Techo-Bloc Development Somme Street, City of Ottawa

Site Servicing and Stormwater Management Report

Prepared By:

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October 08, 2020

Novatech File: 120096 Ref: R-2020-096



October 08, 2020

City of Ottawa Planning, Infrastructure and Economic Development Department 110 Laurier Avenue West Ottawa, Ontario, K1P 1J1

Attention: Anissa McAlpine, Planner I, Planning Services

Reference: Techo-Bloc Development Somme Street, Ottawa, ON Site Servicing and Stormwater Management Report Our File No.: 120096

Enclosed is the 'Site Servicing and Stormwater Management Report' prepared for the proposed office and warehouse building located at Somme Street in the City of Ottawa.

This report outlines the servicing and stormwater management design for the project and is submitted in support of a Site Plan Control application.

Please contact the undersigned, should you have any questions or require additional information.

Yours truly,

NOVATECH

Greg MacDonald, P.Eng. Director, Land Development

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Appendices

Appendix A:	Pre-Consultation Correspondence
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- Appendix B: Site Plan
- Appendix C: Sanitary Flow Calculations
- Appendix D: FUS Calculations and Correspondence
- Appendix E: Stormwater Management Calculations, OGS Treatment Unit Details and Relevant Report Excerpts

Attached Drawings

120096-GS: Grading, Servicing and Erosion Sediment Control Plan120096-ND: Notes and Details Plan120096-STM: Storm Drainage Area Plan

Topographic Survey Showing Part of Block 2 Registered Plan 4M-1388 City of Ottawa (Drawing Ref No. 'GL.-517') by H.A.Ken Shipman Surveying Ltd, dated May 20, 2020

Site Plan – Techo-Bloc Development (Sheet Number A1.0) by S.J. Lawrence Architect Incorporated, dated October 08, 2020

1.0 INTRODUCTION

Novatech has been retained to prepare a Site Servicing and Stormwater Management Report for the proposed Techo-Bloc office / warehouse building and outdoor storage area, located on Somme Street within the Hawthorne Industrial Park in the City of Ottawa. This report provides the detailed design for site servicing, storm drainage and stormwater management for the proposed site, in support of a Site Plan Application for the subject development.

1.1 Location and Existing Site Description

The site is located within the existing Hawthorne Industrial Park and is legally described as Parts 2, 3, 4, 6, 7, 8 and 9 of Block 2, Plan 4M-1388. The site does not yet have a municipal address. The site location is shown in **Figure 1 (Aerial Plan).** A copy of the legal and topographic survey plan by H.A.Ken Shipman Surveying Ltd for the subject site is attached to this report.



Figure 1 - Aerial Plan provides an aerial view of the site.

Image Source: GeoOttawa, 2017 Aerial Map (City of Ottawa)

The site is approximately 2.43 hectares (ha) in area and is currently vacant. The site is bordered by Somme Street to the north, vacant undeveloped lots to the east and west and a bedrock resource area to the south. Within the adjacent site to the south, there is an existing watercourse which runs parallel to the subject site's southern property line. The existing ground surface of most of the subject site is relatively flat, with approximately a 3-4m slope down to the neighbouring property along the southern side of the site. The site is zoned Rural Heavy Industrial (RH).

1.2 Pre-Consultation Information

A pre-consultation meeting was held with the City of Ottawa on June 29, 2020, at which time the client was advised of the general submission requirements.

Refer to **Appendix A** for a summary of the correspondence related to the proposed development.

1.3 Proposed Development

The proposed development is intended to be an office / showroom / warehouse building with an associated outdoor storage area. The office / showroom component of the building is one (1) storey with a mezzanine with a building footprint of 190 m² (2,044 ft²) and the warehouse component of the building is one (1) storey with a footprint of 190 m² (2,044 ft²). The total building footprint is 380 m² (4,088 ft²) and the total gross floor area (GFA) of the proposed building is approximately 465 m² (5,000 ft²).

A surface parking lot is proposed in front of the proposed building, with access to the site via two entries from Somme Street.

Refer to **Appendix B** for a copy of the latest Site Plan (by S.J. Lawrence Architect Inc.) showing the general layout of the proposed development.

1.4 Reference Material

The following material has been consulted to develop the servicing and grading design.

- 1 "Geotechnical Investigation Proposed Commercial Building, 5123 Hawthorne Road, Ottawa, Ontario" report (PG5306-1), prepared by Paterson Group Inc., dated April 27, 2020.
- 2 "Stormwater Management Report Hawthorne Industrial Park", report (JLR 20983), prepared by J.L. Richards & Associates Limited, dated May 2009.
- 3 "Shields Creek Subwatershed Study", prepared by City of Ottawa, dated June 2004.
- 4 "Hydrogeological Report and Terrain Analysis, Somme Street (5123 Hawthorne Road), Ottawa, Ontario", prepared by Paterson Group, dated September 28, 2020.

1.5 Geotechnical Investigations

A Geotechnical Investigation Report¹ has been prepared by Paterson Group. Refer to the Geotechnical Investigation Report for sub-surface conditions, construction recommendations and geotechnical inspection requirements.

The Geotechnical Investigation Report indicates that the subsurface profile generally consists of fill material to a depth of approximately 0.6 m - 3.6 m below the existing ground surface. The fill material is underlaid by native brown silt/silty clay with occasional gravel. The bedrock, consisting of dolostone and sandstone, was found to be located at depths ranging from approximately 0.6 m - 4.7 m below the existing ground surface. Based on the boreholes as well as OGS mapping, bedrock within the subject site is anticipated to be between 0 m to 5 m below the existing ground surface, however the bedrock surface appears to be undulating and variable across the property. Bedrock removal may be required during construction of the proposed development. A supplemental field program should be completed to identify the subsoil profile within the footprint

of the proposed building and deep infrastructure areas. The subject site is not subject to grade raise restrictions.

Groundwater levels in December 2019 at three of the boreholes included in the Geotechnical Investigation Report were found to range from approximately 1.1 m - 1.3 m below the existing ground surface, but are expected to be subject to seasonal fluctuations. Based on the water levels recorded in the monitoring wells, it is expected that the long-term groundwater level is approximately 1 to 2 m below the existing ground surface. However, it is possible that the groundwater had become perched in the overburden material at boreholes BH 1 and BH 3 and that the long-term groundwater table is contained within the bedrock layer as in borehole BH 2.

The Geotechnical Investigation Report indicates that topsoil, asphalt or fill containing organic or deleterious materials should be stripped from under any settlement sensitive structures other than the building. This means that under the septic system, the existing fill must be removed and backfilled with suitable material.

1.6 Approvals

The proposed stormwater conveyance and stormwater management design will require approval from the City of Ottawa and the South Nation Conservation Authority (SNCA). A Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approval (ECA) will be required for the proposed stormwater management, as the site is zoned industrial.

The proposed septic system design will require approval from the Ottawa Septic System Office (OSSO).

2.0 SITE GRADING AND SERVICING

The objective of the site servicing design is to conform to the requirements of the City of Ottawa, to provide suitable sewage outlets and to ensure that a domestic water supply and appropriate fire protection are provided for the proposed development.

2.1 Proposed Servicing and Grading Overview

Since there are no municipal services available on Somme Street, it is proposed to service the proposed building with a drilled well and septic system.

A permeable pavement structure is proposed across the site in order to showcase a Techo-Bloc permeable paver product. Further discussion of the permeable pavement details is provided in the section below.

The site will be graded to allow stormwater to drain towards two perimeter swales via an underdrainage system and overland flow. Stormwater runoff from the proposed perimeter swales will outlet to the existing Somme Street roadside ditch. The detailed grading around the proposed building allows for drainage away from the proposed building, and towards the proposed grassed swales.

2.2 Pavement Design

The recommended permeable pavement structure for all paved areas of the site is detailed on the Notes and Details Plan (120096-ND), as follows:

Table 1: Permeable Pavement Structure

Pavement Material Description	Layer Thickness (mm)
Techo-Bloc Hydra Permeable Paver	100
Bedding Course (ASTM No. 8 / CSA 2.5-10mm)	40 - 50
Base Course (ASTM No. 57 / CSA 5-28mm)	100
Subbase Course (ASTM No. 2 / CSA 40-80mm)	550
Impermeable Membrane	N/A
TOTAL	700

The proposed pavement structure is consistent with the recommendations provided in the Geotechnical Investigation Report.

3.0 SANITARY DISPOSAL

The proposed building will be serviced by an individual sewage disposal system (septic system) in accordance with the recommendations of the Terrain Analysis. The septic system location is shown on the Grading, Servicing and Erosion Sediment Control Plan (120096-GS) and is proposed to be a fully raised conventional (Class IV) tile field system based on a design flow of 1,250 L/day.

A Sewage System Permit will be required from the Ottawa Septic System Office.

Refer to **Appendix C** for details on the proposed septic system design.

4.0 WATER SERVICING

The building will be serviced by a new drilled well consistent with the recommendations of the Hydrogeological Report. The approximate location of the well is shown on the Grading, Servicing and Erosion Sediment Control Plan (120096-GS).

The well will be able to provide more than the proposed 1,250 L/day use for the development. Also, the water quality meets the Ontario drinking water standards and most of the aesthetic objectives/operational guidelines. See Hydrogeological Report for more details.

Fire storage requirements are based on the Ontario Building Code for a 'low hazard industrial occupancy' with non-combustible construction and no sprinklers. As the proposed building is less than 600 m², underground fire storage tanks are not required.

Refer to **Appendix D** for fire flow calculations and relevant correspondence with City of Ottawa Fire Services.

5.0 STORM DRAINAGE AND STORMWATER

5.1 Stormwater Management Criteria and Objectives

The site is located within the Hawthorne Industrial Subdivision, so the Hawthorne Industrial Park Stormwater Management (SWM) Report ² prepared by J.L. Richards & Associates was consulted for relevant environmental protection targets.

The subject site is located within the catchment area of the stormwater management facility (SWMF) designed and constructed for the Hawthorne Industrial Park. This SWMF is a dry pond, designed to provide water quantity control for all sites within its catchment area assuming 70% site imperviousness.

Based on the Hawthorne Industrial Park SWM Report² and the current City of Ottawa Sewer Guidelines, the stormwater management criteria and objectives for the site are as follows:

- Provide a dual drainage system (i.e. minor and major system flows).
- Control post-development flows from the site (if required) to allowable flows for storms up to and including the 100-year design event. Quantity control is required if the overall Rational Method runoff coefficient (C) for the site is greater than 0.70.
- Post-development peak flows will be controlled (if required) for storms up to and including the 100-year design event, prior to being released into the existing roadside drainage ditch system on Somme Street. This roadside ditch system drains to the Hawthorne Industrial Park SWMF, which provides quantity control.
- Design the storm drainage system to convey post-development flows for all storms upto and including the 100-year storm event.
- Provide an on-site oil/grit separator to achieve a *normal* level of stormwater quality treatment (corresponding to 70% long term removal of total suspended solids (TSS)) for all flows to the roadside drainage ditch system.
- Provide guidelines to ensure that site preparation and construction is in accordance with the current Best Management Practices for Erosion and Sediment Control.

There are no specific water balance and infiltration requirements for the site due to existing site conditions.

5.2 Existing Conditions

Under existing conditions, the 2.43 ha site is undeveloped. As per the Hawthorne Industrial Park SWM Report ², the site has previously been used to dispose of fill materials resulting from construction activities. As such, the existing condition of the site does not represent typical 'pre-development' conditions.

Stormwater flows from the site currently drain either to the existing Somme Street roadside storm drainage ditch or to the eastern and southern sides of the site.

5.3 Allowable Flows

The quantity control criteria for the subject site is to control post-development flows from the site to the allowable flows per the Hawthorne Industrial Park SWM report ² for all storm events up to and including the 100-year design event. The allowable flows correspond to an overall Rational Method runoff coefficient (C) of 0.70 for the subject site for the 10-year design event and 0.78 (allowing for a 25% increase) for the 100-year design event.

Refer to **Appendix E** for relevant excerpts from the Hawthorne Industrial Park SWM report.

As the overall runoff coefficient (C) for the proposed development of the site is 0.61 for the 10-year design event, and 0.76 for the 100-year design event, post-development flows for the site will be less than the allowable flows in the Hawthorne Industrial Park SWM report ². Therefore, flow attenuation is not required.

Refer to **Appendix E** for detailed calculations.

5.4 Post-Development Conditions

The proposed storm drainage system will consist of perimeter swales along the perimeter of the outdoor storage area and parking lot. The permeable pavement subdrainage system will outlet to the subdrains under the two perimeter swales. These swale subdrains connect into ditch inlet catchbasins at the ends of the swales, which connect directly to the oil-grit separators (OGS units). Flows which exceed the capacity of the OGS units will flow directly to the roadside ditch via riprap lined spillways. The spillways will be used for storm events which exceed the 10-year storm event and provide an overland flow route to the Hawthorne Subdivision stormwater management pond. Some undeveloped portions of the site will drain directly either to the Somme Street roadside ditch or to the existing watercourse along the southern boundary of the site, as per existing conditions.

Refer to the **Grading, Servicing and Erosion Sediment Control Plan** (120096-GS) and the **Storm Drainage Area Plan** (112096-STM) for details.

The proposed development will consist of four (4) main drainage sub-catchment areas. A brief description of these areas is as follows:

- D-1 and D-2: Direct Runoff Areas Runoff from grassed areas around the exterior of the proposed parking lot and swale will drain uncontrolled towards the existing watercourse to the southeast of the site and the Somme Street roadside ditch as per existing drainage patterns.
- S-1: Uncontrolled Runoff Area Runoff from the majority of the storage area and parking lot, the building roof and proposed landscaped areas around the building will drain to the northern perimeter swale, via the permeable pavement underdrainage system and surface sheet flow.
- S-2: Uncontrolled Runoff Area Runoff from part of the storage area and parking lot, will drain to the southern perimeter swale, via the permeable pavement underdrainage system and surface sheet flow.

The foundation drain system for the building (if required) will be connected to its own storm service from the building. A cleanout/inspection port will be provided inside the building. The proposed trench drain at the bottom of the truck dock ramp will also connect to this storm service, which discharges into the northern perimeter swale subdrain system.

The post-development flows for the site were calculated using the Rational Method and are detailed in the subsequent section of the report. Refer to **Appendix E** for detailed SWM calculations.

5.4.1 Summary of Post-Development Flows

Table 5.4-A summarizes the total post-development flows from the site for the 5-year, 10-year and the 100-year design events.

Desim	Post-Development Flows								
Design Event	D-1 (L/s)	D-2 (L/s)	S-1 (L/s)	S-2 (L/s)	Total Site Flow (L/s)				
5-Year	24	3	317	83	427				
10-Year	28	3	371	97	500				
100-Year	52	6	676	177	911				

 Table 5.4-A: Stormwater Flow Summary Table

Based on Manning's Equation, a 200mm dia. gravity storm sewer at a minimum slope of 1.0% has a full flow conveyance capacity of approximately 34 L/s, which is sufficient to convey the stormwater design flows calculated above.

The post-development flows are less than the allowable flows for the site for the 5-year, 10-year and 100-year design storm events.

5.5 Stormwater Quality Control

As per the Hawthorne Industrial Park SWM Report ², the subject site requires a *normal* level of stormwater quality treatment (70% long-term TSS removal) provided using and oil/grit separator unit. The subject site is located within the jurisdiction of South Nation Conservation Authority (SNCA). During pre-consultation the SNCA recommended that quality protection be increased to *enhanced* level (80% long-term TSS removal) as the site is within the Shields Creek. It is understood that rooftop areas are considered "clean" and runoff from the proposed building roof is not required to be treated.

Echelon Environmental have modelled and analyzed the tributary area to provide a CDS unit capable of meeting the TSS removal requirements. It was determined that a CDS Model PMSU 20_15_5m will exceed the target removal rate, providing a net annual 84% TSS removal. This CDS unit has a treatment capacity of 20 L/s, a sediment storage capacity of 0.838 m3 and an oil storage capacity of 232 L. The unit should be inspected annually and cleaned out when the

unit's sediment storage sump is approximately 85% full. Details of the proposed CDS treatment unit are included in **Appendix E.**

6.0 SITE GRADING

Most of existing site is generally flat at elevations between approximately ± 90.0 m and ± 92.2 m The bottom of ditch elevation of the existing storm drainage ditch along Somme Street on the northwestern side of the site is approximately ± 89.9 m to ± 89.2 m. There southern side of the site drops approximately 2 - 4m. Refer to plan **120096-GS** for details.

The proposed stormwater outlets have been set at an invert level of 89.25 and 90.05m. This is based on the existing storm drainage ditch outlet, with some freeboard provided.

6.1 Major System Overflow Route

In the case of a major rainfall event exceeding the design storms provided for, stormwater from the proposed development will overflow towards the existing storm drainage ditch along Somme Street. The finished floor elevation (FFE) of the proposed building has been set to be a minimum of 0.3m above the major system overflow points. The major system spill points are shown on plan **120096-GS**.

7.0 EROSION AND SEDIMENT CONTROL

To mitigate erosion and to prevent sediment from entering the municipal drainage system, temporary erosion and sediment control measures will be implemented on-site during construction in accordance with the Best Management Practices for Erosion and Sediment Control. This includes the following temporary measures:

- Silt fencing will be placed per OPSS 577 and OPSD 219.110 along the surrounding construction limits, where applicable.
- Filter socks will be placed under the grates of the ditch inlet catch basins and swale catch basins and will remain in place until construction is completed.
- Light duty straw bales will be placed at key locations in the swales;
- Mud mats will be installed at the site entrances.
- Street sweeping and cleaning will be performed, as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site.
- On-site dewatering is to be directed to a sediment trap and/or gravel splash pad and discharged safely to an approved outlet as directed by the engineer.

The temporary erosion and sediment control measures will be implemented prior to construction and will remain in place during all phases of construction. Regular inspection and maintenance of the erosion control measures will be undertaken.

8.0 CONCLUSIONS

This report has been prepared in support of a site plan control application for the proposed Techo-Bloc development on Somme Street in the City of Ottawa.

The conclusions are as follows:

- The proposed development is intended to be an office / showroom / warehouse building with a total gross floor area (GFA) of approximately 380 m² (5,000 ft²) with an associated outdoor storage area.
- Potable water will be provided by means of a new drilled well in accordance with the recommendations of the Hydrogeological Report and Terrain Analysis (dated September 28, 2020) prepared by Paterson Group.
- Water for fire protection will not be stored onsite since the building is less then 600m².
- The proposed septic system is based on a design flow of 1,250 L/day for a fully raised conventional system. A Sewage System Permit application will be required from the Ottawa Septic System Office.
- Storm drainage will be provided via permeable pavement with an underdrainage system draining to a grassed perimeter swale.
- On-site quantity control of storm runoff prior to discharge into the Somme Street roadside drainage ditch system is not required as the as the total post-development flows from the site are less than the allowable release rates for the site. The Hawthorne Industrial Park end-of-pipe stormwater management facility (SWMF) will provide quantity control for storm runoff from the site.
- On-site stormwater quality control will be provided using oil-grit separator units. It will provide a normal level of water quality treatment corresponding to 70% long-term total suspended solids removal.
- Temporary erosion and sediment control will be provided during construction.

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Prepared by:

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Jazmine Gauthier, B.A.Sc. Project Manager | Land Development Engineering

Reviewed by:



Greg MacDonald, P. Eng. Director | Land Development and Public Sector Infrastructure

Appendix A

Pre-Consultation Correspondence

Pre-Application Consultation Meeting Notes

Property Address: Somme Street (5123 Hawthorne Road) – Techo bloc PC2020-0136 June 29, 2020 – Microsoft Teams meeting

Attendees:

Anissa McAlpine; Planner, City of Ottawa Anissa mcalpine (613) 580-2424 ext. 26282 Kevin Hall; Senior Project Manager, City of Ottawa <u>Kevin.Hall@ottawa.ca</u>, (613) 580-2424 ext. 27824 Matthew Hayley, Planner II (environmental), City of Ottawa <u>Matthew.hayley@ottawa.ca</u>, (613) 580-2424 ext. 23358 Michel Kearney; Hydrogeologist, City of Ottawa <u>Michel.kearney@ottawa.ca</u>, (613) 580-2424 ext. 22872 James Holland; Watershed Planner, South Nation Conservation Authority Jholland@nation.on.ca, 1-877-984-2948

- Steve Pentz, Novatech
- Jordan Jackson , Novatech
- Greg MacDonald, Novatech
- Tony Mariani, Mariani
- Amanda Lawrence, SJL Architect
- Shawn Giovanetti, Techo-Bloc
- Lincoln Paiva, Techo-Bloc
- Ryan Swope, Techo-Bloc
- James lennox

Meeting notes:

Opening & attendee introduction

- Development is proposed on Part Block 2, Plan 4M-1388; specifically, Part 4, Plan 4R-32280
- Proposed industrial warehouse and storage yard, with offices/showroom for Techo-Bloc Ottawa. Techo-Bloc is a designer and manufacturer of hardscape landscape products.
- Proposed 2 storey building 3600 sq ft building and 1 storey 7500 sqft building .
- Horseshoe shaped entrance onto Some street. Loading dock shown onsite plan.

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

- Planning
 - Official Plan: Rural Employment Area
 - Rural Employment Areas are intended to support and encourage clustering of primarily industrial uses not suitable in the Urban Area or General Rural Area.
 - Uses permitted in this designation includes but is not limited to new; heavy and light industrial uses, transportation uses, and warehouse and storage operations.

- Development within the Rural Employment Area triggers Site Plan Control. Particular attention will be given to the physical design of the building(s) and site, including signage, buffering, landscaping and fencing.
- Current zoning: Rural Heavy Industrial (RH)
 - Warehouse is a permitted use within the RH zone.
 - Storage yard is a permitted use within the RH zone.
 - The Zoning By-law defines a warehouse as "a building used for the storage and distribution of goods and equipment including self-storage units and mini-warehouses and may include one accessory dwelling unit for a facility manager".
 - Storage yard means: land used for outdoor storage, including: the storage of vehicles, including an automobile salvage operation or scrap yard; the storage of road maintenance material such as gravel or sand; the storage of construction, building or landscaping material; and the storage of heavy vehicles or construction equipment, and includes an accessory maintenance garage used for the service and repair of the stored vehicles and equipment.
- Discussion
 - Addressing has been requested for this parcel.
 - Due to the nature of the proposed development a Site Plan application is required; the Site Plan classification is Rural – Standard.
 - There is a 30cm reserve along the frontage of the property. A lifting of a reserve application will also be required. The reserve was put in place during the establishment of the subdivision and, as per clause 18 of Schedule F, Section D, of the Subdivision Agreement, can only be lifted:
 - 'when certification of the proposed on-site well has been provided by a Professional Engineer or professional geoscientist licensed in the Province of Ontario that the well construction is in accordance with Ontario Regulation 903 and the recommendations contained in the report titled "Hydrogeological Investigation, Terrain Analysis & Impact Assessment, Proposed Industrial Subdivision" prepared by Golder Associates; Dated December 2008; Project No. 08-1122-0215 and the supporting letter "Tomlinson Industrial Subdivision – City of Ottawa File Number D07-16-15-94-0505; response to South nation Conservation Authority"; Golder Associates; Dated April 17, 2009; Project No. 08-1122-0215. This certification must be to the satisfaction of the General Manager, Planning and Growth Management.'
 - As the property is located adjacent to the Bedrock Resource Area, the Planning Rationale must speak to this designation and provide a discussion on how the proposal will impact (if at all) the Bedrock Resource Area.
 - Please note that, as per Table 221 of the RH zone, any proposed outdoor storage is not permitted within the *required* front yard
 - Any outside storage must be screened from the public street by an opaque screen at least 1.8 metres in height from finished grade.
 - Staff recommend landscaping, including tree planting, along the perimeter of the property.
 - Please ensure there is adequate area for snow storage.
 - Please ensure there is adequate area for required loading spaces. As per Section 113 of the Zoning By-law, 1 loading space is required for a warehouse with a GAF between 1,000 and 1,999 square metres.

- Parking requirements must comply with Part 4, Sections 100-114 of the Zoning By-law.
- o Engineering
 - Reports
 - Stormwater- Site needs to comply with the Stormwater Report for the Hawthorne Industrial and the Shields Creek Subwatershed study. The Subdivision Stormwater report has planed for the site to be designed with a c-value of 0.7. C-values above that will will require storage. There is a requirement for an oil-grit separator for quality.
 - A geotech report will be required.
 - Hydro -G to determine drinking water quantity quality
 - Within the Hawthorne industrial subdivision, a Phase II Environmental site assessment must be submitted.
 - Plans
 - Grading and drainage
 - Erosion and Sediment Control
 - Servicing can be shown on the site plan or grading if the plan does not get too crowded.
 - General
 - A lighting certificate will be required to confirm the site complies with the City site requirements.
 - Due to the site being zoned industrial an ECA approval from the MECP will be required.
- Hydrogeology
 - A Hydrogeological and Terrain Analysis report is required, in accordance with Procedures D-5-4 and D-5-5 of the Ministry of the Environment, Conservation and Parks. This will include the siting, drilling and testing of the production well (i.e. not just a test well).
 - It appears that there are thin soils (defined as 2 m or less) on the subject site. Enough test pits and boreholes are to be put down in the area of the leaching bed and in the surrounding area to assess the risk to the onsite well and any existing or future offsite wells. The report is to document the fieldwork and provide an opinion on the level of risk.
 - Depending on the findings of the fieldwork, mitigation measures may be required in order to reduce the risk to the water supply. These may include a longer casing length for the well, a deeper aquifer source, an advanced (Level 4 or beyond) sewage treatment system and ensuring the well is upgradient from the sewage system. Discussion with the City's technical reviewers is encouraged, as the study progresses.
 - The well must be located in a landscaped area, away from traffic and potential sources of contamination, a minimum distance of 3 m from property lines and buildings, as well as the minimum distance to the sewage system as prescribed in the Ontario Building Code. Grades are to be provided on the Grading Plan for the top of casing, the ground at the well and 3 m away from the well, to demonstrate drainage away from the well in accordance with the Regulation (O.Reg. 903).
- Transportation
 - A transportation impact assessment is not required.
- o Environmental
 - GeoOttawa surface water map layer indicates a watercourse at the rear of the property. The status of this watercourse should be confirmed through site investigation, the subdivision design (is this a rear yard swale) and with the SNCA. If it is a watercourse, the site plan will need to identify the appropriate setback as per OP Section 4.7.3.

- A Tree Conservation Report is required as per OP Section 4.7.2, items to consider butternut trees, tree retention where possible and wildland fire (Wildland Fire Risk Assessment and Mitigation Reference Manual in support of the Provincial Policy Statement, 2014).
- In relation to landscaping, please consider OP Section 4.9, particularly for the property lines to provide wind breaks. Also we would like trees along Somme as per OP Section 4.7.2.
- South Nation Conservation Authority
 - Watercourse
 - There is a first-order mapped watercourse along the rear of the property. The Conservation Authority recommends a 15m no-touch setback from the watercourse. Should development be proposed within 10m of the high-water mark, a Headwater Drainage Feature Assessment should be completed to determine the functions of the watercourse and to ensure that the functions are maintained. It is our understanding from the preconsultation meeting that no development, including grading, fill and placement of the septic system, is being proposed within 15 meters.
 - Any interference with a watercourse may require a permit from South Nation Conservation under O. Reg. 170/06, and restriction may apply.
 - South Nation Conservation encourages enhancement of the riparian vegetation within the 15m setback with native species. It is recommended that enhancement opportunities be identified on the landscaping plan.
 - Stormwater
 - The Hawthorne Industrial Park Stormwater Management Report (revised May 2009) and the Shield's Creek Subwatershed Study (2004) provide guidance for the property. The standard for water quality has changed since the documents were finalized however, and South Nation Conservation recommends 80% TSS removal. Water quantity should achieve post equal to pre for the 1 or 5 year and the 100 year events.
 - It is understood that infiltration is recommended by the Shields Creek Subwatershed Study and may be considered for the property, but that infiltration may not be permitted by MECP for an industrial site.
 - Further, <u>the design should address the possibility for spills and provide secondary</u> <u>containment</u>. Although groundwater contamination may not be likely with the proposed use, it may be from a future industrial use, should the property be sold.
 - South Nation Conservation will provide a review of the stormwater management design. The design package should include a report, and plans for the stormwater design, grading and drainage, and sediment and erosion control.

Submission requirements and fees

- Please find attached the required plans and studies list for the proposed development.
- o Additional information regarding fees related to planning applications can be found <u>here</u>.

Next steps

- Staff encourage you to discuss the development proposal with the Councillor, and any local community groups.
- A lifting of 30 cm reserve application is required as described above.
- A site plan control standard application is required.
- Please provide electronic copy (PDF) of all plans and studies required
- Note that many of the plans and studies collected with this application must be signed sealed and dated by a qualified engineer, architect, surveyor, planner or designated specialist.
- Instruction for the submission of fees associated with a site plan control application will be provided upon submission of the application. Note that this processes changes from time to time as staff work from home and service centers begin to reopen.



APPLICANT'S STUDY AND PLAN IDENTIFICATION LIST

For information and guidance on preparing required studies and plans refer here:

S/A	Number of copies	ENG	INEERING	S/A	Number of copies
x	5	1. Site Servicing Plan	2. Site Servicing Study		5
x	5	3. Grade Control and Drainage Plan	4. Geotechnical Study / Slope Stability Study	х	5
	2	5. Composite Utility Plan	6. Groundwater Impact Study		3
	3	7. Servicing Options Report	8. Wellhead Protection Study		3
	9	9. Transportation Impact Assessment (TIA)	10.Erosion and Sediment Control Plan	х	5
х	5	11.Storm water Management Report	12.Hydro geological and Terrain Analysis	х	5
	3	13.Hydraulic Water main Analysis	14.Noise / Vibration Study		5
	PDF only	15.Roadway Modification Functional Design	16.Confederation Line Proximity Study		3

S/A	Number of copies	PLANNING	PLANNING / DESIGN / SURVEY			
	15	17.Draft Plan of Subdivision	18.Plan Showing Layout of Parking Garage		2	
	5	19.Draft Plan of Condominium	20.Planning Rationale	х	5	
х	5	21.Site Plan	22.Minimum Distance Separation (MDS)		3	
	15	23.Concept Plan Showing Proposed Land Uses and Landscaping	24.Agrology and Soil Capability Study		3	
	3	25.Concept Plan Showing Ultimate Use of Land	26.Cultural Heritage Impact Statement		3	
x	5	27.Landscape Plan (may be combined with site plan)	28.Archaeological Resource Assessment Requirements: S (site plan) A (subdivision, condo)		3	
х	5	29.Survey Plan	30.Shadow Analysis		3	
x	5	31.Architectural Building Elevation Drawings (dimensioned)	32.Design Brief (includes the Design Review Panel Submission Requirements)		Available online	
	3	33.Wind Analysis				

S/A	Number of copies	ENV	ENVIRONMENTAL			
x	3	34.Phase 1 Environmental Site Assessment	35.Impact Assessment of Adjacent Waste Disposal/Former Landfill Site		3	
х	3	36.Phase 2 Environmental Site Assessment	37.Assessment of Landform Features		3	
	3	38.Record of Site Condition	39.Mineral Resource Impact Assessment		3	
х	3	40.Tree Conservation Report	41.Environmental Impact Statement / Impact Assessment of Endangered Species		3	
	3	42.Mine Hazard Study / Abandoned Pit or Quarry Study	43.Integrated Environmental Review (Draft, as part of Planning Rationale)		3	

S/A	Number of copies	ADDITION	AL REQUIREMENTS	S/A	Number of copies
		44. Applicant's Public Consultation Strategy	45.Site Lighting Plan and Certification Letter	x	1

Meeting Date: June 29, 2020.

Application Type: Site Plan Control

File Lead (Assigned Planner): Anissa McAlpine

Infrastructure Approvals Project Manager: Kevin Hall

Site Address (Municipal Address): Somme Street (5123 Hawthorne) *Preliminary Assessment: 1 2 3 4 5

*One (1) indicates that considerable major revisions are required before a planning application is submitted, while five (5) suggests that proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

It is important to note that the need for additional studies and plans may result during application review. If following the submission of your application, it is determined that material that is not identified in this checklist is required to achieve complete application status, in accordance with the Planning Act and Official Plan requirements, the Planning, Infrastructure and Economic Development Department will notify you of outstanding material required within the required 30 day period. Mandatory pre-application consultation will not shorten the City's standard processing timelines, or guarantee that an application will be approved. It is intended to help educate and inform the applicant about submission requirements as well as municipal processes, policies, and key issues in advance of submitting a formal development application. This list is valid for one year following the meeting date. If the application is not submitted within this timeframe the applicant must again preconsult with the Planning, Infrastructure and Economic Development Department.

110 Laurier Avenue West, Ottawa ON K1P 1J1 Mail code: 01-14 110, av. Laurier Ouest, Ottawa (Ontario) K1P 1J1 Courrier interne : 01-14 Visit us: Ottawa.ca/planning Visitez-nous : Ottawa.ca/urbanisme Appendix B

Site Plan



A1.0 SCALE: 1: 300

<u>1</u> Showir	NG		AUTOMOBILE PARK	ING SUMN	IARY				
ON PLAN 4R-32280		PARKING SPACES		REQU	IRED			PROPOSED	
SHIPMAN SURVEYING		OFFICE – 2.4 PER 100s GROSS FLOOR AREA	q.m OF	5				10	
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IRE RO	UTE SIGNAGE		PROPOSED PARKING	•			ŀ		
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BLACK LETT MUST BE B	FERS <u>MINIMUM</u> SIZE 4CM ILINGUAL.		ACCESSIBLE SPACE (TYPE B)	MIN. 2.4m x 5.2m		_			1
			TOTAL	= 18 PROVIDED PARKING SPACES (SURFACE)				FACE)	
ACK DOUE	BLE ARROWS AND BORDER*			1					
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	REQUIRED	PROPOSED
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2D SETBACK	15m	N/A
RD SETBACK – ABUTTING AN INDUSTRIAL ZONE 3m, OTHER CASES 10m	3m	75.0m/86m
ACK	15m	103.7m
NG HEIGHT	15m	8.4m
	50%	1.6%
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I	*REFER TO ELECTRICAL DRAWINGS				
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SYMBOL	DESCRIPTION				
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S2	DESIGNATED ACCESSIBLE PARKING SPACE. REFER TO CITY STANDARD FOR PAINTED SYMBOL				
S3	STOP SIGN				
S4	DO NOT ENTER SIGN				
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APPLICATION #

Appendix C

Sanitary Design Information

Appendix D

FUS Calculations and Correspondence

OBC Water Supply for Firefighting Calculation

Based on OBC 2012 (Div. B, Article 3.2.5.7) References: <u>Ontario Fire Marshal - OBC Fire Fighting Water Supply</u>

Ontario Building Code 2012, Appendix A, Vol 2., A-3.2.5.7

Novatech Project #: 120096

Project Name: Techo Bloc Development - Somme Street Date: 7/13/2020 Input By: J. Gauthier Reviewed By: J. Gauthier

Building Description: Single Storey Occupancy F-2 and D, non combustible construction

Unsprinklered

Step Calculation Inputs **Calculation Notes** Value Minimum Fire Protection Water Supply Volume Water Supply Coefficient 1 Building Classification = **F-2** From Table 3.1.2.1 Water Supply Coefficient -From Table 1 (A3.2.5.7) K = 31 Total Building Volume Building Width - W 24.60 m 2 Building Length - L Area (W * L) = 15.30 m 376 m Building Height - H 7.7 m Total Building Volume - V = W*L*H 2898 m³ Spatial Coefficient Value Exposure Distances: **Spatial Coefficients:** (Exterior building face to property/lot line, to street centre, From Figure 1 (Spatial Coefficient vs or to mid-point between proposed building and another Exposure Distance) building on same lot) North Sside 1 = 59.50 0.00 3 m East 103.70 Sside 2 = 0.00 m South Sside 3 = 0.00 86.30 m West 35.50 Sside 4 = m 0.00 Total of Spacial Coefficient Values - S-Tot 1.0 + (Sside 1 + Sside 2 + Sside 3 + 1.00 as obtained from the formula = Sside 4) (Max. value = 2.0)Minimum Fire Protection Water Supply Volume 4 K * V * S_{Tot} Q = 89,842 L **Required Minimum Water Supply Flow Rate** From Table 2 (For water supply from 2,700 L/min Minimum Water Supply Flow Rate 5 a municipal or industrial water supply 45 L/s system, min. pressure is 140 kPa) or Minimum Fire Protection Water Supply Volume for 30 minutes = Minimum Water Supply Flow Rate Q = 81.000 L 6 (L/min) * 30 minutes **Required Fire Protection Water Supply Volume** 7 Q = Highest volume out of (4) and (6) 89,842 L Fire Protection Water supply to be provided with underground storage tanks Notes



Legend Input by User No Input Required

OBC - Water Sup	ply for Firefighting - User Guide - Unsprinklered
	Please use the notes below as a guide when completing fire flow calculations for buildings using the
	Ontario Building Code.
	• Use FUS where required (e.g. City of Ottawa)
	When in doubt, confirm setbacks, etc. with architect/owner
	When in doubt, err on conservative side
Note: This form only applie	s for Unsprinklered Buildings
Enter a description of the bui	lding or unit being considered, i.e. use/most stringent condition/address
Use average interior height (e.g. approx. 3m)
All spaces below and above	grade within a building, measured to the underside of the roof deck, should be included in the volume (cubic
metres) for the fire protection	water supply formula. An exception may be made to exclude a non-combustible crawl space (with no
combustible services) below	a non-combustible floor, located under the lowest building floor area, if it will not be developed in the future or
used as a storage area.	
Exposure distances from a ne	ew building are measured from the exterior building faces to the property lines of the building. The distance
from the face of the building t	to the property line shall be determined in accordance with Sentence 3.2.3.1.(3) of the Building Code. When
facing a street, the property li	ine shall be deemed to be the centre of the street. When facing an existing building (exceeding 10 m ² in
building area) on the same p	roperty, the exposure distance (for use in Figure 1) shall be the greater of either the "limiting distance" of the
new building face as obtained	d from Sentence 3.2.3.1.(1) of the Building Code, or the mid-point between the two buildings.
Enterior Mall Exposures - Di	
Exterior wall Exposures - Dr	Stance between:
(Limiting Distance)	Exterior face and Property Line
OBC 3.2.3.1.(3)	or Exterior face and Centreline of Street
	Exterior face and line at mid-distance to
Exposure Distances:	or
Only applicable for buildings	without municipal water supply, otherwise municipal water supply system can be assumed to provide this volume
Current on provided in Section	without multicipal water supply, other wise multicipal water supply system out be assumed to provide the relation -2.2 (d) the minimum fire protection water supply "O" required in Section 6.2 (d) shell not be least then what is
Except as provided in Section	1.6.3 (d), the minimum fire protection water supply Q required in Section 6.5 (a) shall not be less than what is

Jazmine Gauthier

From:	Evans, Allan <allan.evans@ottawa.ca></allan.evans@ottawa.ca>
Sent:	Wednesday, July 22, 2020 1:49 PM
То:	Jazmine Gauthier
Subject:	RE: Sommes Street - Fire Tanks Question

Ultimately it will be the planner/building code representative that gives you the final word, but in my opinion since it is <600m2 and at worst an F-3 occupancy, you will not need a fire tank storage on site.

Feel free to include my comments as part of your submission if you like.

Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies Prevention Division / Prévention des Incendies Ottawa Fire Services / Service des Incendies d'Ottawa 1445 Carling Avenue / 1445 Avenue Carling Ottawa, ON K1Z 7L9 Allan.Evans@Ottawa.ca 같 (613) 913-2747 | 鞏 (613) 580-2424 x24119 | 릅 (613) 580-2866 | 🗈 Mail Code: 25-102 | @OFSFPE



From: Jazmine Gauthier <j.gauthier@novatech-eng.com> Sent: July 22, 2020 1:06 PM To: Evans, Allan <Allan.Evans@ottawa.ca> Subject: RE: Sommes Street - Fire Tanks Question Importance: High

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Hi Allan,

Further to below, I received the following information from the architect and client: "Just wanted to clarify, the building will be non-combustible construction, and will be designed as part 9, F3 (warehouse portion) and D (front office/showroom portion)."

It was confirmed to me that they would store palettes of sand, no liquids and no flammables.

I also included the OBC calcs which have been completed and re-attached the site plan.

If we require a tank, I will calculate the FUS for your use.

Please confirm if we require a fire tank on this property.

Thanks in advance and don't hesitate to call (613-762-7911) to discuss further.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Monday, July 20, 2020 1:51 PM
To: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Subject: RE: Sommes Street - Fire Tanks Question

As per discussion :

- Gross floor area <600 m2
- What makes this an F-2 classification?
 - More details on fire hazard
 - Flammable liquids/gases etc
- FUS calculation (and OBC)
 - o I will use these in conjunction with OBC to come up with a "realistic" quantity
 - 0

Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies Prevention Division / Prévention des Incendies Ottawa Fire Services / Service des Incendies d'Ottawa 1445 Carling Avenue / 1445 Avenue Carling Ottawa, ON K1Z 7L9 Allan.Evans@Ottawa.ca 줄 (613) 913-2747 | 줄 (613) 580-2424 x24119 | 릅 (613) 580-2866 | 🖃 Mail Code: 25-102 | @OFSFPE



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An internationally accredited agency 2014-2019

From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Sent: July 20, 2020 10:13 AM
To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Subject: RE: Sommes Street - Fire Tanks Question

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Maybe 12:30? Or 1:00? What ever works best.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Monday, July 20, 2020 10:05 AM
To: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Sure – what time .. I'm pretty open today.

Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies Prevention Division / Prévention des Incendies Ottawa Fire Services / Service des Incendies d'Ottawa 1445 Carling Avenue / 1445 Avenue Carling Ottawa, ON K1Z 7L9 Allan.Evans@Ottawa.ca 鞏 (613) 913-2747 | 鞏 (613) 580-2424 x24119 | 昌 (613) 580-2866 | 国 Mail Code: 25-102 | @OFSFPE



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From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>> Sent: July 20, 2020 10:04 AM To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>> Subject: RE: Sommes Street - Fire Tanks Question

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Running late, are you available later?

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | **Tel** 613.254.9643 x217 | **Fax** 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

-----Original Appointment-----From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>> Sent: Saturday, July 18, 2020 1:31 PM To: Evans, Allan; Jazmine Gauthier Subject: Sommes Street - Fire Tanks Question When: Monday, July 20, 2020 10:00 AM-10:30 AM (UTC-05:00) Eastern Time (US & Canada). Where: Microsoft Teams Meeting Importance: High

Fire Tank meeting

Join Microsoft Teams Meeting

Learn more about Teams Meeting options

From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>> Sent: July 17, 2020 3:16 PM To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>> Subject: RE: Sommes Street - Fire Tanks Question Importance: High

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Hi Allan,

It seems that we have missed each other today, would you be available Monday morning before 8:30am or between 9:00-10:30am?

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Jazmine Gauthier
Sent: Friday, July 17, 2020 3:04 PM
To: 'Evans, Allan' <<u>Allan.Evans@ottawa.ca</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Not sure if you got my invite, but I am available.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Friday, July 17, 2020 2:16 PM
To: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Sure 3:00? Send me an invite if that works or a time close to that.

 Allan Evans

 Fire Protection Engineer / Ingénieur de Protection d'Incendies

 Prevention Division / Prévention des Incendies

 Ottawa Fire Services / Service des Incendies d'Ottawa

 1445 Carling Avenue / 1445 Avenue Carling

 Ottawa, ON K1Z 7L9

 Allan.Evans@Ottawa.ca

 ⁽⁶¹³⁾ 913-2747 ⁽¹⁶⁾ (613) 580-2424 x24119 ⁽⁶⁾ (613) 580-2866 ⁽¹⁶⁾ Mail Code: 25-102 ⁽¹⁶⁾ @OFSFPE



From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>> Sent: July 17, 2020 1:04 PM To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>> Subject: RE: Sommes Street - Fire Tanks Question Importance: High

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Hi Allan,

Any chance you could be available for a teams meeting with me this afternoon to discuss the fire tanks.

Thanks in advance.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering

NOVATECH Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | **Tel** 613.254.9643 x217 | **Fax** 613.254.5867 *The information contained in this email message is confidential and is for exclusive use of the addressee.*

From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Thursday, July 16, 2020 1:18 PM
To: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Chief's reply was basically he didn't think we needed one (we have lots without them already) – but I think this is something I need to look into further moving forward. So basically – not needed for you.

Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies
Prevention Division / Prévention des Incendies
Ottawa Fire Services / Service des Incendies d'Ottawa
1445 Carling Avenue / 1445 Avenue Carling
Ottawa, ON K1Z 7L9
Allan.Evans@Ottawa.ca
2 (613) 913-2747 2 (613) 580-2424 x24119 6 (613) 580-2866 5



From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Sent: July 16, 2020 8:31 AM
To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Subject: RE: Sommes Street - Fire Tanks Question

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Hi Allan,

Thanks for the comments below, we will adjust accordingly. Would you like us to re-circulate after?

Also, any feedback on the anti-vortex plate?

Thanks in advance.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Wednesday, July 15, 2020 5:12 PM
To: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Absolutely, I always encourage this as it will save time later.

First some general principles:

- 1. We need to be roughly 10' from the draft point and we will be parked parallel to the tank.
- 2. We draft from roughly midship or about 5-6m from front/back of truck
- 3. There needs to be protection of the draft site with either bollards or curbing
- 4. Our trucks are roughly 3m wide and we need to have a minimum 4.5m clearance on the other side of the fire truck for other trucks to get past to respond to the fire.
- 5. We do not want the tanks too close to the building in general "further" (within reason) is better and we typically want it to be located outside of the distance specific by building code. For instance if you have a Siamese connection, OBC says

Based on your specific drawing:

- 60m distance is workable and it doesn't look like there would be more space anyway to get a bit further away
- You will have to change the approach a bit for our trucks to "pull past" the tank. I have included a rough sketch up of a lay-by style of draft point. Due to the width of the truck and our hose, a standard 6m fire access route doesn't allow enough room for other trucks to pass. This is one option you can use to help design it. Of course, you could always put the tank 1m from edge and make a drive-around to the left of the truck whatever is easier.

Let me know if you have any other questions.

Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies Prevention Division / Prévention des Incendies Ottawa Fire Services / Service des Incendies d'Ottawa 1445 Carling Avenue / 1445 Avenue Carling Ottawa, ON K1Z 7L9 Allan.Evans@Ottawa.ca ☎ (613) 913-2747 ☎ (613) 580-2424 x24119 6 (613) 580-2866 도 Mail Code: 25-102 @OFSFPE



From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>
Sent: July 15, 2020 8:47 AM
To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Subject: RE: Sommes Street - Fire Tanks Question

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Allan,

We thought we would share our proposed Site Plan to see if you have any comments.

Thanks in advance.

Regards,

Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering **NOVATECH** Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | **Tel** 613.254.9643 x217 | **Fax** 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

From: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>>
Sent: Tuesday, July 14, 2020 3:37 PM
To: Dearman, Adrian <<u>Adrian.Dearman@ottawa.ca</u>>; Roy, Larry <<u>larrym.roy@ottawa.ca</u>>
Cc: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>>; Cory, Neil <<u>Neil.Cory@ottawa.ca</u>>
Subject: RE: Sommes Street - Fire Tanks Question

Hi Chiefs – Jazmine called me earlier about whether we need to have anti-vortex plates on our W51/W52 (loose draft pipe – blue box) installations (they are not on our specification drawings). It's an interesting question that I don't know enough about. NFPA 20 talks about installing anti-vortex plates a minimum of 2xdiameter of the pipe and it shows it for vertical draft pipes.

https://www.fps-eg.com/2019/06/anti-vortex-plate-according-to-nfpa-20.html

Does anyone have any experience with this ever happening in our drafting? We don't have any of these plates on any suction pipes that I know of, so maybe it only becomes an issue above a flow rate higher than we are capable of producing?

I've included Neil in the email as he has a lot of knowledge of sprinkler systems and I believe has done a few wet well installations – maybe he has some comments as well?

Below is a cutout from an installation we have in Ottawa that shows a horizontal draft pipe that connects to another storage tank and it has an anti-vortex plate on it. The two masts coming up out of the "submarine" are fixed fill and draft pipes.



Allan Evans

Fire Protection Engineer / Ingénieur de Protection d'Incendies Prevention Division / Prévention des Incendies Ottawa Fire Services / Service des Incendies d'Ottawa 1445 Carling Avenue / 1445 Avenue Carling Ottawa, ON K1Z 7L9 Allan.Evans@Ottawa.ca ☎ (613) 913-2747 1 ☎ (613) 580-2424 x24119 6 (613) 580-2866 1 SMail Code: 25-102 @OFSFPE



From: Jazmine Gauthier <<u>j.gauthier@novatech-eng.com</u>> Sent: July 14, 2020 9:48 AM To: Evans, Allan <<u>Allan.Evans@ottawa.ca</u>> Subject: Sommes Street - Fire Tanks Question Importance: High CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.

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Hi Allan,

Further to our discussion, we are looking into knowing if we need to include an anti-vortech plate when using the W51/W52 city details for an underground water storage tank for firefighting.

Let me know if you require any further details from me.

Thanks in advance.

Regards,

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Jazmine (formerly Justin) A. Gauthier | B.A.Sc. Project Manager | Land Development Engineering NOVATECH Engineers, Planners & Landscape Architects 240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel 613.254.9643 x217 | Fax 613.254.5867 The information contained in this email message is confidential and is for exclusive use of the addressee.

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Appendix E

Stormwater Management Calculations, OGS Treatment Unit Details and Relevant Report Excerpts



Stormwater Design Proposed Techo- Bloc Development Rational Method Calculations Project No: 120096

Allowable Site Flows										
Description		A imp (ha) C=	A pav (ha) C=	A perv (ha) C=	C ₅ / C ₁₀	6	Q-allow (L/s)			
						C ₁₀₀	5 year	10 year	100 year	
		0.90	0.90	0.20		(25% increase)	o year	io year	roo year	
Site area	2.429	1.724	0.000	0.704	0.70	0.78	490	575	944	
		71%	0%	29%			t _c =10mins	t _c =10mins	t _c =10mins	

i = 104.20

t_c=10min 178.6 122.1

Post - Development Flows											
Area	Description	A (m2)	A (ha)	A imp (ha)	A pav (ha)	A perv (ha)	C ₅ / C ₁₀	C ₁₀₀	Q-post uncontrolled (L/s)		d (L/s)
Alea	Description	A (III2)	A (114)	C=0.9	C=0.9	C=0.2		(25% increase)	5 year	10 year	100 year
D-1	Direct Runoff	4,188	0.419	0.000	0.000	0.419	0.20	0.25	24	28	52
D-2	D-2 Direct Runoff		0.050	0.000	0.000	0.050	0.20	0.25	3	3	6
S-1	S-1 Pavement area, building, landscaping, east swale, septic area		1.396	0.054	1.111	0.232	0.78	0.97	317	371	676
S-2	Pavement area and west swale	5,641	0.564	0.000	0.247	0.317	0.51	0.63	83	97	177
	Total = 24,288		2.429	0.054	1.36	1.02	0.61	0.76	427	500	911
				2%	56%	42%			t _c =10mins	t _c =10mins	t _c =10mins
								<i>i</i> =	104.2	122.1	178.6

ATTACHED DRAWINGS