S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS

March 30, 2026

File: 24012

Emshih Developments Inc.
895 Brant Street, Unit 7
Burlington, ON, L7R 2J6

Attention: Kristina Didiano, MES – Development Manager

RE: Functional Servicing and Stormwater Management Report Addendum
800 Burloak Drive, Burlington, ON

This letter is to be read in conjunction with the Functional Servicing and Stormwater Management Report prepared by S. Llewellyn & Associates Limited, dated April 2024 in support of the OPA/ZBA submission. Through correspondence with Emshih Developments, it is understood that the concept plan has been revised to consist of two 8-storey mixed-use buildings, with 151 and 124 residential units in Building A and Building B, respectively, in addition to a total commercial floor area of 962 m^2, associated driveways, concrete curb/sidewalk, parking and landscaped areas.

1.0 Stormwater Management

Based on the current concept plan prepared by FastTrack, received October 8, 2025, the 2.02 ha site has a percent imperviousness of 76% (runoff coefficient of 0.75). As described in the Functional Servicing and Stormwater Management Report (FSR & SWM Report) dated April 2024, the previous concept plan had a percent imperviousness of 77% (runoff coefficient of 0.77). Since the current concept plan is more pervious than the previous concept plan, the FSR & SWM Report dated April 2024 is conservative and no additional quantity or quality controls will be required for the current concept plan.

2.0 Wastewater Generation

Wastewater generation from the site was estimated in accordance with the Regional Municipality of Halton Water and Wastewater Linear Design Manual (December 2025). Table 2.1 summarizes the population based on the proposed concept plan.

Table 2.1 – Proposed Population				
Occupancy Type	**No. of Units [A]**	**Gross Floor Area (m^2) [A]**	**Population Density [B]**	**Population**
Residential	274	---	3 per/unit	822
Commercial	---	962	90 per/ha	9
			Total Population [C]:	**831**

[A] Information from Site Plan prepared by FastTrack, received October 8, 2025.
[B] Residential population density assumed 3per/unit; commercial population density as per Table 3-2 of the Regional Municipality of Halton Water and Wastewater Linear Design Manual for light commercial.
[C] Total population = Residential Population + Commercial Population

Based on Table 2.1, the proposed development will have a population of 831 people. Since this is less than the 1,099 people calculated for the previous concept plan, the wastewater demands calculated in the FSR & SWM Report are considered conservative for the development.

3.0 Domestic Water Demand

As previously mentioned, the population for the proposed development is 831 people and has decreased from the previous site plan which had a population of 1,099. Additionally, the commercial area has decreased from 2,200m^2 to 962m^2, as shown on the current concept plan. Therefore, the domestic demand calculations in the FSR & SWM Report are considered conservative for the development.

4.0 Fire Flow Demand

The fire flow demand was calculated in the FSR & SWM Report to be 517 l/s using the Public Fire Protection (Fire Underwriters Survey, 2020). The calculations have been revised as per the current concept plan using Building A as the worst-case scenario, with a gross floor area of 12,785m^2 and exposure distance of >30m in all directions (0% correction). It is estimated that the required fire flow for the proposed development will be **100 l/s**. See the revised Fire Flow Demand Requirements attached for details.

5.0 Conclusions

Based on the information provided herein, it is concluded that the FSR & SWM Report dated April 2024 provides a conservative approach to the proposed development and will be revised at the detailed design stage once the concept plan is finalized.

We trust the information outlined above is sufficient. However, should you have any questions or concerns, please feel free to reach out at any time.

Yours truly,

S. LLEWELLYN & ASSOCIATES LIMITED



A. Porco, P.Eng.

FIRE FLOW DEMAND REQUIREMENTS - FIRE UNDERWRITERS SURVEY (FUS GUIDELINES)

Project Number: **24012**
Project Name: **800 Burloak Drive**
Date: **2026-03-30**

Fire flow demands for the FUS method is based on information and guidance provided in "Water Supply for Public Protection" (Fire Underwriters Survey, 2020).

An estimate of the fire flow required is given by the following formula:

$$F = 220\,C\sqrt{A}$$

where:

F = 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 ordinary construction (brick or other masonry walls, combustible floor and interior)
= 0.8 for non-combustible construction (unprotected metal structural components, masonry or metal walls)
= 0.6 for fire-resistive construction (fully protected frame, floors, roof)
A = Total floor area in square metres

Building / Location	Building Area: Footprint Area (m^2)	Building Area: # of Storeys	Building Area: **Total GFA (m^2)**	Type of Construction	(1) *Fire Flow "F"*: (l/min)	(1) *Fire Flow "F"*: (l/s)	(2) *Occupancy*: %	(2) *Occupancy*: Adjustment (l/min)	(2) *Occupancy*: **Adjusted Fire Flow (l/min)**	(3) *Sprinkler*: %	(3) *Sprinkler*: Adjustment (l/min)	(4) *Exposure*: %	(4) *Exposure*: Adjustment (l/min)	**Final Adjusted Fire Flow**: **(l/min)**	**Final Adjusted Fire Flow**: **(l/s)**
Mixed Use Block A	**1732.0**	**8**	**12785**	**0.6**	15000	250.0	**-15**	-2250.0	**12750.0**	**-50**	-6375.0	0	0.0	**6000**	**100**

(2) Occupancy

Non-Combustible	-25%
Limited Combustible	-15%
Combustible	No charge
Free Burning	15%
Rapid Burning	25%

(3) Sprinkler

Minimum credit for systems designed to NFPA 13 is 30%.

If the domestic and fire services are supplied by the same municipal water system, then take an additional 10%.

If the sprinkler system is fully supervised (ie. annunciator panel that alerts the Fire Dept., such as a school), then an additional 10% can be taken. Maximum credit = 50%.

(4) Exposure

0 to 3m	25%	
3.1 to 10m	20%	Calculate for all
10.1 to 20m	15%	sides. Maximum
20.1 to 30m	10%	charge shall not
> 30m	0%	exceed 75%

Side	Exposure (m)	Charge (%)
North =	**> 30m**	**0**
South =	**> 30m**	**0**
East =	**> 30m**	**0**
West =	**> 30m**	**0**
Total Expoure =		***0***