

September 2nd, 2020

Amberwood Village Recreation Association (AVRA)
54 Springbrook Drive
Stittsville, ON K2S 1B9

Attention: **Alison Stirling**
 The Stirling Group

Reference: **Amberwood Village**
 Proposed Five Lot Development, Trailway Circle
 Our File No. 20041

Dear Ms. Stirling:

This letter has been prepared to summarize the servicing and grading designs required to support the proposed five lot development on Trailway Circle in Amberwood Village. The development is to include five new single-family residential lots (approximately 560 square metres in area) fronting on Trailway Circle.

Servicing Design

Each of the five new lots will be individually serviced for water, sanitary and storm via connections to the existing municipal infrastructure located within the Trailway Circle right-of-way. The existing municipal infrastructure adjacent to the proposed development is as follows:

- 203 mm diameter watermain
- 250 mm diameter sanitary sewer
- 600 mm to 675 mm diameter storm sewers

In accordance with current City of Ottawa sewer design guidelines, each lot will be individually serviced via connections to the existing municipal infrastructure as follows:

- 19 mm copper/PEX water service (minimum 2.4 m cover depth)
- 135 mm PVC SDR 28 sanitary service (at 2% slope)
- 100 mm PVC SDR 28 storm service (at 2% slope)

In addition, sump pumps will be required for each of the individual lots as the proposed underside of footing (USF) elevations are located below the springline elevations of the existing municipal storm sewers.

Water Demand

An analysis has been completed for the proposed development to determine the expected water demands for the five lot proposal. Assuming a total population of 17 people (3.4 persons per single-family home), the following water demands were calculated for the development:

- Average Daily Demand = 0.07 L/s (17 people x 350 L/person/day)
- Maximum Daily Demand = 0.17 L/s (2.5 x Avg. Daily Demand)

- Maximum Hourly Demand = 0.38 L/s (2.2 x Max. Daily Demand)

Sanitary Flows

Using current City of Ottawa sewer design guidelines, the expected sanitary flows to be generated from the proposed development have been calculated. Assuming a total population of 17 people (3.4 persons per single-family home), the following sanitary flows were calculated for the development:

- Peak Population Flow = 17.0 persons x 280 L/person/day x 3.71 = 0.20 L/s
- Extraneous Flow = 0.28 ha x 0.33 L/s/ha = 0.09 L/s
- Peak Design Flow = 0.20 L/s + 0.09 L/s = 0.29 L/s

The increased water demand and sewer flows to be generated from the addition of five new residential lots is minimal and therefore is not expected to have a significant impact on the capacities of the existing municipal infrastructure. Refer to the Servicing and Grading Plan (DWG. 20041-SG1) attached to the end of this letter.

Grading Design

The proposed development is constrained by the Poole Creek regulatory floodplain (elevation = 111.90 m) which extends into the rear yards of the proposed lots. The proposed grading of the lots has been designed to match existing elevations at the interface with the regulatory floodplain and therefore a cut/fill analysis is not warranted as there will be no significant loss of floodplain storage. The proposed house footprint for Lot 5 marginally extends into the regulatory floodplain limit. However, all proposed openings (i.e. windows and doors) will be located a minimum of 0.30 metres above the regulatory floodplain elevation and therefore should not be of concern. Refer to the Poole Creek Flood Risk Map attached to the end of this letter.

The proposed grading has been designed to tie into existing elevations along the property boundaries and regulatory floodplain, and has been designed in keeping with Current City of Ottawa design guidelines. Refer to the Servicing and Grading Plan (DWG. 20041-SG1) attached to the end of this letter.

Erosion and Sediment Control

For the proposed development, the Contractor shall implement best management practices to provide for the protection of existing drainage systems during construction activities. Specifically, light duty silt fence is proposed to be installed along the property boundaries and along the regulatory floodplain. In addition, silt sacks are proposed to be installed under the frame and cover of the existing catch basins on Trailway Circle in proximity to the proposed construction works.

If you require additional information or clarification, please contact the undersigned.

Yours truly,

ROBINSON LAND DEVELOPMENT

Sean Czaharynski, P. Eng.
Manager – Land Development