FUNCTIONAL SERVICING STUDY REPORT

For
3055 Richmond Road, Ottawa

Prepared by:

W.Elias & Associates
204 Borealis Cres . Ottawa, ON KI1 4V1
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EMAIL: wissamelias@gmail.com

Revision 0
July 2022

1. Project Description:

1.1. Introduction:

Property at 3055 Richmond Road is located close to intersection of Dumaurier Avenue and Richmond Road, Ottawa, Ontario. The property is about 0.10 Hectare severed from an existing lot which contain an existing one story building.
Property at 3055 Richmond Road is currently under light residential Zoning. Due to market demand for residential, the idea initiated to use the lot to build four-story dwelling that contains 16 units.
This report will address the servicing (water, sanitary) requirements associated with the proposed development located at 3055 Richmond Road within the City of Ottawa, Ontario. This report is prepared in response to the request from City of Ottawa Planning department.

1.2. Existing Conditions:

The existing site located at 3055 Richmond Road. The property measure a total area of approximately 0.10 Hectare. The site is fronting 406mm diameter CI water main and 225mm diameter Concrete sanitary main on Richmond Road.

1.3. Guidelines, Previous Studies, And Reports

The following studies were utilized in the preparation of this report:

- Ottawa Sewer Design Guidelines,
  City of Ottawa, SDG002, October 2012.
  (City Standards)
  - Technical Bulletin ISTB-2018-01
    City of Ottawa, March 21, 2018.
    (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04
    City of Ottawa, June 27, 2018.
    (ISTB-2018-04)

- Ottawa Design Guidelines Water Distribution
  City of Ottawa, July 2010.
  (Water Supply Guidelines)
  - Technical Bulletin ISD-2010-2
    City of Ottawa, December 15, 2010.
    (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02
    City of Ottawa, May 27, 2014.
    (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02
    City of Ottawa, March 21, 2018.
    (ISTB-2018-02)

- Design Guidelines for Sewage Works,
  Ministry of the Environment, 2008.
  (MOE Design Guidelines)

- Stormwater Planning and Design Manual,
  Ministry of the Environment, March 2003.
  (SWMP Design Manual)

- Ontario Building Code Compendium
  Ministry of Municipal Affairs and Housing Building Development Branch,
  January 1, 2012 Update. (OBC)

- Geotechnical Investigation Report

2. Water Supply

Residential Water Demand:

The water demand is calculated based on the Ministry of Environment Design Guidelines as follows:

Design Parameter	Value
Residential 1 Bedroom Apartment	1.4 P/unit
Residential 2 Bedroom Apartment	2.1 P/unit
Residential Average Daily Demand	280 L/d/P
Residential Maximum Daily Demand	3.6 x Average Daily *
Residential Maximum Hourly	5.4 x Average Daily *
Commercial Retail	2.5 L/m^2/d
Commercial Maximum Daily Demand	1.5 x avg. day
Commercial Maximum Hour Demand	1.8 x max. day
Minimum Watermain Size	150mm diameter
Minimum Depth of Cover	2.4m from top of watermain to finished grade
During normal operating conditions desired operating pressure is within	350kPa and 480kPa
During normal operating conditions pressure must not drop below	275kPa
During normal operating conditions pressure must not exceed	552kPa
During fire flow operating pressure must not drop below	140kPa

■ 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

□ 16 x 1 bedroom units x 1.4 pers./unit = 22.4 persons

Total occupancy = 22.4 persons rounded up to 23 persons

Residential Average Daily Demand = 280 L/c/d.
□ Average daily demand of 280 L/c/day x 23 persons =6440 Liters/day or 0.07 L/s
□ Maximum daily demand (factor of 2.5) is 0.07 L/s x 2.5 = 0.175 L/s
□ Peak hourly demand (factor of 2.2) = 0.175 L/s x 2.2 = 0.4 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).

Fire Flow Calculations as per Fire Underwriter's Survey Guidelines

$F = 220C\sqrt{A}$

Address:
File No.:

where
F= Required fire flow in L/min
C= Coefficient related to the type of construction
A= Total floor area in m²

C	**Coefficient Related to Type of Construction**		C-Value
	• Wood Frame Construction	☐	1.5
	• Ordinary Construction	☑	1.0
	• Non-Combustible Construction	☐	0.8
	• Fire-Resistive Construction	☐	0.6
		C =	1.0
A	**Total Floor Area (m²)**		
	12000 ft² ◄► 1114.84 m²		
F	**Required Fire Flow (L/min)**		
	= 220·C·√A		
	= 7346 L/min		
Occupancy Reductions or Surcharges			
	• Non-Combustible	☐	-25%
	• Limited Combustible	☑	-15%
	• Combustible	☐	0%
	• Free Burning	☐	15%
	• Rapid Burning	☐	25%
			-15%
		6244	L/min
Sprinkler Reduction			
	• Adequately Designed System	☐	-30%
	• Water Supply is Standard	☐	-10%
	• Fully Supervised System	☐	-10%
			0%
	6244 L/min		
	Reduction: 0 L/min		
	Fire Flow 6244 L/min		

Exposure Surcharge

Distance	Charge	# of Sides	
• 0 to 3m	25%	1	25%
• 3.1 to 10m	20%		
• 10.1 to 20m	15%		
• 20.1 to 30m	10%	1	10%
• 30.1 to 45m	5%	2	10%
			45%

6244 L/min
Surcharge: 2810 L/min
Fire Flow: 9053 L/min

REQUIRED FIRE FLOW
Cannot exceed 45,000 L/min nor be less than 2,000 L/min

9053 L/min
or 151 L/s
or 1991 IGPM

We are waiting for Boundary Condition to be provided by the City of Ottawa Engineering Department. As soon as we have the necessary information we would update this section.
A fire hydrant is presently located at the front of 3055 Richmond Road, which is only 30 meters away from the proposed building. From this location, it is within a 60 meter distance, therefore, no additional fire protection is required for this proposed development.

3. Sanitary Sewage

The sanitary flow is calculated based on the Ministry of Environment Guidelines as follow:

Design Parameter	Value
Residential 1 Bedroom Apartment	1.4 P/unit
Residential 2 Bedroom Apartment	2.1 P/unit
Average Daily Demand	280 L/d/per
Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0 Harmon Correction Factor 0.8
Commercial Floor/Amenity Space	2.5 $L/m^2/d$
Commercial Peaking Factor*	1.0
Infiltration and Inflow Allowance	0.05 L/s/ha (Dry) 0.28 L/s/ha (Wet) 0.33 L/s/ha (Total)
Sanitary sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} A R^{2/3} S^{1/2}$
Minimum Sewer Size	200 mm diameter
Minimum Manning's 'n'	0.013
Minimum Depth of Cover	2.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6 m/s
Maximum Full Flowing Velocity	3.0 m/s

3.1. Sanitary Sewage Calculation

Design Flows

Residential
 16 x 1 bedroom units x 1.4 pers./unit = 22.4 persons

Total occupancy = 22.4 persons rounded up to 23 persons
Q Domestic = 23x 280 L/person/day x (1/86,400 sec/day) = 6440 Liters/day or 0.07 L/s

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

Q Peak Domestic = 0.07 L/sec x 4.0 = 0.28 L/sec

Infiltration

Q Infiltration = 0.20 L/S/Gross hectare x 0.10 ha = 0.02 L/sec

Total Peak Sanitary Flow = 0.28 + 0.02 = 0.30 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 50 Litres per second.

The maximum peak sanitary flows for the site is 0.30 L/s. Since 0.30 L/s is much less than 0.65 x 50 = 32.5 L/s, the 150mm which means existing 150mm sanitary line has enough capacity.

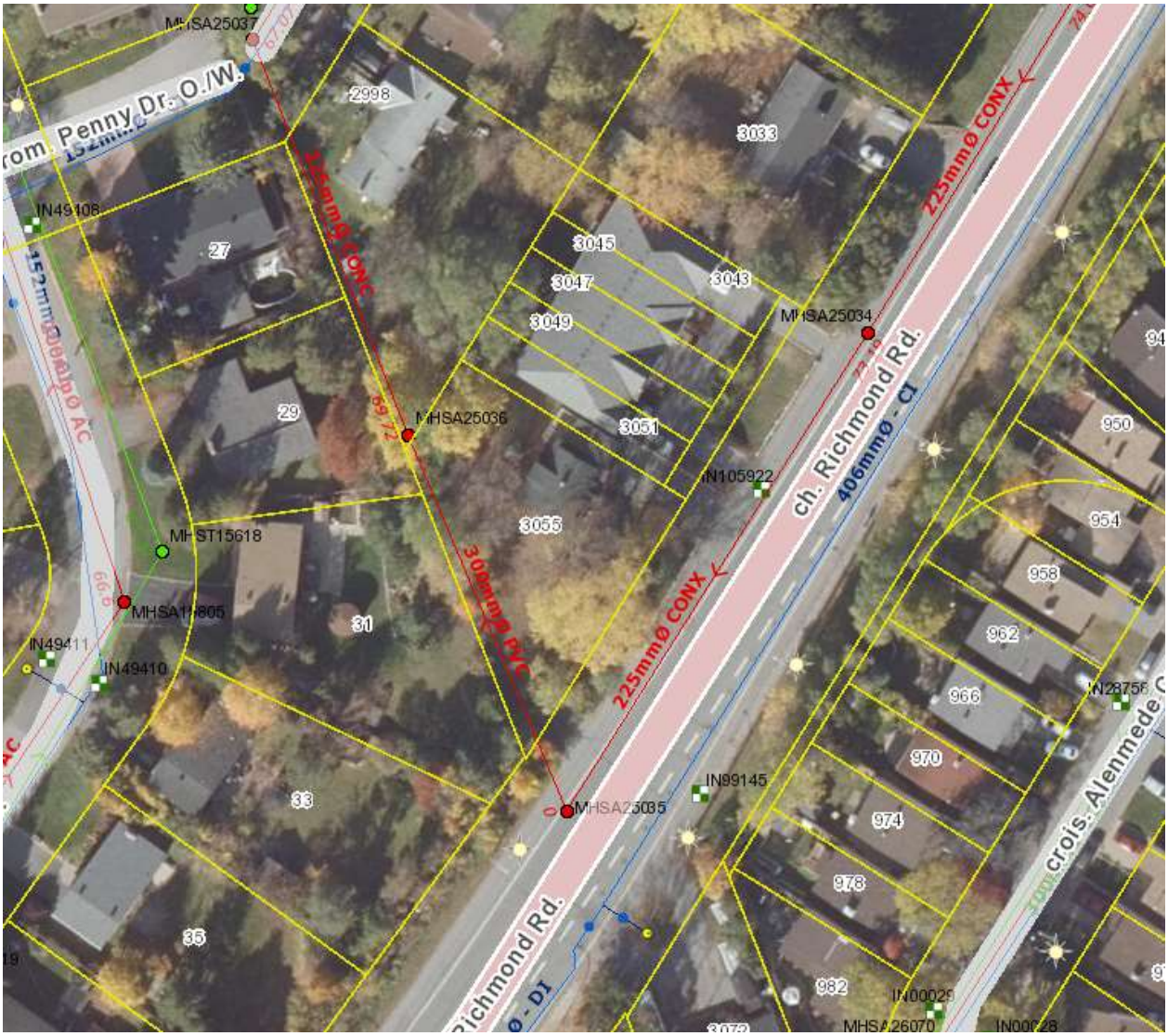
Sewage discharges will be domestic in type and in compliance with the Ministry of Environment guidelines. The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary. As such the proposed increase in sanitary flow as a result of the construction of the proposed development is negligible and there is sufficient available capacity for the proposed development.

Should you have any questions or comments, please feel free to contact undersigned.

Yours truly,
Wissam Elias, P. Eng
Senior Project Manager

APPENDIX A:

GeoOttawa Snapshot


MHSA25037
Penny Dr. O./W.
2998
3033
IN49108
27
3045
3047
3043
3049
MHSA25034
225mmØ CONX
ch. Richmond Rd.
406mmØ - CI
29
MHSA25036
3051
IN105922
950
954
3055
MHST15618
958
962
31
IN49411
IN49410
966
970
IN99145
33
MHSA25035
974
978
35
982
MHSA26070

APPENDIX B:

Correspondent
&
Architectural/Engineering Drawings

SITE PLAN OF SURVEY PLAN PART 1 PLAN OF LOT 25 REGISTERED PLAN 523, CITY OF OTTAWA

ZONING: R1GG REZONED TO R4M

PROPOSED BUILDING TYPE: 4 STOREY, LOW RISE RENTAL BUILDING
16 RESIDENTIAL RENTAL UNITS

LOT DEPTH: 34.39m (112.834')

ADJACENT ZONING:
NORTH: R1GG
SOUTH: R1Y[522]
WEST SIDE: R1FF
EAST SIDE: R3N[1710]

SCHEDULE 1 AREA: AREA 'C'
SCHEDULE 1A AREA: AREA 'C'

LOT INFO - AFTER ZONING AMENDMENT - ALL MEASUREMENTS MADE TO ROW

P. STANDARD	3055 RICHMOND REQUIRED	3055 RICHMOND PROPOSED	EXISTING SINGLE	NOTES
LOT WIDTH:	18m	39.44m	42.85m	
LOT AREA:	540m2	894.88m2	1027.5m2	
HEIGHT:	14.5m	~14.5m	~6.0m	
FRONT YARD:	3.0m	3.01m	10.83m	
CORNER YARD:	n/a	n/a	n/a	
REAR YARD:	10.3m	13.50m	17.81m	
INTERIOR YARD:	3m	3.00m	0.34m	
AMENITY AREA:	168m2	203.9m2	n/a	
PARKING SPACES:	10 res.	11	1	
	4 visitor	0	0	
BIKE SPACES:	8	22	0	
M.L.C.:	NO MAX.			

BUILDING AREAS

BASEMENT FL. GFA: -
FIRST FL. GFA: -
SECOND FL. GFA: -
THIRD FL. GFA: -
FOURTH FL. GFA: -
STORAGE: -
GARAGE/CARPORT: -
EXITS/CORR. (ALL FLOORS): -
TOTAL GFA: -
TOTAL ALL AREAS: -

PROPOSED SITE DEVELOPMENT INFO

NEW GROSS FLOOR AREA:
EX. GROSS FLOOR AREA:
NUMBER OF UNITS:
PROPOSED STOREYS:

BUILDING COVERAGE:
SOFT LANDSCAPING CVG.:
HARD LANDSCAPING CVG.:
DECKS/PORCH/STEPS:
ASPHALT CVG.:
OTHER:

SURVEY INFO.

SURVEY INFO TAKEN FROM
SURVEYOR'S REAL PROPERTY REPORT
PART 1, PLAN OF LOT 25, REGISTERED PLAN 523, CITY OF OTTAWA
PREPARED BY:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
DEC. 20, 2021

SITE LEGEND

- EX. TREE TO BE REMOVED
- NEW CONIFEROUS TREE
- DENOTES SOFT LANDSCAPING
- DENOTES HARD LANDSCAPING
- EXISTING BUILDING FOOTPRINT
- PROPOSED RIVERSTONE
- PROPOSED ASPHALT DRIVEWAY
- PROPOSED WOOD DECKS/ BALCONIES
- CAR PARKING SPACE (ASPHALT)
- BYCYCLE PARKING (ASPAHLT)
- WASTE COLLECTION AREA
- SNOW STORAGE AREA
- PROPOSED/EXISTING ENTRY/EXIT
- PF — TEMPORARY PROTECTION FENCE
- U.P. EX. UTILITY POLE
- EX. CHAINED LINK/BOARD FENCE
- PROPERTY LINE
- MOTION SENSING EXT. LIGHTS

WASTE COLLECTION LEGEND

GB 3YD + 2YD GARBAGE CONTAINERS

BB 2YD FIBRE CONTAINER

B 2YDY GML CONTAINER

G 240L ORGANICS

PRIVATE COLLECTION

SITE NOTES

NEW ROOF DOWN SPOUTS SHALL NOT BE DIRECTED TOWARDS THE ADJACENT PROPERTIES

EXCAVATED MATERIAL TO BE REMOVED FROM PROPERTY

ALL GRADE TO SLOPE 2% AWAY FROM FOUNDATION WALL

ALL MEASUREMENTS ARE METRIC (ACCOMPANYING IMPERIAL MEAS. MAY APPEAR)

EXISTING GRADING AND DRAINAGE PATTERNS NOT TO BE ALTERED UNLESS OTHERWISE NOTED BY THE CIVIL ENGINEER

SNOW ACCUMULATION TO BE REMOVED OFF SITE IMMEDIATELY AS NEEDED

EXISTING PLANTING MATERIAL

CODE	COMMON NAME	QTY.	SIZE (DIA.)	CONDITION/NOTES
DECIDOUS TREES				
CONIFEROUS TREES				
SHRUBS				

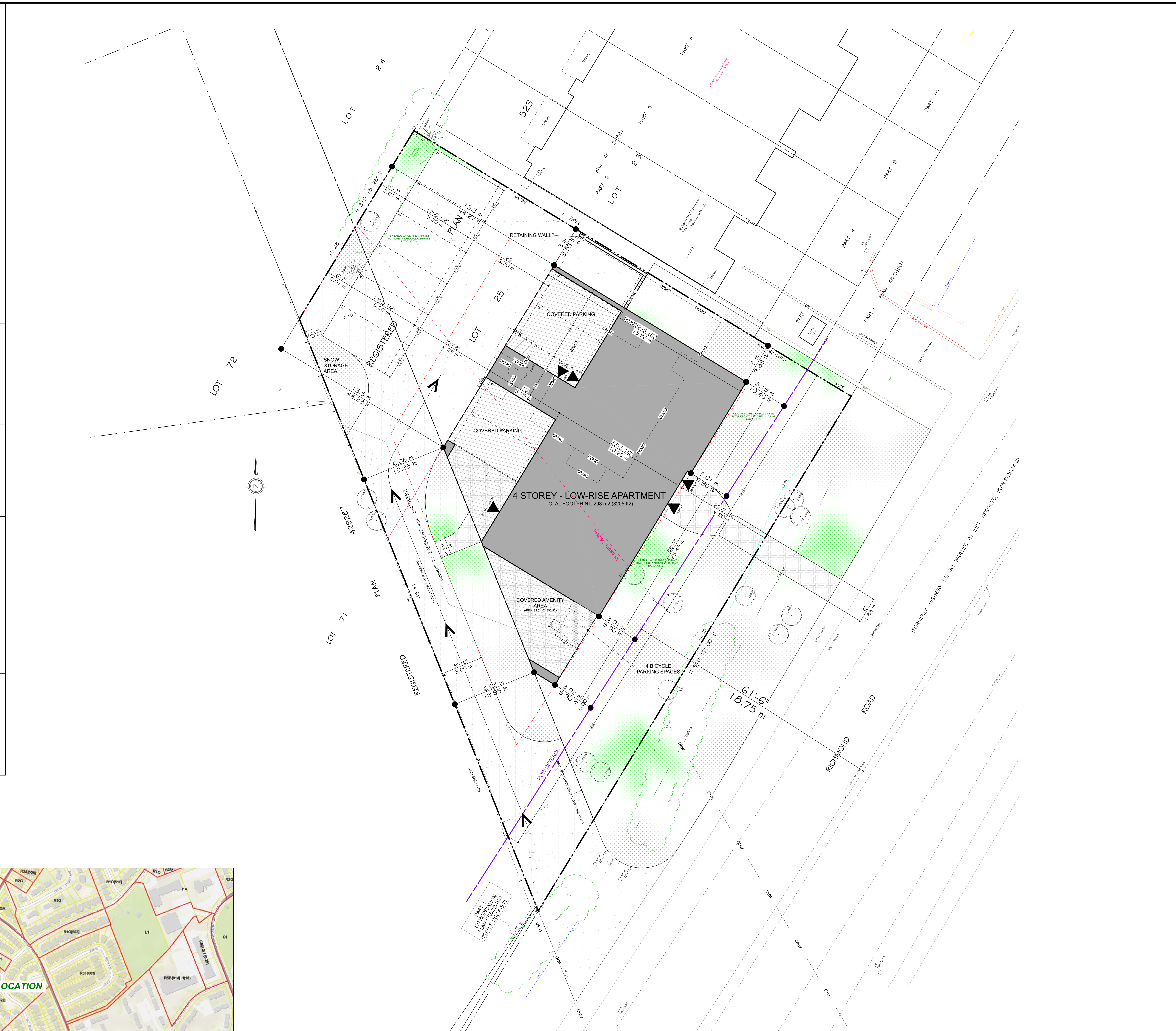
NEW PLANTING MATERIAL

CODE	COMMON NAME	QTY.	SIZE (DIA.)	CONDITION/NOTES
DECIDOUS TREES				
DT1	RED MAPLE	2	50mm Cal.	
CONIFEROUS TREES				
SHRUBS				

TREE CONSERVATION NOTES

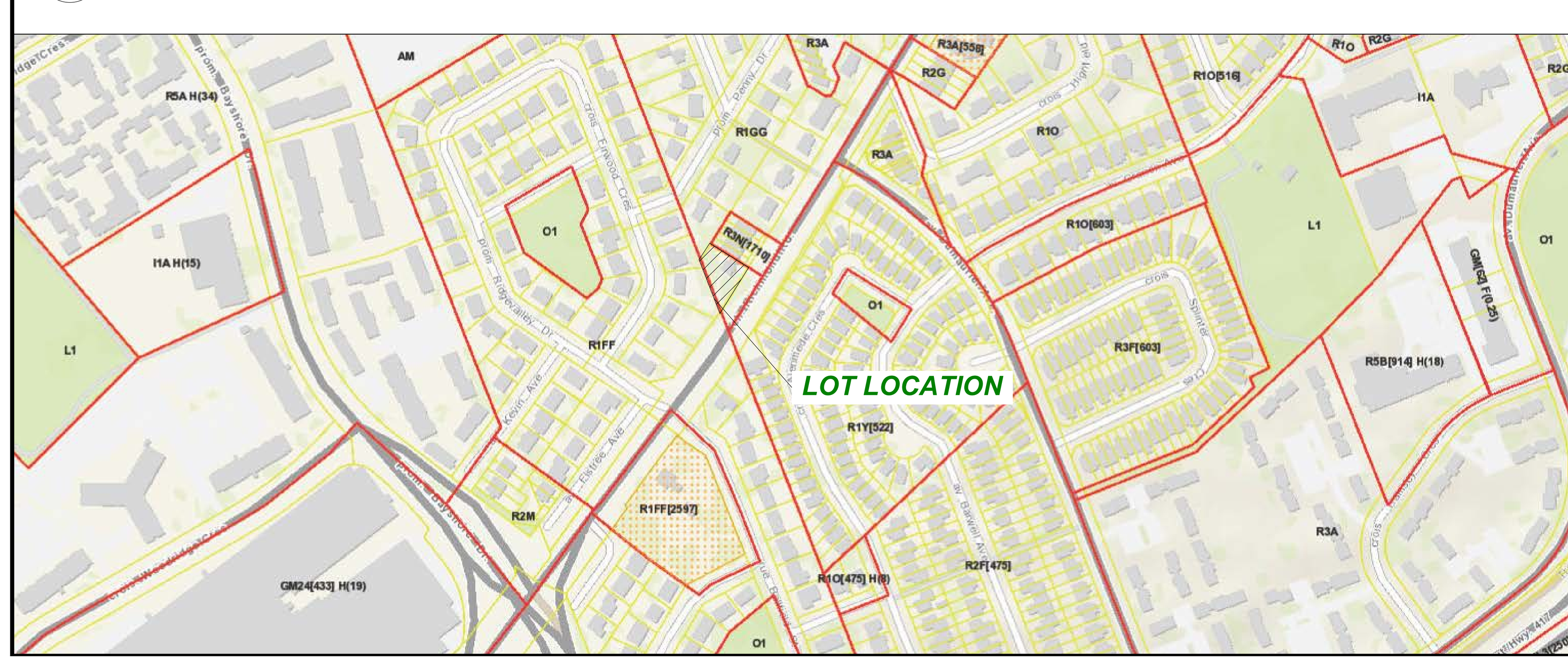
1. ERECT A FENCE AT THE CRITICAL ROOT ZONE (CRZ1) OF TREES;
2. DO NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE;
3. DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
4. DO NOT RAISE OR LOWER THE EXISTING GRADE WITHIN THE CRZ WITHOUT APPROVAL;
5. TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF A TREE;
6. DO NOT DAMAGE THE ROOT SYSTEM, TRUNK OR BRANCHES OF ANY TREE;
7. ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE'S CANOPY.

* THE CRITICAL ROOT ZONE (CRZ) IS ESTABLISHED AS BEING 10 CENTIMETRES FROM THE TRUNK OF A TREE FOR EVERY CENTIMETRE OF TRUNK DIAMETER AT BREAST HEIGHT (DBH). THE CRZ IS CALCULATED AS DBH X 10 CM.
* TREE PROTECTION FENCE (PF) TO BE ERECTED BEFORE AND REMAIN UNTIL BUILDING CONSTRUCTION HAS COMPLETED AND TO CONSIST OF 1.8m HIGH PLYWOOD HOARDING (SEE DIAGRAM BELOW).



1 A1 SITE PLAN
SCALE 3/32" = 1'-0"

3 A1 KEY PLAN & CONTEXT
SCALE NO SCALE



UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

RESPONSIBILITIES:

DO NOT SCALE DRAWINGS

ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2006

ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BYLAWS HAVING JURISDICTION

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT/DESIGNER

GENERAL NOTES:

3055 RICHMOND ROAD

SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

ARCHITECT/DESIGNER:
UNPOISED ARCHITECTURE INC./AZUL DESIGNS
5-16 SWEETLAND AVE.
OTTAWA, ON.
K1N-7T6

APPLICANT/PLANNER:
WSP CANADA INC.
2611 QUEENSVIEW DR. SUITE 300
OTTAWA, ON.
K2B-8K2

CIVIL ENGINEER:
W.ELIAS & ASSOCIATES
204 BOREALIS CRES.
OTTAWA, ON.
K1K-4V1

LANDSCAPING:
JOHN K. SZCZEPANIAK
P.O. Box 4207, Station 'E'
OTTAWA, ON.
K1S 5B2

SURVEYOR:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 CONCOURSE GATE • SUITE 500
OTTAWA, ON.
K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

NO.	REVISION/ISSUE	DATE (M/D/Y)
4	REVISED SITE PLAN	00/00/00
3	REVISED SITE PLAN	00/00/00
2	REVISED SITE PLAN	05/17/22
1	PRELIMINARIES	04/12/22

PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME: SITE PLAN

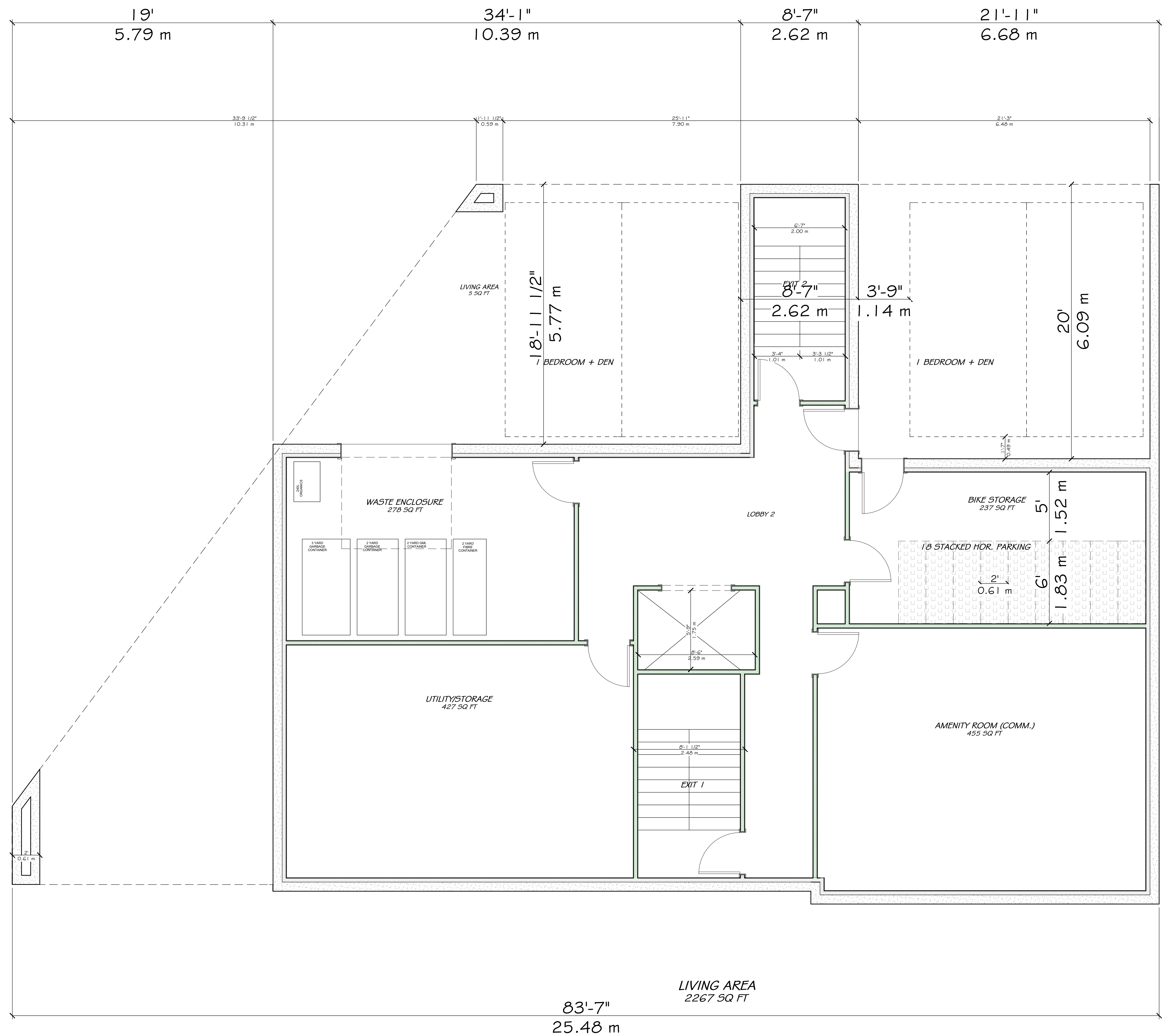
DRAWN BY: ---

SHEET: A1

DATE: APRIL 12, 2022

SCALE: AS NOTED

FILE NUMBER: D00-00-00-0000



1 / A2 BASEMENT PLAN
SCALE 1/4" = 1'-0"

3055 RICHMOND ROAD

SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

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OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

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OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME: FLOOR PLANS

DRAWN BY: ---

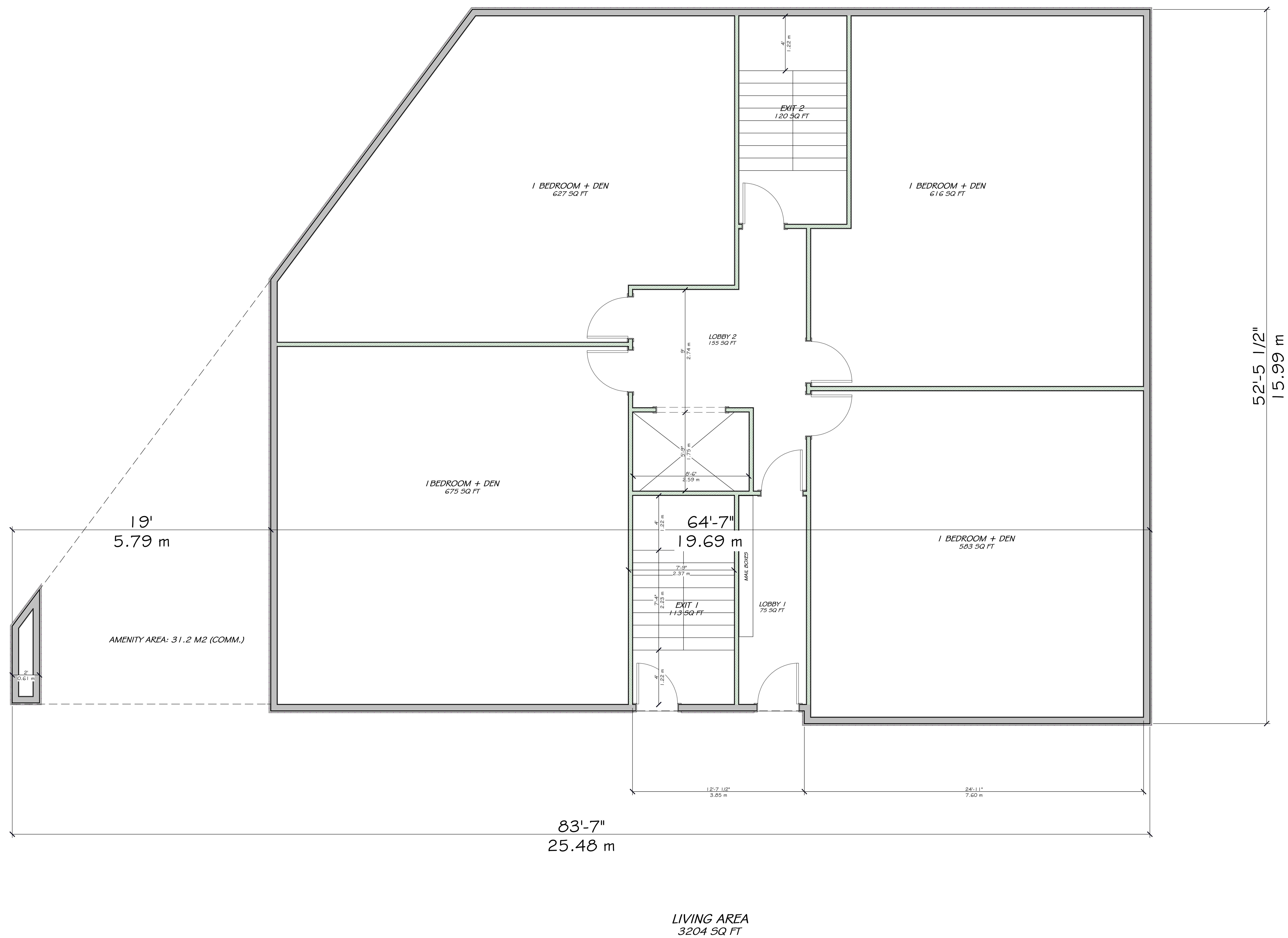
DATE: APRIL 12, 2022

SCALE: AS NOTED

SHEET: A2

FILE NUMBER: D00-00-00-0000

TOTAL 1ST FLOOR AREA: 297.6 M2 (3203.28 FT2)
G.F.A: 245.2 M2 (2639.54 FT2)



2 / A3 FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"

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OTTAWA, ON. K1N-7T6

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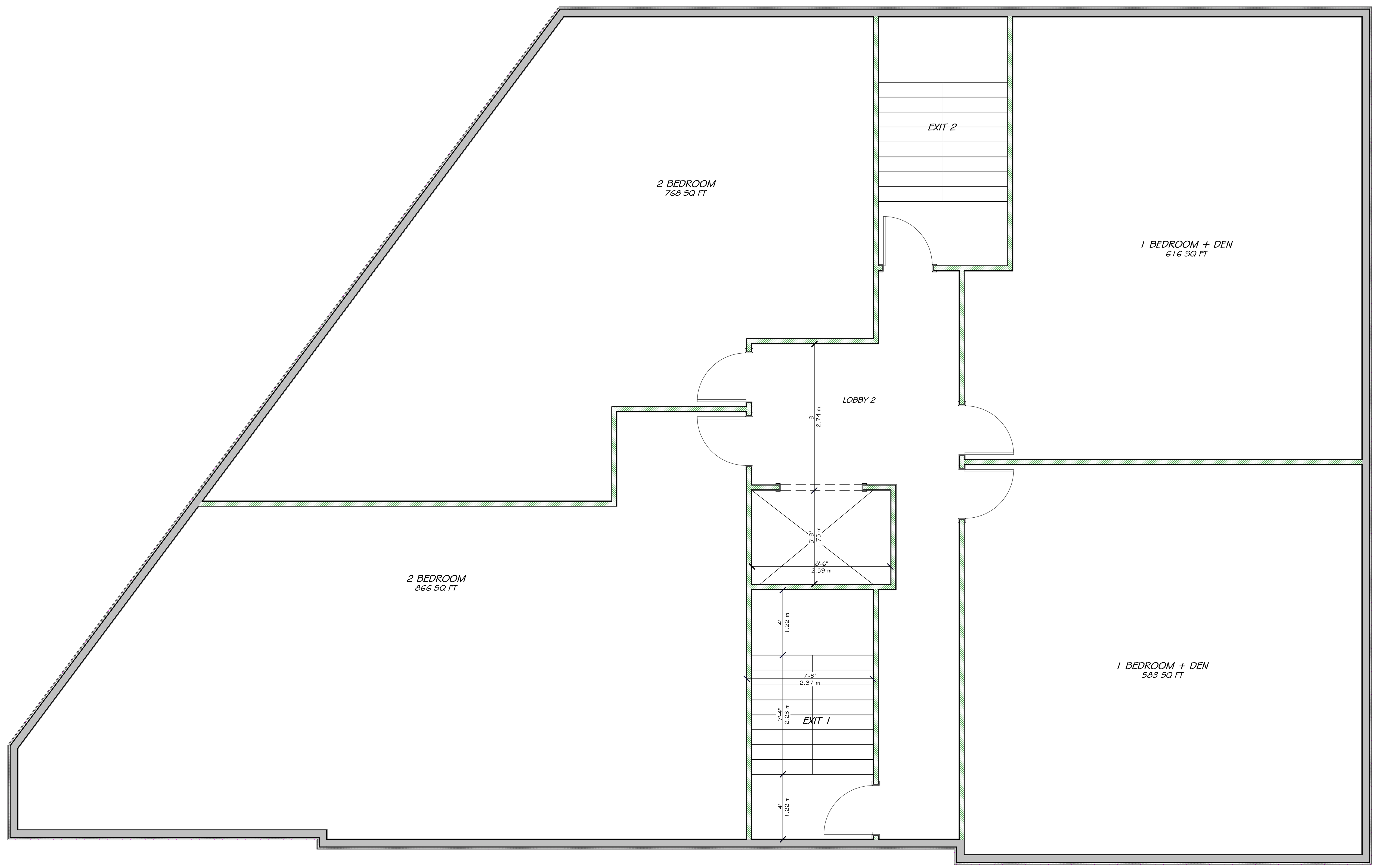
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME: FLOOR PLANS

DRAWN BY: ---
DATE: APRIL 12, 2022
SCALE: AS NOTED
SHEET: A3

FILE NUMBER: D00-00-00-0000



LIVING AREA
3553 SQ FT

1
A4 SECOND FLOOR PLAN
SCALE 1/4" = 1'-0"

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K1K-4V1

LANDSCAPING:
JOHN K. SZCZEPANIAK
P.O. Box 4207, Station 'E'
OTTAWA, ON.
K1S 5B2

SURVEYOR:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 CONCOURSE GATE • SUITE 500
OTTAWA, ON.
K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

M/D/Y

NO.	REVISION/ISSUE	DATE
4	REVISED SITE PLAN	00/00/00
3	REVISED SITE PLAN	00/00/00
2	REVISED SITE PLAN	05/17/22
1	PRELIMINARIES	04/12/22

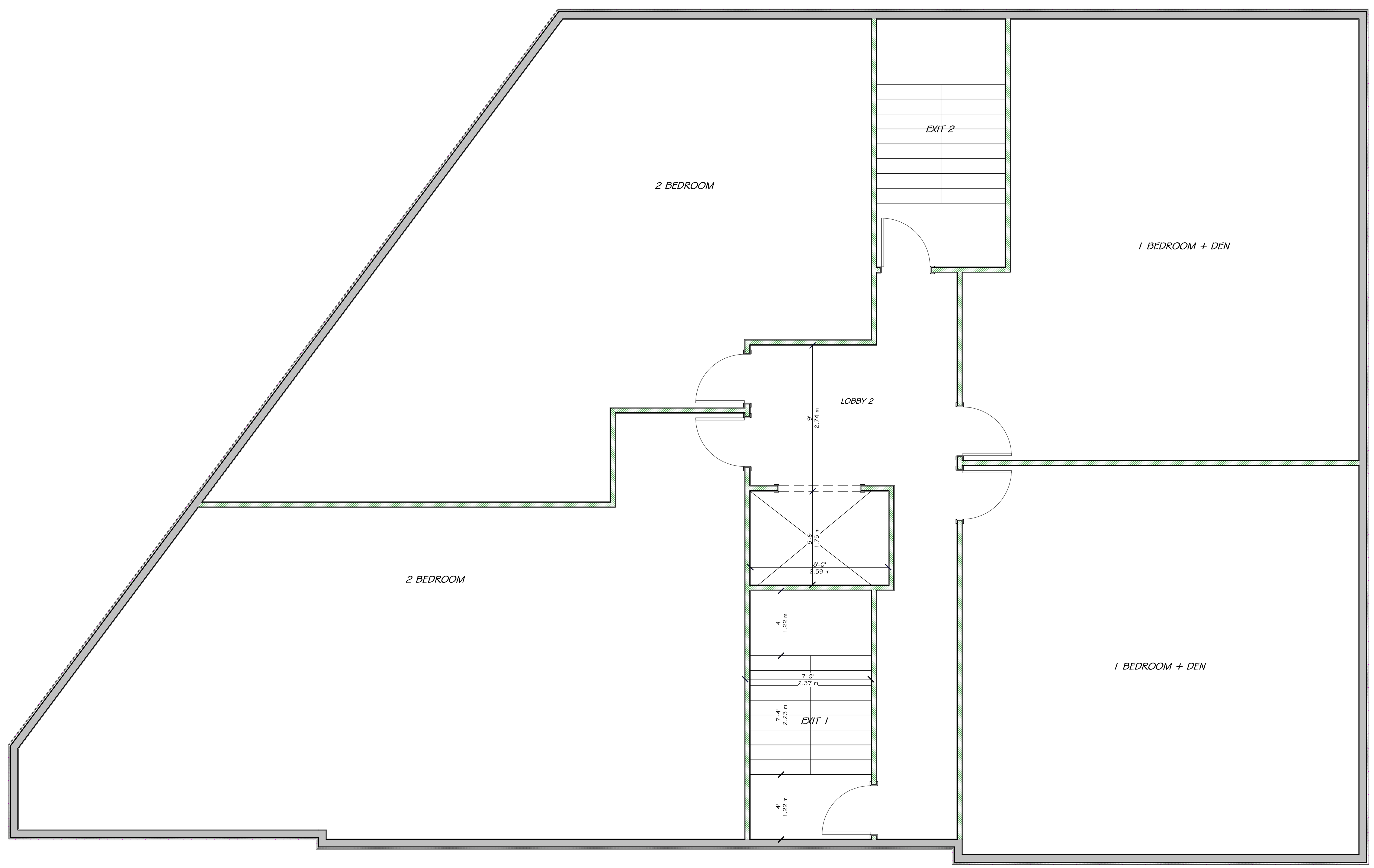
PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME:
PLANS

DRAWN BY: ---
DATE: APRIL 12, 2022
SCALE: AS NOTED
SHEET: A4

FILE NUMBER: D00-00-00-0000



LIVING AREA
3553 SQ FT

1 / A5 THIRD FLOOR PLAN
SCALE 1/4" = 1'-0"

UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

RESPONSIBILITIES:

DO NOT SCALE DRAWINGS

ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2006

ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BYLAWS HAVING JURISDICTION

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT/DESIGNER

GENERAL NOTES:

3055 RICHMOND ROAD

SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

ARCHITECT/DESIGNER:
UNPOISED ARCHITECTURE INC./AZUL DESIGNS
5-16 SWEETLAND AVE.
OTTAWA, ON.
K1N-7T6

APPLICANT/PLANNER:
WSP CANADA INC.
2611 QUEENSVIEW DR. SUITE 300
OTTAWA, ON.
K2B-8K2

CIVIL ENGINEER:
W.ELIAS & ASSOCIATES
204 BOREALIS CRES.
OTTAWA, ON.
K1K-4V1

LANDSCAPING:
JOHN K. SZCZEPANIAK
P.O. Box 4207, Station 'E'
OTTAWA, ON.
K1S 5B2

SURVEYOR:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 CONCOURSE GATE • SUITE 500
OTTAWA, ON.
K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

NO.	REVISION/ISSUE	DATE (M/D/Y)
4	REVISED SITE PLAN	00/00/00
3	REVISED SITE PLAN	00/00/00
2	REVISED SITE PLAN	05/17/22
1	PRELIMINARIES	04/12/22

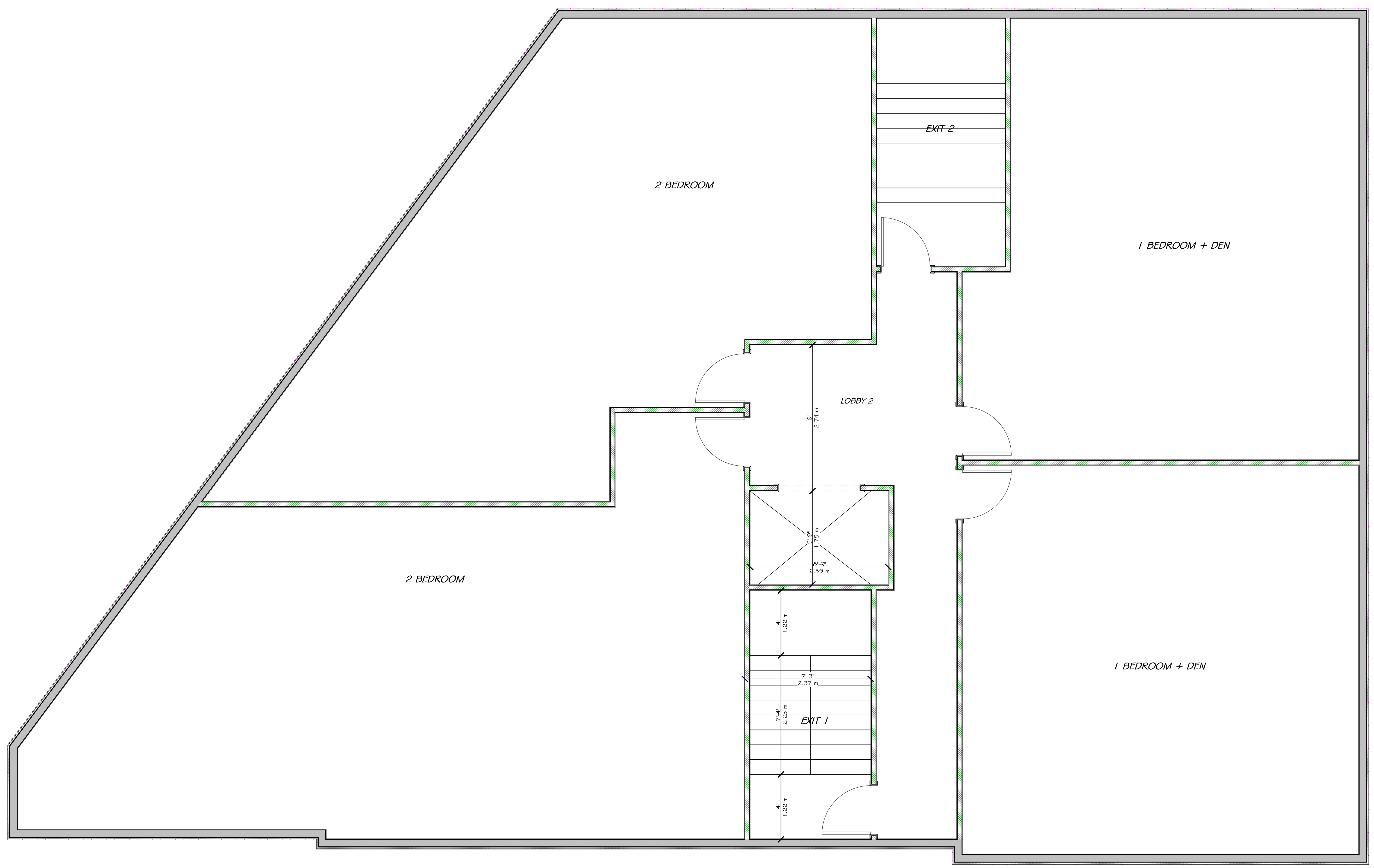
PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME:
ELEVATIONS

DRAWN BY: ---
DATE: APRIL 12, 2022
SCALE: AS NOTED
SHEET: A5

FILE NUMBER: D00-00-00-0000



LIVING AREA
3553 SQ FT

1 FOURTH FLOOR PLAN
A6 SCALE 1/4" = 1'-0"

UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

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GENERAL NOTES:

3055 RICHMOND ROAD
SCOPE OF WORK: NEW 4 STOREY LOW RISE
RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

ARCHITECT/DESIGNER:
UNPOISED ARCHITECTURE INC./AZUL DESIGNS
5-16 SWEETLAND AVE.
OTTAWA, ON.
K1N-7T6

APPLICANT/PLANNER:
WSP CANADA INC.
2611 QUEENSVIEW DR. SUITE 300
OTTAWA, ON.
K2B-8K2

CIVIL ENGINEER:
W.ELIAS & ASSOCIATES
204 BOREALIS CRES.
OTTAWA, ON.
K1K-4V1

LANDSCAPING:
JOHN K. SZCZEPANIAK
P.O. Box 4207, Station 'E'
OTTAWA, ON.
K1S 5B2

SURVEYOR:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 CONCOURSE GATE • SUITE 500
OTTAWA, ON.
K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

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4	REVISED SITE PLAN	00/00/00
3	REVISED SITE PLAN	00/00/00
2	REVISED SITE PLAN	05/17/22
1	PRELIMINARIES	04/12/22

PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME:
DETAILS & SECTIONS

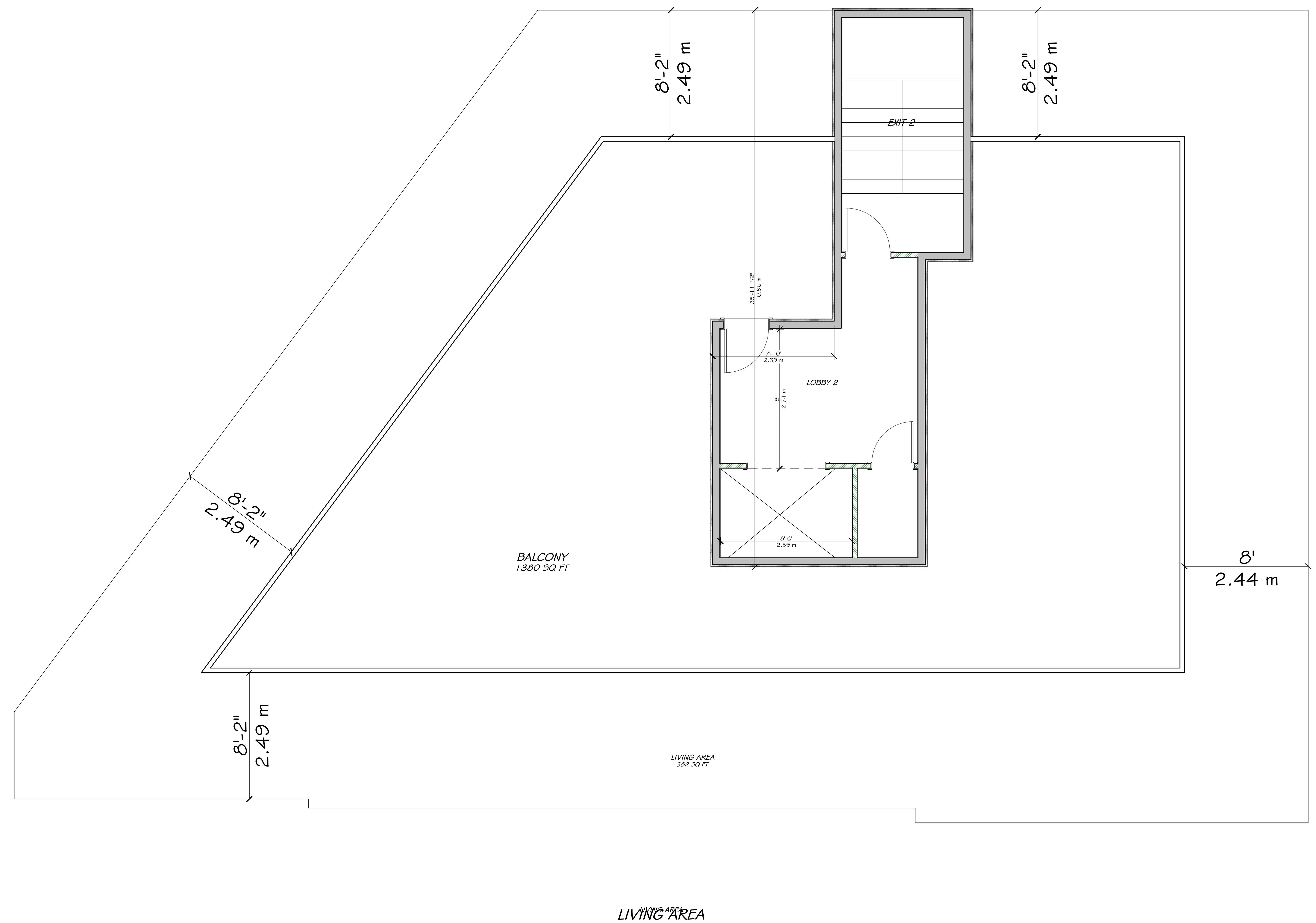
DRAWN BY: ---

DATE: APRIL 12, 2022

SCALE: AS NOTED

SHEET: A6

FILE NUMBER: D00-00-00-0000



1 ROOF PLAN
A7 SCALE 1/4" = 1'-0"

UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

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GENERAL NOTES:

3055 RICHMOND ROAD

SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

ARCHITECT/DESIGNER:
UNPOISED ARCHITECTURE INC./AZUL DESIGNS
5-16 SWEETLAND AVE.
OTTAWA, ON.
K1N-7T6

APPLICANT/PLANNER:
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K2B-8K2

CIVIL ENGINEER:
W.ELIAS & ASSOCIATES
204 BOREALIS CRES.
OTTAWA, ON.
K1K-4V1

LANDSCAPING:
JOHN K. SZCZEPANIAK
P.O. Box 4207, Station 'E'
OTTAWA, ON.
K1S 5B2

SURVEYOR:
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 CONCOURSE GATE • SUITE 500
OTTAWA, ON.
K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

M/D/Y

NO.	REVISION/ISSUE	DATE
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1	PRELIMINARIES	04/12/22

PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME:
FLOOR PLANS

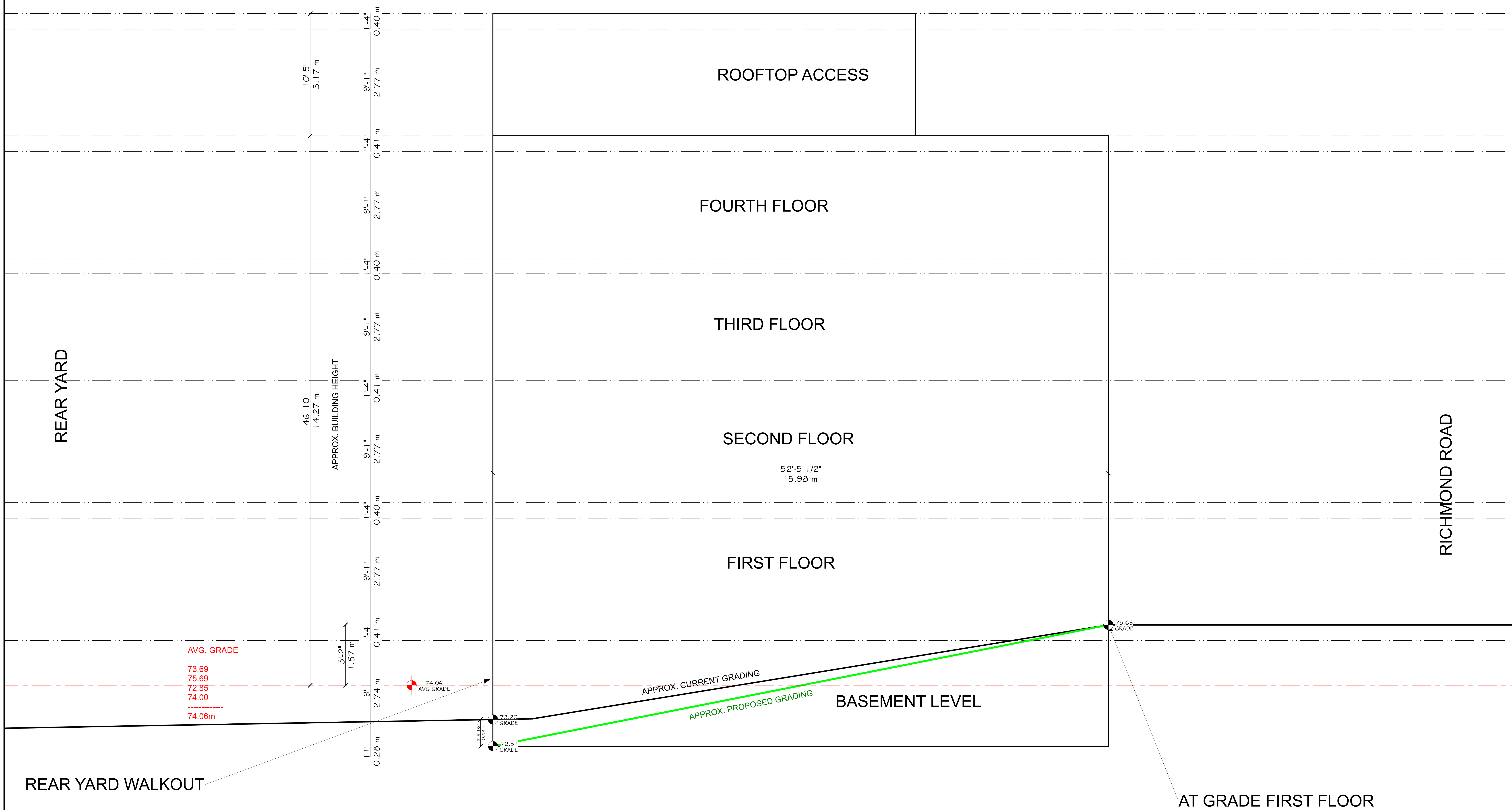
DRAWN BY: ---

DATE: APRIL 12, 2022

SCALE: AS NOTED

SHEET: A7

FILE NUMBER: D00-00-00-0000



UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

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GENERAL NOTES:

3055 RICHMOND ROAD

SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

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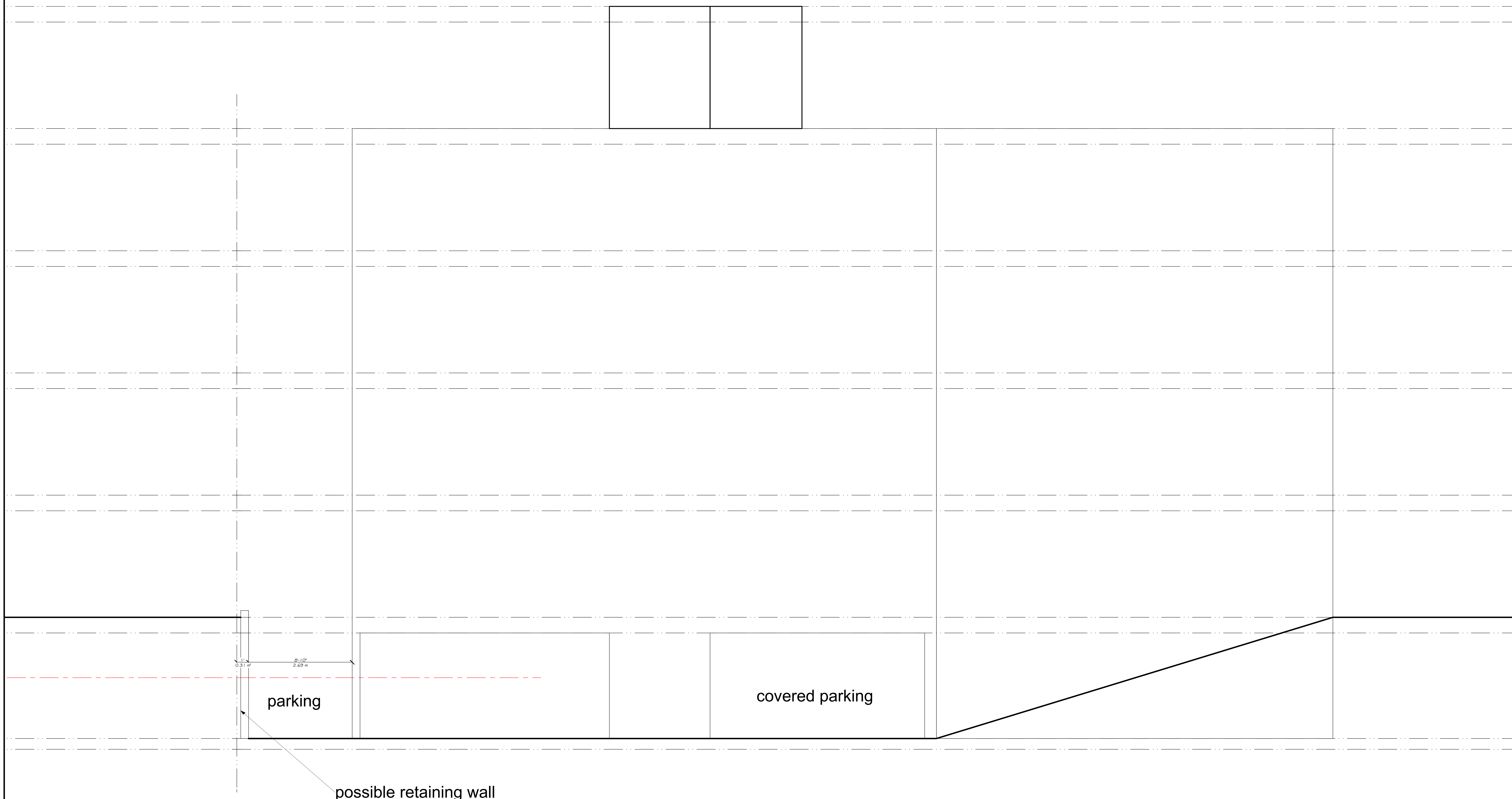
2	REVISED SITE PLAN	05/17/22
1	PRELIMINARIES	04/12/22

PROJECT: **3055 RICHMOND RD.**
3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME: FLOOR PLANS

DRAWN BY: ---
DATE: APRIL 12, 2022
SCALE: AS NOTED
SHEET: A8

FILE NUMBER: D00-00-00-0000



REAR WALL MASSING

1 / A1 BUILDING LOCATION PLAN
SCALE 1/8" = 1'-0"

UNPOISED ARCHITECTURE INC.
5-16 SWEETLAND AVE.
OTTAWA, ON. K1N-7T6

AZUL DESIGNS

OTTAWA, ON. K1H-7G2

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GENERAL NOTES:

3055 RICHMOND ROAD
SCOPE OF WORK: NEW 4 STOREY LOW RISE RENTAL BUILDING - 16 UNITS

OWNER/DEVELOPER:
FARES ELSABBAGH
1886 MERIVALE RD.
OTTAWA, ON.
K2G 1E6

ARCHITECT/DESIGNER:
UNPOISED ARCHITECTURE INC./AZUL DESIGNS
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K2E-7S6

CONSULTANTS:

STRUCTURAL - TBD
MECHANICAL - TBD
ELECTRICAL - TBD

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1	PRELIMINARIES	04/12/22

PROJECT: **3055 RICHMOND RD.**

3055 RICHMOND RD.
OTTAWA, ON K2B 6S6
613-000-0000

DRAWING NAME:
SITE PLAN AND NOTES

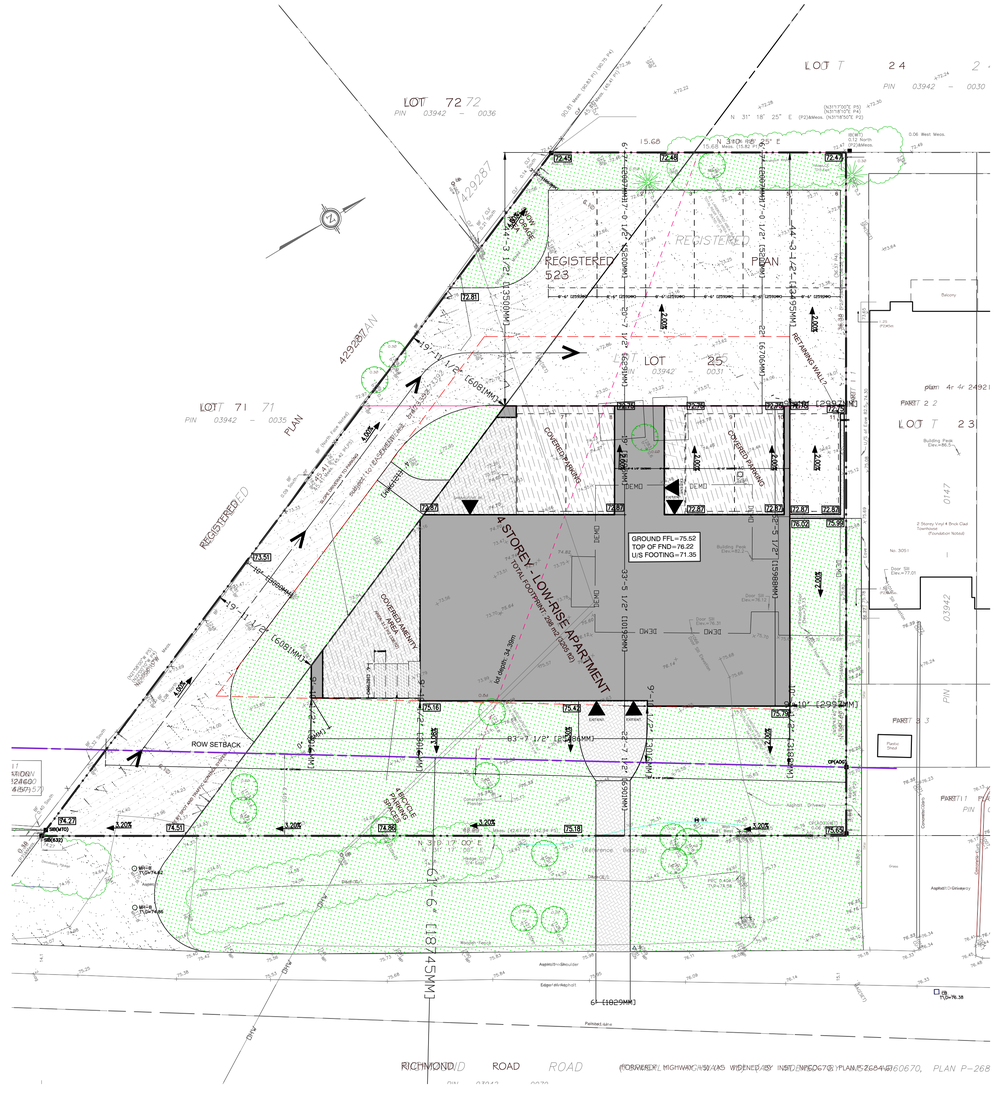
DRAWN BY: ---
DATE: APRIL 12, 2022
SCALE: AS NOTED
SHEET: A1 A9

FILE NUMBER: D00-00-00-0000

PROVIDE FROST PROTECTION FOR FOOTING ABOVE 1.5m BELOW THE SURROUNDING GRADE

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES.
THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.



GENERAL NOTES FOR SERVICING

1. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
2. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMAINS SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE TV, AND CONSUMERS GAS LINES.
4. ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
5. REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS LAYOUT AND REMOVALS. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. AU. INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. TOPOGRAPHIC SURVEY COMPLETED ON 17TH DAY OF NOVEMBER 2021 AND PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. THE LOCATION OF UNDERGROUND SERVICES ARE BASED ON THE SURVEY PROVIDED WITH THE INFORMATION FROM THE CITY OF OTTAWA DRAWINGS "P&P2 – RICHMOND ROAD SANITARY SEWER", DATED NOVEMBER 7TH, 1962. HOWEVER, CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
8. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
9. JOB BENCH MARK AS INDICATED ON THE DRAWINGS
10. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
11. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500mm WIDTH MINIMUM
12. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
13. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
14. ABUTTING PROPERTY GRADES TO BE MATCHED.
15. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
16. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
17. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
18. AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
19. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
20. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY EXP Services

24. o) PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:
65 mm ASPHALTIC CONCRETE (PG 58-34), 92% to 97 % MRD
150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMDD
300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMDD
SUBGRADE- APPROVED EXISTING FILL, SUBGRADE AND IMPORTED GRANULAR FILL (COMPACTED TO 95% SPMDD)

25. CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.

NOTES WATERMAIN

24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.

25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.

26. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OBVERT SHALL BE MAINTAINED; WHERE WATERMAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED. THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTIAWA STANDARD W22.

27. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.

28. VALVE BOX TO BE AS PER CITY OF OTIAWA STANDARD W24.

29. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 &: W25.4.

30. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 &: W42.

31. FIRE HYDRANTS TO BE A5 PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)

32. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

*TYPICAL WATER SERVICE LINE AS PER W26(FOR 19MM & 25MM DIA. WATER SERVICES). AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS

NOTES: SANITARY SEWER AND MANHOLES

34. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

36. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.

37. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.

38. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTIAWA STANDARD S25 AND 524. (NOT APPLICABLE)

39. SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2

40. STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14

NOTES: STORM SEWERS AND STRUCTURES

41. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

NOTES: EROSION AND SEDIMENT CONTROL

42. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

LEGEND

- 250mmø SAN — EXISTING MAIN SANITARY SEWER
- 300mmø STM — EXISTING MAIN STORM SEWER
- 203mmø WM — EXISTING MAIN WATERMAIN
- G — G — EXISTING MAIN GAS LINE
- EXISTING CENTRE OF ROAD
- EXISTING SANITARY LATERAL
- EXISTING WATER LATERAL
- EXISTING STORM LATERAL
- B — B — EXISTING BURIED TELEPHONE
- T — EXISTING OVERHEAD TELEPHONE
- EXISTING OVERHEAD HYDRO
- EXISTING UNDERGROUND HYDRO
- BUILDING FOUNDATION
- BUILDING ROOF
- PROPERTY LINE
- SETBACK LINE
- RIGHT OF WAY
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- EXISTING CHAIN LINK FENCE
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- 2.00% — PROPOSED GRADING SLOPE BETWEEN2–7%, GRADING OVER 7% MUST BE TERRACED TO A MAXIMUM SLOPE OF 3H:1
- GRASS
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- PROPOSED ANNUAL GRASSES
- A1 0.38 0.90 — STORM DRAINAGE AREA NUMBER, STORM DRAINAGE AREA IN HECTARES, RUN-OFF COEFFICIENT

W. Elias & Associates
CONSULTING ENGINEERS
204 BOREALIS CR.
OTTAWA, ON K1K 4V1
TEL 613-762-7800
WISSAMELIAS@GMAIL.COM
CIVIL
STRUCTURE
ELECTRICAL
MECHANICAL

CONSULTANT:

SEAL:

CLIENT:

OTTAWA ONTARIO

PROJECT:

4 STOREY LOW-RISE APARTMENT BUILDING
3055 RICHMOND ROAD
OTTAWA, ON K2B 6S6

KEY PLAN:

ISSUED FOR – REVISION:

NO	RE	DATE	DESCRIPTION
1		06/10/2022	ISSUED FOR REVIEW

PROJECT NO: 2022-120
DATE: 2022-06-10
ORIGINAL SCALE: 1:100
DESIGNED BY: R.E
DRAWN BY: R.E
CHECKED BY: W.E
IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.
1"

DISCIPLINE:

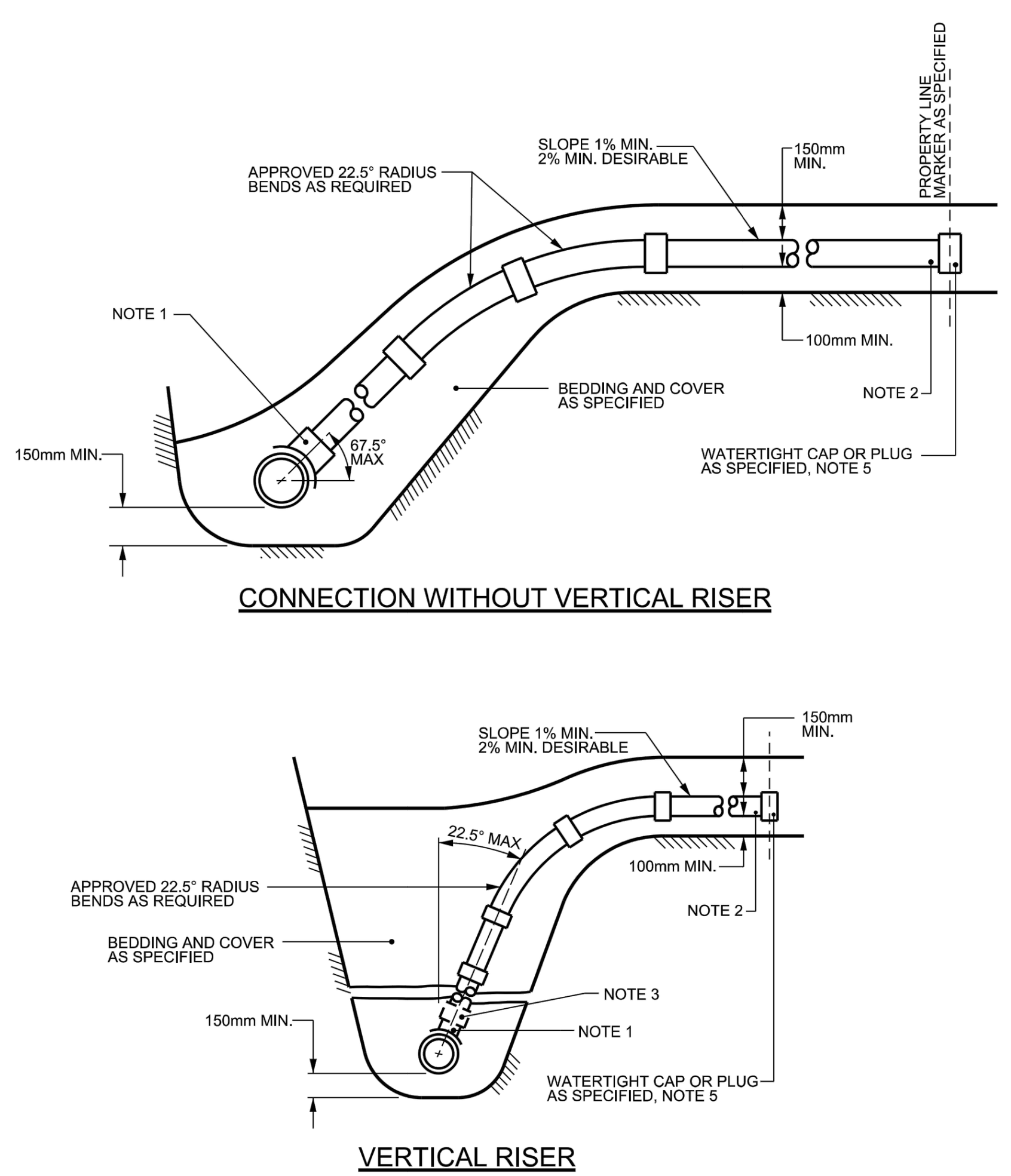
TITLE:

GRADING PLAN

SHEET NUMBER: G1
SHEET #: OF

ISSUE: ISSUED FOR REVIEW
DATE OF: 2022-06-10
REV #: –

STAMP

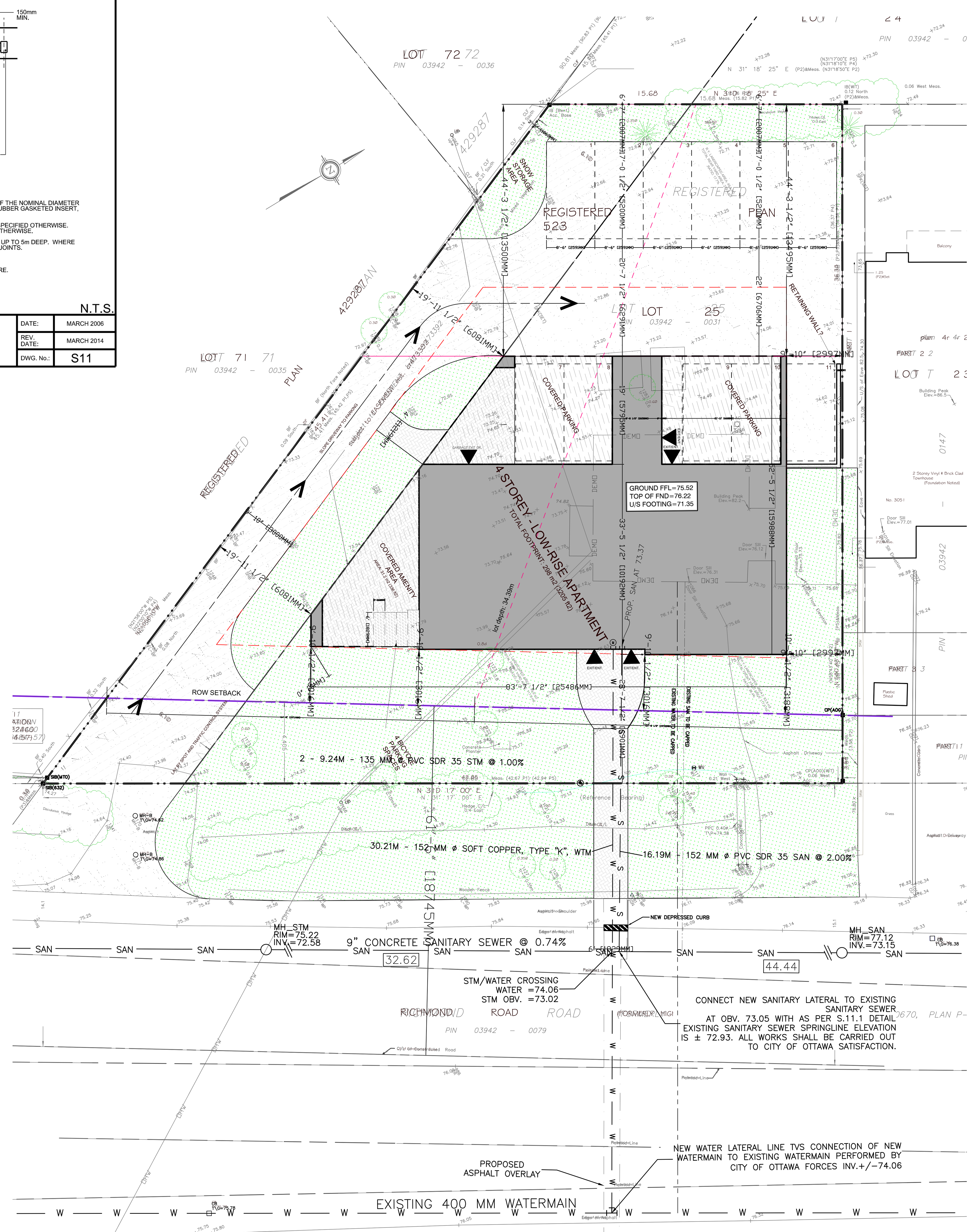


NOTES:

1. ALL DIAMETERES OF SERVICE CONNECTIONS THAT HAVE NOMINAL DIAMETERS NO GREATER THAN 50% OF THE NOMINAL DIAMETER OF THE RIGID SEWER PIPE SHALL BE MADE USING A BELL END INSERT AS PER S11.2 OR AN APPROVED RUBBER GASKETED INSERT, INSTALLED ABOVE THE SPRING LINE.
2. SANITARY SERVICES TO BE 135mm AND STORM SERVICES TO BE 100mm FOR NEW RESIDENCES UNLESS SPECIFIED OTHERWISE. SERVICE PIPE AND RADIUS BENDS TO BE APPROVED CSA B182.2, SDR28 PRODUCTS UNLESS SPECIFIED OTHERWISE.
3. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 5m DEEP. WHERE APPROVED, CONNECTIONS TO SEWERS OVER 5m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS.
4. VERTICAL RISER SHALL BE SAME AS SERVICE PIPE UNLESS OTHERWISE SPECIFIED.
5. CAP OR PLUG AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE.
6. FOR NEW CONSTRUCTION, INSERTS MUST BE INSTALLED ON THE MAIN PIPE BEFORE THAT PIPE IS LAID. FOR SERVICES/BRANCHES 375mm DIA. OR LESS, APPROVED "CORED TEES" MAY BE USED.
7. APPROVED CUT-IN TOOL MUST BE USED FOR FIELD MADE CONNECTIONS.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

N.T.S.

Ottawa	SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010)	DATE:	MARCH 2006
		REV. DATE:	MARCH 2014
		DWG. No.:	S11



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14. ABUTTING PROPERTY GRADES TO BE MATCHED.
15. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
16. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
17. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
18. AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER. SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF' EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
19. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTIAWA DETAIL R10.
20. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY EXP Services

24. a) PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:
    65 mm ASPHALTIC CONCRETE (PG 58–34), 92% to 97 % MRD
    150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMDD
    300 mm GRANULAR B TYPE II SUB-BASE (OPSS 1010), 100% SPMDD
    SUBGRADE– APPROVED EXISTING FILL, SUBGRADE AND IMPORTED GRANULAR FILL (COMPACTED TO 95% SPMDD)

25. CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.

NOTES WATERMAIN

24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.

25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 1B MEETING AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.

26. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OBVERT SHALL BE MAINTAINED; WHERE WATERMAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED. THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTIAWA STANDARD W22.

27. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.

28. VALVE BOX TO BE AS PER CITY OF OTIAWA STANDARD W24.

29. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 &: W25.4.

30. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 &: W42.

31. FIRE HYDRANTS TO BE A5 PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)

32. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

"TYPICAL WATER SERVICE LINE AS PER W26(FOR 19MM & 25MM DIA. WATER SERVICES). AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS

NOTES: SANITARY SEWER AND MANHOLES

34. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

36. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.

37. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.

38. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTIAWA STANDARD S25 AND 524. (NOT APPLICABLE)

39. SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2

40. STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14

NOTES: STORM SEWERS AND STRUCTURES

41. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

NOTES: EROSION AND SEDIMENT CONTROL

42. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

LEGEND

- 250mmø SAN — EXISTING MAIN SANITARY SEWER
- 300mmø STM — EXISTING MAIN STORM SEWER
- 203mmø WTM — EXISTING MAIN WATERMAIN
- G — EXISTING MAIN GAS LINE
- EXISTING CENTRE OF ROAD
- EXISTING SANITARY LATERAL
- EXISTING WATER LATERAL
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- × 58.14 — EXISTING GRADE ELEVATION
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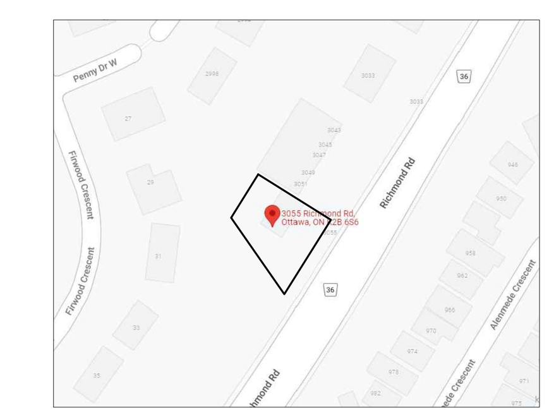

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IS	RE	DATE	DESCRIPTION
1		06/10/2022	ISSUED FOR REVIEW

PROJECT NO: 2022–120	DATE: 2022–06–10
ORIGINAL SCALE: 1:100	IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE.
DESIGNED BY: R.E	
DRAWN BY: R.E	
CHECKED BY: W.E	1"

DISCIPLINE:

TITLE:

SERVICING PLAN

SHEET NUMBER: S1

SHEET #: OF

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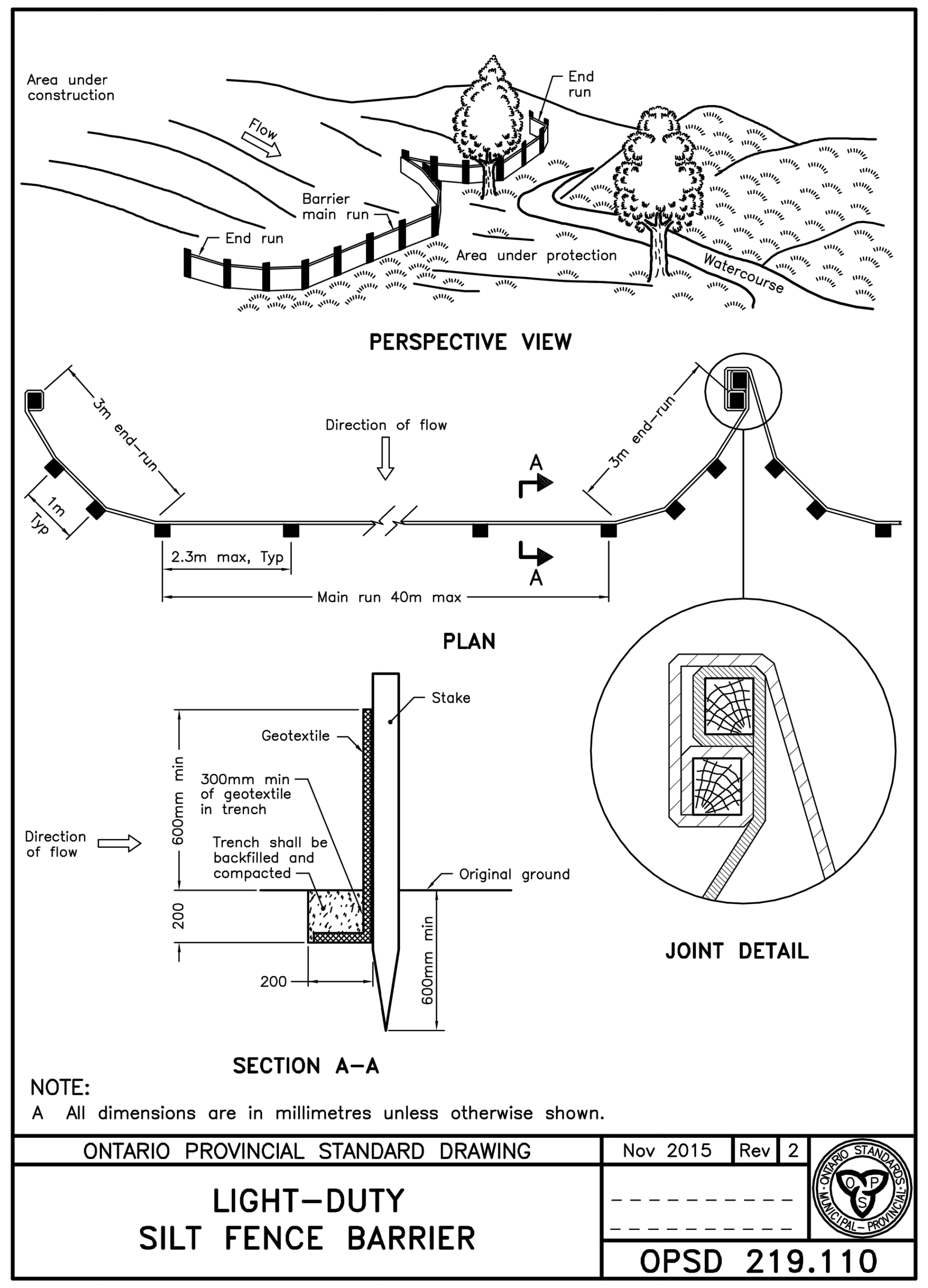
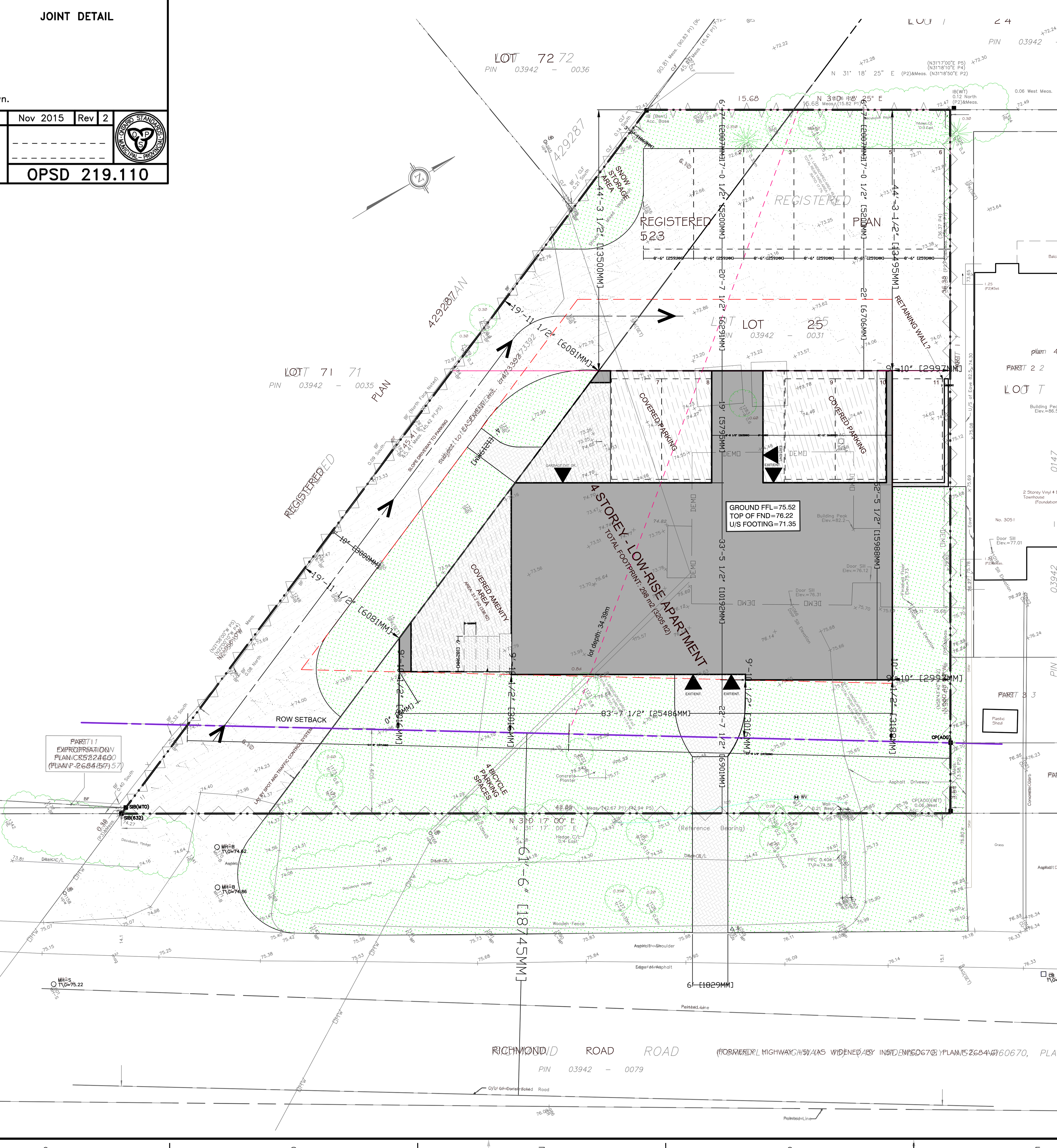
STAMP





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18. AT PROPOSED UTILITIES CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER. SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF' EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
19. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTIAWA DETAIL R10.
20. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB–SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.

FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY EXP Services

24. a) PAVEMENT STRUCTURE SHALL CONSIST OF FOR CAR ONLY PARKING AREAS:
    - 65 mm ASPHALTIC CONCRETE (PG 58–34), 92% to 97 % MRD
    - 150 mm GRANULAR A BASE (OPSS 1010) (CRUSHED LIMESTONE), 100% SPMDD
    - 300 mm GRANULAR B TYPE II SUB–BASE (OPSS 1010), 100% SPMDD
    - SUBGRADE– APPROVED EXISTING FILL, SUBGRADE AND IMPORTED GRANULAR FILL (COMPACTED TO 95% SPMDD)

25. CONTRACTOR TO REINSTATE PAVER STONES IN CITY ROW.

NOTES WATERMAIN

24. ALL WATERMAIN AND WATERMAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.

25. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 1B MEETING AWWA SPECIFICATION C900. STANDARD LATERAL MATERIAL SERVICES UP TO 50MM IS COPPER TYPE 'K'.

26. ALL WATER MAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE FROM UTILITIES OBVERT SHALL BE MAINTAINED; WHERE WATERMAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED. THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTIAWA STANDARD W22.

27. WATER MAIN BEDDING TO BE AS PER CITY OF OTTAWA STANDARD W17.

28. VALVE BOX TO BE AS PER CITY OF OTIAWA STANDARD W24.

29. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 &: W25.4.

30. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 &: W42.

31. FIRE HYDRANTS TO BE A5 PER CITY OF OTTAWA STANDARD W19. (NOT REQUIRED)

32. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

"TYPICAL WATER SERVICE LINE AS PER W26(FOR 19MM & 25MM DIA. WATER SERVICES). AND TO BE INSTALLED AT 1 M FROM THE FOUNDATION WALLS

NOTES: SANITARY SEWER AND MANHOLES

34. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCE AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

36. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.

37. ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSS 407, AND 410.

38. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTIAWA STANDARD S25 AND 524. (NOT APPLICABLE)

39. SANITARY BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2

40. STORM BACKWATER VALVES TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14

NOTES: STORM SEWERS AND STRUCTURES

41. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

NOTES: EROSION AND SEDIMENT CONTROL

42. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

LEGEND

Symbol	Description
250mmø SAN	EXISTING MAIN SANITARY SEWER
300mmø STM	EXISTING MAIN STORM SEWER
203mmø WTM	EXISTING MAIN WATERMAIN
G	EXISTING MAIN GAS LINE
	EXISTING CENTRE OF ROAD
	EXISTING SANITARY LATERAL
	EXISTING WATER LATERAL
	EXISTING STORM LATERAL
B	EXISTING BURIED TELEPHONE
T	EXISTING OVERHEAD TELEPHONE
	EXISTING OVERHEAD HYDRO
	EXISTING UNDERGROUND HYDRO
	BUILDING FOUNDATION
	BUILDING ROOF
	PROPERTY LINE
	SETBACK LINE
	RIGHT OF WAY
	EXISTING WOOD FENCE
	EXISTING CHAIN LINK FENCE
	EXISTING SIDEWALK
	EXISTING DEPRESSED CURB
	EXISTING CONCRETE CURB
	BENCHMARK RIM SANITARY MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING CATCHBASIN
	EXISTING VALVE AND VALVE CHAMBER
	EXISTING VALVE AND VALVE BOX
FH	EXISTING FIRE HYDRANT
GM	EXISTING GAS METER
UP	EXISTING HYDRO POLE
CP	EXISTING CORNER POST
× 58.14	EXISTING GRADE ELEVATION
AC	EXISTING AIR CONDITIONNER
S 135mmø S	PROPOSED SANITARY LATERAL SEWER
ST 135mmø ST	PROPOSED STORM LATERAL SEWER
W 152mmø W	PROPOSED WATERMAIN LATERAL
	PROPOSED DEMOLITION
	PROPOSED SILT FENCING
	PROPOSED SEVERANCE
	PROPOSED SWALE
	PROPOSED DEPRESSED CURB
SANMH	PROPOSED SANITARY MANHOLE
STMMH	PROPOSED STORM MANHOLE
CBMH	PROPOSED CATCH BASIN
RM	PROPOSED WATER REMOTE METER
M	PROPOSED WATER METER
	PROPOSED CURB STOP
FFL	FINISHED FLOOR LEVEL ELEVATION
BFL	BASEMENT FLOOR LEVEL ELEVATION
U.S.F	UNDERSIDE OF THE FOOTING
F.D	FLOOR DRAIN
	BUILDING ENTRY
	DOWNSPOUTS LOCATION W/ SPLASH PAD
WP	WATER POST
58.20	PROPOSED ELEVATION
2.00%	PROPOSED GRADING SLOPE BETWEEN2–7%, GRADING OVER 7% MUST BE TERRACED TO A MAXIMUM SLOPE OF 3H:1
	GRASS
	EXISTING INTERLOCK
	LIGHT DUTY (PARKING) 50mm HL3 150mm GRANULAR 'A' 300mm GRANULAR 'B' TYPE II sub grade in situ soil,compacted fill or opss granular B placed over in situ soil or compacted materials
	PROPOSED CONCRETE
	PROPOSED STREET ASPHALT OVERLAY
	EXTENT OF EXCAVATION FOR SERVICES
	ROOF DRAIN RESTRICTOR TO L/S
	5 YEAR FLOOD PONDING LIMITS
	10 YEAR FLOOD PONDING LIMITS
	LEVEL AREA
	PROPOSED SCUPPERS
	WATER SAMPLING CHAMBER
SP	SUMP PUMP FOR FOUNDATION DRAINAGE
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	EXISTING TREES TO BE REMOVED
	PROPOSED TREE
	PROPOSED SHRUBS
	PROPOSED ANNUAL GRASSES
A1 0.39 0.90	STORM DRAINAGE AREA NUMBER STORM DRAINAGE AREA IN HECTARES RUN–OFF COEFFICIENT

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ELECTRICAL
MECHANICAL

CONSULTANT:

SEAL:

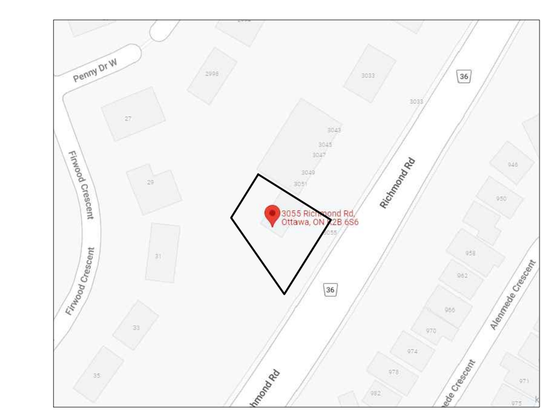
CLIENT:

OTTAWA ONTARIO

PROJECT:

4 STOREY LOW–RISE APARTMENT BUILDING
3055 RICHMOND ROAD
OTTAWA, ON K2B 6S6

KEY PLAN:



ISSUED FOR – REVISION:

IS	RE	DATE	DESCRIPTION
1		06/10/2022	ISSUED FOR REVIEW

PROJECT NO: 2022–120	DATE: 2022–06–10
ORIGINAL SCALE: 1:100	IF THIS BAR IS NOT 1" LONG, ADJUST YOUR PLOTTING SCALE. 1"
DESIGNED BY: R.E	
DRAWN BY: R.E	
CHECKED BY: W.E	

DISCIPLINE:

TITLE:

EROSION PLAN

SHEET NUMBER: E1

SHEET #: OF

ISSUE: ISSUED FOR REVIEW

REV #: –

DATE OF: 2022–06–10

STAMP