

Our Ref: 12623499-03

10 February 2025

**Zeel Patel**  
**n Architecture Inc.**  
**9120 Leslie Street, Suite 208**  
**Richmond Hill, ON L4B 3J9**

**Re: Response to Comments – 27 Winona Drive, Whitchurch-Stouffville ON**

Dear Ms. Patel:

GHD Limited (GHD) is pleased to present the following responses to the comments received from nArchitecture Inc. regarding GHD's report entitled "Hydrogeological and Geotechnical and Investigation: Proposed 3-Storey Mosque – 27 Winona Drive, Whitchurch-Stouffville, Ontario", dated August 27, 2024 (herein referred as the Report) completed for the above noted property. GHD responses follow the respective comments:

***nArchitecture Inc. – Comment No. 1***

1. It would be prudent for the Geotechnical Engineer to confirm the geotechnical recommendations based on reviewing the detailed design.

***GHD Response***

GHD reviewed the following drawings provided:

- Building Elevation. Drawing No. A-3.0. Prepared by nArchitecture Inc. Issued for coordination February 4, 2025.
- Grading Site Plan. Drawing No. C-1. Prepared by nArchitecture Inc. Issued for coordination February 4, 2025.
- Site Servicing Plan. Drawing No. C-2. Prepared by nArchitecture Inc. Issued for coordination February 4, 2025

The development is to consist of a slab-on-grade, 3-floor mosque structure with a minaret (tower structure). Our report was completed for a 3-storey slab-on-grade structure. The geotechnical recommendations provided in the Report remain valid.

***nArchitecture Inc. – Comment No. 2***

2. The Report estimates the first finished floor at 270.6 masl. This should be confirmed with a review of the detailed design drawings at the site plan stage.

***GHD Response***

Our review of the drawings provided indicates that the first finished floor will be 271.05 m, approximately 0.45 m higher than documented in our report. In our opinion, based upon the grade change and the plans presented, our recommendations presented in the Report remain valid.

### ***nArchitecture Inc. – Comment No. 3***

3. LID details need to match the deficit identified. This comment may be addressed at the Site Plan stage.

### ***GHD Response***

Our calculations suggest a deficit of 244 cubic metres per year (m<sup>3</sup>/yr). GHD does not prepare the LID design. Based upon the drawing provided, the Site will incorporate a biocell which can reduce runoff by 85% (without an underdrain) or 45% (with an underdrain)<sup>1</sup>. There was calculated to be 1,335 m<sup>3</sup>/yr of surplus rooftop runoff, requiring approximately 18% to be captured for infiltration to meet the pre-development value.

The bottom of the bioswale will be at 270.03 m. Wet soils noted during drilling were about 3.7 m below the bottom of the bioswale and groundwater levels that were measured indicated that groundwater will be about 5 m below the bottom of the bioswale.

### ***nArchitecture Inc. – Comment No. 4***

4. Foundation Drainage. The FSR and the hydrogeological study report have not identified the expected discharge rate for short-term and long-term groundwater dewatering, or whether the groundwater will be discharged to local storm or sanitary sewer. Please update this section in subsequent submissions or future application stage and submit for IAM to review. The Owner is advised that temporary discharge to the municipal sanitary sewer system will only be considered when no other alternatives are feasible. Should no alternatives be available, the Owner is advised that construction dewatering discharge to the local municipal or Regional sanitary system requires a separate approval in accordance with Sewer Use By-Law No. 2021-102. See <http://www.york.ca/seweruse> for additional information.

### ***GHD Response***

If construction dewatering is required, we agree that the water should be discharged to the local storm sewer in accordance with the municipal by-law. That also means that a water sample is to be collected to ensure the quality of the groundwater meets the by-law criterion. The finished first floor will be nearly 6 m above the measured water levels. Minimum founding depths for the foundation are on the order of 269.2 to 270.3 m. With groundwater levels noted around 265 m, groundwater dewatering is not expected and if it is required, not likely to be significant.

### ***nArchitecture Inc. – Comment No. 5***

5. The Owner is also advised that the Region does not support permanent discharge of groundwater to the sanitary system. Please incorporate in the design accordingly.

### ***GHD Response***

Permanent discharge of groundwater to the sewer is not anticipated. GHD is not involved in design of this site.

### ***nArchitecture Inc. – Comment No. 6***

6. A dewatering report, as part of a hydrogeological assessment or standalone, shall be prepared by a qualified person and submitted by the proponent to the Region's Source Protection team for approval prior to application approval should dewatering be required (i.e. excavations are over 8 m deep and over 400,000 litres per day will be dewatered or permanent dewatering will occur)

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<sup>1</sup> Low Impact Development Stormwater Management Planning and Design Guide. Version 1.0. 2010.

### **GHD Response**

GHD is unaware of the proposed construction excavations and is not anticipating excavations over 8 m deep for this Site. This appears to be erroneous. If dewatering is required and is to exceed 50,000 L/day, a permit will be required following the process as outlined within Section 5.1.3 of the Report.

### **nArchitecture Inc. – Comment No. 7**

7. That the applicant submits an addendum letter to the Hydrogeological and Geotechnical Investigation prepared by GHD Limited, dated November 8th, 2024, with the requested changes. TRCA Hydrogeology Staff have reviewed the materials provided and are satisfied with the LID approach to meet pre-development recharge. Although, TRCA Staff do note that there is a factual error in Section 2.4.3 of the report. The subject property is located within York Region WHPA-Q1/Q2, below the downgradient line, whereas the report mentions otherwise. Please provide an addendum letter.

### **GHD Response**

GHD concurs with the comment that the Site is within the WHPA-Q1/Q2 area indicating that activities that take water without returning it to the same source may be a threat (Q1); and, that activities that reduce recharge may be a threat.

However, this Site is south of the WHPA-Q Downgradient Line or “the Line”. Developments south of the Line where recharge reduction does not impair municipal water supply wells are only required to implement best management practices to the greatest extent that is feasible and practical. The Site is not within a Wellhead Protection Area. The nearest municipal wells are about 2.5 kilometers to the east. The municipal wells draw water from the north and do not draw water from the area of the Site. It is our opinion that a reduction in the recharge of water at the Site will not impact the municipal wells. We recommend that the Site utilize LIDs to reduce stormwater runoff and maintain infiltration to the extent that is feasible and practical.

It is GHD’s opinion that an addendum letter further to this response letter is not required to address this comment.

### **Closure**

As noted above, the geotechnical recommendations provided in the Report remain valid. Otherwise, the comments addressed are to be appended to the Report.

We trust that this response letter meets with your immediate requirements. Should you have any additional questions, please contact our office.

Sincerely,

GHD



**Leandro Ramos, P.Eng.**  
Senior Geotechnical Engineer



**Robert Neck, P.Geo.(Limited)**  
Senior Geoscientist, Project Director



**ghd.com**

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