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2019-04-09

Project: 115201-5.3.1.5

Ms. Sara Mashaie, P. Eng.
Project Manager, Development Review East Branch
Planning, Infrastructure & Economic Development Department
City of Ottawa
110 Laurier Avenue West
Ottawa, Ontario
K1P 1J1

Dear Ms. Mashaie:

**RE: RESPONSE TO COMMENTS LETTER
380 ROLLING MEADOW CRESCENT – SUBMISSION #1**

With reference to the above mentioned submission and your comments in your Memorandum dated December 24, 2018, please see our responses below:

A. General:

1. A Composite Utility Plan (CUP) is required, with sign-off from all agencies involved.

Noted. Coordination with utility purveyors is going.

2. Include the application number **D07-12-18-0167** to all drawings. A drawing number will be issued and placed at the bottom right hand corner at a later date.

Revised. Awaiting for plan number.

3. Ensure that the associated Technical Bulletins for revisions to the 2012 Ottawa Sewer Design Guidelines and the 2010 Ottawa Design Guidelines – Water Distribution are integrated in the design drawings and reports.

Noted.

4. Note that comments from one drawing can be relevant to other drawings. Review accordingly. Also, review the drawings in conjunction with the Servicing Brief.

Noted.

Ms. Sara Mashaie, P. Eng. – 2019-04-09

B. List of Drawing(s):

Site Plan, Dwg. SP-1, prepared by Roderick Lahey Architect Inc., Project # 1721, dated October 12, 2018, Revision # 1.

Tree Conservation Report and Landscape Plan, Dwg. L.1, prepared by James B. Lennox & Associates Inc. Landscape Architects, Project # 18-CLG-1862, dated October 23, 2018, Revision # 1.

Small Block – Building Elevations / Large Block – Building Elevations, Dwg. A200, prepared by Roderick Lahey Architect Inc., Project # 1721, dated October 12, 2018, Revision # 1.

Spring Valley Trails Zens Walk-Up Townhouses – Cover, Dwg. 000, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

31. Place the words “City of Ottawa” under the key plan solely for the intent of showing the project location. Also, include the date (October 2018).

Added “City of Ottawa” below key plan. Date was previously shown at the bottom right corner.

General Plan of Servicing, Dwg. 001, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

32. Recommend to have a profile drawing accompany this drawing.

Added profile to DWG 011.

33. Specify the water and sewer pipe materials, review the slopes, and ensure that they conform to standards.

Note 1 on drawing revised to include water and sewer pipe materials.

34. The water service post in front of Building ‘B’ is to be moved outside the property line.

Revised with note.

35. Address backflow prevention for the site.

Refer to mechanical drawings for location and specification of backwater valves. Typically not shown on site servicing drawings, but is a requirement of the Ontario Building Code, and are normally located within close proximity to the building cleanouts.

36. Currently the proposal is to meter at the building level (4 meters) which should be acceptable. The requirement for the 5-year leak survey may still be a requirement due to being borderline on private watermain/service length. If perimeter metering is entertained, the 5-year leak survey will not be a requirement upon registration. Address accordingly.

A monitoring valve chamber has been provided at the eastern connection where the existing valve box was located inside private property.

Ms. Sara Mashaie, P. Eng. – 2019-04-09

37. Confirm that the sanitary and storm hydraulic grade lines (HGL) are minimum 0.3m below the proposed underside of footings of the buildings.

See HGL calculations and text within report. HGL has no impact on the proposed buildings.

38. Include a monitoring maintenance hole inside the property line from the private sewer to the public sewer. Refer to the Sewer Use By-Law No. 2003-514 for details.

Revised. MH1A moved closer to property line. MH1 was already close to property line. MH10A and MH6 have not been moved due to congestion and crossing conflicts to connect to street. MH10A and MH6 are relatively close to property line with no downstream connections, and should be adequate to serve as a monitoring manhole.

39. Clarify the elevations of MH3 and the OGS on the STM STRUCTURE TABLE.

Revised.

40. Verify the lengths and the slopes of the sanitary sewers shown on the servicing drawing against the sanitary sewer design sheet provided in the Servicing Brief, as there is inconsistency in some places (ex: a length of 29.91m and a slope of 2% from MH12A to MH11A on the sanitary sewer design sheet, and a length of 29.15m and a slope of 1.13% on the servicing drawing).

Revised.

41. As stated for the sanitary sewers, verify the lengths and the slopes of the storm sewers shown on the servicing drawing against the storm sewer design sheet provided in the Servicing Brief.

Revised.

General Notes, Legend and CB Data Table, Dwg. 010, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

42. Ensure that all symbols listed in the Legend are referenced to the appropriate standards, as required. Likewise, ensure that all symbols shown on the drawings are listed in the Legend (ex.: floor drain on Grading Plan not shown on the Legend).

Floor drain symbol added to legend.

43. The CB Data Table is listed on Drawing No. 001 – General Plan of Servicing and not on this drawing.

CB Table removed from title block.

Sections, Dwg. 011, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

44. Retaining walls are proposed in two places on the site. Retaining walls equal to, or greater than 1.0m in height require structural drawings that are sealed, signed, and dated by a Professional Engineer licenced in the province of Ontario.

Ms. Sara Mashaie, P. Eng. – 2019-04-09

Additional wall grades has been provided to limit wall height below 1.0m.

45. The technical specifications for the OGS and the Soleno Hydrostor that have been provided in the Servicing Brief can be integrated into the cross-sections, as necessary. Provide further details in the cross-sections (i.e.: elevations, overflows, washed stone, geotextile, etc.).

Revised.

46. Overall, provide additional cross-sections to better illustrate the design intent.

The intent is to convey all storm flows to the central storage and infiltration gallery.

Grading Plan, Dwg. 200, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

47. Provide a letter from the geotechnical engineer stating that they have reviewed the latest grading plan and it complies with their recommendations.

Will be provided prior to approval.

48. Sidewalk grading is not clear. Revise accordingly.

Revised. Please email with specific location for further clarification.

49. Ensure a minimum slope of 2% away from buildings (not to exceed 7%).

Revised.

50. The 20% stress test is to be accounted for on top of the 100-year storm event. Also, address the maximum 30cm difference between the spillover point and the grade at the building, as well as the minimum 15cm of vertical clearance between the spillover point on the street and the lowest grade at the building. Refer to general note A3 above and revise accordingly.

The on-site 100-year storm + 20% stress test has been reviewed on the stormwater management calculation sheets. The storage required during that stress test is less than the total volume provided below the lowest spill point of 76.14 along the Rolling Meadow Crescent R.O.W. The entire stress test flow is contained on-site and below ground, with no overflow.

The maximum ponding elevation in the street is 76.00, at the low point directly in front of the south entrances to Building D. Overflow paths were not calculated as part of Spring Valley Trails Phase 1. However, freeboard of greater than 300mm has been provided. Upstream of the low point, the road is continuously sloping west towards Esterbrook Drive. Each critical grade (top of stairs to depressed entrances) is a minimum of 300mm above the road grade that directly impacts the critical grade location.

Erosion and Sedimentation Control Plan, Dwg. 900, prepared by IBI Group, Project # 115201, dated October 11, 2018, Revision # 1.

51. Provide a note indicating where deposits will be disposed of, and as per which direction.

Collected and removed from site (typically). See Note 14 on DWG 010, and Note 8 on DWG 900.

Ms. Sara Mashaie, P. Eng. – 2019-04-09

52. Provide a note indicating that all exposed areas are to be revegetated as soon as possible.

Note added. See Note 12 on DWG 010, and Note 6 on DWG 900.

53. Provide a note indicating that a visual inspection shall be completed daily on sediment control barriers and any damage is to be repaired immediately. Care will also be taken to prevent damage during construction operations.

Note added. See Note 13 on DWG 010, and Note 7 on DWG 900.

C. List of Report(s):

Geotechnical Investigation, Residential Development, Spring Valley Trails – Zen Blocks, Ottawa, Ontario, prepared by Golder Associates Ltd., File # 07-1121-0232, dated August 2018, Revision # - .

Phase I Environmental Site Assessment, 380 Rolling Meadow Crescent, Ottawa, Ontario, prepared by Paterson Group, Report # PE4344-1, dated July 23, 2018, Revision # - .

Servicing Brief, 380 Rolling Meadow Cr, Spring Valley Trails, City of Ottawa, prepared by IBI Group, Report # 115201-5.2.2.1, dated October 11, 2018, Revision # - .

4. Revise the cross-references to the appendices as there is some incorrect information (ex.: the Topographical Survey (Job # 18588-17) completed by Annis, O'Sullivan, Vollebakk Ltd. in December 2017 was submitted in Appendix A, and not the Site Plan prepared by RLA Architecture, as referenced on Page 1 of the brief).

Site Plan added to Appendix A.

5. Ensure that any consultations, communications, and action items with applicable agencies for permits and approvals, are documented.

6. Request the boundary conditions for the subject site by sending an email to the undersigned. Water boundary condition requests must include the location of the service and the expected loads required by the proposed development. The following information is to be provided as part of the request:

- a) Location of service
- b) Type of development
- c) Average Day Demand (L/s)
- d) Maximum Day Demand (L/s)
- e) Peak Hour Demand (L/s)
- f) Fire Flow Demand (L/s)

Refer to general comment A3 above and apply the revisions accordingly.

Provide a copy of the fire flow demand requirement calculations and water demand calculations for review (in PDF format).

Ms. Sara Mashaie, P. Eng. – 2019-04-09

Also provide, with the request, the connection location on a map (in PDF format).

Once this information has been provided to the undersigned, note that it may take approximately 10 business days to receive boundary conditions for the subject site.

Water boundary request sent and received, updated water model included.

7. Revise Section 3 Wastewater System as per general comment A3 above.

Revised.

8. Section 4 Stormwater Management / 4.5 Stormwater Management:

We note that an OGS unit is proposed on-site to provide water quality control in addition to water quality control already provided in the existing EUC Pond 3. Is this because of an increase of imperviousness compared to the assumptions made in the original EUC Pond 3 design for the site? This should be discussed in the report.

Cannot discharge untreated runoff from parking areas directly into infiltration gallery (unlike stormwater from roofs or landscaped areas).

9. Section 4 Stormwater Management / 4.7 On-Site Detention - Clarify the following: "For depressed patios, the building opening is being considered as the top of the stairs leading down to the patio". Per discussion with City of Ottawa Building Code Services staff, a building opening is considered to be a door, window, etc.

The exterior grade at the top of the stairs leading down to the depressed patios needs to receive a similar consideration as the grade at the back of typical house. The "building opening" is below the finished grade, similar to how a "building opening" for a basement window, for a typical residential dwelling is located well below grade and is contained by a window well. Comparing the freeboard elevation to the physical building opening is irrelevant, as the building opening is protected from a higher grade. It is this higher grade that must meet the freeboard requirements, hence why for the purposes of the proposed depressed patio areas, the grade at the top of the stairs is meeting the freeboard by a minimum of 300mm. Unlike a window well, the grade at the stairs is on a fully maintained hard surface pathway with positive drainage away from the depressed areas.

In addition to the freeboard provided, each depressed patio is provided with a catchbasin and an unrestricted connection to the storm sewer, as well as a minimum 150mm exposed concrete step from the finished patio level up to the sill (building opening)

10. Section 5 Source Controls: consider revising this section to reflect the subject development. There is some reference to other phases, public parks, etc. Can also describe the subject site within the entirety of the Spring Valley Trails subdivision.

Revised. ZENS block is part of Spring Valley Trails subdivision Phase 2.

11. Section 8 Soils: remove the HL3 reference for the pavement structure.

Revised.

12. The Servicing Brief should provide a narrative on the functioning of the infiltration gallery, including how the infiltration gallery sizing calculation chart was derived (i.e. additional

Ms. Sara Mashaie, P. Eng. – 2019-04-09

calculation details should be provided to demonstrate how the infiltration gallery will function during a storm event).

Revised. Gallery sizing calculation see Appendix C11. Infiltration gallery description see Report 4.5 Stormwater Management. The stormwater from the majority of the site will be collected and directed to the infiltration gallery first. The infiltration gallery has been sized to have the capacity to retain 25mm/day storm event without any overflow. Events exceeding the 25mm event will overflow the infiltration gallery, and discharge into the outlet pipe. The outlet pipe is restricted by an ICD at 48.40 L/s, at which point stormwater will back up, and gradually fill in the 100 year storage gallery (Solenite + clear stone), located above the infiltration gallery. The 100 year + 20% storm is fully contained within the residual capacity of the storage gallery and the upstream pipes and structures without overflowing to the surface.

13. Show the proposed roof drains on the relevant drawing(s) and confirm that rooftop storage is following 8.3.8.4 and 8.3.11.3 from the 2012 Ottawa Sewer Design Guidelines, as well as the requirements stated in the Ontario Building Code.

Roof storage is eliminated.

Technical Memorandum, Infiltration Rate Assessment, 380 Rolling Meadow Crescent, Ottawa, Ontario, prepared by Golder Associates Ltd., Project # 07-1121-0232-7100, dated September 11, 2018, Revision # - .

14. The location of the infiltration rate testing does not appear to be appropriate. The testing was performed near BH 08-206, whereas the infiltration gallery is proposed near BH 08-205. The soil stratigraphy is different in both locations.

The location of the gallery is located beneath a semi-permanent construction site trailer and parking area, making it difficult to access. Winter conditions also prohibited moving the trailers for access. Notwithstanding the above, the infiltration rate has been adjusted as per comment 16 below. This made very little difference to the size of the gallery. We have experimented by further reducing the infiltration rate, what we found was that the infiltration gallery was already sized to provide storage for 100% of the 25mm event, irrespective of the infiltration rate. The only variable is the amount of time for infiltration to occur. The gallery could likely be slightly reduced in size if the analysis was performed to evaluate the 25mm/day even on an hourly basis (1.04mm/hr), this would allow for infiltration per hour rates to be examined. We find that at this time this calculation to be unnecessary, as the current proposal detains the first 25mm.

15. Notwithstanding the issue with the location of the tests, there should have been more than one test per soil horizon, in order to assess variability.

16. The Golder Associates Ltd. Infiltration Rate Assessment recommends an infiltration rate of 12 mm/hr, whereas the design by the IBI Group used 43 mm/hr. It appears that the safety factor recommended by Golder Associates Ltd. was not considered in the design.

Infiltration rate updated. The revised infiltration rate had no effect on storage volume required because the full 25mm storm needs to be captured in the infiltration gallery.

If you have any questions or require clarification or additional information as you review the details of this submission, please do not hesitate to contact me directly.

Ms. Sara Mashaie, P. Eng. – 2019-04-09

Yours truly,

IBI GROUP

Ryan Magladry C.E.T.

RM/kk

cc: