October 16, 2024

Mr. Jon Kent
Great Southern Homes
933 Old Knight Road
Knightdale, North Carolina 27545

Subject: **Summary of Foundation Bearing Material Evaluation**
Lot No. 14 – (45 Covey Rise Way)
Griffon Pointe Subdivision
Lillington, North Carolina
Permit Number: N/A
Project Number: 0040.F0001 (41494-00)

Dear Mr. Kent:

On October 9, 2024, a representative of UES Professional Solutions 29, Inc. (**UES**) visited the subject site for the purpose of observing the near surface foundation bearing materials for the proposed residential structure. The following is a summary of our onsite observations and evaluation.

Our work included testing and bearing grade evaluations of the in-place soil at the bottom of the foundation excavations. Hand auger borings were incrementally advanced by manually twisting a sharpened steel auger into the soil at selected locations along the footing excavation. The soil consistency in the bottom of the excavation and at selected intervals below the bearing grade was 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. Additionally, the entire excavated foundation was evaluated by hand probing using a ½ 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 bottom of excavations generally consisted of brown, sandy-clay (residual soils). It should be noted that the contractor elected to excavate the footings to an approximate depth of 3 feet prior to our site visit. We recommend backfilling the over-excavated areas with compacted clean washed stone (NCDOT No. 57 stone) wrapped in a woven geotextile (Mirafi 500x or equivalent) or place full depth concrete. If additional testing for the purpose of estimating volumetric change (shrink/swell) potential or to estimate consolidation is desired, **UES** can provide these services.

Based on the results of our DCP testing, hand probing, and our site observations, the soils encountered are suitable for support of the residential structure utilizing a net allowable soil bearing pressure of **2,000 pounds-per-square-foot**. We recommend a foundation drain be installed for this lot.

If foundation bearing materials are exposed to inclement weather or adverse construction activities, **UES** should be contacted to re-evaluate the foundation bearing materials prior to concrete placement.

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,
UES Professional Solutions 29, Inc.

10/16/2024

NORTH CAROLINA PROFESSIONAL SEAL 042148 ENGINEER JEFF A. TAYLOR

Jeff A. Taylor, P.E.
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