

Servicing Brief

Proposed: Development
464 Wilbrod Street, Ottawa. ON

Prepared by:



Revision 3
Dated April 22, 2020

1. Project Description:

1.1. Purpose:

This report will address the servicing (water, sanitary, and storm) and storm water management requirements associated with the proposed development located at 464 Wilbrod Street within the City of Ottawa. This report is prepared with reference to other engineering reports prepared for this development.

1.2. Site Description:

The existing site located at 464 Wilbrod Street. The subject property measure a total area of approximately 0.13 ha. Under the City of Ottawa Zoning By-law, the existing land is designated as R4M.

Currently, there is an existing building at 464 Wilbrod and a separate set (water and sanitary) of laterals exists for this dwelling. In future, existing dwelling will be converted to 11 unit apartment building.

2. Water Supply

Industrial Water Demand:

Proposed development is serviced by a 25 m diameter copper pipe which will be connected to the 305 mm watermain running along Wilbrod Street. The water demand for the existing building was calculated based on the City of Ottawa Water Distribution Design Guidelines as follows:

- Residential occupancy = 1.4 persons per one bedroom apartment and 2.1 persons per 2 bedroom apartment and 3.1 persons per 3 bedroom apartment
- 3 x 1 bedroom units x 1.4 pers./unit = 4.2 persons
- 7 x 1 bachelor units x 1.4 pers./unit = 9.8 persons
- 1 x 2 bedroom units x 2.1 pers./unit = 2.1 persons

Total occupancy = 16.1 persons rounded up to 16 persons

Residential Average Daily Demand = 280 L/c/d.

- Average daily demand of 280 L/c/day x 16 persons = 4480 Litres/day or 0.052 L/s
- Maximum daily demand (factor of 2.5) is 0.052 L/s x 2.5 = 0.13 L/s
- Peak hourly demand (factor of 2.2) = 0.13 L/s x 2.2 = 0.30 L/s
- Total Peak hourly demand = 0.30 L/s

Fire Fighting Requirement **Based on Fire Underwriter Survey Method**

Fire flow protection requirements were calculated as per the Fire Underwriter's Survey (FUS).
An estimate of the fire flow required is as follows:

Step 1:

$$F = 220C\sqrt{A}$$

F = fire flow in liters per minute

C = co-efficient related to type of construction.

= 1.0 for Ordinary construction material

A = total floor area in square meters for existing building= 740 square meters

$$F = 220 \times 1.0 \times \sqrt{740} = 6000 \text{ L/min}$$

Step 2:

Reductions or increase due to occupancy = Limited Combustable = -15%

$$F = 6,000 - 0.15 \times 6,000 = 5,100 \text{ L/min}$$

Step 3:

Reduction for automatic sprinkler protection

= No Sprinkler

= 0% reduction

Step 4:

Charge for structures exposed within 45 meters of separation.

Side	Separation (m)	Charge %
North (side)	30	5
South (front)	30	5
East (front)	10	15
West (rear)	5	25
Total Charge not to exceed 75%		50

Total Charge not to exceed 75%.

$$= 0.50 \times 5100 = 2550 \text{ L/min}$$

Total Required Fire Flow rounded to the nearest 1000 L/min

$$F = 2550 + 5100$$

$$= 7,650 \text{ L/min}$$

$$= 128 \text{ L/s}$$

Fire Fighting Requirement **Based on Ontario Building Code Method**

Fire flow protection requirements were calculated as per part 3 of Ontario Building Code.
An estimate of the fire flow required is as follows:

$$Q = K * V * Stot$$

From Div. B A-3.2.5.7. of the Ontario Building Code – 3.”Building Requiring On-Site Water Supply”, the building is classified as Group F.

$K = 23$ (from Table 1 page A-30 Ontario Building Code)

$V = 2000$ cu.m. [provided by the Architect]

$Stot = 1 + 0.5 \text{ (East)} + 0.0 \text{ (South)} + 0.0 \text{ (North)} + 0.5 \text{ (West)} = 2.00$

$Q = 23 * 2000 \text{ cu.m.} * 2.0 = 46,000 \text{ L}$

From Table 2 page A-30 Ontario Building Code, the required minimum water supply flow rate from the municipal system would be 2700 L/min or 45L/Sec. This flow rate is required at 140 kPa in accordance with Section 6.3 (b).

Calculation based on Ontario Building Code provides reasonable and achievable results.

The following Boundary Conditions were provided to W.Elias Consultant Engineers by the City of Ottawa based on current operation of the city water distribution system and demand data provided by W.Elias Consultant Engineers

Minimum HGL = 106.5 m

Maximum HGL = 116 m

MaxDay + Fire Flow (125 L/s) = 108.0 m

❖ Ground Elevation = 70.50 m

Floor Elevation	Min Head (m) = 106.5	Pressure (KPa) at Each Floor
Ground Floor EL. = 71.0m	35.5	348
Second Floor EL. = 73.6m	33.0	324
Third Floor EL. = 76.2m	30.3	297

Based on City of Ottawa Design Guidelines – Water Distribution existing water service size of 25mm is adequate where the residential water pressure is over 310 kPa and the peak flows are less than 0.4 L/s. As such, the minimum service diameter required for the proposed development is 25mm.

As per above and knowing the estimated ground elevation is 70.50m, the maximum operating pressure is 348 KPa and minimum pressure is 297 KPa which is well in the acceptable range of

pressure as per the requirements of City of Ottawa Water Design Guideline, section 4.2.2.1 to 4.2.2.3. Required fire flow is also satisfactory.

Currently, existing water lateral service is a 25 mm diameter K type copper from the existing 305 mm diameter water main along Wilbrod Street to the building. Existing 25mm lateral service is satisfactory and will be remained.

2.1. Fire Protection

A fire hydrant is presently located directly in front of 464 Wilbrod Street. From this location, it is within a 60 meter distance, also another fire hydrant is located at the front of 450 Wilbrod Street, therefore, no additional fire protection is required for this proposed development.

3. Sanitary Sewage

The existing sanitary service is to remain since the pipes have been CCTV inspected and all are in good condition. Sanitary backwater valves to be provided close to the foundation wall near service entry.

3.1. Sanitary Sewage Calculation

Design Flows

Residential

Total domestic use:

□ 3 x 1 bedroom units x 1.4 pers./unit = 4.2 persons

□ 7 x 1 bachelor units x 1.4 pers./unit = 9.8 persons

□ 1 x 2 bedroom units x 2.1 pers./unit = 2.1 persons

Total= 16.1 consider 16

$Q_{\text{Domestic}} = 16 \times 280 \text{ L/person/day} \times (1/86,400 \text{ sec/day}) = 0.052 \text{ L/sec}$

Peaking Factor = $1 + 14 / (4 + (13 / 1000)^{0.5}) = 4.40$ *use 4 maximum

$Q_{\text{Peak Domestic}} = 0.052 \text{ L/sec} \times 4.0 = 0.21 \text{ L/sec}$

Infiltration

$Q_{\text{Infiltration}} = 0.28 \text{ L/S/Gross hectare} \times 0.13 \text{ ha} = 0.04 \text{ L/sec}$

Total Peak Sanitary Flow = 0.21 + 0.04 = 0.25 L/sec

The Ontario Building Code specifies minimum pipe size and maximum hydraulic loading for sanitary sewer pipe. OBC 7.4.10.8 (2) states "Horizontal sanitary drainage pipe shall be designed to carry no more than 65% of its full capacity." A 150 mm diameter sanitary service with a minimum slope of 1.0% has a capacity of approximately 15 Litres per second.

The maximum peak sanitary flows for the site is 0.25 L/s. Since 0.25 L/s is much less than $0.65 \times 15 = 10$ L/s, the existing 150mm would be proper size for this building.

Sewage discharges will be domestic in type and in compliance with the City of Ottawa Sewer Use By-law. The existing service connection from the existing building is at the north side of the property to the existing sanitary sewer on Wilbrod Street. The existing service is a 150 mm diameter at a minimum slope of 1%.

The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary main. As such the proposed increase in sanitary flow as a result of the construction of the proposed building is negligible and there is sufficient available capacity for the proposed development.

CCTV inspection was performed on January 28, 2020. Based on the report, tree roots are growing inside the sanitary pipe beyond the property line. It is recommended to install a new 150mm diameter PVC sanitary lateral.

4. Stormwater :

Since this application is for interior alteration of existing building and the footprint of the building will remain unchanged, the stormwater management report is deemed un-necessary for this application. In order to brief on stormwater situation, it is assure that the existing or natural drainage pattern will be un-changed during and after construction. The roof drain will discharge on the surface to Wilbrod Street. Overland flow will also drain to Wolbrod Street.

4.1. Storm Sewage

Based on our investigation, there is no foundation drain around perimeter of the building. On the other hand, there is no issue with the ground water in the basement throughout the year. We presume that could be low ground water table in that area. This situation will remain unchanged due to existing condition.

Conclusion

1. There is an adequate water supply for firefighting.
2. The existing water pressure is adequate for the proposed development.
3. The proposed water service connection is adequately sized to serve the development.
4. The expected sanitary sewage flow will be adequately handled by the proposed sanitary sewer service connection.
5. The expected sanitary sewage flow will be adequately handled by the by the existing sanitary sewer connection
6. The increase in sanitary flows contributing to the existing municipal sanitary sewer is expected to have a negligible impact.
7. There is no foundation drain and no connection of storm sewer to sanitary lateral.

For any comment or clarification please contact the undersigned.



Yours truly,
Wissam Elias, P. Eng.
W. Elias & Associates
Consulting Engineers

APPENDIX "A":

Correspondents

From: Valic, Jessica <jessica.valic@ottawa.ca>
Date: Tue., Apr. 21, 2020, 10:25 a.m.
Subject: RE: Revised Boundary Condition 464 Wilbrod
To: Sam Elias <wissamelias@gmail.com>

Good morning Sam,

Here are the boundary conditions for 464 Wilbrod:

The following are boundary conditions, HGL, for hydraulic analysis at 464 Wilbrod (zone 1W) assumed to be connected to the 305mm on Wilbrod (see attached PDF for location).

Minimum HGL = 106.5m

Maximum HGL = 116.0m

Max Day + Fire Flow (125L/s) = 108.0m

These are for current conditions and are based on computer model simulation.

Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermain deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

Please do not hesitate to contact me with any questions/concerns.

Regards,

Jessica Valic, E.I.T.

Engineering Intern

Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique

Development Review - Central

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

[613.580.2424](tel:6135802424) ext./poste 15672

jessica.valic@ottawa.ca



APPENDIX "A":

Reports and Drawings

Ottawa (Head Office)

1800 Bantree Street
Ottawa, Ontario K1B 5L6

☎ 613.745.2444

☎ 613.745.9994

www.cwwcanada.com

1.866.695.0155

Montreal

2700 Sabourin Street
St-Laurent, Quebec H4S 1M2

☎ 514.738.2666

☎ 514.738.9762



INTEGRATED SEWER SOLUTIONS

Nehman Hokaïem

**464 Wilbrod
Ottawa, Ontario
Job No.: 90107**

**Drain Use
Sanitary**

**Inspection Date
January 28th 2020**

DRAIN CCTV INSPECTION REPORT

THE WAY IS CLEAR™

- CIPP Lateral Drain Lining
- Drain Inspection and Locating
- Preventative Maintenance Plumbing
- Frozen Pipe Thawing
- Backwater Valve Devices
- Sewer and Waterline Replacement and Repairs
- High Pressure Blasting
- Drain Cleaning and Flushing
- Plumbing Installation, Renovations and Repairs

MINI CAMERA CCTV INSPECTION REPORT

CUSTOMER:	NEHMAN HOKAIEM	START OF INSPECTION:	CLEANOUT
JOB NO.:	90107	END OF INSPECTION:	MAIN
LOCATION:	464 WILBROD STREET OTTAWA, ONTARIO	SEWER USE:	SANITARY
DATE:	JANUARY 20 TH 2020	PIPE DIAMETER(S):	100 MM / 150 MM
OPERATOR:	ANDRIES V.Z.	PIPE MATERIAL(S):	CAST IRON / CEMENT / PVC
		DIRECTION OF FLOW:	DOWNSTREAM
		VIDEO FILENAME:	Video #1
		REPORT NUMBER:	1.1 of 1

DISTANCE (M)	CODE	INSPECTION COMMENTS	CODE	DESCRIPTION
0.0	C/O	START OF INSPECTION – CLEANOUT	AIF	ACTIVE INFILTRATION
0.2	LBS	LINE BENDS STRAIGHT	BKJ	BROKEN JOINT
1.8	LBR	LINE BENDS RIGHT	BSG	START OF SAG
2.8	SC	SERVICE CONNECTION AT 11 O’CLOCK	BWV	BACKWATER VALVE
8.4	SC	SERVICE CONNECTION AT 9 O’CLOCK	C/O	CLEANOUT
8.8	SC	SERVICE CONNECTION AT 3 O’CLOCK	CAL	CALCITE
9.6	SC	SERVICE CONNECTION AT 12 O’CLOCK	CFL	COLLAPSE
11.4	RTS	ROOTS	CRC	CIRCULAR CRACK
11.4	MC	MATERIAL CHANGE: CAST IRON – CEMENT	DC	DIAMETER CHANGE
11.4	DC	DIAMETER CHANGE: 100 MM – 150 MM	DEB	DEBRIS
12.2	RTS	ROOTS	DEF	PIPE DEFORMATION
13.6	MC	MATERIAL CHANGE: CEMENT – PVC	EIF	EVIDENCE OF INFILTRATION
13.8	SC	SERVICE CONNECTION AT 12 O’CLOCK	ESG	END OF SAG
14.6	MC	MATERIAL CHANGE: PVC – CEMENT	EXG	EXPOSED GASKET
17.2	RTS	ROOTS	EXR	EXPOSED REBAR
18.0	OPJ	OPEN JOINT	F/D	FLOOR DRAIN
20.0	RTS	ROOTS	FRC	FRACTURE
20.6	DEF		GRS	GREASE
20.8	RTS	ROOTS	HOLE	HOLE IN PIPE
21.6	RTS	ROOTS	LBD	LINE BENDS DOWN
22.6	RST	ROOTS	LBL	LINE BENDS LEFT
			LBR	LINE BENDS RIGHT
			LBS	LINE BENDS STRAIGHT
			LGC	LONGITUDINAL CRACK
			MAIN	MAIN SEWER IN BUILDING
			MC	MATERIAL CHANGE
			MH	MANHOLE
			MSP	MISSING PIPE PIECE
			OBS	OBSTRUCTION IN PIPE
			OFJ	OFFSET JOINT
			OPJ	OPEN JOINT
			PFL	PARTIAL COLLAPSE
			PSC	PROTRUDING CONNECTION
			PUN	PUNCTURE
			RTS	ROOTS
			SC	SERVICE CONNECTION
			WYE	WYE CONNECTION

COMMENTS:

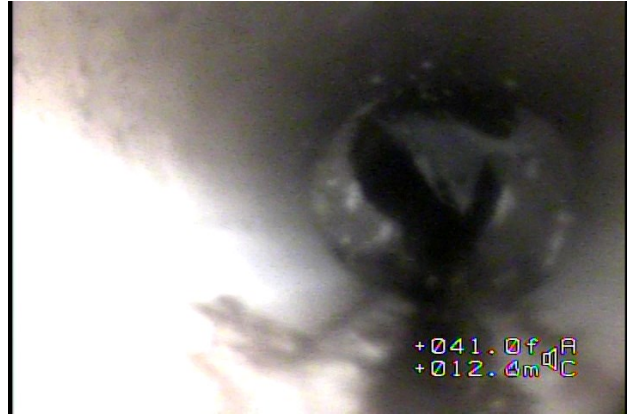
MINI CAMERA CCTV INSPECTION REPORT

CUSTOMER:	NEHMAN HOKAIEM	START OF INSPECTION:	CLEANOUT
JOB NO.:	90107	END OF INSPECTION:	MAIN
LOCATION:	464 WILBROD STREET OTTAWA, ONTARIO	SEWER USE:	SANITARY
DATE:	JANUARY 20 TH 2020	PIPE DIAMETER(S):	100 MM / 150 MM
OPERATOR:	ANDRIES V.Z.	PIPE MATERIAL(S):	CAST IRON / CEMENT / PVC
		DIRECTION OF FLOW:	DOWNSTREAM
		VIDEO FILENAME:	Video #1
		REPORT NUMBER:	1.2 of 1

DISTANCE (M)	CODE	INSPECTION COMMENTS	CODE	DESCRIPTION
23.4	RTS	ROOTS	AIF	ACTIVE INFILTRATION
24.2	RTS	ROOTS	BKJ	BROKEN JOINT
25.0	RTS	ROOTS	BSG	START OF SAG
25.8	RTS	ROOTS	BWV	BACKWATER VALVE
26.6	MC	MATERIAL CHANGE: CEMENT – PVC	C/O	CLEANOUT
31.6	LBD	LINE BENDS DOWN	CAL	CALCITE
32.0	LBD	LINE BENDS DOWN	CFL	COLLAPSE
32.6	END	END OF INSPECTION - MAIN	CRC	CIRCULAR CRACK
			DC	DIAMETER CHANGE
			DEB	DEBRIS
			DEF	PIPE DEFORMATION
			EIF	EVIDENCE OF INFILTRATION
			ESG	END OF SAG
			EXG	EXPOSED GASKET
			EXR	EXPOSED REBAR
			F/D	FLOOR DRAIN
			FRC	FRACTURE
			GRS	GREASE
			HOLE	HOLE IN PIPE
			LBD	LINE BENDS DOWN
			LBL	LINE BENDS LEFT
			LBR	LINE BENDS RIGHT
			LBS	LINE BENDS STRAIGHT
			LGC	LONGITUDINAL CRACK
			MAIN	MAIN SEWER IN BUILDING
			MC	MATERIAL CHANGE
			MH	MANHOLE
			MSP	MISSING PIPE PIECE
			OBS	OBSTRUCTION IN PIPE
			OFJ	OFFSET JOINT
			OPJ	OPEN JOINT
			PFL	PARTIAL COLLAPSE
			PSC	PROTRUDING CONNECTION
			PUN	PUNCTURE
			RTS	ROOTS
			SC	SERVICE CONNECTION
			WYE	WYE CONNECTION

COMMENTS:

Video #1





1
A1

FRONT ELEVATION



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: FRONT ELEVATIONS

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A1/11



1
A2

LEFT ELEVATION



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



S.A.I. Consulting™

(613) 804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

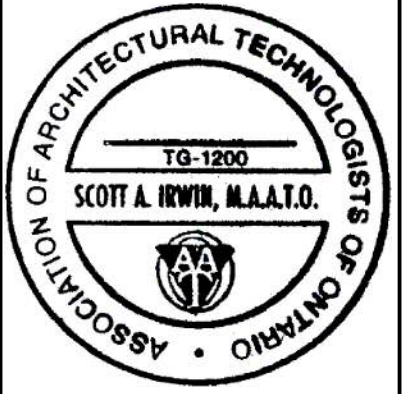
TITLE: LEFT ELEVATION

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A2/11



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



S.A.I. Consulting™

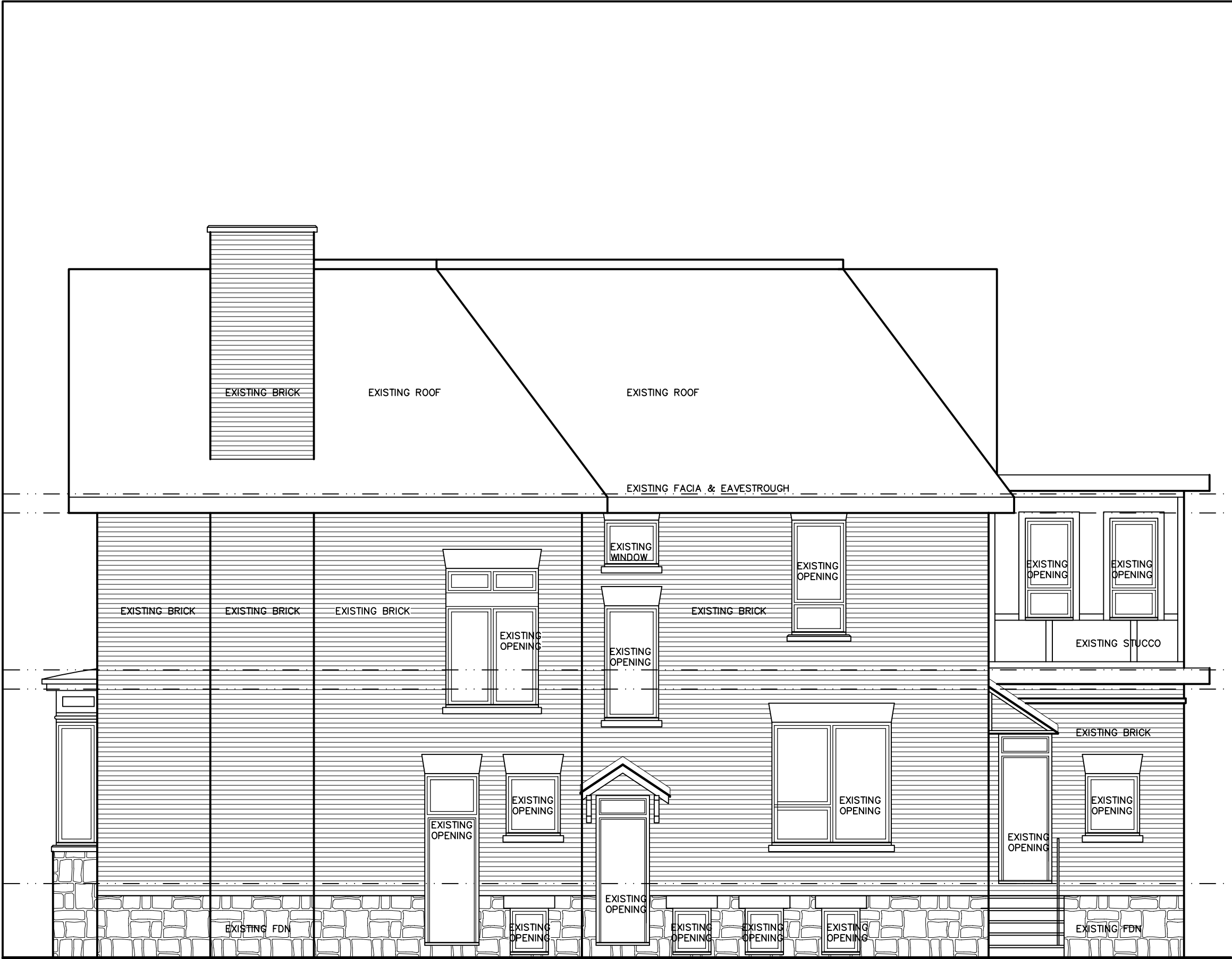
(613) 804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: REAR ELEVATION

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A3/11



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



S.A.I. Consulting™

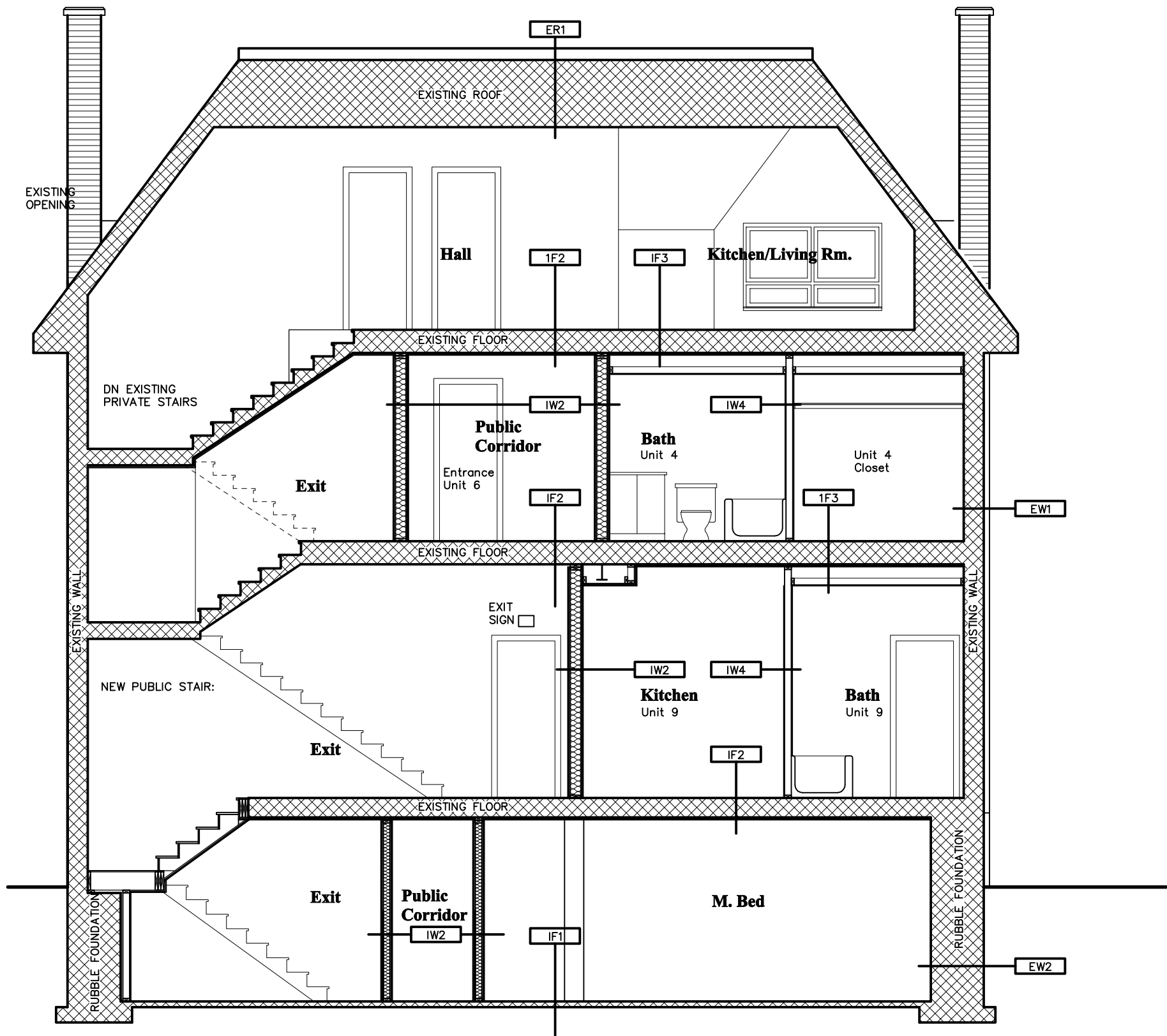
(613) 804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: RIGHT ELEVATION

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A4/11



1 BUILDING SECTION THROUGH STAIRS
SCALE: 3/16"=1'-0"



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



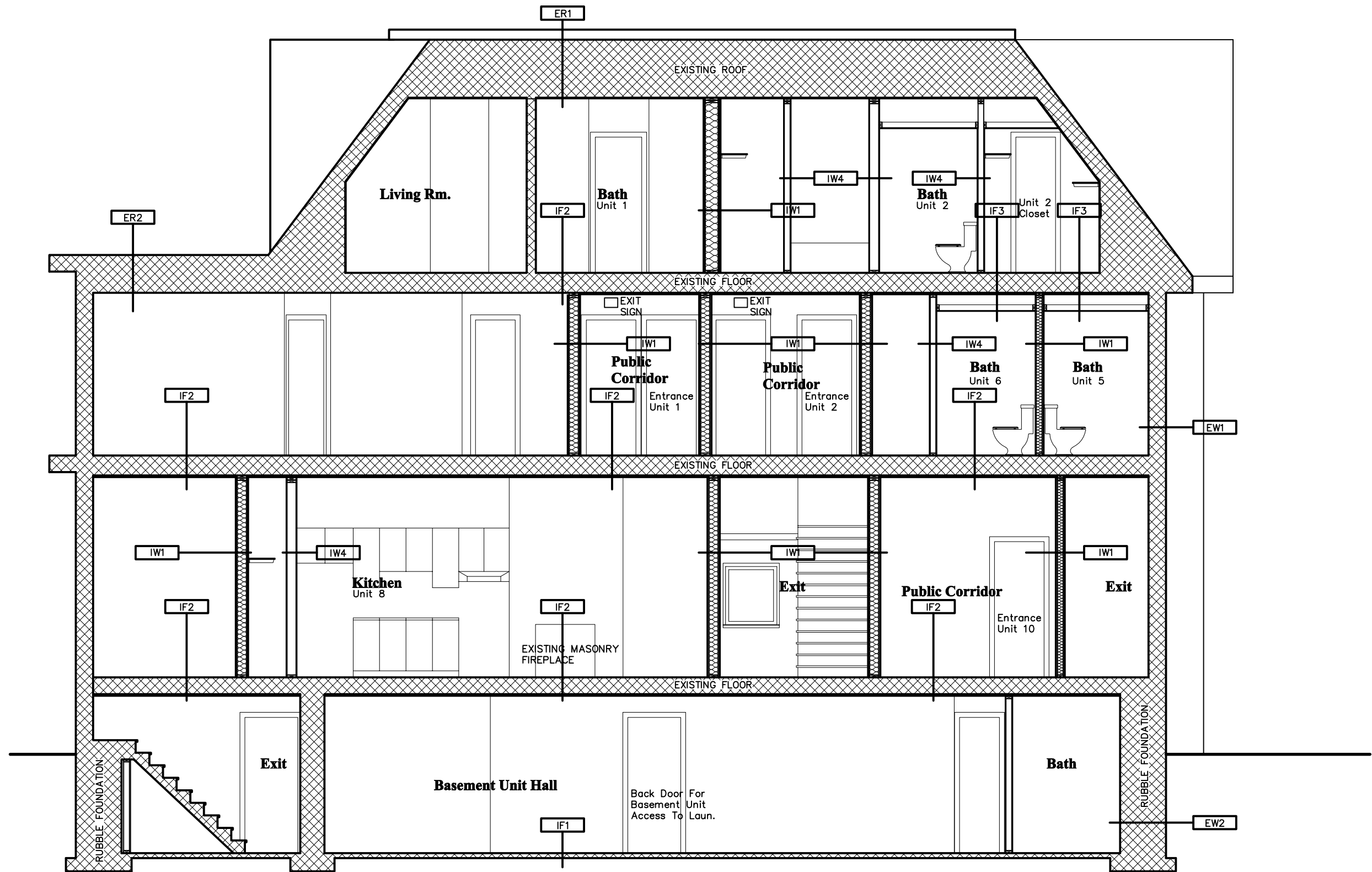
S.A.I. Consulting™
(613) 804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: SECTION

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A5/11



1 BUILDING SECTION
A6

SCALE: 3/16"=1'-0"



2. ISSUED FOR APPROVAL	08/7/19	SI
1. AS BUILT DRAWINGS	07/8/19	SI
NO DESCRIPTION	DATE	BY



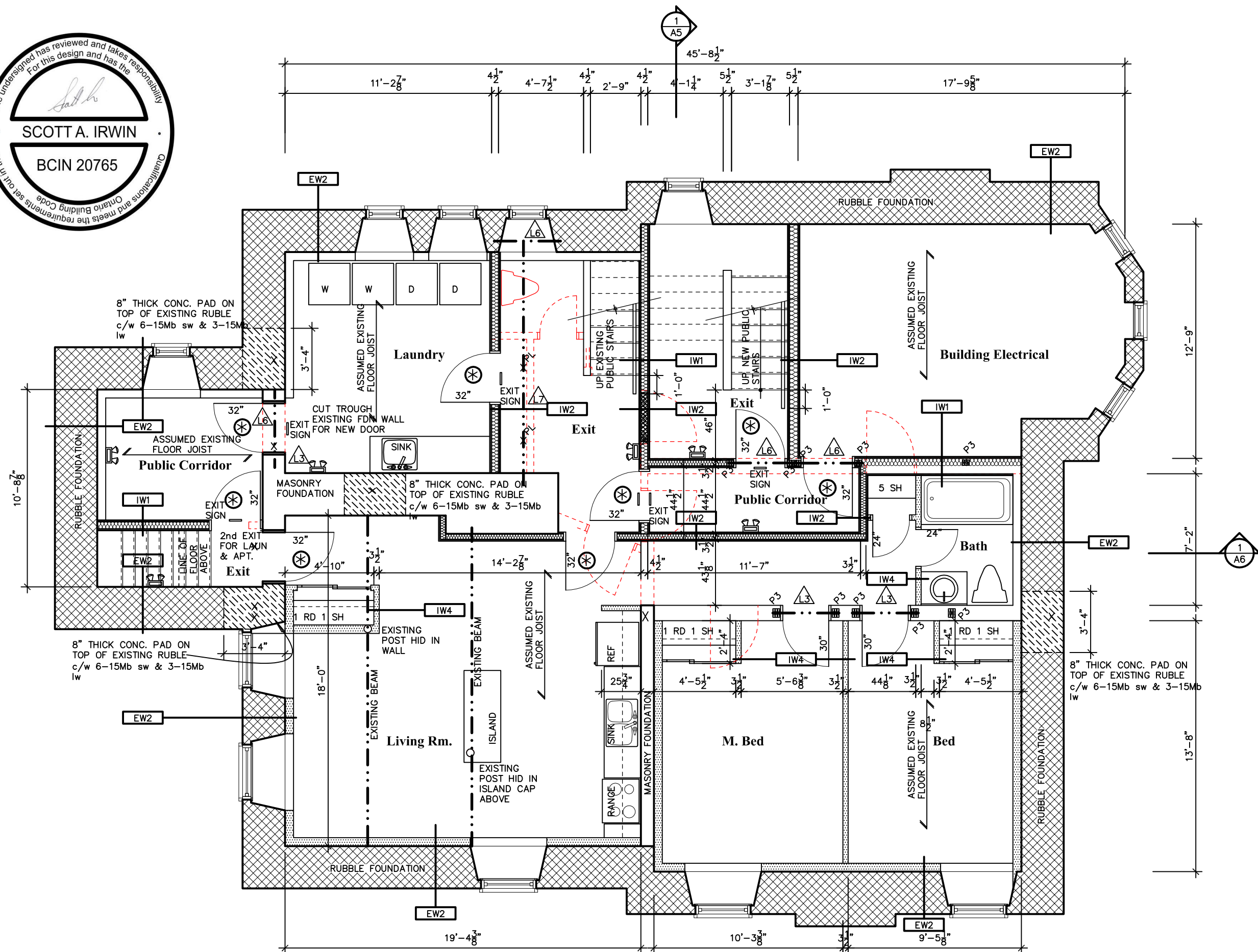
S.A.I. Consulting™
(613) 804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: SECTION

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS
DWG. A6/11



1 BASEMENT PLAN
A7

NOTE: AFTER REMOVING THE DRYWALL & BEFORE REMOVING THE WALL STRUCTURE, ENGINEER MUST BE CALLED FOR INSPECTION

NOTE: IT IS THE SOLE RESPONSIBILITY OF
CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY
SUPPORT WHERE REQUIRED.

STRUCTURAL FRAMING SCHEDULE

STEEL

STEEL LINTEL
INSTALL 3/4"x3/4" x 1/2" x 1/4" STEEL ANGLE
6" BEARING OVER ALL OPENINGS TO SUPPORT
MASONRY VENEER UNLESS NOTED

WOOD LINTEL

L1 - (2)2x10 w/ 1/2" PLYWOOD SPACER
L2 - (2)2x10
L3 - (3)2x10
L4 - (3)2x10 w/ 2-1/2" PLYWOOD SPACER
& 2 ROW OF 3-1/2" SPIRAL @ 8" o/c
L5 - (3)2x12 w/ 2-1/2" PLYWOOD SPACER
& 2 ROW OF 3-1/2" SPIRAL @ 8" o/c
L6 - (2)1-3/4"x8-1/2" LVL (1.9E)
L7 - (3)1-3/4"x8-1/2" LVL (1.9E)

POSTS

P1 - 75# STEEL TELEPOST
P2 - (2)2x4 or (2)2x6
P3 - (3)2x4 or (3)2x6
P4 - (4)2x4 or (4)2x6
P5 - (5)2x4 or (5)2x6
P6 - (2)2x4 or (2)2x6
P7 - (2)2x4 or (2)2x6
P8 - (2)2x4 or (2)2x6
P9 - HSS 3 1/2"x3 1/2"x1/8" + 4"x8"x1/2"
T&B PL (*)
P10 - HSS 3 1/2"x3 1/2"x3/16" + 4"x8"x1/2"
T&B PL (*)
P11 - HSS 3 3/8"x3 3/8" + 4"x8"x1/2"
T&B PL (*)
P12 - HSS 3 3/8"x3 3/8" + 5"x5"x1/2" T PL
P13 - HSS 3 3/8"x3 3/8" + 4"x8"x1/2" PL B PL
P14 - HSS 5"x5"x3/8" + 4"x8"x1/2" T PL
P15 - HSS 5"x5"x3/8" + 4"x8"x1/2" PL B PL
P16 - 2-1/2"x8" ANCH (WHERE ANCH PL NOT USED)

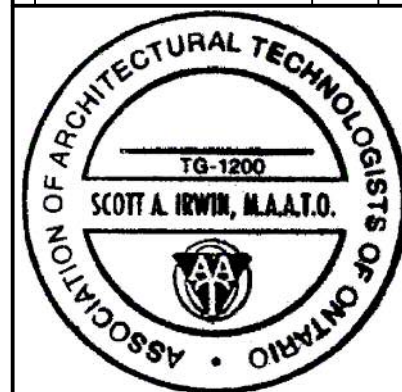
(*) - 2-1/2"x8" ANCH (WHERE ANCH PL NOT USED)

SOIL: 7.5 KPA

PAD FOOTING:
F1 18"x18"x8" CONC. PAD 25 Mpa
F2 48"x48"x8" CONC. PAD 25 Mpa
c/w 5-15M(B) E/W



2.	ISSUED FOR APPROVAL	08/7/19	SI
1.	AS BUILT DRAWINGS	07/8/19	SI
NO	DESCRIPTION	DATE	BY



S.A.I. Consulting™



(613)804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT:	1940
LOT#:	
STREET:	464 Wilbrock
CONTACT:	Newman Hokuier

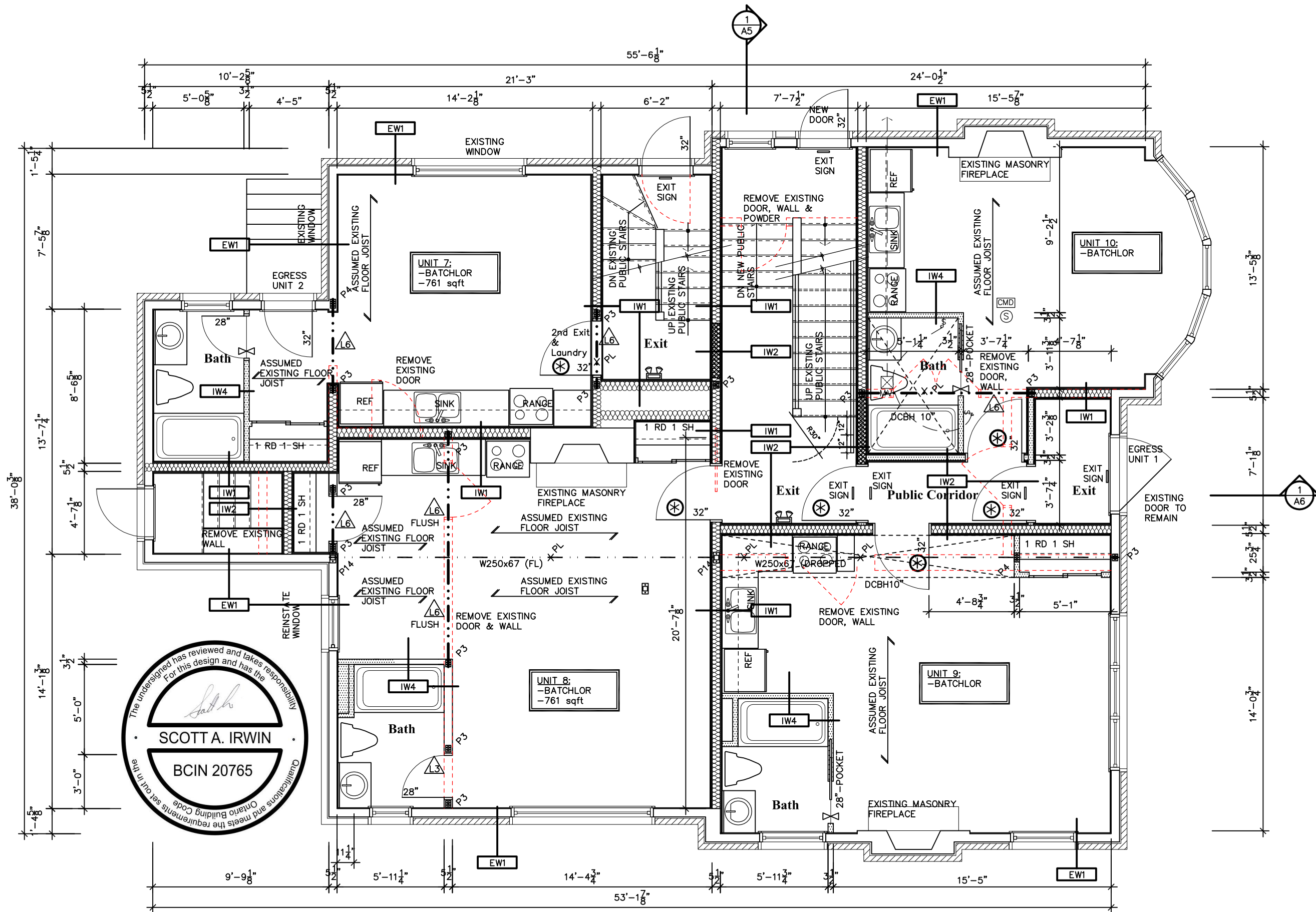
TITLE: BASEMENT PLAN

ACAD FILE:
1940-Newman Hokuierm-464 Wilbrod.dwg

SCALE:
3/16"=1'-0"

Wilbrod APARTMENTS

A7/11



NOTE: AFTER REMOVING THE DRYWALL & BEFORE REMOVING THE WALL STRUCTURE, ENGINEER MUST BE CALLED FOR INSPECTION

NOTE: IT IS THE SOLE RESPONSIBILITY OF CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY SUPPORT WHERE REQUIRED.

STRUCTURAL FRAMING SCHEDULE	
STEEL LINTEL	
INSTALL 3 1/2" x 3 1/2" x 1/4" STEEL ANGLE 6" BEARING OVER ALL OPENINGS TO SUPPORT MASONRY VENEER UNLESS NOTED	
WOOD LINTEL	
L1	(2) 2x10 w/ 1/2" PLYWOOD SPACER
L2	(2) 2x10
L3	(3) 2x10
L4	(3) 2x10 w/ 2-1/2" PLYWOOD SPACER
L5	& 2 ROW OF 3-1/2" SPIRAL @ 8" o/c
L6	(3) 2x12 w/ 2-1/2" PLYWOOD SPACER
L7	& 2 ROW OF 3-1/2" SPIRAL @ 8" o/c
L6	(2) 1-3/4"x9-1/2" LVL (1.9E)
L7	(3) 1-3/4"x9-1/2" LVL (1.9E)
POSTS	
P1	= 75# STEEL TELEPOST
P2	(2) 2x4 or (2) 2x6
P3	(3) 2x4 or (3) 2x6
P4	(4) 2x4 or (4) 2x6
P5	(5) 2x4 or (5) 2x6
P6	(6) 2x4 or (6) 2x6
P13	HSS 3 1/2"x3 1/2"x1/8" + 4"x8"x1/2" T&B PL (*)
P14	HSS 3 1/2"x3 1/2"x3/16" + 4"x8"x1/2" T&B PL (*)
P15	HSS 3"x3"x3/16" + 4"x8"x1/2" T&B PL (*)
P16	HSS 3"x3"x3/16" + 5"x5"x1/2" T PL + 4"x8"x1/2" T PL (*)
P17	HSS 3" O.D. x3/16" + 4"x8"x1/2" PL B PL + 5"x5"x1/2" T PL (*)
(*)	= 2-1/2" ANCH (WHERE ANCH PL. NOT USED)
SOIL: 75 KPA	



2. ISSUED FOR APPROVAL	08/7/19	SI
1. AS BUILT DRAWINGS	07/8/19	SI
NO DESCRIPTION	DATE	BY

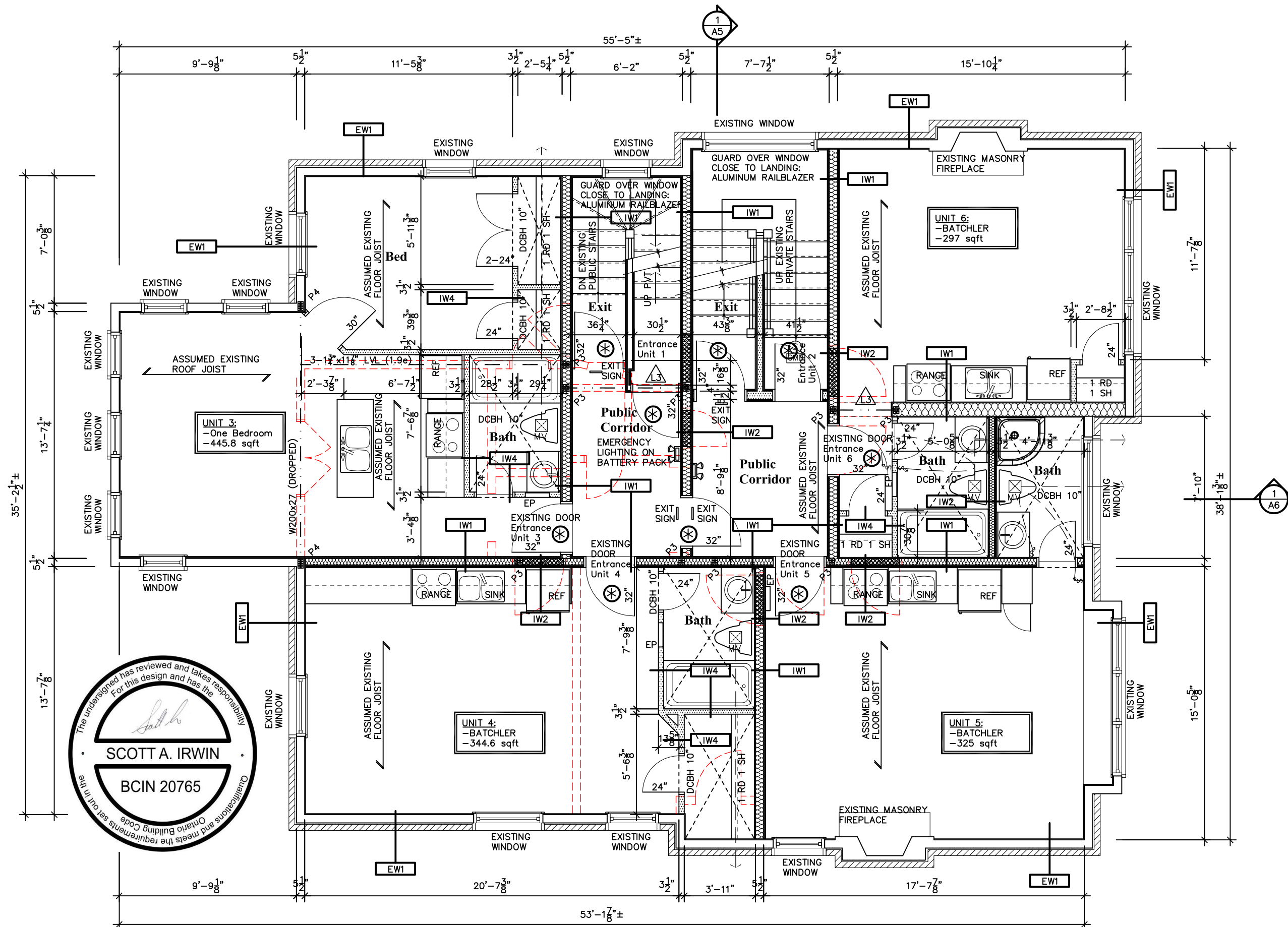


S.A.I. Consulting™
(613) 904-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT#: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: 1st FLOOR PLAN

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"
DWG: A8/11
Wilbrod APARTMENTS



NOTE: AFTER REMOVING THE DRYWALL & BEFORE REMOVING THE WALL STRUCTURE, ENGINEER MUST BE CALLED FOR INSPECTION

NOTE: IT IS THE SOLE RESPONSIBILITY OF CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY SUPPORT WHERE REQUIRED.

STRUCTURAL FRAMING SCHEDULE	
STEEL LINTEL	
INSTALL 3 1/2" x 3 1/2" x 1/4" STEEL ANGLE 8" BEARING OVER ALL OPENINGS TO SUPPORT MASONRY VENEER UNLESS NOTED	
WOOD LINTEL	
L1	(2)2x10 w/ 1/2" PLYWOOD SPACER
L2	(2)2x10
L3	(3)2x10
L4	(3)2x10 w/ 2-1/2" PLYWOOD SPACER
L5	(3)2x12 w/ 2-1/2" PLYWOOD SPACER
L6	(2)1-3/4"x9-1/2" LVL (1.9E)
L7	(3)1-3/4"x9-1/2" LVL (1.9E)
POSTS	
P1	75# STEEL TELEPOST
P2	(2)2x4 or (2)2x6
P3	(3)2x4 or (3)2x6
P4	(4)2x4 or (4)2x6
P5	(5)2x4 or (5)2x6
P6	(6)2x4 or (6)2x6
P13	HSS 3 1/2"x3 1/2"x1/8" + 4"x8"x1/2" T&B PL (C)
P14	HSS 3 1/2"x3 1/2"x3/16" + 4"x8"x1/2" T&B PL (C)
P15	HSS 3"x3"x3/16" + 4"x8"x1/2" T&B PL (C)
P16	HSS 3"x3"x3/16" + 5"x5"x1/2" T PL (C)
P17	HSS 3" O.D. x3/16" + 4"x8"x1/2" PL B PL (C) + 5"x5"x1/2" T PL (C)
SOIL: 75 KPA	
(*) - 2-1/2" ANCH (WHERE ANCH PL NOT USED)	



2. ISSUED FOR APPROVAL	08/7/19	SI
1. AS BUILT DRAWINGS	07/8/19	SI
NO DESCRIPTION	DATE	BY

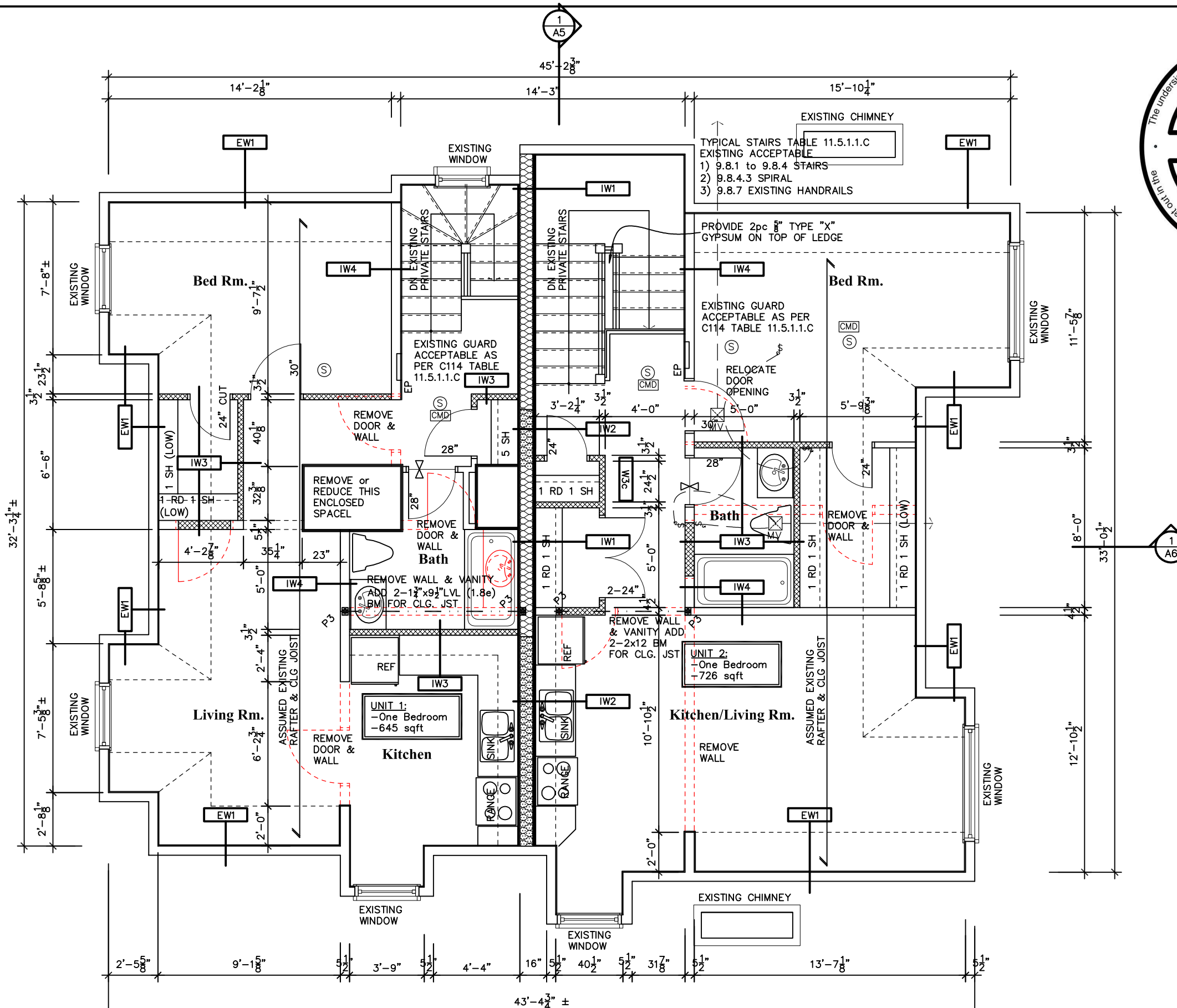


S.A.I. Consulting™
(613)904-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT#: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: 2nd FLOOR PLAN

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg
SCALE: 3/16"=1'-0"
DWG: A9/11
Wilbrod APARTMENTS



1 A10 THIRD FLOOR PLAN

NOTE: AFTER REMOVING THE DRYWALL & BEFORE REMOVING THE WALL STRUCTURE, ENGINEER MUST BE CALLED FOR INSPECTION

NOTE: IT IS THE SOLE RESPONSIBILITY OF CONTRACTOR TO PROVIDE ADEQUATE TEMPORARY SUPPORT WHERE REQUIRED.



STRUCTURAL FRAMING SCHEDULE	
STEEL LINTEL	
INSTALL 3 1/2" x 3 1/2" x 1/4" STEEL ANGLE 6" BEARING OVER ALL OPENINGS TO SUPPORT MASONRY VENEER UNLESS NOTED	
WOOD LINTEL	
L1	(2)2x10 w/ 1/2" PLYWOOD SPACER
L2	(2)2x10
L3	(3)2x10
L4	(3)2x10 w/ 2-1/2" PLYWOOD SPACER
L5	(3)2x12 w/ 2-1/2" PLYWOOD SPACER
L6	2 ROW OF 3-1/2" SPIRAL @ 8" o/c
L7	(2)1-3/4"x9-1/2" LVL (1.9E)
L8	(3)1-3/4"x9-1/2" LVL (1.9E)
POSTS	
P1	75# STEEL TELEPOST
P2	(2)2x4 or (2)2x6
P3	(3)2x4 or (3)2x6
P4	(4)2x4 or (4)2x6
P5	(5)2x4 or (5)2x6
P6	(6)2x4 or (6)2x6
P13	HSS 3 1/2"x3 1/2"x1/8" + 4"x8"x1/2"
P14	HSS 3 1/2"x3 1/2"x3/16" + 4"x8"x1/2"
P15	HSS 3"x3"x3/16" + 4"x8"x1/2"
P16	HSS 3"x3"x3/16" + 5"x5"x1/2" T PL
P17	HSS 3" O.D. x3/16" + 4"x8"x1/2" PL B PL
SOIL: 75 KPA	



2. ISSUED FOR APPROVAL	08/7/19	SI
1. AS BUILT DRAWINGS	07/8/19	SI
NO DESCRIPTION	DATE	BY

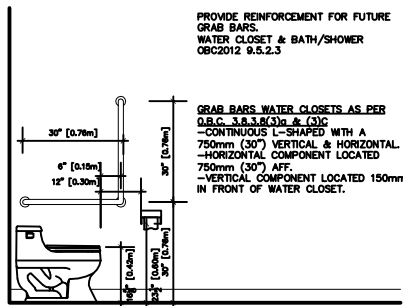


S.A.I. Consulting™
(613)904-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT#: 464 Wilbrod
STREET: Newman Hokuem
CONTACT:

TITLE: 3rd FLOOR PLAN

ACAD FILE: 1940-Newman Hokuem-464 Wilbrod.dwg	SCALE: 3/16"=1'-0"
Wilbrod APARTMENTS	DWG. A10/11



PROVIDE REINFORCEMENT FOR FUTURE GRAB BARS.
WATER CLOSET & BATH/SHOWER
OBC2012 9.5.2.3

GRAB BARS WATER CLOSETS AS PER O.B.C. 3.8.3.13(2) & (3)
-CONTINUOUS L-SHAPED WITH A 750mm (30") VERTICAL & HORIZONTAL
-HORIZONTAL COMPONENT LOCATED 750mm (30") AFF.
-VERTICAL COMPONENT LOCATED 150mm IN FRONT OF WATER CLOSET.

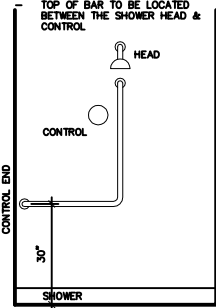
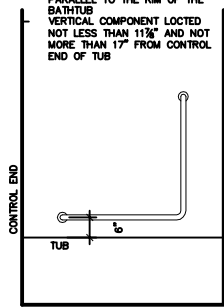
GRAB BARS SHOWERS AS PER O.B.C. 3.8.3.13(2)
-CONTINUOUS L-SHAPED BAR LOCATED ON SAME WALL AS SHOWER CONTROLS.
-LOCATED 850mm (33 1/2") AFF. & END TO BE WITHIN 100mm (4") OF EDGE OF SEAT.

GRAB BARS BATHTUBS AS PER O.B.C. 3.8.3.13(4)
-CONTINUOUS L-SHAPED WITH A 900mm (36") VERTICAL & HORIZONTAL
-HORIZONTAL COMPONENT LOCATED 150-200mm (6"-8") ABOVE TUB RIM.
-VERTICAL COMPONENT LOCATED NOT LESS THAN 300mm OR MORE THAN 450mm FROM CONTROL END OF TUB.

GRAB BARS AS PER O.B.C. 3.8.3.8(3)
24" LONG MOUNTED HORIZONTAL 6" ABOVE TOILET TANK

GRAB BARS AS PER O.B.C. 3.8.3.13(4)
- "L" SHAPED GRAB BAR 36" LONG
- VERTICAL & HORIZONTAL HORIZONTAL COMPONENT TO BE NOT LESS THAN 6" AND NOT GREATER THAN 7" ABOVE & PARALLEL TO THE RIM OF THE BATHTUB
- VERTICAL COMPONENT LOCATED NOT LESS THAN 11 1/4" AND NOT MORE THAN 17" FROM CONTROL END OF TUB

GRAB BARS AS PER O.B.C. 3.8.3.13(2)
- "L" SHAPED GRAB BAR 30" LONG
- VERTICAL & HORIZONTAL HORIZONTAL COMPONENT TO BE NOT MORE THAN 33" ABOVE THE FINISHED FLOOR
- TOP OF BAR TO BE LOCATED BETWEEN THE SHOWER HEAD & CONTROL



S.A.I. Consulting™

(613)804-3486
info@saiconsulting.ca
BCIN: 32142

PROJECT: 1940
LOT #: 464 Wilbrod
STREET: Newman Hokuieim
CONTACT:

TITLE: DETAILS & NOTES

ACAD FILE: 1940-Newman Hokuieim-464 Wilbrod.dwg

SCALE: 3/16"=1'-0"

Wilbrod APARTMENTS

DWG. A11/11

BATHROOM GRAB BAR DETAILS

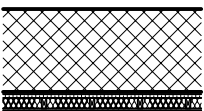
ASSEMBLY NOTES:

WALLS:



EXTERIOR WALL ASSEMBLY (EXISTING):

EW1 EXTERIOR WALL 1hr FRR
-EXISTING STONE OR BRICK VENEER
-EXISTING WEATHER BARRIER
-EXISTING SHEATHING
-EXISTING STUDS
-EXISTING INSULATION
-EXISTING DRYWALL
-6mil POLY a/v BARRIER
-5/8" TYPE "X" GYPSUM BD.



FOUNDATION WALL ASSEMBLY (EXISTING):

EW2 EXISTING FOUNDATION
-ROUBLE FOUNDATION
-AIR SPACE
-1 1/2" ROXUL COM. BOARD OR EQUIVALENT
-2x4 STUDS @ 16" c/c
-6mil POLY a/v BARRIER
-1/2" GYPSUM BD.



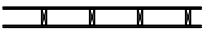
INTERIOR WALL ASSEMBLY (EXISTING):

1W1 SB-3 [W4a] 1h FRR STC 50
-5/8" TYPE "X" GYPSUM BD.
-2x4 or 2x6 STUDS @ 16" c/c
-ABSORPTIVE MATERIAL
-RESILIENT MTL' CHANNELS @ 16" c/c
-2pc 5/8" TYPE "X" GYPSUM BD.



INTERIOR WALL ASSEMBLY (NEW):

1W2 SB-3 [W4a] 1h FRR STC 50
-5/8" TYPE "X" GYPSUM BD.
-2x4 or 2x6 STUDS @ 16" c/c
-ABSORPTIVE MATERIAL
-RESILIENT MTL' CHANNELS @ 16" c/c
-2pc 5/8" TYPE "X" GYPSUM BD.



INTERIOR WALL ASSEMBLY (NEW):

1W4
-3/4" GYPSUM BD.
-2x4 or 2x6 STUDS @ 16" c/c
-1/2" GYPSUM BD.

EXISTING WALL TO BE REMOVED



45min FIRE RATED DOOR c/w CLOSURE
PROVIDE SELF-CLOSING DEVICE. ALL DOORS TO UNITS TO HAVE DOOR VIEWER

FLOORS:



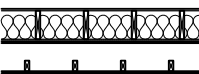
CONCRETE FLOOR (EXISTING):

IF1 SLAB ON GRADE
-EXISTING SLAB
-EXISTING GRADE



INTERIOR FLOOR ASSEMBLY:

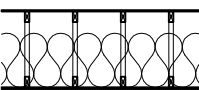
1F2 SB-3 F9c 1hr FRR - STC 52 IIC 46
-SUBFLOOR MIN 5/8"PLYWOOD or 1 1/2" LUMBER
-EXISTING FLOOR JOIST 24" o/c MAX
-ABSORPTIVE MATERIAL IN CAVITY
-RESILIENT METAL CHANNELS @ 14" o/c
-6mil POLY VDR TAPE ALL JOINTS
-5/8" TYPE "X" GYPSUM BOARD



INTERIOR FLOOR ASSEMBLY (DROP):

1F2 SB-3 F9c 1hr FRR - STC 52 IIC 46
-SUBFLOOR MIN 5/8"PLYWOOD
-2x10 JOIST @ 16" o/c MAX
-ABSORPTIVE MATERIAL IN CAVITY
-RESILIENT METAL CHANNELS @ 14" o/c
-6mil POLY VDR TAPE ALL JOINTS
-5/8" TYPE "X" GYPSUM BOARD
-DROP CEILING 2x4 @ 16" c/c
-1/2" GYPSUM BOARD

ROOF:



ROOF ASSEMBLY (EXISTING):

ER1 SB-3 F23d 45min FRR -
-EXISTING ROOFING (NO CHANGE)
-EXISTING ROOF SHEATHING (NO CHANGE)
-EXISTING ROOF STRUCTURE (NO CHANGE)
-R60 BLOWN IN INSULATION
-EXISTING DRYWALL
-6mil POLY VAPOUR BARRIER TIED INTO WALL
-5/8" TYPE "X" GYPSUM BOARD



ROOF ASSEMBLY (FLAT):

ER2 SB-3 F23d 45min FRR -
-EXISTING ROOFING (NO CHANGE)
-EXISTING ROOF SHEATHING (NO CHANGE)
-EXISTING ROOF STRUCTURE (NO CHANGE)
-R31 POLYISO SPRAY FOAM INSULATION
-6mil POLY VAPOUR BARRIER TIED INTO WALL
-5/8" TYPE "X" GYPSUM BOARD

GENERAL NOTES:

- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO MANUFACTURING OR CONSTRUCTION.
- DO NOT SCALE DRAWINGS.
- ALL WORK SHALL COMPLY WITH THE LOCAL BUILDING CODE AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
- THIS DRAWING SET IS THE EXCLUSIVE PROPERTY OF SAI Consulting. COPYRIGHT RESERVED.
- TRANSFER ALL POST LOADS ABOVE TO CONCRETE FOUNDATION OR STEEL BEAM WITH SOLID BLOCKING EQUAL DIMENSION OF SUPPORTING MEMBER.
- WOOD FRAMING IN CONTACT WITH CONCRETE SHALL BE PROTECTED BY 0.15mm POLY.
- PERMIT FROM ELECTRICAL SAFETY AUTHORITY REQUIRED FOR ALL ELECTRICAL WORK. ALL PLUGS & SWITCHES SHOWN ARE APPROXIMATE & FINAL POSITIONING IS AS PER HYDRO CODE & CLIENT.
- BUILDING PERMIT FOR THIS PROJECT REQUIRED SCOPE OF WORK CONSISTS OF NEW PLUMBING & ADDITION OF FINISHED SPACE.
- PLUMBING FIXTURES AS PER OBC 7.6.4.2
- SHOWER WATER TEMP CONTROL AS PER OBC 7.6.5
- IF SHOWER DIFFERS FROM SHOWN PROVIDE GYPCREAT AROUND TUB 3 SIDES. PROVIDE WATERPROOF WALL FINISH 5'-11" ABOVE FLOOR IN SHOWER STALLS. PROVIDE WATERPROOF WALL FINISH 3'-11" ABOVE RIM OF BATHTUBS EQUIPPED WITH SHOWER.
- ALL POSTS TO HAVE 1 KING STUD MINIMUM. ALL ADDITIONAL PLY TO BE UNDER THE SUPPORTED LINTEL

IMPORTANT NOTE:

THE CONTRACTOR SHALL NOT MAKE ANY CHANGES OR MODIFICATIONS WITHOUT THE ARCHITECT'S WRITTEN CONSENT. THE CONTRACTOR ASSUMES FULL LEGAL AND CONTRACTUAL LIABILITY FOR ANY UNAUTHORIZED CHANGES. THE CONTRACTOR MAY BE REQUIRED TO CORRECT THEM AT HIS OWN COST.

THE CONTRACTOR, HIS TRADES & SUPPLIERS SHALL PROVIDE SERVICES & MATERIALS IN COMPLIANCE WITH EXISTING CODES, STANDARDS & INDUSTRY GUIDELINES. ALL WORK UPON COMPLETION SHALL BE SUFFICIENT TO OBTAIN THE OCCUPANCY PERMIT. ANY AUTHORITIES HAVING JURISDICTION SHALL BE AT THE EXPENSE OF THE CONTRACTOR, TRADE OR SUPPLIER.

WORK TO COMMENCE ONLY ONCE PERMIT IS OBTAINED FROM THE AUTHORITIES HAVING JURISDICTION.

ELECTRICAL SYMBOLS

- Duplex Outlet (G.F.I. in all bathrooms)
- 220 V Outlet
- Duplex Outlet (Upper half switched)
- Split Duplex Outlet
- Weather proof Duplex Outlet
- Single pole switch
- 3 way switch
- Double gang switch
- Triple gang switch
- Double gang 3 way switch
- 4 way switch
- Furnace switch
- Ceiling light fixture
- Standard pot light
- Wall mounted light fixture
- Carbon Monoxide detector interconnected with smoke alarms
- Smoke detector interconnected with smoke alarms
- Electrical panel
- Mechanical vent
- Dryer
- Washer
- Thermostat
- Standard telephone jack
- Cable television outlet.
- Central vacuum location (Optional)
- Door Bell
- Car Charge Center
- Emergency Lighting on Battery backup