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September 19, 2019

Mr. Daniel O'Connor, P.E.
Village Engineer
Village of Croton-on-Hudson
1 Van Wyck Street
Croton-On-Hudson, NY 10520
Via email: doconnor@crotononhudson-ny.gov

Re: Geotechnical Services for #44 and #45 Piney Point Avenue
Chazen Job Number 81738.01

Dear Mr. O'Connor:

At your request, on September 17, 2019 Chazen met with you and representatives of the design team, applicant and the contractor to visually asses the concerns the Planning Board has considering that there has been additional steep slope disturbance, beyond what was approved. Additionally, you wanted our recommendations for any additional temporary stabilization measures. Furthermore, we were made aware the two lots received stop work letters from your office and that the applicant is working with the Planning Board to resolve issues associated with the additional steep slope disturbance.

Upon our arrival, we observed that the area between the two residential units was cleared (non-approved disturbance), the area from the road to the bottom row of planned piers had been stripped of vegetation, and new bare soil is exposed over half of the project sites surface. Currently no drilling is occurring at the project site due to rig maintenance, but the soldier pile foundations for the driveway retaining wall systems at Lot 45 were almost all completed, and Lot 44 was approximately half finished. Based on discussions the granular soil was brought in to create a ramp and leveling pad for a drill rig and excavator to transverse around the site and will be used to backfill the driveway walls. Steep cut slopes exist parallel to the road directly behind the last soldier pile foundation, which the contractor indicated was excavated a week ago.

Based on our visual observations, the temporary cut slopes and fill for the ramp and leveling pad are at equilibrium under these dry conditions. Chazen agrees with the Geotechnical Engineer of Record (Robert Simpson, P.E. of Carlin Simpson & Associates) that the stability of the slope under adverse weather conditions may become unstable which may result in minor sloughing or larger slides. Because construction of the driveway retaining walls will stabilize those areas of the site, Chazen recommends construction continues while the applicants and their design team work on a permanent stabilization method, to be approved by the Planning Board, for the area between the two residences that was disturbed. We further recommend continuing the work as not to leave the stripped steepen sites exposed to the elements for an extended length of time. Temporary erosion control measures will mitigate surficial sloughing; however, they are not a permanent long-term global stability solution. Additionally, by having the contractor continue to advance the project, there will be a daily presence to address future slope stability conditions if the observed existing conditions are affected during construction or adverse weather conditions.

We would recommend additional erosion and sediment control measures are implemented, such as hay bales directly upgradient of the installed impact barrier to further protect the downgradient residence and storm

structures from potential migration of sediment lain stormwater leaving the site. Additionally, sand bags or other diversion barriers should be installed along the pavement edge to minimize surface water from cascading onto the exposed soil. In accordance with standard erosion control practices, all soils anticipated to be left exposed for more than 7-days should be hydroseeded or otherwise temporarily stabilized. This will help minimize dust and limit the amount of water applied to the steepen slopes.

If severe storms are forecasted, equipment should be located off the temporary pad areas and trailers relocated away from the top of the slope.

If you have any comments, questions or require additional information please feel free to contact me directly at (518) 266-7327. Chazen looks forward to continuing to support you with these residential projects

Sincerely,

Matthew A. Korn, P.E.
Principal
Manager, Geotechnical Engineering Services

cc: Joseph M. Lanaro, PE, Senior Principal in Charge, VP Engineering Services
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