

July 26, 2023

Mr. Ed Sienkiewicz  
New Home, Inc.  
1611 Jones Franklin Road, Suite 101  
Raleigh, North Carolina 27606



**Subject: Summary of Foundation Bearing Material Evaluation & 3<sup>rd</sup> Party Inspection  
Lot No. 11 – (369 Yates Mill Drive)  
Woodbridge South Subdivision  
Fuquay-Varina, North Carolina  
Permit Number: 2306-0043  
Project Number: 9747.F0002 (38569-00)**

Dear Mr. Sienkiewicz:

On July 20, 2023, SUMMIT Engineering, Laboratory and Testing, Inc. (SUMMIT) visited the subject site for the purpose of observing and evaluating the near surface foundation bearing materials and to perform a third-party inspection for the proposed residential footings. The following is a summary of our onsite observations and evaluation.

The exterior and interior wall foundations, lugs, and rear deck footings were prepared per the structural plans provided onsite. Based on our site observations, the exterior and interior footings and lugs were prepared per the structural plans provided onsite and are in compliance with Chapter 4 of the 2018 North Carolina Residential Code.

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 1/2 inch diameter steel probe rod to check for soft areas at the surface intermediate of our hand auger boring locations.

The materials encountered in our hand auger borings generally consisted of orange-tan, sandy-clay (residual soils) and were free of significant quantities of organics and debris. It should be noted that soft soils were encountered to approximate depths ranging from 12 to 24 inches below the planned foundation bearing elevation along the rear exterior wall footing line, including the rear deck footings. The contractor was informed and SUMMIT recommended over-excavating to firm soils in the areas designated in marking paint. SUMMIT remained onsite to observe that the recommended over-excavations were completed. 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 of the tested soils is desired, **SUMMIT** can provide these services.

Based on the results of our DCP testing, the completed remedial measures, 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**. Concrete is ready to be placed for the foundation areas.

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

**SUMMIT** appreciates the opportunity to provide our professional services to you on this project. If you have any questions concerning the information in this report or if we can be of further service, please contact us.

Sincerely,  
**SUMMIT** Engineering, Laboratory and Testing, Inc.



Jeff A. Taylor, P.E.  
Geotechnical Engineer

A handwritten signature in black ink, appearing to read "Adam D. Perry".

Adam D. Perry, E.I.  
Staff Professional