

re: Geotechnical Recommendations - Service Pipe Crossing
Proposed Residential Development
2710 Draper Avenue - Ottawa

to: Greatwise Developments - Mr. Zaf Kelekvan - zaf@greatwise.ca

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file: PG1630-MEMO.26

Further to your request and authorization, Paterson Group (Paterson) prepared the following memorandum to provide geotechnical recommendation for drainage service pipes proposed to cross under the proposed retaining wall for the aforementioned site. This memorandum should be read in conjunction with our geotechnical Report PG1630-4 Revision 1 dated February 21, 2019 and the stone strong retaining wall revised design PG1630-4 Revision 4 dated August 12, 2019.

Stone Strong Retaining Wall Design, Proposed Retaining Wall

Paterson reviewed the following grading plan prepared by David Schaeffer Engineering Ltd. for the aforementioned development:

- ☐ Grading Plan Fresh Towns - 2710 Draper Avenue Phase 3-2 - Project No. 17-927 - Sheet 2 of 8 - Drawing No. GP-1 - Revision 5 dated July 25, 2019.

Based on our review of the above noted plans and discussions with the design team, it is understood that a service pipe is proposed to extend below the proposed retaining walls and future turning circle. To ensure a long service life for the subject service pipes and to avoid undermining the retaining walls during excavation for any required maintenance, the pipe is recommended to be encased with a slightly larger steel or higher grade PVC casing at each retaining wall crossing. This methodology is considered acceptable from a geotechnical perspective provided the following is implemented:

- ☐ All backfill material to be used between each retaining wall and the service running below, should consist of engineered fill such as OPSS Granular A or Granular B Type II or an approved alternative. The granular Material should be completed to a minimum 98% of the material's SPMDD.
- ☐ The steel encasement should be slightly larger than the corresponding service line and should extend a minimum of 1 m beyond the lateral support zone of the retaining wall (1.5H:1V). Based on the proposed grading plan the steel sleeve should **extend 2.2 m** from the face and back of the walls base block. It should be noted that the lateral support zone of the wall will is measured from the toe of the bedding layer.

- ❑ It is recommended that the steel casing be plugged with lean concrete on both ends. The extent of the concrete should be a minimum of 600 mm beyond the edge of the steel pipe. This will protect the encased pipe during backfilling operations.
- ❑ All field work regarding encasing the subject pipes should be inspected and approved by Paterson at the time of construction.

We trust that this information satisfies your requirements.

Best Regards,

Paterson Group Inc.



Joey R. Villeneuve, M.A.Sc, P.Eng



Faisal I. Abou-Seido, P.Eng.

Paterson Group Inc.

Head Office and Laboratory
154 Colonnade Road South
Ottawa - Ontario - K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

Northern Office and Laboratory
63 Gibson Street
North Bay - Ontario - P1B 8Z4
Tel: (705) 472-5331 Fax: (705) 472-2334

St. Lawrence Office
993 Princess Street
Kingston - Ontario - K7L 1H3
Tel: (613) 542-7381