PATERSON GROUP

memorandum

re: **Geotechnical Response to City Comments**
Proposed Mixed-Use Development
2 Robinson Avenue - Ottawa, Ontario

to: Place Dorée - **Mr. Mike Marcella** – mike@placedoree.com

cc: Prince Developments – **Mr. Kiren Waugh** – kwaugh@princedev.com

date: July 28, 2022

file: PG4811-MEMO.03

Paterson Group Inc. (Paterson) prepared the current memo to provide our responses to the geotechnical-related City of Ottawa comments received from by the client via email. This memo should be read in conjunction with the current Geotechnical Investigation Report (Paterson Group Report PG4811-1 Revision 3 dated July 28, 2022), and Paterson Group Memorandum PG4811-MEMO.02 dated March 23, 2022.

Geotechnical Investigation Comments

Comment 5: *Please provide global stability review, as per the latest Memo.*

Response: It should be noted that Paterson has not completed a detailed retaining wall design to date for the subject site and the following information is not representative of the final retaining wall design. The global stability review was prepared based on an anticipated retaining wall design for the proposed site grading as shown on the following drawing prepared by NovaTech:

❑ Grading Plan – 2 Robinson Avenue – Project No. 119171 – Drawing No. 119171-GR – Revision 2 dated March 30, 2021.

Reference should be made to Figure 1 – Typical Cross Section and Figure 2 – Global Stability Analysis for Retaining Wall, attached to the current memorandum.

The global stability analysis was modelled in SLIDE, a computer program which permits a two-dimensional slope stability analysis calculating several methods including the Bishop's method, which is a widely accepted slope analysis method. The program calculates a factor of safety, which represents the ratio of the forces resisting failure to forces favouring failure. Theoretically, a factor of safety of 1.0 represents a condition where the slope is stable. However, due t intrinsic limitations of the calculation methods and the variability of the subsurface soil and groundwater conditions, a factor of safety greater than 1.0 is generally required for the failure risk to be considered acceptable.

A minimum factor of safety of 1.5 is satisfactory for static conditions for the global stability of the subject retaining wall.

Based on the results of the analysis, the factor of safety for the proposed condition exceeds 1.5. It should be noted that as a conservative measure, the groundwater level for the global stability of the retaining wall assumed full saturation of the retained soil. The soil parameters utilized in our global stability review are outlined on Figure 2 – Global Stability Analysis for Retaining Wall.

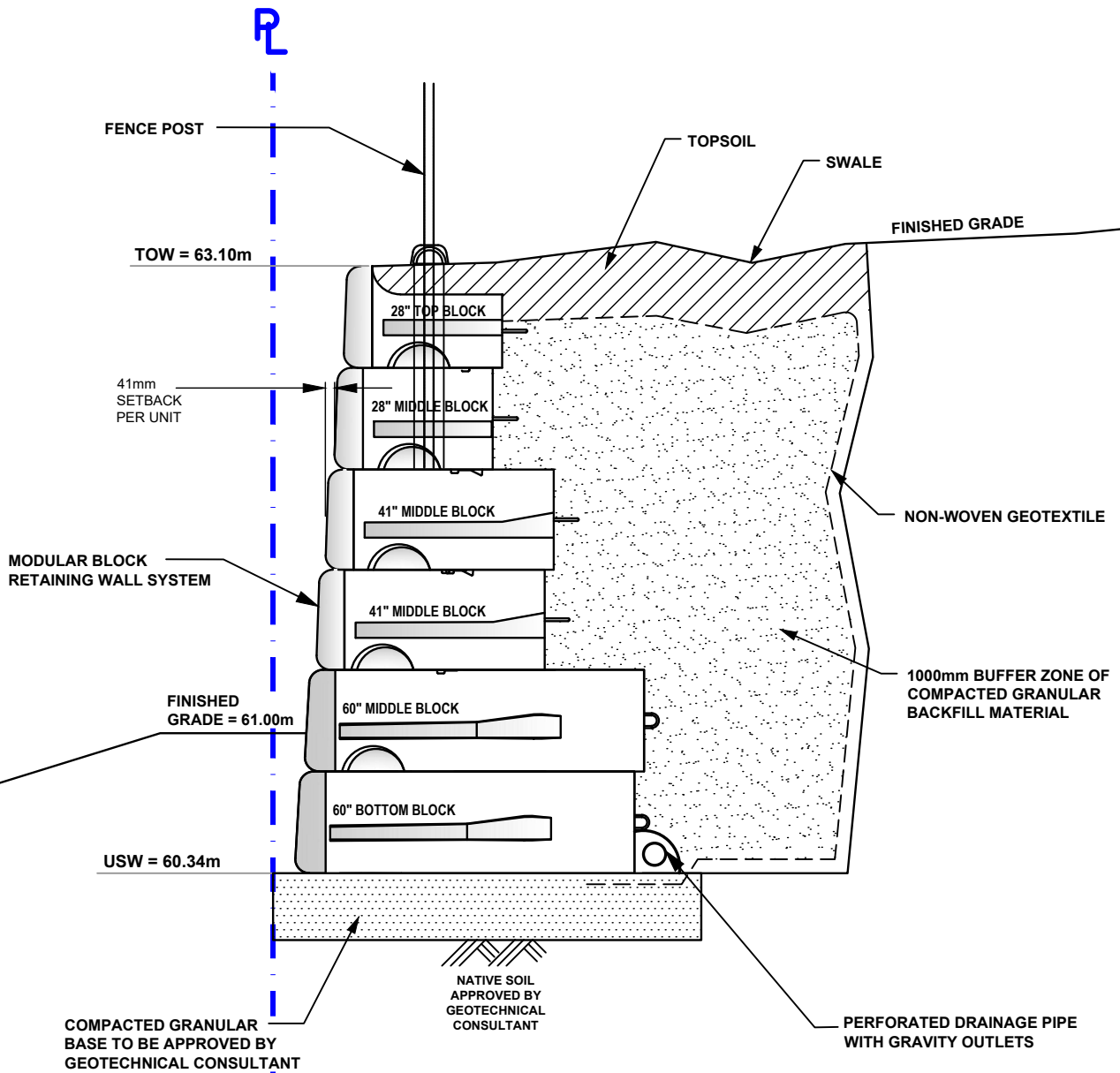We trust that this information satisfies your immediate requirements.

Best Regards,

LICENSED PROFESSIONAL ENGINEER

July 28, 2022

D. J. GILBERT
100116130

PROVINCE OF ONTARIO

Nicole Patey, B.Eng.

David J. Gilbert, P.Eng.

PL

FENCE POST

TOPSOIL

SWALE

FINISHED GRADE

TOW = 63.10m

28" TOP BLOCK

41mm
SETBACK
PER UNIT

28" MIDDLE BLOCK

41" MIDDLE BLOCK

MODULAR BLOCK
RETAINING WALL SYSTEM

NON-WOVEN GEOTEXTILE

41" MIDDLE BLOCK

FINISHED
GRADE = 61.00m

60" MIDDLE BLOCK

1000mm BUFFER ZONE OF
COMPACTED GRANULAR
BACKFILL MATERIAL

60" BOTTOM BLOCK

USW = 60.34m

COMPACTED GRANULAR
BASE TO BE APPROVED BY
GEOTECHNICAL CONSULTANT

NATIVE SOIL
APPROVED BY
GEOTECHNICAL
CONSULTANT

PERFORATED DRAINAGE PIPE
WITH GRAVITY OUTLETS

Figure 2: Global Stability Analysis For Retaining Wall