

MDL Engineering Services

213 Linton Banks
Cary, NC 27513

(919) 999-8153
(919) 524-4319

Date: March 8, 2023

To: Dale Tanner
Red Door Homes
DaleT@reddoorhomesnc.com
(910) 835-8335

Re: Soil Bearing & Compaction Evaluation
745 Creekview Lane
Linden, NC 28356
MDL Project No. SD201452

Dear Mr. Tanner,

MDL Engineering Services was contacted on March 1, 2023 to perform a compaction test on the sandy infill placed in the field and lug footings of the home listed above. Soil compaction is necessary to increase the bearing capacity and stiffness of added soils. Compaction increases the shear strength of soils by adding friction from the interlocking of particles. The removal of voids reduces the chance of the soil settling or shrinking or expanding and it decreases water seepage that would lead to deleterious shrinking and swelling soil properties. Soil compaction is the practice of applying mechanical compactive effort to densify a soil by reducing the void space between soil particles. Compaction occurs when particles are pressed together to reduce the air space between them, highly compacted soils contain very few spaces resulting in soil with higher unit weight.

Observations

March 2, 2023



MDL Engineering Services

Field Soils Report
 Field Inspection

Job No.	22-144	Date	3/2/23
Client Signature		Location	LAGART

Notes (See back for additional notes)

THE FILL WAS COMPACTED. TESTED THIS MATERIAL WAS NOT PROPERLY COMPACTED. IN ADDITION, THERE WERE MULTIPLE MOTHS THROUGHOUT. PRESENCE OF ORGANICS WERE CONFIRMED. MATERIAL NEEDS TO BE REMOVED & REPLACED.

(OR REPLACE WITH WASHED SAND OR STRUCTURAL FILL (SUCH AS 57 STONE). FILL SHOULD BE COMPACTED TO 95%.

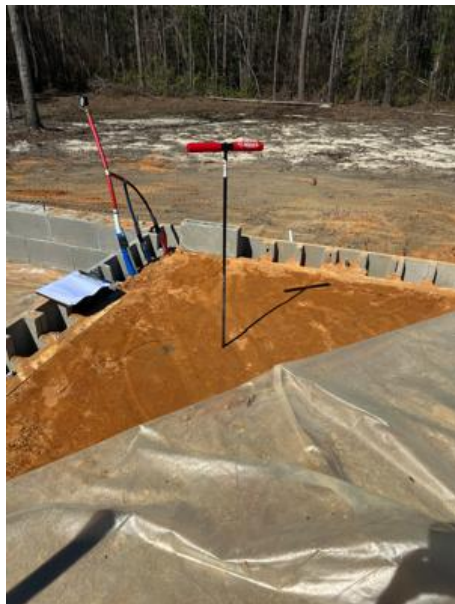
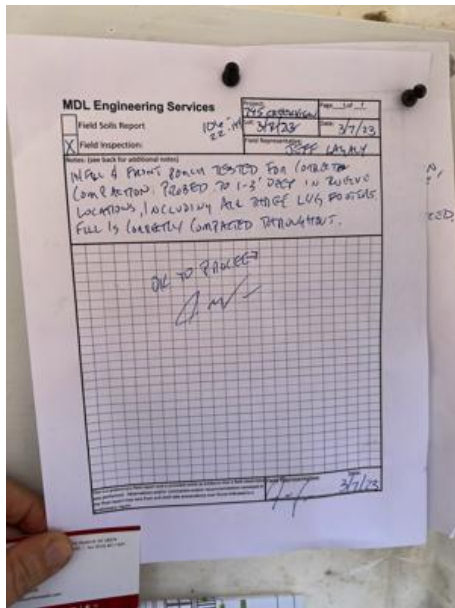
MDL Engineering Services
3/2/23

The material inside the field of the home, the lug footings and the front porch were visually evaluated by the engineer, probed with a 1/2" rod and/or use of a DCP technique to correlate surface soil conditions with bearing capacity. The initial evaluation showed that the sandy material was not properly compacted, and the presence of organic materials were found throughout.

This material needed to be removed, sifted to eliminate the organic material and be replaced 6" layer at a time, with compaction performed in between each 6" layer.

Observations

March 7, 2023



MDL Engineering was contacted on March 6, 2023 to re-test for compaction. The material was again probed with a 1/2" rod and/or use of a DCP technique to correlate surface soil conditions with bearing capacity. This test was performed in six different locations in the field and in multiple locations in every lug footing. The material passed the compaction in every spot. In addition, there was no visible sign of organic materials present this time.

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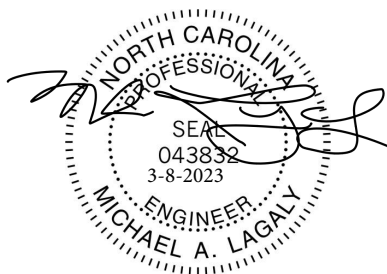
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The footing soils meet the requirements of the site drawings and the 2018 edition of the North Carolina Residential Building Code and are good to pour.

These services have been performed with the usual and customary standard of care consistent with other professional engineers performing similar work under similar circumstances. This report is the work product of an engineering investigation. It is confidential in nature and will not be released to a third party without your expressed consent. The use of this letter is limited to the express purpose for which it is intended and may not be reused, copied or distributed for any other purpose.

I appreciate the opportunity to provide these services for this phase of your project and look forward to working with you for any future needs. Please do not hesitate to contact me if you have any questions or concerns.

Regards,
MDL Engineering Services



Michael A. Lagaly, P.E.
Engineering Manager

Alteration of this seal without the express written consent of the sealing engineer is a violation of the provisions set forth in the North Carolina Engineering and Land Survey Act (G.S. 89C) and may result in legal action by the North Carolina Board for Engineers and Land Surveyors.