FUNCTIONAL SERVICING REPORT

9094 REGIONAL ROAD 25

TOWN OF HALTON HILLS
HALTON REGION

PREPARED FOR:

HALTON HILLS ONE LIMITED PARTNERSHIP

PREPARED BY:

C.F. CROZIER & ASSOCIATES INC.
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TORONTO, ON M5B 1M4

APRIL 2026

CFCA FILE NO. 2022-7556

CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.0	October 31, 2025	Issued for 1st OPA/ZBA Submission
Rev. 1	April 2, 2026	Issued for 2nd OPA/ZBA Submission

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1.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) was retained by Halton Hills One Limited Partnership to prepare a Functional Servicing Report in support of an Official Plan Amendment and Zoning Bylaw Amendment for the property known as 9094 Regional Road 25 (Site), located in the Town of Halton Hills (Town) and Halton Region (Region). This report demonstrates how the proposed development's servicing will conform with the requirements of the Town and Region. The Site is currently outside of the Settlement Area, and as such, an Area Servicing Plan has been prepared by Crozier under separate cover to demonstrate how the Site and surrounding areas can be serviced through water and wastewater servicing expansions. Separate reports have also been prepared by Crozier, Dillon Consulting Limited, GEO Morphix Inc., Soil Engineers Ltd. and Paul Brown & Associates Inc. to provide an integrated planning approach to the development of the Site including natural heritage systems, stormwater management, watercourse management and groundwater management.

1.1 Site Description

The Site is located at 9094 Regional Road 25 in the Town of Halton Hills and covers an area of 26.87 ha and currently consists of a golf driving range, an existing Heritage House and Natural Heritage Area. The Site, located in a mixed-use area, is bound by Regional Road 25 to the east, residential properties in the Town of Milton and 5 Side Road to the south, and agricultural fields to the north and west.

1.2 Proposed Development

As outlined in the Site Plan prepared by Turner Fleischer Architects Inc., the proposed development includes the construction of several commercial retail buildings, with associated drive aisles, parking, and loading areas. The site is split into two phases. Phase 1 encompasses the east side of the Site, and includes two blocks, Block A and Block B. Block A covers an area of 8.20 ha and consists of Commercial Building A. Block B covers an area of 5.71 ha and consists of Commercial Buildings B, C, D, E, F, G, and H. The total proposed building area for Phase 1 is 26,659 m^2. Note, although Phase 1 is split into Blocks, this submission was completed under the assumption that Blocks A and B will be developed concurrently. Vehicular access to Phase 1 is proposed from both Regional Road 25 and 5 Side Road.

Phase 2 encompasses the west side of the Site, and includes an area of 8.32 ha which will be developed in the future for Employment. The west side of the Site also includes a 0.23 ha Heritage Site, and a 4.09 ha Conservation Limit Area with a 0.32 ha Compensation Area where no development will take place. Vehicular access to Phase 2 will be via the vehicular access to 5 Side Road that will be constructed for Phase 1.

1.3 Reference Documents

The following reports and design standards were referenced during the preparation of this report:

- Halton Region Official Plan (May 2024)
- Halton Region Integrated Master Plan Wastewater Design Criteria provided in Region comments dated February 17, 2026
- Halton Region Water and Wastewater Linear Design Manual Version 7 (December 2025
- Area Servicing Plan (Crozier, April 2026)
- Hydrologic Modeling & Stormwater Management Report (Crozier, April 2026)

2.0 Sanitary Servicing

2.1 External Sanitary Servicing

There is currently no sanitary infrastructure located on 5 Side Road or Regional Road 25 fronting the Site. As part of the Area Servicing Plan, sanitary infrastructure is proposed to extend along 5 Side Road to service the Site. Along the Site frontage, a 300 mm diameter sanitary sewer at 0.5% slope is proposed. Refer to the Area Servicing Plan by Crozier for more information regarding the existing sanitary sewer system capacity and proposed infrastructure extensions.

2.2 Sanitary Design Flows

The proposed sanitary sewer for the Site has been designed based on the Halton Region and MECP design standards. The sanitary design criteria are as follows:

- Population Density – 37.4 m^2/person for Commercial where the building area is known
- Population Density – 145 persons/hectare for Light Industrial and 105 persons/hectare for Commercial where the building area is not known
- Infiltration – 0.28 L/s/ha
- Sanitary Sewage Demand – 185 L/employee/day (Commercial and Industrial)
- Harmon Peaking Factor

The sanitary sewage design flows were calculated using the Region's standards and the Site Plan prepared by Turner Fleischer Architects. Table 1 outlines the sanitary flows for the Site. Detailed calculations and the Water Usage and Sanitary Drainage Report are included in Appendix A.

Table 1: Proposed Sanitary Flows

Phase	Area (ha)	Equivalent Population	Peak Flow (L/s)	Infiltration Flow (L/s)	Total Flow (L/s)	Outlet
1	13.91	712	5.93	3.89	9.83	5 Side Road
2	8.32	1206	9.68	2.33	12.01	5 Side Road
Heritage Site	0.23	24	0.23	0.06	0.29	5 Side Road
Conservation Area/ Compensation Area	4.41	-	-	1.23	1.23	-
Total	26.87	1943	15.84	7.52	23.36	5 Side Road

2.3 Proposed Sanitary Servicing

Sanitary servicing for the Site will extend north from 5 Side Road through the site to service all proposed buildings. A connection from the Site will be provided to a proposed sanitary manhole on the proposed 300 mm diameter sanitary sewer in 5 Side Road. Sanitary connections to each building will be plugged at the building face. A detailed design of the sanitary sewer network and building connections will be completed at the time of Site Plan Application (SPA). The preliminary sanitary servicing layout for the Site is shown on Figure 1: Site Servicing Plan.

3.0 Water Servicing

3.1 External Water Servicing

There is currently no water infrastructure on 5 Side Road or Regional Road 25 fronting the Site. As part of the Area Servicing Plan, water infrastructure is proposed to extend along 5 Side Road to service the Site. Along the Site frontage, a 300 mm diameter watermain is proposed. Refer to the Area Servicing Plan by Crozier for more information regarding the existing watermain network modeling and proposed infrastructure extensions.

3.2 Domestic Water Demand

Water servicing for the Site has been designed in accordance with the Halton Region standards and specifications to ensure that adequate pressures and flows are achieved. Watermain design flows are based on the following criteria:

- Average Day Demand – 190 L/employee/day (Industrial and Commercial)
- Population Density – 37.4 m^2/person for Commercial where the building area is known
- Population Density – 145 persons/hectare for Light Industrial and 105 persons/hectare for Commercial where the building area is not known
- Maximum Day Factor – 1.9
- Peak Hour Factor – 3.0
- Design Flow - greater of maximum daily demand plus fire flow or peak hourly demand

The domestic water demand has been calculated based on the Site Plan by Turner Fleischer Architects. Table 2 below summarizes the domestic water demands for the Site. The detailed calculations are included in Appendix B.

Table 2: Proposed Domestic Water Demands

Phase	Equivalent Population	Average Daily Demand (L/s)	Maximum Daily Demand (L/s)	Peak Hourly Demand (L/s)
Phase 1	712	1.57	2.98	4.70
Phase 2	1206	2.65	5.04	7.96
Heritage Site	24	0.05	0.10	0.16
Conservation Area	0	0	0	0
Total	1943	4.27	8.12	12.82

3.3 Fire Water Demand

The fire flow requirements for the Site were calculated based on the Fire Underwriters Survey (FUS) requirements. The largest fire flow is required for Building A, with a floor area of 15,527 m^2. The FUS calculations for Building A area summarized in Table 3 below.

Table 3: Fire Flow Demands – Fire Underwriter's Survey

Phase	Building	Fire Flow (L/s)
1	A	183.33

As part of the Area Servicing Plan, water modeling was completed using the Region's water model. Refer to the Area Servicing Plan for details of the water modeling and proposed external watermain extension.

Note, a fire suppression consultant may be retained to calculate the building's specific fire flow demands based on the individual fire suppression tactics that are proposed.

3.4 Proposed Water Servicing

The Site will be serviced by a water service connection to the proposed 300 mm diameter watermain on 5 Side Road. At the property line, the watermain will split into a fire and domestic water service within the Site. The domestic water service will be plugged at each building face. The fire water service will wrap each building to service the entire site area for fire. The proposed fire service will create a loop around the Site to provide adequate coverage with proposed hydrants surrounding the Site. A detailed design of the watermain network including building connections and hydrant locations will be completed at SPA. The preliminary water servicing layout is shown on Figure 1: Site Servicing Plan.

4.0 Stormwater Management

The stormwater management strategy for the Site has been designed based on the criteria outlined in the Hydrologic Modleing & Stormwater Management Report (Crozier, April 2026) completed to support the development. The following is a summary of some of the information included in the Hydrologic Modeling & Stormwater Management Report, please review the report for the full scope of the stormwater management design.

4.1 Stormwater Management Design Criteria

Quantity Control Requirements

Given that the property is located within CH regulated area, the Site is within CH jurisdiction and therefore, stormwater quantity control is also regulated by the conservation authority. According to the *Conservation Halton Guidelines for Stormwater Management Engineering Submissions* (June 2024), quantity control requirements are established through a SWS, which assesses the effects of cumulative development impacts within the subwatershed. The report includes an assessment of the impact of post-development flows on the downstream system and resulting quantity control requirements for the 2-year to 100-year design storm events accordingly.

The need for Regulatory Storm control is also determined based on a flood risk assessment. According to the *Flood Hazard Mapping – Urban Milton Final Report* (Greck, July 2025), urban flooding is observed downstream of the Site within the Town of Milton under existing conditions therefore, review of the flows downstream of the Site to ensure they are not increased following redevelopment is required to ensure existing flood risks are not worsened.

Quality Control Requirements

The Town's *CLI-ECA Stormwater Criteria* requires an Enhanced level of water quality protection (80% total suspended solids (TSS) removal) on an annual loading basis.

According to the assessment completed by GEO Morphix, critical Redside Dace habitat was identified within Sixteen Mile Creek. As such, the Guidance for Development Activities in Redside Dace Protected Habitat Version 1.2 (MNRF, March 2016) needs to be followed. The guidance manual by MNRF sets limits for temperature, dissolved oxygen and TSS as indicated below:

- Discharge temperature should be below 24°C
- Dissolved oxygen concentrations of minimum 7 mg/L
- Maximum TSS of 25 mg/L above the background stream level of TSS

Erosion Control Requirements

At a minimum, CH recommends that the 25 mm design storm event be retained or detained and released over a period of 24-hours. This criterion is applied where the sensitivity of the receiving watercourses does not warrant a more comprehensive analysis of the erosion potential associated with urban development.

Water Balance

An overall site water balance is required per the Town's *CLI-ECA Stormwater Criteria*. The target is to match pre-development infiltration, reduce runoff volumes and provide Low Impact Developments (LIDs) which promote evapotranspiration.

For developments proposed near identified natural features, additional investigation is required to understand water balance impact on those specific features. According to Conservation Halton Guidelines for Wetland Water Balance Assessments, a wetland water balance assessment is required if development activities are proposed within a wetland or within 30 m of a wetland to determine potential impacts on its hydrological function and appropriate mitigation measures.

Erosion and Sediment Control During Construction

The *CLI-ECA Stormwater Criteria* requires that construction erosion and sediment control be managed through development and implementation of an erosion and sediment control (ESC) plan. The ESC plan shall adhere to both the Canadian Standards Associated (CSA) W202 Erosion and Sediment Control Inspection and Monitoring Standards and the TRCA Erosion and Sediment Control Guidelines for Urban Construction 2019. The installation and maintenance of the ESC measures specified in the ESC plan shall have regard to the CSA W208:20 Erosion and Sediment Control Installation and Maintenance.

4.2 Stormwater Management Strategy

The proposed grading strategy for the Site will generally maintain existing drainage patterns post-development. All stormwater runoff for the 2-year to 100-year storm events will be contained within the Site and drain to stormwater management facilities. For Phase 1, quantity control will be provided by either an underground storage tank or a temporary stormwater management pond. For the full buildout of the Site, quantity control will be provided by an underground storage facility. The facilities will all be designed to provide extended detention (for erosion control), water quality treatment and quantity control. Rooftop controls may also be used to reduce the size of the facilities. One outlet is proposed to discharge Site flows to Sixteen Mile Creek. The outlet will be constructed as part of Phase 1 and will consider the full buildout of the Site. A separate outlet will be provided for discharge of external flows north of the Site.

LIDs will be implemented where feasible to provide volume control as part of the erosion mitigation strategy and to promote infiltration to mitigate the water balance deficit.

The stormwater management (SWM) strategy is only conceptual at this time and will be further detailed at the Site Plan Application stage. Refer to the Hydrologic Modleing & Stormwater Management Report (Crozier, April 2026) for additional information.

5.0 Groundwater Conditions

A Hydrogeological Assessment was prepared by Soil Engineers Ltd. in April 2026, which details the groundwater conditions for the Site. Based on borehole/monitoring well BH/MW3, a seasonal high groundwater elevation of 225.2 masl was determined, as noted in Table 7-1 of the Hydrogeological Assessment. A further analysis of the hydrogeological conditions onsite, including opportunities for LIDs will be completed at detailed design.

6.0 Erosion and Sediment Control

The following erosion and sediment control features will be implemented for the project. An erosion and sediment control drawing will be completed at the time of detailed design.

6.1 Erosion Control Measures

Interceptor Swales – Interceptor swales will be designed with reduced slope gradients to reduce erosion potential during the construction period. The interceptor swales will be designed to convey the 100-year storm event.

6.2 Sediment Control Measures

Stone Mud Mat – A stone mud mat will be provided to minimize the migration of unwanted material on to the adjacent ROWs. The construction access must be maintained (cleaned, swept and flushed) to minimize any disruption to the municipal ROW.

Silt Fence – Sediment control fence will be installed along the Site perimeter. The erosion and sediment control fencing will be monitored on a regular basis and repaired/replaced as required.

Temporary Sediment Basin – A temporary sediment basin will be designed to intercept sediment laden water and allow for settling of suspended soil particles. The outlet and maximum flow rate for the sediment basin will be designed at SPA.

Sediment Curtain – A sediment curtain will be installed in the temporary sediment basin and will be located between the swale inlets and basin outlet. The curtain keeps sediment contained to the area between the curtain and the pond bank and slows the movement of water in the isolated area, providing additional sediment control within the temporary sediment basins. The sediment curtains will be monitored on a regular basis and repaired/replaced as required.

7.0 Conclusions

Based on the conclusions and recommendations outlined in this report, the proposed development can be serviced in general conformance with the servicing and stormwater management criteria from the Town of Halton Hills, Halton Region, and Conservation Halton.

Should you have any questions or require any further information, please do not hesitate to contact us.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.

Katrina Weel, P.Eng.
Project Engineer

C.F. CROZIER & ASSOCIATES INC.

Julie Scott, P.Eng.
Manager, Land Development

J:\2000\2022 - Tullamore Industrial Limited Partnership\7556 - 9094 Regional Road 25, Halton Hills\Reports\Civil\Site FSR&SWM\2026.04.02_Second Submission\7556_S&SWM Report.docx

APPENDIX A

Sanitary Flow Calculations

Proposed Sanitary Design Flow - 9094 Regional Rd 25

Total Area: 26.87 ha

Phase	Block Area (ha)	Total Building Area (m^2)	Land Use	Population Density (m^2/employee) or *(persons/ ha)*	Population (persons)
1	13.91	26638	Commercial	37.4	712
2	8.32	N/A	Future Employment (Light Industrial)	*145*	1206
-	0.23	N/A	Heritage Site	*105*	24
-	4.41	N/A	Conservation Area/Compensation Area	-	0
Total	**26.87**	**26638**	**-**	**-**	**1943**

Population density per Halton Region Water and Wastewater Linear Design Manual, 2024 (Section 3.2.2, Table 3-1 and 3-2)

Design Criteria

Total Peak Flow = Average Daily Flow + Infiltration Allowance

Peak Factor =	3.6	Harmon Peaking Factor
Employment Average Day Flow =	185	L/employee/d
Infiltration Flow:	0.280	L/ha/s

Region of Halton 2022 Development Charges Background Study (December 2021), Table B-3

Phase 1

Average Daily Flow =	**1.53**	L/s
Peak Factor =	**3.89**	
Peak Daily Flow =	**5.93**	L/s
Infiltration Flow =	**3.89**	L/s
Total Peak Flow =	**9.83**	L/s

Phase 2

Average Daily Flow =	**2.58**	L/s
Peak Factor =	**3.75**	
Peak Daily Flow =	**9.68**	L/s
Infiltration Flow =	**2.33**	L/s
Total Peak Flow =	**12.01**	L/s

Heritage Site

Average Daily Flow =	**0.05**	L/s
Peak Factor =	**4.37**	
Peak Daily Flow =	**0.23**	L/s
Infiltration Flow =	**0.06**	L/s
Total Peak Flow =	**0.29**	L/s

Conservation Area

Average Daily Flow =	**0.00**	L/s
Peak Factor =	**4.50**	
Peak Daily Flow =	**0.00**	L/s
Infiltration Flow =	**1.23**	L/s
Total Peak Flow =	**1.23**	L/s

Entire Site

Average Daily Flow =	**4.16**	L/s
Peak Daily Flow =	**15.84**	L/s
Infiltration Flow =	**7.52**	L/s
Total Peak Flow =	**23.36**	L/s

APRIL 2, 2026

PROJECT NO: 2022-7556

The Regional Municipality of Halton
1151 Bronte Road
Oakville, Ontario L6M 3L1

RE: WATER USAGE AND SANITARY DISCHARGE REPORT FOR 9094 REGIONAL ROAD 25, TOWN OF HALTON HILLS, FILE NO. D09OPA25.006 & D14ZBA25.016

Dear Sir/Madam,

Rice Group proposes to construct a total of 26,638 m^2 of retail buildings as Phase 1 of their development, with 8.32 hectares of employment lands as Phase 2 of their development at 9094 Regional Road 25 in the Town of Halton Hills, a Heritage Site with 0.23 hectares of commercial lands, and a 4.41 hectare Conservation Area including Compensation Area. The site currently consists of a golf driving range, an existing Heritage House and Natural Heritage Area.

The site covers an area of 26.87 ha, of which approximately 10% is landscaped.

The Halton Region Integrated Master Plan Wastewater Design Criteria provided in Region comments dated February 17, 2026 was used to calculate water usage and sanitary discharge for the Site. The proposed development does not require water for processing, and cooling water will not be required.

Water Usage

Phase 1

Occupant Load	=	37.4 m^2/employee * 26638 m^2
	=	712 employees
Water Usage	=	190 L/employee/day * 712 employees
	=	135,327 L/day
	=	1.57 L/s
Max Daily Demand	=	2.98 L/s
Peak Hourly Demand	=	4.70 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

Total water usage for Phase 1 = 1.57 L/s for average day, 2.98 L/s for max day, and 4.70 L/s for peak day.

Phase 2

Occupant Load	=	145 persons/ha * 8.32 ha
	=	1206 employees
Water Usage	=	190 L/employee/day * 1206 employees
	=	229,216 L/day
	=	2.65 L/s
Max Daily Demand	=	5.04 L/s
Peak Hourly Demand	=	7.96 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

Total water usage for Phase 2 = 2.65 L/s for average day, 5.04 L/s for max day, and 7.96 L/s for peak day.

Heritage Site

Occupant Load	=	105 persons/ha * 0.23 ha
	=	24 employees
Water Usage	=	190 L/employee/day * 24 employees
	=	4,589 L/day
	=	0.05 L/s
Max Daily Demand	=	0.10 L/s
Peak Hourly Demand	=	0.16 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

Total water usage for Phase 2 = 0.05 L/s for average day, 0.10 L/s for max day, and 0.16 L/s for peak day.

Sanitary Discharge

Phase 1

Occupant Load	=	37.4 m^2/employee * 26638 m^2
	=	712 employees
Sanitary Flow	=	185 L/employee/day * 712 employees
	=	131,720 L/day
	=	1.53 L/s
Peak Daily Flow	=	5.93 L/s
Infiltration Flow	=	3.89 L/s
Total Daily Flow	=	9.83 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

The total sanitary discharge for Phase 1 is 9.83 L/s.

Phase 2

Occupant Load	=	145 persons/ha * 8.32 ha
	=	1206 employees
Sanitary Flow	=	185 L/employee/day * 1206 employees
	=	223,110 L/day
	=	2.58 L/s
Peak Daily Flow	=	9.68 L/s
Infiltration Flow	=	2.33 L/s
Total Daily Flow	=	12.01 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

The total sanitary discharge for Phase 2 is 12.01 L/s.

Heritage Site

Occupant Load	=	105 persons/ha * 0.23 ha
	=	24 employees
Sanitary Flow	=	185 L/employee/day * 24 employees
	=	4,440 L/day
	=	0.05 L/s
Peak Daily Flow	=	0.23 L/s
Infiltration Flow	=	0.06 L/s
Total Daily Flow	=	0.29 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

The total sanitary discharge for the Heritage Site is 0.29 L/s.

Conservation Area

Occupant Load	=	N/A
Infiltration Flow	=	1.23 L/s
Total Daily Flow	=	1.23 L/s
Process Water	=	0.0 L/s
Cooling Water	=	0.0 L/s
Landscaping	=	0.0 L/s

The total sanitary discharge for the Conservation Area is 1.23 L/s.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

Katrina Weel
Project Engineer

APPENDIX B

Water Demand Calculations

Project: 9094 Regional Rd 25 | **Design:** MF/KW | **Date:** 2025-10-17
Project No.: 2022-7556 | **Check:** JMS | **Updated:** 2026-04-02

Water Demand - 9094 Regional Rd 25 (Rice Property)

Block Area 26.87 ha

Phase	Total Building Area (m^2) or *Block Area (ha)*	Land Use	Population Density (m^2/employee) or *(persons/ ha)*	Population (persons)
1	26638	Commercial	37.4	712
2	*8.32*	Future Employment (Light Industrial)	*145*	1206
-	*0.23*	Hertiage Site (Commercial)	*105*	24
Total	**26638**	**-**	**-**	**1943**

Population density per Halton Region Water and Wastewater Linear Design Manual, 2024 (Section 2.4, Table 2-2)

Design Criteria:

Average Daily Demand:	190	L/employee.day
Maximum Daily Demand Peaking Factor:	1.90	-
Peak Hourly Demand Peaking Factor:	3.00	-

Region of Halton 2022 Development Charges Background Study (December 2021), Table 2-2 and B-1

Domestic Water Demand:

Phase 1

Average Daily Demand:	135327	L/day
	1.57	L/s
Maximum Daily Demand:	257121	L/day
	2.98	L/s
Peak Hourly Demand:	405980	L/day
	4.70	L/s

Phase 2

Average Daily Demand:	229216	L/day
	2.65	L/s
Maximum Daily Demand:	435510	L/day
	5.04	L/s
Peak Hourly Demand:	687648	L/day
	7.96	L/s

Heritage Site:

Average Daily Demand:	4589	L/day
	0.05	L/s
Maximum Daily Demand:	8718	L/day
	0.10	L/s
Peak Hourly Demand:	13766	L/day
	0.16	L/s

Domestic Water Demand:

Average Daily Demand:	369131	L/day
	4.27	L/s
Maximum Daily Demand:	701349	L/day
	8.12	L/s
Peak Hourly Demand:	1107394	L/day
	12.82	L/s

CROZIER CONSULTING ENGINEERS

9094 Regional Road 25 - Building A
Fire Protection Volume Calculation
CFCA File: 2022-7556

Date: 2026-04-02
Design: KW
Check: JS

Water Supply for Public Fire Protection - 2020
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

1. An estimate of fire flow required for a given area may be determined by the formula:

RFF = 220 * C * sqrt A

where

RFF = the required fire flow in litres per minute

C = coefficient related to the type of construction:

=	1.5	for Type V Wood Frame Construction (structure essentially all combustible)
=	0.8	for Type IV-A Mass Timber Construction (encapsulated mass timber)
=	0.9	for Type IV-B Mass Timber Construction (rated mass timber)
=	1.0	for Type IV-C Mass Timber Construction (ordinary mass timber)
=	1.5	for Type IV-D Mass Timber Construction (un-rated mass timber)
=	1.0	for Type III Ordinary Construction (brick or other masonry walls, combustible floor and interior)
=	0.8	for Type II Non-combustible Construction (unprotected metal structural components)
=	0.6	for Type I Fire-resistive Construction (fully protected frame, floors, roof)

Proposed Building A

Floor Area 15,527.0 sq.m

Area = 15,527 sq.m

C = 0.8 Assumes Type II Non-Combustible Construction

Therefore RFF = 21,931 L/min

2. Values obtained in No. 1 may be reduced by as much as 25% for occupancies having low contents fire hazard or may be increased by up to 25% surcharge for occupancies having a high fire hazard.

Non-Combustible	-25%	Free Burning	15%
Limited Combustible	-15%	Rapid Burning	25%
Combustible	0% (No Change)		

Limited Combustible	-15% reduction

-3,290 L/min reduction
18,642 L/min

Note: Flow determined shall not be less than 2,000 L/min

3. Sprinklers - The value obtained in No. 2 above maybe reduced by up to 50% for complete automatic sprinkler protection. The initial credit for the system will be a maximum of 30% for an adequately designed system conforming to NFPA 13 and other NFPA sprinkler standards.

As part of this analysis, the building will have sprinkler protection: 40%

7,457 L/min reduction

Water Supply for Public Fire Protection - 2020
Fire Underwriters Survey

Part II - Guide for Determination of Required Fire Flow

4. Exposure - To the value obtained in No. 2, a percentage should be added for structures exposed within 45 metres by the fire area under consideration. The percentage shall depend upon the height, area, and construction of the building(s) being exposed, the separation, openings in the exposed building(s), the length and height of exposure, the provision of automatic sprinklers and/or outside sprinklers in the building(s) exposed, the occupancy of the exposed building(s) and the effect of hillside locations on the possible spread of fire.

Separation	Charge	Separation	Charge
0 to 3 m	25%	20.1 to 30 m	10%
3.1 to 10 m	20%	> 30 m	0%
10.1 to 20 m	15%		

Exposed buildings

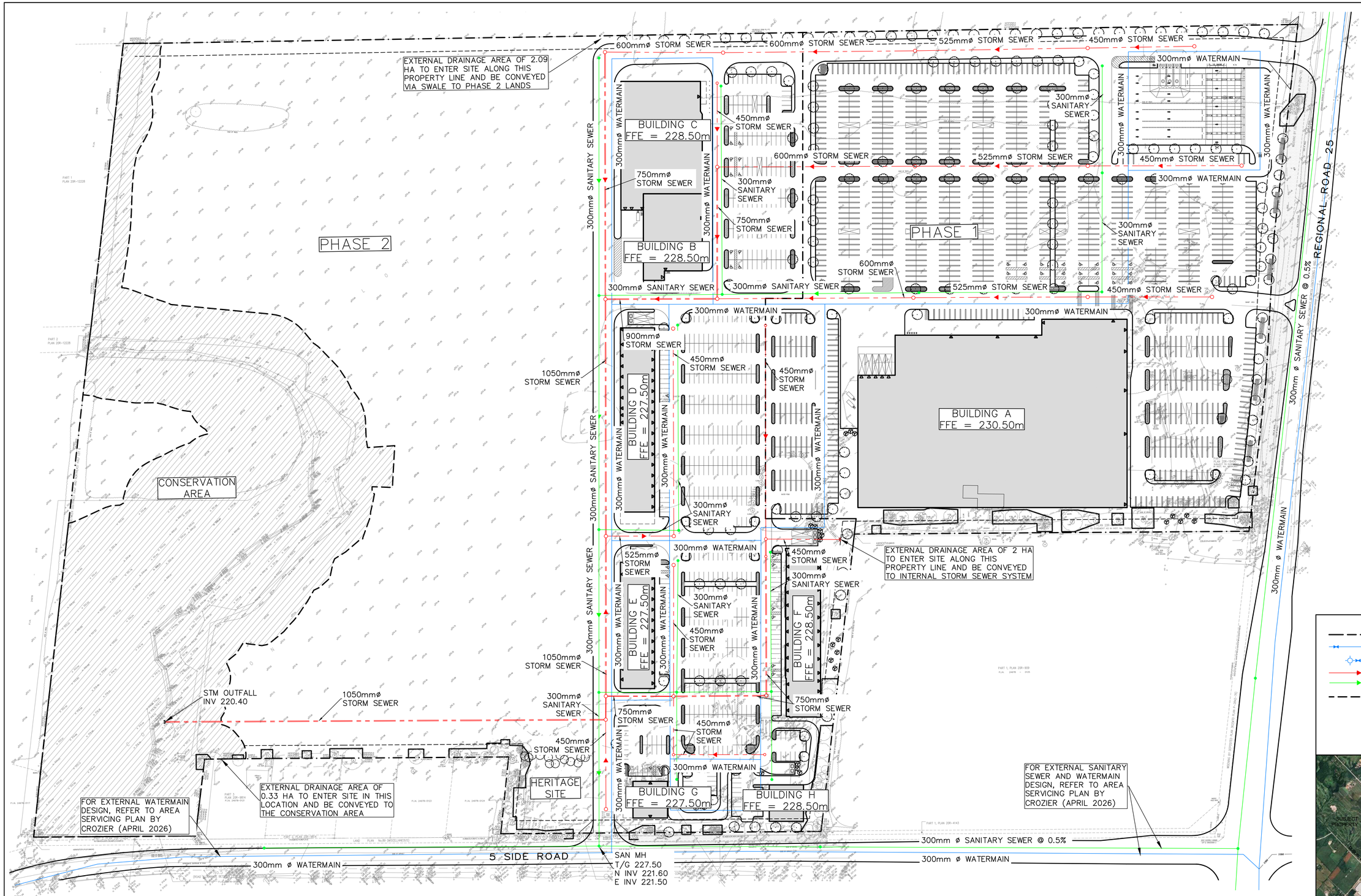
Name	Distance (m)	Charge (%)	Surcharge (L/min)
E	> 30	0%	-
W	> 30	0%	-
N	> 30	0%	-
S	> 30	0%	-

0 L/min Surcharge

Determine Required Fire Flow

No.1	21,931		
No. 2	-3,290 reduction		
No. 3	-7,457 reduction		
No. 4	0 surcharge		
Required Flow:	**11,185 L/min**		
Rounded to nearest 1000 L/min:	**11,000 L/min**	or	**183.3 L/s** 2,906 USGPM

FIGURES



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BENCHMARKS

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO TOWN OF HALTON HILLS.
BENCHMARK NO. 00820238111 HAVING AN ELEVATION OF 215.710
BEARING ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B BY REAL TIME NETWORK (RTN), UTM ZONE 17, NAD 83 (CSRS) (2010.0)
ORP A NORTH 4 820 846.69 EAST 586 664.74
ORP B NORTH 4 821 205.33 EAST 586 946.53
COORDINATES ARE UTM ZONE 17, NAD 83 (CSRS) (2010.0)
SURVEY COMPLETED BY WAHBA SURVEYING. (2025/SEPT/04). REFERENCE NO. 25-052
SURVY UPDATE COMPLETED BY JOETOPO (2025/DEC/18). BENCHMARK 'ORP B' AT ELEVATION 228.57, DATUM CGVD 2028:78 AND COORDINATES IN "GRID" DISTANCES, NAD 83 – UTM 17N

SITE PLAN NOTES

DESIGN ELEMENTS ARE BASED ON SITE PLAN PROVIDED BY TURNER FLEISCHER ARCHITECTS INC. PROJECT NO: 25.117P01

Town: HALTON HILLS

Region: Halton — THE REGIONAL MUNICIPALITY OF HALTON

FILE NUMBER

DESIGN OF SANITARY, WATER SERVICES & REGIONAL ROAD WORKS APPROVED SUBJECT TO DETAIL CONSTRUCTION CONFORMING TO HALTON REGION STANDARDS & SPECIFICATIONS & LOCATION APPROVAL FROM AREA MUNICIPALITY

LEGISLATIVE AND PLANING SERVICES DEPARTMENT

DATE

No.	ISSUE	DATE: YYYY/MM/DD
0	ISSUED FOR OPA/ZBA	2025/10/31
1	ISSUED FOR OPA/ZBA	2026/04/02

Engineer

Engineer

Project: 9094 REGIONAL ROAD 25 TOWN OF HALTON HILLS

Drawing: SITE SERVICING PLAN

CROZIER

Drawn By	Design By	Scale	Project
K.W./V.M.	K.W./V.M.	1:1000	2022-7556
Check By	Check By	Sheet	Drawing
J.S.	J.S.		FIG 1

PROPOSED SWALE ALONG PROPERTY LINE TO CONVEY 0.291 m^3/S OF EXTERNAL DRAINAGE. BOTTOM OF SWALE TO BE IN LINE WITH PROPERTY LINE. SLOPE TO MATCH EXISTING PROPERTY LINE SLOPE, WITH MINIMUM SLOPE = 0.4% NORMAL DEPTH = 0.38m SIDE SLOPES = MAX. 3:1

PROPOSED EMERGENCY OVERLAND SWALE FOR PHASE 1 TO CONVEY 2.04 m^3/s. SLOPE = 1.9% NORMAL DEPTH = 0.59m SIDE SLOPES = 3:1

EXTERNAL DRAINAGE AREA OF 0.33 HA TO ENTER SITE IN THIS LOCATION AND BE CONVEYED TO THE CONSERVATION AREA

EXTERNAL DRAINAGE AREA OF 2 HA TO ENTER SITE ALONG THIS PROPERTY LINE AND BE CONVEYED TO INTERNAL STORM SEWER SYSTEM

PHASE 1

PHASE 2

BUILDING A FFE = 230.50m

BUILDING B FFE = 228.50m

BUILDING C FFE = 228.50m

BUILDING D FFE = 227.50m

BUILDING E FFE = 227.50m

BUILDING F FFE = 228.50m

BUILDING G FFE = 227.50m

BUILDING H FFE = 228.50m

HERITAGE SITE

CONSERVATION AREA

REGIONAL ROAD 25

5 SIDE ROAD

3:1 SLOPE TO MATCH EXISTING ELEVATIONS

LEGEND

- PROPERTY LINE
- ×252.00 EXISTING GRADE
- ×252.00 PROPOSED GRADE
- 2.0% PROPOSED MINOR FLOW DIRECTION
- 2.0% PROPOSED GRASSED SWALE
- PROPOSED RETAINING WALL
- PROPOSED SLOPE (3:1 MAX.)
- BUILDING ENTRANCE (PERSONNEL DOOR)
- BUILDING ENTRANCE (OVERHEAD DOOR)
- PROPOSED MAJOR OVERLAND FLOW DIRECTION
- EXISTING MAJOR OVERLAND FLOW DIRECTION
- PROPOSED LIMIT OF DEVELOPMENT

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J.S.	J.S.		FIG 2