12/13/2024

Client: Client Doe 123 Sample Address, Your City, TX, 12345

#### Engineer: Philip W. Bullock Jr., M.E., M.B.A., P.E. (TX) TBPE #114841 | Firm #21369

Noble Engineering Services, LLC (TX) (Subconsultant to Stellar Inspectors PLLC) P: (832) 210-1397 E: engineering@noble-pi.com

Inspector: Inspector Doe (TREC #000000) Stellar Inspectors PLLC P: 123-456-7890 E: inspector@testinspector.com





**Client's Agent: Agent Doe** 

Reviewer: Patrick E. Bullock, E.I.T. Noble Engineering Services, LLC (TX) (512) 298-9395 :P engineering@noble-pi.com :E

# **Executive Summary**

This executive summary statement provides an abreviated and shortened overview of the key takeaway from the full report and is not intended to convey all details or complexities. It should not be the sole basis for decision making and is only provided as a courtesy for the purpose of clarity. For complete information and thorough analysis, refer to the full report.

Based on the observations stated above, the foundation meets the requirements set forth by as set forth in the Permanent Foundations Guide for Manufactured Housing (PFMGH) from the U.S. Department of Housing and Urban Development, 4930.3G. The foundation is considered structurally sound and the home should be considered property attached to a permanent foundation system.

### VA/HUD/FHA Engineering Evaluation

#### 1.0 - Background and Purpose

On 4/1/2024 a Housing and Urban Development (HUD) manufactured/mobile home foundation evaluation was performed at the property located at address 123 Sample Address, Your City, TX, 12345, which consists of a 2042 square-foot mobile / manufactured home structure built in 2005 with a block / pier & beam foundation.

As shown in the attached inspection report, a visual condition assessment of the structure's foundation was performed on-site by inspector Inspector Doe (Stellar Inspectors PLLC) for the purpose of this desktop engineering evaluation completed by Engineer Philip W. Bullock Jr., M.E., M.B.A., P.E. (TX) (Noble Engineering Services, LLC (TX)). This letter is written to document and memorialize the findings of both the field investigation and desktop evaluation focused on providing a clear performance analysis for the client.



The purpose of this evaluation is to investigate and provide, to the extent possible, conclusions about the manufactured/mobile home's foundation and if the structure meets requirements set forth by the Permanent Foundations Guide for Manufactured (PFGM) Housing from the U.S. Department of Housing and Urban Development (HUD), 4930.3G. and the generally accepted industry recognized engineering requirements for a stable and fully supported foundation.

A Note on Photo Captions: This report, including the inspection report attached, will use photo captions that indicate locations such as right, left, front, and back. These directions refer to how a person standing at the front of the property looking at it would see it. For example, the "front left" would be located on the front left side of the structure, as person would reference if standing at the front of the property looking at the structure.

#### 2.0 - Observations

The attached inspection report documents visual observations made during a physical walkthrough of this investigation by the inspector. Herein are the discoveries of the visual condition assessment of the foundation aimed at assessing its structural integrity, stability, and performance. The foundation serves as the fundamental support system for any structure, playing a pivotal role in ensuring its longevity and safety. Through industry accepted analysis and examination, this evaluation delves into the key aspects of the foundation's overall condition to provide insights into its current state. By scrutinizing the visual condition assessed factors this portion of the evaluation aims to elucidate any existing visual deficiencies or potential risks that may compromise the stability of the structure. The findings presented herein are crucial for informing decision-making processes regarding necessary repairs, maintenance interventions, or further investigations to uphold the structural reliability and safety of the structure for HUD.

The attached inspection report dated 4/1/2024 and completed by Inspector Doe should be reviewed in detail and should stand as the visual condition documentation of the foundation-related deficiencies discovered at the time of the site-visit inspection.

#### 3.0 - Conclusion

There are many factors that weigh into the Engineer's overall statement of opinion about the existing stability of the foundation. These various factors are all considered when applying overall conclusive statements about the existing condition of the foundation and the future likelihood of foundation fatigue/failure.

Based on the observations stated above, the foundation meets the requirements set forth by as set forth in the Permanent Foundations Guide for Manufactured Housing (PFMGH) from the U.S. Department of Housing and Urban Development, 4930.3G. The foundation is considered structurally sound and the home should be considered property attached to a permanent foundation system. Anchoring straps do not appear to be missing or loose. The mobile/manufactured home structure is not supporting the weight of a deck/porch or roof/cover and structural independence is achieved. The foundation appears to be fully supported by the chasis and a sufficient set of piers.

Good foundation maintenance practices are the most effective solution to minimizing soil activity. The primary goal of foundation maintenance methods is to maintain a relatively constant moisture content in the soil around and below the foundation. The movement and drainage of water is a critical maintenance element that interacts with the shrink/swell properties of the expansive soil that the structure is supported upon. The goal of proper drainage is to remove excess water from around the foundation to keep the soil around and under the foundation at a stable moisture content. Gutters and downspouts are an effective method of directing rainwater away from the structure, but must be employed correctly. To better control the rainwater, ensure gutters, downspouts and extensions are present at each down-sloped area of the roof. The downspouts should discharge the water a minimum of 5 feet from the foundation or into a drainage system. To assist in the drainage of free water, the grade surrounding the foundation should be sloped away from the foundation for the first 10 feet around the perimeter where practicable. The slope should drop a minimum of 6 inches in 10 feet - a 5% slope. Swales should have longitudinal slopes of a minimum of 2 inches in 10 feet. If this cannot be done a French Drain may be required. Over-saturated soils can cause foundation heave and/or settlement and contribute to excessive foundation movement. Remediate ponding water immediately.

While the inspector noted the presence of structural additions, after review by the engineer, it is important to clarify that the attached garage is not structurally reliant on the mobile home. Since the garage operates independently from the manufactured house, its presence does not influence the findings or conclusions of this report.

#### 4.0 - Limitations

This report documents a limited HUD engineer's foundation evaluation scope inspection only. The company has only been hired to report deficiencies of the elements that are within the agreed-upon foundation-related scope, and will not perform an inspection of the entire property (if not hired to do-so).

Verification of permitted construction activities through the correct jurisdictional authority is not part of the scope of this report. Photos of any permit-related documents and stickers are for informational purposes only.

As a disclaimer, it should be noted that while every effort is made to adhere to the design criteria outlined by the Permanent Foundations Guide for Manufactured Housing (PFGMH) as established by the U.S. Department of Housing and Urban Development (HUD) in publication 4930.3G, there may be instances where these criteria cannot be strictly followed due to unforeseen circumstances. These limitations may include but are not limited to subsurface conditions, inaccessible areas within the crawlspace, high vegetation during inspection, unavailable manufacturer specifications, absence of permit files/design plans, and other limitations to the field investigation. Consequently, while the PFGMH serves as a foundational reference, adjustments and deviations from the specified criteria may be necessary to accommodate these unforeseen circumstances and ensure the safety and integrity of the structure. It is important to note that the Engineer may exercise professional judgment and discretion to achieve optimal outcomes while maintaining compliance with applicable regulations and industry standards to the best of their ability.

#### 5.0 - Liability

The contents of this report supersede any verbal communication regarding the subject foundation during or after the inspection. This report was prepared for the exclusive use of the client listed above. There is no obligation or contractual relationship to any party other than our client and their agents in regards to the subject property. The opinions and recommendations contained in this report are based on the visual observation of the then current conditions of the structure and the knowledge and experience of the inspector/engineer.

Foundation movement is a prevalent phenomenon in areas where poor soils exist due to expansive clays. Future foundation movement is always possible due to the shrink/swell characteristics of the soil. The foundation is prone to movement due to the moisture variation in the existing soil and total prevention of all future movement is unlikely.

The company is not responsible for knowledge of specific subsurface conditions at the subject property. This report is only an engineering statement of opinion and report of findings based on the information available at the time of inspection. It does not provide any guarantee to the current state of the structure's foundation. It does not "guarantee" against future foundation problems nor does it provide any warranty to the foundation itself. The report was based on the information that was available at the time. Should additional information become available, the engineer/inspector reserves the right to determine the impact, if any, the new information may have on the opinions contained herein and revise conclusions and opinions as necessary and warranted. The engineer is not responsible for knowledge of subsurface conditions without geotechnical data provided, including vertical differential displacement from clay soils.

Engineer/inspector is not responsible for concealed conditions where a visual observation was not possible or any other areas that are not readily available to the engineer or inspector for evaluation during the site visit. The evaluation was limited to visual observations and areas not visible, accessible, or hidden behind furniture and appliances were not included in the evaluation. The evaluation did not include any soil sampling or testing, nor any assessment of the existing framing, plumbing, or auxiliary structures and no implication is made on the compliance or non-compliance of the structure with old or current building codes. No verification was made of the existing concrete strength, thickness, location of interior grade beams, reinforcement, nor capacity to support any load.

Limits of liability for any claims with respect to this report is limited to the fees paid for services and anyone relying on the content of this report agrees to indemnify the company for all costs exceeding the fee paid.



#### Attachments:

$\sqrt{-Provided}$	Appendix A	On-Site Inspection Report with photos dated 4/1/2024



## Appendix A

### **On-Site Inspection Report with Photos Dated 4/1/2024**

123 Sample Address, Your City, TX, 12345