



**S. LLEWELLYN & ASSOCIATES LIMITED**  
CONSULTING ENGINEERS

December 23, 2021

File: 19084

City of Hamilton  
71 Main Street West, 6<sup>th</sup> Floor  
Hamilton, ON  
L8P 4Y5

Attention: Sandra Al-Dabbagh  
Development Coordinator  
Development Engineering Approvals

**RE: Formal Consultation Meeting – Application by UrbanSolutions Planning & Land Development Consultants Inc. C/O Matt Johnston for Lands Located at 526 Winona Road, Stoney Creek (Ward 10)**

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The following is a response to the comments dated December 3, 2021 with regards to the above noted project. We have had the opportunity to review the comments and offer the following:

**Public Works:**

**Water Servicing Review**

The requirements to support the proposed official plan amendment and zoning bylaw amendment applications are as follows.

1. The proponent is required to provide a servicing report, prepared by a licensed Professional Engineer, addressing:
  - How the proponent intends to provide water servicing for the new development.
  - Intended occupancy, intended land use from the table below, and the anticipated water demands.
  - The required fire flow (RFF) for the buildings calculated per the Ontario Building Code (OBC) Water Supply Flow Rate Method (section A-3.2.5.7) falling under Part 3 and Part 9 of the OBC (sections 1.1.2.2 and 1.1.2.4). Details to support the RFF calculation (e.g., building volumes, types of construction, major occupancy classifications and property line exposures) shall be clearly identified and properly documented.
  - Summary of the available fire flow in the area, based on two-hydrant flow tests, and a conclusion as to the adequacy of available

flow from the municipal system for the proposal. The municipal system as is, or with enhancement, must be able to provide the greater of the RFF calculated using the OBC methodology, or the target available fire flow (AFF) for the proposed land use, as per the table below.

Land Use	Target AFF (L/s)
Commercial	150
Small ICI (<1800 m <sup>3</sup> )	100
Industrial	250
Institutional	150
Residential Multi (greater than three units)	150
Residential Medium (three or less units)	125
Residential Single	75
Residential Single (dead end)	50

***All of the above requirements have been provided within the Functional Servicing Report.***

- To determine the approximate static pressure of the watermain, and collect calibration data for hydraulic modelling, two-hydrant flow tests should be conducted at the closest municipal hydrants by the proponent through a licensed private contractor.

***Two hydrant flow tests were completed by Auquacom Contracting on October 12, 2021 on the closest hydrants surrounding the development site. Please refer to Appendix C of the Functional Servicing Report for results.***

- The attached Adequate Water Services – Required Fire Flow-RFF and Available Fire Flow-AFF Form should be completed and submitted for the proposed development.

***The attached Adequate Water Services form has been completed. Please refer to Appendix C of the Functional Servicing Report.***

- Due to the size of the proposed development, a watermain hydraulic analysis (WHA) is required. The WHA should demonstrate that the required domestic and fire flows are available within the appropriate pressure ranges and that the impact of this development on the surrounding areas (PD1) is not adverse. Please contact Udo Ehrenberg

([udo.ehrenberg@hamilton.ca](mailto:udo.ehrenberg@hamilton.ca)) to confirm the boundary conditions prior to commencing the hydraulic analysis.

***A watermain hydraulic analysis has been provided by C3 Water.***

5. If municipal water system upgrades are required to support the proposed development, the Form 1 process will need to be completed.

***Noted.***

6. If the proponent intends to install sprinkler systems to ensure fire protection of the proposed buildings, the hydraulic parameters (flow and pressure) required by this system will need to be provided during the building permit application stage.

***Noted.***

7. It will be the responsibility of the proponent to ensure that any unique hydraulic requirements to support private site appurtenances (such as process equipment, domestic or fire booster pumps, minimum suction side pressure, large volumes, etc.) have been accounted for.

***Noted.***

### **Sanitary Sewer Servicing**

3. FSR Section 4.2, Table 4.1. The sanitary flow calculation is based on 2 person/bed and the total of 1867 beds. Please provide the calculation details which should show the statistic of the bedrooms of the residential units. The flow 15.56 L/s is different from SSCA. The SSCA and FSR should use the right unit numbers. 2 persons/bed should be used for the population calculation.

***Calculation details have been provided which show the statistic of bedrooms for the residential units. Please refer to Table 4.1 of the Functional Servicing Report.***

4. A servicing plan showing the proposed connection location of the sanitary servicing line will be required.

***A servicing plan has been provided that shows the proposed connection location of the sanitary servicing line required. Please refer to Preliminary Servicing Plan.***

5. Based on the FSR and SSCA, it is understood that the proponent will not discharge flows to the 250mm sanitary sewer on Winona Road and the 375mm sanitary sewer on the south of the property for the future connection. Please confirm.

***That is correct.***

6. It is understood that the proponent understands that the Winona SPS and the forcemain need to be upgraded to accommodate the proposed development. The development will be pending on the upgrades of the SPS and the forcemain.

***Understood.***

### **Minor Stormwater Servicing:**

1. The FSR does not include any appendix and we can't complete the review of the report.

***The appendices have been included. Please refer to Functional Servicing Report.***

2. A comparison table of peaks flows under existing and proposed conditions is required to illustrate the flow increases/decreases at the proposed outlet points.

***A comparison has been added to illustrate the flow decreases at the proposed outlet points. Please refer to Table 3.4 of the Functional Servicing Report.***

3. The FSR Section 3.2 stated that the flow will be increased to the storm sewers on Winona Road and East Street. Please be noted that the municipal sewer (minor system) is proposed to convey 5-year design storm runoff. The proponent is required to provide 5-year design storm flow calculations and the flow increases to the municipal storm sewers are not permitted. The proponent is encouraged to consider LID features or Stormwater management measures to mitigate the impacts of the development on the municipal sewer systems.

***The 5-year design storm calculations have been provided. Please refer to Tables 3.2 and 3.4 of the Functional Servicing Report. As the increase of flows to the municipal storm sewers are less than 5% of the capacity and the outlets are less than 150m from the outlet to Lake Ontario, no quantity control measures will be proposed. The***

***peak hydrographs from the site will be through the pipe prior to the upstream contributing lands. Further analysis can be shown at the site plan stage.***

### **Infrastructure Planning:**

#### **FSR (SLA; dated: August 2021)**

1. City's current Comprehensive Development Guidelines and Financial Policies Manual (2019) should be included as a reference in section 1.2.

***This has been included as a reference. Please refer to Section 1.2 of the Functional Servicing Report.***

2. Please confirm how the percentage imperviousness and runoff coefficient presented in Table 3.1 and Table 3.3 are related; if a conversion formula is used, please refer the formula.

***A formula has been provided. Please refer to Tables 3.1 and 3.3 of the Functional Servicing Report.***

3. There is typo in the report: first paragraph in page 5 ".....allowable flow to combined sewer on Queen Street....". Please update.

***This has been revised. Please refer to the Functional Servicing Report.***

4. Proposed OGS and ADS FlexStorm design calculations should be signed and stamped by a Professional Engineer. Please provide ETV verification statements for the proposed units. Please note that City will give credit up to the maximum TSS removal efficiency obtained by the ETV test for the chosen OGS and ADS FlexStorm units.

***The proposed OGS unit has been revised to be a HydroDome unit which achieves the required TSS removal on its own and therefore ADS FlexStorm units are no longer proposed. The ETV verification for the HydroDome unit has been provided. The design calculations will be signed and stamped by a Professional Engineer at the site plan stage. Please refer to Section 3.2 and Appendix A of the Functional Servicing Report.***

5. Please justify if the stormwater treatment train formula used for overall TSS removal calculation is appropriate when two hydrodynamic

separators are used in series and none of them are capable of removing finer particles.

***The quality control measures have been revised to include a HydroDome OGS unit for the drainage to Winona Road and East Street. These units are not proposed in series and are capable of removing finer particles. Please refer to Section 3.2 and Appendix A of the Functional Servicing Report.***

6. Stormwater Quantity Control: Please provide capacity used for pre-development and post-development conditions of the existing 1800mm and 600 mm storm sewers located within Winona Road and East Street, respectively.

***5-year capacity used for pre- and post-development conditions for the existing 1800mmø and 600mmø sewers within Winona Road and East Street, respectively, have been provided. Please refer to Section 3.2 of the Functional Servicing Report.***

7. Please note that *Appendix A – Stormwater Management Information* in the FSR and Site Servicing Plan are missing; therefore, stormwater quantity control assessment and quality control design described in the FSR could not be verified.

***Appendix A and the Site Servicing Plan have been provided.***

Yours truly,

**S. LLEWELLYN & ASSOCIATES LIMITED**



A. Porco, B. Eng.