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39 Years

Karson Subdivision

Serviceability and Conceptual Stormwater Management Report

Prepared for: Karson Holdings Inc.

NOVATECH
Engineers, Planners & Landscape Architects

Karson Subdivision
3711 - 3725 Carp Road, Ottawa

Serviceability and
Conceptual Stormwater Management Report

Prepared By:

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Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

Revised: July 2024
June 2023

Novatech File: 121173
Ref: R-2022-156

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NOVATECH
Engineers, Planners & Landscape Architects

July 8, 2024

By Email: jeff.ostafickuk@ottawa.ca

City of Ottawa
Planning, Real Estate and Economic Development
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1

Attention: **Jeff Ostafichuk**

Reference: **3711, 3715, 3719, and 3725 Carp Road**
Serviceability and Conceptual Stormwater Management
Our File No.: 121173

Please find enclosed a revised Serviceability and Conceptual Stormwater Management report, prepared in support of the Draft Plan of Subdivision application for 3711, 3715, 3719 and 3725 Carp Road revised July 2024.

This report outlines the water servicing, sanitary servicing, storm servicing and conceptual stormwater management for the subject site.

This report has been updated based on consolidated City Comments dated December 5, 2023.

If you have any questions, please contact our office.

Yours truly,

NOVATECH

Lisa Bowley, P. Eng.
Senior Project Manager
Land Development Engineering

cc: Karson Holdings Inc.

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Draft Plan of Subdivision
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1.0 INTRODUCTION

1.1 Purpose

Novatech has prepared this Serviceability and Conceptual Stormwater Management report on behalf of Karson Holdings Inc. to support a Draft Plan of Subdivision application on a site with four municipal addresses – 3711, 3715, 3719 and 3725 Carp Road (together the "Subject Site"). A copy of the Draft Plan of Subdivision is enclosed.

A mixed-use development is proposed with seven, three-storey, buildings on a new street network with surface parking. Refer to the enclosed Concept Plan (Figure 3).

This report has been updated based on consolidated City Comments dated December 5, 2023. The comments and responses to those that are engineering related are included in **Appendix F**.

1.2 Site Location and Description

The property is located in the village of Carp (Village core), in the City of Ottawa, and is bounded by railway corridor owned by the City of Ottawa (Principal Branch Line) to the north, by Carp Road, a rural arterial road to the east, and by the Carp River to the south and west. The total site area is approximately 2.28 ha. Refer to **Figure 1** – Key Plan.

The property is currently vacant. Historically the site had been developed with a number of detached dwellings and the office and truck depot for Karson Kartage Konstruction (between 1976 and 2014). By 2015 all the structures on-site (houses/depot buildings) had been removed, and the subject site has been vacant of development since. Refer to **Figure 2** – Existing Conditions Plan.

1.3 Background

A Pre-application Consultation meeting was held with the City of Ottawa on June 29, 2022. Notes from this meeting are included in **Appendix A**.

The site has specific zoning (VM[666r]) which states that "*Despite Section 58, parking spaces, aisles and driveways are permitted within the flood plain hazard overlay provided such development is undertaken in accordance with Policy 12 of Section 4.8.1 of the Official Plan for the City of Ottawa*" As such, parking is shown in the floodplain. The 2003 Official Plan has since been replaced by the new Official Plan approved by the Minister November 4, 2022. As part of the new Official Plan, portions of the Community Design Plan for the Village of Carp have been included in a new Secondary Plan for the Village of Carp.

Policy 14 of Section 4.3 Environmental Protection states:
Parking and drive aisles, and associated site alteration may be considered within the regulatory flood plain of the Carp River for the properties municipally known as 3725 (3719, 3715, 3711) Carp Road in order to permit redevelopment in accordance with this secondary plan. Measures will be taken to ensure existing impacts to the riparian corridor are improved to the satisfaction of the City of Ottawa and the Mississippi Valley Conservation Authority.

This new policy in the Secondary Plan effectively replaces the permission noted in the Zoning By-law.

1.4 Reference Documents

The following reports and guidelines were used in determining the approach and criteria for the proposed development:

- Water Distribution Design Guidelines (City of Ottawa, July 2010)
- Sewer Design Guidelines (City of Ottawa, October 2012) and Technical Bulletin ISTB-2018-01 (March 21, 2018)
- Village of Carp Environmental Management Plan (Robinson Consultants, November 2004)
- Carp River Watershed/Subwatershed Study (Robinson Consultants, December 2004)
- Village of Carp - Class Environmental Assessment for Water and Wastewater Infrastructure Upgrades/Expansion (Stantec, May 2008)
- Erosion Hazard Limit for Karson Kartage Konstruction Head Office in Carp (Parish Geomorphic, October 2009)
- Geotechnical Investigation (Paterson Group, April 11, 2023)
- Updated Environmental Impact Statement (Muncaster Environmental Planning Inc., May 29, 2023)

2.0 PROPOSED DEVELOPMENT

The proposed mixed-use development conceptually includes seven buildings with a total of 78 residential units and 18 commercial units. Two of the buildings, fronting Carp Road are proposed to include 9 “lifestyle units”, which are a mix of a ground floor commercial use with two levels of residential above. The other five buildings are proposed to include 12 stacked residential dwellings each.

Vehicular and pedestrian access is from Carp Road and access through the site would be via private streets. Surface parking spaces are proposed throughout the site. The private streets would be subject to a joint use and maintenance agreement for shared access and responsibility for maintenance. The details of the maintenance agreement would be developed at detailed design.

The bank of the Carp River will be privately owned but publicly accessible open space that will be rehabilitated in accordance with Policy 14 of the Secondary Plan Refer to **Figure 3** – Concept Plan.

Proposed grading and servicing for the site are shown on the Conceptual Grading Plan **(121173-CGR)** and Conceptual Servicing Plan **(121173-CGP).**

3.0 SERVICING CAPACITY

The City of Ottawa has indicated that there is currently little to no capacity available for future development in the Village of Carp.

Short term upgrades to the Village of Carp's water and wastewater treatment facilities are underway which would provide additional capacity to service the equivalent of 350 single family units in the Village. Refer to City of Ottawa (Adam Brown) email dated February 8, 2022, included in **Appendix A.** This subdivision could be serviced within this additional capacity. Further discussion is included in Section 5.4 and 5.5 of this report.

Prior to 2014, the site had a number of detached dwellings and as well as an office and truck depot for Karson Kartage Konstruction. At the Pre-application Consultation meeting (**Appendix A**) and confirmed by email (**Appendix B**), the City indicated that the flows for the site under these conditions could be used as a credit towards the water supply and sanitary flows for this new development of the site.

4.0 WATER SERVICING

4.1 Proposed Water Distribution System

Water supply would be provided from the existing 200mm diameter watermain on Carp Road.

It is proposed to install a 150mm diameter looped watermain through the site that would service the proposed buildings. Each building would have its own water service. As per City of Ottawa Water Distribution Guidelines for areas with more than 50 dwellings, two watermain connections would be required to avoid the creation of a vulnerable service area. Refer to the **Figure 4** for the proposed watermain layout.

A water card would be completed at the detailed design stage.

4.2 Historical Water Demand

The previously existing commercial building was demolished in 2014 and no water records are available. The previous owner was contacted to determine the historical water demand. The historical (legacy) water demand for the property had three components:

A. Single Family Dwellings

	Number of units	Number of people per unit	Flow per person (L/cap/day)	Total Flow (L/day)	Total Flow (L/s)
Single Family Dwelling	6	3.4	280	5,712	**0.07**

B. Commercial Building Employees

Activity	**Number of people**	**Flow per person (L/pers/day)**	**Total Flow (L/day)**	**Total Flow (L/s)**
Employees (Office staff) (per employee, per 8-hour shift)	36	75	2,700	-
Employees (Drivers) (per employee, per 8-hour shift)	75	8	600	-
Employees (Shop Staff) (per employee, per 8-hour shift)	12	75	900	-
Employees (Field Staff) (per employee, per 8-hour shift)	100	8	800	-
Total	223	-	5,000	**0.06**

C. Commercial Vehicle Washing

	Pressure washer capacity (GMP)	**Pressure washer capacity (L/minute)**	**Number of minutes per day**	**Total Flow (L/day)**	**Total Flow (L/s)**
Vehicle Washing (pressure washer)	2	7.57	1440	10,900	**0.13**

Therefore, based on the above, the historical average day water demand was in the order of **0.26L/s.**

4.3 Proposed Domestic Water Demand

The proposed domestic water demand for the site was calculated using Water Distribution Guidelines as it summarized as follows.

A. Residential Dwelling Units

Residential Population [1]			**Residential Demand (L/s) [3]**		
Stacked Units (Townhouses)	**Lifestyle Units (Apartment)**	**Total Population**	**Average Day [2]**	**Max. Daily**	**Peak Hour**
60	18	195	**0.63**	3.09	4.68

[1] Stacked Unit population (Townhouse) 2.7 person/unit
Lifestyle Unit population (Apartment) 1.8 person/unit
[2] Average Day Domestic Demand 280 L/cap/day

[3] Design Parameters per Section 3.0 MOE Guidelines for Drinking Water system (for population <500)
Max Daily Demand 4.9 x Average Day
Peak Hourly Demand 7.4 x Average Day

B. Commercial Units

Commercial Area [4]	**Commercial Demand (L/s) [5]**		
Gross Area (ha)	**Average Day**	**Max. Daily**	**Peak Hour**
0.5	**0.16**	0.24	0.44

[4] Ground floor area of Buildings A and B and associated parking.
[5] Design Parameters per Section 4.0 Ottawa Water Distribution Design Guidelines.
Average Day (Commercial Demand) 28,000L/ha/day
Max Daily Demand 1.5 x Average Day
Peak Hourly Demand 1.8 x Max Day

Therefore, based on the above, the average day domestic water demand is **0.79L/s.**

The proposed average day demand represents an increase of **0.53L/s** (0.79L/s – 0.26L/s) compared to the historical water demand (prior to 2014).

Given that short term upgrades are underway, the City did not provide boundary conditions in response to our request. Refer to email from the City of Ottawa (April 24, 2023) included in **Appendix B**. Existing water boundary conditions were assumed based on a general understanding of pressure conditions in the village. The average day and peak hour hydraulic grade lines (HGL's) in the Village of Carp water system were assumed to be 160m and 152m, respectively. The estimated water pressures for the proposed site are summarized in the below.

Domestic Water Demand Summary

Condition	**Demand (L/s)**	**Avg. Site Elevation (m)**	**HGL (m)**	**Estimated Pressure (m)**	**Allowable Pressure (m)**
Average Day (High Pressure)	0.17	93.50	160	66.5	56 (Max)
Peak Hour (Low Pressure)	0.91		152	58.5	28 (Min)

As shown in the table above, there should be sufficient pressure in the existing watermain system to service this development based on the assumed existing boundary conditions in the Village of Carp watermain system. The pressure in the average day condition exceeds the maximum allowable of 56m (80 psi) indicating that pressure reducing valves would likely be required for the proposed development. Water boundary conditions would need to be confirmed with the City at the time of detailed design.

It is proposed to install a 150mm diameter looped watermain through the site, based on the minimum pipe size to service municipal fire hydrants. The proposed size would be reviewed at the detailed design stage when the City confirms the boundary conditions.

4.4 Fire Protection

The City of Ottawa has indicated a maximum available fire flow in the existing Village of Carp water system of 6,500 L/min (refer to **Appendix A**). It is assumed that this fire flow is available at the minimum residual pressure of 20 psi, but this would need to be confirmed at the time of detailed design. Fire Underwriter's Survey Guideline was completed for 3-storey, wood frame buildings without sprinklers. Based on these parameters, the total required fire flow is approximately 30,000L/min.

Based on the limited amount of fire flow available, additional measures would be required in the construction of the proposed buildings to limit the required fire flow to the currently available 6,500 L/min. These measures would be further investigated at the time of detailed design but could include:

- Higher fire resistive construction material
- Sprinkler systems in buildings
- 2-hour fire walls between units
- On-site water storage

Although the City is currently in the process of completing short term upgrades to the Village water system, it is not anticipated that the available fire flow would increase as a result of the upgrades.

5.0 SANITARY SERVICING

5.1 Proposed Sanitary Collection System

Each proposed building would have a single sanitary service connection to a proposed 200mm diameter sanitary sewer on site. The proposed 200mm diameter sanitary sewer would outlet to an existing 450mm diameter sanitary sewer on Carp Road, as shown on **Figure 5.** The existing 450mm diameter sewer flows south on Carp Road and discharges into the sewer on Rivington Street.

5.2 Historical Sanitary Flow

Similar to the water demand the peak historical sanitary flow (prior to 2014) was calculated based on several components:

A. Single Family Dwellings

Number of units	Number of people per unit	Flow per person (L/cap/day)	Residential Peak Factor	Total Peak Flow (L/s)
6	3.4	280	3.7	**0.25**

B. Commercial Demand (Building Employees and Vehicle Washing)

Average Day Flow (L/s)	Commercial Peaking Factor	Total Peak Flow (L/s)
0.19	1.5	**0.29**

C. Extraneous Flows

Total Area (ha)	Extraneous Flow (L/s/ha)	Total Infiltration Flow (L/s)
1.35	0.33	**0.45**

Therefore, based on the above, the historical peak sanitary flow was in the order of **1.0 L/s**.

5.3 Proposed Sanitary Design Flow

The proposed sanitary design flow for the site was calculated as follows:

A. Residential Dwelling Units

Residential Population			Residential Demand		
Stacked Units (Townhouses)	Lifestyle Units (Apartment)	Total Population	Flow per person (L/cap/day)	Residential Peak Factor	Total Peak Flow (L/s)
60	18	195	280	3.5	**2.23**

B. Commercial Units

Average Day Flow (L/s)	Commercial Peaking Factor	Total Peak Flow (L/s)
0.16	1.5	**0.24**

C. Extraneous Flows

The Sanitary Drainage Area Plan which sows the contributing area is included in **Appendix C.**

Total Area (ha)	Extraneous Flow (L/s/ha)	Total Infiltration Flow (L/s)
1.35	0.33	**0.45**

Therefore, the proposed development would produce a peak sanitary flow of **2.9 L/s** which is an increase of **1.9 L/s** from the historical sanitary design flow that the site produced prior to 2014.

This peak sanitary flow is equivalent to ten single family equivalent units.

5.4 Downstream Sanitary Sewer Capacity

The change in flow from the existing development represents less than 2% of the capacity of the 450mm diameter sanitary sewer on Carp Road. Therefore, it is expected that the immediate downstream existing sanitary sewer system has sufficient capacity to service the proposed development.

The pipes further downstream are smaller (varying between 250mm and 300mm diameter). The Village of Carp Class Environmental Assessment for Water and Wastewater Infrastructure Upgrades/Expansion report does highlight that the existing sewer on Rivington Street would be surcharged during critical wet weather events. Upgrades to this sewer are further described in City of Ottawa email from Joseph Zagorski (April 1, 2024, included in **Appendix A**), indicating that a functional design study is currently underway which will further address the surcharging issues and recommend necessary City capital project upgrades.

Refer to **Appendix C** for proposed peak flow calculations and existing Carp Road sewer capacity analysis.

5.5 Village Servicing Capacity Discussion

It is understood that the City of Ottawa is currently working on short term upgrades to the Village of Carp water and wastewater (sanitary) systems to allow for some new development with the Village.

Capacity that will be available:

- The City provided area developers with an update on the village servicing in February 2022 (Adam Brown, February 8, 2022, email included in **Appendix A**).
- Short-term upgrades are underway to increase the capacity of the water and the wastewater systems. Once in place, the City is estimating that there should be capacity for the equivalent of an additional 350 single family homes.

- Based on available development information, Novatech has calculated that this should be sufficient to service proposed and pending developments in the Village. Refer to **Appendix C** for a summary (Single Family Equivalent chart), showing a cumulative single-family equivalent of about 288 for the Inverness, Cavanagh, Tartan, various smaller sites, and this proposed development.
- It is further understood that these numbers would need to be confirmed as each application goes through the Draft Plan process, to accommodate any adjustments to the unit counts made through the application and review process.
- The numbers do show that proposed and pending developments would require less than the additional capacity.

6.0 STORM SERVICING

6.1 Existing Storm Sewer System

There is an existing storm sewer on Carp Road, which outlets to the Carp River, south of the subject site.

When the site was previously developed, it had a catchbasin and storm sewer system which drained the parking lot of the truck depot, directly to the Carp River. The site major drainage sheet drains to the Carp River.

6.2 Proposed Storm Drainage System

Storm servicing for the proposed site would include a dual drainage system. A storm sewer system would be used to convey storm events up to and including a 1:5 year event outletting to the Carp River, while flows from storm events exceeding this would be conveyed overland to the Carp River along defined overland flow routes. Each building would have a single storm service. The storm sewer layout is shown on **Figure 6**.

6.3 Storm Drainage Design Flow

The preliminary storm drainage area plans, and storm sewer design sheet are included in **Appendix D**.

7.0 CONCEPTUAL STORMWATER MANAGEMENT

7.1 Conceptual Stormwater Management Criteria

Based on the Village of Carp Environmental Management Plan, Mississippi Valley Conservation Authority comments and the Carp River Watershed/ Subwatershed Study the following conceptual stormwater management criteria would apply. Pages and excerpts from these references are include in **Appendix E**.

7.1.1 Stormwater Quantity Control

Reference: Environmental Management Plan (Area H)

Section 4.1
For areas that drain directly to the Carp River, quantity control to reduce peak flows to pre-development levels is not required. Increases in peak flow from these areas are small compared to the flow in the river and the timing of the peak is such that most of the runoff occurs before the river itself peaks.

Section 4.17
This small area of 1.92 ha is physically separated from the village by Regional Road 5, Donald B. Munro Drive, and the Carp River. The development designation of the area is Village Core. The land is very low lying (between 91.4 and 93.0 m). As a result, drainage towards regional Road #5 (elevation approximately 94.0 m) does not appear feasible.

Because the development area is very small, and the "Village Core" land use indicates high density development, appropriate SWMPs appear to be limited to interceptors, in combination with natural buffer strips along the Carp River.

Reference: Pre-Application Consultation Meeting Notes

The Pre-application Consultation meeting notes reference urban City of Ottawa criteria, that the 100-year post-development stormwater runoff must be controlled to the 2-year pre-development runoff based on the receiving sewer.

Stormwater Quantity Control Summary Statement:

The site currently drains directly to the Carp River and does not connect to a municipal storm sewer system. The Environmental Management Plan would govern, and stormwater quantity control would not be provided.

7.1.2 Stormwater Quality Control

Reference: Mississippi Valley Conservation Authority

An '*Enhanced*' level of water quality control corresponding to 80% removal of Total Suspended Solids (TSS) would be required for the site.

7.1.3 Water Balance/Infiltration

Reference: Carp River Watershed/ Subwatershed Study

Th site is described in Carp River Watershed/ Subwatershed Study Figure 3.4.31 as developed and therefore has no requirement for infiltration.

7.2 Stormwater Management Design

7.2.1 Stormwater Quantity Control

Water quantity control is not required for this site.

7.2.2 Stormwater Quality Control

To meet the stormwater quality control requirements (80% TSS removal), the storm sewer system would convey minor storm event flows to an oil and grit separator before discharging to the Carp River. In addition, a natural buffer strip would be provided between the developed area and the Carp River.

7.2.3 Water Balance/Infiltration

Infiltration/Water balance calculations would be completed at the detailed design stage for the Conservation Authority's records, however, infiltration measures are not required.

8.0 EROSION AND SEDIMENT CONTROL MEASURES

The following temporary and permanent erosion and sediment control measures would be implemented in accordance with the "Guidelines on Erosion and Sediment Control for Urban Construction Sites" (Government of Ontario, May 1987). Details would be provided at the detailed design stage.

8.1 Temporary Measures

Temporary erosion and sediment control measures would be implemented prior to construction, would be inspected regularly, and would remain in place throughout construction until vegetation has been established. These measures may include:

- Light duty silt fence installed along the boundary of the site;
- Heavy duty silt fence installed along the banks of the Carp River;
- Filter bags placed under catch basins and maintenance holes;
- Stockpiles located away from watercourses and stabilized against erosion;
- Storing and maintenance of all machinery away from the watercourse;
- Regular street-sweeping conducted once the roads are completed;
- Contractor to immediately report to the engineer or inspector any accidental discharges of sediment material into any watercourse appropriate response measures to be carried out by the contractor without delay;
- No control measure to be permanently removed without prior authorization from the Engineer;
- Contractor advised that failure to implement erosion and sediment control measures may result in penalties imposed by any applicable regulatory agency.

8.2 Permanent Measures

Permanent erosion and sediment control measures would be implemented during construction, would be inspected regularly, and would remain in place once construction is complete. These measures may include:

- Roof leaders directed to grassed surfaces;
- Grassed areas and designed at minimum grade, where possible;
- A hydrodynamic separator upstream of the storm outlet providing 80% TSS removal;
- Rip rap at the storm outlet to the Carp River.

9.0 CONCLUSIONS AND RECOMMENDATIONS

- The proposed mixed-use development conceptually includes seven buildings with a total of 78 residential units and 18 commercial units.
- Flows for the site under the existing conditions will be used as a credit towards the water supply and sanitary flows for this new development of the site.
- The proposed 150mm diameter watermain would provide sufficient flow and pressure to service the proposed development, subject to confirmation when boundary conditions are available.
- Based on the limited amount of fire flow available in the Village, measures would be required in the construction of the proposed buildings to limit the required fire flow to the currently available 6,500 L/min.
- The peak sanitary flow for this development is equivalent to ten single family equivalent units. This subdivision could be serviced within the capacity allowance of the 350 single family unit equivalents (after short term upgrades).
- Stormwater quantity control is not required for this site. To meet the stormwater quality control requirements (80% TSS removal), the storm sewer system would convey minor storm event flows to an oil and grit separator before discharging to the Carp River. In addition, a natural buffer strip would be provided between the developed area and the Carp River.
- Infiltration/Water balance calculations would be completed at the detailed design stage for the Conservation Authority's records, however, infiltration measures are not required.
- Erosion and sediment control measures would be implemented prior to and during construction.

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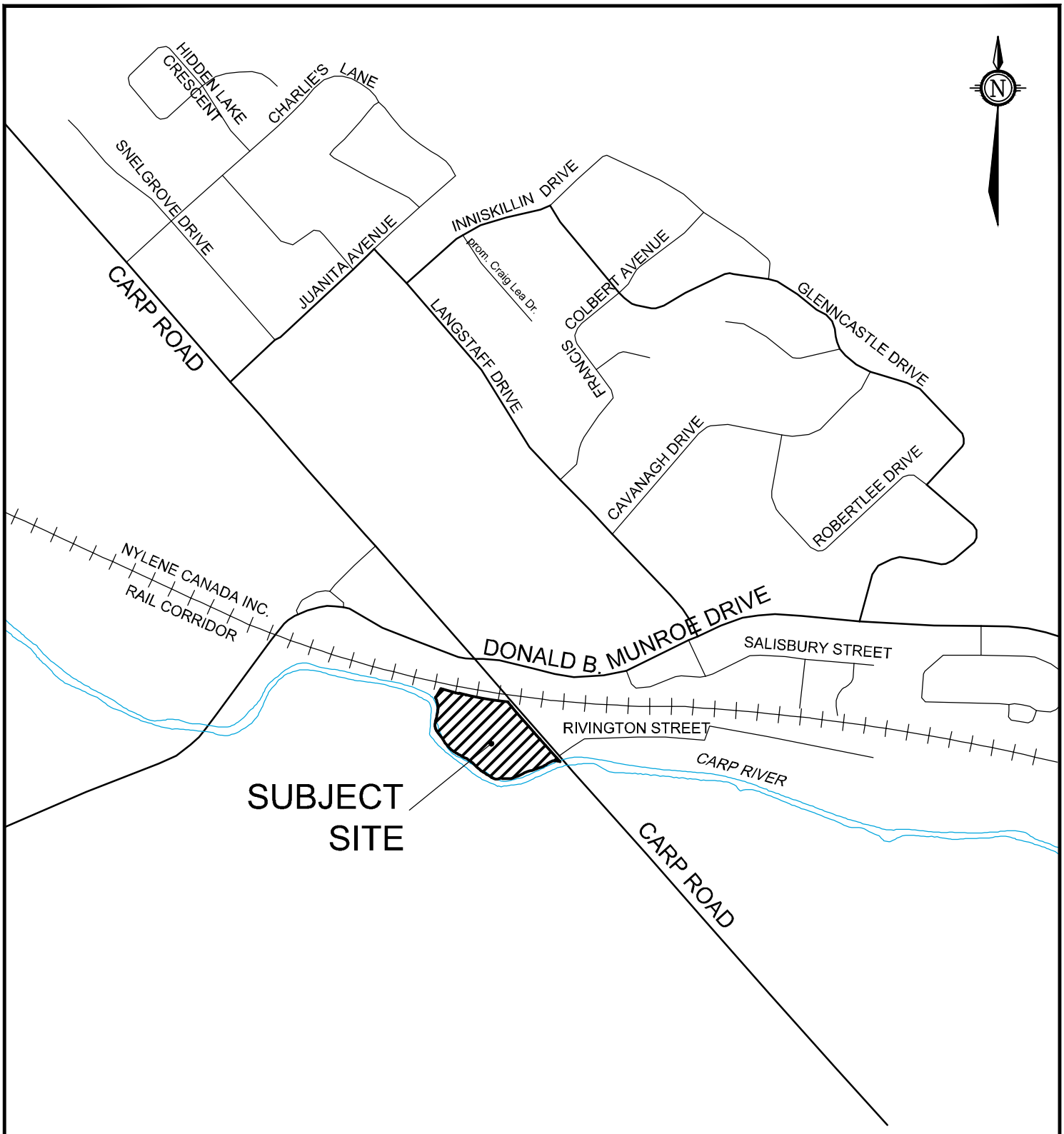

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3725 CARP ROAD
KARSON SUBDIVISION

KEY PLAN

SCALE: N.T.S.

DATE: JUNE 2023

FIGURE: FIGURE 1

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFT)*

ANNIS, O'SULLIVAN, VOLLEBEKK Ltd / FEBRUARY 12, 2023 / MTM ZONE 9, NAD83 ORIGINAL

TOPOGRAPHIC INFORMATION:

NOVATECH SURVEYS FOR 3725 CARP ROAD:

- *SURVEY 10 (101058) / JANUARY 2020*
- *SURVEY 12 (101058) / OCTOBER 2020*

AERIAL IMAGE:

BING MAPS / 2023 MICROSOFT CORPORATION - 2023 MAXAR SNES (2023) DISTRIBUTION AIRBUS DS

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3725 CARP ROAD
KARSON SUBDIVISION

EXISTING CONDITIONS PLAN

SCALE 1 : 1000 (0 10 20 30 40)

DATE JUNE 2023

FIGURE FIGURE 2

SHT11X17.DWG - 279mmX432mm

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Carp Road

Donald B. Munro Drive

FUTURE ROAD WIDENING

(REGIONAL ROAD No. 5) (FORMERLY CHURCH STREET)

(ROAD ALLOWANCE BETWEEN CONCESSIONS 2 & 3)

BLDG A
9 Lifestyle Unit Block/
9 Commercial Units

BLDG B
9 Lifestyle Unit Block/
9 Commerial Units

BLDG C
12 Stacked Units

BLDG D
12 Stacked Units

BLDG E
12 Stacked Units

BLDG F
12 Stacked Units

BLDG G
12 Stacked Units

Courtyard

Fire Route

FLOODLINE

PARISH EROSION ACCESS

PARISH STABLE SLOPE

PARISH TOE EROSION

BRIDGE

Carp River

CARP RIVER

Garbage

1.8m Sidewalk

Edge of Asphalt

Approximate Crown of Road

Concrete Culvert 0.61 East

Metal Clad Shed

LEGEND

- MVCA APPROVED FLOODLINE
- 30m BUFFER FROM CARP RIVER
- LIMIT OF 30cm PONDING
- FIRE ROUTE

3725 Carp Road - Unit Count	
Residential Units	78
Comercial Units	18
Total	96

Parking Provision				
Use	Rate	Units/GFA	Required	Provided
Stacked Dwellings	1.2/unit (incl. visitor)	78	94	94
Commercial	3.4 per 100m^2	1606m^2	55	52
Total			**149**	**146**

SOURCE REFERENCE:
Legal Information: *Plan of Survey (Draft)*
Annis, O'Sullivan, Vollebekk Ltd. / Feb 12, 2023 / MTM Zone 9, Nad83 ORIG
Topographic Information: *1:1000 Topographic Mapping*
City of Ottawa / 2015 / MTM Zone 9, Nad83 ORIG

SOURCE REFERENCE:
Legal Information: *Plan Name*
Source / Date / Coordinate System, Datum
Topographic Information: *1:1000*
City of Ottawa / 2015 / MTM Zone 9, NAD83_Orig

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2.	GENERAL REVISION	MAR 21/23	JI
1.	UPDATED LEGAL BOUNDARY	MAR 15/23	JI

SCALE
1:400 (A1)
1:400
0 4 8 12 16

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CITY of OTTAWA
3725 CARP ROAD

DRAWING NAME
CONCEPT PLAN 6

PROJECT No. 121173-00
REV REV #2
DRAWING No. 121173-CP6

M:\2021\121173\CAD\Planning\Concept Plans\121173-CP6.dwg, Concept Plan - Dual Scale, Mar 21, 2023 - 11:10am, wdoss

FIGURE 3

DONALD B. MUNRO DRIVE

CARP ROAD

RIVINGTON STREET

RAIL CORRIDOR

CARP RIVER

COURTYARD

BLDG A
9 Lifestyle Unit Block/
9 Commercial Units

BLDG B
9 Lifestyle Unit Block/
9 Commercial Units

BLDG C
12 Stacked Units

BLDG D
12 Stacked Units

BLDG E
12 Stacked Units

BLDG F
12 Stacked Units

BLDG G
12 Stacked Units

FIRE ROUTE

150mmØ WM

200mmØ WM

300mmØ WM

EX. REDUCER

HYD

BRIDGE

Metal Clad Shed

FLOW

EX. MH 26B
TG=94.41±
N INV=92.27
S INV=92.17

EX. MH 27A
TG=94.41±
N INV=91.50
S INV=91.02
E INV=91.76
W INV=91.20

EX. MH 27B
TG=94.41±
N INV=92.59
S INV=92.50

EX. MH 10
TG=93.35±
S INV=90.57
N INV=90.53
E INV=90.65

EX. MH 102A
TG=93.62±
N INV=89.64
S INV=89.64

EX. MH 102B
TG=93.62±
N INV=89.81
S INV=89.81
W INV=89.85

EX. MH 103A
TG=93.77±
N INV=89.73
E INV=89.71

EX. MH 11
TG=93.80±
N INV=89.98
S INV=89.98

EX. MH 9A
N INV=93.98
S INV=93.86

EX. CONCRETE HEADWALL
INV=89.89

LEGEND

- PROPERTY BOUNDARY
- PROPOSED WATERMAIN
- PROPOSED FIRE ROUTE
- PROPOSED HYDRANT
- PROPOSED VALVE
- 200mmØ — EXISTING WATERMAIN

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFT)*
ANNIS, O'SULLIVAN, VOLLEBEKK Ltd / FEBRUARY 12, 2023 / MTM ZONE 9, NAD83 ORIGINAL
EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

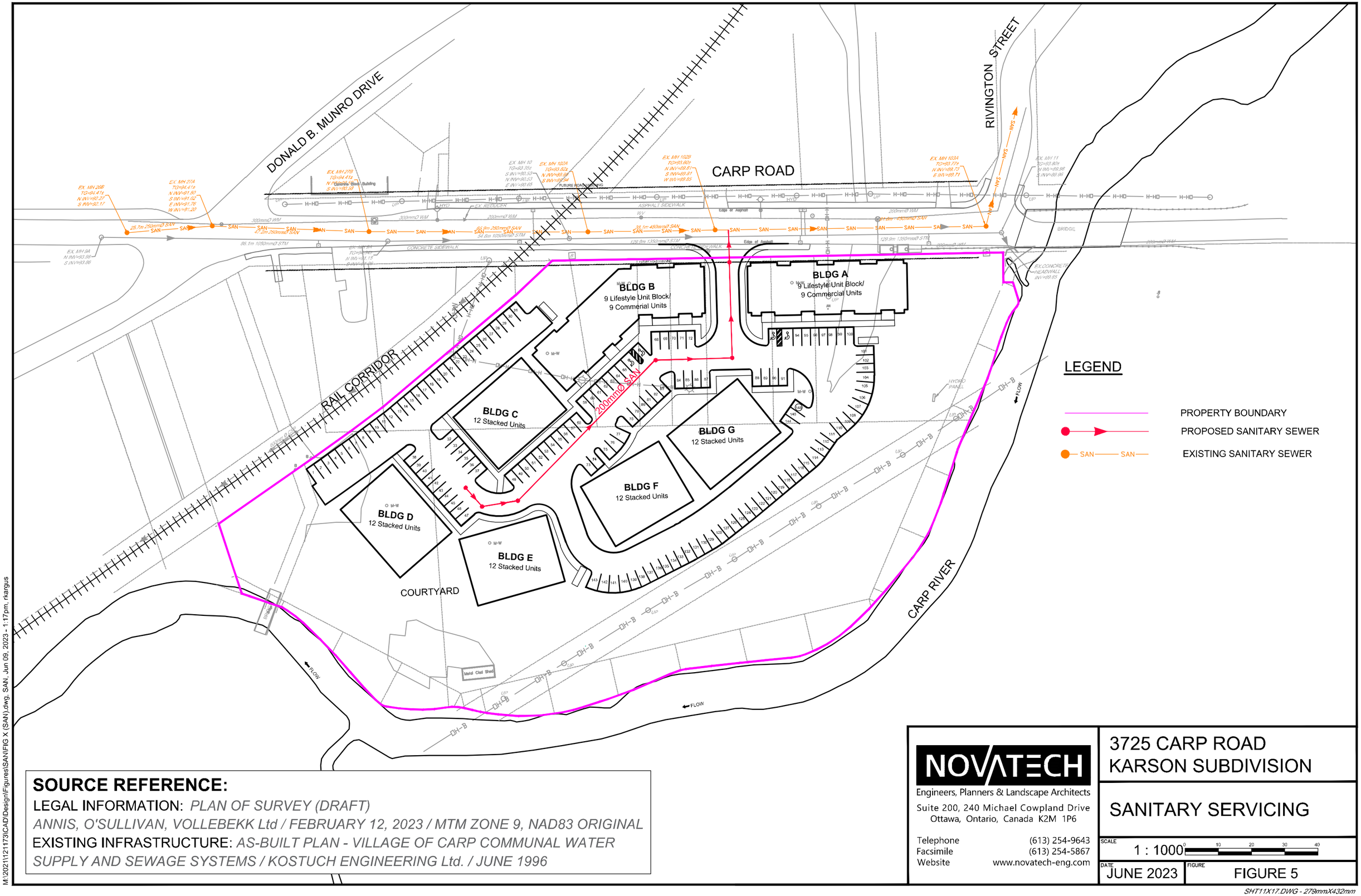
3725 CARP ROAD
KARSON SUBDIVISION

WATER SERVICING

SCALE 1 : 1000 (0, 10, 20, 30, 40)
DATE JUNE 2023
FIGURE FIGURE 4

SHT11X17.DWG - 279mmX432mm

M:\2021\121173\CAD\Design\Figures\WATER\FIG X (WTR).dwg, WTR, Jun 09, 2023 - 1:19pm, rkargus



SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFT)*
ANNIS, O'SULLIVAN, VOLLEBEKK Ltd / FEBRUARY 12, 2023 / MTM ZONE 9, NAD83 ORIGINAL
EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

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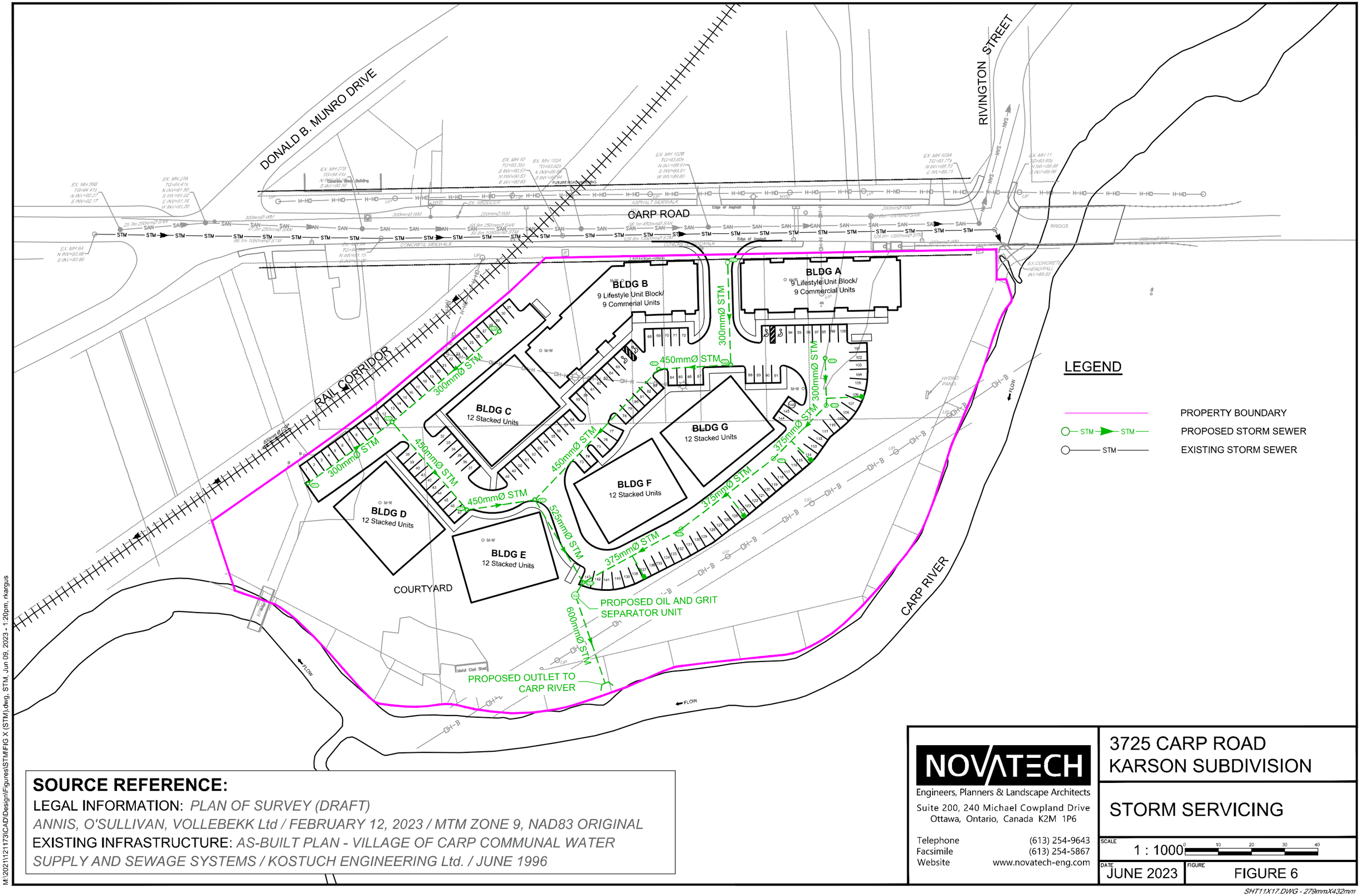
3725 CARP ROAD
KARSON SUBDIVISION

SANITARY SERVICING

SCALE 1 : 1000 (0 10 20 30 40)
DATE JUNE 2023
FIGURE FIGURE 5

M:\2021\121173\CAD\Design\Figures\SAN\FIG X (SAN).dwg, SAN, Jun 09, 2023 - 1:17pm, rkargus

SHT11X17.DWG - 279mmX432mm



SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFT)*
ANNIS, O'SULLIVAN, VOLLEBEKK Ltd / FEBRUARY 12, 2023 / MTM ZONE 9, NAD83 ORIGINAL
EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

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Facsimile (613) 254-5867
Website www.novatech-eng.com

3725 CARP ROAD
KARSON SUBDIVISION

STORM SERVICING

SCALE 1 : 1000 (0 10 20 30 40)
DATE JUNE 2023
FIGURE FIGURE 6

Appendix A
Correspondence

1. Pre-Application Consultation Meeting Notes - June 29, 2022
2. Carp Servicing Update email - February 8, 2022
3. Downstream Capacity email - February 1, 2024

Pre-Application Consultation Meeting Notes

Property Address: 3711-3725 Carp Road
PC2022-0160
June 29th, 2022, Microsoft Teams Meeting

Attendees:
Jeffrey Ostafichuk, City of Ottawa, Planner II
jeffrey.ostafichuk@ottawa.ca
Christine Reist, City of Ottawa, Project Manager – Infrastructure Approvals
christine.reist@ottawa.ca
Joseph Zagorski, City of Ottawa, Senior Project Manager – Infrastructure Approvals
joseph.zogorski@ottawa.ca
Jasdeep Brar, City of Ottawa, Planning Student
jasdeep.brar@ottawa.ca
Ziyi Wang, City of Ottawa, Engineering Assistant
ziyi.wang@ottawa.ca
Travis Smith, City of Ottawa, Engineering Intern
travis.smith@ottawa.ca
Damien Whittaker, City of Ottawa, Senior Engineer
damien.whittaker@ottawa.ca

James Ireland, Novatech
Greg Winters, Novatech
Susan Gordon, Novatech
Cris Karson
John Riddell

Regrets:
Josiane Gervais, City of Ottawa, Project Manager
josiane.gervais@ottawa.ca
Christopher Rogers, City of Ottawa, Program Manager – Infrastructure Approvals
christopher.rogers@ottawa.ca
Adam Brown, City of Ottawa, Manager – Development Review
adam.brown@ottawa.ca

Subject: 3711-3725 Carp Road

Meeting notes:

Opening & attendee introduction
- Introduction of meeting attendees
- Overview of proposal: [describe here]
  - Concept is similar to previous submissions
  - The purpose of the meeting is to consider the draft plan of subdivision to create the roads and blocks for development and secure servicing capacity
  - A proposal to develop the site by means of a plan of subdivision application
  - Mixed use development with 26 commercial/retail ground floor units and 86 residential units including 26 shop top units and 60 townhouses
  - Surface parking provided for residents, visitors and commercial uses
  - One vehicular access from Carp Road

- Servicing capacity: the Village of Carp is constrained with water capacity

Preliminary comments and questions from staff and agencies, including follow-up actions:

- Planning – provided by Jeffrey Ostafichuk
  - Staff will follow up with some of the questions related to servicing
  -

- Engineering – provided by Christine Reist
  - Municipal Servicing Capacity:
    - Although the area of the proposed development has existing municipal services, the Village of Carp is at capacity for municipal water and municipal sanitary servicing. Capacity upgrades to the Carp water and sanitary systems are required. There are projects underway to provide short-term capacity upgrades in the next 2 to 3 years, which would allow the addition of approximately 350 units. It is up to the proponent to decide how to proceed with the application process, but please be aware that there are currently active Plans of Subdivision applications that aim to utilize the additional short-term capacity. Once the short-term functional design study is complete, the City will be planning an expansion to provide long-term capacity upgrades. Please also refer to the email sent February 8, 2022, from Adam Brown, subject “Carp Servicing update”.
    - Final approval of development applications won’t be granted until there is servicing capacity available. Please note that once the newly adopted Official Plan is in effect, draft plan of approval won’t be issued if there is insufficient servicing capacity (as per section 4.7.1, policy 23, “Where adequate services or servicing capacity do not exist to support a proposed plan of subdivision, the City will not issue draft plan approval.”).
    - The site is currently vacant. It is understood that there were formerly buildings on the site that were serviced by the municipal water and wastewater systems. The servicing capacity allocated to these previously existing buildings can be used as a credit towards the proposed development. Further consultation with the City will be required to determine how/if this approach could be implemented for servicing beyond the existing site’s credited capacity given the servicing capacity constraints.

  - Existing Municipal Services:
    - There’s an existing municipal 203 mm dia. watermain in Carp Road and an existing fire hydrant located on the east side of Carp Road, across from the site.
    - There’s an existing municipal sanitary sewer in Carp Road. The sewer is 250 mm dia. along the north end of the site and then becomes 450 mm dia. south of the maintenance hole located in Carp Rd in front of 3715 Carp Rd (MHSA10107).
    - There is an existing municipal storm sewer in Carp Road. The sewer is 1350 mm dia. along most of the site and is 1050 mm dia north of the maintenance hole located in Carp Road, immediately south of the railway (MHST39675). Near the southeast corner of the property, the municipal storm sewer outlets to the Carp River. City records indicate that there is an existing private catchbasin located on 3715 Carp Rd.

- Site Servicing Design:
    - Watermain boundary conditions will need to be requested by the applicant with a list of the demand values, the fire flow demand calculations, and a plan indicating the approximate location of any proposed water service connection. If the fire flow demand calculations use a construction coefficient less than 1, information will need to be provided to support the use of the selected type of construction. It is understood that the fire-fighting flow available is limited and smaller buildings and/or extensive use of firewalls and/or expanded building separation will be necessary.
    - A Water Card will need to be completed for the water meter sizing for developments that are not single residential units connected to a public watermain.
    - The Site Servicing Study must include an assessment of adequacy of public services to support the development, including discussion of the servicing capacity of the connecting systems and anticipated performance.
    - Note that the 2024 Development Charge By-law update may include a water supply and sanitary sewer area-specific development charge.

- Stormwater Management:
    - Stormwater management quality criteria shall be set by Mississippi Valley Conservation Authority (MVCA).
    - The stormwater management quantity criteria for the development is that the 100-year post-development stormwater runoff must be controlled to the 2-year pre-development runoff as per section 8.3.7.3 of the Ottawa Sewer Design Guidelines (SDG). As per SDG 8.3.7.3, the pre-development condition is to be determined using the smaller of a runoff coefficient of 0.5 (0.4 in combined areas) or the actual existing site runoff coefficient.
    - The location is within the area covered by the Carp River Watershed/Sub watershed Study, December 2004, prepared by Robinson Consultants Inc., Aquafor Beech Ltd., Lloyd Phillips and Associates, and Daniel Brunton Consulting Services, as well as the Village of Carp Environmental Management Plan, November 2004, prepared by Robinson Consultants Inc., Final dated March 2005. The Stormwater Management Report must address the requirements of the Carp River Watershed/Sub watershed Study and the Village of Carp Environmental Management Plan.
    - The preliminary plans included with the pre-consultation application don't indicate areas for stormwater management. Note that space is going to be required on the property for the stormwater management systems.
    - It will need to be demonstrated that there is legal and sufficient stormwater outlet from the site. Any existing stormwater runoff from adjacent site(s) that crosses the property must be accommodated by the proposed stormwater management design. If it's proposed to direct any stormwater runoff to the adjacent rail corridor, it will need to be demonstrated that the existing drainage features have sufficient capacity to accept the proposed flows (also refer to 'Rail' section below).

- If there are any new stormwater outlets proposed to the Carp River as part of the SWM plan, or proposed stormwater systems servicing multiple lots, they will require a direct submission Environmental Compliance Approval (ECA) application to the Ministry of the Environment, Conservation and Parks (MECP). Note that oil/grit separators require Environmental Technology Verification (ETV) protocol for ECA approval. The turnaround time for a direct submission ECA from the MECP can be up to one year.
- Please note: Once the development application has been submitted, a request can be made to the City to consider a Transfer of Review (ToR) ECA for sewage works for a private property, instead of the direct submission ECA. This is subject to approval by the City and MECP. Note that the ECA requirements are currently in flux. It is recommended to check with the City when the development application is submitted to confirm the ECA process at that time.

- Geotechnical:
  - Please note that sensitive marine clays are anticipated on the site and, if so, enhanced geotechnical investigation and analysis will be necessary. Investigation of clays should be undertaken with vane shear, Atterberg limits, shrinkage, grain size, grade raise restriction, consolidation, sensitivity, and liquefaction analysis- amongst others.
  - In sensitive marine clays, trees in proximity to foundations can cause foundation damage. Refer to the City's Tree Planting in Sensitive Marine Clay Soils – 2017 Guidelines for additional information.
  - The Geotechnical Investigation Report will also need to include a determination of the seasonal high groundwater elevation and any infiltration rates that may be required for the stormwater management design.

- Slope Stability:
  - Schedule C15 of the newly adopted Official Plan indicates an unstable slope along the Carp River. Due to the presence of the Carp River and associated slope along the south of the site, a Slope Stability Assessment Report in accordance with the "Slope Stability Guidelines for Development Applications in the City of Ottawa" and its Appendix A, "Minimum Requirements for Slope Stability Assessment Reports" will be required.
  - Soils mapping also indicates that the site is in proximity to the location of a known past landslide. The Slope Stability Assessment Report will need to include an exhaustive retrogressive landslide hazard and risk assessment and liquefaction analysis.
  - Please note that "liquefaction" is referring to: liquefaction or liquefaction like behaviour, by any name the consultant chooses to use, describing a lowering of strength, whether by ground-induced motion (whether cyclic or not), or increase in pore-pressure, in any soils (whether sandy or not).
  - Any peer-reviewed and published papers relied on for conclusions shall show unequivocal conclusions agreeing with the design and similitude shall be shown.

- Fluvial Geomorphology:

- Due to the proximity of the Carp River adjacent to the south of the site, a Fluvial Geomorphology Report is required.

- Development Setbacks:
  - The property is within the regulation limit of MVCA and a portion of the site is within the Carp River floodplain. In addition to any setback requirements from MVCA, the Official Plan (OP) has requirements for development setbacks from surface water features (refer to newly adopted OP section 4.9.3 and Zoning By-law section 69). The submitted plans must identify the watercourse setbacks. The setbacks shown on the Concept Plan provided with the pre-consultation application will need to be verified by the City and MVCA when the application is submitted.
  - Mapping of the 1 in 350-year floodplain is not yet available for this property (http://ottawa.ca/floodplainmaps), but it is anticipated that portions of this property will be within the 1 in 350-year floodplain. The area between the 1 in 100-year floodplain and the 1 in 350-year floodplain is defined as the climate change flood vulnerable area. Unlike the 1 in 100-year floodplain maps, the 1 in 350-year floodplain maps are not presently used to define or control limits of development. This comment is provided to provide advance notice that once the 1 in 350-year floodplain mapping is available, it may show that portions of this proposed development are within the climate change flood vulnerable area.

- Environmental Site Assessment:
  - A Phase 1 Environmental Site Assessment (ESA) completed in accordance with Ontario Regulation (O.Reg.) 153/04 is required.
  - A Phase 2 ESA may be required, depending on the outcome of the Phase 1 ESA.
  - A Record of Site Condition will be required as a condition of the Plan of Subdivision approval.

- Rail:
  - The Renfrew Subdivision Rail Corridor is adjacent to the northern site boundary. The rail corridor crosses Carp Road near the northeast corner of the site. The rail corridor property is owned by City of Ottawa and is currently leased to a private company (Nylene Canada). The tenant owns all rail infrastructure and manages rail operations.
  - Zoning By-law section 68 provides setbacks from railway rights-of-way, including prohibiting residential-use buildings within 30m of a railway ROW and restrictions in the vicinity of an intersection of a street and railway track (refer to ZBL Section 68 for additional details).
  - The development is also subject to the requirements of the 2013 study, “Guidelines for New Development in Proximity to Railway Operations", prepared by the Railway Association of Canada and the Federation of Canadian Municipalities (referred to as the ‘Guidelines’ herein). Any requirements from the railway line operator, as well as any other applicable regulations and standards also apply. Please note that the Guidelines include requirements for setbacks, safety barriers, security fencing, noise and vibration, stormwater management and drainage, etc. Where requirements vary between the Guidelines, Zoning By-laws, and

any other applicable regulations and standards, the more stringent requirements shall apply.
    - A Rail Safety Report prepared by a consultant is required to identify the applicable rail safety requirements relevant to the site/proposed development and provide any associated recommendations based on the Guidelines and all applicable regulations and standards. Any required mitigation measures are to be included in the civil design. Prior to approval of the Plan of Subdivision application, consultation with the railway line operator is required to obtain their approval of the rail safety design. Documentation of this consultation will need to be provided to the City. Note that the rail safety design is also subject to City approval.
    - The contact at Nylene Canada Inc. is Ralph Anzarouth, Managing Director, Phone (613) 623-0556 or Cell (613) 797-4966. Ralph.Anzarouth@nylene.com

- Rail Noise & Vibration:
    - Due to the proximity of the rail corridor to the proposed noise sensitive land-use (residential), a Noise Study is required (newly adopted OP section 10.2.1). Refer to the Transportation comments for additional information on noise requirements. The rail Noise Study can be combined with any other required noise studies.
    - Due to the proposed development being within 75m of a railway right-of-way, a Vibration Study is required (newly adopted OP section 10.2.1, policy 15).

- Snow Storage:
    - Any portion of the subject property which is intended to be used for permanent or temporary snow storage shall be as shown on the Stormwater Management Plan and Grade Control and Drainage Plan. Snow storage shall not interfere with approved grading and drainage patterns. Snow storage areas shall be setback from the property lines, foundations, fencing or landscaping a minimum of 1.5m. Snow storage areas shall not occupy driveways, aisles, required parking spaces, or any portion of a road allowance.

- Exterior Site Lighting:
    - Prior to Plan of Subdivision approval, any exterior lighting proposed for the site requires certification by a qualified Professional Engineer confirming the design complies with the following criteria:
    - Lighting must be designed using only fixtures that meet the criteria for Full-Cut-Off (Sharp cut-off) Classification, as recognized by the Illuminating Engineering Society of North America (IESNA or IES).
    - It must result in minimal light spillage onto adjacent properties. As a guide, 0.5 foot-candle is normally the maximum allowable spillage.
    - The location of the fixtures, fixture types (make, model, and part number), and the mounting heights must be shown on one of the approved plans.

- Utilities:
    - A Composite Utility Plan is required.

        - The applicant must determine the locations of any existing or proposed private utilities and confirm they don't conflict with the proposed development.

    - Easements/ROWs:
        - Easements and rights-of-ways must be shown on the plans and information on any existing easements or ROWs, must be provided with the application.

    - Fire Route:
        - Fire routes are to be designated by By-law for Fire Services to establish them as a legal fire route. If applicable, an 'Application for a Fire Route Designation' form will need to be completed and submitted to the City to add the fire route to the By-law. The form must be filled out by the applicant/agent of the property as well as the property owner. This form will be provided after the application is received or can be provided in advance upon request.

    - Permits and Approvals:
        - The property is within the regulation limit of Mississippi Valley Conservation Authority.
        - Please contact MVCA, amongst other federal and provincial departments/agencies, to identify all the necessary permits and approvals required to facilitate the development. Responsibility rests with the developer and their consultant for obtaining all external agency approvals. The address shall be in good standing with all approval agencies. Copies of confirmation of correspondence will be required by the City of Ottawa from all approval agencies that a form of assent is given.
        - The ECA application is not submitted until after City of Ottawa Engineering is satisfied that components directly or indirectly aligned with the ECA process concur with standards, directives, and guidelines of the MECP. No construction shall commence until after a commence work notification is given by Development Review Engineering staff.

- Engineering – provided by Joseph Zagorski
    - Karson should be credited for water and wastewater demands for their existing properties which were demolished or will be demolished as a part of new development.
    - Short-term capacity upgrades to Carp water and wastewater facilities functional design study had been completed. It is estimated that short-term upgrades will provide additional capacity for 350 equivalent single houses units in the Carp Village and 0.2 ML/day additional water supply for Carp Airport development. City Rural Development Review Unit is responsible for capacity allocation.
    - City is in a procurement process of selecting consultant for short-term work detailed design work and tender. Construction of the proposed upgrades should be completed in 2 years-time.
    - Next step will involve functional design study to address necessary upgrades to Carp water and wastewater facilities to accommodate projected Carp build-out development inside current village boundary and Carp Airport. Scenario of potential village boundary expansion to the east along Donald B. Munro Drive

and its impact on water and wastewater servicing facilities will be investigated as well as a part of this study.
- Current Village of Carp and Carp Airport new development servicing fee will be adjusted in 2024 City wide development charge by-law review based on the projected build-out population and estimated costs of long-term work.

Submission requirements and fees

- Outline the submission requirements and fees.
- Additional information regarding fees related to planning applications can be found here.
- Plans are to be standard A1 size (594 mm x 841 mm) or Arch D size (609.6 mm x 914.4 mm) sheets, dimensioned in metric and utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400 or 1:500).
- All PDF submitted documents are to be unlocked and flattened.

Next steps

- We encourage the applicant to discuss the proposal with Councillor, community groups and neighbours

From: Brown, Adam <Adam.Brown@ottawa.ca>
Sent: Tuesday, February 8, 2022 6:54 PM
To: 'Jack Stirling' <jack@tsgdi.ca>; 'Alison Stirling' <alison@tsgdi.ca>; Kyle MacHutchon <kyle@invernesshomes.ca>; 'Melissa Cote' <melissa.cote@taggart.ca>; Jim Moffatt <jmoffatt@ibigroup.com>; 'Matt Nesrallah' <MNesrallah@thomascavanagh.ca>; Pierre Dufresne (pdufresne@thomascavanagh.ca) <pdufresne@thomascavanagh.ca>; John Riddell <J.Riddell@novatech-eng.com>; Susan Gordon <s.gordon@novatech-eng.com>; 'Josh Kardish' <JKardish@eqhomes.ca>; 'andrew@wildeboer.ca' <andrew@wildeboer.ca>; Greg Winters <G.Winters@novatech-eng.com>
Cc: Xu, Lily <Lily.Xu@ottawa.ca>; Whittaker, Damien <Damien.Whittaker@ottawa.ca>; Hall, Kevin <Kevin.Hall@ottawa.ca>; Morgan, Brian <Brian.Morgan@ottawa.ca>; McWilliams, Cheryl <Cheryl.McWilliams@ottawa.ca>; McCormick, Sarah <sarah.mccormick@ottawa.ca>; Ostafichuk, Jeffrey <Jeffrey.Ostafichuk@ottawa.ca>; Zagorski, Joseph <Joseph.Zagorski@ottawa.ca>; Rogers, Christopher <Christopher.Rogers@ottawa.ca>
Subject: Carp Servicing update

Please see below for a status update of the servicing situation in Carp. If you have any questions, please advise

- There is currently no capacity for additional water users in Carp as the current GAC filters operating method is a limiting factor.
- For wastewater, based on the existing flow data, there is limited capacity available (equivalent of 100 single houses). However, because of no overflow protection at the station, Wastewater Operations do not support adding more connections at the present time.
- Infrastructure Planning, in conjunction with consultant RVA, already has a short-term project underway to increase capacity of the water and wastewater systems. The time frame including detailed design and construction phases, would be two to three years from today.
- Once the proposed short-term upgrades are in place, it is estimated that there should be additional water and wastewater capacity for the equivalent of 350 single houses in the Village. For the Carp Airport, there is expected to be an additional allocation of drinking of 0.2 ML/d for a total of 0.7 ML/d.
- It is noted that the City currently has two active Plan of Subdivision applications in the village of Carp.
    - Inverness Homes subdivision (D07-16-19-0034):147 Langstaff. Details here. Unit count is 67 townhouse dwellings and 128 apartment dwellings, total 195.
    - Tartan subdivision (D07-16-21-0035): 232 Donald B. Munro Drive. Details here. Unit count is 57 single detached, 6 semi-detached, 54 townhouse units, total 117.
    - Two other possible applications could be forthcoming, with combined unit count totals estimated at +/- 390.
- The available fire flow at the Carp water plant is 6500 L/min for two hours duration. Due to village topography, depending on the new development location, it could be a lot less. Developers will need to prove that their proposal meets the available fire flow through the development review process.
- Ongoing monitoring of flows will be undertaken in the village as developments advance to reassess capacity as necessary in the future.
- Infrastructure improvements beyond the short-term upgrades will be eight to ten years into the future assuming financing availability.

- The current water and wastewater infrastructure charge, paid at permit issuance for development in Carp, will continue to be assessed. City staff will review a possible change to an area-specific development charge in the 2024 DC by-law update.
- Staff propose reserving future water and wastewater capacity for development in the village at the draft approval stage. As applications are draft approved, water and wastewater flows will be reserved accordingly for that location. However, staff will reserve the right to reassess the allocation of flows to other areas when draft conditions expire if the development has not proceeded.
- Notwithstanding the above recommendation, if the development industry wishes to enter into an agreement for other arrangements to share allocations of flows, City staff are open to participating in these discussions.

Regards,

Adam Brown
City of Ottawa / Ville d'Ottawa
Manager, Development Review - Rural | Gestionnaire, Revue des projets d'aménagement - rurales
Planning, Real Estate and Economic Development Department | Direction générale de la planification, des biens immobiliers et du développement économique
(613) 580-2424 x:28352
http://ottawa.ca/rural
http://ottawa.ca/rurales

From: Zagorski, Joseph <Joseph.Zagorski@ottawa.ca>
Sent: Thursday, February 1, 2024 10:37 AM
To: Lisa Bowley
Cc: Susan Gordon; Greg Winters; Bougadis, John
Subject: RE: Karson Subdivision - Downstream Sewer Capacity (121173)

Hi Lisa,

2009 Village of Carp Class EA for Water and Wastewater Infrastructure Upgrade/Expansion report established that sewer line along Rivington Street would be surcharged during critical wet weather events under Carp projected build-out development scenario and recommended line upgrade in coordination with road maintenance and/or surcharging complaints. Village of Carp Water and Wastewater Facilities Long-Term (Build-Out) Capacity Upgrade Assessment functional design study currently underway will further address this potential surcharging issues and recommend necessary upgrades with associated capital budget. When needed, these upgrades will be part of City capital project financed by combination of area specific development charges and rate (benefit to existing). Let me know if you have any further questions or need more info.

M. Joseph Zagorski, P.Eng.
Senior Project Manager
Asset Management Branch – Infrastructure Planning
City of Ottawa - Infrastructure and Water Services Department
110 Laurier Avenue West, 3 Floor, Ottawa, ON K1P 1J1
(613) 282 - 8358 (cell)
Joseph.Zagorski@ottawa.ca

From: Lisa Bowley <l.bowley@novatech-eng.com>
Sent: January 30, 2024 1:52 PM
To: Zagorski, Joseph <Joseph.Zagorski@ottawa.ca>
Cc: Susan Gordon <s.gordon@novatech-eng.com>; Greg Winters <g.winters@novatech-eng.com>
Subject: Karson Subdivision - Downstream Sewer Capacity (121173)

Joe,

We are working on a Draft Plan of Subdivision application for 3725 Carp Road (formerly Karson Kartage Konstruction site) located on the west side of Carp Road, between the rail tracks and Rivington Street. A submission was made to the City of Ottawa and we have recently received comments from the City regarding the servicing capacity in the Carp Village.

In order to respond to the City's comments regarding the capacity of the downstream sanitary sewers, we would appreciate your input on the capacity between the site and the (Salisbury Street) pumping station. Attached is a sketch highlighting the sanitary sewer downstream of the Karson Subdivision site (121173-DSSAN) to the pump station. We

note that the sanitary sewer on Carp Road is 450mm diameter, where the pipes downstream are smaller (varying between 250mm and 300mm diameter).

Are you aware of any capacity issues within this section of sanitary sewer?

Lisa Bowley, P.Eng., Senior Project Manager | Land Development Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 Ext. 246

'

'

Appendix B
Water Servicing

1. Water Boundary Conditions email - April 24, 2023
2. 3711 – 3725 Carp Road Water Demand Calculations – March 2024
3. FUS - Fire Flow Calculations - June 8, 2023

From: Smith, Travis <travis.smith@ottawa.ca>
Sent: Monday, April 24, 2023 8:22 AM
To: Aden Rongve
Cc: Lisa Bowley; Whittaker, Damien
Subject: Re: Water Boundary Conditions - 3725 Carp Road

Hi Aden,

With regards to the requested fire flow, please provide the fire flow calculations using the FUS method.

In terms of the credited service capacity discussed in the meeting, the applicant should provide sufficient information and rationale to establish the existing servicing capacity for the municipal water and wastewater system(s), subject to further consultation on the proposed approach with the City.

The information provided on the Water Design Sheet will be reviewed with the fire flow calculations.

Please note the following in regards to site servicing from the pre-consultation meeting held June 29, 2022;

- Fire Flow: If the fire flow demand calculations use a construction coefficient less than 1, information will need to be provided to support the use of the selected type of construction. It is understood that the fire-fighting flow available is limited and smaller buildings and/or extensive use of firewalls and/or expanded building separation will be necessary.
- Servicing Capacity: Although the area of the proposed development has existing municipal services, the Village of Carp is at capacity for municipal water and municipal sanitary servicing. Capacity upgrades to the Carp water and sanitary systems are required. There are projects underway to provide short-term capacity upgrades in the next 2 to 3 years, which would allow the addition of approximately 350 units. It is up to the proponent to decide how to proceed with the application process, but please be aware that there are currently active Plans of Subdivision applications that aim to utilize the additional short-term capacity. Once the short-term functional design study is complete, the City will be planning an expansion to provide long-term capacity upgrades. Please also refer to the email sent February 8, 2022, from Adam Brown, subject “Carp Servicing update”.
- Credited Servicing Capacity: The site is currently vacant. It is understood that there were formerly buildings on the site that were serviced by the municipal water and wastewater systems. The servicing capacity allocated to these previously existing buildings can be used as a credit towards the proposed development. Further consultation with the City will be required to determine how/if this approach could be implemented for servicing beyond the existing site’s credited capacity given the servicing capacity constraints.

Regards,

Travis Smith, P.Eng.
Project Manager
Planning, Real Estate and Economic Development Department / Direction générale de la planification, des biens immobiliers et du développement économique
Development Review - Rural
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 16544, travis.smith@ottawa.ca

*** please note that I will be on vacation starting September 11 and returning September 25, 2023 ***

Note that we are in a hybrid work arrangement, phone contact is limited and email is our best option. Thank you in advance.
Notez que nous sommes dans un arrangement de travail hybride, le contact téléphonique est limité et le courriel est notre meilleure option. Merci en avance.

From: Aden Rongve <a.rongve@novatech-eng.com>
Sent: Friday, April 21, 2023 3:54 PM
To: Smith, Travis <travis.smith@ottawa.ca>

Cc: Lisa Bowley <l.bowley@novatech-eng.com>
Subject: Water Boundary Conditions - 3725 Carp Road

Travis,

As part of a draft plan of subdivision for the site at 3725 Carp Road, we are requesting water boundary conditions. The proposed site includes 78 residential units (stacked townhomes and lifestyle apartments) as well as 9 commercial units. We are proposing to connect to the 200mmØ watermain on Carp Road in two locations. Please find a location plan attached for reference.

We are requesting boundary conditions based on the following. Calculation of the values below are outlined in the attached Water Demand Design Sheet.

- Average Day Demand – 0.79 L/s
- Peak Hour Demand – 5.10 L/s
- Average Day Demand – 3.33 L/s

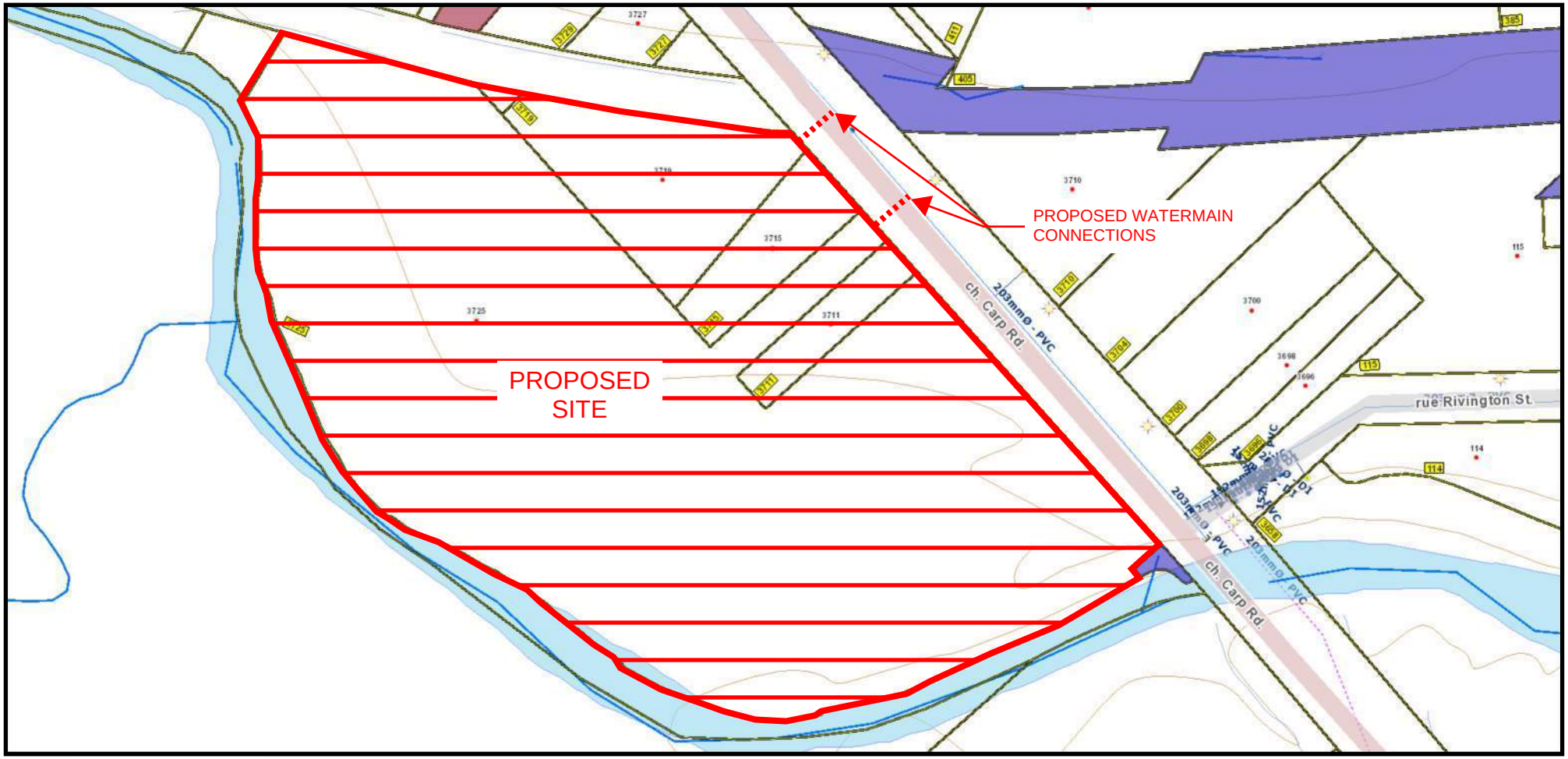
We are also requesting the maximum available fire flow at 20 psi at this location.

Please let us know if you have any questions.

Thank you,

Aden Rongve, B.Sc., EIT
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 ext 324

WATER BOUNDARY CONDITION REQUEST
#3725 CARP ROAD
NOVATECH JOB #: 121173
DATE: APRIL 21, 2023



NOVATECH
Engineers, Planners & Landscape Architects

3711- 3725 CARP ROAD
WATER DEMAND

JOB NO. 121173
DATE: May 2023
REVISED: March 2024

Residential Population			Commercial	Residential Demand (L/s)			Commercial Demand (L/s)			Total Demand (L/s)		
Stacked Units	Lifestyle Units	Total Population	Gross Area (ha)	Avg Day	Max. Daily	Peak Hour	Avg Day	Max. Daily	Peak Hour	Avg Day	Max. Daily	Peak Hour
60	18	195	0.5	0.63	3.1	4.68	0.16	0.24	0.44	0.79	3.34	5.11

Design Parameters per Section 4.0 Ottawa Water Distribution Design Guidelines:

Stacked Unit Population Population (Townhouse)	2.7	persons/unit
Lifestyle Unit Population (Apartment)	1.8	persons/unit
Avg. Day Domestic Demand	280	L/cap/day
Max. Daily Demand	1.5	x Avg. Day
Peak Hourly Demand	1.8	x Max. Day

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 121173
Project Name: Karson Subdivision
Date: 6/8/2023
Input By: L. Bowley
Reviewed By: A. McAuley

Legend: Input by User / No Input Required
Reference: Fire Underwriter's Survey Guideline (2020)

Building Description: Building B
Type V - Wood frame

Step			Input		Value Used	Total Fire Flow (L/min)
Base Fire Flow						
1	**Construction Material**			**Multiplier**		
	Coefficient related to type of construction **C**	Type V - Wood frame	Yes	1.5	1.5	
		Type IV - Mass Timber		Varies		
		Type III - Ordinary construction		1		
		Type II - Non-combustible construction		0.8		
		Type I - Fire resistive construction (2 hrs)		0.6		
2	**Floor Area**					
	A	Building Footprint (m^2)	865			
		Number of Floors/Storeys	3			
		Area of structure considered (m^2)			**2,595**	
	F	**Base fire flow without reductions**				**17,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	0%	**17,000**
		Limited combustible		-15%		
		Combustible	Yes	0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	0 - 3 m		25%	**12,750**
		East Side	10.1 - 20 m		15%	
		South Side	20.1 - 30 m		10%	
		West Side	0 - 3 m		25%	
				Cumulative Total	**75%**	
Results						
6	(1) + (2) + (3)	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**30,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**500**
				or	USGPM	7,926
7	**Storage Volume**	Required Duration of Fire Flow (hours)	**FUS Table 1**		Hours	7
		Required Volume of Fire Flow (m^3)			m^3	12600

Appendix C
Sanitary Servicing

1. Existing Carp Road Sanitary Sewer Design Sheet – June 2023
2. Conceptual Sanitary Design Sheet – March 2024
3. Sanitary Drainage Area Plan (121173-SDA) – June 2023
4. Single Family Equivalent chart – March 2024

PROJECT #: 121173
PROJECT NAME: KARSON SUBDIVISION
LOCATION: 3711 - 3725 CARP ROAD, OTTAWA, ON

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: JUNE 2023

EXISTING CARP ROAD SANITARY SEWER DESIGN SHEET

MANHOLES		PIPE					
FROM	TO	Size (mm)	Upstream Invert (m)	Downstream Invert (m)	Slope (%)	Length (m)	Capacity (L/s)
EX107	**EX108**	450	89.94	89.85	0.24	38	138.6
EX108	**EX109**	450	89.85	89.73	0.15	81	109.7

*Note: Pipe Invert Elevations obtained from GeoOttawa

PROJECT #: 121173
PROJECT NAME: KARSON SUBDIVISION
LOCATION: 3725 CARP ROAD, OTTAWA, ON

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: June 2023
REVISED: March 2024

CONCEPTUAL SANITARY DESIGN SHEET

		RESIDENTIAL						COMM.			EXTRANEOUS				PIPE					
FROM	TO	# of Units		TOTAL										Total Flow (L/s)						
		Townhouse	Appts.	Population	Accum. Pop.	Peak Factor	Peak Flow (L/s)	Area (ha)	Accum. Area (ha)	Peak Flow (L/s)	Total Area (ha)	Accum. Area (ha)	Infilt. Flow (L/s)		Size (mm)	Slope (%)	Length (m)	Capacity (L/s)	Full Flow Vel. (m/s)	Q/Q_{full} (%)
SAN6	EX1	60	18	195	195	3.5	2.23	0.50	0.50	0.24	1.35	1.35	0.45	**2.9**	200	0.40	140	20.7	0.66	14.1%

Design Parameters:

Section 4.0 Ottawa Sewer Design Guidelines (ISTB 2018-01)

Population Densities

- Townhouse	2.7	persons/unit
- Apartment	1.8	persons/unit
- Commercial	28,000	L/gross ha/day

Design Flows

- Average Residential Flow	280	L/capita/day
- Extraneous Flows	0.33	L/s/ha
Residential Peaking Factor	Harmon Equation	

DONALD B. MUNRO DRIVE

CARP ROAD

RIVINGTON STREET

RAIL CORRIDOR

BLDG A
9 Lifestyle Unit Block/
9 Commercial Units

BLDG B
9 Lifestyle Unit Block/
9 Commercial Units

BLDG C
12 Stacked Units

BLDG D
12 Stacked Units

BLDG E
12 Stacked Units

BLDG F
12 Stacked Units

BLDG G
12 Stacked Units

1.35 ha
SAN5 - EX1
78 | 211

200mmØ SAN

COURTYARD

CARP RIVER

BRIDGE

Metal Clad Shed

FLOW

LEGEND

- 1.35 ha / SAN5 - EX1 / 78 | 211 — DRAINAGE AREA (hectares); MANHOLE TO MANHOLE; POPULATION EQUIVALENT; NUMBER OF UNITS
- SANITARY DRAINAGE AREA
- PROPERTY BOUNDARY
- PROPOSED SANITARY SEWER

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFT)*
ANNIS, O'SULLIVAN, VOLLEBEKK Ltd / FEBRUARY 12, 2023 / MTM ZONE 9, NAD83 ORIGINAL
EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

3725 CARP ROAD
KARSON SUBDIVISION

SANITARY DRAINAGE AREA PLAN

SCALE 1 : 1000 (0 10 20 30 40)
DATE JUNE 2023
FIGURE 121173-SDA

Karson Subdivision - Water and Waste Short Term Upgrades

Novatech File: 121173

Single Family Equivalent

Date: March 25, 2024

Expanded Capacity Expected	**350**	**equivalent single family units**		
Residential Sanitary Design Flow	280	L/cap/day	sanitary	ISTB 2018-01
Residential Water Demand	280	L/cap/day	water	ISTB 2021-03

	Singles	Semi-Detached	Townhouses	Apartments	Total Residential Units [1]	Residential Single Family Equivalent	Commercial Single Family Equivalent	Total Single Family Equivalent		Cumulative Single Family Equivalent
ppu (short term upgrades) [2]	3.24	2.60	1.54	1.00						
Inverness			67	128	195	71		71		71
Cavanagh		128			128	103		103		174
Tartan	57	6	54		117	87		87		262
Various Smaller Sites		20			20	16		16		278
Karson										
Proposed Development			60	18	78	34		34		
Less Legacy Residential	6					6		-6	[3]	
Less Legacy Commercial							17.5	-18	[4]	
Net								10		**288**
Dave's Auto/Munro	145		183		328	232		232		520
(Not proceeding)										
Total	208	154	364	146	866	550	18	530		**288**

Karson Subdivision - Water and Waste Short Term Upgrades									Novatech File:		121173
Single Family Equivalent									**Date:**		**March 25, 2024**
Expanded Capacity Expected			**350**	**equivalent single family units**							
Residential Sanitary Design Flow			280	L/cap/day	sanitary	ISTB 2018-01					
Residential Water Demand			280	L/cap/day	water	ISTB 2021-03					
Notes:											
[1] Residential unit counts are based on the following:											
Inverness and Tartan: Adam Brown e-mail (February 9, 2022)											
Cavanagh: Novatech Concept Plan 5 (120062-CP5, rev. 1)											
Various Smaller Sites: RVA report (May 2022) and assuming all units are semi-attached.											
Dave's Auto/Munro: Novatech Concept Plan 5 (121122-CP5, rev. 1)											
Karson: Novatech Concept Plan (121173-CP6, rev. 2)											
[2] Single Family Equivalent calculations are based on ppu (persons per unit) for short term upgrades, per Joe Zagorski e-mail (August 9, 2022).											
[3] Karson site has legacy capacity for previous residential land use.											
	Residential: 6 single family homes										
[4] Karson site has legacy capacity for previous commercial land use.											
	Water demand (employees)			5,000L/day							
	Water demand (vehicle washing)			10,900L/day							
	Total water demand			15,900 L/day							
			at	280 L/cap/day							
	Equivalent persons		at	3.24 ppu							
	Single Family Equivalent			17.5							

Appendix D
Storm Servicing

1. 5-year Storm Sewer Design Sheet - June 2023
2. Pre-Development Drainage Area Plan (121173-PRE) revision 2
3. Post-Development Drainage Area Plan (121173-POST) revision 2

PROJECT #: 121173
PROJECT NAME: KARSON SUBDIVISION
LOCATION: CARP, ON

NOVATECH
Engineers, Planners & Landscape Architects

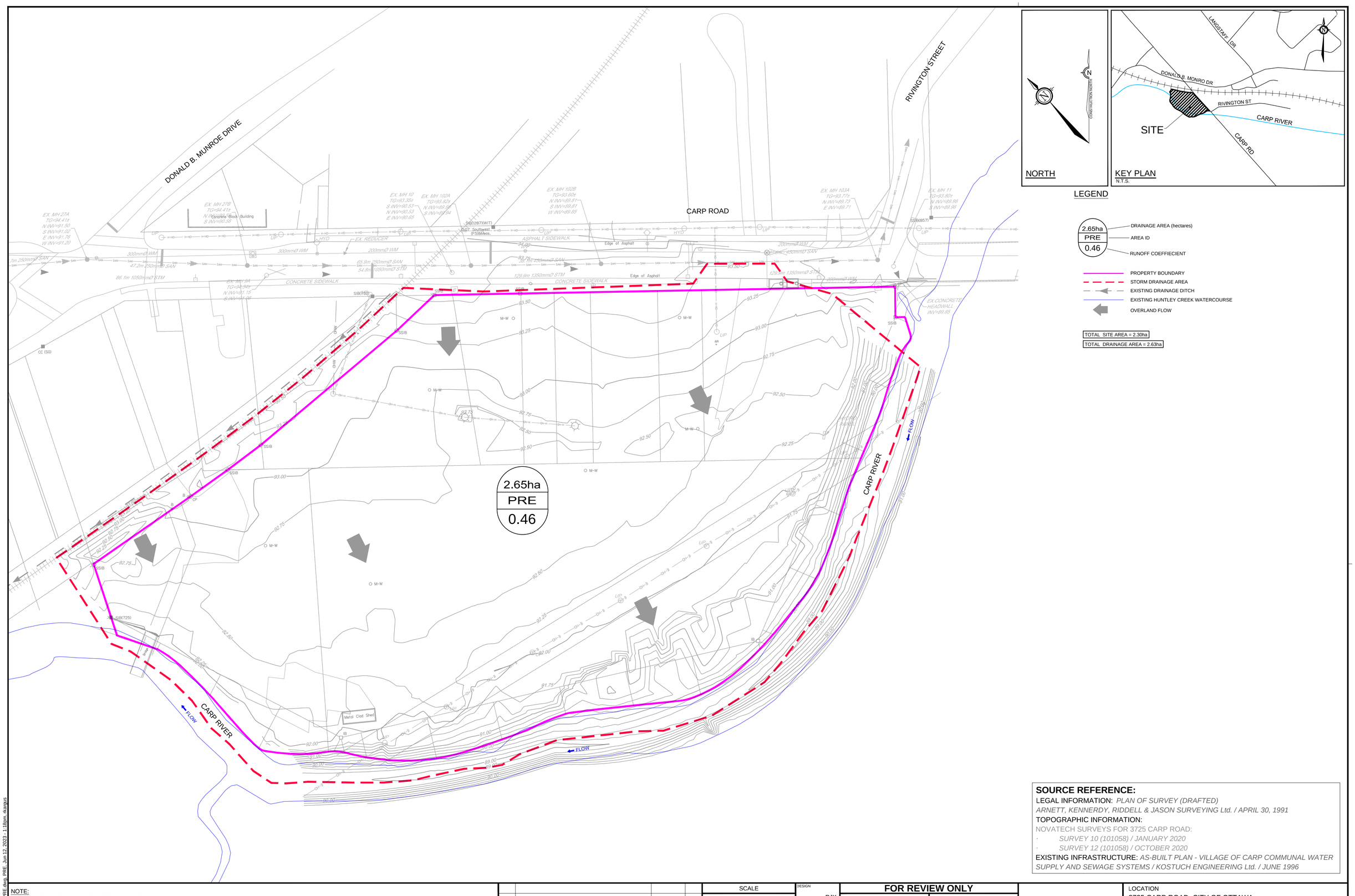
DATE PREPARED: JUNE 2023

5 Year Storm Sewer Design Sheet

Upstream Manhole	Downstream Manhole	AREA (Ha)			FLOW					PROPOSED SEWER							
		AREA ID	TOTAL AREA	R	INDIV 2.78 AR	ACCUM 2.78 AR	TIME OF CONC.	RAINFALL INTENSITY I	PEAK FLOW Q (l/s)	PIPE SIZE (mm)	PIPE SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	TIME OF FLOW (min.)	EXCESS CAPACITY (l/s)	Q/Qfull
ST1	ST4	A1	0.45	0.81	1.01	1.01	10.00	104.19	105.57	450	0.20	102.0	127.63	0.80	2.12	22.06	0.83
ST8	ST6	A2	0.23	0.60	0.38	0.38	10.00	104.19	39.85	300	0.35	42.0	57.27	0.81	0.86	17.41	0.70
ST7	ST6	A2	0.10	0.60	0.17	0.17	10.00	104.19	17.33	300	0.35	32.0	57.27	0.81	0.66	39.94	0.30
ST6	ST4	A3	0.15	0.80	0.34	0.88	10.86	99.84	88.27	450	0.20	63.0	127.63	0.80	1.31	39.37	0.69
ST4	ST13	A4	0.03	0.68	0.06	1.95	12.99	90.69	177.21	525	0.25	35.0	215.25	0.99	0.59	38.04	0.82
ST9	ST13	A5	0.28	0.79	0.62	0.62	10.00	104.19	64.15	375	0.25	106.0	87.75	0.79	2.23	23.61	0.73
ST13	OUTLET					2.57	13.57	88.47	227.34	600	0.20	33.0	274.87	0.97	0.57	47.53	0.83

Definitions
Q = 2.78 AIR
Q = Peak Flow, in Litres per second (L/s)
A = Area in hectares (ha)
I = 5 YEAR Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min Velocity = 0.76 m/sec.
3) 5 Year intensity = 998.071 / (time + 6.053)$^{0.814}$



LEGEND

2.65ha / PRE / 0.46 — DRAINAGE AREA (hectares) / AREA ID / RUNOFF COEFFIECIENT

PROPERTY BOUNDARY

STORM DRAINAGE AREA

EXISTING DRAINAGE DITCH

EXISTING HUNTLEY CREEK WATERCOURSE

OVERLAND FLOW

TOTAL SITE AREA = 2.30ha

TOTAL DRAINAGE AREA = 2.63ha

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFTED)*
ARNETT, KENNERDY, RIDDELL & JASON SURVEYING Ltd. / APRIL 30, 1991

TOPOGRAPHIC INFORMATION:
NOVATECH SURVEYS FOR 3725 CARP ROAD:
· *SURVEY 10 (101058) / JANUARY 2020*
· *SURVEY 12 (101058) / OCTOBER 2020*

EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT (NO CHANGES)	JULY 8/24	LAB
1.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT	JUNE 12/23	LAB

SCALE: 1:500 (1:500, 0 5 10 15 20)

DESIGN: RJK
CHECKED: LAB
DRAWN: RJK
CHECKED: LAB
APPROVED: SMG

FOR REVIEW ONLY

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
3725 CARP ROAD, CITY OF OTTAWA
KARSON SUBDIVISION

DRAWING NAME
PRE-DEVELOPMENT DRAINAGE AREA PLAN

PROJECT No. 121173
REV REV # 2
DRAWING No. 121173-PRE

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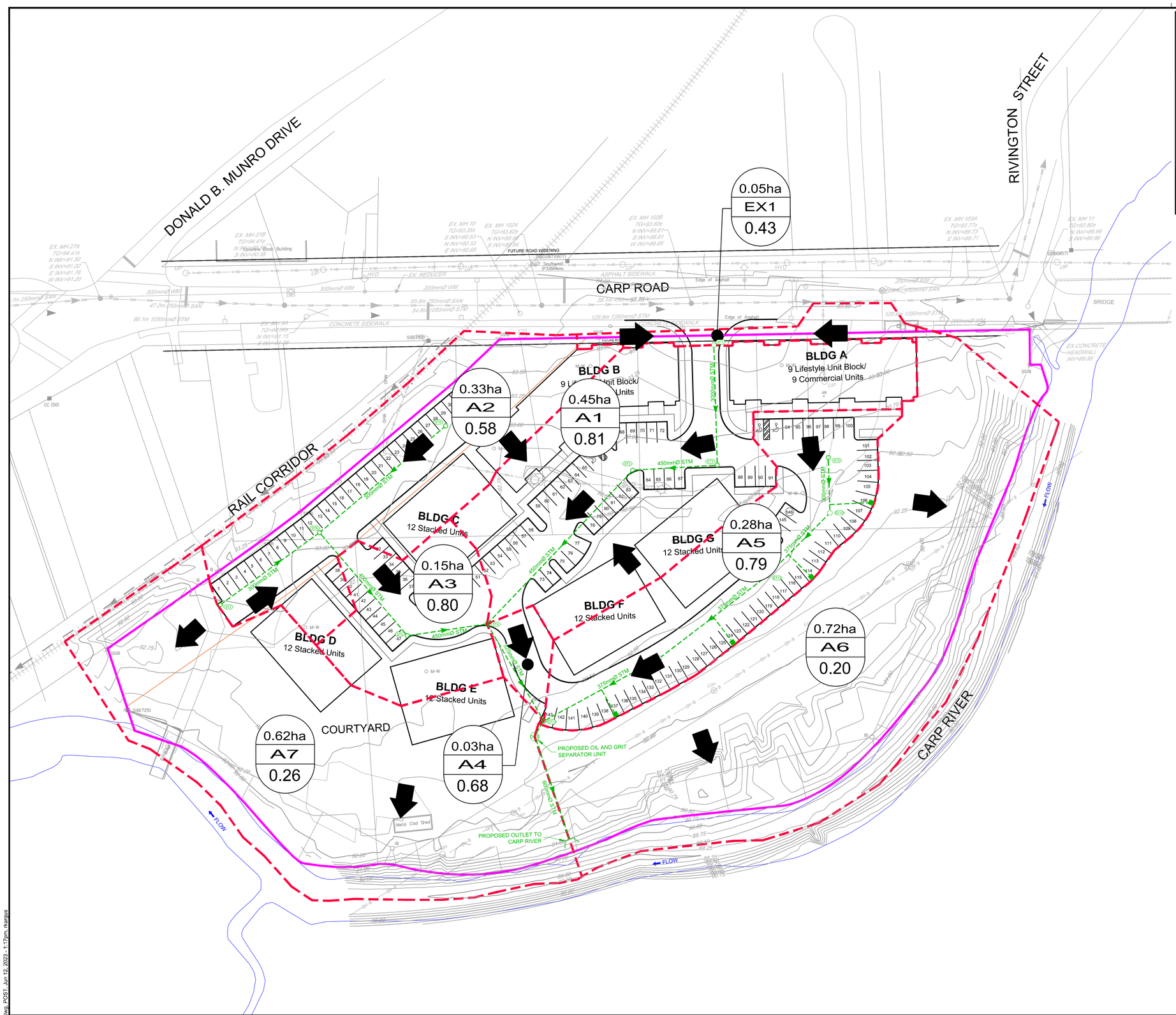
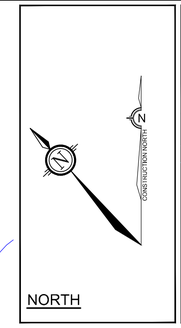
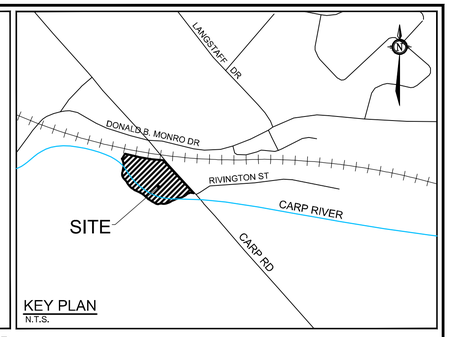
PLAN11.DWG - 841mm x 594mm







LEGEND

0.05ha / EX1 / 0.43 — DRAINAGE AREA (hectares), AREA ID, RUNOFF COEFFICIENT

PROPERTY BOUNDARY

STORM DRAINAGE AREA

EXISTING DRAINAGE DITCH

EXISTING HUNTLEY CREEK WATERCOURSE

OVERLAND FLOW

PROPOSED STORM SEWER

PROPOSED OIL AND GRIT SEPARATOR UNIT

PROPOSED CONCRETE HEADWALL

PROPOSED CATCHBASIN

TOTAL SITE AREA = 2.30ha

TOTAL DRAINAGE AREA = 2.63ha

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFTED)*
ARNETT, KENNERDY, RIDDELL & JASON SURVEYING Ltd. / APRIL 30, 1991

TOPOGRAPHIC INFORMATION:
NOVATECH SURVEYS FOR 3725 CARP ROAD:
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EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP COMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*

NOTE:
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No.	REVISION	DATE	BY
2.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT (NO CHANGES)	JULY 8/24	LAB
1.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT	JUNE 12/23	LAB

SCALE: 1:500 (1:500, 0 5 10 15 20)

DESIGN: RJK
CHECKED: LAB
DRAWN: RJK
CHECKED: LAB
APPROVED: SMG

FOR REVIEW ONLY

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Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
3725 CARP ROAD, CITY OF OTTAWA
KARSON SUBDIVISION

DRAWING NAME
POST-DEVELOPMENT DRAINAGE AREA PLAN

PROJECT No. 121173
REV REV # 2
DRAWING No. 121173-POST

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PLAN41.DWG - 841mmx594mm

Appendix E
Conceptual Stormwater Management

1. Figure 2.2, Page 13 and Page 17 from Village of Carp Environmental Management Plan – November 2004
2. Figure 3.4.31 (Groundwater Recharge and Discharge Potential) from Carp River Watershed Study Volume I – December 2004

Robinson Consultants

Robinson Consultants Inc.
Consulting Engineers

350 Palladium Drive
Kanata, Ontario, Canada K2V 1A8

telephone 613 592 6060
facsimile 613 592 5995
email info@rcii.com
website www.rcii.com

Village of Carp
Environmental Management Plan

Prepared For:

Ottawa

Prepared By:

Robinson Consultants Inc.
Consulting Engineers

Our Project No. 04013
November 2004

Robinson Consultants

Ottawa

N

Control Structure
Beaver Pond

CHARLIE'S LANE

CARP ROAD

JUANITA AVENUE

INNISKILLIN DRIVE

LANGSTAFF DRIVE

CAVANAUGH DRIVE

DONALD B. MUNRO DRIVE

RIVINGTON STREET

Canadian National Railroad

Carp River

Extended Detention
Wet Pond

Dry Pond

Flow

Flow

I

II

III

A B C D E F G H I J K

1 2 3a 3b 4 5 6 7a 7b 8a 8b 8c 9 10 11 12 13

LEGEND

- Ownership Boundary
- Contributing Area Boundary
- Regulatory Flood Line
- Existing Stormwater Management Facility
- Watercourse (Ravine)
- Drainage Swale
- Culvert or Storm Sewer
- 3a Ownership Area
- D Stormwater Management Area
- (I) Existing Storm Outfall

EXISTING DRAINAGE
Figure 2.2

feasible. Dry ponds are less desirable because they provide a lower level of treatment. Infiltration trenches/basins are less desirable because of higher maintenance requirements and are not suitable in areas with high groundwater levels.

The use of stream and valley corridor buffer strips provide some treatment of surface runoff from existing and future developments within the village. They would also protect the steep slopes of the valleys of the two watercourses from encroachment.

4.1 Stormwater Management Options

Stormwater management options were evaluated for each development area shown in Figure 2.2 as outlined in **Table 4.1**.

Table 4.1
Development Areas Requiring SWMPs

Area No.*	Development Area No.*	Developable Area (ha)	Description
A	4	4.51	Medium density residential. Drains to RR 5 stormsewer and area 'B'
B	5, 6	5.90	Part of Hidden Estates Subdivision
C	2, 3a, 3b	14.43	Medium Density Residential / Community Core. Generally low lying, along Carp River
D	1	3.50	Medium Density Residential. Generally low lying, along Carp River
E	7a, 7b	6.88	Part of Glenncastle Subdivision
F	8a, 8b	5.30	Fairground Expansion / High Density residential Drains to Glenncastle SWM pond
G	8c	0.91	High Density Residential. Drains to RR 5
H	13	0.45	Village Core. Low lying, along Carp river
I	9, 10, 11	12.96	High/Medium/Low Density Residential
J	12	1.17	Medium Density Residential
K	--	34.50	Former CFP Carp lands

*) see Figure 2.2 and 5.1

For areas that drain directly to the Carp River, quantity control to reduce peak flows to pre-development levels is not required. Increases in peak flow from these areas are small compared to the flow in the river and the timing of the peak is such that most of the runoff occurs before the river itself peaks. A comparison of existing and unattenuated post-development flows from areas 'C', 'D', and 'K', as well as the 5 year peak flow of the Carp River, are presented in **Table 4.2**. SWMHYMO results can be found in **Appendix E**.

Table 4.2
Peak Flow Estimates

ID	Drainage Area (ha)	Peak Flow (m^3/s) / Time to Peak (hrs) *				
		Existing Conds.		Future Conds.		Carp R.
		5 year	100 year	5 year	100 year	5 year
C	22.7	0.2 / 2.4	0.6 / 2.4	1.3 / 1.7	2.8 / 1.6	23 / 10
D	4.8	0.1 / 1.9	0.2 / 1.8	0.55 / 1.5	1.1 / 1.5	
K	34.5	1.0 / 1.7	3.5 / 1.7	2.7 / 1.5	5.6 / 1.5	

*) All flows are based on rainfall only (See Figure 3, Village of Carp Drainage Study)

Pervious Pipe Systems

Pervious pipe systems must be installed in soils with good infiltration potential and a deep groundwater table. Pre-treatment (removal of coarser solids) of road runoff is necessary to prevent clogging and is typically achieved through the use of grassed swales in the boulevard.

End-of-Pipe Systems

Due to the relatively small drainage areas, end-of-pipe **interceptor solutions** such as oil-grit separators (e.g. Stormceptor) may be considered. This type of SWMP is acceptable if it captures and treats at least a 90% of the runoff volume.

SWMPs in area F (part of 8a and 8b) will outlet to the existing SWM facility upstream of Donald B. Munro Drive. In area G (remainder of 8a and 8c), discharge is to the ravine that outlets to the Regional Road 5 sewer.

4.1.7 Area H

This small area of 1.92 ha is physically separated from the village by Regional Road 5, Donald B. Munro Drive, and the Carp River. The development designation of the area is Village Core. The land is very low lying (between 91.4 and 93.0 m). As a result, drainage towards regional Road #5 (elevation approximately 94.0 m) does not appear feasible.

Because the development area is very small, and the "Village Core" land use indicates high density development, appropriate SWMPs appear to be limited to **interceptors**, in combination with **natural buffer strips** along the Carp River.

4.1.8 Areas I and J

Area I includes the development areas 9, 10, and 11. Proposed development for area 9 is medium density residential (1.86 ha), for area 10 low density residential (4.72 ha), and for area 11 high density residential (6.38 ha). Medium density residential is proposed for Area 12 (1.17 ha), which is separated from the other areas by the CNR embankment.

The preferred stormwater management solution for this area would consist of a facility or facilities that address the requirements for both I and J. Available options include lot level and conveyance controls, and end-of-pipe solutions. However, the sandy loam soils that cover most of this area offer only limited opportunities for infiltration. Additionally, the water table is less than 1 metre below existing grade.

The existing railway culvert consists of a 1.98 m diameter concrete pipe. Without surcharging, the capacity of this culvert is approximately 8 m^3/s. Existing 100 year flow at the culvert is approximately 3.59 m^3/s (Village of Carp Drainage Study). Although the existing culvert may have capacity, permission to discharge uncontrolled flows through the culvert must be confirmed with CNR prior to draft plan approval and/or confirmation of the SWM block size required.

To convey uncontrolled flows from area I, the upstream channel must be redesigned, including increased cross-section and erosion protection. The existing ditch inlet and culvert at Donald B. Monroe Drive, which has a capacity of approximately 1 m^3/s, would have to be replaced. Since the channel is not considered fish habitat or of significant environmental value, runoff may also be piped.

Robinson Consultants

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Carp River Watershed/ Subwatershed Study
Volume I - Main Report

Prepared For:

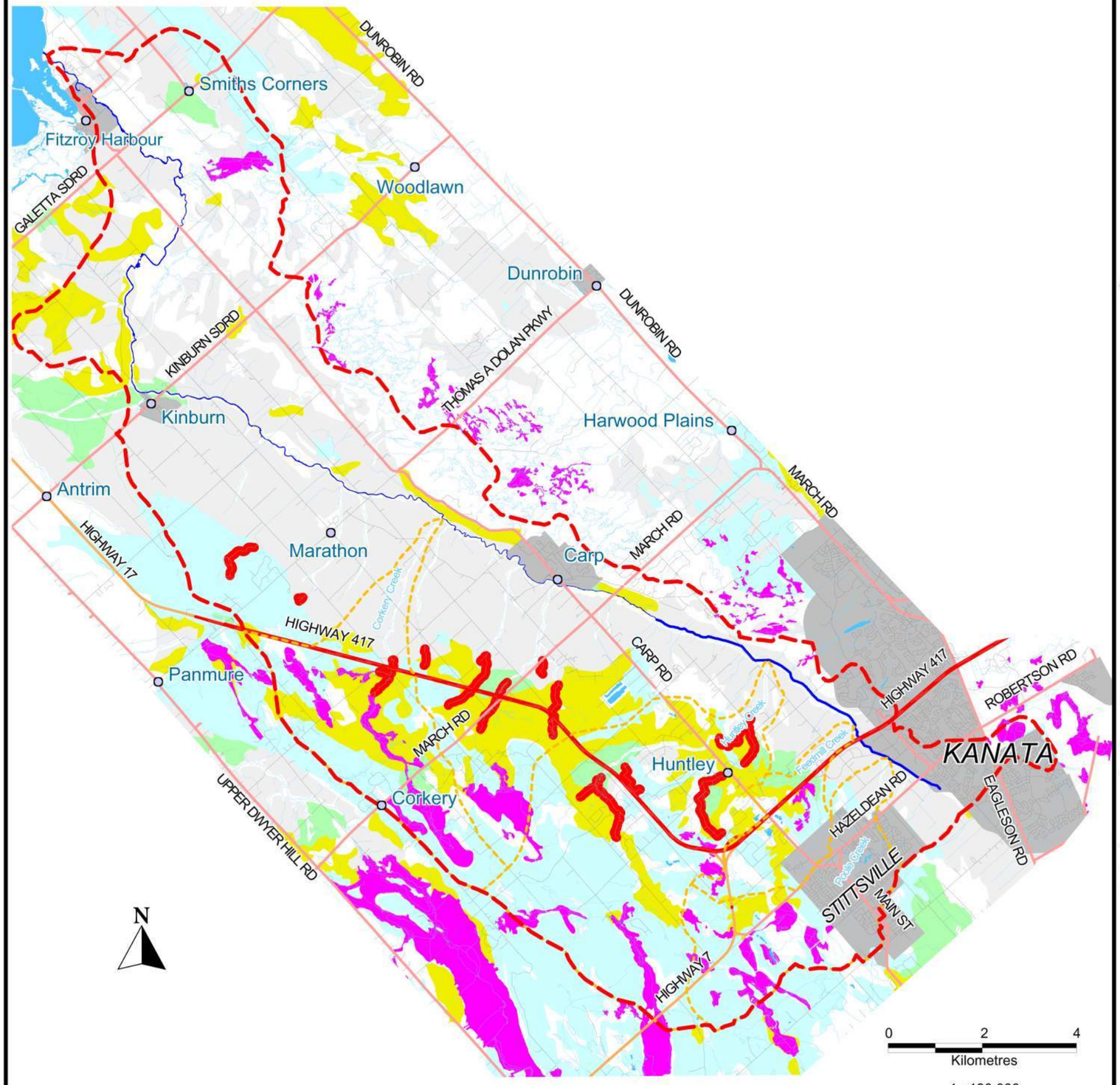
Ottawa

Prepared By:

Robinson Consultants Inc.
Aquafor Beech Ltd.
Lloyd Phillips and Associates
Daniel Brunton Consulting Services

Project No. 00056
December 2004

Figure 3.4.31
Groundwater Recharge and Discharge Potential



Observed and Geologically-inferred

Headwater Wetlands

Soils

230	Fine Sand
125	Silt
125	Paleozoic Bedrock
100	Clay
<75	Precambrian Bedrock, Till Organic Deposits Over Till, Escarpment

** Numbers in boxes are annual recharge potentials in mm/year

Built Up

Carp River Watershed

Carp River Subwatershed

Drainage

Carp River

Village / Hamlet

Roads

4 Lane Highway

Highway

Main

Secondary

Robinson Consultants

Aquafor Beech Limited

Appendix F
Comments

1. City of Ottawa consolidated comments – revised December 5, 2023
2. Novatech Response Letter – July 8, 2024

File Numbers: Subdivision D07-16-23-0008

November 20, 2023
Revised December 5, 2023

James Ireland Planner
Novatech
240 Michael Cowpland Drive
Ottawa, ON
K2M 1P6
j.ireland@novatech-eng.com

Dear Mr. Ireland

Re: 3711-3725 Carp Road Plan of Subdivision

Please find below the consolidated comments from the review of the above noted application.

Jeff Ostafichuk Planner, File Lead

- The redevelopment of the former truck site has always been identified in key planning policies throughout the history of the Village as a mixed-use development.
- The design of the development should be consistent with the historic character of the village core.
- It is important that commercial, retail, restauants personal service and institutional uses remain predominant for this site.
- A concept of design of the buildings should be part of the subdivision submission.
- There are of course design restrictions such as the flood plain, natural areas, the railway and road ROW's that need to be addressed. Revisions to the current proposal will most likely be required.

Kevin Hall Senoir Project Manager
Kevin.hall@ottawa.ca

Due the to nature of the soils onsite and the presence of fill over top of peat and the report of running sand in some of the test pits and boreholes, I have recommended

that the Geotech report be peer reviewed. Due to this, comments on the Geotech report will be limited at this time and please expect further comments in the future.

Karson Subdivision Serviceability and Conceptual Stormwater Management Plan dated June 2023:

Section. Please explain why a watermain of 150mm has been proposed for this site Section 4.2. I disagree with the calculations and assumptions used to calculation the existing water consumption of the property. There are existing water records available to use to calculate the historical water consumption this site. Using 28,000l/ha/day is a high level tool for calculating proposed consumption. I would not expect the former office to meet these flows. These comments apply to the sanitary calculations. Section 5.4. How do you know that there is capacity down stream of this site? What reports were used as reference ? What calculations were complete other than calculation that these flows are less than 2% of the flows of the 450mm in Carp Road. I believe that there are capacity constraints in the ultimate buildout of the village closer to the pump station. Will the redevelopment of this site be affected by those constraints or will this site negatively affect any future downstream constraints? I think there should be some discussions as to which pumpstation these flows outlet to, and are there any capacity issues?

Geotechnical Investigation, Proposed Mixed Use Development 3725 Carp Road dated April 11, 2023:

Due the challenges of the soils at this The City will be having this report peer reviewed. Please expect further comments. Since this site is next to the Carp River the City will require further goundwater elevation testing specifically in the spring months. I expect that the ground water to be higher than what is mentioned in the report.

Additional Geotechnical Comments provided December 5, 2023

1. There is mention of running sand in a number of the boreholes. The effects of the running sand on construction, grade raise and slope stability is not discussed further in the report. The use of well points is mentioned to control ground water levels on site mentioned, but I am not sure if this will control the running sand condition. Please provide further information for construction.
2. The site is currently described as silty sand and or silty clay overlaid with peat and upwards of 3m of fill placed on top of the peat. I need to know that the recommendations in the report to improve the ground or ground replacement techniques are still recommended. This will have a big effect on the construction and approval of the application.
3. There is a drawing in Appendix 2 that states the maximum elevation for the grade raises across the site. What is not clear to me is, with the silty sand and silty clay below the fill and the peat how some of the grade raises could be. How is this possible when there is up to 3m of fill currently placed over the native soils. Please confirm where the grade raise is decided from. Is the grade raise from the existing surface of the site or taken from another level below (top of peat, underside or peat). Also discuss what type of fill can be used

and the effects the different types of fill will have on the grade raise (blast rock, naïve soil, Styrofoam)

The report is described as preliminary. Please expand on the recommendations in the report to better support the design of the proposed infrastructure.

Joseph Zagorski Senoir Project Manager Infrastructure Planning
Joseph.zagorski@ottawa.ca

Karson should be credited for water and wastewater demands for their existing properties which were demolished or will be demolished as a part of new development. Short-term capacity upgrades to Carp water and wastewater facilities functional design study has been completed. It is estimated that short-term upgrades will provide additional capacity for 350 equivalent single houses units in the Carp Village and 0.2 ML/day additional water supply for Carp Airport development. City Rural Development Review Unit is responsible for capacity allocation. Timing of upgrades to TBD.

Molly Smith Planner Urban Design
Molly.smith@ottawa.ca

Completeness of Submission:

1. A Design Brief satisfying the Terms of Reference provided in the pre-consultation meeting minutes has not been provided. An analysis as identified in Section 2 has not been provided. Reference and discussion of the DPA policies is required.

2. A Landscape Plan has not been provided, as identified in the Design Brief TOR requirements. A Landscape Plan identifying site constraints and space for useable landscape areas is required given the site context.

Submission Comments:

3. Buildings orientated and fronting Carp Road are supported.

4. A 30m railway setback will have impact on the block location and proposed buildings, please update the concept plan to reflect this setback.

5. It appears given the site constraints and requirements from the SP and CDP, that the proposed housing typology is too much for the site. While a diverse housing stock is supported, the concept plan must work with the existing environmental and site constrains of the site.

6. Site layout should be simplified. Consider removing Building D and E for open space designation.

7. Please elaborate on how these lifestyle units function. It appears that there are rear at-grade terraces? If so, how much space would there be for commercial spaces fronting Carp if there is residential on the ground floor?

8. Given the concept is seeking a plan of subdivision, a public road should be sought rather than private.

9. Parking should not be located in the floodplain.

10. There should not be any designated open space in the floodplain

Josiane Gervais Project Manager Transportation
Josiane.gervais@ottawa.ca

Transportation: Proposed Development 3711, 3715, 3719 and 3725 Carp Road Transportation Impact Assessment, prepared by Novatech, Consultant's Ref #R-2023-055, dated May 2023.

Draft Plan of Subdivision, prepared by Novatech, Consultant's Project #121173, dated March 31 2023. Concept Plan 6, prepared by Novatech, Consultant's Drawing #121173-CP6, dated March 21 2023.

Transportation Engineering Services

Right-of-Way (ROW) Comments:

1. ROW comments from previous circulation have not been addressed. ROW comments were as follows:

   a) Carp Road adjacent to the site has a 23m ROW protection requirement per Schedule C16 of the Official Plan. This ROW protection is illustrated incorrectly in Appendix A of the TIA. Per Policy 2.1.1 (a) of Schedule C16, "land for a road widening shall be taken equally from both sides of the road, measured the centreline in existence at the time of the widening. The centreline is a line running down the middle of a road surface, equidistant from both edges of the pavement". Therefore, the draft plan should show the centreline of Carp Road, and identify/dimension the edge of the protected ROW located 11.5m from the centreline.

   b) In addition to the typical ROW protection requirements for Carp Road, the City of Ottawa requires additional ROW widening due to the proximity of the Renfrew Rail Corridor's crossing of Carp Road. Refer to Policy 2.1.1 (f) of Schedule C16: "The City may require dedication of land for road right-of-way widening where there is an existing railway at-grade crossing or future rail crossing of a city road. This land will be in the shape of a triangle, at each corner of the crossing. Where a road and railway line cross, the maximum length of the triangle along the road will be in the range of 170 metres, and the maximum width of the triangle measured from the road will

be in the range of 15 metres unless otherwise determined in a specific study. This land may be used to construct a grade-separated crossing at some time in the future. Detailed City-approved engineering requirements will establish the exact requirements for such widening of various types of roads where there is a rail line crossing".

2. 6.1 Development and Access Design and Section 6.2 Boundary Streets: The site currently has a wide (approximately 30m in width) driveway on the south end of the site. As part of site development this existing driveway will need to be removed and the existing depressed curb replaced with full height curb. As part of this work, provide a 2.0m-wide sidewalk in front of Building A to allow for pedestrian connections directly from Building A to the public sidewalk network.

Traffic Signal Design

3. No comments for this current circulation. Traffic Signal Design Unit reserves the right to make future comments based on subsequent submissions.

4. If there are any future proposed changes in the existing roadway geometry that would require the installation of a pedestrian crossover (Type B or Type C), the signalization of an intersection or modifications to an existing signalized intersection, the City of Ottawa Traffic Signal Design Unit would be required to complete a traffic signal plant design and would need to be engaged in reviews during the functional design stage.

Traffic Engineering

5. No comments.

Streetlighting

6. No comments with the TIA for this circulation. Street lighting reserves the right to make future comments based on subsequent submissions.

7. Future considerations are as follows:

    a) If there are any proposed changes to the existing roadway geometry, the City of Ottawa Street Light Asset Management Group is required to provide a full street light design. Upon completion of proposed roadway geometry design changes, please submit digital Micro Station drawings with proposed roadway geometry changes to the Street Lighting Department, so that we may proceed with the detailed street light design and coordination with the Street Light maintenance provider and all necessary parties. Be advised that the applicant will be 100% responsible for all costs associated with any Street Light design as a result of the roadway geometry change.

b) Alterations and /or repairs are required where the existing street light plant is directly, indirectly or adversely affected by the scope of work under this circulation, due to the proposed road reconstruction process. All street light plant alterations and/or repairs must be performed by the City of Ottawa's Street Light maintenance provider.

Transit Services

8. Comments were not provided.

Road Safety

9. If a signal is considered at the Donald B. Munro Drive and Carp Road intersection this will require further review with respect to proximity to the rail line and consideration for upgrades to the existing warning systems (per Transport Canada Grade Crossing Standards).

10. The driveway proposed into the new development is right around 30m from the nearest rail which may also trigger additional warning systems.

11. All Transport Canada Standards & Regulations related to at-grade crossings should be reviewed and considered as part of the development process.

12. TIA Section 2.0 speaks to future zoning bylaw amendments with respect to a reduced railway setback which has not yet been filed but will be required as part of this Planned Unit Development.

Transportation Planning

13. The ROW protection for the segment of Carp Road adjacent to the property is 23.0m, and it should measure from the centre line of the road. This is a function of future reconstruction, the relationship to the curb and the bridge's location further south. A survey plan will confirm this.

14. The ROW for grade separations should be maintained. This is to protect for future and changing rail operations and the need for traffic signalization at the Donald B Munro & Carp Road intersection. Novatech has been made aware of this requirement. To provide any relief the merits of future scenarios must be assessed; Novatech is aware of this requirement.

Development Review – Transportation

1. The above comments relate to the ROW protection, draft plan and future site plan design.

2. There are no further comments on the TIA study itself, the study is considered adequate.

Noise Impact Assessment:

Transportation Noise and Vibration Assessment, prepared by Gradient Wind, Consultant's report #22-341-Transportation Noise and Vibration, dated March 20, 2023.

1. The noise study is sufficient to address the requirements of the Noise Control Feasibility Study.

2. A stationary noise study is outstanding and will be required at the time of Site Plan application.

Anissa McAlpine Parks Planner
anissa.mcalpine@ottawa.ca

Parkland Dedication:

1. The Planning Rationale omits to indicate how the application addresses the Parkland Dedication By-law. Please see the City of Ottawa's Terms of Reference for Planning Rationales. The applicant is asked to demonstrate how the proposal meets the requirements under the Parkland Dedication By-law. Describe how the proposal meets the policies in Sub-section 4.4 - Parks and Recreation Facilities, of the Official Plan and responds to the needs assessments outlined in the Parks and Recreation Facilities Master Plan. If cash-in-lieu of parkland is proposed, please provide a rationale.

2. The amount of required parkland conveyance is to be calculated as per the City of Ottawa Parkland Dedication By-law No.2022-280 (or as amended):

    i. For conveyance of parkland (residential > 18 units/net ha):
        - one hectare per 600 net residential units

    ii. For cash-in-lieu of conveyance of parkland (residential > 18 units/net ha):
        - one hectare per 1,000 net residential units

    iii. For conveyance of parkland, cash-in-lieu of conveyance parkland, or combination thereof:

        - 2% of the gross land area (commercial & industrial uses).

    iv. Where land is developed for a mix of land uses that are located on discrete parts of the site, the conveyance requirement shall be the cumulative sum for each use, as calculated using the applicable rate and based upon the portion of the site allocated to each use,

including, but not limited to, required and provided parking spaces, amenity space, landscape buffers, driveways, and drive aisles.

v. Where land is developed for a mix of uses within a building, the conveyance requirement shall be the cumulative sum for each use, as calculated using the applicable rate prorated proportionally to the gross floor area allocated to each use.

The total parkland dedication amount whether Land or CIL shall not exceed a maximum of 10% of the gross land area where less than or equal to five hectares.

Form of Parkland Dedication:

1. A detailed parkland dedication calculation is required before it can be determined in what form, land or CIL will be required, in accordance with the Parkland Dedication By-law. PFP will request the following information to confirm and calculate the parkland conveyance:

    a) Gross land area, in square meters

    b) A reference plan identifying which portion of the site, including parking and roads are used for buildings with a commercial component, and gross floor area of each.

    c) Number of residential units proposed/existing

    d) Gross floor area of proposed residential development

    e) Gross floor area of proposed/existing commercial development

    f) The proportion of commercial/residential development proposed on site.

2. *Preliminary* parkland conveyance calculations based on information provided/identified in the pre-application consultation, is calculated to be 825 square meters.

Preliminary Parkland Dedication Calculation:

Development Type	Rate	Units or affected site area	Conveyance Requirement	Proportion of GFA for that use	Proportional Conveyance Requirement	Applicable Requirement (ha)	Applicable Requirement (sq m)

Res. > 18 units /net ha	1:1000 CILP	78 units	0.078	N/A	N/A	0.078	780
mixed use Commercial	2% of the GLA	0.752 ha estimate	0.015	30.00% estimate	0.0045	0.005	45
Total							**825**

General Comment:

1. Please note that at the time of application for PUD, the site will be again subject to the parkland dedication by-law. Any change in product or increase in unit number may result in the requirement to provide additional parkland dedication in accordance with the By-law.

2. Where Cash in Lieu of Parkland is appropriate, the Owner acknowledges and agrees to pay cash-in-lieu of parkland as a condition of draft approval. The Owner shall also pay the parkland appraisal fee, currently, $800.00 plus H.S.T. of $104.00.

Reference Documents:

- Please review the following City of Ottawa reference documents which outline the requirements for parkland conveyance and/or cash-in-lieu of parkland.
    - Official Plan (2021)
    - Parks and Recreation Facilities Master Plan (2021)
    - Park Development Manual, 2nd edition
    - Parkland Dedication By-Law (2022-280) and Planning Act amendments
    - City of Ottawa Standard Parks Conditions

Please note that the park comments are preliminary and will be finalized (and subject to change) upon receipt of any revisions to the subdivion and the requested supporting documentation.

Meredith Beach Coordinator, By-laws & Applications Building Code Services

meredith.beach@ottawa.ca

A private road naming agreement will be required for the subject development. Please advise the developer of this requirement.

Vahid Arasteh, Specialist, Environmental Remediation Environmental Remediation Unit, Corporate Real Estate Office
Vahid.arasteh@ottawa.ca

Phase I ESA, Paterson, 30 Jan 2023:

- The report needs to be updated with an HLUI.

The phase I ESA has recommended completion of a phase two ESA, but I cannot see a phase two ESA report uploaded onto the DevApp. An O. Reg. 153/04 compliant phase two ESA needs to be submitted for review.

Also, due to the proposed land use change to a more sensitive use (i.e. industrial / commercial to residential), filing an RSC is required prior to issuing a building permit. I have copied BCS here due to the RSC requirement.

Mercedes Liedtke Environmental Planner Mississippi Valley Conservation Authority
mliedtke@mvc.on.ca

The staff of Mississippi Valley Conservation Authority (MVCA) has reviewed the above noted application for concerns related to natural hazards for the subject property and surrounding lands. The scope of the natural hazards review includes flood plain, wetlands, unstable slopes and unstable soils. The MVCA has reviewed the subject application in the context of:

- Section 1.6.6 Stormwater, and Section 3.1 Natural Hazards of the Provincial Policy Statement under Section 3 of the Planning Act.

- The “Development, Interference with Wetlands and Alteration to Shorelines and Watercourses” regulation 153/06 under Section 28 of the Conservation Authorities Act.

The following comments are offered for your consideration:

Summary of Proposal

The proposal is a Planned Unit Development (PUD) and PUD is not permitted in the zoning. A future minor Zoning By-law Amendment will be required to permit a PUD but is not being made at this time.

The Subdivision Draft Plan consists of blocks for the buildings, the private street network, the riverside open space and street widening. Conceptually, a three-storey mixed use development is proposed. It will comprise of two buildings fronting on Carp Road containing a total of 18 Lifestyle Units which have ground floor commercial use with two levels of residential above. Behind these are five buildings containing a total of 60 stacked dwellings. Vehicular and pedestrian access is from Carp Road and access through the site is via private streets.

Property Overview

The subject site is located on the west side of Carp Road on the north bank of the Carp River and is approximately 2.28 ha in size. Historically the site has been developed with several detached dwellings. Between 1976 and 2014 the lands were occupied by the office/depot for Karson Cartage. By 2015 all the houses and the depot buildings had been removed and is currently vacant.

Natural Hazards

Floodplain

Portions of the property are located within the 1:100-year floodplain of the Carp River. The subject property has historically received approval to modify the floodplain from the flood line originally approved for the Carp River in December 1983. MVCA issued permit W10/04 on July 15, 2010 to complete a balanced cut and fill works on the subject property. A Zoning By-law Amendment (2012-144) was approved on May 8, 2012 amending the flood hazard on the site. Based on the approved cut and fill work and the Zoning By-law Amendment, a site-specific exception for the site was added to the Zoning By-law, and an Official Plan Amendment was approved to add a site-specific exception to the Official Plan. The exception permits parking spaces, aisles and driveways within the floodplain overlay hazard, provided such development is undertaken in accordance with Policy 12 of Section 4.8.1 of the Official Plan for the City of Ottawa. Although current MVCA mapping does not reflect the floodplain modification resulting from the approved cut and fill and Zoning By-law Amendment, MVCA issued a memo Request to review grading and fill and hazard extents along the Carp River at 3725 Carp Road dated February 17, 2021 to Novatech. This stated that “MVCA notes that the hazard limit as delineated in As-Built 101058-FP-ASB will be used for administration of any future proposals related to development on the site until the MVCA Hazard mapping is updated and approved by the MVCA Board of Directors”. The MVCA hazard mapping was not updated for this site as work had already commenced on updating the entire reach of the Carp River. The 1:100-year floodplain for the subject property has been interpolated onto the conceptual grading plan as 92.47m. MVCA is currently undertaking an update to the Carp River hazard mapping, with a projected completion during the first quarter of 2024. Based on the preliminary draft Carp River floodplain mapping data, there may be a discrepancy with the 100-year inundation boundary on the site. The 1:100-year elevation of 92.47m is delineated on the submitted plans. Preliminary analysis indicates that additional fill placement may be required in order to remove small portions of the proposed building locations from the new MVCA Carp River 1:100-year floodplain so that any development is located outside the hazard. Once the new mapping is approved it can be resolved at detailed design.

Meander Belt

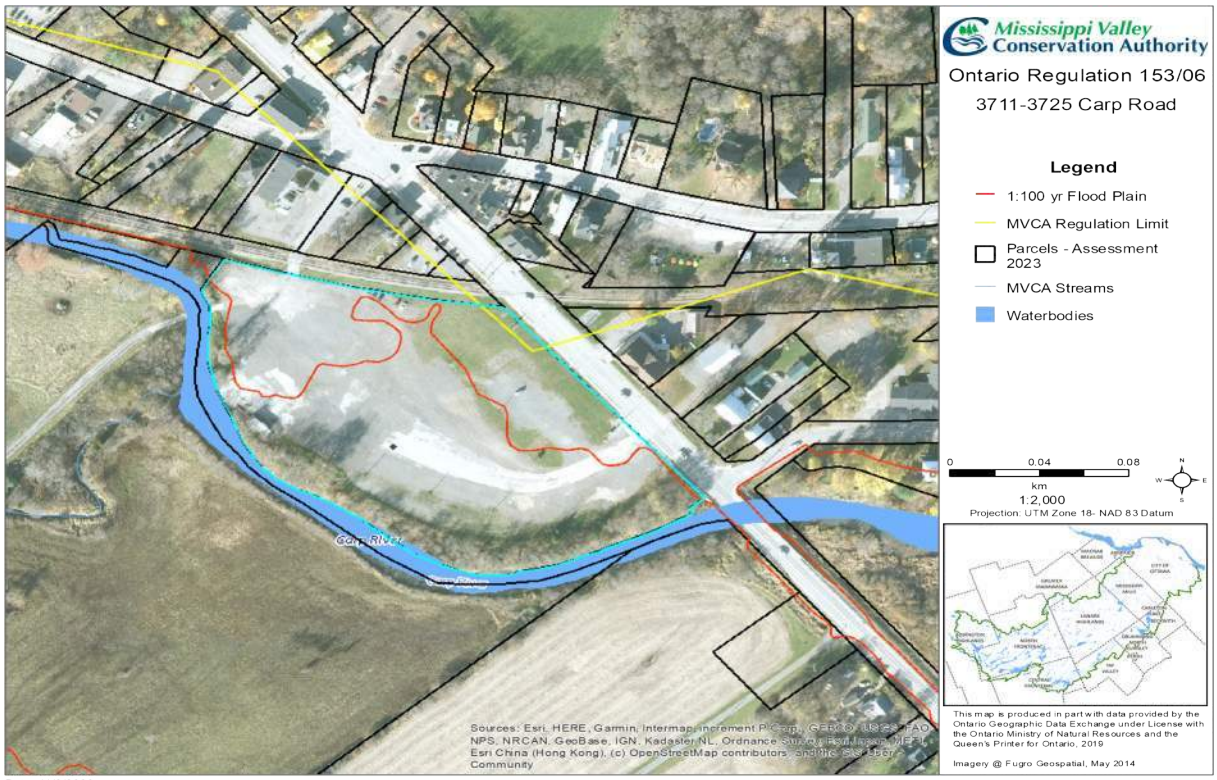
The subject property also contains meander belt hazards in relation to the Carp River. The meander belt hazard is determined by 20x the bankful width of the watercourse. MVCA does not permit new development within the meander belt hazards. As per Erosion Hazard Limit for Karson Construction Head Office in Carp, ON, prepared by Parish geomorphic Ltd., dated October 5, 2009 (Addendum dated January 19, 2020), the Limit of Hazard Lands setback was defined as 25.5 m (i.e., toe erosion allowance (13.5 m) + stable slope allowance (6 m) + erosion access allowance (6m)) from the Carp River.

Ontario Regulation 153/06

At this time, with MVCA's current mapping the entire property is regulated under Ontario Regulation 153/06 – Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Written permission is required from the MVCA prior to undertaking works within these regulated areas, and their regulation limits as defined by MVCA. MVCA requires development located within 15m of the 1:100-year floodplain to be floodproofed. The applicant will need to demonstrate that the buildings have been designed for dry passive flood proofing for an elevation of 0.3m above the 1:100-year floodplain. As per section 6.1.2 of MVCA's Regulation Policies, Parking Lots, Driveways and Roads, to minimize the amount of fill and grading used in the construction of the parking lot, driveway or roadway, the Authority will require at-grade construction of parking facilities within the floodplain. The construction of parking within the floodplain will require a permit from the Conservation Authority. On the grading plan, please demonstrate that all proposed parking and access areas will not be subject to more than 0.3 metres depth of flooding during a 1:100-year flood event.

Conclusion

MVCA does not object to Plan of Subdivision application D07-16-23-0008 as currently proposed. The grading and floodproofing details can be resolved at detailed design.



Date: 11/2/2023

Mark Tarrant Land Use AERONAUTICAL INFORMATION MANAGEMENT NAV CANADA I
anduse@navcanada.ca

Thank you for your submission, your Land Use file number is 23-3500. Please reference this number for all transactions on this submission. In order to assess this project for possible impacts to the air navigation system, ground elevation and maximum overall structure above ground elevations are required. Please provide elevation drawings for the structures and a topographic survey of the proposed project area. At NAV CANADA, we are currently working on different ways to diminish our turnaround times. Please note that we currently have the following time frame published on our website: Processing times vary, but NAV CANADA attempts to respond within 8 to 12 weeks of receiving a complete proposal. The accuracy and completeness of the initial documentation and your cooperation and promptness in remedying deficiencies or inaccuracies will help to expedite the review process. If you have any questions or would like an update of your file, please do not hesitate to contact us.

Bell Canada Juan Corvalan Senior Manager - Municipal Liaison Email: planninganddevelopment@bell.ca

We have reviewed the circulation regarding the above noted application. The following paragraphs are to be included as a condition of approval:

Bell Canada Condition(s) of Approval

1) The Owner acknowledges and agrees to convey any easement(s) as deemed necessary by Bell Canada to service this new development. The Owner further agrees and acknowledges to convey such easements at no cost to Bell Canada.

2) The Owner agrees that should any conflict arise with existing Bell Canada facilities where a current and valid easement exists within the subject area, the Owner shall be responsible for the relocation of any such facilities or easements at their own cost.

Upon receipt of this comment letter, the Owner is to provide Bell Canada with servicing plans/CUP at their earliest convenience to planninganddevelopment@bell.ca to confirm the provision of communication/telecommunication infrastructure needed to service the development.

It shall be noted that it is the responsibility of the Owner to provide entrance/service duct(s) from Bell Canada's existing network infrastructure to service this development. In the event that no such network infrastructure exists, in accordance with the Bell Canada Act, the Owner may be required to pay for the extension of such network infrastructure.

If the Owner elects not to pay for the above noted connection, Bell Canada may decide not to provide service to this development.

Concluding Remarks:

To ensure that we are able to continue to actively participate in the planning process and provide detailed provisioning comments, we note that we would be pleased to receive circulations on all applications received by the Municipality and/or recirculations.

If you believe that these comments have been sent to you in error or have questions regarding Bell's protocols for responding to municipal circulations and enquiries, please contact planninganddevelopment@bell.ca directly.

We note that WSP operates Bell Canada's development tracking system, which includes the intake and processing of municipal circulations. However, all responses to circulations and requests for information, such as requests for clearance, will come directly from Bell Canada, and not from WSP. WSP is not responsible for Bell's responses and for any of the content herein.

Hydro One : Dennis De Rango Specialized Services Team Lead, Real Estate Department Hydro One Networks Inc.
Dennis.DeRango@HydroOne.ca

We are in receipt of your Site Plan Application, D07-16-23-0008 dated August 28th, 2023. We have reviewed the documents concerning the noted Plan and have no comments or concerns at this time. Our preliminary review considers issues affecting Hydro One's 'High Voltage Facilities and Corridor Lands' only. For proposals affecting 'Low Voltage Distribution Facilities' please consult your local area Distribution Supplier.

Community Associations

Friends of the Carp River (FCR)

1. This is an opportunity to remove an eyesore from the entrance to the village, remediate contaminated land, add medium density housing to Carp, and showcase the Carp River with a pathway along the buffer strip that will be improved with native plants." The FCR has three main points it believes should be required with approval of the project. The FCA would like to see the creation of a pathway in the floodplain's 30-metre buffer area must be part of the project.

   The city must require a community pathway along the river as part of site plan approval. As the application notes, a pathway along the river at this site is included in the 2012 Carp Community Design Plan, but for some reason the application has punted its creation to some indefinite future action. The best, and cheapest, time to construct such a pathway is when there is equipment on the site and when the buffer area is being remediated with native plantings as per the Environmental Impact Statement. The site is a nesting habitat for snapping turtles, already on the atrisk species list, and they must be respected. Suitable nest area(s) must be constructed to replace the nesting area being lost. As part of the buffer strip improvement, two or three turtle nesting sites should be created. The proposed location lies within a Source Water Protection Area. Care must be taken with how the site's contamination is dealt with during construction. When serving as a depot for Karson Cartage the site was previously used as a garage and fuel storage area. Given the site's soil contamination, care must be taken to protect both the river and Carp's municipal well head in the village during construction.

Public Comments

1. Can you please tell me how many Affordable/Deeply Affordable housing units are included in this proposal.

2. Background: Historically, villages are identified by the variety of small scale property facades closely facing the street. These properties express the collective individuality of the village residents joined together in a shared living experience. Larger development patterns which affect comparatively big chunks of the streetfront disrupt this commonality and introduce overly large, inconsistent housing forms. Stittsville's front street suffers from this problem to an exceptional degree. Entering the Village of Carp could quickly become a, 'Welcome to my low rise development' experience.

   Many adaptations of housing form can help amerialerate this impact, including; lowering and moving the housing forms to the street creating a front yard for the development which recognizes and respects the sidewalk. Avoiding

overshadowing the front street. Adequate parking provided off street under solar collectors to announce the developers understandable concern for energy efficiency and the environment. Trees of a sufficient caliper size to soften the outlines of the development. Outdoor park and recreation facilities coupled with decorative lighting standards with low level lighting ensuring protection for the night sky. The importance of the location needs to be reflected in many subtle design touches to ensure a successful integration of the buildings into the existing setting. This property announces the village of Carp and it needs to look that way!

Architecture: The site under discussion is virtually the first property any traveller encounters upon entering the Village on the primary artery of the Carp Road from the South. The impact of the streetscape is both critical and inevitable. As a result the street aspect of any development must be carefully considered. The current application does not provide sufficient information for a reasonable reviewer to assess the impact of the proposal. That said, the massing of five blocks of mid-rise structures across the site without sufficient information regarding parking and onsite outdoor recreation is impossible to assess.

Environment: The area is of significant importance from an environmental standpoint because of proximity to the Carp River. Every effort to control garbage and other detritus from infiltrating the watercourse needs to be taken. The potential impact of native species, particularly turtles, needs to be addressed. The property occupies a critical boundary area between the Village and the agricultural surroundings. The occupants will find themselves a considerable walk away from the established recreational facilities in the Village. Every effort should be made to provide recreational opportunities for outdoor leisure activities without putting further undesirable stress on the existing environment, field or river.

Social Impact: The 'Downtown' area of the Village is already under significant and increasing environmental stress. These include but are not limited to the following: A serious lack of parking which is worsening year over year with no adequate future plan in place. Increased employment, shoppers, visitors and tourists, and the increasing population of the Village is putting the road system under stress. The Firehall is a critical service which is immediately compromised by increased vehicular traffic unable to park. Pedestrians increasingly walk dogs through the Village. These pets are frequently unleashed and invariably relieve themselves along the arteries where they walk frequently without adequate cleanup from their owners. Garbage and filth are increasing. Environmentally compromising industries reliant on heavy trucks pass through the Village constantly. A Car Wash and Dry Cleaning facility as well as inadequate stormwater removal from the land and roadways. Overhead wires and winter snow removal, frequently by grossly oversized machines, reliant on excessive salt to encourage snow melt, compromises City trees and other plant life.

Next Steps: The population of Carp is growing. There has been insufficient planning and communication regarding the future water resource capacity of the village, sewage removal, parking and urban transit, environmental degradation and stormwater management. In short, we need more information to adequately comment on this proposal.

3. Please recognize that the entire proposal is inadequately developed. It is incumbent upon the City, and your Office in particular, to ensure that developers are required to take the City guidelines seriously.

   The traffic study fails to capture the traffic increase into the Village of Carp along the Carp Road and simply does not reflect reality. This is not to suggest that the work that has been done is inaccurate but rather inadequate. No casual observer of the current situation could consider the implementation of turning lanes, restricted by a bridge and a railway right of way, on a major thoroughfare, a reasonable proposal.

   Similarly, the environmental overview fails to identify several species, some at risk, or address the boundary condition of the river bank in anything but the most cursory manner. This river bank has been seriously degraded by the previous usage of the property and requires restoration. The property is also certainly impacted by the 130 year flood plain and represents a risk threshold that fails to recognize, or respond to climate change. Not the sort of message your Office wants to be sending the development community.

   The development proposed most certainly does not conform to the spirit of the Carp Community Design Plan and fails to respond to the historic development patterns of the Village. Indeed, the document has been referenced as though by a child wanting to complete an assignment expending the least possible effort.

   We totally agree with the proponents that pedestrian access to the river needs to be restricted in order to preserve the existing, and threatened, environment. The placement of the garbage disposal immediately adjacent to this area of the property contradicts the developers justifiable concern. We also recognize the lack of recreational opportunities being offered in the plan. There are no recreational facilities incorporated by the developer and the population pressure placed on the surrounding lands have not been mitigated in any way.

   The complete lack of information regarding the ultimate appearance of the development, without elevations or so much as a rendering, makes it impossible to contemplate the impact of the future development on such an important piece of property. The prominent location will undeniably have a far reaching impact on the overall appearance of the Village.

   On a more macro level, we have no information regarding the ultimate disposition of the railway. The City owns the right of way. This suggests that some form of future transit is contemplated. How and where would the Village

incorporate the necessary parking, already an increasing problem, for such a facility?

Forward planning is required! Send these documents back for further enhancement before placing them in front of the public for comment. The Planning Department's willingness to accept this level of sophistication for such a critical development erodes this process at its root

4. It was my understanding that the city plan for Carp included more retail with a small amount of housing and that this site was planned for mostly retail, instead it's switched to more housing and no services. Carp needs a grocery store, other retail and services (bus service anyone!?) FAR more than it needs more housing! Adding more people who all have to depend on the same already-inadequate infrastructure to access their needs is ruining Carp. Please help us be less dependent on our cars, we already have to drive 15+ km to get groceries. Not a very "livable" part of the city

Jeff Ostafichuk
Planner
Development Review - Rural Services
Examen des demandes d'aménagement (Services ruraux)
City of Ottawa | Ville d'Ottawa
613.580.2424 ext./poste 31329
Fax 613.580.2576
ottawa.ca/planning / ottawa.ca/urbanisme

cc: Adam Brown
Kevin Hall
Joseph Zagorski
Molly Smith
Josiane Gervais
Anissa McAlpine
Meredith Beach
Vahid Arasteh
Mercedes Liedtke
Chris Karson

July 8, 2024

City of Ottawa
Planning, Real Estate and Economic Development
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1

Attention: **Kevin Hall, C.E.T., - Development Review - Rural Services**

Reference: **3711-3725 Carp Road Draft Plan and Zoning By-law Amendments**
Response to Subdivision Serviceability and Conceptual Stormwater Management Plan Comments
Our File No.: 121173

Novatech is providing the following revised report in response to City of Ottawa comments (revised dated December 5, 2023) on the Kason Subdivision Serviceability and Conceptual Stormwater Management Plan.

Karson Subdivision Serviceability and Conceptual Stormwater Management Plan revised March 2024:

The City of Ottawa comments are provided in black with Novatech responses in blue.

- Please explain why a watermain of 150mm has been proposed for this site Section 4.2.

  The watermain is described in Section 4.3 Proposed Domestic Demand of the revised report.

- I disagree with the calculations and assumptions used to calculation the existing water consumption of the property. There are existing water records available to use to calculate the historical water consumption this site. Using 28,000l/ha/day is a high level tool for calculating proposed consumption. I would not expect the former office to meet these flows.

  The existing water demand analysis has been expanded to include historical (legacy) water demand. Refer to section 4.2 Existing Water Demand of the revised report.

- Section 5.4. How do you know that there is capacity down stream of this site? What reports were used as reference? What calculations were complete other than calculation that these flows are less than 2% of the flows of the 450mm in Carp Road. I believe that there are capacity constraints in the ultimate buildout of the village closer to the pump station. Will the redevelopment of this site be affected by those constraints or will this site negatively affect any future downstream constraints? I think there should be some discussions as to which pumpstation these flows outlet to, and are there any capacity issues?

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

Discussion of the Village servicing capacity and the downstream sanitary sewer capacity have been further expanded with information provided by City of Ottawa and a review of the single family unit equivalents for pending and proposed developments. Refer to Sections 3.0, 5.4 and 5.5 of the revised report.

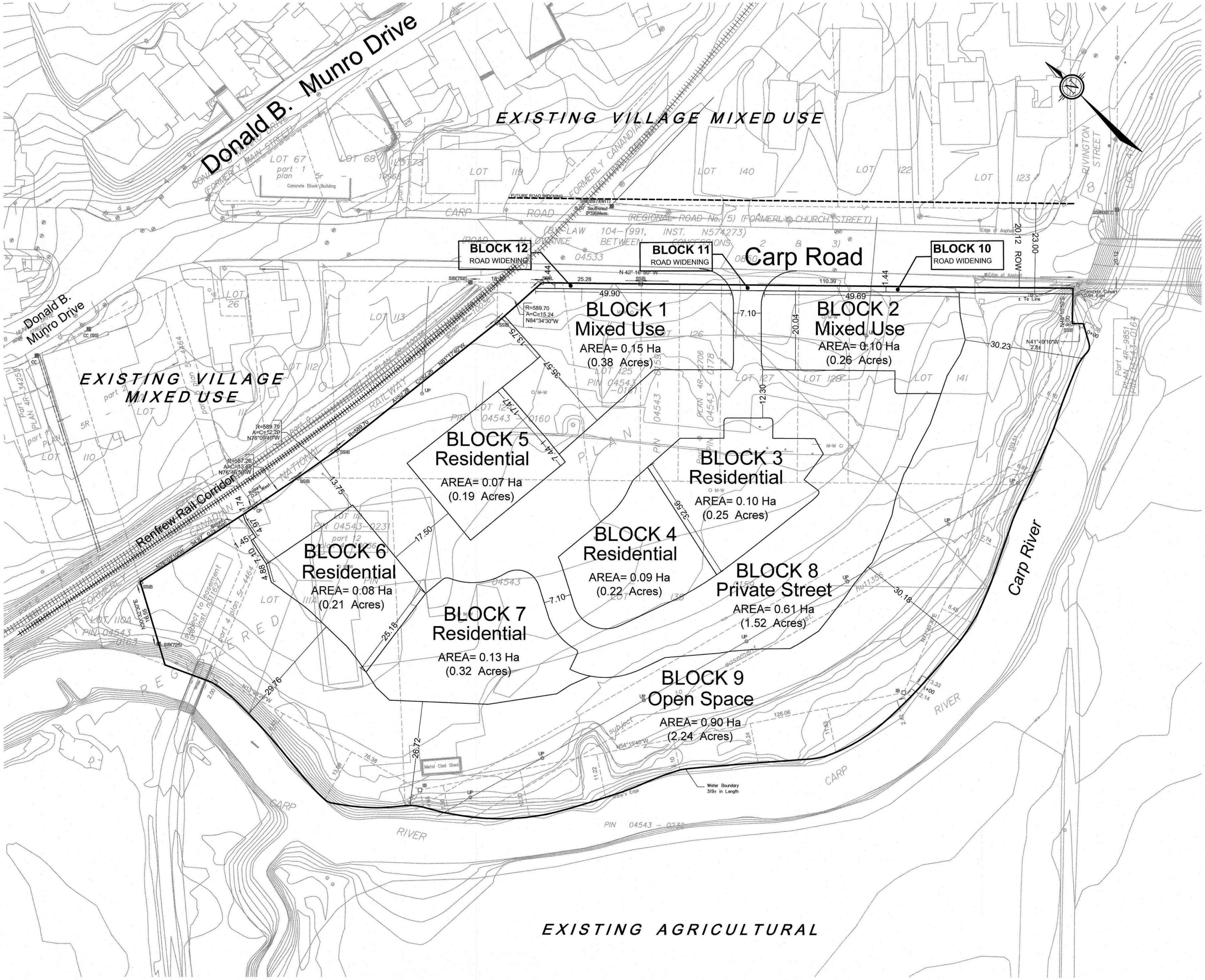
Sincerely,

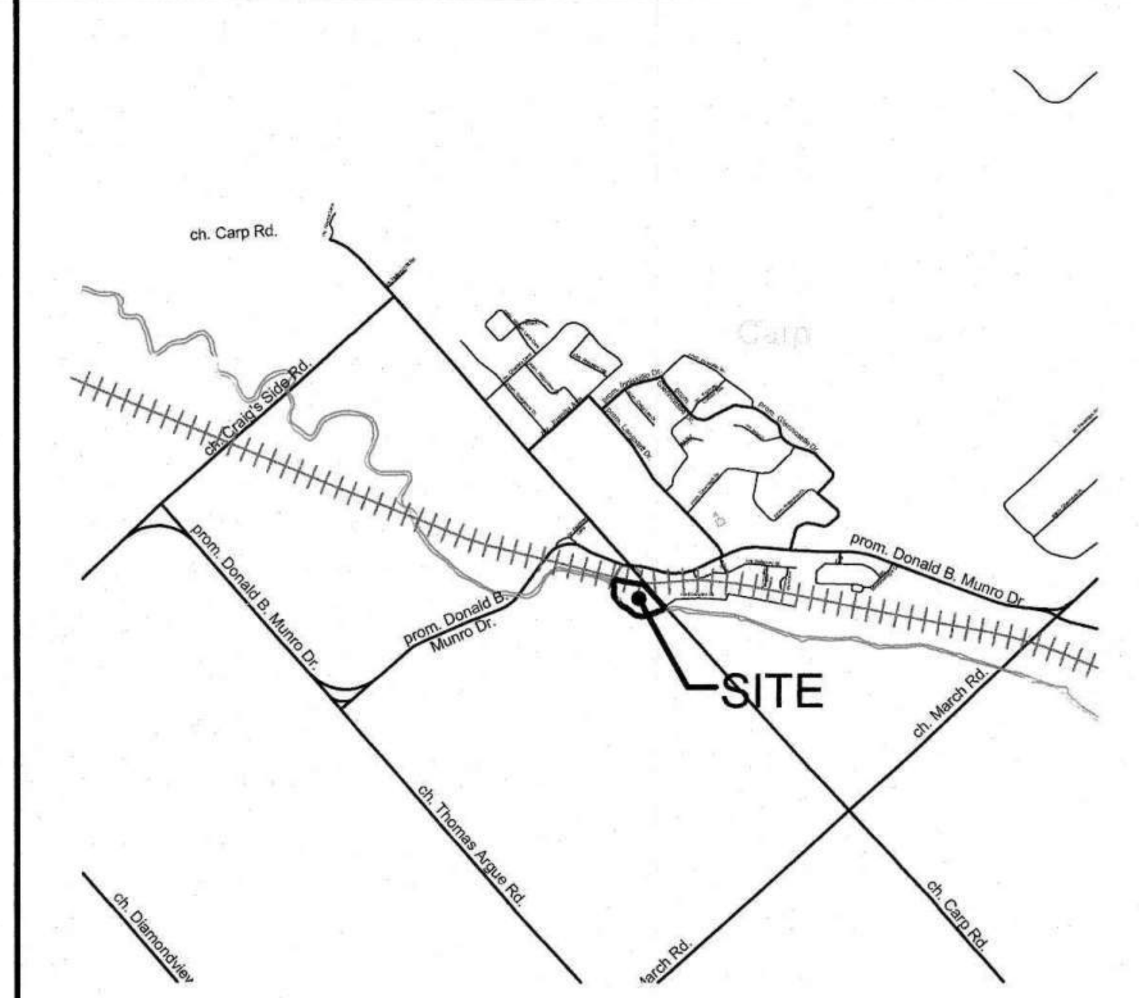
NOVATECH

Lisa Bowley, P.Eng.
Senior Project Manager
Land Development Engineering

cc: Jeff Ostafichuk – City of Ottawa

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com





KEY MAP
NOT TO SCALE

METRIC : MEASUREMENTS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

DRAFT PLAN OF SUBDIVISION OF

LOTS 111A, 124, 125, 126, 127, 128, 135
AND PART OF LOTS 112, 141
REGISTERED PLAN 218
CITY OF OTTAWA

Scale 1 : 500

20 15 10 5 0 10 20 Metres

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJOINING LANDS ARE CORRECTLY SHOWN.

DATED March 31, 2023

J. Cody Anderson
ONTARIO LAND SURVEYOR

Annis, O'Sullivan, Vollebekk Ltd.
ONTARIO LAND SURVEYORS

Job No. 23130-23

OWNER'S CERTIFICATE

I/WE, KARSON HOLDINGS INC.,BEING THE REGISTERED OWNER(S), HEREBY AUTHORIZE NOVATECH TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF OTTAWA FOR REVIEW AND APPROVAL.

DATED ____________________

____
owner name

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT.

A) The boundaries of the land proposed to be subdivided, certified by an Ontario land Surveyor;
As shown on Draft Plan

B) The locations, widths & names of the proposed highways within the proposed subdivision & of existing highways on which the proposed subdivision abuts;
As shown on Draft Plan

C) On a small keyplan, on a scale of not less than 1cm to 100m, all of the land adjacent to the proposed subdivision that is owned by the applicant or in which the applicant has an interest, every subdivision adjacent to the proposed subdivision & the relationship of the boundaries of the land to be subdivided to the boundaries of the township lot of other original grant of which the land forms the whole part;
As Shown on Draft Plan

D) The purpose for which the proposed lots are to be used;
Residential and Mixed Use shown on Draft Plan

E) The existing uses of all adjoining lands;
Village Mixed Use and Agricultural shown on Draft Plan

F) The approximate dimensions & layout of the proposed lots;
As shown on Draft Plan

G) Natural & artificial features such as buildings or other structures or installations, railways, highways, watercources, drainage ditches, wetlands & wooded areas within or adjacent to the land proposed to be subdivided;
As shown on Draft Plan

H) The availability and nature of domestic water supplies;
Development will be supplied with full municipal piped water service

I) The nature & porosity of the soil;
Refer to Geotechnical Report submitted with application

J) Existing contours or elevations as may be required to determine the grade of the highways and the drainage of the land proposed to be subdivided;
Contours shown at 0.25 metre intervals on Draft Plan

K) The municipal services available or to be available to the land proposed to be subdivided;
Development will be supplied with full sanitary and storm water sewer services.

L) The nature & extent of any restrictions affecting the land proposed to be subdivided, including restrictive covenants or easements. 1994, c. 23, s. 30; 1996, c. 4, s. 28 (3).;
As shown on Draft Plan.

3725 CARP ROAD

SOURCE REFERENCE:
Legal Information: *Plan of Survey*
Annis O'Sullivan Vollebekk Ltd. / March 17, 2023
Topographic Information: *1:1000*
City of Ottawa / 2015 / MTM Zone 9, NAD83_Orig

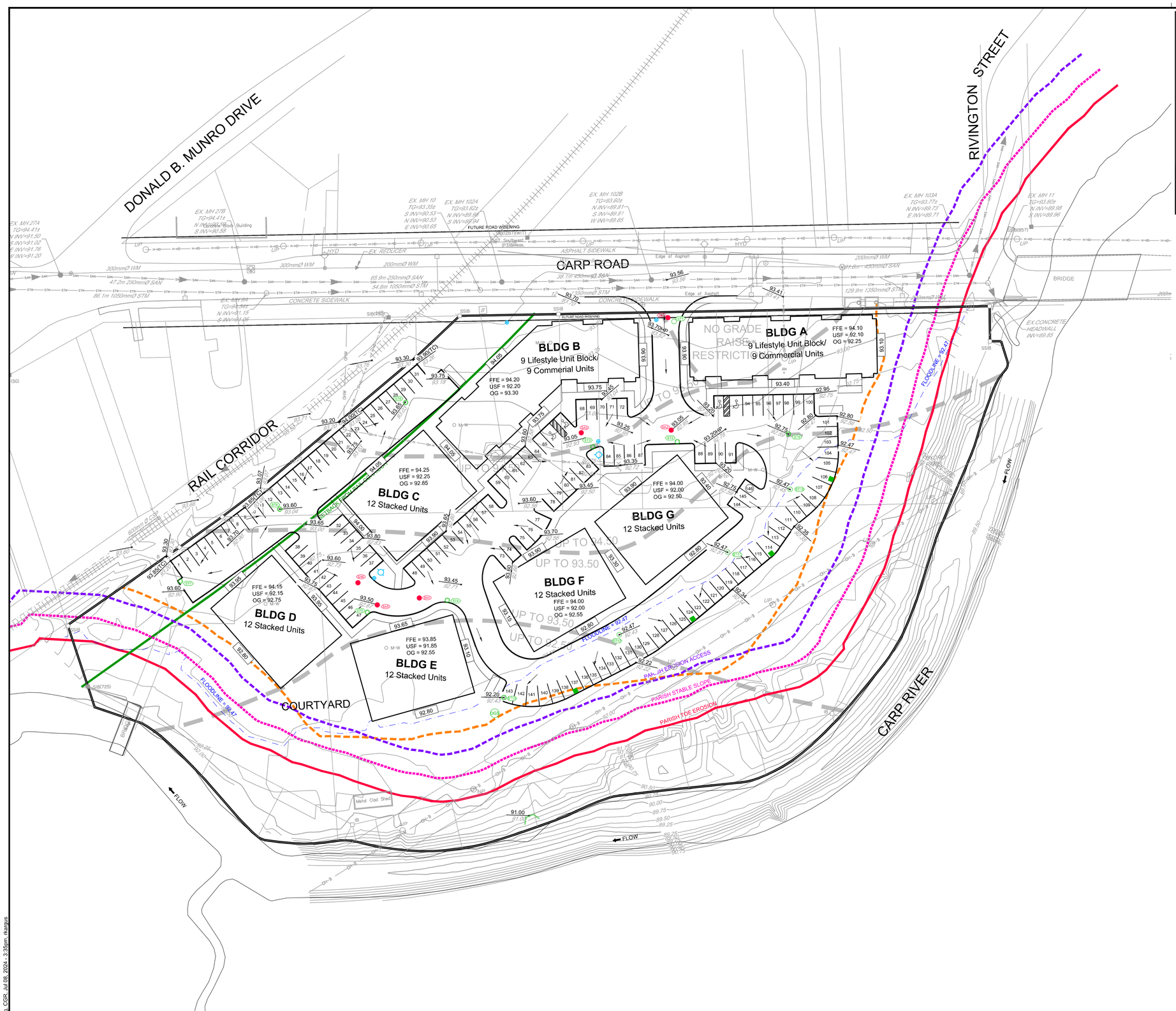
SUBJECT TO THE CONDITIONS, IF ANY, SET FORTH IN OUR LETTER DATED __________, THIS DRAFT PLAN IS APPROVED BY THE CITY OF OTTAWA UNDER SECTION 51 OF THE PLANNING ACT THIS _____ DAY OF _______, 20___

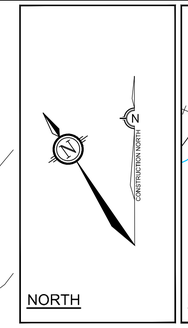
____

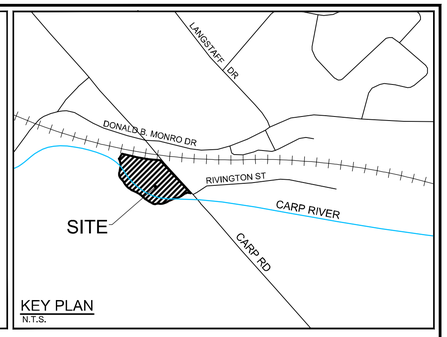
DERRICK MOODIE, MANAGER
DEVELOPMENT REVIEW WEST
PLANNING, INFRASTRUCTURE AND ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

PROJECT No. 121173







LEGEND

- PROPERTY BOUNDARY
- 1:100 YEAR FLOODPLAIN ELEVATION 92.47 AS FILLED (INTERPOLATED FROM NOVATECH SURVEY OCTOBER 2020)
- 30m SETBACK FROM CARP RIVER
- EROSION ACCESS LIMIT (PARISH ENGINEERING)
- STABLE SLOPE LIMIT (PARISH ENGINEERING)
- TOE EROSION LIMIT (PARISH ENGINEERING)
- 15m SETBACK FROM RAIL CORRIDOR
- PROPOSED ELEVATION / *EXISTING ELEVATION*
- TERRACE ELEVATION
- GRADING DIRECTION
- PROPOSED SANITARY MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED OIL AND GRIT SEPARATOR UNIT
- PROPOSED CONCRETE HEADWALL
- PROPOSED CATCHBASIN
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- GRADE RAISE RESTRICTIONS (PATERSON GROUP)
- *EXISTING RAILWAY*
- *EXISTING SANITARY*
- *EXISTING STORM SEWER*
- *EXISTING WATERMAIN*
- *EXISTING OVERHEAD HYDRO*
- *EXISTING OVERHEAD BELL*
- *EXISTING WATER VALVE*
- *EXISTING HYDRANT*
- *EXISTING WATER VALVE CHAMBER*
- *EXISTING CATCHBASIN*
- *EXISTING UTILITY POLE*
- *EXISTING LIGHT POST*

SOURCE REFERENCE:

LEGAL INFORMATION: *PLAN OF SURVEY (DRAFTED)*
ARNETT, KENNERDY, RIDDELL & JASON SURVEYING Ltd. / APRIL 30, 1991
TOPOGRAPHIC INFORMATION:
NOVATECH SURVEYS FOR 3725 CARP ROAD:
- *SURVEY 10 (101058) / JANUARY 2020*
- *SURVEY 12 (101058) / OCTOBER 2020*

EXISTING INFRASTRUCTURE: *AS-BUILT PLAN - VILLAGE OF CARP CUMMUNAL WATER SUPPLY AND SEWAGE SYSTEMS / KOSTUCH ENGINEERING Ltd. / JUNE 1996*
PERMISSIBLE GRADE RAISE ELEVATIONS: *GEOTECHNICAL REPORT PG2103-01 BY PATERSON GROUP / APRIL 11, 2023*

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT (NO CHANGES)	JULY 8/24	LAB
1.	ISSUED WITH SERVICING AND CONCEPTUAL STORMWATER MANAGEMENT REPORT	JUNE 12/23	LAB

SCALE: 1:500 (1:500, 0 5 10 15 20)

DESIGN: RJK
CHECKED: LAB
DRAWN: RJK
CHECKED: LAB
APPROVED: SMG

FOR REVIEW ONLY

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
3725 CARP ROAD, CITY OF OTTAWA
KARSON SUBDIVISION

DRAWING NAME
CONCEPTUAL GRADING PLAN

PROJECT No. 121173
REV # 2
DRAWING No. 121173-CGR

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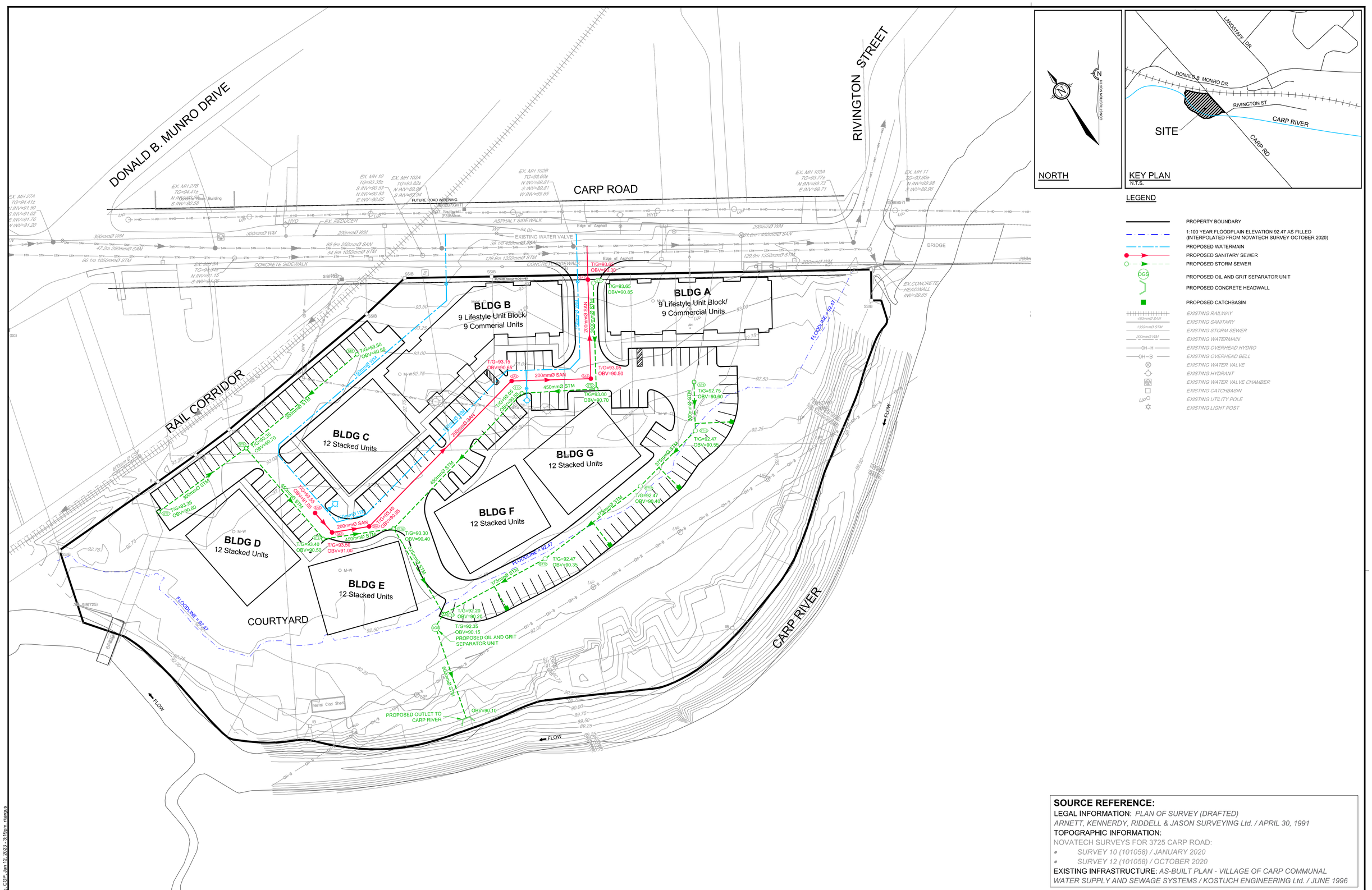

LEGEND

- PROPERTY BOUNDARY
- 1:100 YEAR FLOODPLAIN ELEVATION 92.47 AS FILLED (INTERPOLATED FROM NOVATECH SURVEY OCTOBER 2020)
- PROPOSED WATERMAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED OIL AND GRIT SEPARATOR UNIT
- PROPOSED CONCRETE HEADWALL
- PROPOSED CATCHBASIN
- *EXISTING RAILWAY*
- *450mmØ SAN EXISTING SANITARY*
- *1350mmØ STM EXISTING STORM SEWER*
- *200mmØ WM EXISTING WATERMAIN*
- *EXISTING OVERHEAD HYDRO*
- *EXISTING OVERHEAD BELL*
- *EXISTING WATER VALVE*
- *EXISTING HYDRANT*
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- *EXISTING UTILITY POLE*
- *EXISTING LIGHT POST*

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No.	REVISION	DATE	BY
2.	ISSUED WITH SERVICEABILITY AND CONCEPTUAL STORMWATER MANAGMENT REPORT (NO CHANGES)	JULY 8/24	LAB
1.	ISSUED WITH SERVICEABILITY AND CONCEPTUAL STORMWATER MANAGMENT REPORT	JUNE 12/23	LAB

SCALE
1:500
1:500
0 5 10 15 20

DESIGN RJK
CHECKED LAB
DRAWN RJK
CHECKED LAB
APPROVED SMG

FOR REVIEW ONLY

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LOCATION
3725 CARP ROAD, CITY OF OTTAWA
KARSON SUBDIVISION

DRAWING NAME
CONCEPTUAL SERVICING PLAN

PROJECT No. 121173
REV REV # 2
DRAWING No. 121173-CGP

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