# patersongroup

consulting engineers

re:	Geotechnical Response to City Comments Proposed Python Complex - 222 Citigate Drive (Block 13) - Ottawa
to:	Broccolini Construction - Mr. Russell Beach - russell.beach@broccolini.com
to:	Broccolini Construction - Mr. James Lucas - jamesl@broccolini.com
date:	June 2, 2020
file:	PG5284-MEMO.03

Paterson Group (Paterson) prepared the following response to the geotechnical-related comments issued on May 15, 2020 and prepared by the City of Ottawa for the aforementioned project.

# **Grading Plan - Comment 22**

Please include details for the proposed retaining wall. Structural design is required for retaining wall greater than 1.0 in height.

# Paterson Response

Please refer to Drawing PG5284-2 Stone Strong Retaining Wall Profile - SS1 and SS2 and Drawing PG5284-3 Stone Strong Retaining Wall Design - Wall SS1 and SS2, Revision 1 dated May 14, 2020 enclosed for the design of the proposed retaining walls for the subject site.

# Grading Plan - Comment 23

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

# Paterson Response

The grading plan review memo is enclosed. In summary, based on our review of the current grading plan prepared by Novatech, the proposed grade raises do not exceed our permissible grade raise restriction of 2 to 3 m for the subject site. Therefore, the proposed grading is considered acceptable from a geotechnical perspective.

Mr. Russell Beach Page 2 PG52484-MEMO.03

#### **Geotechnical Investigation - Comment 33**

Geotechnical consultant to review grading plan to ensure grade raise restriction has been met. Provide letter of confirmation that associated grading plan has been reviewed and is acceptable with regards to geotechnical requirements.

#### **Paterson Response**

Same response as Comment 23 above.

## **Geotechnical Report - Comment 34**

Please include a declaration letter to confirm the groundwater level will have no impact to the proposed sewer network including the proposed stormtech chambers and foundation drains.

## **Paterson Response**

The site servicing review memo is enclosed. In summary, based on our review of the current site servicing drawings prepared by Novatech, the proposed sewer network and proposed stormtech chambers have sufficiently incorporated the relevant geotechnical recommendations as part of their design. Therefore, the proposed site servicing drawing plan is considered acceptable from a geotechnical perspective.

We trust that this information satisfies your requirements.

### Paterson Group Inc.

Drew Petahtegoose, B.Eng.

Carlos P. Da Silva, P.Eng., ing.,  $QP_{ESA}$ 



### Paterson Group Inc.

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date:	June 2, 2020
file:	PG5284-MEMO.04

Further to your request and authorization, Paterson Group (Paterson) carried out a review of the grading plan for the proposed development located at the aforementioned site. The following memorandum should be read in conjunction with the Geotechnical Investigation Report (Paterson Group Report PG5284-1 Revision 1 dated April 28, 2020).

## **Reviewed Information**

Paterson reviewed the following grading plans prepared by Novatech for the aforementioned development:

- Grading Plan North-West Development Drawing No. 120025-GR1 Revision 4 dated May 19, 2020.
- Grading Plan South-West Development Drawing No. 120025-GR2 Revision 4 dated May 19, 2020.
- Grading Plan North-East Development Drawing No. 120025-GR3 Revision 4 dated May 19, 2020.
- Grading Plan South-East Development Drawing No. 120025-GR4 Revision 4 dated May 19, 2020.

### **Geotechnical Review**

Based on our review of the above-noted drawings, the proposed grades are generally within the permissible grade raise restriction of 2 to 3 m provided for access roadways and parking areas throughout the subject site in the aforementioned geotechnical investigation report. Furthermore, it's expected pre-grading of the eastern parking lot areas will be complete approximately 8 to 12 months in advance of the placement of asphalt, which will provide sufficient time to preload the underlying silty clay deposit to eliminate most of the anticipated post-construction settlement. **Therefore, the proposed grading is considered acceptable, from a geotechnical perspective**.

Mr. Russell Beach Page 2 File: PG5284-MEMO.04

We trust that the information satisfies your requirements.

Best Regards,

# Paterson Group Inc.

Drew Petahtegoose, B.Eng.

Carlos P. Da Silva, P.Eng., ing., QP<sub>ESA</sub>



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# re: Site Servicing Review Proposed Python Complex - 222 Citigate Drive (Block 13) - Ottawa

- to: Broccolini Construction Mr. Russell Beach russell.beach@broccolini.com
- to: Broccolini Construction Mr. James Lucas jamesl@broccolini.com

date: June 2, 2020

file: PG5284-MEMO.05

Further to your request and authorization, Paterson Group (Paterson) carried out a review of the site servicing plan for the proposed development at the aforementioned site. The following memorandum should be read in conjunction with the Geotechnical Investigation Report (Paterson Group Report PG5284-1 Revision 1 dated April 28, 2020).

#### **Reviewed Information**

Paterson reviewed the following site servicing plans prepared by Novatech for the aforementioned development:

- General Plan of Services North-West Development Drawing No. 120025-GP1 Revision 4 dated May 19, 2020.
- General Plan of Services South-West Development Drawing No. 120025-GP2 Revision 4 dated May 19, 2020.
- General Plan of Services North-East Development Drawing No. 120025-GP3 Revision 4 dated May 19, 2020.
- General Plan of Services South-East Development Drawing No. 120025-GP4 Revision 4 dated May 19, 2020.
- Notes and Details General Plan of Services Drawings No. 120025-NDGP -Revision 4 dated May 19, 2020.

#### **Geotechnical Review**

From a geotechnical perspective, the relevant recommendations (i.e., adequate frost protection of services, pavement structure, pipe bedding and backfill) provided in Paterson Report PG5284-1 Revision 1 dated April 28, 2020, have been sufficiently incorporated into the above-noted drawings with the exception of the following considerations:

#### Frost Tapers

For utility trenches and other subgrade structures backfilled with non-frost susceptible granular material or at the interface between the concrete apron and flexible pavement

Mr. Russell Beach Page 2 File: PG5284-MEMO.05

structures, consideration should be given to installing a 1V:5H frost taper in hard landscaped areas and below pavement structures to lessen the effects of differential frost heaving.

Consideration could also be given to installing rigid insulation which requires tapering with various insulation thicknesses.

#### **Stormtech Stormwater Storage Tanks and Foundation Drains**

Based on our cursory review of the proposed Stormtech MC-4500 and MC-3500 underground stormwater storage tanks, the proposed storage tank locations and invert depths are acceptable from a geotechnical perspective. Based on our review, the proposed tanks are not anticipated to be negatively impacted by the underlying groundwater table. Founding conditions and installation of the subject Stormtech tanks should be inspected and verified by Paterson personnel at the time of construction

Furthermore, should a perimeter foundation drainage system be implemented for the proposed building, the systems perimeter perforated corrugated plastic pipe is not anticipated to intercept the long-term groundwater table, nor be negatively impacted by the groundwater table based on the buildings proposed founding elevation.

We trust this memorandum meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Drew Petahtegoose, B.Eng.

Carlos P. Da Silva, P.Eng., ing., QP<sub>ESA</sub>



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