E.S.P ("WC)	VFD	BHP	HP	TYPE	AIRFLOW (CFM)	E.S.P ("WC)	VFD	BHP	HP	TYPE		TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT DB (°C)	EAT WB (°C)	LAT DB (°C)	LAT WB (°C)	APD "WC		INPUT (KW)	VOLTAGE	PHASE	HZ	CONTROLS		PRE-FILTER TYPE	PRE-FILTER MERV			S/A (DB/WB)	R/A (DB/WB)	O/A (DB/WB)	E/A (DB/WB)		VOLTAGE	PHASE	HZ	MCA	MOCP	LBS	KG	
AHU-1	VENTILATION	2F FAN ROOM	HAAKON INDUSTRIES	R-410A	2,200	1	Y	1	3	ODP	2,200	1	Y	1	2	ODP	COOLING	108	48.1	79.7	72.7	59.5	58.5	0.56	PREHEAT	6.6	208	3	60	1 STAGE	OA	2" PLEAT	8	WINTER	84.8%	24.1/16.9	72.0/54.4	-11.2/-11.2	15.1/15.1	PREHEATER	208	3	60	239	250	5500	2500	NOTES 1, 2, 3, 4
																	REHEAT	145.2	--	59.5	--	70.4	--	0.38	REHEAT	55	208	3	60	SCR	RA	2" PLEAT	8	SUMMER	72.5%	79.7/72.7	75.0/63.0	82.3/73.4	80.3/64.8									

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE LOOSE VFDS FOR SUPPLY AND EXHAUST FANS
3. PROVIDE OUTDOOR AND EXHAUST AIR DAMPER, TAMCO 9000, WITH FACTORY INSTALLED AND WIRED ACTUATORS.
4. PROVIDE SPLIT TOP DECK FOR REASSEMBLY ON SITE
5. PROVIDE HOT-GAS REHEAT COIL FOR HUMIDITY CONTROL.
6. PROVIDE PREHEATER FOR DEFROST CONTROL.
7. PROVIDE INTERNAL MARINE LIGHTS FOR EACH SERVICE COMPARTMENT.
8. PROVIDE ALL REFRIGERANT METERING DEVICES, FLOW CONTROL, AND LINE COMPONENTS.
9. PROVIDE TWO STAGE COOLING AND HOT GAS REHEAT.
10. PROVIDE SINGLE POINT POWER CONNECTION.
11. PROVIDE TERMINAL STRIP FOR BAS CONTROL OF ELECTRIC HEATERS, SUPPLY/EXHAUST VFDS, DX COOLING, AND REHEAT.

IN-SUITE ENERGY RECOVERY VENTILATOR (ERV)

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	AIR DIRECTION	ELECTRICAL	DUCT SIZE	STATIC PRESSURE	NET AIR FLOW (CFM)	POWER CONSUMPTION (W)	ENERGY PERFORMANCE			WEIGHT	COMMENTS
											WINTER SENSIBLE RECOVERY EFFICIENCY	NET MOISTURE TRANSFER	SUMMER TOTAL RECOVERY EFFICIENCY		
ERV	DWELLING UNITS	BATHROOM	PANASONIC	FV-10VEC2H	EXHAUST	120V/1PH/60HZ	6"Ø	0.4" WG	60 AND 75	90	73%	71%	60%	50 LBS (22.4KG)	SEE NOTES
					SUPPLY		6"Ø		60 AND 75	90					

NOTE:
1. PROVIDE STARTER AND DISCONNECT FOR ALL EQUIPMENT.

REMOTE DX CONDENSING UNIT

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	REFRIGERANT	COOLING PERFORMANCE		ELECTRICAL					DIMENSIONS			WEIGHT		COMMENTS
						TOTAL CAPACITY (MBH)	STAGES	VOLTAGE	PHASE	HZ	MCA	MOCP	L (mm)	W (mm)	H (mm)	LBS	KG	
CU-1	AHU-1	OUTDOORS	REFPLUS	OEZ-110-1H1-5D	R-410A	116.46	DIGITAL SCROLL	208	3	60	42.1	70	2470.15	1079.5	1016	757	344	SEE NOTES
																	--	

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE LIQUID LINE DRIERS AND TX VALVE
3. PROVIDE LOW AMBIENT OPERATION TO 40F
4. PROVIDE HOT GAS BYPASS KIT FOR FIELD INSTALLATION
5. PROVIDE SMART EQUIPMENT CONTROLLER
6. INTERLOCK WITH AHU OPERATION
7. PROVIDE REFRIGERANT LINE KIT
8. PROVIDE 18" HIGH STAND COMPLETE WITH VIBRATION PADS

EXHAUST FANS

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	TYPE	FAN		MOTOR				ELECTRICAL					WEIGHT		COMMENTS
						AIRFLOW (CFM)	E.S.P.	BHP	HP	RPM	TYPE	VOLTAGE	PHASE	HZ	MCA	MOCP	LBS	KG	
RH-1	KITCHEN	BF SUITES AND COMMON KITCHEN	BROAN	GLA1303	UNDER CABINET	140	0.25	--	--	--	--	120	1	60	0.8	15	50	23	NOTES 1, 2, 3
RH-2	KITCHEN	SUITES	BROAN	GLA1303	UNDER CABINET	140	0.25	--	--	--	--	120	1	60	0.8	15	50	23	NOTES 1, 2
EF-1	GARBAGE ROOMS	GARBAGE ROOMS	GREENHECK	SE1-10-428-P	SIDEWALL	250	0.33	0.04	1/20	1650	TEAO	120	1	60		15	46	21	NOTES 1, 4, 5, 6, 7, 8

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE 7" ROUND DAMPER
3. PROVIDE HAWSK3 ADA WIRING KIT AND SWITCHES.
4. PROVIDE CSA APPROVED MOTOR.
5. PROVIDE UL/CUL 705 LISTED POWER VENTILATOR
6. EXHAUST AIRFLOW WITH MOTOR ACCESS FROM INTERIOR OF BUILDING.
7. PROVIDE OSHA APPROVED MOTOR SIDE GUARD WITH SCREEN.
8. PROVIDE BD-320-PB-12X12 GRAVITY OPERATED BACKDRAFT DAMPER.

DUCT HEATER

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	HEATING CAPACITY		FAN		ELECTRICAL		COLLAR SIZE		MOUNTING ARRANGEMENT	DIMENSIONS						COMMENTS
					KW	MBH	Y/N	MIN CFM	V/PH/HZ	MCA				WIDTH		DEPTH		HEIGHT		
EDH	INDIVIDUAL SUITES	SUITE	THERMOLEC	TER-6-2-1208	2	6.8	Y	60	208/1/60	9.6	6"	150MM	CEILING MOUNTED	11.5"	292 MM	11.5"	292 MM	8"	203 MM	NOTES 1, 2

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE INTERNAL SUPPLY AIR TEMPERATURE SETPOINT ADJUSTMENT.

UNIT HEATERS - ELECTRIC

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	HEATING CAPACITY		FAN		ELECTRICAL			MOUNTING ARRANGEMENT	COLOUR	WEIGHT		COMMENTS
					KW	MBH	Y/N	CFM	VOLTAGE	PHASE	HZ			LBS	KG	
UH-1	STORAGE	STORAGE 009	OUELLET	OAS03038	3	10.2	Y	510	208	3	60	CEILING SUSPENDED	ALMOND	45	20	NOTES 1, 2
UH-2	STORAGE	STORAGE 008	OUELLET	OAS02038	2	6.8	Y	510	208	3	60	CEILING SUSPENDED	ALMOND	45	20	NOTES 1, 2
UH-3	GARBAGE ROOM	GARBAGE ROOM 003	OUELLET	OAS03038	3	10.2	Y	510	208	3	60	CEILING SUSPENDED	ALMOND	45	20	NOTES 1, 2
UH-4	MECHANICAL ROOM	MECHANICAL ROOM 011	OUELLET	OAS02038	2	6.8	Y	510	208	3	60	CEILING SUSPENDED	ALMOND	45	20	NOTES 1, 2

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE 24V RELAY FOR BAS INTEGRATION.

AIR TERMINALS - GRILLES, REGISTERS, AND LOUVER

TAG	TYPE	MANUFACTURER	MODEL	MATERIAL	FINISH	MOUNTING TYPE	COMMENTS
A	SUPPLY GRILLE	EH PRICE	520	STEEL	WHITE	SIDEWALL AND CEILING	FACE SIZE AS NOTED ON PLANS, PROVIDE DOUBLE DEFLECTION GRILLE, FRONT BLADES PARALLEL TO LONG DIMENSION, 1-1/4" FLAT FRAME, COUNTERSUNK SCREW FASTENING, OPPOSED BLADE BALANCING DAMPER.
B	RETURN/EXHAUST GRILLE	EH PRICE	530	STEEL	WHITE	SIDEWALL/T-BAR	FACE SIZE AS NOTED ON PLANS, PROVIDE SINGLE 45° FIXED BLADE AT 3/4" SPACING, BLADE PARALLEL TO LONG DIMENSION, 1-1/4" FLAT FRAME, COUNTERSUNK SCREW FASTENING, OPPOSED BLADE BALANCING DAMPER.
L	INTAKE/EXHAUST LOUVER	EH PRICE	DE635	ALUMINUM	CUSTOM	WALL	NOMINAL FACE SIZE NOTED ON PLANS, COMPLETE WITH CHANNEL FRAME, CUSTOM COLOUR ANODIZED PER ARCHITECT'S REQUIREMENTS, ALUMINUM BIRDSCREEN.

* EQUIVALENT TERMINALS FROM NAILOR OR OTHER CANADIAN MANUFACTURERS ARE ACCEPTABLE

HEATERS - ELECTRIC BASEBOARD

TAG	MANUFACTURER	MODEL	HEATING CAPACITY		ELECTRICAL			COLOUR	LENGTH		WEIGHT		COMMENTS
			KW	MBH	VOLTAGE	PHASE	HZ		IN	MM	LBS	KG	
BBH (0.5KW)	OUELLET	OFM0508	0.5	1.706	208	1	60	WHITE	27.2	691	5.5	2.5	SEE NOTES
BBH (0.75KW)	OUELLET	OFM0758	0.75	2.559	208	1	60	WHITE	37.2	945	7.3	3.3	SEE NOTES
BBH (1 KW)	OUELLET	OFM1008	1	3.412	208	1	60	WHITE	47.5	1206	9	4.1	SEE NOTES
BBH (1.25KW)	OUELLET	OFM1258	1.25	4.265	208	1	60	WHITE	57.0	1447	10.5	4.8	SEE NOTES
BBH (1.75KW)	OUELLET	OFM1758	1.75	5.971	208	1	60	WHITE	75.0	1905	13.5	6.1	SEE NOTES
BBH (2.25KW)	OUELLET	OFM2258	2.25	7.677	208	1	60	WHITE	92.6	2353	16.5	7.5	SEE NOTES

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE SINGLE-POLE RELAY FOR REMOTE THERMOSTAT OR BAS INTERLOCK, WITH AND WITHOUT TRANSFORMER.
3. PROVIDE TH140-28-01-B LOW OR LINE VOLTAGE PROGRAMMABLE ELECTRONIC THERMOSTAT, AS SHOWN ON PLAN.

HEATERS - ELECTRIC FORCE FLOW

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	HEATING CAPACITY		UNIT	ELECTRICAL			MOUNTING ARRANGEMENT	COLOUR	WEIGHT		COMMENTS
					KW	MBH		VOLTAGE	PHASE	HZ			LBS	KG	
FFH (1.5KW)	STAIRS A AND B	STAIRS A AND B	OUELLET	OAWH02000	1.5	5.1	SINGLE	208	1	-	WALL MOUNTED	WHITE	24	10.9	NOTES 1, 2, 3
FFH (3KW)	VESTIBULE	VESTIBULE	OUELLET	OLI4038	3	10.2	SINGLE	208	3	-	WALL MOUNTED	WHITE	57	25.9	NOTES 1, 2, 3

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE SURFACE MOUNTING BOX
3. PROVIDE 24V CONTROL RELAY FOR BAS INTEGRATION

WATER TREATMENT SYSTEM

TAG	TYPE	MANUFACTURER	MODEL / PART NUMBER	DESCRIPTION
WP	WELL PUMP	GRUNDFOS/ FRANKLIN ELECTRIC	45S30-7 / 2343162604G	47.1 USGPM, 168FT HD, 3HP, 208V/3PH/60HZ
VFD	WELL PUMP VARIABLE SPEED DRIVE	SUBDRIVE CONNECT PLUS	SDCP-SUB0723	RATING: 7.5 HP/ 28A, INPUT 208-230V, 1PH OR 3PH, 60 HZ, OUTPUT: 230V 3PH, NEMA 3R ENCLOSURE
WM-1	WATER METER	SEAMETRICS	SSMR5201PPG	SS. INLINE FLOW METER, 2", 1 PULSE PER GALLON OUPUT.
PT-1	WELL PRESSURE TANK	FLEXCON	WR240R	DIAPHRAGM WELL TANK WITH BASE, 150PSIG MAXIMUM WORKING PRESSURE, CONSTANT PRESSRUE MANIFOLD AND BRACKET, 81 US GALLON, 2" NPT CONNECTIONS.
MF-1 AND MF-2	MANGANESE GREENSAND FILTERS	CLACK	SOTFMG-1865-20B	TWO UNITS IN PARALLEL, 18"X65" TANK, 5CU FT GREENSAND PLUS MEDIA, 21GPM/UNIT, 2" NPT CONNECTIONS
PF-1 AND PF-2	PRE-FILTERS FOR UV SYSTEM	VIQUA	AWP42B-V	HEAVY DUTY 3-PIECE FILTER, NSF 42 CERTIFIED, COMPLETE WITH 5 MICRON AND 1 MICRON FILTER CARTRIDGES. MAX FLOWRATE: 40gpm, 25Ø NPT CONNECTION, WALL BRACKET, 2 FILTER PER UV.
UV-1 AND UV-2	UV SYSTEM	VIQUA	TROJAN PRO 20	20GPM FLOWRATE, 300 PSI BURST PRESSURE, VERTICAL ORIENTATION, 316L STAINLESS STEEL CONSTRUCTION. PROVIDE OPTIONAL SOLENOID VALVE, ONE SET OF SPARE LAMPS PER UV SYSTEM.
RT-1	RETENTION TANK	FLUIDRA	FLUE120EZ	450L STORAGE VOLUME. DIMENSIONS = 1.81M(H) X .614M(Ø). EMPTY WEIGHT = 38KGS. FULL WEIGHT = 488KGS. BOTTOM 30Ø CONNECTIONS.
WS-1 AND WS-2	WATER SOFTENERS	CLACK	CLACK 45 TWIN ALTERNATING	TWIN ALTERNATING WATER SOFTENER, 45,000 GRAINS PER TANK., 0.5CUFT ACTIVATED CARBON MEDIA. 120V/1/60, 0.5A
PCM	PULSE CONTROL MODULE	STENNER	PCM10	TIME ADJUSTED CONTROLLER, 120V/1PH/60, 0.45mA AC
CP-1 TO CP-4	CHEMICAL PUMP	STENNER	M45MPH1	SINGLE HEAD ADJUSTABLE PUMP, ANTI-SIPHON PROTECTION, 120V/1PH/60, 1.7A.
IA-1 TO IA-4	INJECTION POINT ASSEMBLY	PULSATRON	--	CUSTOM MODIFICATION BY MWATER
CP	CHEMICAL DOSING CONTROL PANEL	MWATER	CUSTOM	CUSTOM FABRICATED BY MWATER
--	VIDEOGRAPHIC RECORDER	MWATER	SM1000	CUSTOM FABRICATED BY MWATER
--	CHLORINE ANALYZER	MWATER	--	CUSTOM FABRICATED BY MWATER
RO	REVERSE OSMOSIS	MWATER	VECTAMAXX RSL2400	RO UNIT: 208V/1PH/60HZ, 7.1A P4 BOOSTER PUMP: GRUNDFOS ,2PPS1605154, 120/1/60, 8.2A 200 GAL STORAGE TANK 8.5 GAL RO-COMPATIBLE PRESSURE TANK
SV	FIRE SUPPRESSION SOLENOID VALVE	BURKERT	S000306803	2" NORMALLY-OPEN SOLENOID VALVE, DE-ENERGIZES WHEN FIRE SUPPRESSION SYSTEM ACTIVATES. 120VAC

- RETAIN MWATERS TO PROVIDE THE COMPLETE WATER TREATMENT SYSTEM (CONTACT WILLIAM VANDER WILP, WILLIAM@MWATER.CA, 1-800-200-0865 X 24)

SOLAR HOT WATER HEATING SYSTEM

TAG	TYPE	MANUFACTURER	MODEL / PART NUMBER	DESCRIPTION
SC-1 TO SC-9	VERTICAL FLAT PLATE COLLECTOR	VIESSMANN	200-FM SV2F	2.51 SQM GROSS AREA, 2.32 SQM ABSORBER AREA, 2.33 SQM APERTURE AREA, 92.3% OPTICAL EFFICIENCY, 4.42W/M2K HEAT LOSS COFFICIENT U1, 0.022 W/M2K2 HEAT LOSS COEFFICIENT U2, 4.89 KJ/(K*M2) K THERMAL CAPACITY, 1.63L FLUID CAPACITY, 87 PSIG MAXIMUM WORKING PRESSURE, 145C MAX STAGNATION TEMPERATURE, 20MM CONNECTION SIZES.
SC-1 TO SC-9	PLATE COLLECTOR ACCESSORIES	VIESSMANN	Z003100 (Qty 1) Z003101 (Qty 1) 7984865 (Qty 8) 7248240 (Qty 1) 7174993 (Qty 1) ZK02868 (Qty 1) 7298127 (Qty 1) 7248566 (Qty 3) 7248567 (Qty 1) 7181515 (Qty 22) 7538989 (Qty 1) 7538990 (Qty 3) 7317114 (Qty 6) 7175265 (Qty 1) 7179234 (Qty 3) 7743325 (Qty 1) 7743296 (Qty 1)	- SLOPED ROOF MOUNTING KIT, 4 X VITOSOL-F, SV PANELS - SLOPED ROOF MOUNTING KIT, 5 X VITOSOL-F, SV PANELS - INTERCONNECTION PIPE SETS (8 SETS) - GENERAL CONNECTION SET (1 PER ARRAY) - SENSOR WELL SET (1 PER SYSTEM). - INSTALLATION FITTINGS SET (1 PER SYSTEM) - FAST AIR VENT COMPLETE WITH SHUT-OFF VALVE - MOUNTING SET 2V - MOUNTING SET 3V - SHINGLE ROOF BRACKETS - ASSEMBLY CLIP KIT (4 PCS) - ASSEMBLY CLIP KIT (6 PCS) - ACCESSORY SCREW PACKS (IL=80) - ACCESSORY T-SCREW PACK (4 PCS) - ACCESSORY T-SCREW PACK (6 PCS) - INSTALLATION SET COMPONENT - TECHNICAL LITERATURE SET
SCU	SOLAR CONTROL UNIT	VIESSMANN	7272329	SOLAR CONTROL, DELTASOL SL FULL KIT
P-1	SOLAR PUMP	VIESSMANN	SOLAR-DIVICON	DN25B 4.5GPM @ 25FT HEAD, 3-SPEED PUMP, SYSTEM FILL MANIFOLD, 2X THERMOMETER / 2 X BALL VALVES, 2 X FLOW CHECK VLAVES, PRV 87 PSIG, PRESSURE GAGE, FLOW METER, AIR SEPARATOR, INSULATION COVER.
ET-1	SOLAR EXPANSION TANK	AMTROL	7248245 (Qty 2)	EXPANSION VESSEL 80L / 10BAR SOLAR
GLY	PREMIXED GLYCOL	VIESSMANN	7316098 (Qty 5)	SYSTEM FILL (TYFOCOR-HTL, SOLAR) 20L
SHWT-1 AND SHWT-2	STORAGE TANKS	VIESSMANN	ZK06893 (Qty 2) 7606041 (Qty 1)	- VITOCELL 300 V EVIB 119USG/450L VITOGRAPHITE - ELBOW C/W SENSOR WELL, ¼x160 1" NPT
---	SOLAR ACCESSORIES	VIESSMANN	7317121 7404364 7416054 9686769 7878968 7664951 9647464 9686769 (Qty 2) 7878968 (Qty 2) 7664951 (Qty 1) 9647464 (Qty 1)	- VITOSOL 100/200 CONNECTION ELEMENT - SPARE FUSE T 4.0A/250V (SET OF 10) - IMMERSION SENSOR FRP6 (2.5M) - DRAIN VALVE, ¼" NPT - THERMOMETER (AFRISO) 2" 30-320°F - PRESSURE GAUGE (AFRISO) 0-160 PSI - PRESSURE RELIEF VALVE ½" x ½" 80 PSI - DRAIN VALVE, ¼" NPT (2 REQUIRED) - THERMOMETER (AFRISO) (2 REQUIRED) - PRESSURE GAUGE (1 REQUIRED) - PRESSURE RELIEF VALVE (1 REQUIRED)
--	OVERFLOW CONTAINER	--	--	PROVIDE 21L (6USG) OVERFLOW CONTAINER.
GF	GLYCOL FEEDER	AXIOM	MF200	HYDRONIC SYSTEM FEEDER, 25L STORAGE/MIXING TANK WITH MOLDED-IN LEVEL GAUGE, 125MM FILL/ACCESS OPENING AND COVER. PUMP SUCTION HOSE WITH INLET STRAINER AND CHECK VALVE, PRESSURE PUMP (0.7GPM) WITH FUSE PROTECTION, LOW FLUID LEVEL PUMP CUT-OUT FLOAT SWITCH, MANUAL DIVERTER VALVE FOR PURGIN AIR, UL LISTED AND FUSED POWER SUPPLY ADAPTOR WITH LED INDICATOR LIGHT, 120V/60/1 TO 24VDC 50W AC. SUPPLIED LOOSE FOR FIELD INSTALALTION.

COMPLETE SOLAR HEATER PACKAGE SHALL BE FROM A SINGLE SUPPLIER. CONTACT HTS: MOE SAQQA AT MOE.SAQQA@HTS.COM OR 647-997-3334

HOT WATER TANK - ELECTRIC

TAG	SERVICE	MANUFACTURER	MODEL	STORAGE VOLUME		HEATING ELEMENTS			RECOVERY	ELECTRICAL					DIMENSION		WEIGHT (INCLUDING WATER)		COMMENTS
				US GAL	LITERS	QTY	TOTAL KW	MBH	GAL/HR	VOLT	PH	HZ	MCA	MOCP	DIAMETER (MM)	HEIGHT (MM)	LBS	KG	
HWT-1 AND 2	DOMESTIC HOT WATER	AO SMITH	DRE-120-30	120	454	6 @ 5KW	30	102.36	123	208	3	60	83.3	90	750	1580	1382	628	SEE NOTES

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. RECOVERY RATE IS BASED ON 100F TEMPERATURE RISE

PUMPS

TAG	SERVICE	MANUFACTURER	SERIES	MODEL	FLUID	PUMP PERFORMANCE		MOTOR			ELECTRICAL					DIMENSION		WEIGHT		COMMENTS
						FLOW GPM	PRESSURE FT HD	TYPE	BHP	HP	VOLT	PH	HZ	MCA	MOCP	INLET (MM)	OUTLET (MM)	LBS	KG	
P1	SOLAR HOT WATER SYSTEM	VIESSMANN	DIVICON	DN25B	40% PG	4.5	25	--	--	0.1	120	1	60	1.5	15	20	20	7	3	NOTES 1, 2
P2	HOT WATER TANK MIXING	BELL AND GOSSETT	ECOCIRC XL	40-200	WATER	40	5	EC	1	1	208	3	60	2	15	50	50	40	18	NOTES 1, 3
P3	HOT WATER RECIRC	BELL AND GOSSETT	ECOCIRC +	20-18	WATER	2	6	EC	1/10	1/10	120	1	60	1.02	15	20	20	12	5	NOTES 1, 3

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. SOLAR HEATING COMPONENT SHALL BE PROVIDED BY A SINGLE SUPPLIER
3. PROVIDE VARIABLE FLOW PUMP AND SET SPEED BASED ON SITE CONDITIONS.

EXPANSION TANK

TAG	SERVICE	MANUFACTURER	MODEL	STORAGE VOLUME		MAXIMUM ACCEPTANCE VOLUME		PRECHARGE	MAX. WORKING PRESSURE	DIMENSION		WEIGHT (INCLUDING WATER)		COMMENTS
				US GAL	LITERS	US GAL	LITERS	PSI	PSIG	DIAMETER (MM)	HEIGHT (MM)	LBS	KG	
ET-1	SOLAR HOT WATER	AMTROL	200-L	53	201	53	201	12	150	610	956	390	177	SEE NOTE
ET-2	DOMESTIC HOT WATER	AMTROL	ST-60VC	25	95	11	42	55	150	406	813	130	59	SEE NOTE

NOTE:
1. ADJUST TANK PRESSURE TO MATCH SYSTEM PRESURE ON SITE.

MAKEUP AIR UNIT - ELECTRIC

TAG	SERVICE	MANUFACTURER	MODEL	HEATING CAPACITY		AIRFLOW			ELECTRICAL			DIMENSIONS			COMMENTS
				KW	MBH	CFM	ESP	TEMP RISE	VOLTAGE	PHASE	HZ	WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	
MAU-1	GARBAGE ROOM	THERMOLEC	FER8	7	23.9	250	0.25"WC	88	208	3	60	790	381	381	SEE NOTES

NOTE:
1. PROVIDE DISCONNECT AND STARTER FOR ALL EQUIPMENT
2. PROVIDE BUILT-IN DISCONNECT SWITCH
3. PROVIDE SCR PROPORTIONAL CONTROLLER
4. PROVIDE DUCT MOUNTED TEMPERATURE SENSOR, FIELD INSTALLED.
5. PROVIDE CURRENT SENSOR FOR ON/OFF INTERLOCK WITH EXHAUST FAN.
6. PROVIDE HANGING VIBRATION ISOLATOR.
7. PROVIDE WASHABLE PERMANENT MESH FILTER.

DRAINAGE SCHEDULE

TAG	PRODUCT CATEGORY	MANUFACTURER	MODEL NUMBER	DESCRIPTION	BODY MATERIAL	TOP/GRATE/STAINER/DOME/FUNNEL	OUTLET SIZE (INCHES)	LOAD RATING
NFHB	HYDRANT	WATTS	HY-420-88	NON-FREEZE WALL HYDRANT WITH CHROME FACE, INTEGRAL VACUUM BREAKER, WALL HYDRANT, WALL CLAMP, ALL BRONZE, CHROME-PLATED FACE, SEAT CASTING, LOOSE KEY, BRONZE WALL CASING, UNSIZED THICKNESS, INTEGRAL VACUUM BREAKER, COMPLIES WITH ASME B1.20.7, AND ASSE 1019-2004, UPC/IAMPO LISTED. MAX. OPERATING PRESURE 125 PSI., INTERNAL WORKING PARTS			19 MM (3/4") HOSE CONNECTION, 19 MM (3/4") FEMALE X 25 MM (1") MALE PIPE CONNECTION	
HB	HYDRANT	WATTS	SCB-3					
FD-1	FLOOR DRAIN	WATTS	FD-200-5-4	FINISHED AREA, FLOOR DRAIN, ANCHOR FLANGE, COLLAR WITH WEEPHOLES	EPOXY COATED CAST IRON, STANDARD BODY MATERIAL	ADJUSTABLE, 13 MM (1/2") THICK NICKEL BRONZE TOP, ROUND, 127 MM (5") DIAMETER DUCTILE IRON STRAINER	UNSIZED PIPE, TO BE DETERMINED	EXTRA HEAVY DUTY (XHD) 3375 - 4500 KG (7500 - 10,000 LBS) SAFE LIVE LOAD
FD-2	FLOOR DRAIN	WATTS	FD-1100-A5	FINISHED AREA, FLOOR DRAIN, ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEPHOLES	EPOXY COATED CAST IRON, STANDARD BODY MATERIAL	ADJUSTABLE, HEEL PROOF TOP, ROUND, 127 MM (5") DIAMETER STAINLESS STEEL STRAINER	UNSIZED PIPE, TO BE DETERMINED	HEAVY DUTY (HD) 2250 - 3375 KG (5000 - 7499 LBS) SAFE LIVE LOAD
CFFD-1	FLOOR DRAIN	WATTS	FD-204-8-1-G-1	FINISHED AREA, FLOOR DRAIN, ANCHOR FLANGE, COLLAR WITH WEEPHOLES	EPOXY COATED CAST IRON, STANDARD BODY MATERIAL	ADJUSTABLE, 13 MM (1/2") THICK NICKEL BRONZE TOP, ROUND, 203 MM (8") DIAMETER NICKEL BRONZE STRAINER, 102 X 229 MM (4" X 9") OVAL NICKEL BRONZE FUNNEL	102 MM (4") PIPE SIZE, TO BE DETERMINED	HEAVY DUTY (HD) 2250 - 3375 KG (5000 - 7499 LBS) SAFE LIVE LOAD
CO	CLEANOUT	WATTS	CO-1200-R	UNFINISHED AREA, ADJUSTABLE, FLOOR CLEANOUT, REMOVEABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG	EPOXY COATED CAST IRON, STANDARD (EPOXY COATED CAST IRON)	ROUND, 127 MM (5") GASKETED STAINLESS STEEL TOP	UNSIZED PIPE, TO BE DETERMINED	HEAVY DUTY (HD) 2250 - 3375 KG (5000 - 7499 LBS) SAFE LIVE LOAD
CO (STACK)	CLEANOUT	WATTS	CO-460	WALL ACCESS, NON-ADJUSTABLE, STACK CLEANOUT, GASKETED BRASS COUNTERSUNK PLUG	CAST IRON	ROUND	UNSIZED PIPE, NO-HUB OUTLET	

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

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707 Kipling Ave, Toronto, ON, M8Z 5G4
Tel. (416) 798-8770
www.tSmithEngineering.com

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SEAL

2026-03-19

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	AS	ISSUED FOR COORDINATION
2	2026-03-02	AS	ISSUED FOR 90% REVIEW
3	2026-03-19	AS	ISSUED FOR PERMIT
4	2026-05-13	AS	ISSUED FOR TENDER
5	2026-05-19	AS	CITY'S COMMENTS
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

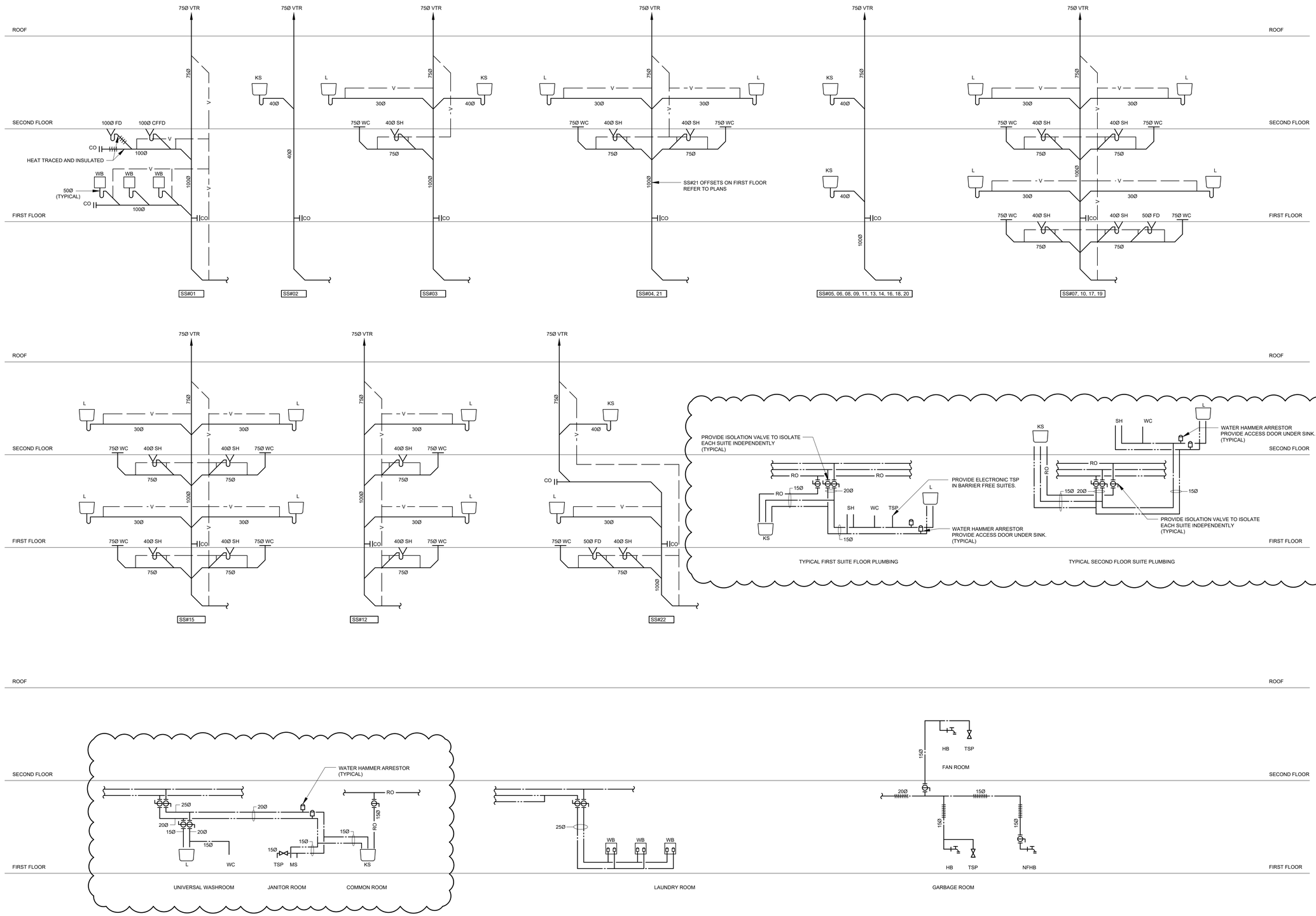
DRAWN BY:

CHECKED BY: AS

SHEET TITLE: EQUIPMENT SCHEDULES

SCALE: AS SHOWN

SHEET NUMBER: M010



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CLIENT:

ENGINEERING:

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SQ VIS

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PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

DRAWN BY:

CHECKED BY: AS

SHEET TITLE: POTABLE WATER AND SANITARY RISER DIAGRAMS

SCALE: AS SHOWN

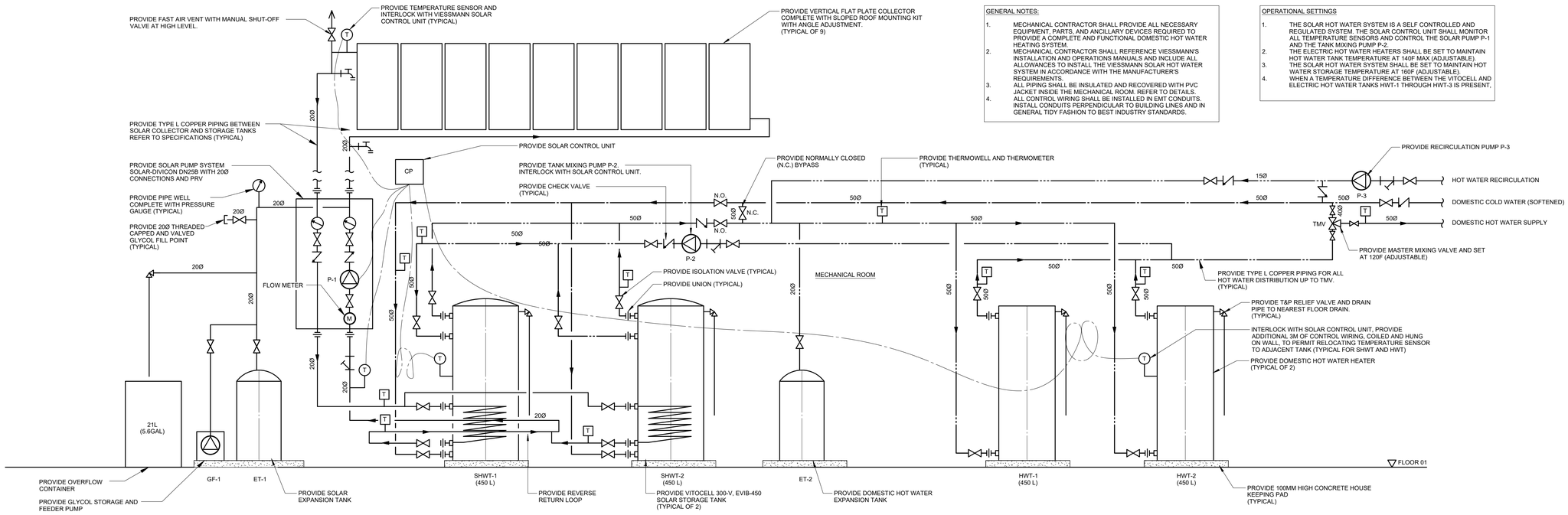
SHEET NUMBER: M020

GENERAL NOTES:

1. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, PARTS, AND ANCILLARY DEVICES REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL DOMESTIC HOT WATER HEATING SYSTEM.
2. MECHANICAL CONTRACTOR SHALL REFERENCE VIESSMANN'S INSTALLATION AND OPERATIONS MANUALS AND INCLUDE ALL ALLOWANCES TO INSTALL THE VIESSMANN SOLAR HOT WATER SYSTEM IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
3. ALL PIPING SHALL BE INSULATED AND RECOVERED WITH PVC JACKET INSIDE THE MECHANICAL ROOM. REFER TO DETAILS.
4. ALL CONTROL WIRING SHALL BE INSTALLED IN EMT CONDUITS. INSTALL CONDUITS PERPENDICULAR TO BUILDING LINES AND IN GENERAL TIDY FASHION TO BEST INDUSTRY STANDARDS.

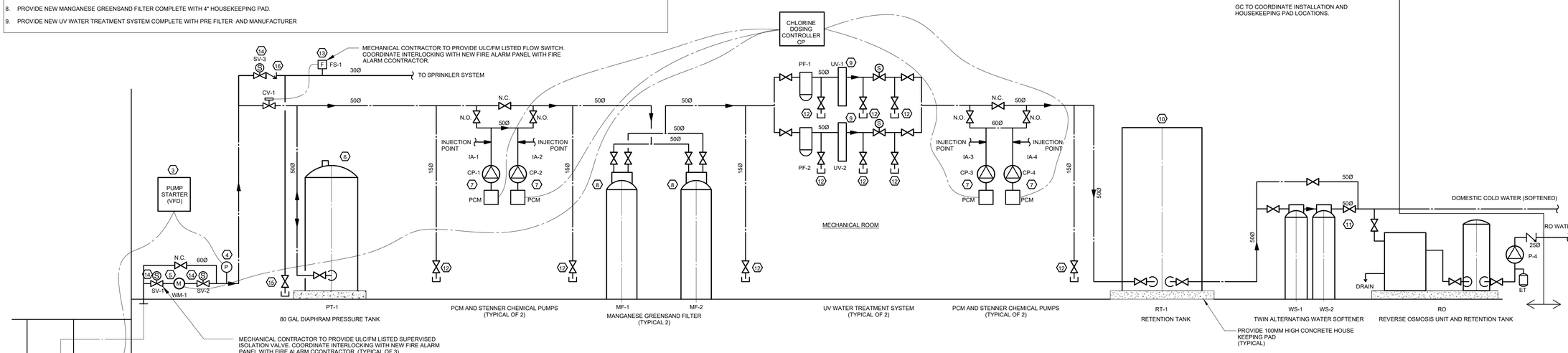
OPERATIONAL SETTINGS

1. THE SOLAR HOT WATER SYSTEM IS A SELF CONTROLLED AND REGULATED SYSTEM. THE SOLAR CONTROL UNIT SHALL MONITOR ALL TEMPERATURE SENSORS AND CONTROL THE SOLAR PUMP P-1 AND THE TANK MIXING PUMP P-2.
2. THE ELECTRIC HOT WATER HEATERS SHALL BE SET TO MAINTAIN HOT WATER TANK TEMPERATURE AT 140F MAX (ADJUSTABLE).
3. THE SOLAR HOT WATER SYSTEM SHALL BE SET TO MAINTAIN HOT WATER STORAGE TEMPERATURE AT 160F (ADJUSTABLE).
4. WHEN A TEMPERATURE DIFFERENCE BETWEEN THE VITOCELL AND ELECTRIC HOT WATER TANKS HWT-1 THROUGH HWT-3 IS PRESENT.



KEYNOTES:

1. WELL CLEANING: PERFORM WELL CLEANING UTILIZING HIGH-PRESSURE WATER AND NITROGEN SHROUD.
2. REMOVE AND REPLACE EXISTING WELL PUMP WITH NEW COMPLETE WITH VSD MOTOR.
3. PROVIDE NEW WELL PUMP VFD STARTER WITH MAGNETIC CONTACT FOR PRESSURE SENSOR INTERLOCK. PROVIDE NEW BURIED POWER AND CONTROL WIRING FROM STARTER TO WELL PUMP TO REPLACE EXISTING.
4. PROVIDE NEW ADJUSTABLE WATER PRESSURE SENSOR AND INTERLOCK WITH NEW PUMP STARTER.
5. PROVIDE NEW WATER FLOW METER WITH FULL SIZE BY-PASS AND INTERLOCK WITH CHLORINE DOSING CONTROLLER.
6. PROVIDE NEW 81 GALLON DIAPHRAGM STYLE PRESSURE TANK. COMPLETE WITH 4" HOUSEKEEPING PAD. CONTRACTOR TO REFER TO MANUFACTURER INSTALLATION MANUAL.
7. PROVIDE NEW CHEMICAL PUMP COMPLETE WITH PULSE CONTROL MODULE AND PULSATRON INJECTION ASSEMBLY.
8. PROVIDE NEW MANGANESE GREENSAND FILTER COMPLETE WITH 4" HOUSEKEEPING PAD.
9. PROVIDE NEW UV WATER TREATMENT SYSTEM COMPLETE WITH PRE FILTER AND MANUFACTURER RECOMMENDED SOLENOID VALVE. CONTRACTOR TO REFER TO MANUFACTURER INSTALLATION MANUAL AND RECOMMENDATIONS.
10. PROVIDE NEW RETENTION TANK (FLEX-LITE FLU-120EZ) COMPLETE WITH 4" HOUSEKEEPING PAD.
11. PROVIDE NEW TWIN ALTERNATING 1.5FT^3/TANK WATER SOFTENER (CLACK/AUTOTROL) TO BE CONNECTED TO DOMESTIC HOT WATER SUPPLY AND COMPLETE WITH 4" HOUSEKEEPING PAD.
12. PROVIDE 15Ø SAMPLING PORT COMPLETE WITH ISOLATION BALL VALVE.
13. PROVIDE ULC/FM LISTED SPRINKLER FLOW SWITCH. INTERLOCK WITH DOMESTIC WATER ISOLATION VALVE TO TURN OFF UPON FLOW ACTIVATION. INTERLOCK WITH FIRE ALARM PANEL.
14. PROVIDE ULC/FM LISTED SUPERVISED ISOLATION VALVE. INTERLOCK WITH FIRE ALARM PANEL.
15. PROVIDE LOW LEVEL DRAIN.
16. PROVIDE ULC LISTED CHECK VALVE



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SEAL

2026-03-19

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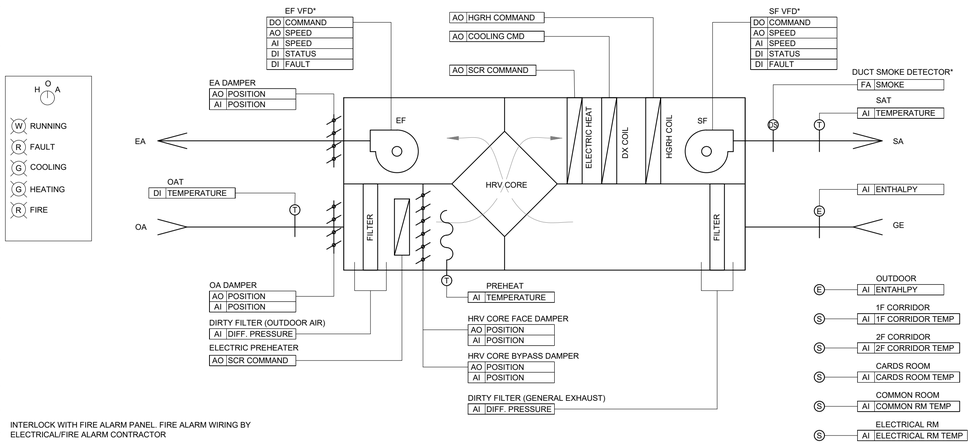
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE:
MECHANICAL WATER TREATMENT AND SOLAR HOT WATER SCHEMATICS
SCALE: AS SHOWN

SHEET NUMBER:
M030



INTERLOCK WITH FIRE ALARM PANEL. FIRE ALARM WIRING BY ELECTRICAL/FIRE ALARM CONTRACTOR

AHU-1 SEQUENCE OF OPERATION

AHU-1 PROVIDES VENTILATION AIR TO THE UPPER CORRIDOR, LOWER CORRIDOR, CARDS ROOM, AND COMMON ROOM. THE UNIT INCLUDES AN ERV WITH FACE-AND-BYPASS DAMPERS, ELECTRIC PREHEAT, ELECTRIC REHEAT LOCATED UPSTREAM OF THE DX COIL, A DX COOLING COIL WITH FACE-AND-BYPASS DAMPERS, AND SUPPLY AND EXHAUST FANS.

1. HOA STARTER AND LOCAL CONTROL

AHU-1 SUPPLY AND EXHAUST FAN STARTERS SHALL BE PROVIDED WITH HAND-OFF-AUTO (HOA) SWITCHES AND THE FOLLOWING INDICATION LIGHTS:

- RUN – FAN OPERATING
- FAULT – MOTOR STARTER OR OVERLOAD TRIP
- HEAT – HEATING ACTIVE
- COOL – COOLING ACTIVE

HAND MODE

WHEN HOA SELECTOR SWITCH IS SET TO HAND, THE SUPPLY AND EXHAUST FANS SHALL RUN CONTINUOUSLY, BAS START/STOP COMMANDS SHALL BE OVERRIDDEN, AND ALL SAFETY DEVICES SHALL REMAIN ACTIVE.

OFF MODE

WHEN HOA SELECTOR SWITCH IS SET TO OFF, ALL FANS SHALL BE DISABLED.

AUTO MODE

WHEN HOA SELECTOR SWITCH IS SET TO AUTO MODE, THE UNIT OPERATION SHALL BE CONTROLLED BY THE BAS IN ACCORDANCE WITH THIS SEQUENCE OF OPERATION.

THE BAS SHALL MONITOR FAN RUN STATUS, FAULT STATUS, AND HOA POSITION, AND GENERATE AN ALARM WHEN THE STARTER IS IN HAND OR OFF POSITION.

2. GENERAL OPERATION

AHU-1 WILL OPERATE CONTINUOUSLY AND MAINTAIN CONSTANT DESIGN AIRFLOW FOR VENTILATION. THE BAS WILL CONTROL SUPPLY AIR TEMPERATURE (SAT) BASED ON SPACE TEMPERATURE CONDITIONS.

TEMPERATURE SENSORS WILL BE INSTALLED IN:

- 1F CORRIDOR
- 2F CORRIDOR
- CARDS ROOM
- COMMON ROOM
- ELECTRICAL ROOM

THE BAS WILL DETERMINE THE AVERAGE, MINIMUM, AND MAXIMUM SPACE TEMPERATURES.

SAT WILL RESET BASED ON SPACE DEMAND:

- SAT RESETS DOWNWARD BASED ON THE WARMEST SPACE.
- SAT RESETS UPWARD BASED ON THE COLDEST SPACE.

UPPER AND LOWER SAT LIMITS WILL PREVENT OVERHEATING OR OVERCOOLING OF OTHER SPACES.
DURING COOLING OPERATION, THE BAS SHALL PROVIDE A COOLING ENABLE SIGNAL TO THE UNIT THROUGH A DEDICATED TERMINAL STRIP.

THE DX COOLING SYSTEM SHALL UTILIZE A DIGITAL SCROLL COMPRESSOR. MODULATE COOLING CAPACITY TO MAINTAIN THE REQUIRED SAT SETPOINT.

DURING HEATING OPERATION, THE ELECTRIC HEATING COIL SHALL MODULATE THROUGH SCR CONTROL TO MAINTAIN THE REQUIRED SAT SETPOINT. ELECTRIC HEATER MODULATION SHALL BE CONTROLLED INTERNALLY BY THE UNIT CONTROLLER.

COOLING AND HEATING OPERATION SHALL BE ENABLED BASED ON THE ACTIVE SEASONAL MODE AND SAT RESET REQUIREMENTS.

3. FAN STATUS AND EQUIPMENT INTERLOCKS

THE BAS SHALL MONITOR FAN VFD STATUS FOR THE SUPPLY AND EXHAUST FANS.

IF SUPPLY FAN VFD RUN STATUS IS NOT PROVEN WITHIN AN ADJUSTABLE TIME DELAY (ADJUSTABLE) AFTER A START COMMAND OR IF VFD FAULT IS ACTIVE:

- DX COOLING SHALL BE DISABLED
- ELECTRIC HEATING COILS SHALL BE DISABLED
- AN ALARM SHALL BE GENERATED INDICATING AHU-1 SUPPLY FAN FAILURE

IF EXHAUST FAN VFD RUN STATUS IS NOT PROVEN WITHIN AN ADJUSTABLE TIME DELAY (ADJUSTABLE) AFTER START COMMAND OR IF VFD FAULT IS ACTIVE:

- AN ALARM SHALL BE GENERATED INDICATING AHU-1 EXHAUST FAN FAILURE

ALL SAFETY DEVICES INCLUDING MOTOR PROTECTION, FREEZESTAT, AND HIGH TEMPERATURE LIMITS SHALL REMAIN ACTIVE AT ALL TIMES.

4. SEASONAL CHANGEOVER

HEATING AND COOLING SEASONS WILL BE DETERMINED USING A 24-HOUR ROLLING AVERAGE OUTDOOR AIR TEMPERATURE.

HEATING SEASON:
ENABLED WHEN THE 24-HOUR AVERAGE OUTDOOR TEMPERATURE FALLS BELOW 16°C (60.8°F) (ADJUSTABLE).

COOLING SEASON:
ENABLED WHEN THE 24-HOUR AVERAGE OUTDOOR TEMPERATURE RISES ABOVE 19°C (66.2°F) (ADJUSTABLE).

IF THE 24-HOUR AVERAGE TEMPERATURE IS BETWEEN THESE VALUES, THE SYSTEM WILL REMAIN IN THE PREVIOUS MODE.

THE SYSTEM SHALL MAINTAIN INDOOR SPACE TEMPERATURES NOT LOWER THAN 18°C (64°F) (ADJUSTABLE). HEATING WILL OPERATE AS REQUIRED TO MAINTAIN THIS MINIMUM TEMPERATURE REGARDLESS OF SEASONAL MODE.

5. TEMPERATURE SETPOINTS

NORMAL OPERATION

- HEATING SETPOINT: 70°F (21°C) (ADJUSTABLE)
- COOLING SETPOINT: 75°F (24°C) (ADJUSTABLE)

NIGHTTIME SETBACK

- HEATING SETBACK: 64°F (18°C) (ADJUSTABLE)
- COOLING SETBACK: 80°F (27°C) (ADJUSTABLE)

DURING SETBACK, SAT RESET LOGIC REMAINS ACTIVE BUT OPERATES WITHIN THE SETBACK LIMITS.

6. HUMIDITY CONTROL

A RETURN AIR DUCT ENTHALPY SENSOR (UPSTREAM OF THE ERV) WILL MONITOR OVERALL BUILDING LATENT LOAD.

WHEN ENTHALPY EXCEEDS THE SET THRESHOLD (ADJUSTABLE):

- THE UNIT ENTERS LATENT PRIORITY MODE.
- THE DX COIL INCREASES MOISTURE REMOVAL.
- HOT GAS REHEAT SHALL OPERATE TO MAINTAIN THE SAT SETPOINT DURING DEHUMIDIFICATION OPERATION.

THE BAS SHALL PROVIDE A DEDICATED HOT GAS REHEAT ENABLE SIGNAL THROUGH THE TERMINAL STRIP.

HUMIDITY CONTROL SHALL TAKE PRIORITY OVER FREE COOLING OPERATION.

THE BAS SHALL MONITOR:
- COOLING ENABLE STATUS
- HOT GAS REHEAT ENABLE STATUS
- RETURN AIR ENTHALPY
- SUPPLY AIR TEMPERATURE

ALL HUMIDITY THRESHOLDS, SAT LIMITS, AND CONTROL DELAYS SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.

7. FREE COOLING

FREE COOLING WILL OPERATE WHEN OUTDOOR AIR CONDITIONS CAN MAINTAIN THE SUPPLY AIR TEMPERATURE (ADJUSTABLE THRESHOLD).

CONTROL PRIORITY: HUMIDITY CONTROL SHALL OVERRIDE FREE COOLING OPERATION.

DURING FREE COOLING:

- DX COOLING IS DISABLED.
- THE ERV CORE IS BYPASSED TO PREVENT HEAT RECOVERY.
- SAT IS MAINTAINED USING OUTDOOR AIR AND DAMPER MODULATION.

DX COOLING WILL RESTART IF OUTDOOR AIR CANNOT MAINTAIN THE REQUIRED SAT.

8. ERV CORE FREEZE PROTECTION

AT LOW OUTDOOR AIR TEMPERATURES, THE ELECTRIC PREHEAT COIL WILL MODULATE TO MAINTAIN THE MINIMUM ENTERING AIR TEMPERATURE AT 0°F TO PREVENT FREEZING WITHIN THE UNIT (ADJUSTABLE).

9. SUPPLY AIR TEMPERATURE SHUTDOWN

THE BAS SHALL MONITOR THE SUPPLY AIR TEMPERATURE SENSOR (SAT).

IF SAT FALLS BELOW 45°F (ADJUSTABLE) FOR LONGER THAN AN ADJUSTABLE TIME DELAY, THE UNIT SHALL SHUT DOWN AND THE BAS SHALL GENERATE A LOW SUPPLY AIR TEMPERATURE ALARM.

IF SAT RISES ABOVE 125°F (ADJUSTABLE) FOR LONGER THAN AN ADJUSTABLE TIME DELAY, THE UNIT SHALL SHUT DOWN AND THE BAS SHALL GENERATE A HIGH SUPPLY AIR TEMPERATURE ALARM.

THE UNIT SHALL REMAIN SHUT DOWN UNTIL THE ALARM CONDITION IS CLEARED THROUGH THE BAS.

THIS FUNCTION SHALL BE DISABLED DURING THE FIRST 5 MINUTES OF UNIT STARTUP.

10. FIRE ALARM

IF SMOKE IS DETECTED BY THE DUCT MOUNTED SMOKE DETECTOR, ALARM SIGNAL SHALL BE SENT TO THE FIRE ALARM PANEL, AND AHU-1 IS SHUT-DOWN BY THE FIRE ALARM SYSTEM.

11. BAS INTEGRATION

THE BAS WILL MONITOR:

- SPACE TEMPERATURES
- RETURN AIR ENTHALPY
- SUPPLY AIR TEMPERATURE AND SETPOINT
- OUTDOOR AIR TEMPERATURE
- FAN STATUS
- HEATING AND COOLING OPERATION
- ERV AND DX BYPASS DAMPER POSITIONS

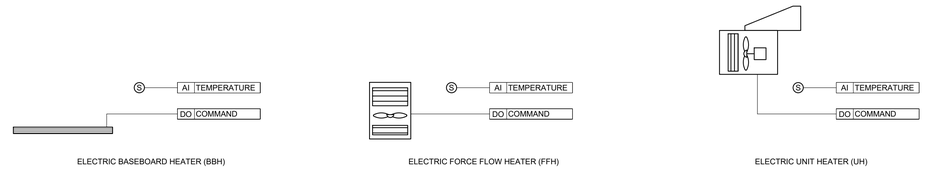
THE BAS WILL GENERATE ALARMS FOR THE FOLLOWING CONDITIONS:
- LOW TEMP ALARM AND UNIT SHUTDOWN- ACTIVATE WHEN THE SUPPLY AIR TEMPERATURE DROPS BELOW 41°F (5°C)
- HIGH TEMP ALARM AND UNIT SHUTDOWN- ACTIVATES WHEN COOLING IS ENABLED AND SUPPLY AIR TEMPERATURE IS ABOVE 70°F (21°C)
- SUPPLY OR EXHAUST FAN FAULT.
- DIRTY FILTERS (DIFFERENTIAL PRESSURE)

ALL CONTROL SETPOINTS AND THRESHOLDS SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.

SUPERVISORY-LEVEL ADJUSTMENTS WILL BE PERMITTED FOR SPACE TEMPERATURE SETPOINTS, SAT LIMITS, AND HUMIDITY THRESHOLDS WITHIN DEFINED RANGES.

BUIDING AUTOMATION CONTROLS CONTRACTOR:

MECHANICAL CONTRACTOR SHALL RETAIN JOHNSON CONTROLS FOR ALL NEW BUILDING AUTOMATION SYSTEM (BAS) WORK. FOR ALL BAS COORDINATION, CONTACT KIRK CAMPBELL AT KIRK.CAMPBELL@JCI.COM OR 613-532-0277.



ELECTRIC HEATER SEQUENCE OF OPERATION (COMMON AREAS)

ELECTRIC SPACE HEATERS SHALL PROVIDE SUPPLEMENTAL HEATING TO MAINTAIN THE REQUIRED SPACE TEMPERATURE.

THE FOLLOWING SEQUENCE OF OPERATION APPLIES ONLY TO THE ELECTRIC SPACE HEATERS SERVING COMMON AREAS.

EACH HEATER SHALL BE CONTROLLED BY A SPACE TEMPERATURE SENSOR LOCATED WITHIN THE SERVED AREA.

1. HEATING OPERATION

WHEN THE SPACE TEMPERATURE FALLS BELOW THE HEATING SETPOINT OF 70°F (21°C) (ADJUSTABLE):

- THE HEATER SHALL ENERGIZE.
- HEATING OUTPUT SHALL CYCLE OR MODULATE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

WHEN THE SPACE TEMPERATURE RISES ABOVE THE HEATING SETPOINT:

- THE HEATER SHALL DE-ENERGIZE.

FORCE FLOW HEATER AND UNIT HEATER FAN OPERATION IS INTERNAL AND NOT CONTROLLED BY THE BAS.

2. NIGHTTIME SETBACK

DURING NIGHTTIME PERIODS, THE HEATING SETPOINT SHALL BE REDUCED TO 64°F (18°C) (ADJUSTABLE).

THE HEATER SHALL OPERATE AS REQUIRED TO MAINTAIN THE SETBACK TEMPERATURE.

3. BAS INTEGRATION

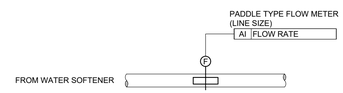
THE BAS SHALL MONITOR:

- SPACE TEMPERATURE
- HEATER OPERATING STATUS

THE BAS SHALL GENERATE AN ALARM IF THE SPACE TEMPERATURE FALLS MORE THAN 2°F (ADJUSTABLE) BELOW THE ACTIVE HEATING SETPOINT FOR LONGER THAN 5 MINUTES (ADJUSTABLE).

ALL SPACE TEMPERATURE SETPOINTS SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.

SUPERVISORY-LEVEL ADJUSTMENTS SHALL BE PERMITTED FOR SPACE TEMPERATURE SETPOINTS WITHIN DEFINED RANGES.



DOMESTIC COLD WATER SUPPLY FLOW MONITORING

THE BAS SHALL MONITOR THE DOMESTIC COLD WATER SUPPLY FLOW METER INSTALLED ON THE MAIN DOMESTIC WATER SERVICE AFTER THE WATER TREATMENT.

THE FLOW METER SHALL TRANSMIT A CONTINUOUS FLOW SIGNAL TO THE BAS (GPM OR L/S) FOR MONITORING AND TRENDING.

THE BAS SHALL PERFORM THE FOLLOWING FUNCTIONS:

- MONITOR DOMESTIC WATER FLOW RATE
- RECORD AND TREND WATER CONSUMPTION
- DISPLAY REAL-TIME FLOW RATE AND TOTALIZED WATER CONSUMPTION

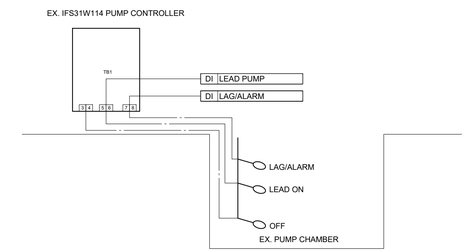
THE BAS SHALL LOG DOMESTIC WATER FLOW AND TOTALIZED WATER CONSUMPTION TRENDS FOR SYSTEM PERFORMANCE MONITORING AND WATER USAGE TRACKING.

THE BAS SHALL ALLOW THE END USER TO RESET THE TOTALIZED WATER CONSUMPTION VALUE WITHOUT DELETING PREVIOUSLY RECORDED TREND DATA.

IF THE FLOW METER SIGNAL IS LOST OR OUTSIDE THE VALID RANGE, THE BAS SHALL GENERATE A FLOW SENSOR FAULT ALARM.

ALL ALARMS SHALL BE REPORTED AT THE BAS OPERATOR INTERFACE.

ALARM THRESHOLDS AND MONITORING PARAMETERS SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.



PUMP CHAMBER LEVEL MONITORING

THE BAS SHALL MONITOR THE SEWAGE LEVEL IN THE SEPTIC SYSTEM VIA THE EXISTING FLOAT SWITCHES INSTALLED WITHIN THE PUMP CHAMBER.

THE EXISTING DUPLEX PUMP CONTROLLER SHALL RECEIVE THE FOLLOWING FLOAT SWITCH SIGNALS:

- PUMP OFF
- LEAD PUMP ON
- LAG PUMP ON / HIGH LEVEL ALARM

THE BAS CONTRACTOR SHALL MODIFY EXISTING WIRING AS REQUIRED TO PROVIDE COMPATIBLE INPUT SIGNALS TO THE BAS CONTROLLER.

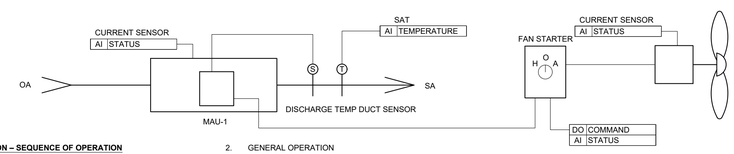
THE BAS SHALL MONITOR AND TREND THE STATUS OF EACH FLOAT SWITCH. TREND DATA SHALL INCLUDE THE DURATION OF EACH FLOAT SWITCH ACTIVATION.

WHEN THE LAG PUMP ON / HIGH LEVEL ALARM FLOAT SWITCH IS ACTIVATED, THE BAS SHALL GENERATE A PUMP CHAMBER HIGH LEVEL ALARM.

IF ANY FLOAT SWITCH REMAINS IN THE ACTIVE STATE FOR LONGER THAN AN ADJUSTABLE TIME DELAY, THE BAS SHALL GENERATE A STUCK FLOAT ALARM.

ALL ALARMS SHALL BE REPORTED AT THE BAS OPERATOR INTERFACE.

ALARM THRESHOLDS AND MONITORING PARAMETERS SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.



GARBAGE ROOM VENTILATION – SEQUENCE OF OPERATION

THE GARBAGE ROOM VENTILATION SYSTEM CONSISTS OF AN ELECTRIC MAKEUP AIR UNIT (MAU-1), AN EXHAUST FAN (EF-1), AND A HAND-OFF-AUTO (HOA) STARTER. MAU-1 IS FACTORY-EQUIPPED WITH AN INTEGRAL ELECTRIC HEATING COIL AND AN INTEGRAL DISCHARGE AIR TEMPERATURE CONTROLLER TO MAINTAIN A DISCHARGE AIR TEMPERATURE SETPOINT. A DUCT-MOUNTED TEMPERATURE SENSOR SHALL BE INSTALLED DOWNSTREAM OF MAU-1 TO PROVIDE DISCHARGE AIR TEMPERATURE SENSING. EF-1 OPERATES CONTINUOUSLY UNDER NORMAL CONDITIONS TO MAINTAIN NEGATIVE PRESSURE IN THE GARBAGE ROOM AND CONTROL ODOUR MIGRATION.

1. HOA STARTER AND LOCAL CONTROL

THE HOA SELECTOR SWITCH PROVIDES THREE MODES OF OPERATION:

AUTO MODE

WHEN THE HOA SELECTOR SWITCH IS SET TO AUTO, EF-1 AND MAU-1 ARE CONTROLLED BY THE BAS. EF-1 AND MAU-1 SHALL RUN CONTINUOUSLY. MAU-1 SHALL OPERATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE AT 70°F (21°C). THE DISCHARGE AIR TEMPERATURE SETPOINT IS SET LOCALLY AT THE MAU-1 INTEGRAL CONTROLLER AND IS NOT ADJUSTABLE THROUGH THE BAS.

HAND MODE

WHEN THE HOA SELECTOR SWITCH IS SET TO HAND (ON), THE BAS CONTROL IS MANUALLY BYPASSED AND BOTH EF-1 AND MAU-1 SHALL RUN CONTINUOUSLY REGARDLESS OF BAS COMMANDS.

A WARNING NOTIFICATION SHALL BE GENERATED AND DISPLAYED AT THE BAS WORKSTATION.

OFF MODE

WHEN THE HOA SELECTOR SWITCH IS SET TO OFF, BOTH EF-1 AND MAU-1 SHALL BE DE-ENERGIZED AND STOP.

AN ALARM SHALL BE GENERATED AND DISPLAYED AT THE BAS WORKSTATION INDICATING THE SYSTEM HAS BEEN MANUALLY SHUT OFF.

THE ALARM SHALL REMAIN ACTIVE UNTIL THE SELECTOR SWITCH IS RETURNED TO AUTO OR HAND AND THE ALARM IS ACKNOWLEDGED AT THE BAS WORKSTATION.

2. GENERAL OPERATION

EF-1 SHALL RUN CONTINUOUSLY DURING OCCUPIED AND UNOCCUPIED HOURS TO MAINTAIN CONSTANT VENTILATION THE GARBAGE ROOM AND PREVENT ODOUR MIGRATION TO ADJACENT SPACES.

MAU-1 SHALL BE INTERLOCKED WITH EF-1 AND OPERATE TO REPLACE EXHAUST AIR WITH CONDITIONED MAKEUP AIR. THE INTEGRAL ELECTRIC HEATING COIL SHALL BE CONTROLLED BY THE MAU-1 UNIT-MOUNTED CONTROLLER BASED ON THE DUCT-MOUNTED DISCHARGE AIR TEMPERATURE SENSOR SIGNAL.

THE BAS SHALL MONITOR THE RUN STATUS OF BOTH EF-1 AND MAU-1 AND SHALL GENERATE AN ALARM IF RUN STATUS IS NOT CONFIRMED WITHIN AN ADJUSTABLE TIME DELAY FOLLOWING A START COMMAND.

3. TEMPERATURE CONTROL

MAU-1 SHALL MODULATE THE INTEGRAL ELECTRIC HEATING COIL TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F (21°C). TEMPERATURE CONTROL IS ACHIEVED VIA THE MAU-1 UNIT-MOUNTED CONTROLLER REFERENCING THE DUCT-MOUNTED DISCHARGE AIR TEMPERATURE SENSOR. THE SETPOINT SHALL BE ADJUSTED LOCALLY AT THE UNIT CONTROLLER AND IS NOT ACCESSIBLE THROUGH THE BAS.

THE BAS SHALL MONITOR THE DISCHARGE AIR TEMPERATURE READING FROM THE DUCT-MOUNTED SENSOR FOR STATUS AND ALARM PURPOSES ONLY.

4. BAS INTEGRATION

THE BAS SHALL MONITOR THE FOLLOWING:

- EF-1 RUN STATUS (CURRENT SWITCH)
- MAU-1 RUN STATUS (CURRENT SWITCH)
- MAU-1 DISCHARGE AIR TEMPERATURE (MONITORING ONLY)
- HOA SELECTOR SWITCH POSITION (AUTO / HAND / OFF)

THE BAS SHALL GENERATE ALARMS FOR THE FOLLOWING CONDITIONS:

- EF-1 OR MAU-1 FAULT (RUN COMMAND AND STATUS MISMATCH).
- HOA SWITCH IN HAND (ON) POSITION – WARNING NOTIFICATION TO BAS WORKSTATION.
- HOA SWITCH IN OFF POSITION – ALARM NOTIFICATION TO BAS WORKSTATION.

ALL BAS-ADJUSTABLE CONTROL THRESHOLDS (SUCH AS TIME DELAYS AND ALARM LIMITS) SHALL BE ADJUSTABLE THROUGH THE BAS DURING COMMISSIONING AND OPERATION.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

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PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

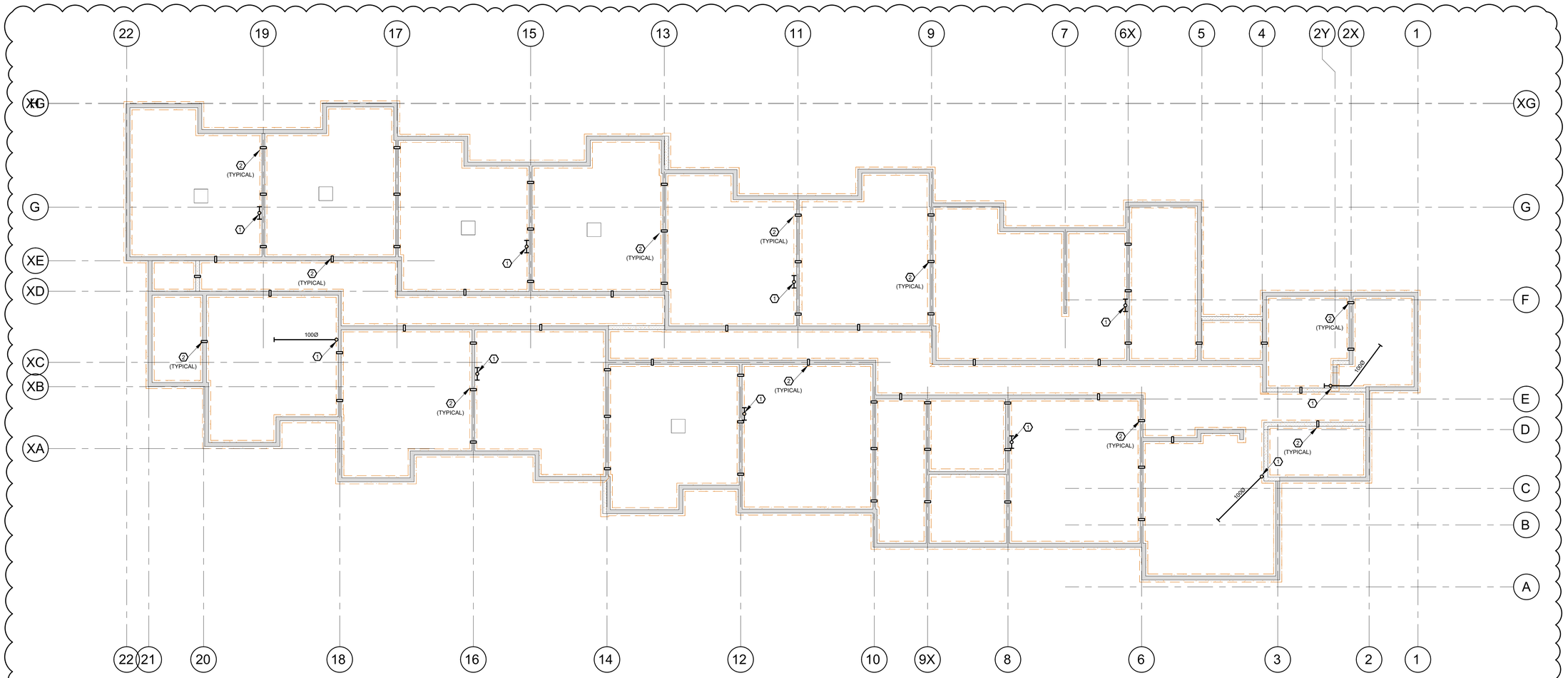
DRAWN BY:

CHECKED BY: AS

SHEET TITLE: CONTROLS

SCALE: AS SHOWN

SHEET NUMBER: M040



1 FOUNDATION FLOOR PLAN - RADON

1:100

DRAWING NOTES:

1. PROVIDE 100Ø SCH 40 PVC RADON EXHAUST PIPING UP TO FIRST FLOOR. ROUTE DUCT DOWN THROUGH FLOOR SLAB AND TURN HORIZONTAL BENEATH AIR AND SOIL GAS BARRIER AND WITHIN THE 100MM THICK GRANULAR LAYER AND MINIMUM 100MM CLEARANCE IN FRONT OF TERMINATION. REFER TO ARCHITECTURAL DRAWING A001.2 FOR TERMINATION DETAILS.
2. PROVIDE 100Ø SCH 40 PVC PIPE INSTALLED IN THE 100MM THICK GRANULAR LAYER AND THROUGH EXISTING FOUNDATION WALL. COORDINATE CORING WITH GENERAL TRADE. ENSURE PIPE IS FREE OF DEBRIS, UTILIZE COURSE MESH AS REQUIRED TO KEEP DEBRIS OUT OF PIPE.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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ISSUE DATE: 2026-02-13

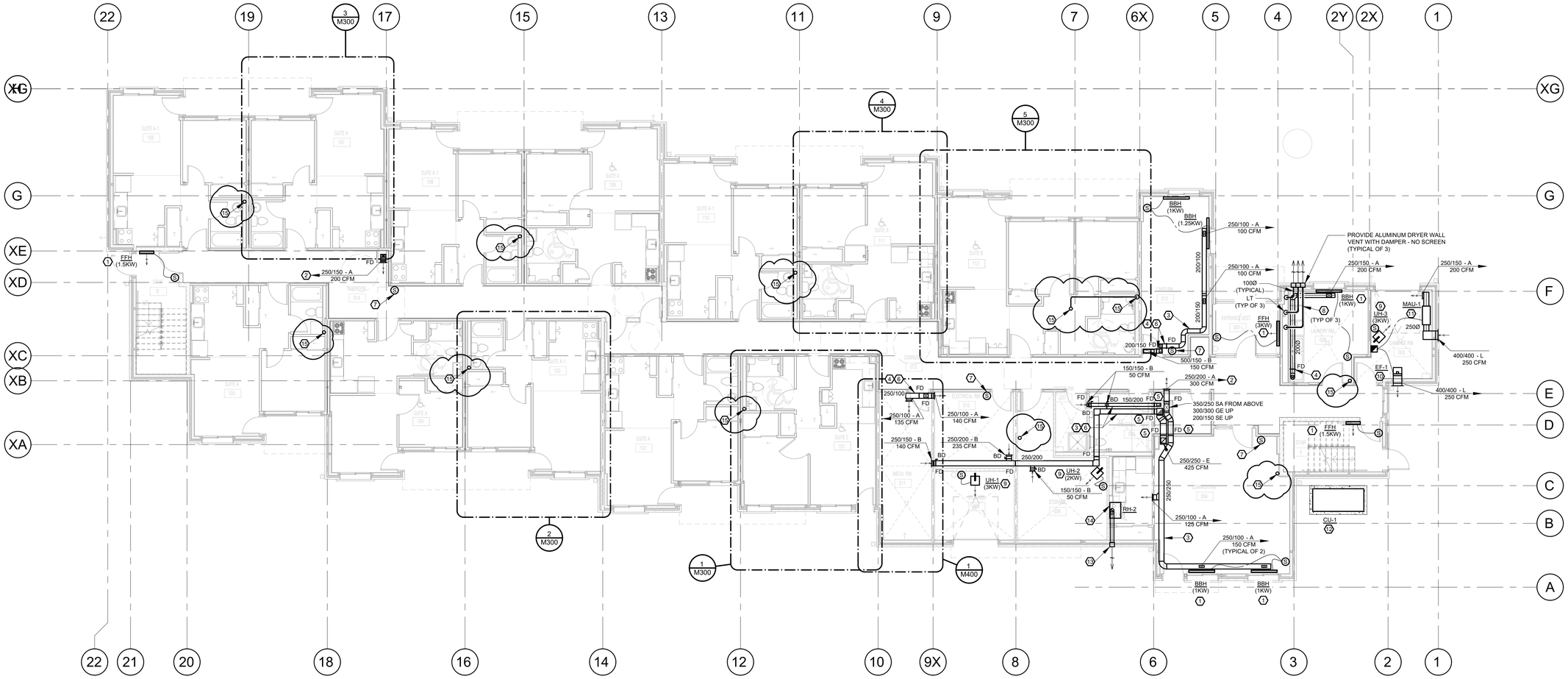
DRAWN BY:

CHECKED BY: AS

SHEET TITLE:
PROPOSED HVAC LAYOUT
FOUNDATION - RADON

SCALE: AS SHOWN

SHEET NUMBER:
M100F



1 FIRST FLOOR PLAN - HVAC

1:100

DRAWING NOTES:

1. PROVIDE NEW ELECTRIC HEATER COMPLETE WITH REMOTE TEMPERATURE SENSOR. REFER TO DETAILS AND CONTROLS SCHEMATIC FOR BAS INTEGRATION.
2. PROVIDE CORRIDOR VENTILATION DUCTWORK COMPLETE WITH FIRE DAMPER. INSTALL GRILLE AT HIGH LEVEL. INSULATE ALL DUCTWORK AS SPECIFIED.
3. INSTALL DUCTWORK WITHIN ARCHITECTURAL BULKHEAD. COORDINATE BULKHEAD SIZE AND ROUTING WITH GENERAL CONTRACTOR.
4. COORDINATE WITH GENERAL CONTRACTOR FOR CONSTRUCTION OF FIRE-RATED BULKHEAD. PROVIDE VERTICAL FIRE DAMPER WHERE DUCTWORK PENETRATES FIRE SEPARATION. PROVIDE ACCESS DOOR IN NON-RATED BULKHEAD FOR FIRE DAMPER SERVICE ACCESS.
5. PROVIDE CEILING ACCESS PANEL AND DUCT ACCESS DOOR TO PERMIT SERVICING OF FIRE DAMPER FROM WITHIN UNIVERSAL WASHROOM.
6. INSTALL DUCTWORK TO MAINTAIN CLEARANCE ABOVE DOORS AND OPENINGS.
7. PROVIDE AVERAGING TEMPERATURE SENSOR FOR AHU-1 CONTROL. REFER TO CONTROLS SCHEMATIC.
8. PROVIDE ALUMINUM DRYER VENT COMPLETE WITH MAGNETIC VENT CONNECTOR AND LINT TRAP. INSTALL IN ACCORDANCE WITH OBC REQUIREMENTS. ROUTE DRYER VENT AT HIGH LEVEL ACROSS CEILING AND TERMINATE WITH ULC-LISTED ALUMINUM WALL TERMINAL. PROVIDE CUSTOM COLOUR FINISH ON WALL TERMINAL TO MATCH ARCHITECTURAL REQUIREMENTS.
9. PROVIDE UNIT HEATER SUSPENDED FROM WALL. INSTALL UNIT TO CLEAR OVERHEAD DOOR OPERATION AND OTHER OVERHEAD EQUIPMENT.
10. PROVIDE EXHAUST FAN COMPLETE WITH STARTER. INTERLOCK OPERATION WITH MAU-1. REFER TO CONTROLS SCHEMATIC FOR BAS INTEGRATION.
11. PROVIDE MAKEUP AIR UNIT COMPLETE WITH OUTDOOR AIR INTAKE LOUVER INSTALLED AT HIGH LEVEL TIGHT TO UNDERSIDE OF STRUCTURE. INSTALL UNIT TO CLEAR OVERHEAD DOOR OPERATION. INTERLOCK OPERATION WITH EF-1 STARTER. REFER TO CONTROLS SCHEMATIC FOR BAS INTEGRATION.
12. PROVIDE OUTDOOR AIR CONDENSING UNIT COMPLETE WITH 150MM HIGH CONCRETE CURB. MOUNT UNIT ON CURB COMPLETE WITH VIBRATION ISOLATION.
13. PROVIDE KITCHEN EXHAUST DUCTWORK. LOCATE TERMINAL MINIMUM 3.1M FROM MECHANICAL AIR INTAKES. INSULATE FIRST 3M FROM EXTERIOR WALL. ROUTE TIGHT TO WALL AND CEILING AND CONCEAL WITHIN BULKHEAD.
14. PROVIDE RANGE HOOD EXHAUST FAN. PROVIDE AODA-COMPLIANT CONTROLS INSTALLED IN ACCESSIBLE LOCATION. REFER TO ARCHITECTURAL DRAWINGS.
15. PROVIDE 100Ø SCH 40 PVC RADON EXHAUST PIPING FROM FOUNDATION BELOW AND UP TO SECOND FLOOR. FIRE STOP ALL PIPE PENETRATIONS THROUGH FIRE SEPARATION WITH ULC LISTED FIRE-STOPPING SYSTEM.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

tSmith Engineering Inc.
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SEAL

2026-03-19

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	AS	ISSUED FOR COORDINATION
2	2026-03-02	AS	ISSUED FOR 90% REVIEW
3	2026-03-19	AS	ISSUED FOR PERMIT
4	2026-05-13	AS	ISSUED FOR TENDER
5	2026-05-19	AS	CITY'S COMMENTS
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

DRAWN BY:

CHECKED BY: AS

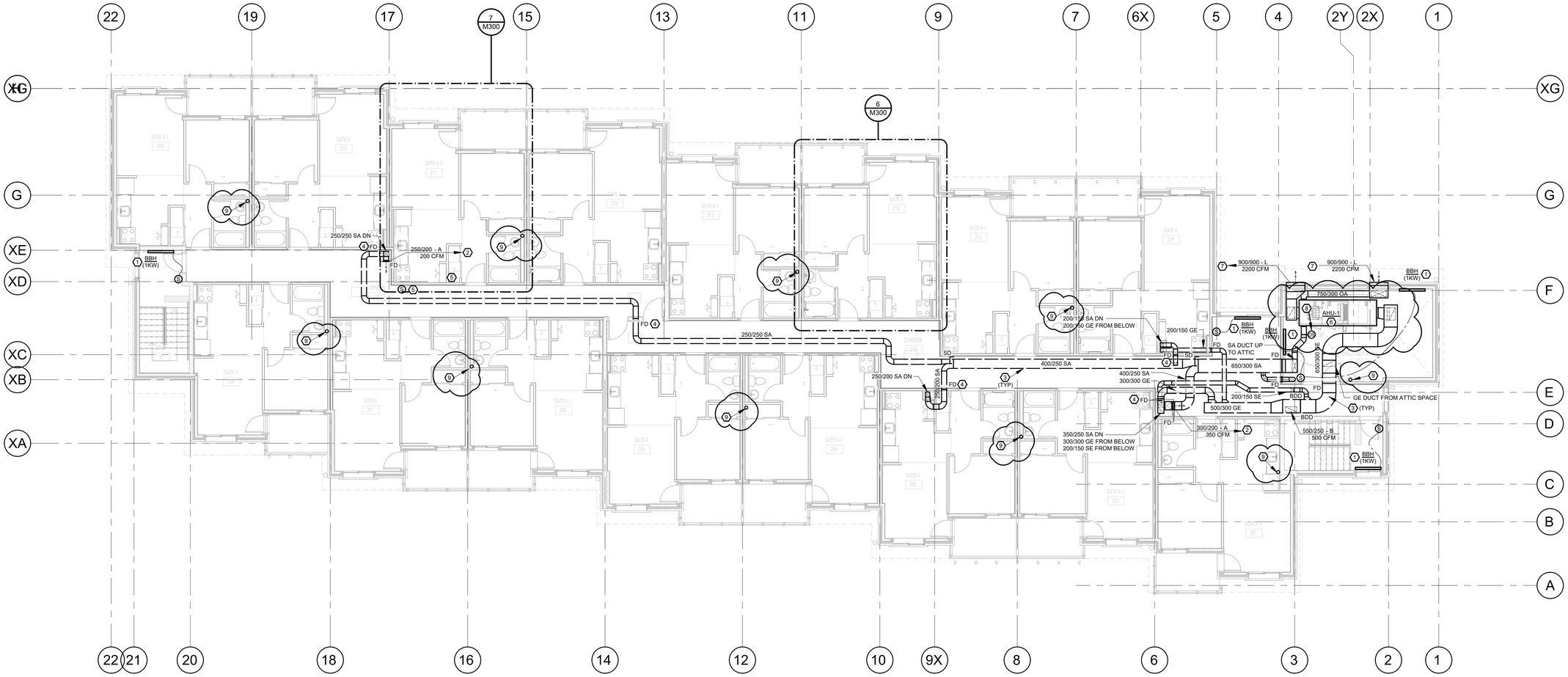
SHEET TITLE:

PROPOSED HVAC LAYOUT
FIRST FLOOR

SCALE: AS SHOWN

SHEET NUMBER:

M100



1 SECOND FLOOR PLAN - HVAC

1:100

DRAWING NOTES:

1. PROVIDE NEW ELECTRIC HEATER COMPLETE WITH REMOTE TEMPERATURE SENSOR. REFER TO DETAILS AND CONTROLS SCHEMATIC FOR BAS INTEGRATION.
2. PROVIDE CORRIDOR VENTILATION DUCTWORK COMPLETE WITH FIRE DAMPER. INSTALL GRILLE AT HIGH LEVEL. INSULATE ALL DUCTWORK AS SPECIFIED.
3. INSTALL DUCTWORK WITHIN ATTIC SPACE. SUPPORT DUCTWORK FROM ROOF STRUCTURE AND AS DETAILED. INSULATE ALL DUCTWORK IN ACCORDANCE WITH SPECIFICATIONS.
4. PROVIDE CEILING ACCESS PANEL AND DUCT ACCESS DOOR TO PERMIT SERVICING OF FIRE DAMPER FROM CORRIDOR.
5. PROVIDE AVERAGING TEMPERATURE SENSOR FOR AHU-1 CONTROL. REFER TO CONTROLS SCHEMATIC.
6. PROVIDE INDOOR AIR HANDLING UNIT COMPLETE WITH 100MM HIGH CONCRETE HOUSEKEEPING CURB. MOUNT UNIT ON CURB COMPLETE WITH VIBRATION ISOLATION.
7. REFER TO ARCHITECTURAL DRAWINGS FOR LOUVER ELEVATION, SIZE, AND FINISH REQUIREMENTS.
8. NEW DUCT SMOKE DETECTOR IN SUPPLY AIR STREAM. COORDINATE INSTALLATION WITH ELECTRICAL AND FIRE ALARM CONTRACTORS.
9. PROVIDE 100Ø SCH 40 PVC RADON EXHAUST PIPING FROM FIRST FLOOR BELOW AND UP TO ATTIC. CAP PIPE 600MM ABOVE ROOF INSULATION. PROVIDE CLEAR LABEL INDICATING SERVICE (RADON) VISIBLE FROM NEAREST ATTIC ACCESS HATCH. FIRE STOP ALL PIPE PENETRATIONS THROUGH FIRE SEPARATION WITH ULC LISTED FIRE-STOPPING SYSTEM.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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5	2026-05-19	AS	CITY'S COMMENTS
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

DRAWN BY:

CHECKED BY: AS

SHEET TITLE:

PROPOSED HVAC LAYOUT
SECOND FLOOR

SCALE: AS SHOWN

SHEET NUMBER:

M200

PLUMBING NOTES:

A. PROVIDE ISOLATION VALVE IN PUBLIC CORRIDOR. INSTALL VALVE APPROXIMATELY 100MM ABOVE CEILING ACCESS PANEL. ORIENT VALVE HANDLE TO BE READILY OPERABLE FROM BELOW. COORDINATE FINAL LOCATION ON SITE WITH GENERAL CONTRACTOR.

B. PROVIDE NEW DOMESTIC WATER, SANITARY DRAIN, AND VENT PIPING TO SERVE NEW PLUMBING FIXTURES. REFER TO M020 FOR TYPICAL PIPING SCHEMATIC.

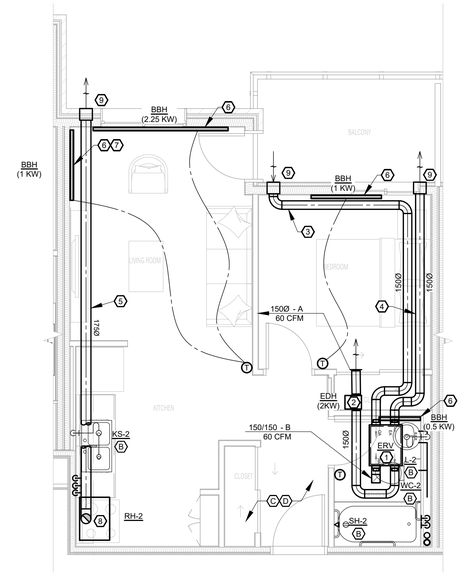
C. ALL EXPOSED PIPING SHALL BE CHROME PLATED AND PROVIDED WITH ONE-PIECE ESCUTCHEON PLATES AT WALL PENETRATIONS. SPLIT-TYPE ESCUTCHEONS ARE NOT PERMITTED.

D. FIRESTOP ALL PIPING PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND FIRE-RESISTANCE RATINGS.

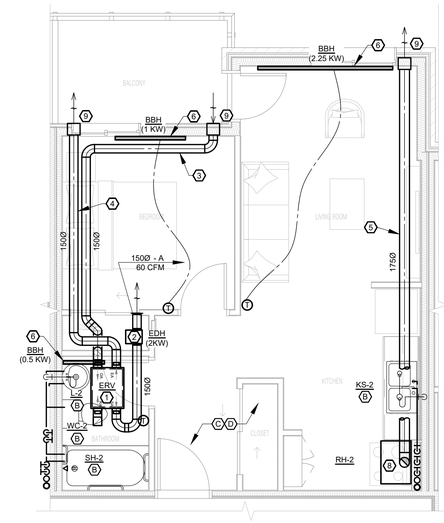
E. PROVIDE NEW FLOOR DRAIN. PROVIDE ELECTRONIC TRAP SEAL PRIMER INSTALLED CONCEALED WITHIN CHASE. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION.

HVAC NOTES:

1. PROVIDE ENERGY RECOVERY VENTILATOR (ERV) AND INSTALL ABOVE DROPPED CEILING. PROVIDE 610x914MM CEILING ACCESS DOOR FOR FULL SERVICE ACCESS. INSTALL UNIT BELOW FIRE SEPARATION. COORDINATE FINAL LOCATION WITH GENERAL CONTRACTOR.
2. PROVIDE ELECTRIC DUCT HEATER AND INSTALL ABOVE DROPPED CEILING. PROVIDE MINIMUM 305MM STRAIGHT DUCT UPSTREAM AND DOWNSTREAM OF HEATER IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. ORIENT HEATER TO ALLOW FULL SERVICE ACCESS TO CONTROL PANEL. PROVIDE MINIMUM 305x305MM CEILING ACCESS DOOR.
3. PROVIDE INSULATED OUTDOOR AIR DUCTWORK. ROUTE TIGHT TO WALL AND CEILING AND CONCEAL WITHIN BULKHEAD. MAINTAIN MINIMUM 3.1M SEPARATION BETWEEN ERV INTAKE AND EXHAUST TERMINALS.
4. PROVIDE ERV EXHAUST AIR DUCTWORK. LOCATE TERMINAL MINIMUM 3.1M FROM MECHANICAL AIR INTAKES. INSULATE FIRST 3M FROM EXTERIOR WALL. ROUTE TIGHT TO WALL AND CEILING AND CONCEAL WITHIN BULKHEAD.
5. PROVIDE KITCHEN EXHAUST DUCTWORK. LOCATE TERMINAL MINIMUM 3.1M FROM MECHANICAL AIR INTAKES. INSULATE FIRST 3M FROM EXTERIOR WALL. ROUTE TIGHT TO WALL AND CEILING AND CONCEAL WITHIN BULKHEAD.
6. PROVIDE BASEBOARD HEATER COMPLETE WITH REMOTE LOW-VOLTAGE 24/7 PROGRAMMABLE THERMOSTAT. ROUTE CONTROL WIRING CONCEALED WITHIN WALLS AND ABOVE CEILING.
7. PROVIDE BASEBOARD HEATERS FOR CORNER UNITS ONLY.
8. PROVIDE RANGE HOOD EXHAUST FAN. FOR BARRIER-FREE SUITES, PROVIDE AODA-COMPLIANT CONTROLS INSTALLED IN ACCESSIBLE LOCATION. REFER TO ARCHITECTURAL DRAWINGS.
9. PROVIDE LEAK PROOF INTAKE AND EXHAUST WALL BOX WITH SMOOTH EXTRUDED ALUMINUM GRILLE. INTAKE WALL BOX SHALL BE REVERSOMATIC SWBL-1008, AND EXHAUST SHALL BE REVERSOMATIC SWBL-EXHAUST. PROVIDE CUSTOM NECK COLLAR TO MATCH DUCT SIZES SHOWN ON PLAN.



7 SECOND FLOOR - SUITE A-1
1:50



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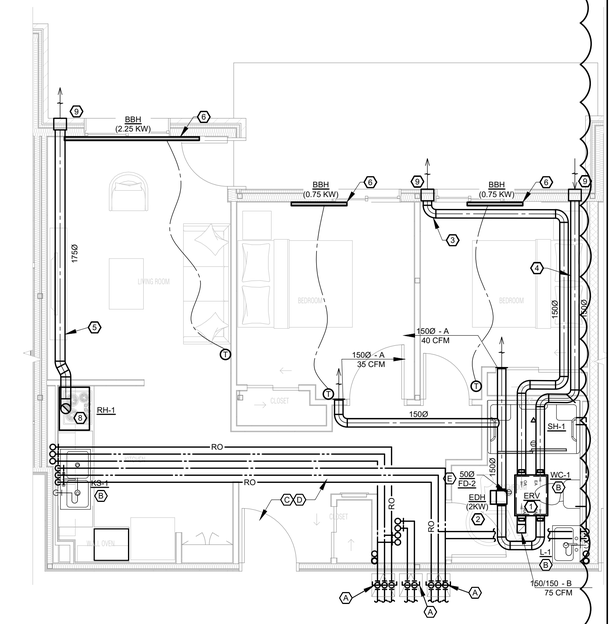
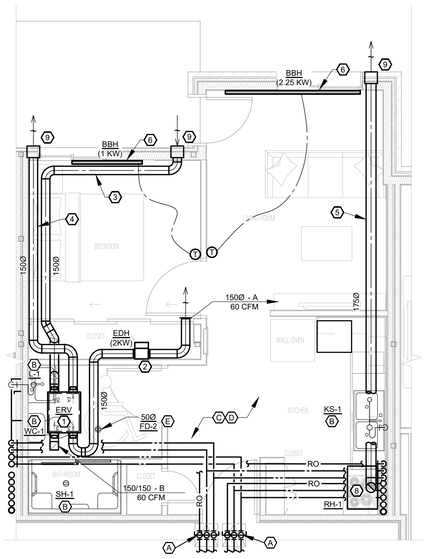
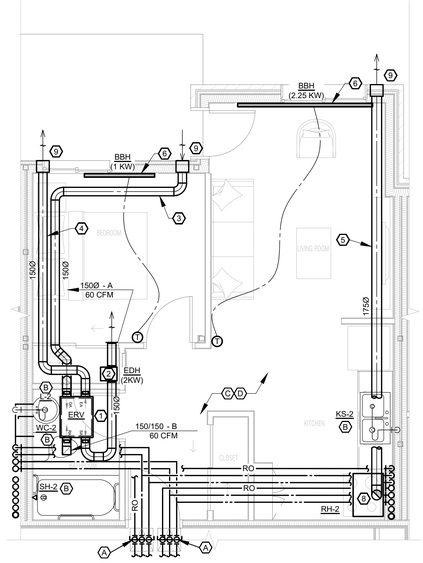


5 FIRST FLOOR - SUITE B-BF
1:50



4 FIRST FLOOR - SUITE A-BF
1:50



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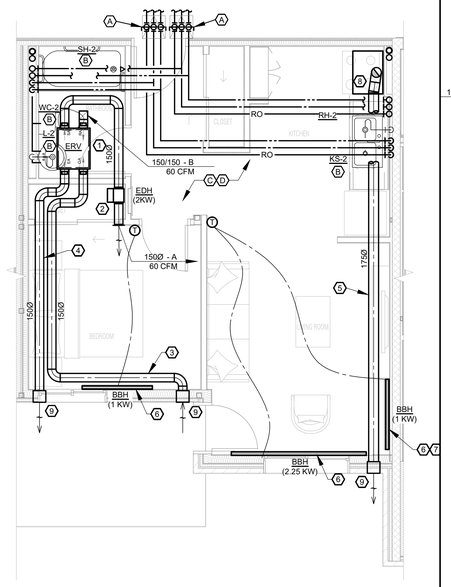
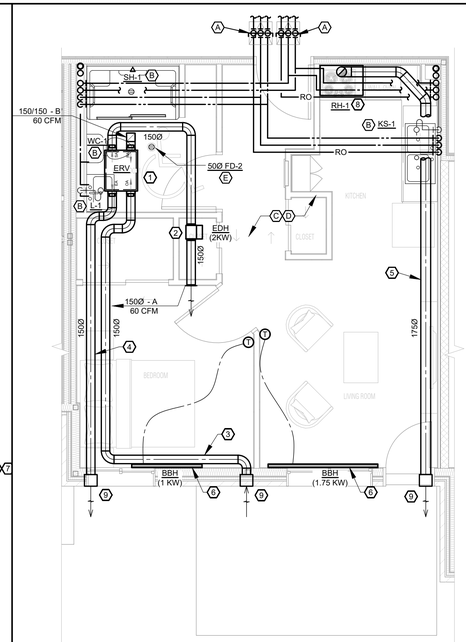
1:50



2 FIRST FLOOR - SUITE A-1
1:50



1 FIRST FLOOR - SUITE C-BF
1:50

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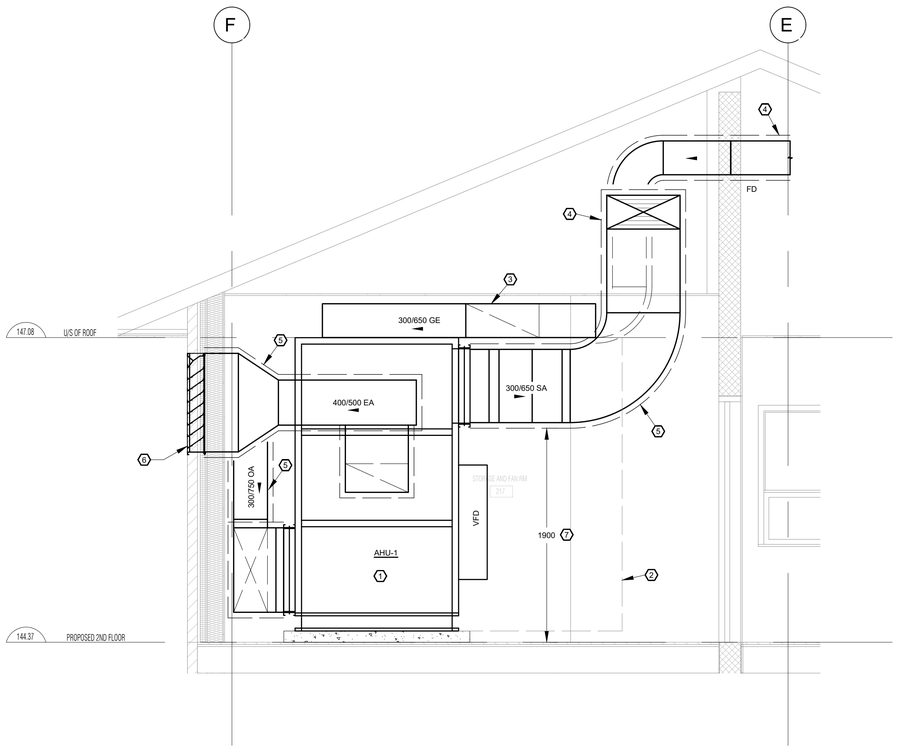
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE:
PROPOSED MECHANICAL LAYOUT
TYPICAL SUITES
SCALE: AS SHOWN

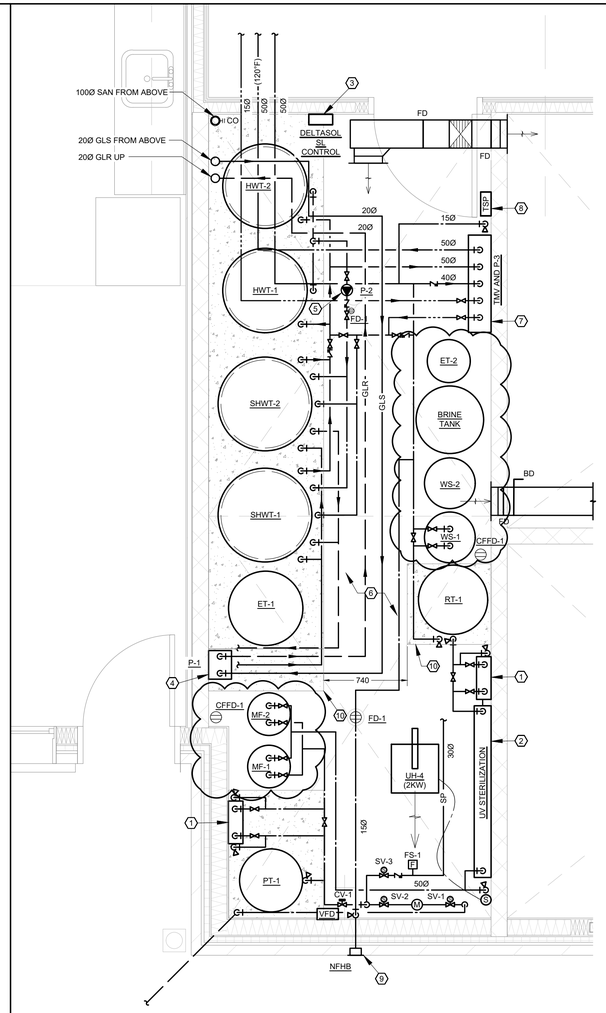
SHEET NUMBER:
M300



DRAWING NOTES:

1. PROVIDE NEW AIR HANDLING UNIT ON 100 MM THICK CONCRETE HOUSEKEEPING PAD. PAD SHALL EXTEND MINIMUM 100 MM BEYOND THE UNIT FOOTPRINT ON ALL SIDES. CHAMFER PAD EDGES AND PAINT PERIMETER EDGE YELLOW.
2. MAINTAIN MINIMUM SERVICE CLEARANCES IN FRONT OF AND AROUND UNIT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN REQUIREMENTS. ENSURE ALL COILS, HEAT EXCHANGER CORES, DAMPERS, FANS, MOTORS, AND INTERNAL COMPONENTS ARE FULLY ACCESSIBLE FOR SERVICING, REMOVAL, AND REPLACEMENT WITHOUT DEMOLITION OF ADJACENT CONSTRUCTION.
3. INSTALL NEW GENERAL EXHAUST DUCTWORK TIGHT TO THE UNDERSIDE OF STRUCTURE OR CEILING. COORDINATE ROUTING TO AVOID INTERFERENCE WITH AHU ACCESS DOOR SWINGS AND SERVICE CLEARANCES.
4. PROVIDE 50 MM THICK INSULATED DUCTWORK COMPLETE WITH ALUMINUM OR VENTURECLAD JACKETING WITHIN ATTIC SPACES. TYPICAL.
5. PROVIDE 25 MM THICK INSULATED DUCTWORK COMPLETE WITH ALUMINUM OR VENTURECLAD JACKETING IN EXPOSED AREAS.
6. PROVIDE NEW EXTERIOR LOUVER COMPLETE WITH INSECT SCREEN AND MINIMUM 300 MM DEEP INSULATED PLENUM.
7. MAINTAIN MINIMUM 1900 MM CLEAR HEADROOM. COORDINATE ROUTING OF DUCTWORK, PIPING, EQUIPMENT, AND SUPPORTS TO ENSURE COMPLIANCE.

2 SECTION AT FAN ROOM
1:25



DRAWING NOTES:

1. PROVIDE DOSING STATION AND COORDINATE ELECTRICAL CONNECTIONS AND LOCATION FOR CHEMICAL CONTAINERS.
2. SPACE ALLOTTED FOR UV STERILIZATION SYSTEM. SYSTEM SHALL BE WALL-MOUNTED AND INSTALLED IN STACKED CONFIGURATION. MAINTAIN MANUFACTURER'S REQUIRED SERVICE CLEARANCES FOR LAMP REMOVAL AND MAINTENANCE.
3. PROVIDE SOLAR HOT WATER CONTROL PANEL IN ACCESSIBLE WALL LOCATION. COORDINATE WALL OUTLET LOCATION WITH ELECTRICAL CONTRACTOR. PROVIDE MINIMUM 1000MM CLEAR WORKING SPACE IN FRONT.
4. PROVIDE SOLAR PUMPING STATION COMPLETE WITH PRESSURE RELIEF VALVE MOUNTED ON WALL IN ACCESSIBLE LOCATION. COORDINATE OVERFLOW CONTAINER LOCATION ON SITE.
5. PROVIDE IN-LINE CIRCULATOR PUMP. ENSURE PUMP IS FULLY SERVICEABLE FROM FLOOR LEVEL WITHOUT OBSTRUCTION FROM OTHER SERVICES. PROVIDE FLANGED CONNECTIONS AT ALL PUMP CONNECTIONS.
6. PROVIDE INSULATION AND JACKET FOR ALL EXPOSED PIPING WITHIN MECHANICAL ROOM COMPLETE WITH IDENTIFICATION BANDS PER ASME A13.1. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS.
7. PROVIDE WALL-MOUNTED MASTER THERMOSTATIC MIXING VALVE COMPLETE WITH PRE-PIPED DHWR PUMP AND CONTROLS. SET MIXED WATER TEMPERATURE TO 120°F.
8. PROVIDE SURFACE-MOUNTED TRAP SEAL PRIMER BOX. PROVIDE 15Ø DCW CONNECTION TO TSP.
9. PROVIDE NON-FREEZE HOSE BIBB COMPLETE WITH 15Ø DCW AND ISOLATION VALVE LOCATED INSIDE BUILDING.
10. PROVIDE 100MM THICK CONCRETE HOUSEKEEPING PAD WITH CHAMFERED EDGES. PAINT PERIMETER EDGES YELLOW.

1 MECHANICAL ROOM
1:25

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. LOCATIONS OF ITEMS NOT DEFINITIVELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE EXACT LOCATIONS REQUIRED TO ACHIEVE PROPER INSTALLATION BASED ON SITE CONDITIONS. REVIEW ALL REVISIONS WITH CONSULTANT.
2. WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, NOTIFY CONSULTANT PRIOR TO PROCEEDING. DO NOT PROCEED WITH WORK AFFECTED BY THE DISCREPANCY UNTIL WRITTEN CLARIFICATION IS PROVIDED. WHERE REQUIREMENTS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY UNLESS OTHERWISE DIRECTED IN WRITING BY THE CONSULTANT.
3. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS. INFORMATION SHOWN ON FLOOR PLANS SHALL BE CONSIDERED APPLICABLE TO RELATED SYSTEM SCHEMATICS AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
4. ALL WORK SHALL COMPLY WITH OBC, OPC, AND LOCAL AUTHORITY REQUIREMENTS.
5. COORDINATE ALL MECHANICAL, PLUMBING, STRUCTURAL, AND ELECTRICAL SYSTEMS PRIOR TO INSTALLATION.
6. SUBMIT DETAILED AND FULLY COORDINATED SHOP DRAWINGS INCLUDING INTERFERENCE CHECK AND COMPLETE EQUIPMENT AND PIPING LAYOUT PRIOR TO FABRICATION.
7. MAINTAIN MINIMUM 2000MM CLEAR HEIGHT A.F.F. FOR ALL PIPING AND SERVICES.
8. ARRANGE INSTALLATION SO ALL VALVES ARE READILY ACCESSIBLE AND ALL EQUIPMENT IS FULLY SERVICEABLE WITHOUT REMOVAL OF UNASSOCIATED EQUIPMENT OR PIPING.
9. SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT. DO NOT IMPOSE PIPING LOADS ON TANKS, VESSELS, OR EQUIPMENT.
10. PROVIDE PIPE IDENTIFICATION AND DIRECTIONAL FLOW ARROWS IN ACCORDANCE WITH ASME A13.1.
11. PROVIDE ADEQUATE CLEARANCES AROUND TANKS AND CONTROL PANELS FOR REMOVAL OF INTERNAL COMPONENTS AND COMPLETE UNIT REPLACEMENT.
12. INSTALL ALL THERMOMETERS AND PRESSURE GAUGES AT A HEIGHT AND ORIENTATION SUCH THAT THEY ARE CLEARLY READABLE FROM FLOOR LEVEL. DO NOT INSTALL ABOVE 2000MM A.F.F. OR IN OBSTRUCTED LOCATIONS. PROVIDE GAUGE COCKS AND ISOLATION VALVES AS REQUIRED.

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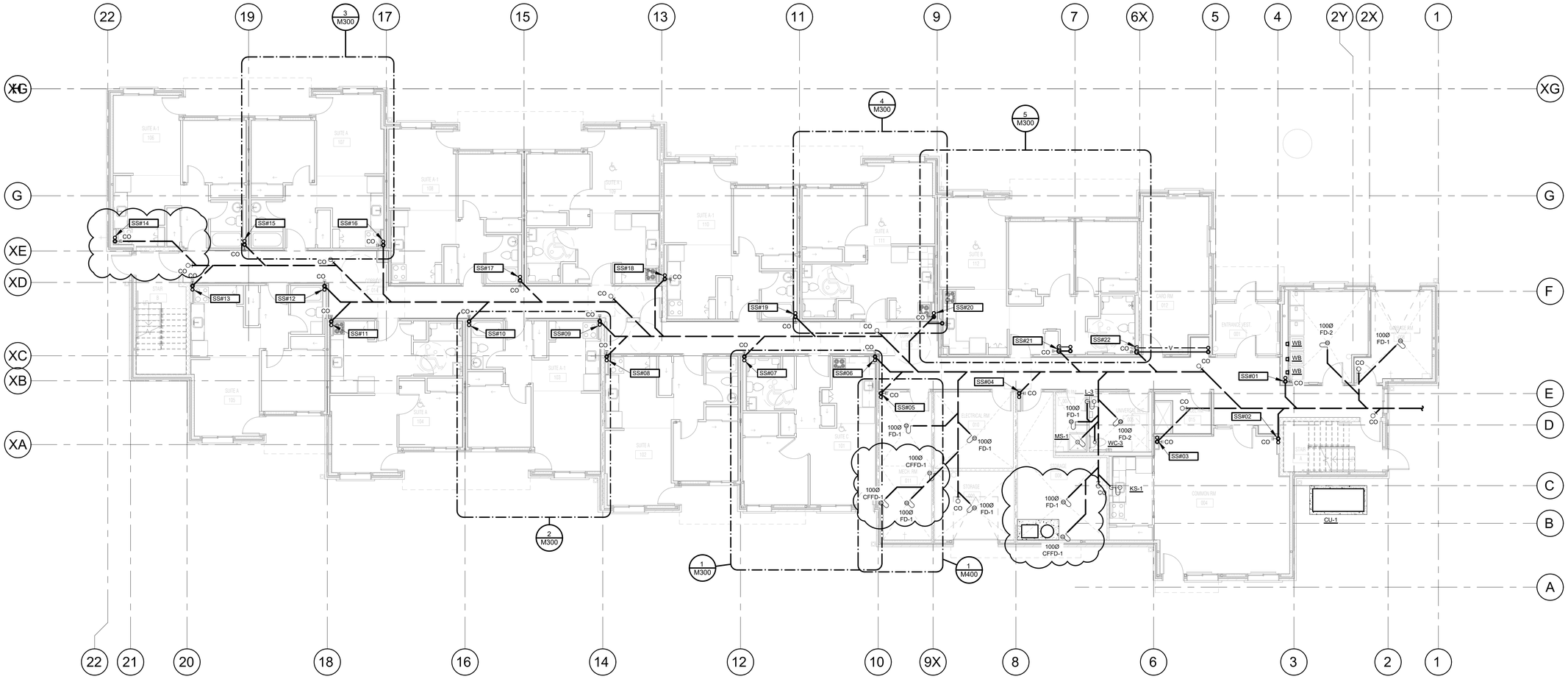
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE: ENLARGED MECHANICAL PLANS AND SECTIONS
SCALE: AS SHOWN

SHEET NUMBER: M400



1 FIRST FLOOR PLAN - PLUMBING AND DRAINAGE
1:100

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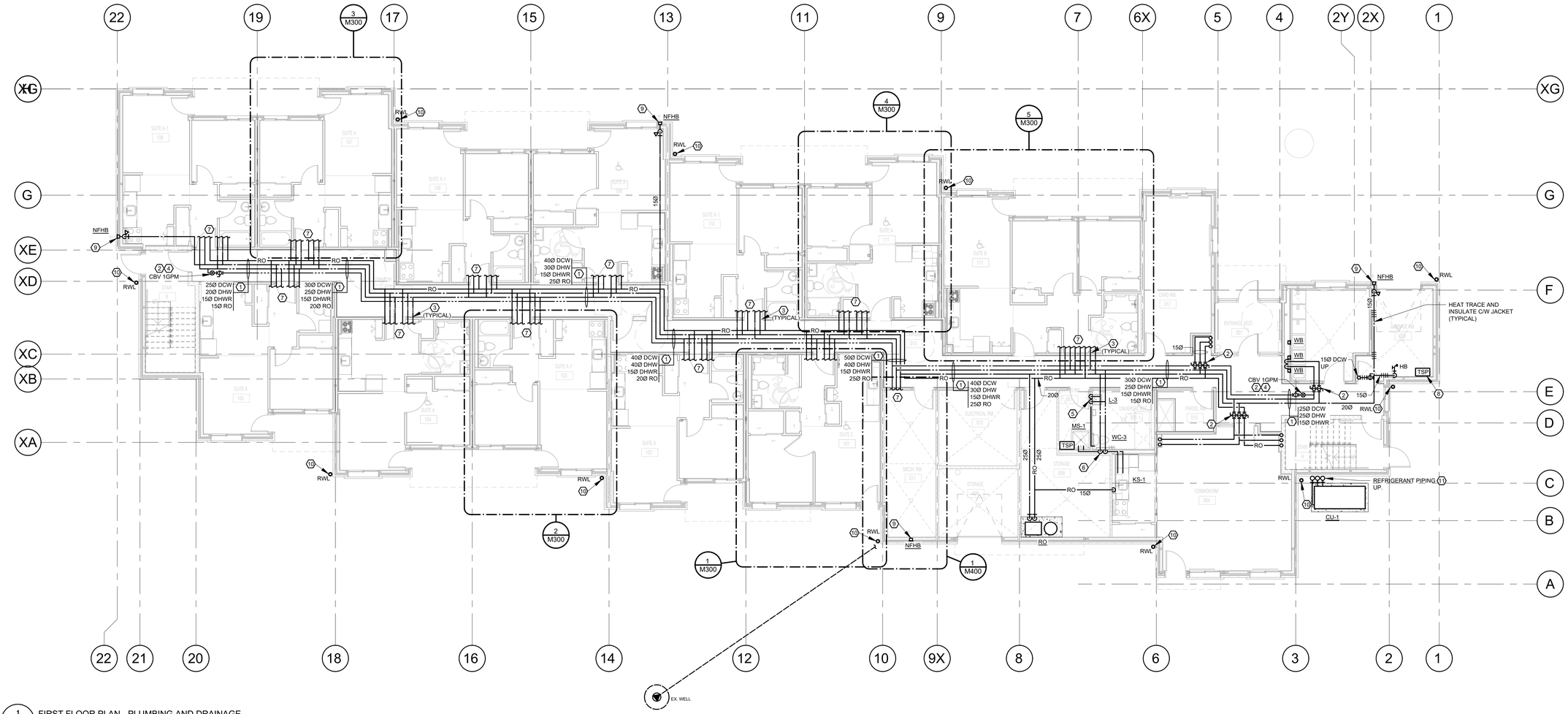
PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE:
PROPOSED DRAINAGE LAYOUT
FOUNDATION
SCALE: AS SHOWN

SHEET NUMBER:
P001



1 FIRST FLOOR PLAN - PLUMBING AND DRAINAGE

1:100

DRAWING NOTES:

1. PROVIDE NEW DOMESTIC WATER PIPING INSTALLED WITHIN CEILING CAVITY. INSULATE AND LABEL ALL PIPING AS SPECIFIED. COORDINATE ROUTING WITH LIGHTING, STRUCTURAL, AND ARCHITECTURAL ELEMENTS.
2. COORDINATE WITH GENERAL CONTRACTOR TO LOCATE ALL ISOLATION VALVES APPROXIMATELY 100MM ABOVE CEILING ACCESS PANELS. ORIENT VALVE HANDLES TO BE READILY OPERABLE FROM BELOW.
3. FIRESTOP ALL PIPING PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND FIRE-RESISTIVE RATINGS.
4. PROVIDE DOMESTIC HOT WATER RECIRCULATION ISOLATION VALVE AND CIRCUIT BALANCING VALVE. SET CBV TO INDICATED FLOW RATE.
5. PROVIDE NEW DOMESTIC HOT AND COLD WATER PIPING DOWN WALL TO SERVE PUBLIC LAVATORY AND WATER CLOSET.
6. PROVIDE NEW DOMESTIC HOT AND COLD WATER PIPING DOWN PLUMBING CHASE TO SERVE FIXTURES IN JANITOR ROOM AND COMMON ROOM.
7. REFER TO ENLARGED PLANS FOR CONTINUATION OF PIPING.
8. PROVIDE NEW SURFACE-MOUNTED TRAP SEAL PRIMER AT LOW LEVEL COMPLETE WITH 15Ø DCW CONNECTION AND ISOLATION VALVE. EXTEND COPPER TRAP PRIMER TUBING TO NEARBY FLOOR DRAINS. COORDINATE ELECTRICAL POWER CONNECTION.
9. PROVIDE NEW NON-FREEZE HOSE BIBB. DROP PIPING FROM CEILING ON WARM SIDE OF WALL COMPLETE WITH ISOLATION VALVE. COORDINATE PIPE CHASE AND ACCESS PANEL WITH GENERAL CONTRACTOR TO MAINTAIN ACCESS TO VALVE.
10. PROVIDE NEW 75Ø DOWNSPOUT FROM ROOF GUTTER ABOVE. SUPPORT DOWNSPOUT ON EXTERIOR WALL. DOWNSPOUT TO TERMINATE AND DISCHARGE AWAY FROM DOORWAYS AND WALKWAYS.
11. PROVIDE NEW REFRIGERANT PIPING FROM CU-1 TO AHU-1. COORDINATE PIPE SIZING AND INSTALLATION REQUIREMENT WITH MANUFACTURER BASED ON SITE CONDITIONS. ROUTE PIPING AT HIGH LEVEL, TIGHT TO UNDERSIDE OF STRUCTURE. INSULATE AND PROVIDE PROTECTIVE JACKETING AS SPECIFIED. PAINT EXTERIOR JACKETING TO CUSTOM COLOUR PER ARCHITECT'S DIRECTION.
12. NEW REVERSE OSMOSIS SYSTEM COMPLETE WITH RETENTION TANK AND BOOSTER PUMP BY MACLELLAN. CONTRATOR TO SUPPLY HOUSEKEEPING PAD AND ALL RO WATER DISTRIBUTION DOWNSTREAM OF BOOSTER PUMP.

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH THE ONTARIO BUILDING CODE (OBC), ONTARIO PLUMBING CODE (OPC), AND ALL APPLICABLE LOCAL AUTHORITY REQUIREMENTS.
2. WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, NOTIFY CONSULTANT PRIOR TO PROCEEDING. DO NOT PROCEED WITH WORK AFFECTED BY THE DISCREPANCY UNTIL WRITTEN CLARIFICATION IS PROVIDED. WHERE REQUIREMENTS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY UNLESS OTHERWISE DIRECTED IN WRITING BY THE CONSULTANT.
3. DO NOT SCALE DRAWINGS. LOCATIONS OF ITEMS NOT DEFINITIVELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE EXACT LOCATIONS REQUIRED TO ACHIEVE PROPER INSTALLATION BASED ON SITE CONDITIONS.
4. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS AND DETAILS. INFORMATION SHOWN ON FLOOR PLANS SHALL BE CONSIDERED APPLICABLE TO RELATED SYSTEM SCHEMATICS AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
5. COORDINATE ALL MECHANICAL, PLUMBING, STRUCTURAL, ARCHITECTURAL, AND ELECTRICAL SYSTEMS PRIOR TO INSTALLATION.
6. SUBMIT DETAILED AND FULLY COORDINATED SHOP DRAWINGS INCLUDING INTERFERENCE CHECK AND COMPLETE EQUIPMENT AND PIPING LAYOUT PRIOR TO FABRICATION OR INSTALLATION.
7. ARRANGE INSTALLATION SO ALL VALVES, GAUGES, THERMOMETERS, AND INSTRUMENTATION ARE READILY ACCESSIBLE FOR OPERATION, INSPECTION, AND MAINTENANCE. COMPONENTS SHALL BE ACCESSIBLE FROM FLOOR LEVEL OR A STEP LADDER. WHERE INSTALLED ABOVE CEILING, LOCATE COMPONENTS IMMEDIATELY ADJACENT TO CEILING ACCESS PANELS AND POSITION THEM SO THEY CAN BE OPERATED, READ, OR SERVICED BY REACHING THROUGH THE ACCESS OPENING WITHOUT REMOVAL OF CEILING SYSTEMS OR OTHER BUILDING ELEMENTS.
8. MAINTAIN CLEAR ACCESS TO ALL CLEANOUTS, FLOOR DRAINS, ACCESS PANELS, AND SERVICE POINTS. DO NOT OBSTRUCT.
9. SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT. DO NOT IMPOSE PIPING LOADS ON TANKS, VESSELS, OR EQUIPMENT.
10. PROVIDE ISOLATION VALVES AT ALL MAJOR EQUIPMENT AND BRANCH CONNECTIONS. PROVIDE UNIONS OR FLANGED CONNECTIONS AT EQUIPMENT TO PERMIT REMOVAL AND REPLACEMENT.
11. PROVIDE PIPE IDENTIFICATION AND FLOW DIRECTION ARROWS IN ACCORDANCE WITH ASME A13.1.
12. FIRESTOP ALL PIPING AND DUCT PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND FIRE-RESISTANCE RATINGS.
13. VENT ALL PLUMBING FIXTURES IN ACCORDANCE WITH THE ONTARIO PLUMBING CODE.
14. PRIME ALL TRAPS WITH ELECTRONIC TRAP SEAL PRIMERS WHERE REQUIRED BY CODE.
15. ALL DOMESTIC WATER PIPING SHALL BE TYPE L HARD COPPER UNLESS OTHERWISE APPROVED IN WRITING.
16. ALL SANITARY, STORM, AND VENT DRAINAGE PIPING SHALL BE CAST IRON OR IPEX SYSTEM 15 PVC UNLESS OTHERWISE APPROVED IN WRITING.

PLUMBING FIXTURES SCHEDULE

TAG		PRODUCT CATEGORY	MANUFACTURER	MODEL NUMBER	DESCRIPTION	ROUGH IN					FAUCET/FLUSH VALVE	ACCESSORIES
						DRAIN	VENT	HOT	COLD	RO		
WC-1	♿	TOILET	AMERICAN STANDARD	215AA155.020	WHITE FINISH VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE	75	40	--	15	--		SEAT: CENTOCO 800STS-001, FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC SUPPLY: MCGUIRE LFBV172SS12
WC-2		TOILET	AMERICAN STANDARD	215CA154.020	WHITE FINISH VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE	75	40	--	15	--		SEAT: CENTOCO 800STS-001, FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC SUPPLY: MCGUIRE LFBV172SS12
WC-3	♿	TOILET	AMERICAN STANDARD	2467800.020	WHITE FINISH VITREOUS CHINA, EVERCLEAN® ANTIMICROBIAL SURFACE	75	40	--	15	--		SEAT: CENTOCO HL820STS-001, FOR ELONGATED BOWL, WHITE, POLYPROPYLENE PLASTIC SUPPLY: MCGUIRE LFBV172SS12
L-1	♿	BASIN	AMERICAN STANDARD	0476028.020	VITREOUS CHINA, 102 MM (4") CENTERSET, COUNTER MOUNTED, DROP-IN, WHITE FINISH, FRONT OVERFLOW	75	40	--	15	--	AMERICAN STANDARD COLONY®, MANUAL, 102 MM (4") CENTERSET, 7075004.002, 4.5 LPM (1.2 GPM) MAXIMUM FLOWRATE	FIXTURE DRAIN: MCGUIRE PW155HDWC SUPPLY: MCGUIRE LFBV170SS12 P-TRAP: MCGUIRE PW2125WC
L-2		BASIN	AMERICAN STANDARD	0476028.020	VITREOUS CHINA, 102 MM (4") CENTERSET, COUNTER MOUNTED, DROP-IN, WHITE FINISH, FRONT OVERFLOW	32	32	15	15	--	AMERICAN STANDARD COLONY®, MANUAL, 102 MM (4") CENTERSET, 7075004.002, 4.5 LPM (1.2 GPM) MAXIMUM FLOWRATE	FIXTURE DRAIN: MCGUIRE 155A SUPPLY: MCGUIRE LFBV170SS12 P-TRAP: MCGUIRE 8872C
L-3	♿	BASIN	AMERICAN STANDARD	9024004EC.020	DECORUM®, VITREOUS CHINA, 102 MM (4") CENTERSET, WALL-HUNG, WHITE FINISH, REAR OVERFLOW	32	32	15	15	--	AMERICAN STANDARD COLONY®, MANUAL, 102 MM (4") CENTERSET, 7075004.002, 4.5 LPM (1.2 GPM) MAXIMUM FLOWRATE	FIXTURE DRAIN: MCGUIRE PW155HDWC SUPPLY: MCGUIRE LFBV170 P-TRAP: MCGUIRE PW2125WC CARRIER: WATTS CA-421, LAVATORY SUPPORT, WALL PLATE
SH-1	♿	COMPLETE SHOWER TRIM	GROHE	14468000	REFER TO ARCHITECTURAL DRAWINGS FOR SHOWER STALL INFORMATION	40	32	15	15	--		SHOWER VALVE: GROHE 35110000 SHOWERHEAD: GROHE 26051001 SHOWER ARM: GROHE 27414000 HAND SHOWER: GROHE 27265000E SLIDE BAR: GROHE 27500000 WALL SUPPLY: GROHE 26634000 SHOWER HOSE: GROHE 28155000 HAND SHOWER HOLDER: GROHE 27693000 DIVERTER VALVE TRIM: GROHE 29203001 DIVERTER VALVES: GROHE 29902000
SH-2		BATHTUB TRIM	GROHE	14468000	REFER TO ARCHITECTURAL DRAWINGS FOR BATHTUB INFORMATION	40	32	15	15	--		COMPLETE SHOWER TRIM: GROHE 14468000 SHOWER VALVE: GROHE 35110000 SHOWERHEAD: GROHE 26051001 SHOWER ARM: GROHE 27414000 TUB SPOUT: GROHE 13611000
KS-1	♿	SINK	FRANKE COMMERCIAL	ALBS7306P-1140F-1-4	STAINLESS STEEL, TYPE 304, 18 GAUGE, COUNTER MOUNTED, WITH FAUCET LEDGE, SINGLE COMPARTMENT, COMMERCIAL SINKS, 3 FAUCET HOLES + 1 FAUCET HOLE 4" TO THE RIGHT FOR WATER FILTER FAUCET.	40	32	15	15	15	AMERICAN STANDARD COLONY PRO, MANUAL, 203 MM (8") CENTERSET, 7074000.002, 5.7 LPM (1.5 GPM) MAXIMUM FLOWRATE KINGSTON BRASS WATER FILTRATION FAUCET HKS8191CTL CHROME	SINK: FAUCET: SUPPLY: MCGUIRE LFBV170SS12 P-TRAP: MCGUIRE PW8089 WASTE: 1140F-316 CRUMB CUP STRAINER WITH S.S. TAILPIECE
KS-2		SINK	FRANKE COMMERCIAL	LBS7308P-1140F-1-4	STAINLESS STEEL, TYPE 304, 18 GAUGE, COUNTER MOUNTED, WITH FAUCET LEDGE, SINGLE COMPARTMENT, COMMERCIAL SINKS, 3 FAUCET HOLES + 1 FAUCET HOLE 4" TO THE RIGHT FOR WATER FILTER FAUCET.	40	32	15	15	15	AMERICAN STANDARD COLONY PRO, MANUAL, 203 MM (8") CENTERSET, 7074000.002, 5.7 LPM (1.5 GPM) MAXIMUM FLOWRATE KINGSTON BRASS WATER FILTRATION FAUCET HKS8191CTL CHROME	SINK: FAUCET: SUPPLY: MCGUIRE LFBV170SS12 P-TRAP: MCGUIRE 8912C WASTE: 1140F-316 CRUMB CUP STRAINER WITH S.S. TAILPIECE
MS-1		SINK	FIAT	MSB2424100-MSG24-889CC-1453BB-E77AA	MOLDED STONE, FLOOR MOUNTED, SINGLE COMPARTMENT, MOP SERVICE SINKS	75	40	15	15	--	CHICAGO FAUCETS MANUAL, 194 - 213 MM (7-5/8" TO 8-3/8") ADJUSTABLE CENTERSET, 897-RCF,	SINK: 610 MM (24") WALL GUARD ONE (1) EXTRA 610 X 305 MM (24" X 12") STAINLESS STEEL PANEL (MSG24), MOP HANGER (889CC), NORMAL STRAINER (1453BB), VINYL BUMPERGUARD (E77AA)
TMV		MASTER MIXING VALVE	LAWLER	804-88608	THERMOSTATIC HIGH-LOW MASTER WATER MIXING CONTROL							THERMOMETER: POWERS 694-3928 CHECK VALVE: WATTS LF777M1-20-1-1/2 RECIRCULATION PUMP: GRUNDFOS ALPHA2 N
WB		LAUNDRY BOX	PPP	MM-500 MLB		50	32	15	15	--		

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

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ETOBICOKE, ON M9B 6J9

SEAL

2026-03-19

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	AS	ISSUED FOR COORDINATION
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5	2026-05-19	AS	CITY'S COMMENTS
6	2026-05-28	AS	ADDENDUM 1

PROJECT NAME: VERONA

PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13

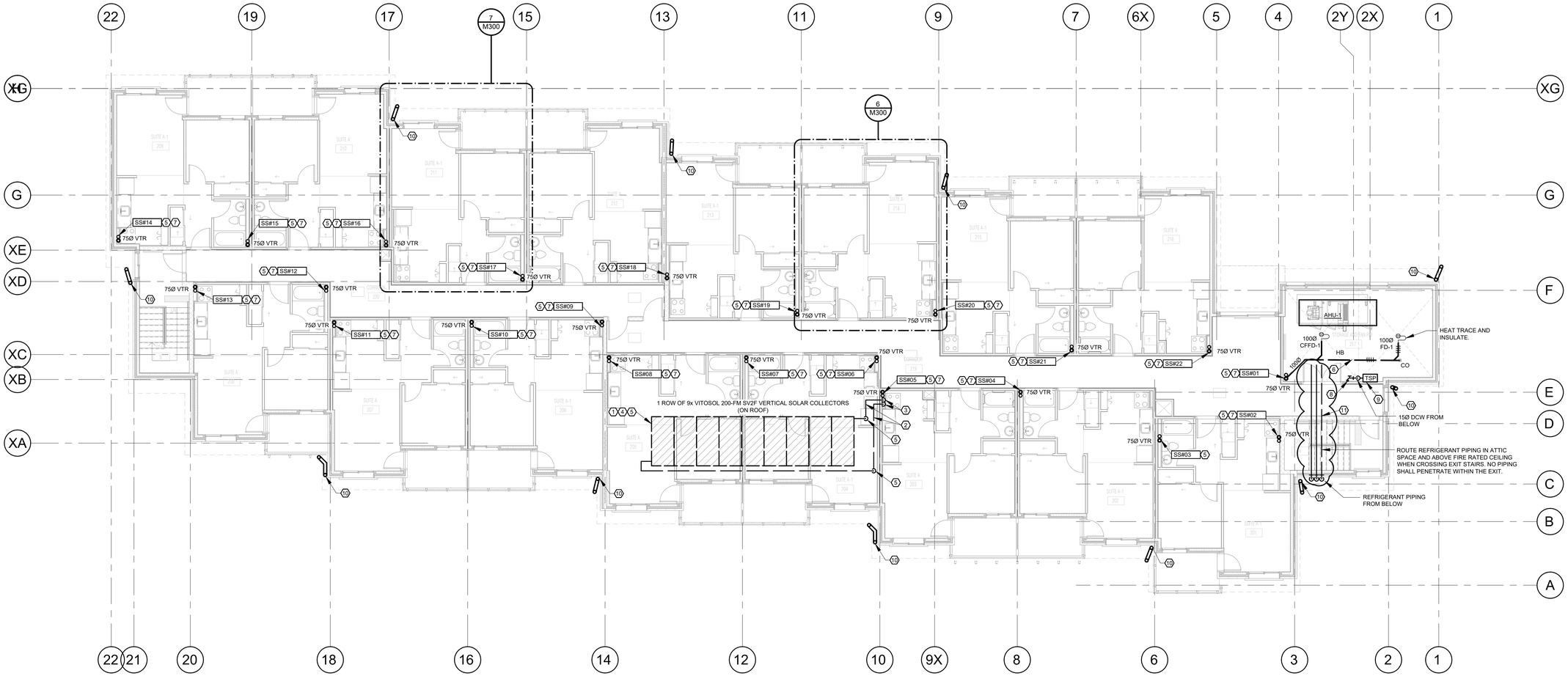
DRAWN BY:

CHECKED BY: AS

SHEET TITLE: PROPOSED PLUMBING LAYOUT FIRST FLOOR

SCALE: AS SHOWN

SHEET NUMBER: P100



1 SECOND FLOOR PLAN - PLUMBING AND DRAINAGE
1:100

DRAWING NOTES:

1. PROVIDE SOLAR COLLECTOR ON ROOF. COORDINATE MOUNTING, STRUCTURAL SUPPORTS, AND ROOF FLASHINGS.
2. ROUTE GLYCOL SUPPLY AND RETURN PIPING THROUGH ATTIC SPACE. INSULATE ALL PIPING AND PROVIDE PROTECTIVE JACKETING SUITABLE FOR ATTIC CONDITIONS.
3. PROVIDE GLYCOL SUPPLY AND RETURN PIPING FROM ROOF LEVEL DOWN TO MECHANICAL ROOM BELOW. SUPPORT, INSULATE, AND LABEL PIPING IN ACCORDANCE WITH SPECIFICATIONS.
4. RETAIN ROOFING CONTRACTOR FOR INSTALLATION OF SOLAR COLLECTOR MOUNTING SUPPORTS AND ASSOCIATED ROOF FLASHINGS, FITTINGS, AND ACCESSORIES.
5. ALL ROOF PENETRATIONS SHALL BE PERFORMED BY THE ROOFING CONTRACTOR.
6. PROVIDE SANITARY DRAIN AND ROUTE WITHIN CEILING SPACE BELOW. HEAT TRACE, INSULATE, AND PROVIDE PROTECTIVE INSULATION JACKETING ON PORTION ROUTED THROUGH GARBAGE ROOM BELOW. COORDINATE ROUTING WITH LIGHTING, STRUCTURAL, AND ARCHITECTURAL ELEMENTS.
7. PROVIDE SANITARY STACK AND ASSOCIATED VENT PIPING.
8. PROVIDE HOSE BIBB AND INSTALL AT 900MM A.F.F.
9. PROVIDE NEW SURFACE-MOUNTED TRAP SEAL PRIMER AT LOW LEVEL COMPLETE WITH 15Ø DCW CONNECTION AND ISOLATION VALVE. EXTEND COPPER TRAP PRIMER TUBING TO NEARBY FLOOR DRAINS. COORDINATE ELECTRICAL POWER CONNECTION.
10. PROVIDE 75Ø DOWNSPOUT FROM ROOF GUTTER. COORDINATE FINAL LOCATION ON SITE.
11. PROVIDE NEW REFRIGERANT PIPING FROM CU-1 TO AHU-1. ROUTE PIPING AT HIGH LEVEL, TIGHT TO UNDERSIDE OF STRUCTURE. INSULATE AND PROVIDE PROTECTIVE JACKETING AS SPECIFIED. INSTALL PIPING WITHIN ATTIC SPACE. PIPING SHALL NOT PENETRATE WITHIN EXIT STAIR A. PROVIDE ALL REQUIRED REFRIGERANT VALVES, FITTINGS, DRIERS, AND ANCILLARY DEVICES AS REQUIRED BY THE MANUFACTURER.

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH THE ONTARIO BUILDING CODE (OBC), ONTARIO PLUMBING CODE (OPC), AND ALL APPLICABLE LOCAL AUTHORITY REQUIREMENTS.
2. WHERE DISCREPANCIES EXIST BETWEEN CONTRACT DOCUMENTS, NOTIFY CONSULTANT PRIOR TO PROCEEDING. DO NOT PROCEED WITH WORK AFFECTED BY THE DISCREPANCY UNTIL WRITTEN CLARIFICATION IS PROVIDED. WHERE REQUIREMENTS DIFFER, THE MORE STRINGENT REQUIREMENT SHALL APPLY UNLESS OTHERWISE DIRECTED IN WRITING BY THE CONSULTANT.
3. DO NOT SCALE DRAWINGS. LOCATIONS OF ITEMS NOT DEFINITIVELY FIXED BY DIMENSIONS ARE APPROXIMATE. DETERMINE EXACT LOCATIONS REQUIRED TO ACHIEVE PROPER INSTALLATION BASED ON SITE CONDITIONS.
4. READ FLOOR PLANS IN CONJUNCTION WITH SCHEMATICS AND DETAILS. INFORMATION SHOWN ON FLOOR PLANS SHALL BE CONSIDERED APPLICABLE TO RELATED SYSTEM SCHEMATICS AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
5. COORDINATE ALL MECHANICAL, PLUMBING, STRUCTURAL, ARCHITECTURAL, AND ELECTRICAL SYSTEMS PRIOR TO INSTALLATION.
6. SUBMIT DETAILED AND FULLY COORDINATED SHOP DRAWINGS INCLUDING INTERFERENCE CHECK AND COMPLETE EQUIPMENT AND PIPING LAYOUT PRIOR TO FABRICATION OR INSTALLATION.
7. ARRANGE INSTALLATION SO ALL VALVES, GAUGES, THERMOMETERS, AND INSTRUMENTATION ARE READILY ACCESSIBLE FOR OPERATION, INSPECTION, AND MAINTENANCE. COMPONENTS SHALL BE ACCESSIBLE FROM FLOOR LEVEL OR A STEP LADDER. WHERE INSTALLED ABOVE CEILING, LOCATE COMPONENTS IMMEDIATELY ADJACENT TO CEILING ACCESS PANELS AND POSITION THEM SO THEY CAN BE OPERATED, READ, OR SERVICED BY REACHING THROUGH THE ACCESS OPENING WITHOUT REMOVAL OF CEILING SYSTEMS OR OTHER BUILDING ELEMENTS.
8. MAINTAIN CLEAR ACCESS TO ALL CLEANOUTS, FLOOR DRAINS, ACCESS PANELS, AND SERVICE POINTS. DO NOT OBSTRUCT.
9. SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT. DO NOT IMPOSE PIPING LOADS ON TANKS, VESSELS, OR EQUIPMENT.
10. PROVIDE ISOLATION VALVES AT ALL MAJOR EQUIPMENT AND BRANCH CONNECTIONS. PROVIDE UNIONS OR FLANGED CONNECTIONS AT EQUIPMENT TO PERMIT REMOVAL AND REPLACEMENT.
11. PROVIDE PIPE IDENTIFICATION AND FLOW DIRECTION ARROWS IN ACCORDANCE WITH ASME A13.1.
12. FIRESTOP ALL PIPING AND DUCT PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND FIRE-RESISTANCE RATINGS.
13. VENT ALL PLUMBING FIXTURES IN ACCORDANCE WITH THE ONTARIO PLUMBING CODE.
14. PRIME ALL TRAPS WITH ELECTRONIC TRAP SEAL PRIMERS WHERE REQUIRED BY CODE.
15. ALL DOMESTIC WATER PIPING SHALL BE TYPE L HARD COPPER UNLESS OTHERWISE APPROVED IN WRITING.
16. ALL SANITARY, STORM, AND VENT DRAINAGE PIPING SHALL BE CAST IRON OR IPEX SYSTEM 15 PVC UNLESS OTHERWISE APPROVED IN WRITING.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CLIENT:

ENGINEERING:

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930 THE EAST MALL, SUITE 100
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SEAL

2026-03-19

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PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: 2026-02-13
DRAWN BY:
CHECKED BY: AS

SHEET TITLE:
PROPOSED PLUMBING & DRAINAGE LAYOUT
SECOND FLOOR
SCALE: AS SHOWN

SHEET NUMBER:
P200

LIGHTING NOTES

A. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE EXACT VOLTAGE OF PROPOSED LIGHT FIXTURES WITH SYSTEM VOLTAGE ON SITE AND THEIR SUPPLIER.

B. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES TO SUIT FIXTURES INSTALLATION.

C. CONTRACTOR TO PROVIDE ALL REQUIRED LOW VOLTAGE CONTROL WIRING TO SUIT LIGHTING CONTROL SYSTEM'S REQUIREMENTS.

D. IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE VOLTAGE DROPS FOR NORMAL LIGHTING CIRCUITS AND EMERGENCY LIGHTING CIRCUITS ARE COORDINATED PRIOR TO INSTALLATION OF FIXTURES.

E. CONFIRM MOUNTING HEIGHTS OF ALL EMERGENCY LIGHTING AND EXIT SIGNS PRIOR TO ROUGH-IN AND INSTALLATION. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES FOR PENDANT UNITS TO SUIT.

GENERAL NOTES

A. THESE DRAWINGS ARE DIAGRAMMATIC REFERENCE DRAWINGS ONLY. BEFORE ANY ELECTRICAL EQUIPMENT IS ROUGHED IN, REFER TO ARCHITECTURAL DRAWING DETAILS AND ELEVATIONS OR DETAILS ON THE ELECTRICAL DRAWINGS FOR EXACT LOCATION. WHERE THIS DETAILED INFORMATION IS NOT SHOWN ON THE DRAWING, VERIFY THE EXACT LOCATION ON SITE.

B. DETAILS ARE INTENDED TO BE FOR GENERAL ARRANGEMENT ONLY. THEY DO NOT SHOW ALL NECESSARY COMPONENTS, BUT ARE MERELY A GUIDE AS TO THE ORIENTATION OF EQUIPMENT WHERE IT IS REQUIRED.

C. MAINTAIN THE INTEGRITY OF ALL FIRE SEPARATIONS. PROVIDE ALL NECESSARY PRODUCTS APPROVED BY RELEVANT AUTHORITY HAVING JURISDICTION, WHICH ARE REQUIRED TO GO AROUND AND IN CABLE THROUGH CONDUIT, ETC., WHICH PASS THROUGH FIRE RATED ASSEMBLIES TO RETAIN THE FIRE RATING OF THESE ASSEMBLIES.

D. ROOFING WORK, WHERE ROOF REVISIONS AND/OR REPLACEMENTS ARE PART OF THE PROJECT, INCLUDE FOR DISCONNECTING, LIFTING, OR TEMPORARILY REMOVING ELECTRICAL EQUIPMENT AND ELECTRICAL CONNECTIONS TO OTHER ROOF MOUNTED EQUIPMENT AS REQUIRED TO PERMIT COMPLETION OF THE ROOFING WORK, AND FOR RE-INSTALLING/RE-CONNECTING THE EQUIPMENT WHEN THE ROOFING WORK IS COMPLETE.

E. HAZARDOUS MATERIALS AND WASTE, IF HAZARDOUS MATERIALS AND/OR WASTE NOT LISTED IN THE SPECIFICATION IS FOUND, STOP THE ASSOCIATED WORK AND NOTIFY THE OWNER AND CONSULTANT IMMEDIATELY AND AWAIT DIRECTIONS

F. DRILLING OF FLOORS, WALLS AND CEILINGS SHALL BE BY THIS CONTRACTOR. OBTAIN WRITTEN APPROVAL FOR ALL LOCATIONS FROM THE GENERAL CONTRACTOR.

G. CUTTING EFFECTING STRUCTURAL INTEGRITY OF THE BUILDING SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.

H. PROVIDE FIRE RATED PATCH AROUND PENETRATION POINTS FROM ANY LOCATIONS WHERE CONDUITS PASS THROUGH FIRE RATED STRUCTURES.

I. LIMIT ALL USE OF Bx CABLE FOR SHORT RUNS IN CEILING SPACE THAT SHALL NOT EXCEED 10 FT. USE CONDUIT FOR ALL OTHER RUNS INCLUDING VERTICAL RUNS AND IN INACCESSIBLE CEILING AREAS.

J. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL BUILDING CODE AND NATIONAL SAFETY CODE STANDARDS.

K. ALL CONDUIT SHALL BE EMT UNLESS OTHERWISE NOTED. USE WEATHERPROOF PVC CONDUIT FOR ALL OUTDOOR RUNS.

L. PROVIDE COMPLETE LABELING INDICATING PANEL & BREAKER NUMBER ON ALL FACES OF RECEPTACLES, SWITCHES & JUNCTION BOX COVERPLATES & RESPECTIVE POWER CONNECTIONS. ENSURE FONT SIZE OF 18 PT. LABEL. MECHANICAL & OTHER EQUIPMENT. DISCONNECT SWITCHES SHALL STATE LOCATION OF ELECTRICAL PANELS PROVIDING POWER.

W. ALL CONDUITS AND FEEDERS PASSING THROUGH THE FIRE-RATED CORRIDOR SHALL BE ROUTED WITHIN A FIRE-RATED SHAFT. THE RATING OF THE SHAFT SHALL MATCH THE RATING OF THE CORRIDOR. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE FIRE-RATED SHAFT AND COORDINATING ITS EXACT LOCATION AND ROUTING WITH ALL RELEVANT TRADES PRIOR TO INSTALLATION.

X. ALL NEW DISTRIBUTION EQUIPMENT INSIDE THE ELECTRICAL ROOMS, INCLUDING ELECTRICAL PANELS, SPLITTERS, AND DISCONNECT SWITCHES, SHALL BE MOUNTED ON A FIRE-RATED PLYWOOD BACKBOARD, SIZED TO SUIT THE EQUIPMENT LAYOUT.

LUMINARIES SCHEDULE

TYPE	DESCRIPTION
	WALL OR CEILING MOUNTED EXIT SIGN, SINGLE OR DOUBLE FACE, GREEN WITH RUNNING MAN SYMBOL, AS INDICATED ON DRAWINGS. PROVIDE ALL MOUNTING ACCESSORIES TO SUIT. BEGHELLI (LUMACELL LA SERIES) OR APPROVED EQUAL
	SURFACE MOUNTED EMERGENCY REMOTE HEAD C/W 6W, 24VDC LED LAMPS. UNITS TO BE WHITE. BEGHELLI (LUMACELL MQM SERIES) OR APPROVED EQUAL
	EMERGENCY BATTERY UNIT C/W 2x6W LED REMOTE HEADS AND A CAPACITY OF 720W. UNIT TO BE SUITABLE FOR 120VAC-24VDC OPERATION. BEGHELLI (LUMACELL RGS SERIES) OR APPROVED EQUAL
	WALL MOUNTED COMBO EXIT SIGN, SINGLE OR DOUBLE FACE, GREEN WITH RUNNING MAN SYMBOL, WITH TWO REMOTE HEADS (12V, 6W LED) AND A 36W SELF BATTERY UNIT AS INDICATED ON THE DRAWINGS. PROVIDE ALL MOUNTING ACCESSORIES TO SUIT. BEGHELLI (STELLA COMBO RM SERIES) OR APPROVED EQUAL
'B'	8" ROUND, SURFACE MOUNTED LED FIXTURE C/W 15W, 1200 LUMEN OUTPUT, 3000K COLOUR TEMPERATURE AND 120V DRIVER. LITELINE DL6-15W-WH
'P'	4" ROUND, SURFACE MOUNTED LED FIXTURE C/W 12W, 900 LUMEN OUTPUT, 3000K COLOUR TEMPERATURE AND 120V DRIVER. LITELINE DL4-12W-WH
'H'	6" DIAMETER RECESSED DOWN LIGHT C/W 2000 LUMEN OUTPUT, 22W, 4000K COLOUR TEMPERATURE, MEDIUM BEAM ANGLE AND A WHITE TRIPM. FIXTURE SHALL BE SUITABLE FOR 120V POWER CONNECTIONS AND SUITABLE FOR EXTERIOR APPLICATION. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES TO SUIT CEILING TYPE. LITELINE GEN06 IS 40 M SW X
'W'	3'-0" LONG WALL MOUNTED LINEAR BATHROOM VANITY LIGHTING C/W 1700 LUMEN OUTPUT, 27W LED LAMP, 3000K AND SUITABLE FOR 120V POWER CONNECTIONS. LITHONIA LIGHTING FMVCSL 36IN MVOLT 30K 90CRI BN M6
'F'	4' LONG SURFACE MOUNTED LED FIXTURE C/W 3200 LUMENS, 3000K COLOUR TEMPERATURE AND 120V DRIVER. PROVIDE ALL MOUNTING ACCESSORIES TO SUIT. LITELINE LEDP-6I4 WH 30 4 2
'S'	4" DIAMETER RECESSED DOWN LIGHT C/W 1500 LUMEN OUTPUT, 19W, 3000K COLOUR TEMPERATURE, MEDIUM BEAM ANGLE AND A WHITE TRIPM. FIXTURE SHALL BE SUITABLE FOR 120V POWER CONNECTIONS AND SUITABLE FOR EXTERIOR APPLICATION. LITELINE GEN04 IC 30 M SW X
'V'	EXTERIOR WALL MOUNTED LED LIGHT FIXTURE TO REPLACE EXISTING LIGHTING. FIXTURES TO BE FULL CUT OFF AND C/W 3000 LUMENS, 28W, 4000K COLOUR PREMATURE. VOLTAGE TO MATCH EXISTING CIRCUIT FEEDING EXISTING FIXTURES. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES TO SUIT. COOPER LIGHTING XTOR3B W BK
'K'	8" ROUND, SURFACE MOUNTED LED FIXTURE C/W 15W, 1200 LUMEN OUTPUT, 3000K COLOUR TEMPERATURE AND 120V DRIVER. LITELINE DL6-15W-WH
'A'	4' LONG LED FIXTURE SUITABLE FOR T-BAR CEILING C/W 3200 LUMENS, 3000K COLOUR TEMPERATURE AND 120V DRIVER. PROVIDE ALL MOUNTING ACCESSORIES TO SUIT. LITELINE LEDP-6I4 WH 30 4 2

RESIDENTIAL GENERAL NOTES

1. ALL INSTALLATIONS SHALL COMPLY TO THE ONTARIO ELECTRICAL SAFETY CODE 2018, ELECTRICAL SAFETY AUTHORITY STANDARDS, AND ONTARIO BUILDING CODE FOR RESIDENTIAL OCCUPANCIES.

2. ALL ELECTRICAL DEVICES SHOWN ARE FOR DIAGRAMMATICAL PURPOSES ONLY. ALL LOCATIONS AND DIMENSIONS SHALL BE SITE VERIFIED AND COORDINATED WITH ALL TRADES. PREPARE INTERFERENCE DRAWINGS WITH ALL TRADES PRIOR TO ALL ROUGH-INS.

3. ALL SUITES SHALL BE INSTALLED WITH A PJ3000 MEDIA DISTRIBUTION ENCLOSURE (MDE) PROVIDED BY THE LOCAL SERVICE PROVIDER. EACH MDE SHALL HAVE AT LEAST ONE DEDICATED RECEPTACLE.

4. PANEL BOARDS

4.1. PANEL BOARDS SHALL NOT BE LOCATED IN CLOTHES CLOSETS, BATHROOMS, HAZARDOUS LOCATIONS, NOR IN ANY SIMILAR UNDESIRABLE PLACES.

4.2. PANEL BOARDS IN SUITES SHALL BE INSTALLED AS HIGH AS POSSIBLE, WITH NO OVER CURRENT DEVICE OPERATING HANDLE POSITIONED MORE THAN 1.7m ABOVE FINISHED FLOOR.

5. ARC-FAULT CIRCUIT INTERRUPTER (AFCI)

5.1. ALL ARC-FAULT CIRCUIT DEVICES SHALL PROVIDE BOTH SERIES AND PARALLEL ARC-FAULT PROTECTION TO THE ENTIRE BRANCH CIRCUIT WIRING.

5.2. ARC-FAULT PROTECTION FOR BRANCH CIRCUITS SHALL BE INSTALLED IN ACCORDANCE TO OESC RULE 26-656.

5.3. EACH BRANCH CIRCUIT SUPPLYING 125V RECEPTACLES RATED 20A OR LESS SHALL BE PROTECTED BY AFCI UNLESS EXEMPTED BY RULE 26-656.

6. RECEPTACLES

6.1. RECEPTACLES EXPOSED TO WEATHER SHALL BE PROVIDED WITH WET LOCATION COVER PLATES.

6.2. MOUNT ALL RECEPTACLES, TELEVISION, AND VOICE/DATA OUTLETS 460mm A.F.F. OR 150mm ABOVE COUNTERTOPS.

6.3. ALL RECEPTACLES SHALL BE TAMPER-RESISTANT TYPE OF CSA CONFIGURATION 5-15R AND 5-20R UNLESS DEDICATED TO STATIONARY APPLIANCES OR LOCATED ABOVE 2m ABOVE FINISHED FLOOR.

6.4. RECEPTACLES OF CSA CONFIGURATION TYPE 5-15R OR 5-20R INSTALLED WITHIN 1.5m OF SINKS, BATHTUBS, OR SHOWER STALLS SHALL BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTER.

6.5. DUPLEX RECEPTACLES SHALL BE INSTALLED IN FINISHED WALLS OF EVERY ROOM (OTHER THAN BATHROOMS, HALLWAYS, LAUNDRY ROOMS, WATER CLOSET ROOMS, UTILITY ROOMS, OR CLOSETS) SO THAT NO POINT ALONG FLOOR LINE OF ANY USABLE WALL SPACE IS MORE THAN 1.8m HORIZONTALLY.

6.6. DUPLEX RECEPTACLES SHALL BE INSTALLED IN A HALLWAY SO THAT NO POINT ALONG FLOOR LINE IS MORE THAN 4.5m HORIZONTALLY.

6.7. AT LEAST ONE DUPLEX RECEPTACLE SHALL BE PROVIDED IN A BALCONY OR PORCH.

6.8. KITCHEN

6.8.1. ONE (1) CSA 5-15R OUTLET FOR REFRIGERATOR.

6.8.2. ONE (1) CSA 14-50R OUTLET FOR FREE-STANDING ELECTRIC RANGE.

6.8.3. ONE (1) CSA 5-15R AFCI OUTLET FOR DISHWASHER.

6.8.4. ONE (1) CSA 5-15R AFCI OUTLET FOR MICROWAVE.

6.8.5. NO. OF ABOVE COUNTER OUTLETS SO THAT NO POINT ALONG THE WALL LINE IN MORE THAN 900mm FROM AN OUTLET.

6.8.6. AT LEAST ONE (1) OUTLET INSTALLED AT EACH PERMANENTLY FIXED ISLAND COUNTER SPACE.

7. MOUNT ALL SWITCHES AND MISC. CONTROL DEVICES AT 1100mm ABOVE FINSIHED FLOOR TO CENTER LINE.

8. RESIDENTIAL PUBLIC CORRIDORS SHALL HAVE AT LEAST ONE DUPLEX RECEPTACLE IN EACH 10m OF LENGTH.

9. ALL SUITE COMMON AND BEDROOM AREAS SHALL BE INSTALLED WITH A SMOKE/VISUAL ALARM.

10. ALL SUITE SMOKE/VISUAL ALARMS AND CARBON MONOXIDE ALARMS (IF APPLICABLE) SHALL BE SUPPLIED FROM A LIGHTING BRANCH CIRCUIT AND INTERLOCKED TO ALARM ALL DEVICES UPON ACTIVATION.

11. WHERE A FUEL BURNING APPLIANCE OR STORAGE GARAGE IS LOCATED ADJACENT TO A RESIDENTIAL OCCUPANCY, A CARBON MONOXIDE ALARM SHALL BE INSTALLED ADJACENT TO EACH SLEEPING AREA IN THE SUITE.

12. EACH FLOOR SHALL HAVE TWO (2) FIRE DETECTION CIRCUITS:

12.1. PROVIDE SEPARATE CIRCUIT ON EACH FLOOR, FOR SUITE DEVICES.

12.2. PROVIDE SEPARATE CIRCUIT ON EACH FLOOR FOR, COMMON AREA DEVICES

13. EACH SUITE SHALL BE INSTALLED WITH A FIRE ALARM SYSTEM HORN/STROBE DEVICE.

14. ACCESSIBLE SUITES & PUBLIC AREA

14.1. PROVIDE ADDITIONAL RECEPTACLES ON SIDE OF THE COUNTER WORK SURFACE AREA IN KITCHEN FOR PEOPLE WITH DISABILITY.

14.2. MOUNT LIGHT SWITCHES IN SUITES AND PUBLIC AREA AT 1070mm (3'-6") HEIGHT
14.3. SET DUPLEX OUTLETS 610mm (24") AFF.

14.4. PROVIDE TV AND TEL. OUTLETS 610mm (24") AFF.

14.5. PROVIDE TEL. OUTLETS IN LIVING ROOM, ONE IN BEDROOM AND BATHROOM FOR PLUG-IN TYPE PHONES.

14.6. SPLIT CIRCUIT RECEPTACLES SWITCH FOR LIGHT OVER SINK AND FAN TO BE BUILT IN THE FACE OF COUNTER.

DRAWING LIST

E100	ELECTRICAL LEGEND AND NOTES
E101A	PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
E101B	PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
E102A	PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
E102B	PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
E103	TYPICAL SUITES NEW ELECTRICAL LAYOUTS
E104	SINGLE LINE DIAGRAMS AND PANEL SCHEDULES
E105	ELECTRICAL SITE PLAN
E106	FIRE ALARM RISER DIAGRAM AND SPECIFICATIONS
E107	FIRE ALARM ZONING
E108	TELEPHONE/DATA CONDUIT LAYOUT
E109	ELECTRICAL DETAILS
E110	ELECTRICAL SPECIFICATIONS
E200	IDENTIFIED PRICE #1

ELECTRICAL LEGEND

- PC — PHOTOCELL
- DIGITAL TIME CLOCK
- C — CONTACTOR
- $VS — MOTION SENSOR LIGHT SWITCH SHALL BE HUBBELL H-MOSS OCCUPANCY SENSORS AD1277W1 SUITABLE FOR 120V. SENSOR SHALL BE MANUAL "ON" WITH AUTO-OFF FUNCTION AND C/W FIELD ADJUSTABLE VIEWING ANGLE AND ADAPTIVE TECHNOLOGY. PROVIDE INDIVIDUAL TIME AND SENSOR ADJUSTMENT TO CLIENT'S REQUIREMENTS. OR APPROVED EQUAL

FIRE ALARM SYSTEM

- MANUAL PULL STATION
- FIXED HEAT DETECTOR
- FIRE ALARM SMOKE DETECTOR COMBINED PHOTOELECTRIC AND HEAT DETECTOR.
- DUCT SMOKE DETECTOR
- FS — SPRINKLER SYSTEM WATER FLOW SWITCH
- SPRINKLER SYSTEM ALARM CHECK VALVE/SUPERVISED VALVE
- PS — LOW/HIGH PRESSURE SWITCH
- F — FIRE ALARM SPEAKER (RECESSED)
- FIRE ALARM SPEAKER/STROBE (RECESSED)
- CEILING MOUNTED STROBE LIGHT
- WALL MOUNTED STROBE LIGHT
- FAP — FIRE ALARM CONTROL PANEL
- ANN — FIRE ALARM ANNUNCIATOR PANEL
- F — 120V SMOKE ALARM C/W A VISUAL SIGNALLING COMPONENT AS PER OBC REQUIREMENTS C/W BATTERY BACK UP (NOT CONNECTED TO THE FIRE ALARM SYSTEM). BRK CAT# 7010BSLA OR APPROVED EQUAL NOTE : IF MORE THAN ONE SMOKE ALARM OR COMBINATION CARBON MONOXIDE / SMOKE ALARM IS REQUIRED IN THE UNIT, THEY SHALL BE WIRED SO THAT THE ACTIVATION OF ONE DETECTOR WILL CAUSE ALL SMOKE ALARMS WITHIN THE UNIT TO SOUND.
- C — SAME AS ABOVE BUT FOR CARBON MONOXIDE DETECTOR TO BE CONNECTED TO SMOKE ALARM CIRCUIT AND SHALL BE WIRED SO THAT THE ACTIVATION OF SMOKE OR CO DETECTOR WILL CAUSE ALL SMOKE AND CO ALARM WITHIN UNIT TO SOUND. BRK CAT# C05120BN OR APRROVED EQUAL.
- F — FIRE ALARM CONNECTION, REFER TO DRAWINGS FOR DETAILS

SECURITY SYSTEM

- SCP — SECURITY CONTROL PANEL BY OTHERS
- SECURITY CAMERA, PROVIDE 3/4" CONDUIT C/W NYLON FISH CORD
- SR — SECURITY CARD READER, PROVIDE 3/4" CONDUIT C/W NYLON FISH CORD
- DC — SECURITY DOOR CONTACT, PROVIDE 3/4" CONDUIT C/W NYLON FISH CORD
- DR — SECURITY DOOR RELEASE, PROVIDE 3/4" CONDUIT C/W NYLON FISH CORD
- ES — ELECTRIC DOOR STRIKE, PROVIDE 3/4" CONDUIT C/W NYLON FISH CORD
- MOTION DETECTOR

COMMUNICATIONS SYSTEM

- WALL MOUNTED TELEPHONE OUTLET C/W 3/4" (27mm) CONDUIT MOUNTED 2'-3" (685.8mm) ABOVE FLOOR
- WALL MOUNTED DATA OUTLET C/W 3/4" (21mm) CONDUIT TO MAIN CORRIDORS ACCESSIBLE CEILING SPACE UNLESS OTHERWISE NOTED
- WALL MOUNTED TELEPHONE AND DATA OUTLET C/W 3/4" (27mm) CONDUIT
- WALL MOUNTED COAXIAL CABLE TV OUTLET C/W 3/4" (27mm) CONDUIT BACK TO SUITS 'IT' BOX, MOUNTED 2'-3" (685.8mm) ABOVE FLOOR

ABBREVIATIONS

RT	RAIN TIGHT
AFF	ABOVE FINISHED FLOOR
WP	WEATHERPROOF
GFIC	GROUND FAULT INTERRUPTER CIRCUIT
E	EXISTING ELECTRICAL DEVICE TO REMAIN
R	EXISTING ELECTRICAL DEVICE TO BE REMOVED
R/R	EXISTING ELECTRICAL DEVICE TO BE REMOVED AND RE-INSTALLED.
R/E	EXISTING ELECTRICAL DEVICE TO BE RELOCATED
E/R	EXISTING ELECTRICAL DEVICE IN RELOCATED LOCATION
NL	NIGHT LIGHT
AD	AUTO DOOR
O/H	AUTOMATIC OVER HEAD DOOR

ELECTRICAL LEGEND

POWER SYSTEM

- DUPLEX "U" GROUNDED 15A, 120V RECEPTACLE MOUNTED 2'-3" (686mm) AFF IN SUITES AND 16" (406.4mm) AFF IN OTHER LOCATIONS.
- AS ABOVE BUT MOUNTED 4'-6" (1050mm) ABOVE FLOOR.
- DUPLEX RECEPTACLES AS SHOWN BUT HALF SWITCHED.
- SINGLE 15A, 120V GROUNDED RECEPTACLE FOR WASHERS IN LAUNDY ROOM MOUNTED APPROXIMATELY 2'-6" (762mm) ABOVE FLOOR.
- 15A, 120V SPLIT CIRCUIT "U" GROUNDED RECEPTACLE MOUNTED APPROXIMATELY 6" (152.4mm) ABOVE KITCHEN COUNTER.
- 30A, 1ø, 4W, 120/208V RECEPTACLE WITH SHEET STEEL COVER PLATE MOUNTED 2'-6" (762mm) AFF FOR DRYER.
- 50A, 1ø, 4W, 120/208V RECEPTACLE WITH SHEET STEEL COVER PLATE MOUNTED 2'-6" (762mm) AFF FOR RANGE.
- WEATHERPROOF DUPLEX RECEPTACLE SUPPORTED BY A 6'-0" (1524mm) ROUNDCAPPED STEEL POST IMBENDDED IN CONCRETE 4'-0" (1220mm) BELOW FINISH GRADE AND LOCATED 4'-0" (1220mm) FROM CURB OF TIRE STOP.
- SINGLE 20A, 120V GROUNDED RECEPTACLE FOR A/C UNITS MOUNTED SAME HEIGHT AS DEVICES IN THE AREA. EXACT LOCATION AND HEIGHT TO BE COORDINATED WITH A/C UNIT SLEEVE LOCATION.
- DIRECTION POWER CONNECTION
- DIRECTION POWER CONNECTION C/W DISCONNECT SWITCH
- HD — HAND DRYER
- JB — JUCTION BOX
- PULL BOX
- FUSED DISCONNECT SWITCH
- UNFUSED DISCONNECT SWITCH
- ELECTRICAL PANEL, RECESSED OR SURFACE MOUNTED
- ELECTRICAL DISTRIBUTION PANELBOARD
- VFD — VARIABLE FREQUENCY DRIVE
- VSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR UNIT
- TRANSFORMER
- CP — CONTROL PANEL
- SINGLE PHASE MOTOR
- THREE PHASE MOTOR
- DOOR RELEASE PUSH BUTTON
- CIRCUIT BREAKER
- FUSED DISCONNECT SWITCH (SINGLE LINE DIAGRAM)
- M — METERING CABINET TO SUIT LOCAL HYDRO'S REQUIREMENT C/W A 120V POWER OUTLET FED FROM NEAREST 120V PANEL AND A TELEPHONE OUTLET C/W WIRING AND CONDUIT BACK TO MAIN TELEPHONE BOARD.
- ELECTRIC BASEBOARD HEATER 208V STANDARD WATT DENSITY WITH BUILT IN THERMOSTAT, SIZED AS SHOWN OR EQUAL
- EDH — DUCT HEATER SUPPLIED AND INSTALLED BY MECHANICAL AND WIRED BY THIS ELECTRICAL CONTRACTOR
- ELECTRIC FORCED AIR HEATER RECESSED IN WALL WITH TAMPERPROOF BUILT-IN THERMOSTAT, 208V,1PH, SIZE AS SHOWN OR EQUAL
- S — LINE VOLTAGE THERMOSTAT SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR TO PROVIDE ALL LINE VOLTAGE WIRING TO SUIT.

LIGHTING SYSTEM

- 2'x4' LED LIGHTING FIXTURE, CEILING MOUNTED
- 1'x4' LED LIGHTING FIXTURE, CEILING MOUNTED
- 1'x4' LED LIGHTING FIXTURE, WALL MOUNTED
- 2'X4' LED LIGHTING FIXTURE AS NIGHT LIGHT, CEILING MOUNTED
- 1'X4' LED LIGHTING FIXTURE AS NIGHT LIGHT, CEILING MOUNTED
- 1'X4' LED LIGHTING FIXTURE AS NIGHT LIGHT, WALL MOUNTED
- WALL MOUNTED LIGHTING FIXTURE
- POT LIGHT CEILING MOUNTED
- NIGHT LIGHT POT LIGHT, CEILING MOUNTED
- CEILING MOUNTED EXIT SIGN, ARROW DENOTES DIRECTION
- WALL MOUNTED EXIT SIGN, ARROW DENOTES DIRECTION
- POLE MOUNTED LIGHTING FIXTURE
- EXTERIOR BOLLARD TYPE FIXTURE, HIGHER MOUNTING HEIGHT
- EXTERIOR BOLLARD TYPE FIXTURE, LOWER MOUNTING HEIGHT
- EMERGENCY LIGHT
- BATTERY UNIT C/W DOUBLE LIGHT HEADS
- LIGHTING TRACK C/W LIGHTING FIXTURE
- $ — SINGLE POLE SWITCH 15A, 125V, MOUNTED ON LOCK SIDE OF DOOR 4'-6" (1370mm) AFF
- $3 — THREE-WAY SWITCH, 15A, 125V, MOUNTED ON LOCK SIDE OF DOOR 4'-6" (1370mm) AFF
- $ — DOUBLE GANG SINGLE POLE SWITCHES MOUNTED ON LOCK SIDE OF DOOR 4'-6" (1370mm) AFF

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	FRB	ISSUED FOR REVIEW
2	2026-03-02	FRB	ISSUED FOR 90% REVIEW
3	2026-03-20	FRB	ISSUED FOR PERMIT
4	2026-04-17	FRB	PRE TENDER REVIEW
5	2026-05-13	FRB	ISSUED FOR TENDER

Rev	Date	By	Description
2	2026-05-28	FRB	ISSUED FOR EAD-01
1	2026-05-12	FRB	ISSUED FOR EPR-01

Drawing Revision

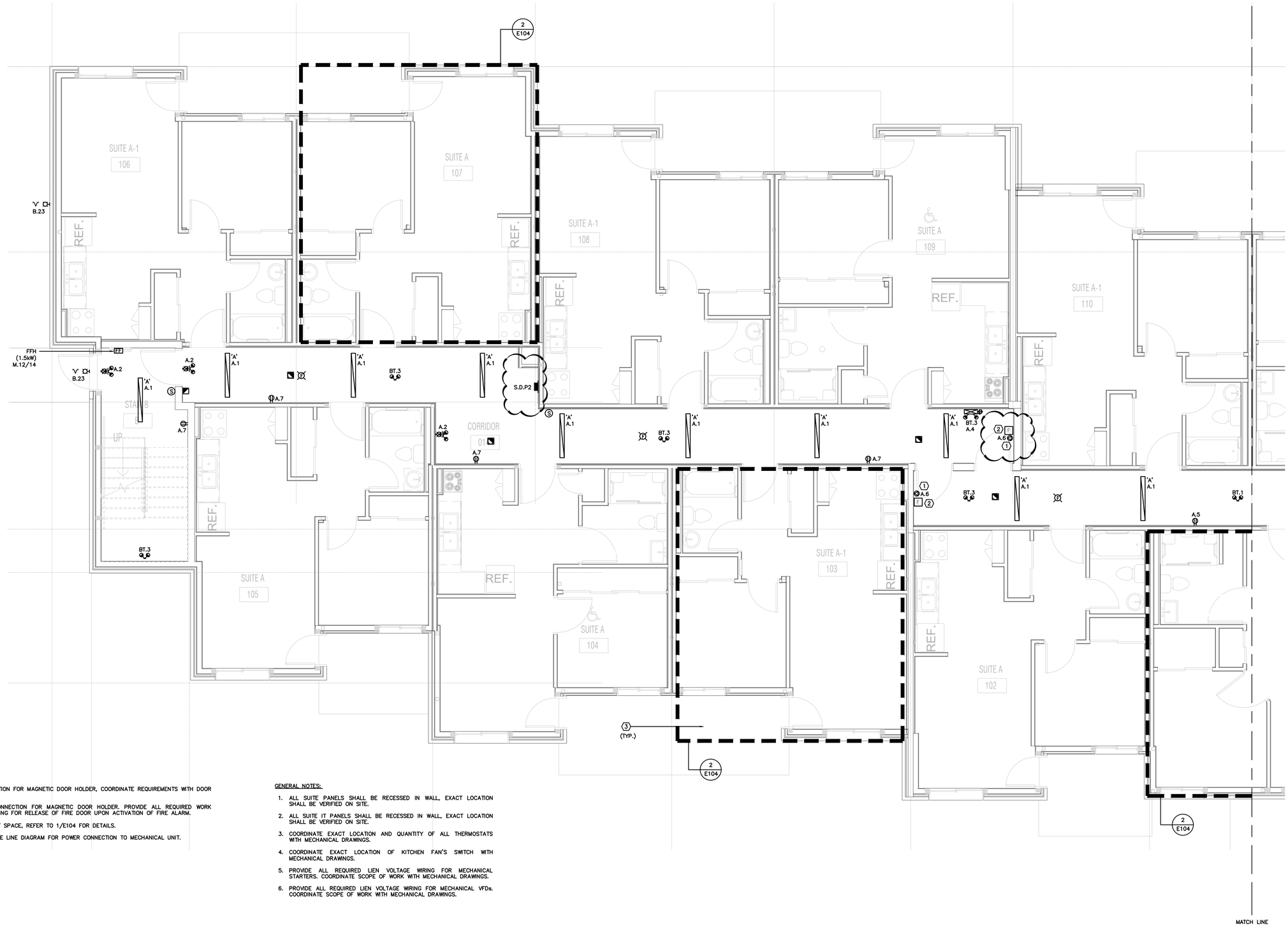
PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: ELECTRICAL LEGEND AND NOTES

SCALE: AS SHOWN

SHEET NUMBER: E100



KEY NOTES:

1. POWER CONNECTION FOR MAGNETIC DOOR HOLDER, COORDINATE REQUIREMENTS WITH DOOR SUPPLIER.
2. FIRE ALARM CONNECTION FOR MAGNETIC DOOR HOLDER. PROVIDE ALL REQUIRED WORK AND PROGRAMMING FOR RELEASE OF FIRE DOOR UPON ACTIVATION OF FIRE ALARM.
3. TYPICAL TENANT SPACE, REFER TO 1/E104 FOR DETAILS.
4. REFER TO SINGLE LINE DIAGRAM FOR POWER CONNECTION TO MECHANICAL UNIT.

GENERAL NOTES:

1. ALL SUITE PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
2. ALL SUITE IT PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
3. COORDINATE EXACT LOCATION AND QUANTITY OF ALL THERMOSTATS WITH MECHANICAL DRAWINGS.
4. COORDINATE EXACT LOCATION OF KITCHEN FAN'S SWITCH WITH MECHANICAL DRAWINGS.
5. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL STARTERS. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.
6. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL VFDs. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.

1 E101A PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
SCALE: 1:50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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Rev.	Date	By	Description
2	2026-05-28	FRB	ISSUED FOR EAD-01
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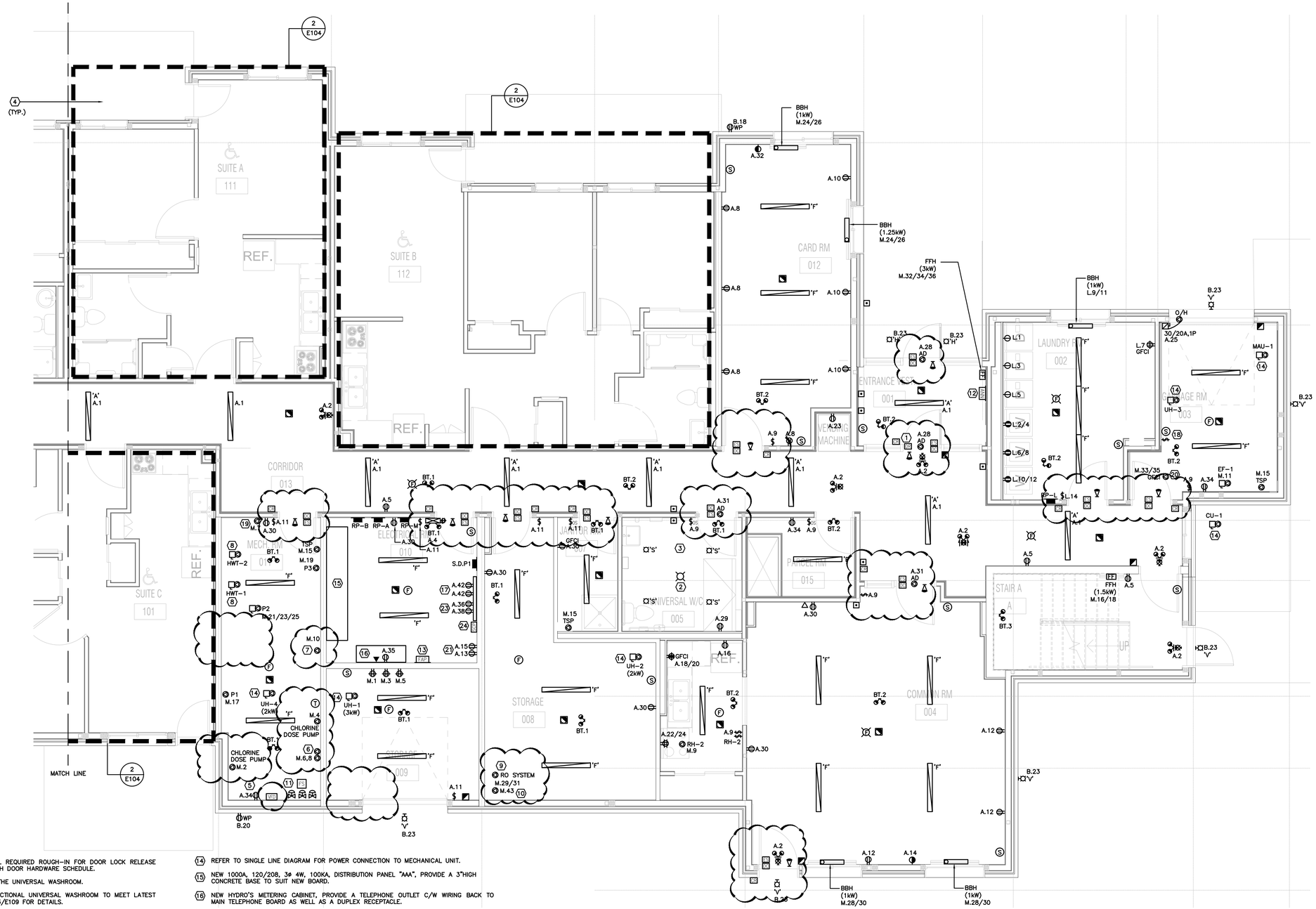
PROJECT NAME:
VERONA
PROJECT ADDRESS:
6094 Carleton Drive,
Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE:
PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
SCALE: AS SHOWN

SHEET NUMBER:
E101A



KEY NOTES:

1. DOOR LOCK RELEASE BOX, PROVIDE ALL REQUIRED ROUGH-IN FOR DOOR LOCK RELEASE SYSTEM. COORDINATE REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.
2. PROVIDE A FIRE ALARM STROBE INSIDE THE UNIVERSAL WASHROOM.
3. CONTRACTOR TO PROVIDE A FULLY FUNCTIONAL UNIVERSAL WASHROOM TO MEET LATEST LATEST OBC REQUIREMENTS, REFER TO 3/E109 FOR DETAILS.
4. TYPICAL TENANT SPACE, REFER TO DRAWING E103 FOR DETAILS.
5. RECEPTACLE FOR CS PUMP, CONFIRM EXACT LOCATION WITH MECHANICAL DRAWINGS.
6. POWER CONNECTIONS FOR UV STERILIZATION SYSTEM.
7. POWER CONNECTION FOR WATER TREATMENT SYSTEM CONTROL PANEL, COORDINATE EXACT LOCATION ON SITE.
8. REFER TO SINGLE LINE DIAGRAM FOR POWER CONNECTIONS TO HOT WATER TANKS.
9. POWER CONNECTION FOR RO SYSTEM, CONFIRM EXACT LOCATION WITH MECHANICAL DRAWINGS.
10. POWER CONNECTION FOR RO SYSTEM BOOSTER PUMP.
11. PROVIDE ALL REQUIRED FIRE ALARM CONNECTIONS TO NEW SPRINKLER SUPERVISED VALVES AND FLOW SWITCH. REFER TO FIRE ALARM RISER DIAGRAM FOR DETAILS.
12. MAIN FIRE ALARM ANNUNCIATOR PANEL.
13. MAIN FIRE ALARM PANEL.
14. REFER TO SINGLE LINE DIAGRAM FOR POWER CONNECTION TO MECHANICAL UNIT.
15. NEW 1000A, 120/208, 3ø 4W, 100KA, DISTRIBUTION PANEL "AAA", PROVIDE A 3"HIGH CONCRETE BASE TO SUIT NEW BOARD.
16. NEW HYDRO'S METERING CABINET, PROVIDE A TELEPHONE OUTLET C/W WIRING BACK TO MAIN TELEPHONE BOARD AS WELL AS A DUPLEX RECEPTACLE.
17. APPROXIMATE LOCATION OF MAIN TELEPHONE AND DATA BOARD.
18. PROVIDE ALL REQUIRED LINE VOLTAGE WIRING FOR MAU-1 AND EF-1 STARTER AND INTERCONNECTION, COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.
19. POWER CONNECTION FOR DETLASOL CONTROL BOX.
20. GFCI POWER CONNECTION FOR HEAT TRACING SYSTEM, CONFIRM EXACT LOCATION WITH MECHANICAL DRAWINGS.
21. POWER OUTLETS FOR FUTURE IT CABINET BY OTHERS.
23. GFCI POWER OUTLETS FOR SECURITY SYSTEM.
24. APPROXIMATE LOCATION OF SECURITY PANEL, CONTRACTOR TO VERIFY THE EXACT LOCATION WITH SECURITY CONTRACTOR PRIOR TO ANY WORK

GENERAL NOTES:

1. ALL SUITE PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
2. ALL SUITE IT PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
3. COORDINATE EXACT LOCATION AND QUANTITY OF ALL THERMOSTATS WITH MECHANICAL DRAWINGS.
4. COORDINATE EXACT LOCATION OF KITCHEN FAN'S SWITCH WITH MECHANICAL DRAWINGS.
5. PROVIDE ALL REQUIRED LINE VOLTAGE WIRING FOR MECHANICAL STARTERS. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.
6. PROVIDE ALL REQUIRED LINE VOLTAGE WIRING FOR MECHANICAL VFDs. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.

1 PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
E101B SCALE: 1:50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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1	2026-05-12	FRB	ISSUED FOR EPR-01

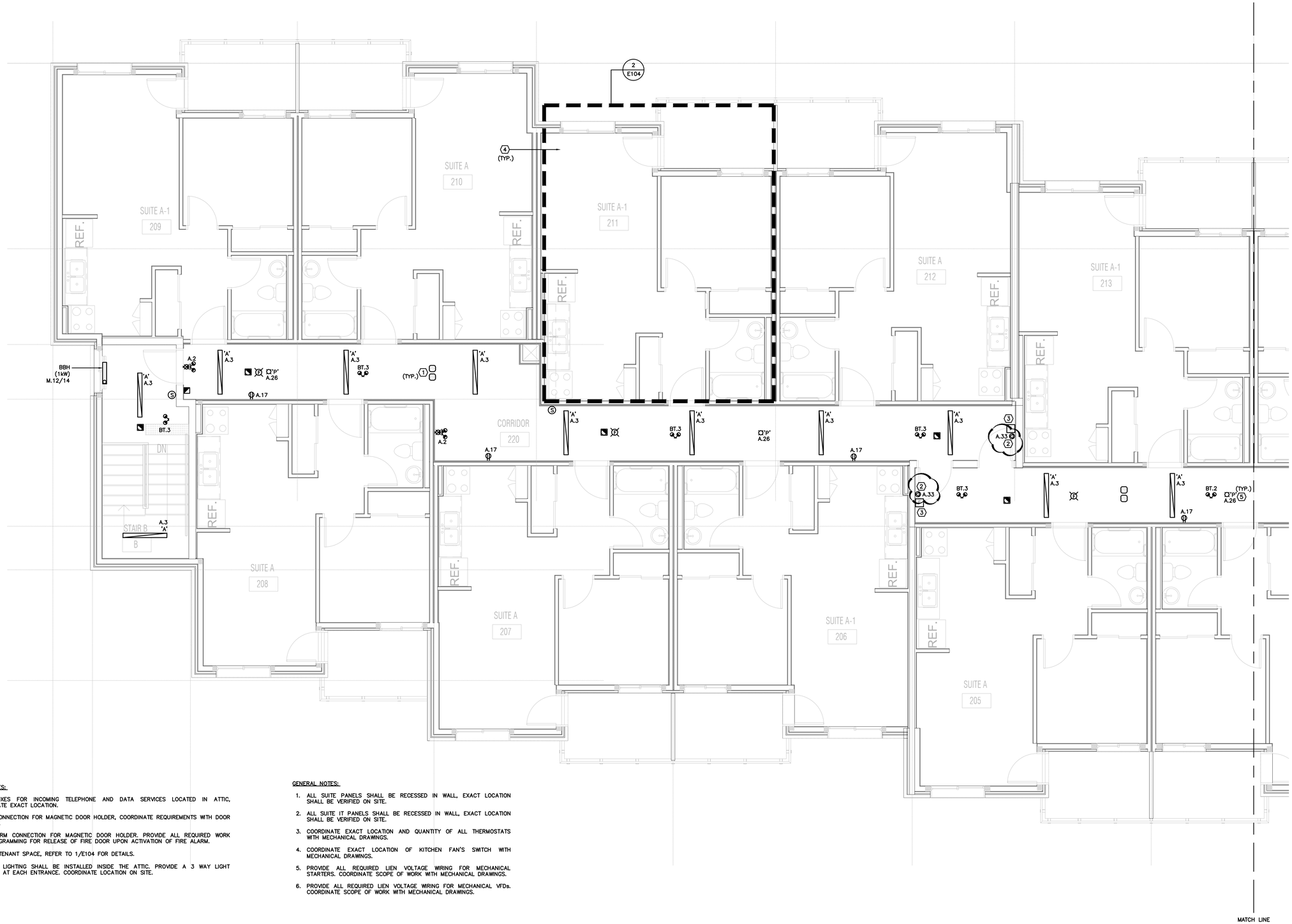
Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: PART. GROUND FLOOR NEW ELECTRICAL LAYOUT
SCALE: AS SHOWN

SHEET NUMBER: E101B



KEY NOTES:

1. PULL BOXES FOR INCOMING TELEPHONE AND DATA SERVICES LOCATED IN ATTIC, COORDINATE EXACT LOCATION.
2. POWER CONNECTION FOR MAGNETIC DOOR HOLDER, COORDINATE REQUIREMENTS WITH DOOR SUPPLIER.
3. FIRE ALARM CONNECTION FOR MAGNETIC DOOR HOLDER. PROVIDE ALL REQUIRED WORK AND PROGRAMMING FOR RELEASE OF FIRE DOOR UPON ACTIVATION OF FIRE ALARM.
4. TYPICAL TENANT SPACE, REFER TO 1/E104 FOR DETAILS.
5. TYPE 'P' LIGHTING SHALL BE INSTALLED INSIDE THE ATTIC. PROVIDE A 3 WAY LIGHT SWITCHES AT EACH ENTRANCE. COORDINATE LOCATION ON SITE.

GENERAL NOTES:

1. ALL SUITE PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
2. ALL SUITE IT PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
3. COORDINATE EXACT LOCATION AND QUANTITY OF ALL THERMOSTATS WITH MECHANICAL DRAWINGS.
4. COORDINATE EXACT LOCATION OF KITCHEN FAN'S SWITCH WITH MECHANICAL DRAWINGS.
5. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL STARTERS. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.
6. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL VFDs. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.

1 / E102 PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
SCALE: 1:50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

ENGINEERING:

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SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	FRB	ISSUED FOR REVIEW
2	2026-03-02	FRB	ISSUED FOR 90% REVIEW
3	2026-03-20	FRB	ISSUED FOR PERMIT
4	2026-04-17	FRB	PRE TENDER REVIEW
5	2026-05-13	FRB	ISSUED FOR TENDER

Rev	Date	By	Description
2	2026-05-28	FRB	ISSUED FOR EAD-01
1	2026-05-12	FRB	ISSUED FOR EPR-01

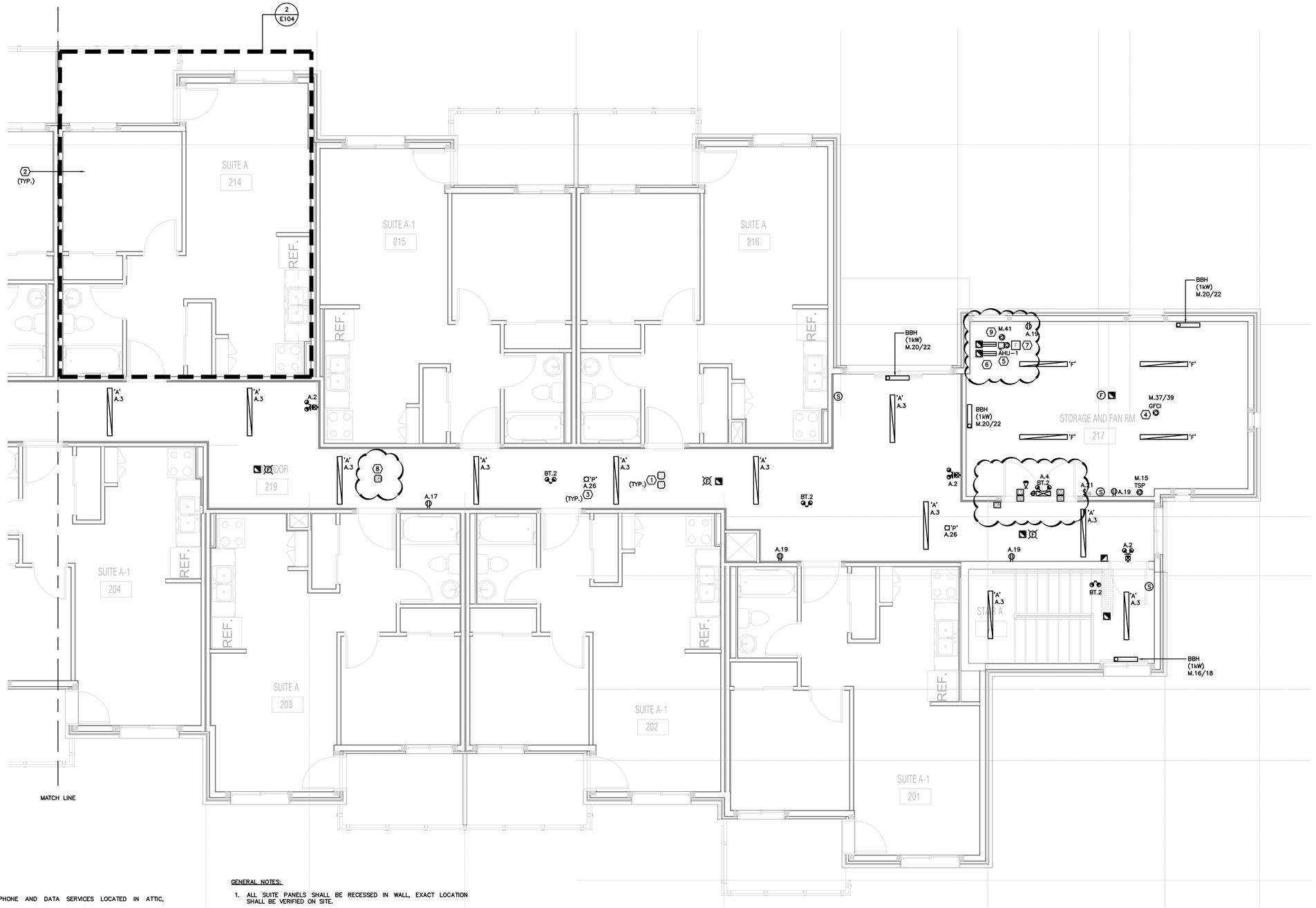
Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
SCALE: AS SHOWN

SHEET NUMBER: E102A



KEY NOTES:

1. PULL BOXES FOR INCOMING TELEPHONE AND DATA SERVICES LOCATED IN ATTIC, COORDINATE EXACT LOCATION.
2. TYPICAL TENANT SPACE, REFER TO 1/E104 FOR DETAILS.
3. TYPE 'P' LIGHTING SHALL BE INSTALLED INSIDE THE ATTIC. PROVIDE A 3 WAY LIGHT SWITCHES AT EACH ENTRANCE. COORDINATE LOCATION ON SITE.
4. GFCI POWER CONNECTION FOR HEAT TRACING SYSTEM, CONFIRM EXACT LOCATION WITH MECHANICAL DRAWINGS.
5. POWER CONNECTION FOR AHU-1, PROVIDE ALL REQUIRED LINE VOLTA EWIRING FOR THE UNIT'S VFDs. REFER TO DISTRIBUTION DIAGRAM FOR DETAILS.
6. FIRE ALARM DUCT SMOKE DETECTORS FOR AHU-1.
7. PROVIDE A FIRE ALARM CONNECTION TO AHU-1 THAT THE UNIT WOULD SHUT DOWN DURING ACTIVATION OF FIRE ALARM SYSTEM.
8. PROVIDE A JUNCTION BOX IN THE ATTIC C/W (1) 2" EMPTY CONDUIT ROUTED TO THE MAIN ELECTRICAL ROOM. LABEL THE JUNCTION BOX AND CONDUIT AS FOLLOWS: "EMPTY CONDUIT FOR FUTURE RADON EXHAUST SYSTEM.
9. 120V POWER CONNECTION FOR AHU-1 BUILT IN RECEPTACLE AND LIGHTING.

GENERAL NOTES:

1. ALL SUITE PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
2. ALL SUITE IT PANELS SHALL BE RECESSED IN WALL, EXACT LOCATION SHALL BE VERIFIED ON SITE.
3. COORDINATE EXACT LOCATION AND QUANTITY OF ALL THERMOSTATS WITH MECHANICAL DRAWINGS.
4. COORDINATE EXACT LOCATION OF KITCHEN FAN'S SWITCH WITH MECHANICAL DRAWINGS.
5. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL STARTERS. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.
6. PROVIDE ALL REQUIRED LIEN VOLTAGE WIRING FOR MECHANICAL VFDs. COORDINATE SCOPE OF WORK WITH MECHANICAL DRAWINGS.

1 PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
E102B SCALE: 1:50

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: PART. SECOND FLOOR NEW ELECTRICAL LAYOUT
SCALE: AS SHOWN

SHEET NUMBER: E102B

KEY NOTES:

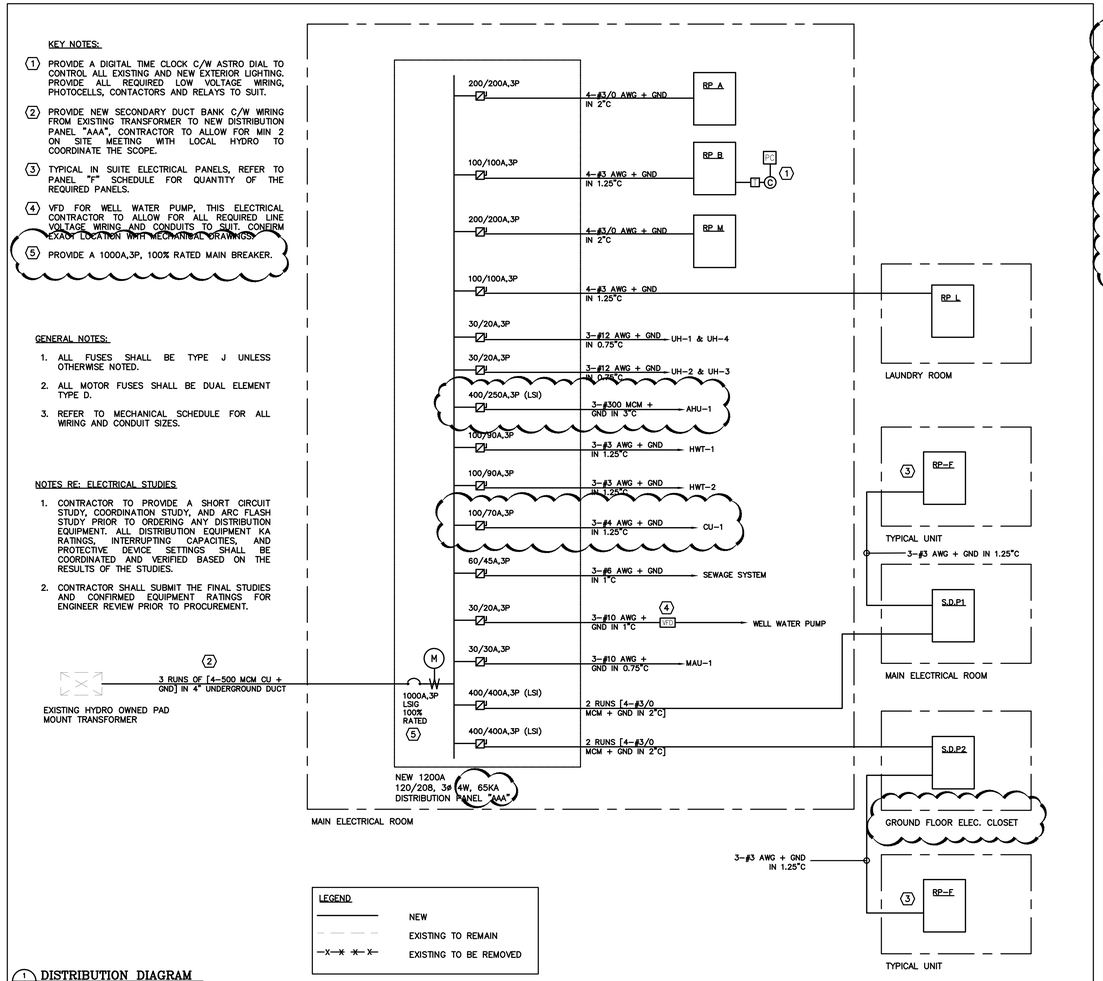
1. PROVIDE A DIGITAL TIME CLOCK C/W ASTRO DIAL TO CONTROL ALL EXISTING AND NEW EXTERIOR LIGHTING. PROVIDE ALL REQUIRED LOW VOLTAGE WIRING, PHOTOCELLS, CONTACTORS AND RELAYS TO SUIT.
2. PROVIDE NEW SECONDARY DUCT BANK C/W WIRING FROM EXISTING TRANSFORMER TO NEW DISTRIBUTION PANEL "AAA", CONTRACTOR TO ALLOW FOR MIN 2 ON SITE MEETING WITH LOCAL HYDRO TO COORDINATE THE SCOPE.
3. TYPICAL IN SUITE ELECTRICAL PANELS, REFER TO PANEL "F" SCHEDULE FOR QUANTITY OF THE REQUIRED PANELS.
4. VFD FOR WELL WATER PUMP, THIS ELECTRICAL CONTRACTOR TO ALLOW FOR ALL REQUIRED LINE VOLTAGE WIRING AND CONDUITS TO SUIT. CONFIRM EXACT LOCATION WITH MECHANICAL DRAWINGS.
5. PROVIDE A 1000A,3P, 100% RATED MAIN BREAKER.

GENERAL NOTES:

1. ALL FUSES SHALL BE TYPE J UNLESS OTHERWISE NOTED.
2. ALL MOTOR FUSES SHALL BE DUAL ELEMENT TYPE D.
3. REFER TO MECHANICAL SCHEDULE FOR ALL WIRING AND CONDUIT SIZES.

NOTES RE: ELECTRICAL STUDIES

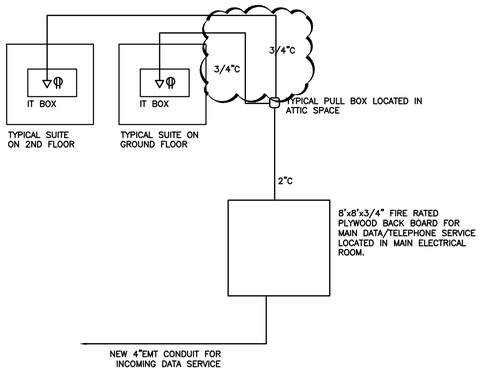
1. CONTRACTOR TO PROVIDE A SHORT CIRCUIT STUDY, COORDINATION STUDY, AND ARC FLASH STUDY PRIOR TO ORDERING ANY DISTRIBUTION EQUIPMENT. ALL DISTRIBUTION EQUIPMENT KA RATINGS, INTERRUPTING CAPACITIES, AND PROTECTIVE DEVICE SETTINGS SHALL BE COORDINATED AND VERIFIED BASED ON THE RESULTS OF THE STUDIES.
2. CONTRACTOR SHALL SUBMIT THE FINAL STUDIES AND CONFIRMED EQUIPMENT RATINGS FOR ENGINEER REVIEW PRIOR TO PROCUREMENT.



LEGEND

———	NEW
- - -	EXISTING TO REMAIN
—X—X—X—	EXISTING TO BE REMOVED

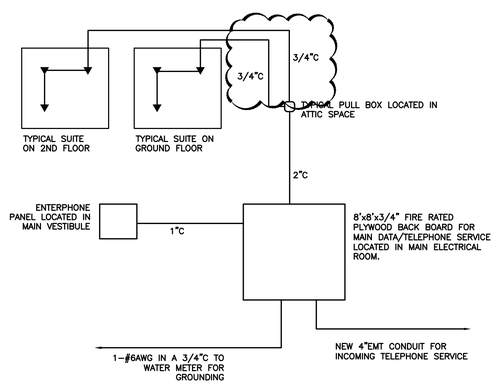
1 DISTRIBUTION DIAGRAM
E104 SCALE: N.T.S.



NOTES:

1. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.
2. ALL CONDUITS SHALL BE 3/4" EMT UNLESS OTHERWISE NOTED.
3. REFER TO FLOOR PLAN FOR EXACT QUANTITY OF IT PANELS.
4. PROVIDE A RECESSED 'IT' PLASTIC BOX C/W A DUPLEX RECEPTACLE FOR EACH SUIT.

3 DATA SERVICE DETAIL
E104 SCALE: N.T.S.



NOTES:

1. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.
2. ALL CONDUITS SHALL BE 3/4" EMT UNLESS OTHERWISE NOTED.
3. REFER TO FLOOR PLAN FOR EXACT QUANTITY OF TV OUTLETS.

2 TELEPHONE SERVICE DETAIL
E104 SCALE: N.T.S.

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
EXTERIOR RECEPTACLE	–	20	1	A	2	15	–	EXTERIOR RECEPTACLE
EXTERIOR RECEPTACLE	–	20	3	B	4	2P		
EXTERIOR RECEPTACLE	–	20	5	C	6	15	–	EXTERIOR RECEPTACLE
EXTERIOR RECEPTACLE	–	20	7	A	8	2P		
EXTERIOR RECEPTACLE	–	20	9	B	10	15	–	EXTERIOR RECEPTACLE
EXTERIOR RECEPTACLE	–	20	11	C	12	2P		
EXTERIOR RECEPTACLE	–	20	13	A	14	15	–	EXTERIOR RECEPTACLE
EXTERIOR RECEPTACLE	–	20	15	B	16	2P		
SPARE	–	20	17	C	18	20	–	EXTERIOR RECEPTACLE
SPARE	–	20	19	A	20	20	–	EXTERIOR RECEPTACLE
SPARE	–	20	21	B	22	20	–	SPARE
EXTERIOR LIGHTING	–	*20	23	C	24	20	–	SPARE
SEWAGE SYSTEM	–	15	25	A	26	20	–	SPARE
EXTERIOR LIGHTING	–	*20	27	B	28	20	–	SPARE
		2P	29	C	30	20	–	SPARE
EXTERIOR LIGHTING	–	*20	31	A	32	20	–	SPARE
		2P	33	B	34	–	–	–
–	–	–	35	C	36	–	–	–
–	–	–	37	A	38	–	–	–
–	–	–	39	B	40	–	–	–
–	–	–	41	C	42	–	–	–

NOTES: *CONTROLLED VIA TIME CLOCK C/W ASTRO DIAL
–

PANEL RP-B

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☐
PHASE:	3	CONN. LOAD (KW):	–	SURFACE	☒
WIRES:	4	DEMAND LOAD (A):	–	SPRINKLERPROOF	☒
MAINS (A):	100	LOCATION:	MAIN ELECTRICAL ROOM	FED THRU LUGS	☐
I.C. (K.A):	35			MAIN BREAKER	☐

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
WASHER	–	15	1	A	2	30	–	DRYER 2-#10+GND-IN 3/4"C
WASHER	–	15	3	B	4	2P		
WASHER	–	15	5	C	6	30	–	DRYER 2-#10+GND-IN 3/4"C
RECEPTACLE	–	15	7	A	8	2P		
ELECTRIC HEATER	–	15	9	B	10	30	–	DRYER 2-#10+GND-IN 3/4"C
		2P	11	C	12	2P		
–	–	–	13	A	14	15	–	LIGHTING
–	–	–	15	B	16	15	–	SPARE
–	–	–	17	C	18	15	–	SPARE
–	–	–	19	A	20	20	–	SPARE
–	–	–	21	B	22	20	–	SPARE
–	–	–	23	C	24	–	–	–

NOTES: –
–

PANEL RP-L

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☒
PHASE:	3	CONN. LOAD (KW):	–	SURFACE	☐
WIRES:	4	DEMAND LOAD (A):	–	SPRINKLERPROOF	☒
MAINS (A):	100	LOCATION:	LAUNDRY ROOM	FED THRU LUGS	☐
I.C. (K.A):	10			MAIN BREAKER	☒ 100A,3P

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
RECEPTACLE	–	15	1	A	2	15	–	CHLORINE DOSE PUMP
RECEPTACLE	–	15	3	B	4	15	–	CHLORINE DOSE PUMP
RECEPTACLE	–	15	5	C	6	15	–	UV STERILIZATION SYSTEM
DETLASOL CONTROL BOX	–	15	7	A	8	15	–	UV STERILIZATION SYSTEM
RH-2	–	15	9	B	10	15	–	WATER TREATMENT SYSTEM
EF-1	–	15	11	C	12	20	–	ELECTRIC HEATER
–	–	–	13	A	14	2P		
TSPs	–	15	15	B	16	20	–	ELECTRIC HEATER
P1	–	15	17	C	18	2P		
P3	–	15	19	A	20	20	–	ELECTRIC HEATER
P2	–	15	21	B	22	2P		
			23	C	24	15	–	ELECTRIC HEATER
		3P	25	A	26	2P		
EXISTING SUMP PUMP	–	20	27	B	28	15	–	ELECTRIC HEATER
RO SYSTEM	–	15	29	C	30	2P		
		2P	31	A	32	15	–	ELECTRIC HEATER
HEAT TRACING SYSTEM (GFCI)	–	20	33	B	34			
		2P	35	C	36	3P		
HEAT TRACING SYSTEM (GFCI)	–	20	37	A	38	15	–	SPARE
		2P	39	B	40	15	–	SPARE
AHU-1	–	20	41	C	42	20	–	SPARE
RO SYSTEM BOOSTER PUMP	–	15	43	A	44	15	–	SPARE
			45	B	46	15	–	SPARE
–	–	–	47	C	48	15	–	SPARE
–	–	–	49	A	50	15	–	SPARE
–	–	–	51	B	52	20	–	SPARE
–	–	–	53	C	54	20	–	SPARE
–	–	–	55	A	56	–	–	–
–	–	–	57	B	58	–	–	–
–	–	–	59	C	60	–	–	–
–	–	–	61	A	62	–	–	–
–	–	–	63	B	64	–	–	–
–	–	–	65	C	66	–	–	–

NOTES: –
–

PANEL RP-M

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☐
PHASE:	3	CONN. LOAD (KW):	–	SURFACE	☒
WIRES:	4	DEMAND LOAD (A):	–	SPRINKLERPROOF	☒
MAINS (A):	225	LOCATION:	MAIN ELECTRICAL ROOM	FED THRU LUGS	☐
I.C. (K.A):	35			MAIN BREAKER	☐

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
CORRIDOR LIGHTING	–	20	1	A	2	*20	–	EXIT SIGNS
CORRIDOR LIGHTING	–	20	3	B	4	*20	–	EMERGENCY BATTERY UNIT
GENERAL RECEPTACLES	–	15	5	C	6	*15	–	MAGNETIC DOOR HOLDERS
GENERAL RECEPTACLES	–	15	7	A	8	15	–	RECEPTACLES
LIGHTING	–	20	9	B	10	15	–	RECEPTACLES
LIGHTING	–	20	11	C	12	15	–	RECEPTACLES
FUTURE IT CABINET	–	20	13	A	14	20	–	AC RECEPTACLE
FUTURE IT CABINET	–	20	15	B	16	15	–	FRIDGE
GENERAL RECEPTACLES	–	15	17	C	18	15	–	SPLIT RECEPTACLE
GENERAL RECEPTACLES	–	15	19	A	20	2P		
LIGHTING	–	20	21	B	22	40	–	STOVE 2-#8+GND IN 3/4"C
VENDING MACHINE	–	15	23	C	24	2P		
OVERHEAD DOOR	–	20	25	A	26	20	–	LIGHTING IN ATTIC
SPARE	–	20	27	B	28	15	–	AUTO DOOR
UNIVERSAL WASHROOM RECEPTACLE	–	20	29	C	30	15	–	GENERAL RECEPTACLES
AUTO DOOR	–	15	31	A	32	20	–	AC RECEPTACLE
MAGNETIC DOOR HOLDERS	–	*15	33	B	34	15	–	RECEPTACLES
HYDRO METER	–	15	35	C	36	*15	–	SECURITY SYSTEM
–	–	–	37	A	38	*15	–	SECURITY SYSTEM
–	–	–	39	B	40	*20	–	FIRE ALARM PANELS
–	–	–	41	C	42	20	–	TEL. AND TV RECEPTACLES
–	–	–	43	A	44	15	–	SPARE
–	–	–	45	B	46	15	–	SPARE
–	–	–	47	C	48	15	–	SPARE
–	–	–	49	A	50	15	–	SPARE
–	–	–	51	B	52	20	–	SPARE
–	–	–	53	C	54	20	–	SPARE
–	–	–	55	A	56	–	–	–
–	–	–	57	B	58	–	–	–
–	–	–	59	C	60	–	–	–
–	–	–	61	A	62	–	–	–
–	–	–	63	B	64	–	–	–
–	–	–	65	C	66	–	–	–

NOTES: *LOCK ON
–

PANEL RP-A

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☐
PHASE:	3	CONN. LOAD (KW):	–	SURFACE	☒
WIRES:	4	DEMAND LOAD (A):	–	SPRINKLERPROOF	☒
MAINS (A):	225	LOCATION:	–	FED THRU LUGS	☐
I.C. (K.A):	35			MAIN BREAKER	☐

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
UNIT 101 2-#3+GND IN 1.25"C	15	100	1	A	2	100	15	UNIT 201 2-#3+GND IN 1.25"C
		2P	3	B	4	2P		
UNIT 102 2-#3+GND IN 1.25"C	15	100	5	C	6	100	15	UNIT 202 2-#3+GND IN 1.25"C
		2P	7	A	8	2P		
UNIT 110 2-#3+GND IN 1.25"C	15	100	9	B	10	100	15	UNIT 203 2-#3+GND IN 1.25"C
		2P	11	C	12	2P		
UNIT 111 2-#3+GND IN 1.25"C	15	100	13	A	14	100	15	UNIT 204 2-#3+GND IN 1.25"C
		2P	15	B	16	2P		
UNIT 112 2-#3+GND IN 1.25"C	15	100	17	C	18	100	15	UNIT 205 2-#3+GND IN 1.25"C
		2P	19	A	20	2P		
UNIT 216 2-#3+GND IN 1.25"C	15	100	21	B	22	100	15	UNIT 213 2-#3+GND IN 1.25"C
		2P	23	C	24	2P		
SPARE	–	100	25	A	26	100	15	UNIT 214 2-#3+GND IN 1.25"C
		2P	27	B	28	2P		
SPARE	–	100	29	C	30	100	15	UNIT 215 2-#3+GND IN 1.25"C
		2P	31	A	32	2P		
–	–	–	33	B	34	–	–	–
–	–	–	35	C	36	–	–	–
–	–	–	37	A	38	–	–	–
–	–	–	39	B	40	–	–	–
–	–	–	41	C	42	–	–	–

NOTES: –
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PANEL S.D.P1

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☐
PHASE:	3	CONN. LOAD (KW):	210	SURFACE	☒
WIRES:	4	DEMAND LOAD (A):	334	SPRINKLERPROOF	☒
MAINS (A):	400	LOCATION:	MAIN ELECTRICAL ROOM	FED THRU LUGS	☐
I.C. (K.A):	35			MAIN BREAKER	☐

DESCRIPTION	LOAD (KW)	BRKR	CCT No	PH	CCT No	BRKR	LOAD (KW)	DESCRIPTION
UNIT 103 2-#3+GND IN 1.25"C	15	100	1	A	2	100	15	UNIT 206 2-#3+GND IN 1.25"C
		2P	3	B	4	2P		
UNIT 104 2-#3+GND IN 1.25"C	15	100	5	C	6	100	15	UNIT 207 2-#3+GND IN 1.25"C
		2P	7	A	8	2P		
UNIT 105 2-#3+GND IN 1.25"C	15	100	9	B	10	100	15	UNIT 208 2-#3+GND IN 1.25"C
		2P	11	C	12	2P		
UNIT 106 2-#3+GND IN 1.25"C	15	100	13	A	14	100	15	UNIT 209 2-#3+GND IN 1.25"C
		2P	15	B	16	2P		
UNIT 107 2-#3+GND IN 1.25"C	15	100	17	C	18	100	15	UNIT 210 2-#3+GND IN 1.25"C
		2P	19	A	20	2P		
UNIT 108 2-#3+GND IN 1.25"C	15	100	21	B	22	100	15	UNIT 211 2-#3+GND IN 1.25"C
		2P	23	C	24	2P		
UNIT 109 2-#3+GND IN 1.25"C	15	100	25	A	26	100	15	UNIT 212 2-#3+GND IN 1.25"C
		2P	27	B	28	2P		
SPARE	–	100	29	C	30	–	–	–
		2P	31	A	32	–	–	–
SPARE	–	100	33	B	34	–	–	–
		2P	35	C	36	–	–	–
–	–	–	37	A	38	–	–	–
–	–	–	39	B	40	–	–	–
–	–	–	41	C	42	–	–	–

NOTES: –
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PANEL S.D.P2

VOLTS (V):	120/208V	TYPE:	–	RECESSED	☒
PHASE:	3	CONN. LOAD (KW):	210	SURFACE	☐
WIRES:	4	DEMAND LOAD (A):	334	SPRINKLERPROOF	☒
MAINS (A):	400	LOCATION:	MAIN CORRIDOR	FED THRU LUGS	☐
I.C. (K.A):	35			MAIN BREAKER	☒ 400A,3P

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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Rev	Date	By	Description
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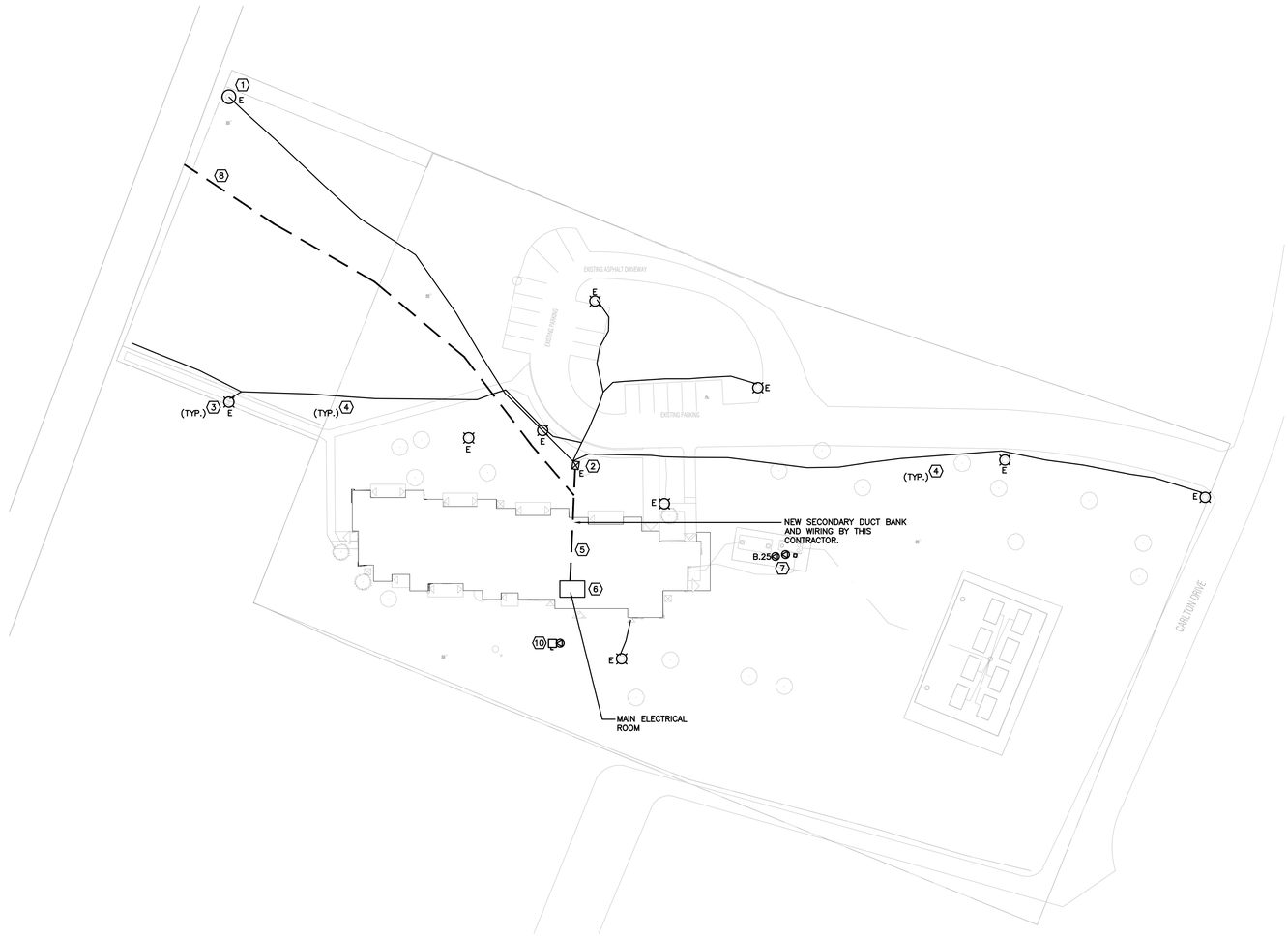
Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: SINGLE LINE DIAGRAMS AND PANEL SCHEDULES
SCALE: AS SHOWN

SHEET NUMBER: E104



KEY NOTES:

1. EXISTING HYDRO POLE, REFER TO CIVIL DRAWING C-103.
2. EXISTING PAD MOUNTED TRANSFORMER.
3. ALL EXISTING SITE LIGHTING TO REMAIN, ALLOW TO CLEAN, RE-LAMP AND REPLACE ALL EXISTING BROKEN FIXTURES WITH NEW, ALLOW TO RECONNECT EXISTING LIGHT POLES TO NEW DISTRIBUTION INSIDE THE MAIN ELECTRICAL ROOM, PROVIDE TWO (2) – NEW CIRCUITS TO MATCH EXISTING. PROVIDE ALL REQUIRED WIRING AND CONDUITS AS REQUIRED. ALLOW FOR TWO (2) – 208V,1PH CIRCUITS C/W 20A,2P BREAKERS, 2#8AWG+GND-1"C FROM ELECTRICAL PANEL B UNLESS OTHERWISE CONFIRMED ON SITE.
4. ALLOW TO LOCATE ALL EXISTING UNDERGROUND FEEDERS SERVING EXTERIOR LIGHT POLES AND EXTEND THEM TO THE NEW ELECTRICAL DISTRIBUTION EQUIPMENT. INVESTIGATE ALL EXISTING WIRING AND CONDUITS TO CONFIRM SUITABILITY FOR REUSE. WHERE EXISTING WIRING AND/OR CONDUITS ARE FOUND TO BE DAMAGED OR UNSUITABLE FOR REUSE, PROVIDE NEW WIRING AND CONDUITS AS REQUIRED TO MAINTAIN COMPLETE OPERATION OF THE EXTERIOR LIGHTING SYSTEM.
5. EXISTING SECONDARY DUCT BANK C/W ALL ITS ASSOCIATED WIRING AND CONDUITS SHALL BE REMOVED. PROVIDE A NEW SECONDARY UNDERGROUND DUCT BANK, FROM EXISTING PAD MOUNTED TRANSFORMER TO NEW DISTRIBUTION INSIDE THE MAIN ELECTRICAL ROOM, COORDINATE FINAL ROUTING OF NEW SECONDARY DUCT BANK ON SITE. REFER TO DISTRIBUTION DIAGRAM FOR DETAILS. REFER TO 5/E105.
6. APPROXIMATE LOCATION OF MAIN ELECTRICAL ROOM.
7. CONTRACTOR TO PROVIDE A 120V POWER CONNECTION AND A 208V,3PH POWER CONNECTION TO EXISTING SEWAGE SYSTEM LOCATED OUTSIDE THE BUILDING. PROVIDE ALL REQUIRED WIRING AND CONDUITS TO SUIT. POWER CONNECTIONS SHALL BE COORDINATED WITH MANUFACTURE PRIOR TO ANY WORK. COORDINATE EXACT LOCATION ON SITE. REFER TO SINGLE LINE DIAGRAM FOR 208V,3PH POWER CONNECTION.
8. PROVIDE TWO (2) – 4" DIRECT BURIED PVCs FROM ELECTRICAL ROOM TO TELEPHONE AND DATA DEMARCATION POINTS. CONTRACTOR TO CONFIRM THE EXACT LOCATION OF DEMARCATION POINTS AND FINAL ROUTING OF PVCs ON SITE, PRIOR TO ANY WORK. REFER TO 5/E105 AND 6/E105.
9. ALLOW TO LOCATED ALL EXISTING EXTERIOR SITE RECEPTACLES AND RE-CONNECT TO NEW ELECTRICAL PANEL B, ALLOW FOR EIGHT (8) – NEW CIRCUITS TO TO FEEL ALL EXISTING RECEPTACLES. PROVIDE ALL REQUIRED WIRING AND CONDUITS AS REQUIRED. A.1,3,5,7,9,11,13,15
10. POWER CONNECTION FOR WELL WATER PUMP, PROVIDE ALL REQUIRED LINE VOLTAGE WIRING FOR THE PUMP STARTER, EXACT LOCATION SHALL BE CONFIRMED WITH MECHANICAL DRAWING, REFER TO DISTRIBUTION DIAGRAM FOR DETAILS.

NOTES RE: EXISTING PAD MOUNTED TRANSFORMER

A. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH THE LOCAL UTILITY FOR WORK ASSOCIATED WITH THE SECONDARY SIDE OF THE TRANSFORMER.

B. ALLOW FOR TWO (2) SITE MEETINGS WITH THE UTILITY REPRESENTATIVE.

C. ALLOW FOR PREPARATION AND SUBMISSION OF ALL REQUIRED DOCUMENTATION TO THE UTILITY.

1 / E105 ELECTRICAL SITE PLAN
SCALE: 1:500

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	FRB	ISSUED FOR REVIEW
2	2026-03-02	FRB	ISSUED FOR 90% REVIEW
3	2026-03-20	FRB	ISSUED FOR PERMIT
4	2026-04-17	FRB	PRE TENDER REVIEW
5	2026-05-13	FRB	ISSUED FOR TENDER

Rev	Date	By	Description
1	2026-05-28	FRB	ISSUED FOR EAD-01

Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: ELECTRICAL SITE PLAN

SCALE: AS SHOWN

SHEET NUMBER: E105

FIRE ALARM SYSTEM SPECIFICATIONS

1. FIRE ALARM SPECIFICATION

1.1.1 THE FIRE ALARM SYSTEM SHALL BE ZONED, FULLY SUPERVISED, ADDRESSABLE, SINGLE STAGE AND SHALL INCLUDE, HOWEVER NOT BE LIMITED TO:

-- CONTROL PANEL TO CARRY OUT FIRE ALARM AND PROTECTION FUNCTIONS INCLUDING RECEIVING ALARM SIGNALS, SIGNALING A GENERAL ALARM, SUPERVISING SYSTEM CONTINUOUSLY, ACTUATING ZONE ANNUNCIATORS, AND INDICATING TROUBLE SIGNALS.
-- TROUBLE SIGNAL DEVICES.
-- POWER SUPPLY FACILITIES.
-- MANUAL ALARM STATIONS.
-- AUTOMATIC ALARM INITIATING DEVICES.
-- AUDIBLE SIGNAL APPLIANCES.
-- VISUAL SIGNAL DEVICES.
-- END-OF-LINE DEVICES.
-- LOCAL ANNUNCIATOR.
-- ANCILLARY DEVICES.

1.1.2 OPERATION OF ANY ALARM INITIATING DEVICE TO:

-- CAUSE SIGNAL DEVICES TO OPERATE THROUGHOUT THE BUILDING
-- TRANSMIT SIGNAL TO REMOTE MONITORING AGENCY
-- DISPLAY ZONE OF ALARM DEVICE ON CONTROL PANEL ANNUNCIATOR AS A STEADY RED INDICATOR

1.1.3 OPERATION OF ANY SUPERVISORY INITIATING DEVICE TO:

-- CAUSE INTERNAL SIGNAL TO SOUND AT THE CONTROL/ANNUNCIATOR PANEL.

1.1.4 FIRE ALARM SYSTEM SHALL BE MICROM OR EQUAL TO SIMPLEX, EDWARDS, OR NOTIFIER, ETC.

1.2 REQUIREMENTS OF REGULATORY AGENCIES:

1.2.1 SYSTEM:

-- TO THE NATIONAL BUILDING CODE, LATEST EDITION.
-- TO THE ONTARIO BUILDING CODE, LATEST EDITION.
-- TO CAN/ULC-S524 LATEST EDITION STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS, LATEST EDITION.
-- TO CAN/ULC-S527 LATEST EDITION STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS, LATEST EDITION.
-- TO CAN/ULC-S561 LATEST EDITION STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS, LATEST EDITION.
-- AND ANY ADDITIONAL ULC CODE REQUIREMENTS FOR THE ENTIRE SYSTEM FULL CODE COMPLIANCE.
-- SUBJECT TO THE LOCAL AUTHORITY HAVING JURISDICTION.

1.3 SHOP DRAWINGS:

1.3.1 SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL SPECIFICATIONS.

1.3.2 SHOP DRAWINGS SHALL INCLUDE COMPLETE SYSTEM, INCLUDING LAYOUT OF EQUIPMENT, ZONING, WIRING DIAGRAM, BATTERY CAPACITY CALCULATION, VOLTAGE DROP, AND PROPOSED SEQUENCE OF OPERATION.

1.4 OPERATION AND MAINTENANCE DATA:

1.4.1 PROVIDE DATA FOR INCORPORATION INTO MAINTENANCE MANUAL.

1.4.2 OPERATION AND MAINTENANCE MANUAL TO INCLUDE: INSTRUCTIONS FOR COMPLETE FIRE ALARM SYSTEM TO PERMIT EFFECTIVE INSTALLATION, CONFIGURATION, OPERATION, AND MAINTENANCE.

1.5 MAINTENANCE MATERIALS:

1.5.1 PROVIDE MAINTENANCE MATERIALS INCLUDING FIVE (5) – SPARE BREAKGLASS RODS FOR MANUAL PULL BOX STATIONS.

1.6 FIRE ALARM PASSIVE GRAPHIC:

1.6.1 PROVIDE LEGIBLE FRAMED FIRE ALARM PASSIVE GRAPHIC SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. PROVIDE LOCKABLE STAINLESS STEEL FRAME COMPLETE WITH A GLASS INSERT.

2. PRODUCTS

2.1 MATERIALS:

2.1.1 POWER SUPPLY: TO CAN/ULC-S527 LATEST EDITION.
2.1.2 AUDIBLE SIGNAL DEVICES: TO ULC-S525 LATEST EDITION.
2.1.3 VISUAL SIGNAL DEVICES: TO CAN/ULC-S526 LATEST EDITION.
2.1.4 CONTROL UNIT: TO CAN/ULC-S527 LATEST EDITION.
2.1.5 MANUAL FIRE ALARM STATIONS: TO CAN/ULC-S528 LATEST EDITION.
2.1.6 HEAT DETECTORS: TO CAN/ULC-S530 LATEST EDITION.
2.1.7 SMOKE DETECTORS: TO CAN/ULC-S529 LATEST EDITION.
2.1.8 AND ANY OTHER RELEVANT ULC GUIDELINES FOR F/A SYSTEM DEVICES.

2.2 CONTROL PANEL:

2.2.1 CLASS A AND SUPPORTIVE OF CLASS B WIRING.
2.2.2 SINGLE STAGE OPERATION.
2.2.3 ZONED, NON-CODED.
2.2.4 ENCLOSURE: CSA ENCLOSURE, TYPE 2

2.2.5 SUPERVISED, MODULAR DESIGN WITH EXPANSION MODULES TO SERVE NUMBER OF ZONES AS PER FIRE ALARM SCHEDULE, 50% SPARE ZONES OF INITIATING DEVICE CIRCUITS, INDICATING APPLIANCE CIRCUITS AND AUXILIARY RELAY CIRCUITS.

2.2.6 PROVIDE REMOTE SERIES LED RECESSED ANNUNCIATOR. THE ANNUNCIATOR SHALL INCLUDE CONTROL SWITCHES TO ALLOW FOR SYSTEM CONTROL AND LCD DISPLAY FOR USER FRIENDLY SPECIFIC DEVICE IDENTIFICATION.

2.2.7 BATTERY CABINET INTEGRATED AS PART OF THE FIRE ALARM SYSTEM. BATTERY CAPACITY FOR SUPPORTING F/A SYSTEM 24 HOURS IN STANDBY MODE AND 2 HOURS IN ALERT MODE.

2.2.8 COMPLETE WITH ALL REQUIRED MONITORING AND OUTPUT RELAYS, INCLUDING FOUR SPARE FORM "C" RELAYS, FOUR SPARE "NO" RELAYS AND FOUR SPARE "NC" RELAYS.

2.3 MANUAL ALARM STATIONS:

2.3.1 MANUAL ALARM STATIONS: PULL LEVER, BREAK GLASS, ALL MOUNTED SEMI-FLUSH TYPE, NON-CODED, SINGLE POLE NORMALLY OPEN CONTACT FOR SINGLE STAGE.

2.4 AUTOMATIC ALARM INITIATING DEVICES:

2.4.1 SMOKE DETECTOR: DUAL CHAMBER IONIZATION TYPE WITH PROVISION TO CHECK DETECTOR SENSITIVITY WHEN DETECTOR IS INSTALLED AND OPERATING.

-- FACTORY SET THE DETECTOR SENSITIVITY AND PROVIDE FOR FIELD ADJUSTMENT WITHIN RANGE OF ULC DEFINED SENSITIVITY.
-- AREA TYPE WITH ALARM LED.
-- INITIATING DEVICES SHALL BE SUITABLE FOR THE ENVIRONMENT.

2.4.2 INTELLIGENT THERMAL SENSOR (HEAT DETECTOR): RISE OF HEAT 15°C PER MINUTE AND 95°C FIXED TEMPERATURE HEAT DETECTORS.

2.4.3 DUCT SMOKE DETECTORS SHALL BE INSTALLED IN A 1500MM STRAIGHT SECTION ON THE SUPPLY SIDE OF THE HVAC DUCT SYSTEM. INCLUDE TO PROVIDE ADDITIONAL DUCT SMOKE DETECTORS TO BE INSTALLED IN EACH SUPPLY DUCT BRANCH, IF MAIN DUCT SUPPLY SECTION DOES NOT ALLOW FOR ULC APPLICABLE INSTALLATION.

-- DUCT SMOKE DETECTORS INSTALLED IN VOID CEILING PLENUM SHALL HAVE REMOVE LED SIGNAL LIGHT.
-- EXTERIOR MOUNTED DUCT SMOKE DETECTORS SHALL BE EQUIPPED WITH HEATER AND REMOTE LED SIGNAL LIGHT.

2.5 SIGNAL DEVICES:

2.5.1 AUDIBLE:

-- HORN: FLUSH MOUNTED IN SINGLE GANG BOX OR SURFACE MOUNTED AS SHOWN IN THE DRAWINGS. ALTERNATE STROBE OUTPUT CIRCUIT SUCH THAT TWO ADJACENT DEVICES SHALL BE CONNECTED TO TWO DIFFERENT OUTPUT CIRCUITS; A & B. NOTE: MINIMUM TWO HORN CIRCUITS REQUIRED.

2.5.2 VISUAL:

-- STROBES: INSTALLED THE WAY THAT THE ENTIRE LENS IS NOT LESS THAN 2000mm (6'-7") AND NOT MORE THAN 2400mm (8'-0") AFF, ADJUSTED FOR STROBE CANDELA OUTPUT AS PER ULC-524, DEPENDING ON CEILING HEIGHT. DEVICES MOUNTED AS SHOWN ON THE DRAWINGS.

-- SIGNAL DEVICE CIRCUITS SHALL HAVE THEIR RESPECTIVE AMP LOAD CAPPED AT 65% OF CIRCUIT MAXIMUM LOADING.

2.6 END-OF-LINE (EOL) DEVICES:

2.6.1 END-OF-LINE DEVICES FOR ALL SUPERVISED CIRCUITS. INSTALL DEVICES IN UTILITY ROOMS, NO E.O.L DEVICES SHALL BE ALLOWED IN TENANT SPACE.

3. EXECUTION

3.1 INSTALLATION

3.1.1 INSTALL SYSTEM IN ACCORDANCE WITH CAN/ULC-S524 LATEST EDITION.

3.1.2 ALL SURFACE MOUNTED FIRE ALARM DEVICES SHALL BE INSTALLED IN RED SURFACE FIRE ALARM DEDICATED BOXES. GALVANIZED UTILITY BOXES MAY BE USED IF RECESSED INSIDE WALL.

3.1.3 ALL FIRE ALARM CONDUITS IN AREA ACCESSIBLE TO PUBLIC SHALL BE RECESSED INSIDE WALL. ALL CEILING INSTALLED CONDUITS IN PUBLIC AREA SHALL BE PAINTED TO MATCH CEILING COLOR.

3.1.4 INSTALL MAIN CONTROL PANEL AS INDICATED AND CONNECT TO AC POWER SUPPLY, AND PROVIDE DC STANDBY POWER.

3.1.5 LOCATE AND INSTALL MANUAL ALARM STATIONS AS INDICATED, AND CONNECT TO ALARM CIRCUIT WIRING.

3.1.6 LOCATE FIRE DETECTORS AS INDICATED AND CONNECT TO ALARM CIRCUIT WIRING.

3.1.7 CONNECT WATER FLOW ALARM SWITCHES TO ALARM CIRCUITS.

3.1.8 CONNECT SPRINKLER SUPERVISORY DEVICES TO SUPERVISORY CIRCUITS.

3.1.9 CONNECT ALARM CIRCUITS TO MAIN CONTROL PANEL.

3.1.10 LOCATE AND INSTALL AUDIBLE DEVICES AS INDICATED AND CONNECT TO SIGNALING CIRCUITS.

3.1.11 CONNECT SIGNALING CIRCUITS TO MAIN CONTROL PANEL.

3.1.12 INSTALL END-OF-LINE DEVICES AT END OF ALARM AND SIGNALING CIRCUITS AS INDICATED.

3.1.13 INSTALL REMOTE ANNUNCIATOR PANEL AS INDICATED AND CONNECT TO ANNUNCIATOR CIRCUIT WIRING.

3.1.14 LOCATE AND INSTALL DOOR RELEASING DEVICES AS INDICATED. PROVIDE SEPARATE BY-PASS KEY FOR SECURITY SYSTEM RELEASE.

3.1.15 LOCATE AND INSTALL REMOTE RELAY UNITS TO CONTROL FAN SHUT DOWN AS INDICATED.

3.1.16 LOCATE AND INSTALL REMOTE RELAY UNITS TO CONTROL KITCHEN HOOD SHUT DOWN AS INDICATED.

3.1.17 LOCATE AND INSTALL REMOTE RELAY UNITS TO CONTROL AUDIO MUSIC SYSTEM SHUT DOWN AS REQUIRED.

3.1.18 PROVIDE A 19MM (3/4") CONDUIT COMPLETE WITH CAT5E CABLING FROM THE MONITORING PANEL LOCATION TO THE MAIN TELEPHONE BACKBOARD FOR MONITORING OF THE FIRE ALARM SYSTEM.

3.1.19 PROVIDE EMPTY CONDUIT TO INTERFACE MONITORING PANEL WITH FIRE ALARM PANEL, INCLUDE FOR FAS WIRING TO INTERFACE THE TWO AS REQUIRED.

3.1.20 PROVIDE DEDICATED 120 VOLT CIRCUITS FOR INSTALLATION OF:

-- FIRE ALARM PANEL
-- ANNUNCIATOR PANEL
-- MONITORING PANEL
-- ANY AUXILIARY CIRCUITS REQUIRING 120V
-- HEATER FOR DUCT SMOKE DETECTOR AND FIRE ALARM ANNUNCIATOR.
-- INCLUDE FOR SEPARATE CIRCUIT BREAKERS IF NOT IDENTIFIED ON PANEL SCHEDULE, EACH CIRCUIT BREAKER SHALL BE PAINTED RED AND C/W LOCK.

3.2 TESTS:

3.2.1 PERFORM TESTS IN ACCORDANCE WITH CAN/ULC-S537 STANDARD LATEST EDITION FOR THE VERIFICATION OF FIRE ALARM SYSTEMS.

3.2.2 FIRE ALARM SYSTEM:

-- TEST EACH DEVICE AND ALARM CIRCUIT TO ENSURE MANUAL STATION, DETECTORS, SPRINKLER SYSTEM, TRANSMIT ALARM TO CONTROL PANEL AND ACTUATE FIRST STAGE ALARM, GENERAL ALARM AND ANCILLARY DEVICES.

-- CHECK ANNUNCIATOR PANELS TO ENSURE ZONES ARE SHOWN CORRECTLY.

3.2.3 SIMULATE GROUNDS AND BREAKS ON ALARM AND SIGNALING CIRCUITS TO ENSURE PROPER OPERATION OF TROUBLE SIGNALS.

3.2.4 PRIOR TO ENERGIZING OR COMMISSIONING THE SYSTEM, IT SHALL BE FULLY INSPECTED, TESTED, CHECKED AND ADJUSTED TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

-- THAT THE TYPE OF EQUIPMENT INSTALLED IS THAT DESIGNATED BY THE SPECIFICATION.
-- THAT THE EQUIPMENT HAS BEEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THAT ALL DEVICES HAVE BEEN OPERATED AND TESTED TO VERIFY THEIR OPERATION AND THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATION.
-- THAT THE SUPERVISORY WIRING OF THOSE ITEMS OF EQUIPMENT CONNECTED TO A SUPERVISORY CIRCUIT IS OPERATED AS SPECIFIED.
-- THAT GOVERNMENTAL REGULATIONS WILL BE MET TO THE SATISFACTION OF THE INSPECTION OFFICE. THE INSPECTION, TESTING, COMMISSIONING AND CERTIFICATION REPORT SHALL BE SUBMITTED FOR REVIEW BY THE CONSULTANT.

3.2.5 THE INSPECTION, TESTING AND COMMISSIONING SHALL BE DONE BY AN INDEPENDENT COMPANY SPECIALIZING IN THIS TYPE OF WORK AND WHICH SHALL BE APPROVED BY THE CONSULTANT.

3.2.6 WHEN THE FIRE ALARM SYSTEM HAS BEEN COMMISSIONED AND CERTIFIED, IT SHALL BE FULLY DEMONSTRATED BY THIS DIVISION TO THE AUTHORITIES HAVING JURISDICTION.

3.2.7 A COPY OF THE INSPECTION, TESTING AND COMMISSIONING CERTIFICATE SHALL BE INCLUDED IN THE MAINTENANCE MANUALS.

3.2.8 INDEPENDENT VERIFICATION (FOR ALBERTA AND BRITISH COLUMBIA): IN ADDITION TO THE VERIFICATION CONDUCTED BY THE MANUFACTURER CONTRACTOR TO ALSO ENGAGE THE SERVICE OF AN INDEPENDENT AGENCY TO RE-VERIFY THE FIRE ALARM SYSTEM. THE REPORT SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER AND BE ACCEPTABLE TO THE LOCAL AUTHORITY. ARRANGE & PAY FOR ALL COSTS.

3.3 MAINTENANCE MATERIALS:

3.3.1 PROVIDE LEGIBLE FRAMED FIRE ALARM PASSIVE GRAPHIC SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. PROVIDE LOCABLE STAINLESS STEEL FRAME COMPLETE WITH GLASS INSERT.

3.4 CLOSEOUT

3.4.1 PROVIDE LETTER CONFIRMING INSTALLATION COMPLETED IN ACCORDANCE TO CODE.

3.4.2 PROVIDE CERTIFICATE OF FIRE ALARM VERIFICATION.

3.4.3 PROVIDE CLOSEOUT LETTER FROM A REGISTERED P.ENG CERTIFYING THAT THE FIRE ALARM SYSTEM HAS BEEN INSTALLED ACCORDING WITH CAN/ULC-S524-06 AND HAS BEEN VERIFIED IN ACCORDANCE WITH CAN/ULC-S537-04 AS REQUIRED TO CLOSE FIRE ALARM PERMIT WITH AUTHORITIES HAVING JURISDICTION.

GENERAL NOTES:

A. PROVIDE A NEW FIRE ALARM SYSTEM C/W NEW DEVICES AND CONNECTIONS TO REPLACE EXISTING. REFER TO FIRE ALARM SYSTEM SPECIFICATIONS FOR DETAILS.

B. THE NEW FIRE ALARM SYSTEM SHALL BE INSTALLED AND VERIFIED ACCORDING TO THE LATEST EDITIONS OF CAN/ULC-S524, -S537 AND LOCAL CODE HAVING JURISDICTION.

C. PROVIDE FIRE ALARM VERIFICATION REPORT TO CLIENT REPRESENTATIVE AND ENGINEER ONE (1) WEEK PRIOR TO SCHEDULED OCCUPANCY.

D. CONTRACTOR TO MEASURE THE DECIBEL LEVEL (dBA) OF THE FIRE ALARM SYSTEM AUDIBLE DEVICES ON THE FLOOR PRIOR TO FINAL INSPECTION BY THE AUTHORITIES HAVING JURISDICTION. PLOT ALL DECIBEL READINGS IN CAD FORMAT FOR REVIEW BY CONSULTANT. SUBMIT RESULTS TO THE AUTHORITIES HAVING JURISDICTION IF REQUIRED.

E. PROVIDE ALL REQUIRED FIRE ALARM MODULES, POWER SUPPLY, BATTERY PACKS, BOOSTERS, ETC. TO PROVIDE STROBE SIGNAL CAPABILITY TO SATISFY VISUAL SIGNAL REQUIREMENTS.

F. PROVIDE ALL REQUIRED FIRE ALARM MODULES, POWER SUPPLY, BATTERY PACKS, BOOSTERS, ETC. TO PROVIDE THE REQUIRED CIRCUIT CAPACITY FOR NEW FIRE ALARM DEVICES AS REQUIRED. CONTRACTOR SHALL REVIEW SITE CONDITIONS PRIOR TO BID.

G. PROVIDE ALL REQUIRED FIRE ALARM CONNECTIONS TO MONITOR SPRINKLER SYSTEM. CONFIRM LOCATION OF DEVICES AND NUMBER OF REQUIRED FIRE ALARM SUPERVISORY CONNECTIONS ON SPRINKLER DRAWINGS. PROVIDE ALL REQUIRED CONNECTIONS, WIRING AND CONDUITS TO SUIT.

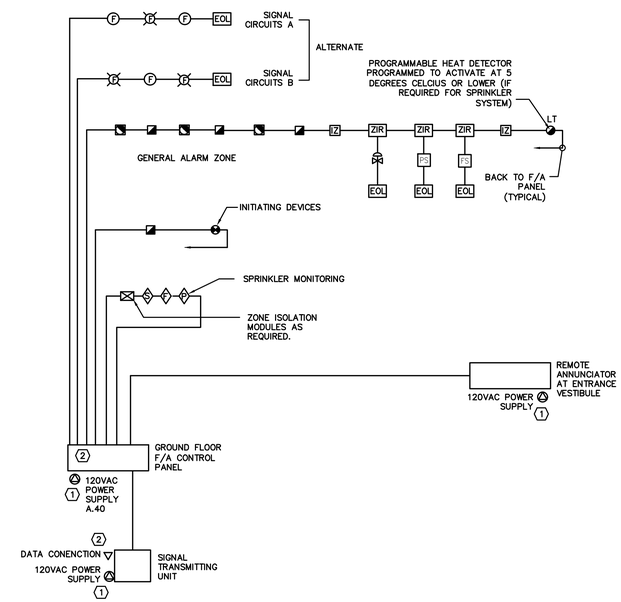
H. FIRE ALARM RISER DIAGRAM SHOWN IS A GENERIC RISER DIAGRAM AND SHALL BE USED FOR COORDINATION PURPOSES ONLY. CONTRACTOR TO PROVIDE A SITE SPECIFIC RISER DIAGRAM AS PART OF SHOP DRAWINGS STAGE.

I. REFER TO DRAWINGS FOR QUANTITY AND LOCATION OF ALL NEW FIRE ALARM DEVICES.

J. FIRE ALARM SEQUENCE OF OPERATIONS SHOWN IS A GENERIC SEQUENCE AND IS PROVIDED FOR COORDINATION PURPOSES ONLY. THE FIRE ALARM CONTRACTOR SHALL DEVELOP AND SUBMIT A DETAILED, SITE-SPECIFIC SEQUENCE OF OPERATIONS AS PART OF THE SHOP DRAWINGS SUBMISSION.

K. A COMPLETE CAN/ULC-S1001 INTEGRATED FIRE PROTECTION AND LIFE SAFETY SYSTEM TEST PLAN SHALL BE PREPARED BY THE FIRE ALARM CONTRACTOR AND SUBMITTED TO THE VFRS INSPECTOR FOR REVIEW AND ACCEPTANCE PRIOR TO FINAL VERIFICATION AND OCCUPANCY.

I. ALL FIRE ALARM PULL STATIONS IN PUBLIC AREAS SHALL BE C/W TAMPER COVERS.



GENERAL NOTES RE: NEW FIRE ALARM SYSTEM

1. ALL WIRING FOR FIRE ALARM SYSTEM SHALL BE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. MINIMUM SIZE OF CONDUIT SHALL BE 3/4"EMT.

2. SIGNAL CIRCUIT SHALL BE SEPARATED IN MINIMUM TWO SEPARATE LOOPS A & B. ALTERNATE CONNECTION TO DEVICES IN SAME AREA.

3. EACH SOURCE OF POWER SUPPLY SHALL BE CAPABLE OF OPERATING THE ENTIRE SYSTEM INDEPENDENTLY UNDER ALARM CONDITIONS.

4. PROVIDE ISOLATOR MODULES AS REQUIRED.RELAY'S AND ISOLATORS NOT DEPICTED ON THE TYPICAL DIAGRAM.

KEY NOTES:

1. PROVIDE A NEW 120V POWER CONNECTION FROM NEAREST 120/208V ELECTRICAL PANEL TO FEED NEW FIRE ALARM PANELS AND THE SIGNAL TRANSMITTING UNIT. PROVIDE ALL REQUIRED WIRING, CONDUITS AND CIRCUIT BREAKER TO SUIT.

2. PROVIDE A DATA CONNECTION TO THE SIGNAL TRANSMITTING UNIT.

GENERAL NOTES RE: SPRINKLER RISER DIAGARM

1. DIAGRAM AND DEVICES SHOWN ARE FOR COORDINATION PURPOSES ONLY, CONTRACTOR TO COORDINATE ALL REQUIREMENTS WITH FINAL SPRINKLER SHOP DRAWINGS AND PROVIDE ALL REQUIRED FIRE ALARM CONNECTIONS TO MONITOR SPRINKLER SYSTEM. CONFIRM LOCATION OF DEVICES AND NUMBER OF REQUIRED FIRE ALARM SUPERVISORY CONNECTIONS WITH FINAL SPRINKLER DRAWINGS.

F/A ANNUNICATOR LED DISPLAY SECTION

FIRE ALARM ZONE	MANUAL PULL STATION	SMOKE DETECTOR	DUCT MOUNTED SMOKE DETECTOR	FLOW SWITCH LED	SUPERVISED VALVE LED		PRESSURE SWITCH LED		MISC.	DEVICES
GROUND FLOOR A	●	●			SV-3	O	FS-1	●	O	
GROUND FLOOR B	●	●			SV-3	O	FS-1	●	O	
SECOND FLOOR A	●	●			SV-3	O	FS-1	●	O	
SECOND FLOOR B	●	●			SV-3	O	FS-1	●	O	
STAIR A		●							O	
STAIR B		●							O	
MAIN VESTIBULE		●							O	
MAIN ELECTRICAL ROOM		●							O	
MECHANICAL ROOM		●							O	
AHU-1			●						O	
AHU-1									O	
MAIN INCOMING					SV-1	O				
MAIN INCOMING					SV-2	O				

LEGEND: ● = RED LED (ALARM)
O = AMBER LED (TROUBLE)
= NOT APPLICABLE

1 E106 FIRE ALARM SYSTEM RISER DIAGRAM AND NOTES
SCALE: N.T.S.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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SEAL

Revision Schedule

Rev	Date	By	Description
1	2026-02-16	FRB	ISSUED FOR REVIEW
2	2026-03-02	FRB	ISSUED FOR 90% REVIEW
3	2026-03-20	FRB	ISSUED FOR PERMIT
4	2026-04-17	FRB	PRE TENDER REVIEW
5	2026-05-13	FRB	ISSUED FOR TENDER

2	2026-05-28	FRB	ISSUED FOR EAD-01
1	2026-05-12	FRB	ISSUED FOR EPR-01
Rev	Date	By	Description

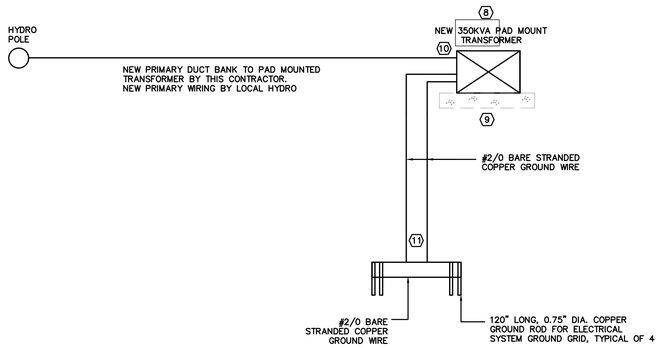
Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

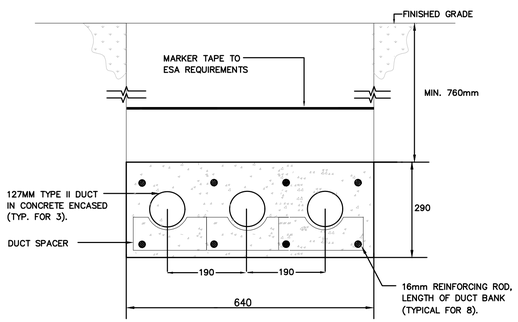
ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: FIRE ALARM RISER DIAGRAM AND SPECIFICATIONS
SCALE: AS SHOWN

SHEET NUMBER: E106

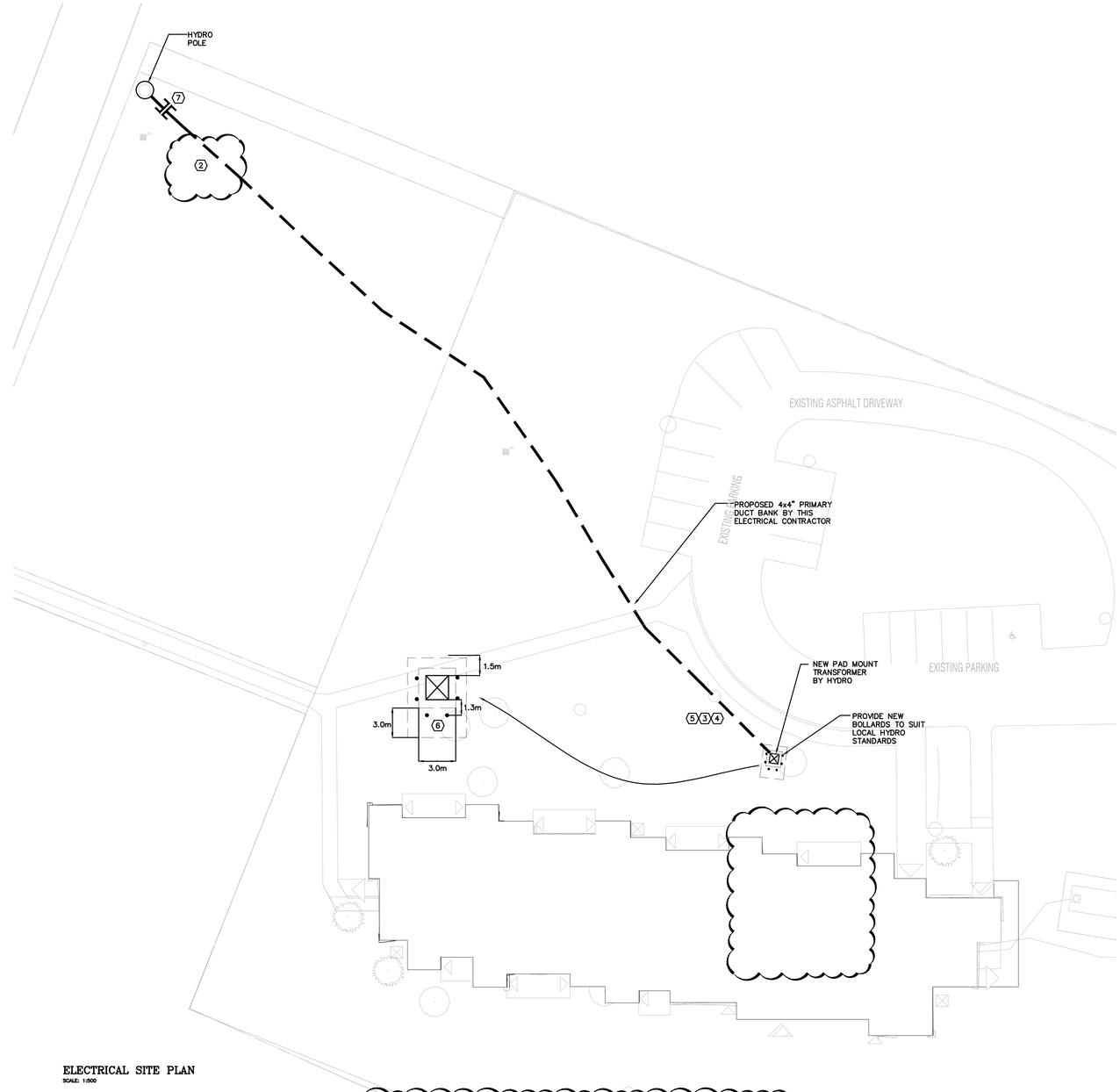


ELECTRICAL DISTRIBUTION DIAGRAM (PRIMARY SIDE)
SCALE: N.T.S.



12

PRIMARY DUCT BANK CONFIGURATION
SCALE: N.T.S.



ELECTRICAL SITE PLAN
SCALE: 1:500

KEY NOTES:

1. NOT USED.
2. ALLOW TO INVESTIGATE THE EXISTING PRIMARY DUCT BANK TO CONFIRM WHETHER IT IS IN SUITABLE CONDITION FOR REUSE. IF THE EXISTING DUCT BANK IS NOT SUITABLE FOR REUSE, PROVIDE A NEW PRIMARY DUCT BANK TO SUIT LOCAL HYDRO REQUIREMENTS. FINAL ROUTING SHALL BE COORDINATED WITH AND APPROVED BY LOCAL HYDRO PRIOR TO COMMENCING ANY WORK.
3. PROVIDE ALL TRENCHING, HYDROVAC, BACKFILLING AND COORDINATION WORK BY THIS CONTRACTOR.
4. CONTRACTOR SHALL CONDUCT LOCATES SURVEY OF PROPOSED UNDERGROUND RUN TO ENSURE NO CONFLICT WITH EXISTING UNDERGROUND SERVICES.
5. ALLOW FOR AND COORDINATE ALL WORK WITH LOCAL HYDRO.
6. CONTRACTOR TO COORDINATE TRANSFORMER CLEARANCES WITH LOCAL HYDRO'S LATEST DRAWINGS.
7. CONTRACTOR TO COORDINATE DEMARCATION OF WORK BETWEEN THIS CONTRACT AND LOCAL HYDRO'S CONTRACT.
8. NEW 350kVA PAD MOUNTED TRANSFORMER SUPPLIED AND INSTALLED BY HYDRO. THIS ELECTRICAL CONTRACTOR TO COORDINATE SCOPE OF WORK WITH HYDRO'S REPRESENTATIVE.
9. PROVIDE A NEW TRANSFORMER FOUNDATION FOR THE NEW PAD MOUNTED TRANSFORMER. NEW TRANSFORMER FOUNDATION TO SUIT LOCAL HYDRO'S STANDARDS.
10. PRIMARY WIRING TO NEW 350kVA PAD MOUNTED TRANSFORMER BY HYDRO, THIS ELECTRICAL CONTRACTOR TO COORDINATE SCOPE OF WORK WITH HYDRO'S REPRESENTATIVE.
11. PROVIDE NEW GROUNDING ACCORDING FOR NEW TRANSFORMER TO HYDRO'S REQUIREMENTS AND STANDARDS. REFER TO 1/E103 FOR DETAILS.
12. FINAL CONFIGURATION OF PRIMARY DUCT BANK SHALL BE CONFIRMED BY LOCAL HYDRO'S STANDARDS PRIOR TO ANY WORK.

GENERAL NOTES:

1. ALL UNDERGROUND WIRING IS TO BE RWU (UNLESS OTHERWISE NOTED) – NO ALTERNATES WILL BE ACCEPTABLE.
2. THIS ELECTRICAL CONTRACTOR TO PERFORM ALL REQUIRED VOLTAGE DROP CALCULATIONS AND INCREASE CONDUIT/WIRE SIZES AS NEEDED TO SUIT DISTANCE AND MAXIMUM BREAKER RATING.
3. THIS ELECTRICAL CONTRACTOR TO ALLOW FOR AN ON SITE MEETING WITH LOCAL HYDRO'S REPRESENTATIVE PRIOR TO COMMENCING ANY WORK TO REVIEW AND COORDINATE TEH SCOPE.
4. ALLOW FOR AND COORDINATE ALL WORK WITH HYDRO.

NOTES RE: IDENTIFIED PRICE #1

1. ALL WORK RELATED TO THE PRIMARY INCOMING ELECTRICAL SERVICE SHALL BE INCLUDED AS AN IDENTIFIED ITEM IN THIS CONTRACT.
   - 1.1. NEW PRIMARY DUCT BANK C/W ALL REQUIRED TRENCHING
   - 1.2. TRANSFORMER FOUNDATION
   - 1.3. TRANSFORMER GROUNDING
   - 1.4. HYDRO COORDINATION
2. ELECTRICAL CONTRACTOR TO ASSUME THAT A NEW PAD-MOUNTED TRANSFORMER IS REQUIRED FOR THE FACILITY.

1 / E205 IDENTIFIED PRICE #1
SCALE: N.T.S.

DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL CHEECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

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Revision Schedule

Rev	Date	By	Description
1	2026-02-16	FRB	ISSUED FOR REVIEW
2	2026-03-02	FRB	ISSUED FOR 90% REVIEW
3	2026-03-20	FRB	ISSUED FOR PERMIT
4	2026-04-17	FRB	PRE TENDER REVIEW
5	2026-05-13	FRB	ISSUED FOR TENDER

Rev	Date	By	Description
1	2026-05-28	FRB	ISSUED FOR EAD-01

Drawing Revision

PROJECT NAME: VERONA
PROJECT ADDRESS: 6094 Carleton Drive, Verona, ON

ISSUE DATE: MAY 2026
DRAWN BY: N.Y.
CHECKED BY: F.R.B.

SHEET TITLE: IDENTIFIED PRICE #1
SCALE: AS SHOWN

SHEET NUMBER: E200