



November 21, 2018

Mr. Allen Colglazier II
Red Door Homes
4002 Fayetteville Road
Raeford, North Carolina 28376

Subject: REVISED Summary of Slab Subgrade Material Evaluation
251 Secretariat Circle
Sanford, North Carolina
Permit Number: N/A
Project Number: 4206.500 (20457-00)

Dear Mr. Colglazier:

On November 12 and 21, 2018, a representative of SUMMIT Engineering, Laboratory and Testing, P.C. (**SUMMIT**) visited the subject site for the purpose of observing the near surface slab bearing materials for the proposed residential structure. The following is a summary of our onsite observations and evaluation.

The proposed slab areas had approximately 2 feet of fill placed and compacted prior to our site visit. Our work included testing and bearing grade evaluations of the in-place soil at the slab bearing grade. Hand auger borings were incrementally advanced by manually twisting a sharpened steel auger into the soil at selected locations within the slab. The soil consistency at the slab bearing elevation and at selected intervals below the bearing grade were evaluated by Dynamic Cone Penetrometer (DCP) testing. The conical point of the DCP was first seated to penetrate any loose cuttings and then driven three additional 1-3/4 inch increments with blows from a 15-pound hammer falling 20 inches. The soil's strength characteristics and foundation support capability was determined based on the average blows per increment (bpi) over the last two increments to achieve this penetration. The entire slab area was evaluated by hand probing using a 1/2 inch diameter steel probe rod to check for soft areas at the surface intermediate of our hand auger boring locations.

The materials exposed at the slab areas generally consisted of tan and gray-brown, sandy-clay (fill underlain by residual soils) and were free of significant quantities of organics and debris. It should be noted that soft wet surficial soils were observed throughout the slab within the upper 6 to 12 inches. The contractor was informed and **SUMMIT** recommended mucking wet soils out and re-compacting the top 12 inches of fill soils. **SUMMIT** returned on November 21, 2018 to observe that the recommended remedial measures had been completed. **SUMMIT** observed that the wet soils were removed and hand probed throughout the slab areas. Based on our hand probing and site observations, the soils are suitable. If additional testing for the purpose of

estimating volumetric change (shrink/swell) potential or to estimate consolidation of the tested soils is desired, **SUMMIT** can provide these services.

Based on the results of our DCP testing, our site observations, and the completed remedial measures, the soils encountered are suitable for support of the proposed residential slab loading conditions.

If slab subgrade materials are exposed to inclement weather or adverse construction activities, **SUMMIT** should be contacted to re-evaluate the slab subgrade materials prior to concrete placement. If it is imminent that inclement weather is forecasted prior to concrete placement, then the slab area can be covered with a plastic sheet to help protect the slab subgrade materials from softening.

We appreciate the opportunity to assist you during this phase of the project. If you need further assistance or additional information please do not hesitate to contact us.

Sincerely,
SUMMIT Engineering, Laboratory and Testing, P.C.

Jeff A. Taylor, P.E.
Geotechnical Engineer



Adam D. Perry, E.I.
Staff Professional