PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPLICATION FILE No. : D07-12-21-0112 ; D02-02-21-0073

SERVICEABILITY REPORT

REPORT R-821-10A (REVISION 1)

MARCH 2022

T.L. MAK ENGINEERING CONSULTANTS LTD.

JULY 2021

REFERENCE FILE NUMBER 821-10

Introduction

The developer of this site is proposing to redevelop the existing (3) residential lots described as Part of Lot 31 Registered Plan 294 City of Ottawa by constructing a three (3) storey residential apartment building consisting of thirty two (32)-units, including eleven (2)-bedroom units, five (1)-bedroom units and sixteen (1)-bedroom + den units with underground parking.

The municipal address of the (3) properties are referenced as 1058, 1062 and 1066 Silver Street and it is located in the City Ward (16-River). The site is situated on the north side of Summerville Avenue, west of Silver Street and south of Dorchester Avenue. See site plan and legal survey plan in Appendix A for details.

The area of this property is ±0.158 hectares. In addition to the three (3) storey residential building, the other development features will comprise of an interlock paver access to the front entrance off Silver Street, a barrier free entrance facing Summerville Avenue, including an amenity area located in the rear yard, as well as underground parking level below grade, clearstone landscaping is also proposed along the west side of the building with landscaped areas throughout the site, etc., to meet the City of Ottawa's site plan requirements.

A site geotechnical report was prepared by the owner's soils engineer Paterson Group entitled Geotechnical Investigation – Proposed Residential Building (Project No. PG5573-LET.02) dated April 23, 2021 for this proposed development property.

This serviceability report will provide the City of Ottawa with our serviceability brief to address the proposed servicing scheme for this site.

Existing Site Conditions and Servicing

This property is presently occupied by three (1) storey vinyl-stucco siding residential buildings. The buildings each have its own asphalt driveway for vehicle access and parking. Most of the existing site is currently permeable surface covered and consisting of grass/landscaped areas with the remaining areas being roof area, asphalt laneway, porches, decks, and sheds. For additional details of the site's pre-development conditions, refer to the coloured Google Image and aerial photography from (GeoOttawa 2019) in Appendix B.

The existing topography of the land is found to be sloped primarily to drain from south to north across the site. The existing gradient of the (3) amalgamated lots are sloping at an approximate gradient of 5.0%.

The existing house water and sanitary service lateral currently servicing the existing dwellings on 1058, 1062 and 1066 Silver Street will be removed. The existing water services shall be

blanked at the main and the existing house laterals shall be capped at the front property line for re-development of this site.

As for the availability of underground municipal services, there are existing municipal services along Summerville Avenue in front of this property consisting of a 300mm diameter storm sewer, a 225mm diameter sanitary sewer, and a 150mm diameter watermain for development of this property. As well, along Silver Street there are existing municipal services consisting of 375mm diameter storm sewer, a 225mm diameter sanitary sewer and a 150mm diameter watermain available to provide services to this site. Refer to the City of Ottawa Summerville Avenue and Silver Street UCC and As-Built plan and profile drawings included in Appendix C for details.

Because the site will be connecting to and outletting into the separated storm sewer system along Summerville Avenue in the City of Ottawa, therefore, the approval exemption under Ontario Regulations 525/98 would apply since storm water discharges from this site will outlet flow into a downstream storm sewer. Thus, an Environmental Compliance Approval (ECA) application will not be required to be submitted to the Ministry.

Proposed Residential Apartment Building Site

Vehicle access to underground parking is available for this site and bicycle parking is provided in the underground parking level also. Interlock pavers are proposed at the Silver Street main entrance and at the barrier free entrance located off Summerville Avenue of the new building for pedestrian access. An amenity area is provided in the rear yard.

A. Water Supply

The proposed building within Pressure Zone 2W2C at 1066 Silver Street is a 3-storey residential apartment building with underground parking. Originally (Stantec's June 2021 memo), the apartment building consisted of six (6) 1-bedroom+den units, and seventeen (17) 2-bedroom units, for a total of 23 units. Some modifications to the building layout were made since the June 2021 analysis (see the updated **Site Plan and Architectural Drawings** attached in Appendix D). The latest layout contains a total of 32 units, namely five (5) 1-bedroom units, sixteen (16) 1-bedroom + den units, and eleven (11) 2-bedroom units.

Each floor covers an area of approximately 10,616 ft^2 (986 m^2) for a gross floor area of 31,849 ft^2 (2,957 m^2), and the building will be approximately 11 m in height. The building is to be serviced by the 150 mm diameter watermain along Summerville Ave (front of the building).

The ground elevation along Summerville Ave in front of the property in question is approximately 83.8 m.

Demand Projections

The estimated domestic demands for the original building layout were calculated using the City of Ottawa's Water Design Guidelines back in June 2021. A residential consumption rate of 350 L/c/d was then used to estimate average day demands (AVDY). However, the City's guidelines were updated in August 2021 (ISTB2021-03), and a new residential consumption rate of 280 L/c/d shall now be used to estimate average day demands (AVDY).

Maximum day (MXDY) demands were calculated by multiplying AVDY demands by a factor of 2.5. Peak hour (PKHR) demands were calculated by multiplying MXDY by a factor of 2.2. Persons per unit (PPU) for each unit were applied as per the City of Ottawa's Water Design Guidelines. **Table 1** shows the estimated domestic demands of the updated building. **Table 2** compares the estimated domestic demands based on both (original and updated) building layouts, as well as considering the updated residential consumption rate as per ISTB2021-03.

Table 1: Estimated Domestic Demand

Unit Type	Unit Count	PPU	Consumption Rate (L/c/d)	AVDY		MXDY		PKHR	
				L/d	L/s	L/d	L/s	L/d	L/s
Apartment, 1-Bedroom (including units with Den)	21	1.4	280	8,232	0.10	20,580	0.24	45,276	0.52
Apartment, 2-Bedroom	11	2.1		6,468	0.07	16,170	0.19	35,574	0.41
Total	***32***			***14,700***	***0.17***	***36,750***	***0.43***	***80,850***	***0.94***

Table 2: Estimated Domestic Demand Comparison

Scenario	Total Unit Count	Consumption rate (L/c/d)	AVDY		MXDY		PKHR	
			L/d	L/s	L/d	L/s	L/d	L/s
Original Building Layout (June 2021)	23	350*	15,435	0.18	38,588	0.45	84,893	0.98
Updated Building Layout	**32**	**280**	**14,700**	**0.17**	**36,750**	**0.43**	**80,850**	**0.94**

* Prior to August 2021, a residential consumption rate of 350 L/c/d was specified in the City of Ottawa's Water Design Guidelines.

Table 2 shows that the updated domestic water demands are slightly less than what was previously estimated based on the original building layout, even if more units are proposed. This is mainly related to the use of a smaller residential consumption rate (280 L/c/d vs 350 L/c/d), but also a reduction of 2-bedroom units (11 now proposed vs 17 originally).

Since the building is planned to be equipped with a sprinkler system, both the Ontario Building Code (OBC) and the Office of the Fire Marshal (OFM) method defer to the National Fire Protection Association (NFPA) 13 "Standard for the Installation of Sprinkler Systems"[1]. This standard specifies that, for ordinary hazard occupancy, the minimum residual pressure required is 20 psi, and the acceptable flow at the base of the riser is 3,200-5,700 L/min (50-95 L/s), for a duration of 60-90 minutes, as shown by the capture of the standard below. The modifications to the proposed building layout do not change the fire flow requirement, thus a fire flow of 3,200-5,700 L/min is required.

Table 11.2.2.1 Water Supply Requirements for Pipe Schedule Sprinkler Systems

Occupancy Classification	Minimum Residual Pressure Required		Acceptable Flow at Base of Riser (Including Hose Stream Allowance)		Duration (minutes)
	psi	bar	gpm	L/min	
Light hazard	15	1	500–750	1900-2850	30–60
Ordinary hazard	20	1.4	850–1500	3200-5700	60–90

[1] National Fire Protection Association (2016). NFPA 13: Standard for the Installation of Sprinkler Systems. NFPA Committee on Automatic Sprinklers. 2016 Edition.

In summary, the estimated water demands for the proposed building are as follows:

- AVDY = 14,700 L/d (0.17 L/s)
- MXDY = 36,750 L/d (0.43 L/s);
- PKHR = 80,850 L/d (0.94 L/s); and,
- Fire Flow = 3,200 - 5,700 L/min (50 - 95 L/s).

Boundary Conditions

The hydraulic gradeline (HGL) boundary conditions for 1066 Silver Street, as presented in **Table 3**, were provided by the City on June 16, 2021 (see attached **Water Boundary Conditions** Email in Appendix D). Those boundary conditions were calculated based on the original domestic water demands (June 2021 layout). However, it was deemed acceptable to consider the same boundary conditions as part of this new analysis, as the updated water demands are just slightly lower than the original demands. In other words, it is expected that the updated boundary conditions would be very similar to the ones presented in **Table 3**.

Table 3: Boundary Conditions

Demand Scenario	Head (m)	Flow (L/s)
Minimum HGL (Peak Hour)	124.6	
Maximum HGL (Average Day)	133.1	
Available Fire Flow @ Residual 20 psi		96

Hydraulic Analysis

Peak Hour & Average Day

During peak hour demands, the resulting minimum hydraulic gradeline of 124.6 m corresponds to a peak hour pressure of 400 kPa (58 psi). This value is above the minimum pressure objective of 276 kPa (40 psi) for residential buildings up to two storeys. Adding 5 psi per floor above two stories, a minimum pressure of 310 kPa (45 psi) would be required for the third floor. The peak hour pressure exceeds this objective and is therefore considered acceptable.

During average day demands, the resulting maximum hydraulic gradeline of 133.1 m corresponds to a maximum pressure of 483 kPa (70 psi). This value is less than the maximum pressure objective of 552 kPa (80 psi) and therefore considered acceptable. **Supporting hydraulic calculations** are attached in Appendix D.

For the proposed building (23 units), more than 500 fixture units are to be considered based on the Ontario Building Code (Table 7.6.3.2.A) and the hydraulic load per fixture. **Table 4** summarizes the fixture units considered based on the updated **Site and Architectural Plans** attached in Appendix D.

Table 4: Fixture Units

Fixture Type	No. of Fixtures	Hydraulic Load/Fixture	Hydraulic Load/Fixture Units
Water Closet	55	3	165
Shower	55	1.4	77
Sink	91	2	182
Washing Machine	32	1	32
Dishwasher	32	1.4	44.8
Hose Bib (5/8)	3	2.5	7.5
		Total	***508.3***

Considering a 16 m long pipe servicing the property, a service line diameter of 2 inches (50 mm) can service up to 431 fixture units, based on the Ontario Plumbing Inspectors Association method. Since the proposed service line consists of a 150 mm cooper pipe, it is considered

acceptable. A completed water card will also be provided to the City of Ottawa during the construction permit application stage.

Maximum Day + Fire Flow

The reported available fire flow at a residual pressure of 20 psi is 96 L/s (5,760 L/min). This meets the RFF of 3,200-5,700 L/min for a sprinkler system, as per NFPA13. It is noted that a sprinkler designer will have to design the sprinkler accordingly with the available flows and pressures.

Based on Table 1 of Appendix I of the City of Ottawa Technical Bulletin ISTB-2018-02 and a desktop review (i.e., Google Street View) to confirm hydrant class, the combined hydrant flow coverage for the building is estimated to be 9,463 L/min, which exceeds the NFPA13 RFF upper value of 5,700 L/min for a sprinkler system. Hydrant coverage and classes are illustrated in **Figure 1** attached in Appendix D. A breakdown of the hydrant coverage is summarized in **Table 5**.

Table 5: Fire Hydrant Coverage

Building	NFPA13 Fire Flow Demand (L/min)	Fire Hydrants					Combined Hydrant Flow Coverage (L/min)
		Hydrant Class	Within 75 m		Between 75 m and 122 m		
			Quantity	Max Contrib. to RFF	Quantity	Max Contrib. to RFF	
1066 Silver Street	3,200 to 5,700 L/min	AA	1	5,678	1	3,785	9,463*
		A					
		B					
		C					

** The hydrant coverage exceeds the available watermain flow per the City's boundary condition. As such, fire flows are limited to the reported available fire flow noted above.*

In conclusion, based on the boundary conditions provided, the watermain along Summerville Avenue provides adequate fire flow capacity as per the NFPA13 to the proposed 32 units development at 1058, 1062 and 1066 Silver Street. Anticipated demand flows meet the pressure objectives during average and peak demand conditions, as per the City of Ottawa's Drinking Water Design Guidelines.

B. Sanitary Flow

The peak sanitary flow for the 32 units, which comprise of eleven (2)-bedroom, five (1)-bedroom units and sixteen (1)-bedroom apartment + den, is estimated at Q = 0.73 L/s with an infiltration rate of 0.03 L/s. Refer to Appendix E sheet 1 of 1 regarding sanitary flow calculations. This flow will enter the existing 225mm diameter sanitary sewer on Summerville

Avenue via the proposed 150mm diameter PVC sanitary service lateral from the three (3)-storey residential apartment building.

The existing peak sanitary flow of the site for the (3) existing single detached dwelling units is Q = 0.20 L/s with an infiltration rate of 0.03 L/s. The net increase in flow from this proposed development is 0.53 L/s which is not expected to negatively impact the existing 225mm dia. sanitary sewer.

At the front property line, a waste-water sampling and inspection chamber is proposed as per City requirements and as per City of Ottawa detail S18.1.

Waste water from the Summerville Avenue 225mm dia. sanitary sewer then in turn outlets north into the existing downstream 750mm dia. concrete sanitary collector sewer located along Hollington Street which further outlets to the 750mm dia. Shillington Avenue sanitary collector sewer.

C. Storm Flow

The storm-water outlet for the proposed development property will be the existing 300mm diameter concrete storm sewer located on Summerville Avenue. Storm-water attenuation on site to be controlled to the 2-Year pre-development level will be accomplished by means of rooftop storage with controlled roof drains that regulate flow off site.

The building foundation weeping-tile drainage system shall have its own separate pipe for gravity flow where weeping-tile water is outletted via a 150mm diameter storm pipe to the existing 300mm diameter storm sewer. Whereas storm-water outlet for the rooftop water from roof drains then "wye" into the poposed 150mm diameter PVC pipe of the weeping tile drainage pipe that will entail only outletting one storm pipe into the existing 300mm diameter storm sewer from this site.

Three (3) roof drains are proposed for this apartment building to restrict flow at a maximum release rate of 0.95 L/s each or 3 x 0.95 L/s = 2.85 L/s into the Summerville Avenue storm sewer. Refer to Dwg. 821-10 SWM-1 for details.

Based on the residential site plan from the owner's architect, the average post-development runoff coefficient is estimated at C = 0.74 and A = 0.158 hectares.

An estimation of the pre-development flow condition was carried out using the criteria accepted by the City of Ottawa. If post-development C valve exceeds the lesser of the C_{pre} = 0.43 or C_{allow} = 0.5 (max) then SWM is required. So from our calculations, the C_{pre} = 0.43 value will be used at t_c = 10 minutes for pre-development allowable flow calculation off-site.

The pre-development flow rate calculation into the 300mm dia. storm sewer for this residential area is the lesser of either the two (2)-year storm event where C_{allow} = 0.5 (max.) runoff value or the average C_{pre} value which is 0.43 using t_c = 10 minutes. Because this site C_{post} = 0.75 and C_{pre} = 0.43 then SWM measures are required.

Therefore, based on our calculation, on-site retention is required for this proposed development site, because the site post-development C value of 0.74 is greater than the C_{pre} = 0.43.

The storage volume for the two (2)-year, five (5)-year and up to the 100-year storm event will be stored by means of flat rooftop on top of the 3 storey apartment building. Also refer to the site storm drainage report (Report No. R-821-10) for further details.

In assessing the 2-Year storm event up to the 100-Year storm events under pre-development conditions to that of the same storm events under post-development conditions with implementation of the proposed on-site SWM measures (flat rooftop storage with (3) specified controlled drains) it was determined that post-development release rates has been improved for the site compared with the current existing flow rates.

The pre-development flow at the 2-Year storm event is 14.56 L/s and 39.22 L/s for the 100-Year event. By incorporating the proposed SWM attenuation measures the post-development 2-Year flow is estimated at 9.15 L/s and the 100-Year flow is estimated at 20.18 L/s.

Therefore for this proposed development site, the two (2) year post development release rate of 9.15 L/s is less than the 2-Year pre-development flow rate of 14.56 L/s. For storm events up to and including the 100-Year event, the total 100-Year post-development release rate of 20.18 L/s is less than the 100-Year pre-development flow of 39.22 L/s.

At this proposed residential site and to develop this site to house a 32 unit apartment building on a 0.1580 ha. parcel of land on-site SWM attenuation will be incorporated by means of the flat rooftop storage at the proposed apartment building. Three (3) controlled roof drains are incorporated and each drainage controlled to a release rate of 0.95 L/s (15.0 U.S. gal/min.). The maximum controlled flow from this site (3 roof drains at 0.95 L/s per drain) totals to 2.85 L/s for the post development condition.

During the two (2)-year storm event for the flat rooftop storage, the ponding depth of rooftop area 1, 2 and 3 is estimated at 100mm at the drain and 0mm at the roof perimeter, assuming a 1.1% minimum roof pitch to the drain and controlling the flow rate at 0.79 L/s per drain. The rooftop storage available at Roof Area 1 is 5.78 m^3, rooftop storage available at Roof Area 2 is 4.81 m^3 and the rooftop storage available at Roof Area 3 is 3.76 m^3, for a total of 14.35 m^3, which is greater than the required volume of 13.49 m^3.

During the five (5)-year storm event for the flat rooftop storage, the ponding depth of rooftop area 1, 2 and 3 is estimated at 120 mm at the drain and 0mm at the roof perimeter, assuming a 1.1% minimum roof pitch to the drain and controlling the flow rate at 0.87 L/s per drain. The rooftop storage available at Roof Area 1 is 9.88 m^3, rooftop storage available at Roof Area 2 is 8.06 m^3 and the rooftop storage available at Roof Area 3 is 6.69 m^3, for a total of 24.63 m^3, which is greater than the required volume of 19.64 m^3.

During the 100-year storm event for the flat rooftop storage, the ponding depth of Roof Area 1, 2 and 3 is estimated at 150 mm at the drain and 0mm at the roof perimeter, assuming a 1.1% minimum roof pitch to the drain and controlling the flow rate at 0.95 L/s per drain. The rooftop storage available at Roof Area 1 is 19.26 m^3, rooftop storage available at Roof Area 2 is 15.86 m^3 and the rooftop storage available at Roof Area 3 is 13.31 m^3, for a total of 48.43 m^3, which is greater than the required volume of 44.63 m^3.

Therefore, by means of flat building rooftop storage and grading the site to the proposed grades as shown on the Proposed Grading and Servicing Plan and Proposed Rooftop Stormwater Management Plan Dwg. 821-10 G-1 and 821-10 SWM-1 respectively, the desirable five (5)-year storm and 100-year storm event detention volume of 24.63 m^3 and 48.43 m^3 respectively will be available on site. Refer to Appendix F for detailed calculations of available storage volumes.

The building weeping tile drainage will outlet via its separate 150mm diameter PVC storm lateral. The roof drains will be outletted also via a separate 150mm PVC storm lateral which "wye" into the proposed 150mm dia. weeping tile storm lateral, where upon both laterals are outletting to the existing Summerville Avenue 300mm diameter storm sewer with only one (1) connection. The City of Ottawa recommends that pressurized drain pipe material be used in the building for the roof drain leader pipe in the event of surcharging in the City Storm sewer system. Refer to the proposed site grading and servicing plan Dwg. 821-10 G-1 for details.

Water Quality

For this proposed site, the local conservation authority (RVCA) was pre-consulted regarding the issue of water quality treatment on-site.

Correspondence from RVCA dated July 14, 2021 confirms that on-site water quality treatment is not required for this proposed development property and that Best Management Practices are encouraged to be implemented where possible. See Appendix F.

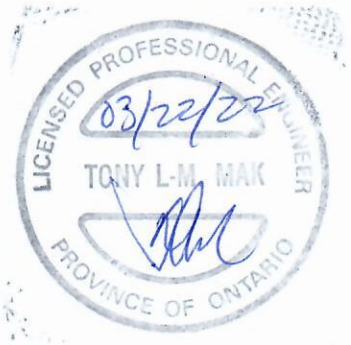
Erosion and Sediment Control

The contractor shall implement Best Management Practices by incorporating measures such as a temporary silt fence barrier (per OPSD 219.110) to provide for protection of the receiving storm sewer during construction activities. These practices are required to ensure no sediment and/or associated pollutants are released to the receiving watercourse. These practices include installation of a City approved "siltsack" or equivalent catch basin sediment control device or equal in catch basins as recommended by manufacturer on-site and off-site within the Silver Street and Summerville Avenue road right of way adjacent to this property. Siltsack shall be inspected every 2 to 3 weeks and after major storm. The deposits will be disposed of as per the requirements of the contract. See Dwg. #821-10 ESC-1 for details.

Refer to Appendix G for the summary of the Development Servicing Study Checklist that is applicable to this development.

PREPARED BY T.L. MAK ENGINEERING CONSULTANTS LTD.

TONY L. MAK, P.ENG



PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

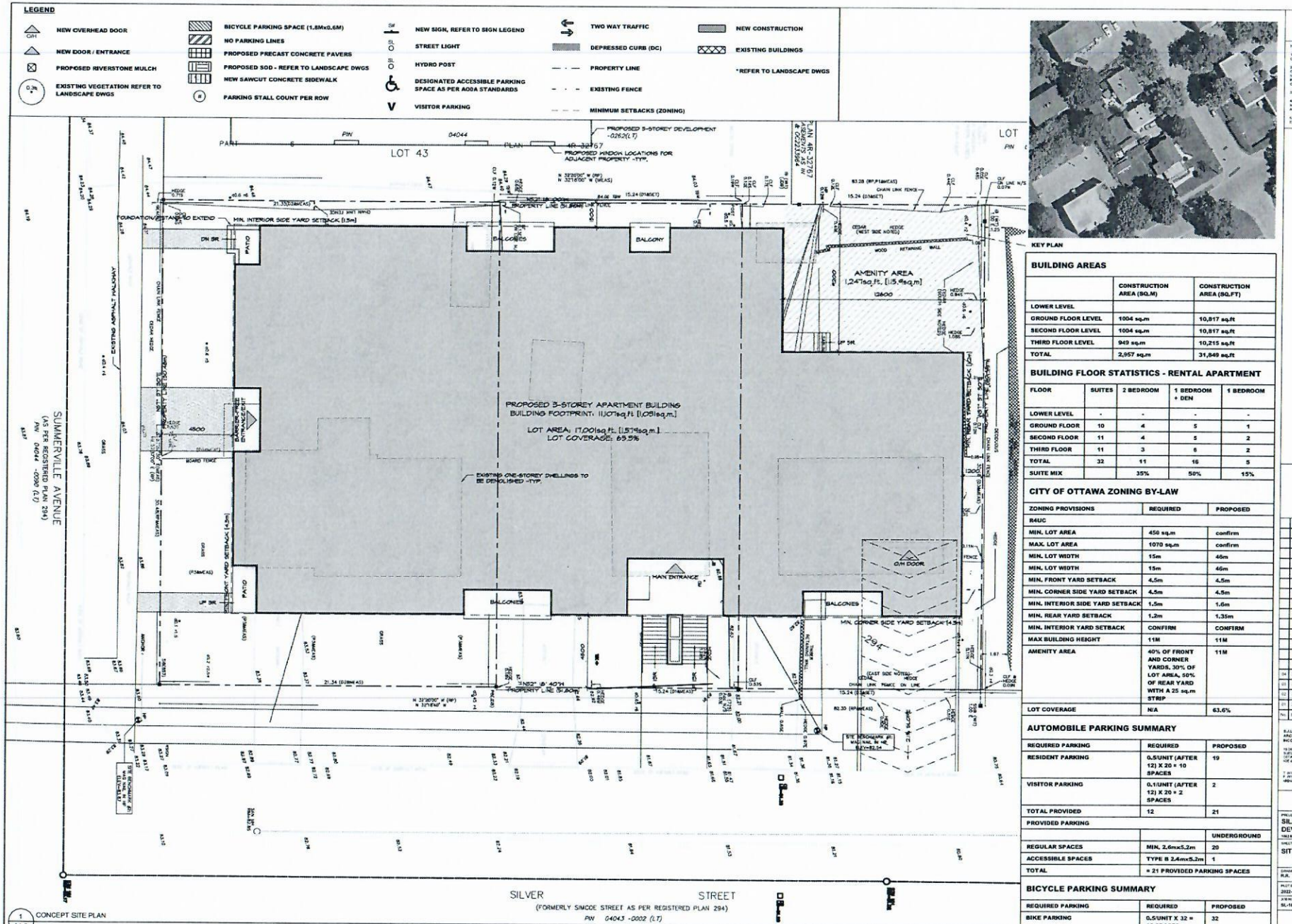
R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX A

SITE PLAN AND LEGAL SURVEY PLAN



KEY PLAN

BUILDING AREAS

	CONSTRUCTION AREA (SQ.M)	CONSTRUCTION AREA (SQ.FT)
LOWER LEVEL		
GROUND FLOOR LEVEL	1004 sq.m	10,817 sq.ft
SECOND FLOOR LEVEL	1004 sq.m	10,817 sq.ft
THIRD FLOOR LEVEL	949 sq.m	10,215 sq.ft
TOTAL	2,957 sq.m	31,849 sq.ft

BUILDING FLOOR STATISTICS - RENTAL APARTMENT

FLOOR	SUITES	2 BEDROOM	1 BEDROOM + DEN	1 BEDROOM
LOWER LEVEL	-	-	-	-
GROUND FLOOR	10	4	5	1
SECOND FLOOR	11	4	5	2
THIRD FLOOR	11	3	6	2
TOTAL	32	11	16	5
SUITE MIX		35%	50%	15%

CITY OF OTTAWA ZONING BY-LAW

ZONING PROVISIONS	REQUIRED	PROPOSED
R4UC		
MIN. LOT AREA	450 sq.m	confirm
MAX. LOT AREA	1070 sq.m	confirm
MIN. LOT WIDTH	15m	46m
MIN. LOT WIDTH	15m	46m
MIN. FRONT YARD SETBACK	4.5m	4.5m
MIN. CORNER SIDE YARD SETBACK	4.5m	4.5m
MIN. INTERIOR SIDE YARD SETBACK	1.5m	1.6m
MIN. REAR YARD SETBACK	1.2m	1.35m
MIN. INTERIOR YARD SETBACK	CONFIRM	CONFIRM
MAX BUILDING HEIGHT	11M	11M
AMENITY AREA	40% OF FRONT AND CORNER YARDS, 30% OF LOT AREA, 50% OF REAR YARD WITH A 25 sq.m STRIP	11M
LOT COVERAGE	N/A	63.6%

AUTOMOBILE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
RESIDENT PARKING	0.5/UNIT (AFTER 12) X 20 = 10 SPACES	19
VISITOR PARKING	0.1/UNIT (AFTER 12) X 20 = 2 SPACES	2
TOTAL PROVIDED	12	21
PROVIDED PARKING		
		UNDERGROUND
REGULAR SPACES	MIN. 2.6mx5.2m	20
ACCESSIBLE SPACES	TYPE B 2.4mx5.2m	1
TOTAL	= 21 PROVIDED PARKING SPACES	

BICYCLE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
BIKE PARKING	0.5/UNIT X 32 = 16 SPACES	32

POWER-TEK

NOTES

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING CODES, REGULATIONS AND BY-LAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST IN PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME STANDING AND BE CONSIDERED AS BEING INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUB-CONTRACTORS TO TAKE THEIR OWN MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY ERRORS AND/OR OMISSIONS PRIOR TO START OF WORK.

NORTH ELEVATION

No.	DATE	REVISION
04	2022.03.16	ISSUED FOR CONSIDERATION
03	2022.03.10	ISSUED FOR CONSIDERATION
02	2021.04.30	ISSUED FOR REVIEW
01	2021.02.27	ISSUED FOR REVIEW

SJL LAWRENCE ARCHITECT INCORPORATED

PROJECT: SILVER STREET DEVELOPMENT
VALUE TWO SILVER STREET, OTTAWA ON

SHEET TITLE: SITE PLAN

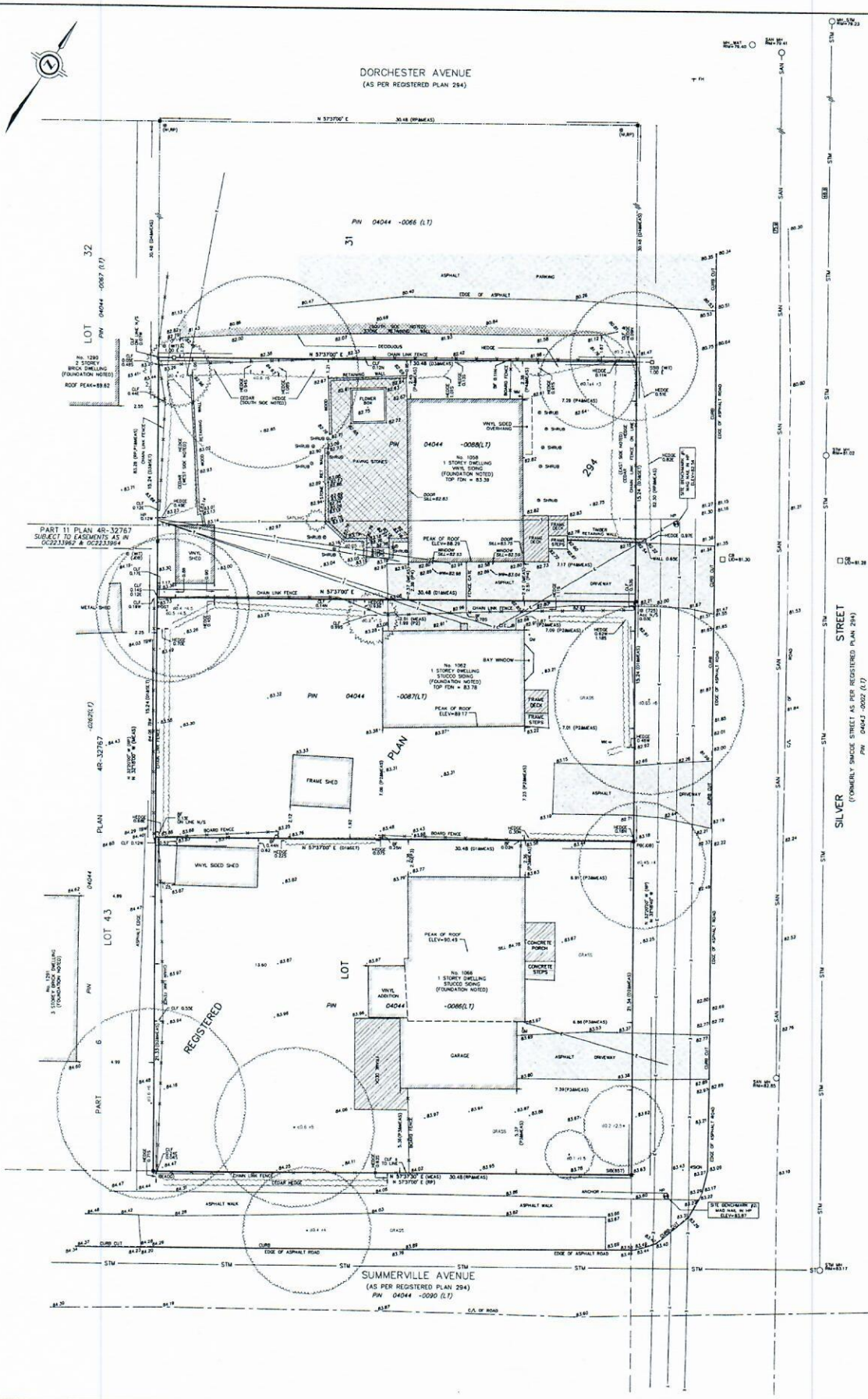
DRAWN BY: R.A. CHECKED BY: S.L.L.

PLOT DATE: 2022-03-17 3:39:34 PM

JOB NUMBER: SL-1946-21 SCALE: As indicated

A1.0

APPLICATION #



SURVEYOR'S REAL PROPERTY REPORT
WITH TOPOGRAPHIC DETAILS
PART 1 : PLAN SHOWING

PART OF LOT 31
REGISTERED PLAN 294
CITY OF OTTAWA

J.D. BARNES LIMITED

SCALE 1 : 100

1 0 1 2 3 metres

METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

PART 2 - SURVEY REPORT

- DESCRIPTION
PART OF LOT 31, REGISTERED PLAN 294 BEING ALL OF PINS 04044-0086(LT), 04044-0087(LT) AND 04044-0088(LT) IN THE CITY OF OTTAWA
- REGISTERED EASEMENTS AND/OR RIGHTS-OF-WAY
NONE
- BOUNDARY FEATURES

NOTE LOCATION OF THE CHAIN LINK FENCES AND CEDAR HEDGE ALONG THE WESTERLY LIMIT OF THE SUBJECT PROPERTIES

NOTE LOCATION OF THE CHAIN LINK FENCE AND THE CEDAR HEDGE ALONG THE SOUTHERLY LIMIT OF PIN 04044-0086(LT)

NOTE LOCATION OF THE CEDAR HEDGE ALONG THE EASTERLY LIMIT OF PIN 04044-0087(LT)

NOTE LOCATION OF THE CHAIN LINK FENCE, THE CEDAR HEDGE AND THE DECIDUOUS HEDGE ALONG THE NORTHERLY LIMIT OF PIN 04044-0086(LT)

NOTE LOCATION OF THE CEDAR HEDGE, THE CHAIN LINK FENCE, THE TIMBER RETAINING WALL AND THE CROSSING TELEPHONE CABLE ALONG THE EASTERLY LIMIT OF PIN 04044-0088(LT)

NOTES

BEARINGS ARE MTM GRID, AND DERIVED FROM GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS) BY REAL TIME NETWORK (RTN) OBSERVATIONS, MTM ZONE 9, NAD 83, (CSRS) (2010).

FOR BEARING COMPARISONS, A COUNTER-CLOCKWISE ROTATION OF 0°46'00" WAS APPLIED TO BEARINGS ON REGISTERED PLAN 294

DISTANCES ARE GROUND.

COMPLIANCE WITH ONTARIO BUILDING CODE SETBACK REQUIREMENTS ARE NOT VERIFIED BY THIS SURVEY.

NOTES ON TREES:
- TREE SIZES AND TYPES ARE SHOWN +/- HEREON
- DIAMETER OF TREES ARE TAKEN AT 1.2m ABOVE GRADE
- RADIUS DENOTES MEASUREMENT OF CROWN FROM CENTER OF TREE

LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
PB	DENOTES	PLASTIC BAR
MEAS	DENOTES	MEASURED
CALC	DENOTES	CALCULATED
MTC	DENOTES	METRES
RP	DENOTES	REGISTERED PLAN 294
P1	DENOTES	PLAN 5R-1987
P2	DENOTES	BUILDING LOCATION SURVEY BY R.W. ARNETT, O.L.S. DATED JUNE 8, 1965
P3	DENOTES	PLAN BY J. ERIC KIHL, O.L.S., DATED MAY 16, 1972
P4	DENOTES	BUILDING LOCATION SURVEY BY R.W.ARNETT, O.L.S., DATED NOVEMBER 5, 1985
D1	DENOTES	INSTRUMENT HS203035
D2	DENOTES	INSTRUMENT OR12978
D3	DENOTES	INSTRUMENT N677568
D4	DENOTES	INSTRUMENT N396314
BST	DENOTES	FAIRHALL, MOFFATT & WOODLAND LIMITED
ADZ	DENOTES	ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
JDB	DENOTES	J.D. BARNES LTD.
725	DENOTES	R.W. ARNETT, O.L.S.
1319	DENOTES	W.J. WEBSTER, O.L.S.
NI	DENOTES	NO IDENTIFICATION
	DENOTES	PROPERTY LINE

N=NORTH / S=SOUTH / E=EAST / W=WEST

TOPOGRAPHIC LEGEND

FDN	DENOTES FOUNDATION
WW	DENOTES WINDOW WELL
C/L	DENOTES CENTERLINE
D	DENOTES DIAMETER
R	DENOTES RADIUS
BF	DENOTES BOARD FENCE
CLF	DENOTES CHAIN LINK FENCE
HP	DENOTES HYDRO POLE
FH	DENOTES FIRE HYDRANT
GM	DENOTES GAS METER
WK	DENOTES WATER KEY
WM	DENOTES WATER METER
CB	DENOTES CATCH BASIN
E_JB	DENOTES HYDRO JUNCTION BOX
MH_STM	DENOTES STORM MANHOLE
MH_SAN	DENOTES SANITARY MANHOLE
E	DENOTES OVERHEAD HYDRO CABLE
T	DENOTES OVERHEAD TELEPHONE CABLE
STM	DENOTES UNDERGROUND STORM SEWER
SAN	DENOTES UNDERGROUND SANITARY SEWER
	DENOTES DECIDUOUS TREE
	DENOTES CONIFEROUS TREE

ALL SET SSIB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH SECTION 11 (4) OF O.REG. 525/91.

ELEVATION NOTE:

1. ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM. CGVD28.78 AND ARE DERIVED FROM CITY OF OTTAWA PUBLISHED CONTROL MONUMENT (011603) HAVING A PUBLISHED ELEVATION OF 82.472 METRES.

2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE SITE BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2160515
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR IN ACCORDANCE WITH Regulation 1026, Section 29(3)

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON DECEMBER 20, 2021.

JANUARY 12, 2022
DATE

SHAWN LEROUX
ONTARIO LAND SURVEYOR

PREPARED FOR: HASLETT CONSTRUCTION

J.D.BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
42 STRAGE DRIVE, SUITE 102, KANATA, ON K2L 2A9
T: (613) 731-7244 F: (613) 254-8673 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
CE/RP	SL	21-10-008-00

FILE: S:\21-10-008\SURVEY\Drawing\MMM-TOPO(2022)\21-10-008-TOPO.dgn

DATED: 1/12/2022 PLOTTED: 1/12/2022

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX B

SITE PRE-DEVELOPMENT CONDITION

GOOGLE IMAGE (2019)

AND

AERIAL PHOTOGRAPHY 2019 (GEOOTTAWA)


1281
1276
1280
1265
1267
1061
1063
1269
1271
1065
1058
1062
1290
PROPOSED
DEVELOPMENT
SITE
1066
1291
1295
1305
1074
1294
av. Summerville Ave.
rue Silver St.
av.

2019


1281
1276
1280
1265
1267
1061
1063
1269
1058
1062
1290
1271
1065
PROPOSED DEVELOPMENT SITE
1066
1291
1295
1305
av. Summerville Ave.
rue Silver St.
rue Silver St.
1074
1294

2019

2019

2019

2019

2019

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX C

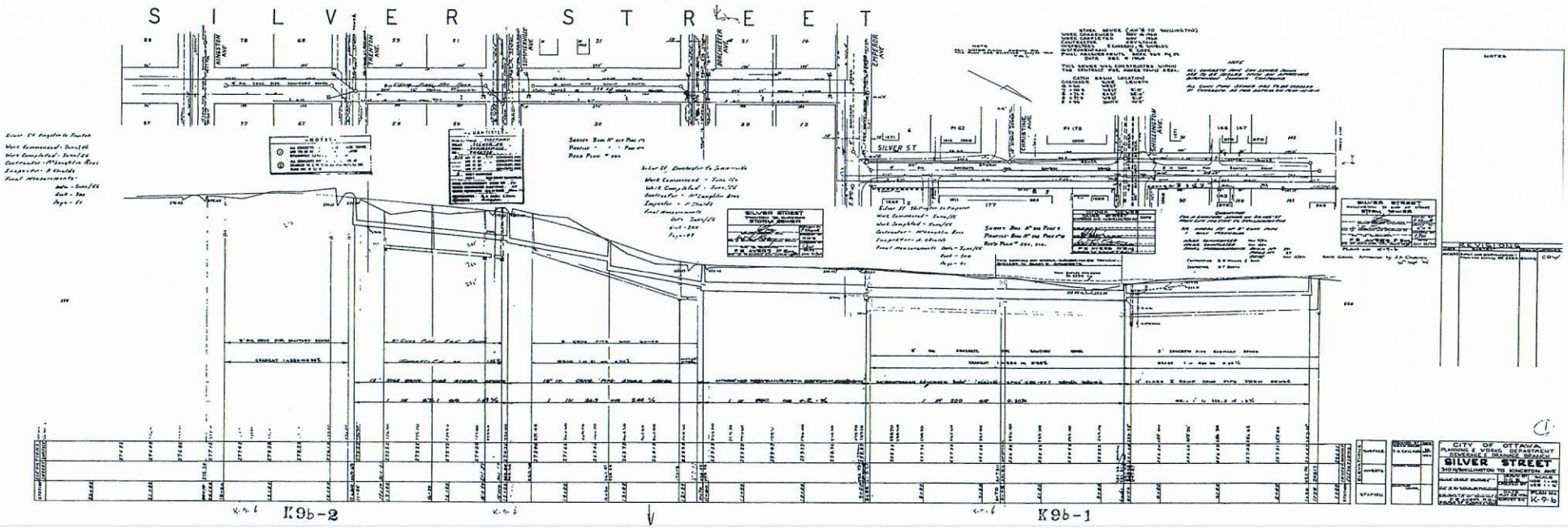
SILVER STREET AND SUMMERVILLE AVENUE

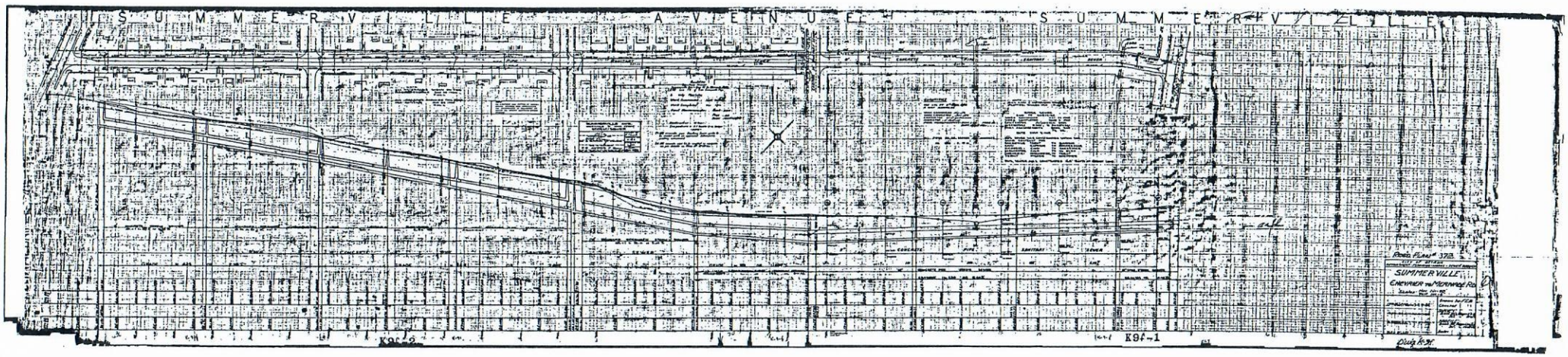
CITY OF OTTAWA

PLAN AND PROFILE

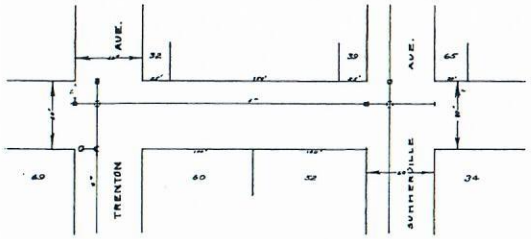
AND

UCC DRAWINGS

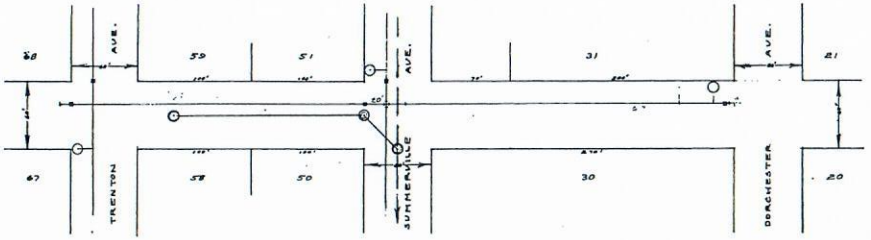

S I L V E R S T R E E T
KINGSTON AVE
TRAFALGAR AVE
LAWRENCE AVE
EMPEROR AVE
CORNELIUS AVE
SILVER ST
SILVER STREET
K9b-2
K9b-1

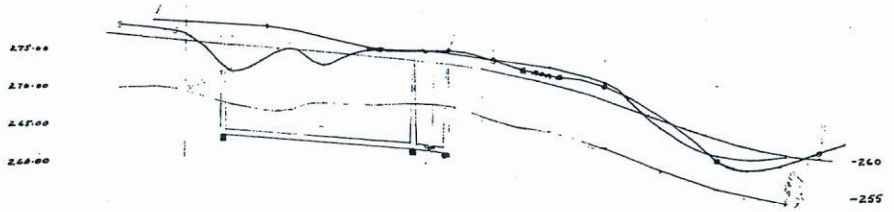

SUMMERVILLE AVENUE
SUMMERVILLE AVENUE
SUMMERVILLE
CAMPBELL to MERRIMAC Rd.
K9f-6
K9f-1

PRINCE AVE.

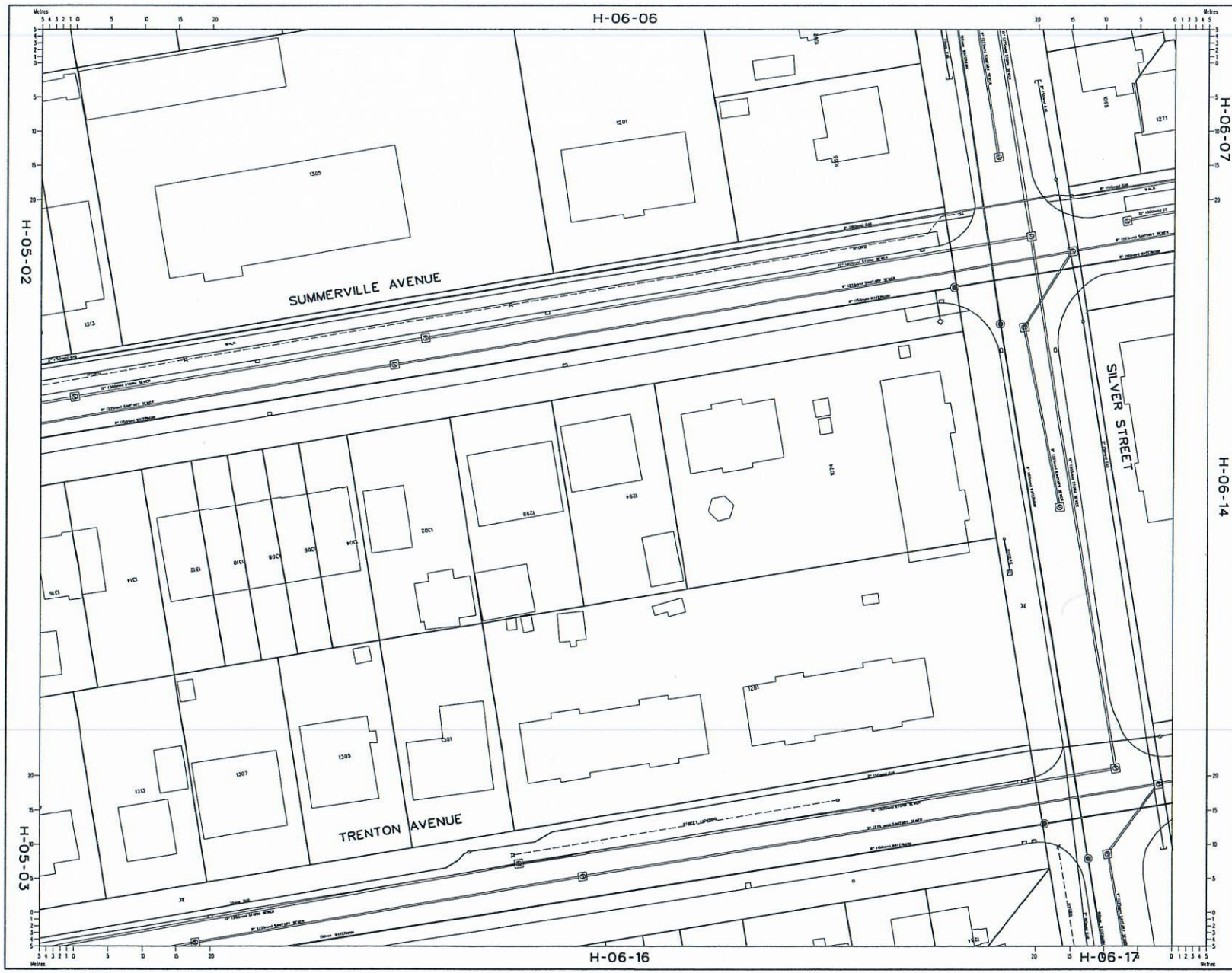


SILVER STREET





5970



REVISIONS / RÉVISIONS	DATE	BY
REDRAWN FROM VOICES UTILITY PLAN H-06-15	JULY 2007	XMC

LEGEND

Water Valve, Valve Chamber, Fire Hydrant	
Sewer Manhole, Catch Basin Manhole	
Catch Basin / Drainage, Wing Wall, Head Wall	
Pole, Pole w/ light, Decorative, Lawn Light	
Power Supply, Panel, Pedestal, Transformer, Tower, Regulator	
Amp, Hand Hole, Vault, Gas Valve	
OC Transpo: Bus Shelter-No Power, Energized, Isolated	
Streetscape: Planter Box, Grate Square, Eng. Soil	
Traffic Connect Box / Disconnect Box, SL Disconnect	
R.L Hand Hole, R.L. Camera	
Scada: hand Hole, Monitoring Panel	
Reducer	
Pipe, Duct, Conduit, Lateral	
Culvert	
Abandoned	
Capped	
Buried Cable	
Property Line	
Install Year	(2015)

TELECOM GLOSSARY

A	Allstream	P	Primus
AT	Aliant	P2P	Canadian P2P Fibre
B	Bell	R	Rogers
BH	Birch Hill	S	Sprint
F	Fibre Noir	SL	Street Lighting
G	GlobEty	T	Traffic
GT	Group Telecom	TO	Telecom Ottawa
H	Hydro Ottawa	TU	Telus
HY	Hydro One	V	Videotron
L / L3	Level 3	Y	Zayo

GLOSSARY - OTHER

DD	Dept. of Defence	PED	Pedestal (owner unknown)
MH	Manhole (owner unknown)	PW	Public Works
OOC	OCTranspo	UP	Utility Pole (owner unknown)
SCD	Scada		

CAUTION/ATTENTION

Although utility locations are established using the best available information, they cannot be guaranteed.

Property lines were compiled from plans and documents recorded in the Land Registry System and are for locating purposes only.

Bien que l'emplacement des services publics soient établis en utilisant le meilleur information d'disponible, ils ne peuvent pas être garantis.

Des lignes de propriété ont été compilées en utilisant des plans et des documents enregistrés dans le système de cadastre et sont pour l'indexation seulement.

Ottawa

Right of Way, Heritage, and Urban Design Services / Gestionnaire, Services des emprises, du patrimoine, et du design urbain
Planning, Infrastructure and Economic Development Department / Direction générale de la planification, de l'infrastructure et du développement économique
100 Constellation Cres., 6th Floor East / 6ème Étage Est, Ottawa, ON K2G 6J8

OTTAWA UTILITY COORDINATING COMMITTEE
CENTRAL REGISTRY

COMITÉ DE COORDINATION DES SERVICES PUBLICS D'OTTAWA
ENREGISTREMENT CENTRAL

UCC CCSP

PREPARED BY: GIS & DATA MANAGEMENT BRANCH
INFORMATION CENTRE UNIT

SCALE: 1:250

SHEET NUMBER
H-06-15

REVISIONS / RÉVISIONS	DATE	BY
REORDAIN FROM VOIDED UTILITY PLAN H-06-06	JULY 2007	XMC

LEGEND

- Water Valve, Valve Chamber, Fire Hydrant
- Sewer Manhole, Catch Basin Manhole
- Catch Basin / Drainage, Wing Wall, Head Wall
- Pole, Pole w/ light, Decorative, Lawn Light
- Power Supply, Panel, Pedestal, Transformer, Tower, Regulator
- Amp, Hand Hole, Vault, Gas Valve
- OC Transpo: Bus Shelter-No Power, Energized, Isolated
- Streetscaper: Planter Box, Grate Square, Eng. Soil
- Traffic Connect Box / Disconnect Box, SL Disconnect
- R.L Hand Hole, R.L. Camera
- Scada: Hand Hole, Monitoring Panel
- Reducer
- Pipe, Duct, Conduit, Lateral
- Culvert
- Abandoned
- Capped
- Buried Cable
- Property Line
- Install Year (2015)

TELECOM GLOSSARY

A	Allstream	P	Primus
AT	Aria	P2P	Canadian P2P Fibre
B	Bell	R	Rogers
BH	Bench Hill	S	Sprint
F	Fibre Noir	SI	Street Lighting
G	Globility	T	Traffic
GT	Group Telecom	TO	Telecom Ottawa
H	Hydro Ottawa	TU	Telus
H1	Hydro One	V	Videotron
L / L3	Level 3	Z	Zayo

GLOSSARY - OTHER

DD	Dept. of Defence	FED	Federal (owner unknown)
MH	Manhole (owner unknown)	PW	Public Works
OOC	OCTranspo	UP	Utility Pole (owner unknown)
SCD	Scada		

CAUTION/ATTENTION

Although utility locations are established using the best available information, they cannot be guaranteed.
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Des lignes de propriété ont été compilées en utilisant des plans et des documents enregistrés dans le système de cadastre et sont pour l'intention seulement.

Ottawa

Right of Way, Heritage, and Urban Design Services / Gestionnaire, Services des emprises, du patrimoine, et du design urbain
Planning, Infrastructure and Economic Development Department / Direction générale de la planification, de l'infrastructure et du développement économique
100 Constellation Crescent, 6th Floor East / 6ème Etage Est, Ottawa, ON K2G 6J8

OTTAWA UTILITY COORDINATING COMMITTEE
CENTRAL REGISTRY
COMITÉ DE COORDINATION DES SERVICES PUBLICS D'OTTAWA
ENREGISTREMENT CENTRAL

UCC Ottawa CCSP

PRODUCED BY: GIS DATA MANAGEMENT BRANCH / INFORMATION CENTRE UNIT

SCALE: 1:250

SHEET NUMBER: H-06-06

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

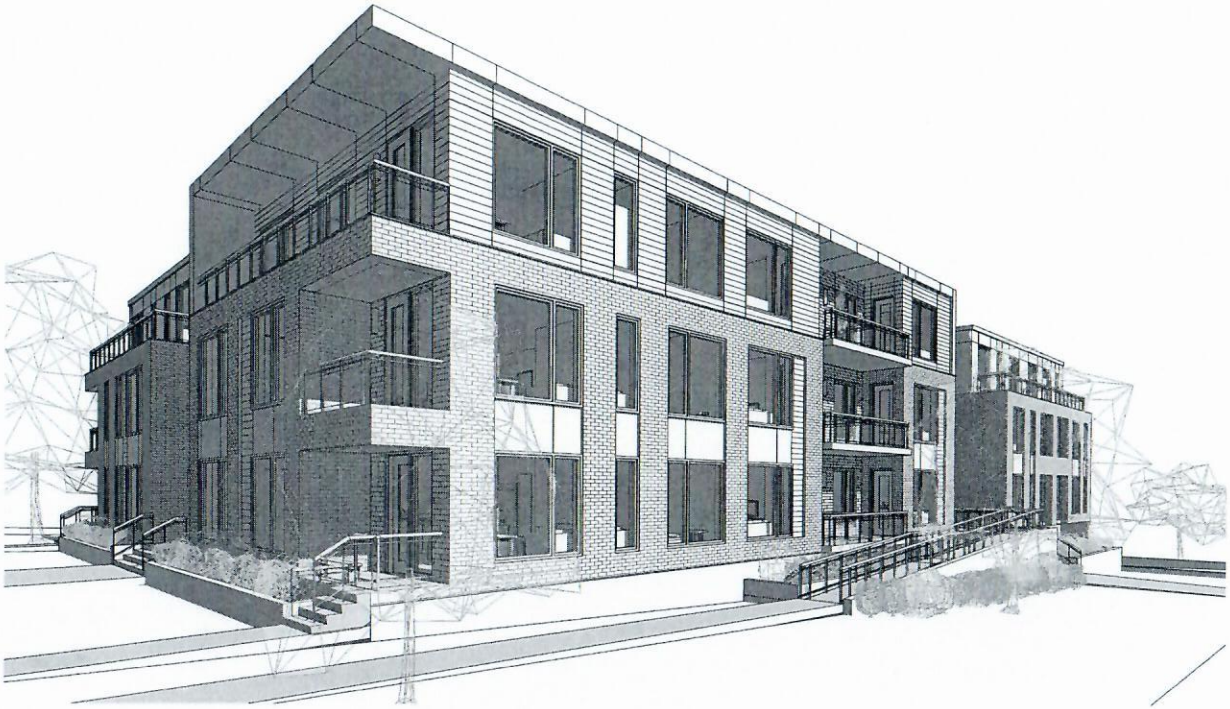
CITY OF OTTAWA

APPENDIX D

CITY OF OTTAWA

- **UPDATED SITE PLAN AND ARCHITECTURAL DRAWINGS**
- **WATER BOUNDARY CONDITIONS**
- **SUPPORTING HYDRAULIC CALCULATIONS**
- **HYDRANT SPACING (FIGURE 1)**

ATTACHMENT 1: UPDATED SITE PLAN AND ARCHITECTURAL DRAWINGS



SILVER STREET DEVELOPMENT

1062, 1066 & 1058 SILVER STREET, OTTAW, ON
ISSUED FOR SITE PLAN & ZONING: 2021.12.20

ARCHITECTURAL DRAWINGS

S.J. LAWRENCE ARCHITECT INC.
18 DEAKIN ST. SUITE 205
OTTAWA, ONTARIO K2E 8B7
(P) 613 739-7770
(F) 613 739-7703

STRUCTURAL DRAWINGS

GOODEVE STRUCTURAL INC.
18-27 AURIGA DR.
OTTAWA, ONTARIO, K2E 727
(P) 613 226-4558

CIVIL DRAWINGS

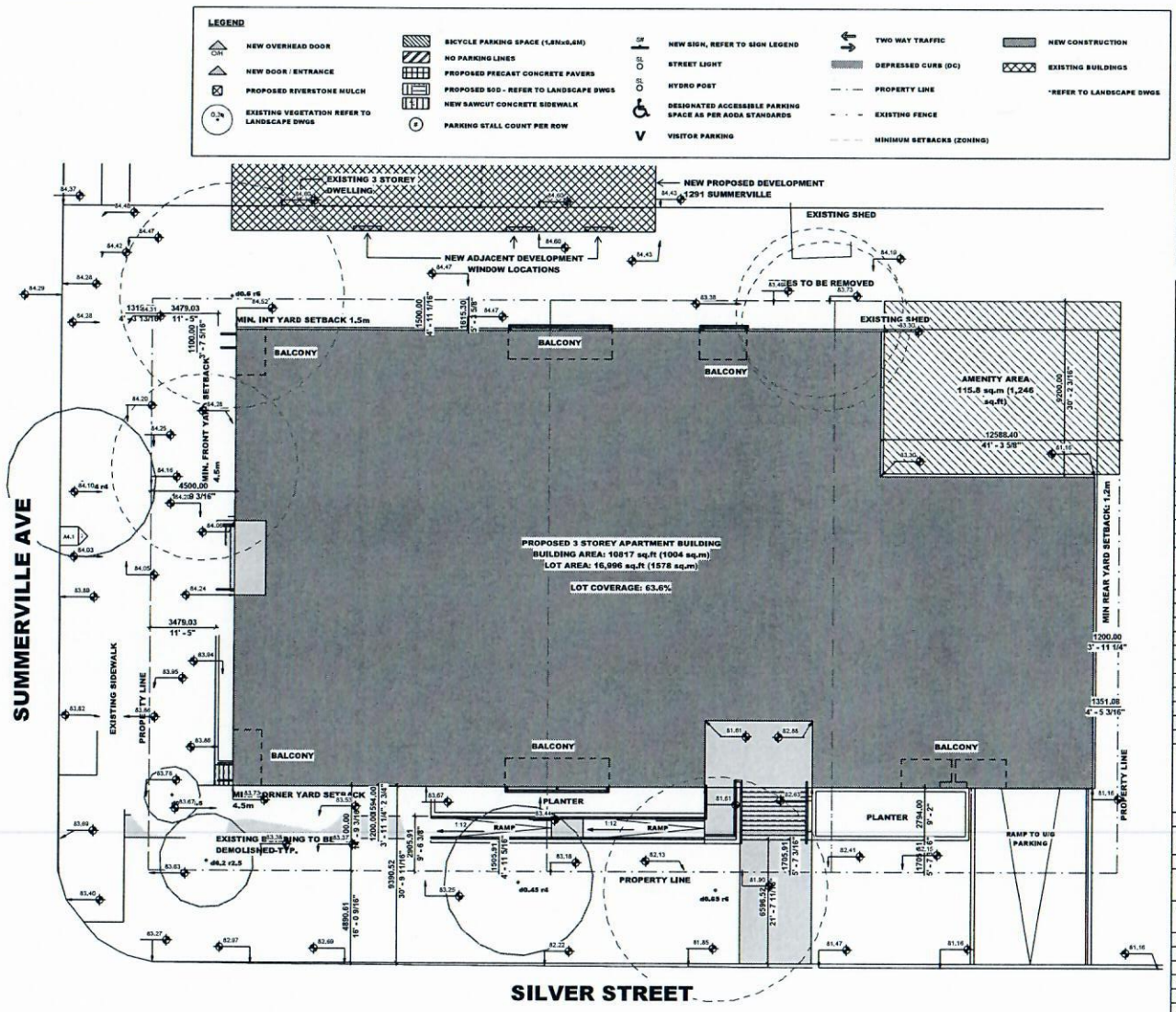
T.L. MAK ENGINEERING
CONSULTANTS LTD.
1455 YOUVILLE DR,
OTTAWA, ONTARIO, K1C 627
(P) 613 837-5516

MECHANICAL / ELECTRICAL DRAWINGS

QUADRANT ENGINEERING LIMITED,
CONSULTING ENGINEERS
107 PRETORIA AVE.
OTTAWA, ONTARIO, K1S 1WB
(P) 613 567-1487
(F) 613 567-1493

PLANNER / LANDSCAPER

NOVATECH ENGINEERING
CONSULTANTS LTD.
240 MICHAELCOWPLAN DRIVE,
SUIT 200
OTTAWA, ONTARIO, K2M 1P6
(P) 613 254-9643
(F) 613 254-5867



1 CONCEPT SITE PLAN
A1.0 SCALE 1 : 100

KEY PLAN

BUILDING AREAS

	CONSTRUCTION AREA (SQ.M)	CONSTRUCTION AREA (SQ.FT)
LOWER LEVEL		
GROUND FLOOR LEVEL	1004 sq.m	10,817 sq.ft
SECOND FLOOR LEVEL	1004 sq.m	10,817 sq.ft
THIRD FLOOR LEVEL	849 sq.m	10,215 sq.ft
TOTAL	2,857 sq.m	31,849 sq.ft

BUILDING FLOOR STATISTICS - RENTAL APARTMENT

FLOOR	SUITES	2 BEDROOM	1 BEDROOM + DEN	1 BEDROOM
LOWER LEVEL	-	-	-	-
GROUND FLOOR	10	4	5	1
SECOND FLOOR	11	4	5	2
THIRD FLOOR	11	3	6	2
TOTAL	32	11	16	5
SUITE MIX		35%	50%	15%

CITY OF OTTAWA ZONING BY-LAW

ZONING PROVISIONS	REQUIRED	PROPOSED
R4UC		
MIN. LOT AREA	450 sq.m	confirm
MAX. LOT AREA	1070 sq.m	confirm
MIN. LOT WIDTH	15m	46m
MIN. LOT WIDTH	15m	46m
MIN. FRONT YARD SETBACK	4.5m	4.5m
MIN. CORNER SIDE YARD SETBACK	4.5m	4.5m
MIN. INTERIOR SIDE YARD SETBACK	1.5m	1.5m
MIN. REAR YARD SETBACK	1.2m	1.35m
MIN. INTERIOR YARD SETBACK	CONFIRM	CONFIRM
MAX BUILDING HEIGHT	11M	11M
AMENITY AREA	40% OF FRONT AND CORNER YARDS, 30% OF LOT AREA, 50% OF REAR YARD WITH A 25 sq.m STRIP	11M
LOT COVERAGE	N/A	63.6%

AUTOMOBILE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
RESIDENT PARKING	0.5/UNIT (AFTER 12) X 20 = 10 SPACES	19
VISITOR PARKING	0.1/UNIT (AFTER 12) X 20 = 2 SPACES	2
TOTAL PROVIDED	12	21
PROVIDED PARKING		
		UNDERGROUND
REGULAR SPACES	MIN. 2.6mx5.2m	20
ACCESSIBLE SPACES	TYPE B 2.4mx5.2m	1
TOTAL	= 21 PROVIDED PARKING SPACES	

BICYCLE PARKING SUMMARY

REQUIRED PARKING	REQUIRED	PROPOSED
BIKE PARKING	0.5/UNIT X 32 = 16 SPACES	32

POWER-TEK GROUP

NOTES:
1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.
2) ALL WORK TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. BOTH FIGURED AND ALL NOTES ARE TO BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT IMMEDIATELY.
3) DO NOT SCALE DRAWINGS.
4) ALL SUBCONTRACTORS TO CHECK THEIR OWN LAYOUTS, MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.
5) COPYRIGHT RESERVED. THESE DRAWINGS AND DESIGNS ARE THE PROPERTY OF L. LAWRENCE ARCHITECT AND MUST NOT BE USED OR REPRODUCED WITHOUT THEIR PERMISSION.

No.	DATE	REVISION
01	2021.06.28	ISSUED FOR REVIEW
02	2021.08.23	REVISED FOR REVIEW

L. LAWRENCE ARCHITECT INCORPORATED
18 DENBIGH STREET SUITE 206 OTTAWA, ONTARIO K2G 0B2
T. 613-724-7722
F. 613-724-7726
info@llarchitect.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT
SILVER STREET DEVELOPMENT
1291 & 1293 SILVER STREET, OTTAWA, ON

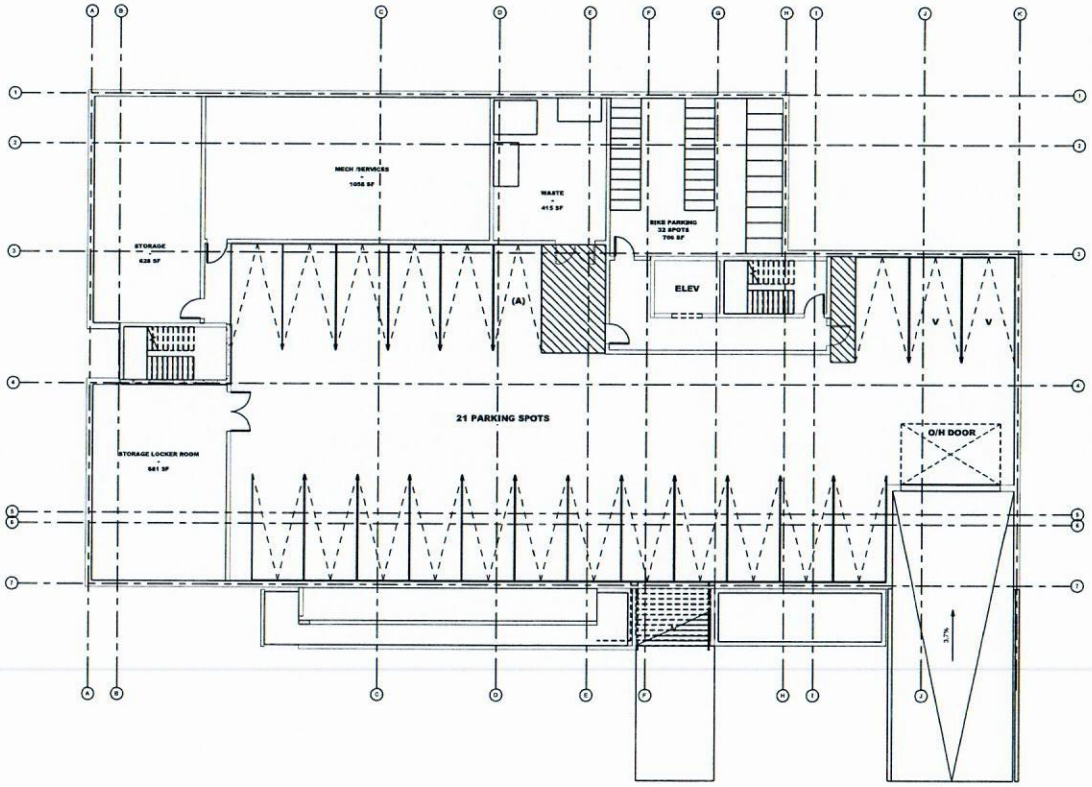
SHEET TITLE
CONCEPT SITE PLAN

DRAWN	CHECKED BY
R.H.	S.L. / L.L.

PLOT DATE: 2021-09-09 2:02:44 PM
JOB NUMBER: 01-1966-21
SCALE: As indicated

A1.0

APPLICATION #



A4.1

1 / A2.0 BASEMENT CONCEPT PLAN
SCALE 1 : 100

POWER-TEK

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION. I ASSIST PRIOR TO EXECUTION OF WORK. ALL SUCH DRAWINGS ARE TO BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS, AND SHALL TAKE PRECEDENCE WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUBCONTRACTORS TO CHECK THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAW-ALL LAWRENCE ARCHITECT FOR ANY OMISSIONS AND/OR DISCREPANCIES PRIOR TO START OF WORK.

NORTH ARROW

No.	DATE	REVISION
1	2023.06.08	ISSUED FOR REVIEW
2	2023.06.23	ISSUED FOR REVIEW

S.J. LAWRENCE ARCHITECT INCORPORATED
SJL LAWRENCE ARCHITECT INCORPORATED

PROJECT
SILVER STREET DEVELOPMENT

SHEET TITLE
BASEMENT CONCEPT PLAN

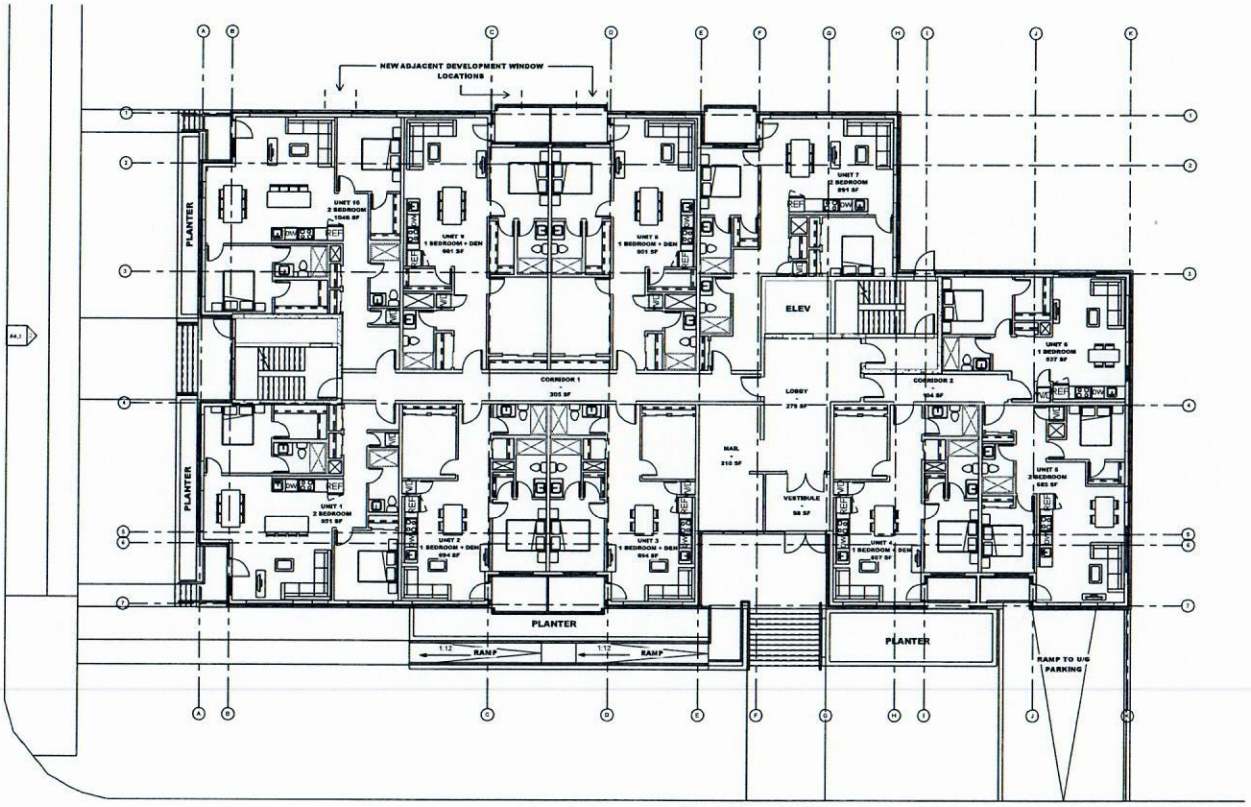
DRAWN: RDL | CHECKED BY: S.J.L.

PLOT DATE: 2023-07-05 2:12:47 PM

JOB NUMBER: SC-1442-21 | SCALE: 1 : 100

A2.0

APPLICATION #



1 / A2.1 GROUND FLOOR CONCEPT PLAN
SCALE 1 : 100

POWER-TEK

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL [illegible] REGULATIONS AND BY-LAWS.

2) NOTIFY ALL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ARCHITECT BEFORE [illegible] OF WORK. [illegible] SHOP DRAWINGS TO BE SUBMITTED TO ARCHITECT AS PER THAT WORK INCLUDED WITH PLANS & CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUBCONTRACTORS TO TAKE THEIR OWN CHOSITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY DISCREPANCIES AND/OR OMISSIONS PRIOR TO START OF WORK.

NORTH ARROW

No.	DATE	REVISION
01	2021.06.28	ISSUED FOR REVIEW
02	2021.05.27	ISSUED FOR REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 [illegible] STREET
SUITE 2 [illegible]
[illegible], ONTARIO
K2G 5S8
T. (613) 728-7722
F. (613) 728-7726
sjl@sjl-inc.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT
SILVER STREET DEVELOPMENT
[illegible] SILVER STREET, OTTAWA ON

SHEET TITLE
GROUND FLOOR CONCEPT PLAN

DRAWN	CHECKED BY
R.N.	S.J.L.

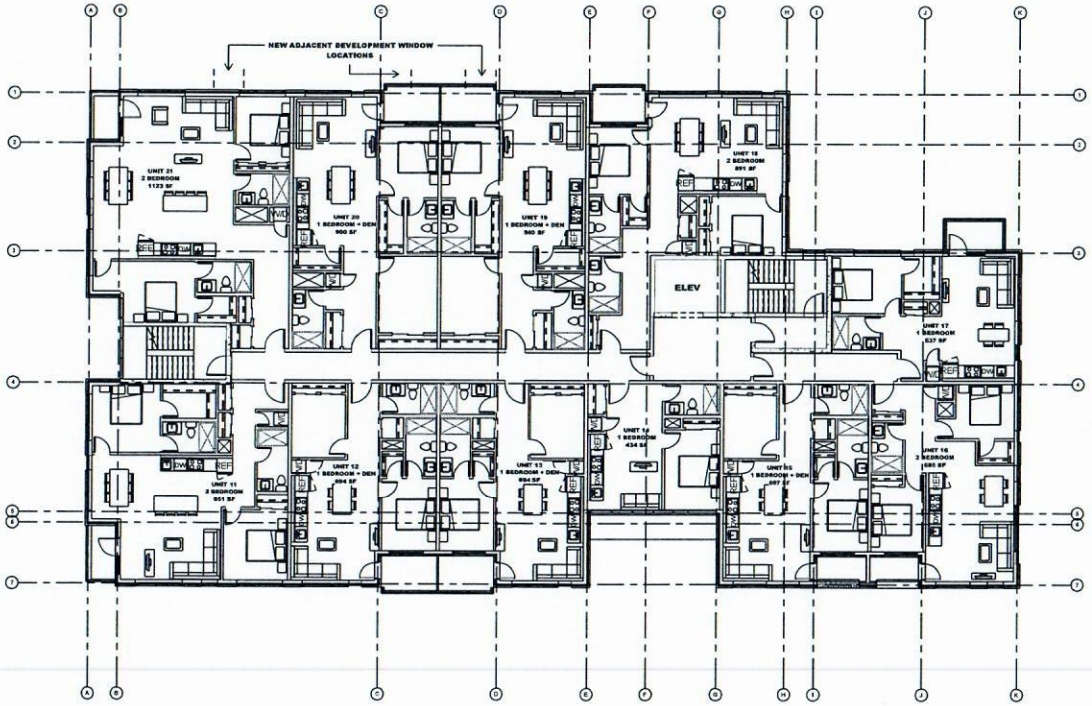
PLOT DATE
2021-07-09 2:12:49 PM

JOB NUMBER	SCALE
SJL-1044-21	1 : 100

A2.1

PLAN #

APPLICATION #



1 / A2.2 SECOND FLOOR CONCEPT PLAN
SCALE 1 : 100

POWER-TEK

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.

2) NOTHING DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST IN PRODUCTION OF WORK, SUCH DRAWINGS WILL NOT BE USED FOR CONSTRUCTION UNLESS THEY ARE INCLUDED WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUBCONTRACTORS TO TAKE THEIR OWN CRITICAL MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J.L.LAWRENCE ARCHITECT PTE LTD OF ANY DISCREPANCIES AND/OR OMISSIONS PRIOR TO START OF WORK.

NORTH ASSUMED

No	DATE	REVISION
01	2021.06.28	ISSUED FOR REVIEW
01	2021.05.27	REVISED FOR REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 ZHUJIN STREET
#07-29
SINGAPORE 048616
T (65) 6238 7725
F (65) 6238 2309
sjl@sjl-asia.com

PROJECT
SILVER STREET DEVELOPMENT
162 & 164 SILVER STREET, OTTAWA ON

SHEET TITLE
SECOND FLOOR CONCEPT PLAN

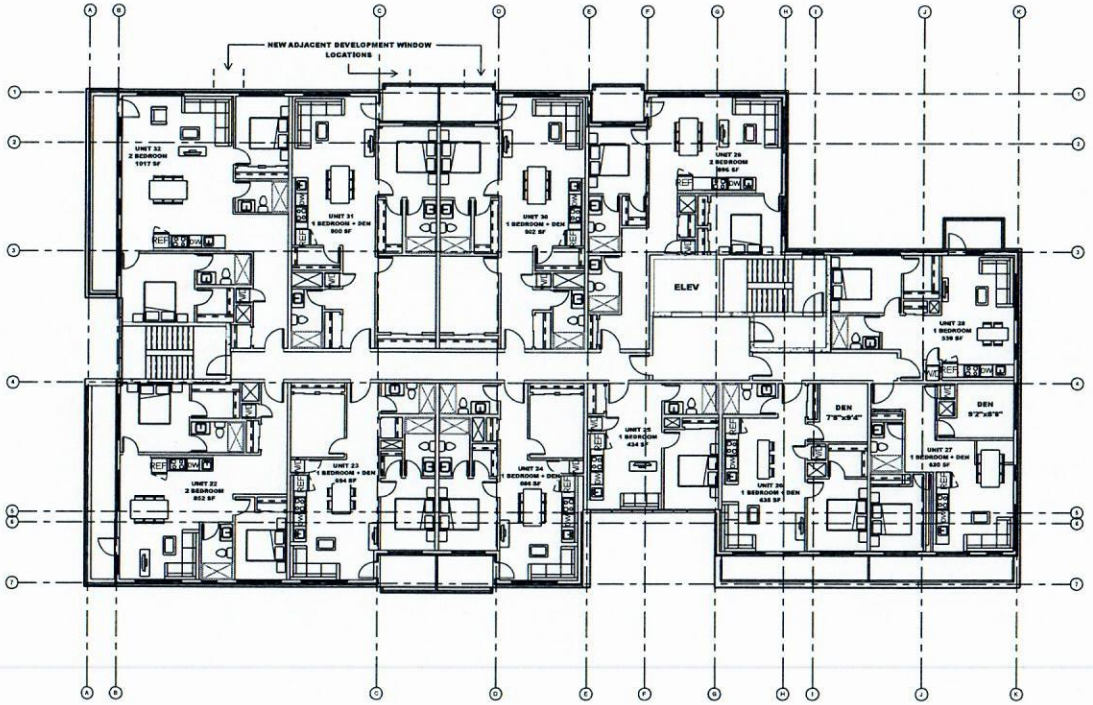
DRAWN BY	CHECKED BY
R.A.	S.J.L.

PLOT DATE
2022-01-05 2:12:58 PM

J.P.T.NUMBER	SCALE
SL-1044-21	1 : 100

A2.2

APPLICATION #



1 / A2.3 THIRD FLOOR CONCEPT PLAN
SCALE 1 : 100

POWER-TEK

NOTES:

ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.

DO NOT USE DRAWINGS NOT ISSUED FOR CLIENTS REVIEW / AGREEMENT PRIOR EXECUTION OF WORK. ALL DRAWINGS ISSUED FOR CLIENTS REVIEW / AGREEMENT ARE IF THEY ARE TO BE USED REFERENCED IN CONTRACT DOCUMENTS.

DO NOT SCALE DRAWINGS.

ALL SUBCONTRACTORS TO TAKE THEIR OWN ON-SITE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

NOTIFY SHAWN LAWRENCE ARCHITECT FOR ANY DRAWING AND/OR CHANGES REQUIRED TO START UP WORK.

NORTH ARROW

NO.	DATE	REVISION
01	2023.05.08	ISSUED FOR REVIEW
02	2023.05.23	ISSUED FOR REVIEW

S.J. LAWRENCE ARCHITECT INCORPORATED
18 SUSSEX STREET
SUITE 206
OTTAWA, ONTARIO
K1N 7B7
T. (613) 729-7172
F. (613) 729-7720
MEL@SHAWNLAW.COM

LAWRENCE ARCHITECT

PROJECT
SILVER STREET DEVELOPMENT
562 & 566 SILVER STREET, OTTAWA, ON

SHEET TITLE
THIRD FLOOR CONCEPT PLAN

DRAWN: R.H. | CHECKED BY: S.J.L.

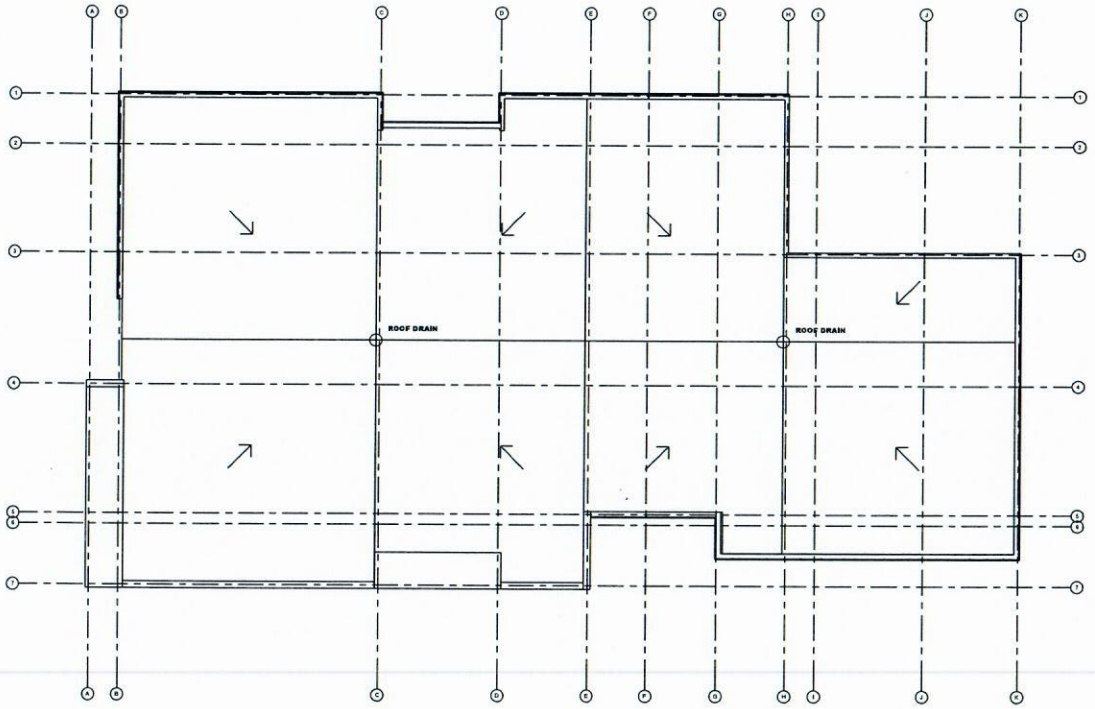
PLOT DATE: 2023-05-09 2:52:52 PM

JOB NUMBER: SL-1944-21 | SCALE: 1 : 100

A2.3

APPLICATION #

PLAN #



1 A2.4 ROOF CONCEPT PLAN
SCALE 1 : 100

POWER-TEK

NOTES:

ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BY-LAWS.

CLIENT/ CONSULTANT SHALL REVIEW AND APPROVE SHOP DRAWINGS PRIOR TO FABRICATION. ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING. THE ARCHITECT WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS WHICH ARE NOT BROUGHT TO THE ARCHITECT'S ATTENTION IN WRITING.

DO NOT SCALE DRAWINGS.

ALL SUBCONTRACTORS TO TAKE THEIR OWN VALIDATE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

ALL TYPE 'X' DRAWINGS ARE SUBJECT TO ANY EMPLOYER AND/OR LANDLORD REVISIONS PRIOR TO START OF WORK.

NORTH ARROW

01	2021.06.28	ISSUED FOR REVIEW
01	2021.05.27	ISSUED FOR REVIEW
No.	DATE	REVISION

S.J. LAWRENCE ARCHITECT INCORPORATED
38 DRAIN STREET
SUITE 2A
OTTAWA, ONTARIO
K2G 5S2
T. (613) 724-7772
F. (613) 724-2700
MEAIN@SJLA.CA

LAWRENCE ARCHITECT INCORPORATED

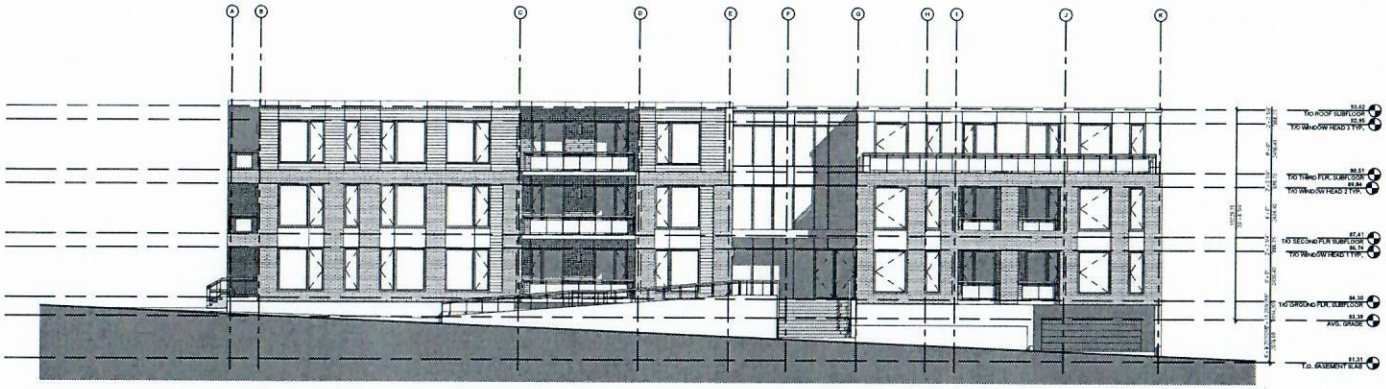
PROJECT:
SILVER STREET DEVELOPMENT
1952 & 1964 SILVER STREET, OTTAWA, ON

SHEET TITLE:
ROOF CONCEPT PLAN

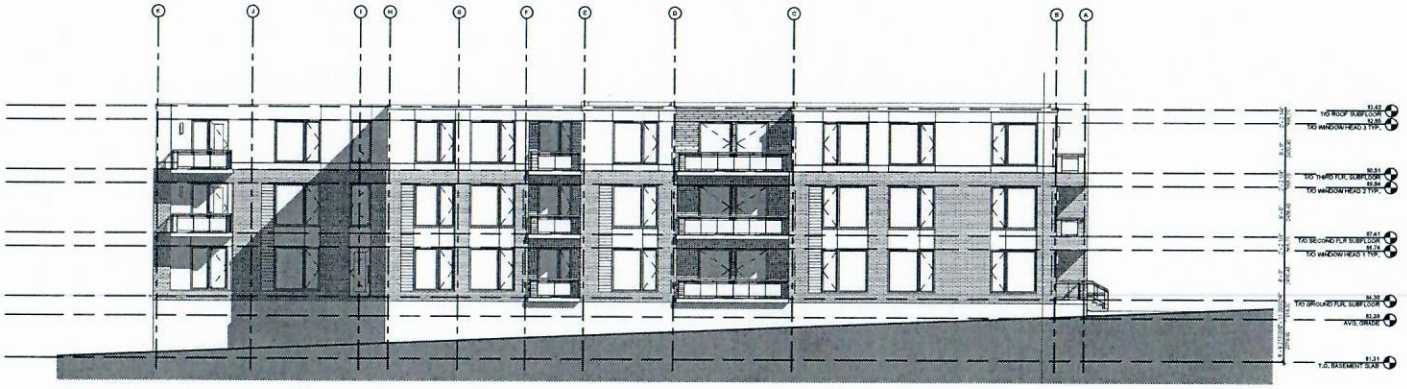
DRAWN: RDL
CHECKED BY: S.J.L.
PLOT DATE: 2022-01-05 2:52:52 PM
J.C.B NUMBER: SL-1946-21
SCALE: 1 : 100

A2.4

PLAN #
APPLICATION #



1 A4.0 EAST (FRONT) ELEVATION
SCALE 1 : 100



2 A4.0 WEST ELEVATION
SCALE 1 : 100

POWER-TEK

NOTES:

1) ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.

2) ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. THE CONTRACTOR SHALL KEEP ONE SET OF THE REVISED SHEET ALONG THE METAL BUILDER WITH PLANS IN CONTRACT DOCUMENTS.

3) DO NOT SCALE DRAWINGS.

4) ALL SUBCONTRACTORS TO TAKE THEIR OWN CRUCIAL MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5) NOTIFY SHAWN J.LAWRENCE ARCHITECT FOR ANY DISCREPANCIES AND/OR CHANGES AS A POINT TO START OF WORK.

NORTH AXIS DIM

No.	DATE	REVISION
01	2021.06.04	ISSUED FOR REVIEW
02	2021.06.27	REVISED FOR REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
1630 BANK STREET SUITE 206 OTTAWA, ONTARIO K1G 0Z2
T: (613) 734-7172 F: (613) 730-7724 info@sjlarch.com

LAWRENCE ARCHITECT INCORPORATED

PROJECT
SILVER STREET DEVELOPMENT
982 & 1004 SILVER STREET, OTTAWA, ON

SHEET TITLE
SCHEMATIC ELEVATIONS

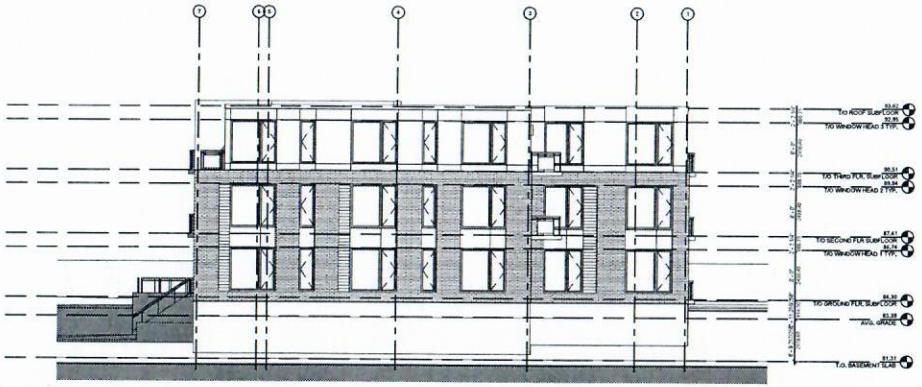
DRAWN	CHECKED BY
R.R.	S.L. S.J.L.

PLOT DATE
2022-01-05 2:12:05 PM

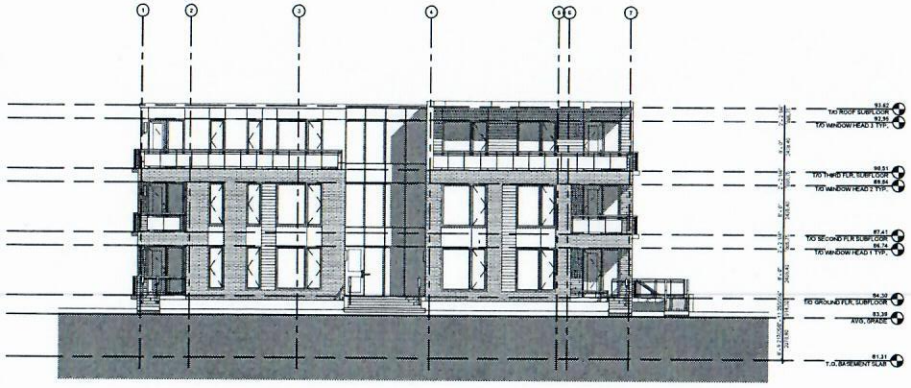
JOB NUMBER	SCALE
SJL-1044-21	1 : 100

A4.0

APPLICATION #



1 A4.1 NORTH ELEVATION
SCALE 1 : 100



2 A4.1 SOUTH ELEVATION
SCALE 1 : 100

POWER-TEK

NOTES

1. ALL WORK TO BE IN COMPLIANCE WITH LOCAL BUILDING REGULATIONS AND BYLAWS.

2. ALL OFF THE DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST IN PROPER EXECUTION OF WORK. ALL DRAWINGS SHALL REMAIN THE SOLE PROPERTY OF THE ARCHITECT AND SHALL NOT BE LOANED, COPIED OR USED FOR ANY PURPOSE OTHER THAN THOSE INCLUDED IN THE CONTRACT DOCUMENTS.

3. DO NOT SCALE DRAWINGS.

4. ALL SUBCONTRACTORS TO TAKE THEIR OWN GRADE MEASUREMENTS AND BE RESPONSIBLE FOR THEIR ACCURACY.

5. NOTIFY SHAWN J. LAWRENCE ARCHITECT FOR ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

NORTH ARROW

NO.	DATE	REVISION
01	2021.06.28	ISSUED FOR REVIEW
01	2021.05.21	ISSUED FOR REVIEW

S.J.LAWRENCE ARCHITECT INCORPORATED
18 ERIN STREET SUITE 206 OTTAWA, ONTARIO K0E 1N0
T. 613.724.7772
F. 613.724.7722
sjlawrence.ca

LAWRENCE ARCHITECT INCORPORATED

PROJECT
SILVER STREET DEVELOPMENT
1962 & 1964 SILVER STREET, OTTAWA, ON

SHEET TITLE
SCHEMATIC ELEVATIONS

DRAWN: R.H.
CHECKED BY: M.L. S.J.L.

PLOT DATE: 2022-01-05 2:53:17 PM

JOB NUMBER: SL-1964-21
SCALE: 1 : 100

A4.1

APPLICATION #

ATTACHMENT 2: WATER BOUNDARY CONDITIONS

Razafimaharo, Christene

From: TL MaK <tlmakecl@bellnet.ca>
Sent: Wednesday, June 16, 2021 11:58 AM
To: Alemany, Kevin
Cc: Razafimaharo, Christene
Subject: FW: 1066 Silver Street - Water Boundary Conditions Request
Attachments: 1066 Silver Street June 2021.pdf

Hi Kevin,

Attached please find water boundary conditions received today from the City of Ottawa regarding 1066 Silver Street.

Could you please proceed with your calculations at your earliest convenience for our serviceability report preparation.

Let us know if you have any questions or comments.

Regards,

Tony Mak

T.L. Mak Engineering Consultants Ltd.
1455 Youville Drive, Suite 218
Ottawa, ON. K1C 6Z7
Tel. 613-837-5516 | Fax: 613-837-5277
E-mail: tlmakecl@bellnet.ca

From: Harrold, Eric [mailto:eric.harrold@ottawa.ca]
Sent: June 16, 2021 10:26 AM
To: TL MaK
Cc: Cassidy, Tyler; 'Amanda Lawrence'
Subject: RE: 1066 Silver Street - Water Boundary Conditions Request

Hi Tony,

Please see the water boundary condition information provided below:

The following are boundary conditions, HGL, for hydraulic analysis at 1066 Silver Street (zone 2W2C) assumed to be connected to the 152 mm on Summerville Avenue (see attached PDF for location).

Minimum HGL = 124.6 m

Maximum HGL = 133.1 m

Available fire flow at 20 psi = 96 L/s, assuming ground elevation of 83.8 m

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 watermains 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 let me know if you have any follow-up questions.

Best,
Eric

From: TL MaK <tlmakecl@bellnet.ca>
Sent: June 09, 2021 9:59 AM
To: Harrold, Eric <eric.harrold@ottawa.ca>
Cc: Cassidy, Tyler <tyler.cassidy@ottawa.ca>; 'Amanda Lawrence' <amanda@sjlarchitect.com>
Subject: RE: 1066 Silver Street - Water Boundary Conditions Request

Hi Eric,

This will serve to confirm that the proposed building is for 23 units. We had confirmation from the project architect yesterday.

Regards,

Tony Mak

T.L. Mak Engineering Consultants Ltd.
1455 Youville Drive, Suite 218
Ottawa, ON. K1C 6Z7
Tel. 613-837-5516 | Fax: 613-837-5277
E-mail: tlmakecl@bellnet.ca

From: Harrold, Eric [mailto:eric.harrold@ottawa.ca]
Sent: June 8, 2021 3:45 PM
To: tlmakecl@bellnet.ca
Cc: Cassidy, Tyler
Subject: 1066 Silver Street - Water Boundary Conditions Request

Hi Tony,

Adam forwarded me the attached email regarding the water boundary condition request for 1066 Silver Street. I can submit the request to the City now that the pre-consultation is complete. I just wanted to confirm that the criteria in the request is up to date; the pre-consultation documents indicate that there are 25 units, whereas the water boundary request email indicates 23. Once you've confirmed that the details are correct I can send the request.

Additionally, please note that I confirmed that 30 cm of freeboard is required from the spillpoint for the site to the top of the ramp for the underground parking garage.

Best,
Eric
Eric Harrold, P.Eng

Planning, Infrastructure and Economic Development Department - Services de la Planification, de l'Infrastructure et du Développement Économique
Development Review
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West, Ottawa, ON | 110, Avenue. Laurier Ouest, Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 21447, eric.harrold@ottawa.ca

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This e-mail originates from the City of Ottawa e-mail system. Any distribution, use or copying of this e-mail or the information it contains by other than the intended recipient(s) is unauthorized. Thank you.

Le présent courriel a été expédié par le système de courriels de la Ville d'Ottawa. Toute distribution, utilisation ou reproduction du courriel ou des renseignements qui s'y trouvent par une personne autre que son destinataire prévu est interdite. Je vous remercie de votre collaboration.

'


Boundary Conditions for 1066 Silver Street
rue Silver St
av. Summerville Ave
1280
1058
1062
1066
1291
1061
1063
1065
1269
1271
1267
1265
152
N
Legend
PRIVATE
PUBLIC
City of Ottawa

ATTACHMENT 3: SUPPORTING HYDRAULIC CALCULATIONS

Stantec

Supporting Hydraulic Calculations

Stantec Project #: 163401084
Project Name: 1066 Silver St
Date: June 21, 2021
Data inputted by: Christène Razafimaharo, M.Sc., EIT
Data reviewed by: Kevin Alemany, M.A.Sc., P.Eng.

Boundary Conditions provided by the City:

Scenario 1: Peak Hour (Min HGL): 124.6 m;
Scenario 2: Average Day (Max HGL): 133.1 m; and
Scenario 3: Maximum Day plus Fire Flow: 97.9 m.

Sample Calculations

$HGL\ (m) = hp + hz$ *(1)*

where: hp = Pressure Head (m); and hz = Elevation Head (m), estimated from topography.

For Scenario 1, we have:

HGL(m) = 124.6 and hz (m) = 83.8.

Rearranging Equation 1, we can calculate the Pressure Head (hp) as follow:

$hp\ (m) = HGL - hz$

$\therefore$ hp = 124.6 - 83.8 m = 40.8 m.

To convert from Pressure Head (m) to a pressure value (kPa), the following equation can be used:

$P\ (kPa) = (\rho * g * hp) / 1000$ *(2)*

where: ρ = density of water = 1000 kg/m^3; and g = gravitational acceleration = 9.81 m/s^2.

Using Equation 2, we can calculate the Pressure (hp) as follow:

P (kPa) = (1000 * 9.81 * 40.8) / 1000

$\therefore$ P = 400 kPa.

Considering that 1 kPa = 0.145 psi, the pressure under Scenario 1 is equal to:

P = 58 psi.

Applying the same procedures, the pressures under Scenario 2 and Scenario 3 are calculated as follows:
Scenario 2: P = 70 psi; and Scenario 3: P = 20 psi.

To summarize:

Scenario 1: Minimum Pressure under Peak Hour Demand: 400 kPa (58 psi)
Scenario 2: Maximum Pressure under Average Day Demand: 483 kPa (70 psi)
Scenario 3: Minimum Pressure under Maximum Day + Fire Flow Demand: 138 kPa (20 psi)

ATTACHMENT 4: FIGURE 1 – HYDRANT SPACING

Figure 1: Hydrant spacing

Source: geoOttawa 2021; Contains information licensed under the Open Government Licence – City of Ottawa

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX E

CITY OF OTTAWA

SANITARY SEWER DESIGN SHEET

SHEET No. 1 OF 1

SANITARY SEWER DESIGN SHEET

q = average daily per capita flow (280 L/cap. d)
I = unit of peak extraneous flow (0.28 L/ha. s)
M = peaking factor
Q (p) = peak population flow (L/s)
Q (i) = peak extraneous flow (L/s)
Q (d) = peak design flow

RESIDENTIAL DENSITY
2 BEDROOM - 2.1 ppu
1 BEDROOM - 1.4

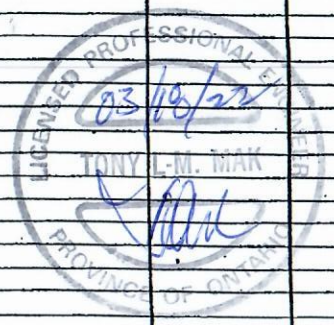
$M = 1 + \frac{14}{4 + \sqrt{P}}$ where P population in 1000's

$Q(p) = \frac{PqM}{86.4}$ (L/s)

Q(i) = IA (L/s) where A = area in hectares

Q(d) = Q(p) + Q(i) (L/s)

LOCATION			INDIVIDUAL		CUMULATIVE		Peaking factor M	Pop. flow Q(p) (L/s)	Peak extraneous flow Q(i) (L/s)	Peak design flow Q(d) (L/s)	PROPOSED SEWER						
STREET	FROM	TO	Pop.	Area A (hectares)	Pop.	Area A (hectares)					Length (m)	Pipe size (mm)	Type of pipe	Grade %	Capacity (L/s) n=0.013	Full flow velocity (m/s)	Actual velocity at Q(d)
1058, 1062 AND 1066 SILVER	SITE	EX. 225Ø SAN	52.5	0.158	52.5	0.158	4	0.68	0.05	0.73	15.5	150	PVC	1.0 (min.)	19.8	1.12	



DESIGN TLM	PROJECT 1058, 1062 AND 1066 SILVER STREET - PROPOSED THREE STOREY APARTMENT BUILDING, SITE OTTAWA	SHEET No. 1 of 1
CHECKED TLM		
DATE MARCH 2022		

(FILE# 821-10) REV#1

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX F

CITY OF OTTAWA

CORRESPONDENCE FROM RVCA

DATED JULY 14, 2021

TL MaK

From: Eric Lalande [eric.lalande@rvca.ca]
Sent: July 14, 2021 10:24 AM
To: TL MaK
Subject: RE: 1066 Silver Street

Hi Tony,

Based on the provided Site plan, the RVCA would require no additional water quality protection be provided on-site.

Thank you,

Eric Lalande, MCIP, RPP
Planner, RVCA
613-692-3571 x1137

From: TL MaK <tlmakecl@bellnet.ca>
Sent: Monday, July 12, 2021 3:26 PM
To: Eric Lalande <eric.lalande@rvca.ca>
Subject: 1066 Silver Street

Hi Eric,

Presently we are contacting the RVCA for pre-consultation regarding our project at 1066 Silver Street.

Could you please review and let us know whether there are any water quality requirements for the proposed development at 1066 Silver Street. We will be implementing storm water management regarding quantity control as required by the City of Ottawa (by means of flat rooftop SWM attenuation only).

Attached please find the PDFs of our engineering drawings for your review and comments. They are as follows:

1. Proposed Site Grading and Servicing Plan (Dwg. #821-10, G-1 Rev. 1)
2. Landscape Plan (Dwg. No. 121139-L1, Rev. No. 1)
3. Concept Site Plan (Dwg. No. A1.0, Rev. No. 4)

Let us know if you have any questions.

Regards,

Tony Mak

T.L. Mak Engineering Consultants Ltd.
1455 Youville Drive, Suite 218
Ottawa, ON. K1C 6Z7
Tel. 613-837-5516 | Fax: 613-837-5277
E-mail: tlmakecl@bellnet.ca

PROPOSED THREE STOREY

RESIDENTIAL APARTMENT BUILDING SITE

PART OF LOT 31

R-PLAN 294

1058, 1062 AND 1066 SILVER STREET

CITY OF OTTAWA

APPENDIX G

DEVELOPMENT SERVICING STUDY CHECKLIST SUMMARY

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

- ☐ Executive Summary (for larger reports only).
- ☒ Date and revision number of the report.
- ☒ Location map and plan showing municipal address, boundary, and layout of proposed development.
- ☒ Plan showing the site and location of all existing services.
- ☐ Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.
- ☐ Summary of Pre-consultation Meetings with City and other approval agencies.
- ☐ Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.
- ☒ Statement of objectives and servicing criteria.
- ☒ Identification of existing and proposed infrastructure available in the immediate area.
- ☐ Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).

☐ Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.

☐ Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.

☐ Proposed phasing of the development, if applicable.

☒ Reference to geotechnical studies and recommendations concerning servicing.

☒ All preliminary and formal site plan submissions should have the following information:

- Metric scale
- North arrow (including construction North)
- Key plan
- Name and contact information of applicant and property owner
- Property limits including bearings and dimensions
- Existing and proposed structures and parking areas
- Easements, road widening and rights-of-way
- Adjacent street names

4.2 Development Servicing Report: Water

☐ Confirm consistency with Master Servicing Study, if available

☒ Availability of public infrastructure to service proposed development

☒ Identification of system constraints.

☒ Identify boundary conditions

☒ Confirmation of adequate domestic supply and pressure

☒ Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.

☒ Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.

☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design

☐ Address reliability requirements such as appropriate location of shut-off valves

☒ Check on the necessity of a pressure zone boundary modification.

☒ Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range

☒ Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.

☐ Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.

☒ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.

☒ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.

4.3 Development Servicing Report: Wastewater

☒ Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).

☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.

☐ Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.

☒ Description of existing sanitary sewer available for discharge of wastewater from proposed development.

☐ Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)

☒ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.

☐ Description of proposed sewer network including sewers, pumping stations, and forcemains.

- ☐ Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).
- ☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.
- ☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.
- ☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.
- ☐ Special considerations such as contamination, corrosive environment etc.

4.4 Development Servicing Report: Stormwater Checklist

- ☒ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)
- ☐ Analysis of available capacity in existing public infrastructure.
- ☒ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.
- ☒ Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.
- ☐ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.
- ☒ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.
- ☐ Set-back from private sewage disposal systems.
- ☐ Watercourse and hazard lands setbacks.
- ☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.
- ☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.

- [x] Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).
- [ ] Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.
- [x] Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.
- [ ] Any proposed diversion of drainage catchment areas from one outlet to another.
- [x] Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.
- [ ] If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.
- [ ] Identification of potential impacts to receiving watercourses
- [ ] Identification of municipal drains and related approval requirements.
- [x] Descriptions of how the conveyance and storage capacity will be achieved for the development.
- [x] 100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.
- [ ] Inclusion of hydraulic analysis including hydraulic grade line elevations.
- [x] Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.
- [ ] Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.
- [ ] Identification of fill constraints related to floodplain and geotechnical investigation.

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

- ☐ Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.
- ☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.
- ☐ Changes to Municipal Drains.
- ☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)

4.6 Conclusion Checklist

- ☒ Clearly stated conclusions and recommendations
- ☐ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.
- ☒ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario