



October 8, 2024

Butler Homes, LLC
c/o Steven Eisenberg

Re: Footing Evaluation (*Revision to Original Letter dated October 4, 2024*)
57 Wesley Circle
Fuquay-Varina, NC

Dear Mr. Eisenberg:

A representative of Giles Flythe Engineers was on site on October 3, 2024 to perform on-site open footing inspections of the previously excavated continuous wall/spot footings for the new construction single-family home/detached garage at the subject address. The footings are based on the structural plan drawings produced by Giles Flythe Engineers dated May 15, 2024.

The scope of the inspection does not assure that the property conforms to any regulations, restrictions, or building codes that may be in effect at its location other than what is explicitly described. The following recommendations as implemented meet the minimum design loads as prescribed in the 2018 North Carolina Residential Code and the plan specified minimum bearing capacity of 2000 psf.

OBSERVATIONS

The wall footings for both the new single-family home as well as the detached garage structure had been excavated approximately 24" wide and approximately 24" deep. The spot footings for the interior masonry piers at the single-family home and along the perimeter of the detached garage had been excavated a minimum 24"x24" and approximately 24" deep. Spot footings for the new deck posts at the single-family home had been excavated a minimum 18"x18" and 12" deep. Overburden material was present along the sides of the footings.

Standing water was present within the evaluated footing areas throughout the entirety of the project site. Furthermore, deleterious soil materials (i.e., saturated soils and mud) were present in the footing areas at multiple locations. The exposed footing subgrades were evaluated using a T-handle 1/2" probe rod and performing hand auger borings with Dynamic Cone Penetrometer (DCP) testing at select intervals. The soil subgrades subjected to DCP testing within the footing areas of the single-family home exhibited penetration resistance values on the order of 15+ blows per increment (BPI). The soil subgrades subjected to DCP testing within the footing areas of the detached garage exhibited penetration resistance values on the order of 7 to 9 blows per increment (BPI) or more. We have provided recommendations below to address the condition of the footings.

RECOMMENDATIONS

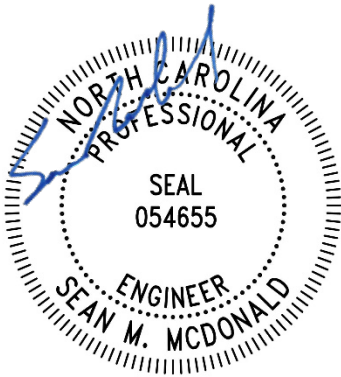
- We recommend over-excavating **the entirety** of the footing areas for the new construction single-family home and detached garage (all wall and spot footing areas) an additional, minimum 12” below current subgrade due to evident, elevated groundwater levels and loose/muddy soils due to prolonged water saturation.
- Upon completion of the recommended over-excavated, the over-excavated footings shall be immediately backfilled with washed No. 57 stone to plan bearing grade. Stone is to be tamped and leveled out (not vibrated) in 6”-8” lifts. Note, bottom of concrete footings to be a minimum of 12” below grade.
- Prior to stone placement and concrete placement, contractor shall ensure all footing areas are dewatered and all mud/loose material are removed.

Note, the results of our evaluation are based on the observed footing conditions at the time of our inspection. If the subject footing subgrades are left exposed to inclement weather, re-evaluation may be required.

CONCLUSION

We trust that this letter provides the information you require. Please contact us at (919) 465-3801 if you have any questions. Thank you for the opportunity to be of assistance to you.

Sincerely,



Sean M. McDonald, PE
Project Manager
Giles Flythe Engineers Inc.
NC Lic. No. C-2871