



October 5, 2023

Debi Cooper
24714 Hickory Hill Road
Spring, Texas 77380

RE: Foundation Inspection
Job #21471

Dear Debi Cooper:

Enclosed is the report of the foundation inspection performed at 24714 Hickory Hill Road in Spring, Texas. This inspection was conducted for you on October 4, 2023, at the agreed upon fee.

We appreciate the opportunity to assist you in performing the inspection. If we can be of any further service, please let us know.

Respectfully Submitted,

Jeff Burkman, P.E.
Registered Professional Engineer - 63505
Champions Engineering & Inspections
Registered Engineering Firm - 5832

9595 Six Pines, Suite 8210 • The Woodlands, Texas 77380

INTRODUCTION

The purpose of this report is to document the results of a visual inspection that was conducted on the residential building described below and to document our agreement regarding the services provided to you. The information contained in this report takes precedence over any information or understandings that may have occurred during verbal communications.

This inspection was conducted for you, as our Client, to provide you with opinions regarding the performance of the primary load-bearing structural components of the foundation and to assess if these components are performing the function for which they were intended or are in need of immediate repair. No assessments were made for driveways, patios, sidewalks, fences, gutters, insulation, carpeting, toxic materials, paint, out buildings, cosmetic damage, etc. An investigation was not conducted to determine the existence of geological faults relative to the structure inspected.

This inspection was limited, in accordance with our agreements, to a visual examination of those portions of the structure that were accessible. Thus, hidden items such as damaged wood inside of walls, leak paths through ceilings and walls, interior slab cracks, etc., that are not amenable to visual inspection cannot be reported. Champions Engineering assumes no responsibility should such defects be discovered in the future.

Compliance with any government or industry code or standard or with any legal requirements is not within the scope of this inspection. By law, inspections to determine the presence of and the extent of damage created by wood infesting organisms, which includes all rotted wood, can only be performed by individuals who are so licensed by the state for that purpose and will not, therefore, be considered to be part of this inspection.

In the conduct of this work, Champions Engineering has acted as an engineering consultant to provide visual observations and opinions with regard to the visible condition of the load-bearing structure of this building. Recognizing that latent defects could exist which inherently may not be detected during an inspection of this type, Champions Engineering, does not represent that the observations described herein, and their analysis thereof, represent every structural condition that may exist. Any recommendations for repair that may be contained in this report should be completed, since such repairs may result in the discovery of additional defects that may not have been discovered during the original inspection.

To protect the foundation, it is advised to maintain a consistent moisture level at all points around the perimeter of the foundation, especially during dry weather periods.

Champions Engineering does not assume responsibility whatsoever for any action that may or may not be done as the result of the information provided during this inspection. The involvement of Champions Engineering in any activities associated with this inspection will terminate at the time this report has been submitted. Finally, this report was written to satisfy the specific objectives of you, as the Client. Neither the author of this report nor Champions Engineering, authorizes or assumes any responsibility whatsoever for the use of this report by any third person, except the Veterans Administration (V.A.) and/or the Federal Housing Administration (F.H.A.) and/or relocation company and/or mortgage company.

DESCRIPTION:

The residence inspected was located at 24714 Hickory Hill Road in Spring, Texas.

This was a foundation inspection, based on physical observation. The following are the results obtained from the visual structural evaluation. This residence is a 1970-year built, one-story with an attached garage, single-family wood frame dwelling with a brick veneer. The structure has what appears to be a poured concrete rebar-reinforced slab foundation.

FOUNDATION INSPECTION:

The foundation inspection includes a physical non-destructive observation of the existing foundation condition and functionality.

This report intends to inform you of the foundation's current status, i.e., whether it is performing as intended or in need of repair. The scope of this evaluation is limited to structural components that are readily observable and do not include damage in inaccessible areas, such as between walls. It also does not predict potential performance after the inspection or damage detected after inaccessible areas are uncovered.

Houston, as well as many parts of Texas, have soils that are active clay type (expansive and compressible) structures that have experienced significant differential movement or settlement with slabs on grade. More often than not, this movement has resulted in little if any serious structural damage. However, some unsightly sheetrock and veneer cracks do appear along with annoying sticky doors and cabinets. It should be noted that more than 70% of the houses in Houston have some differential movement including minor cracks in the slab.

A foundation inspection was performed on October 4, 2023, and elevations were re-measured today April 11, 2024. The comparison showed today's elevations measured to be within the 0.02% instrument repeatability error/drift. However, it appears that the line of the electronic manometer level got pinched during the garage slab floor measurements, causing unrepeatable measurements.

Minor movement was observed in the *middle* of the house as evidenced by the master entry and front left bedroom entry doors rubbing the frame, 1/8" trim separation, and multiple minor brick veneer cracks. FYI: Some minor movement is not unusual for the extremely dry hot weather last year.

The foundation appears to be currently performing as intended. The elevations 0.8" appear to be mostly of original construction (also the same elevation differential compared to original measurements), per the bubble levels, and no observable signs of significant distress on the interior. The observable roof framing rafters were construction tight at the ridge beam. Spreadsheet calculations were performed utilizing the FPA (Foundation Performance Association's SC-13-1 Calculation Spreadsheet) resulting in a deflection ratio of L/800 which is within tolerance and a tilt ratio of 0.04% which is within the 1% tolerance. This spreadsheet and report were reviewed and this engineer has taken into consideration the recommendations and guidelines of the ASCE (American Society of Civil Engineers), ACI (American Concrete Institute), and TRCC (Texas Residential Construction Commission).

The slab elevations were measured using an electronic manometer level measuring the surface of the floor coverings. Minor deviations were observed, but they were not consistent to indicate a significant problem. The locations of the measurements are noted on the floor plan attached.

All doorjamb and counters were measured with a bubble level. All doors were opened/closed and most doors operated relatively easily.

The exterior foundation wall of the main structure appeared to be in good condition with no significant honeycombs, exposed steel, or major movement observed.

Note: To protect the integrity of the structure it is essential to maintain a consistent moisture level (not too wet or too dry) at all points around the perimeter of the foundation. Maintain proper drainage and grading around the perimeter of the structure (no water accumulation areas), and during dry weather periods consistent watering of perimeter soils is essential. Foundation movement/damage can occur when soils are too wet or too dry in areas on the perimeter.

CERTIFICATION:

I hereby certify that I performed the inspection of the residence located at 24714 Hickory Hill Road in Spring, Texas, and that I have reported my opinions and findings based on my observations. I further certify that the information contained in this report is based upon visible evidence and is a level "B" engineering inspection, as per the Texas State Board of Engineers, and that no attempt was made to investigate those latent defects not readily detectable from visual observations. No responsibility is assumed for events that occur after this inspection and no warranty, either expressed or implied, is hereby made. The inspector and inspection company's liability is limited. A second opinion is always a prudent and recommended course of action. April 11, 2024.



Jeffrey C. Burkman
Registered Professional Engineer – 63505
Champions Engineering & Inspections
Registered Engineering Firm – F-5832

24714 Hickory Hill Road



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Engineering Designs & Inspections

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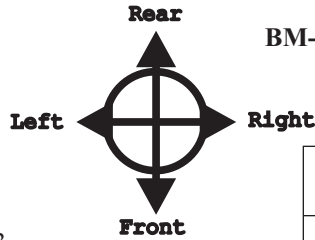
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The Woodlands, Tx 77380

Elevation Differential 0.9" Measured 10-04-23
Instrument Repeatability Error/Drift 0.2"

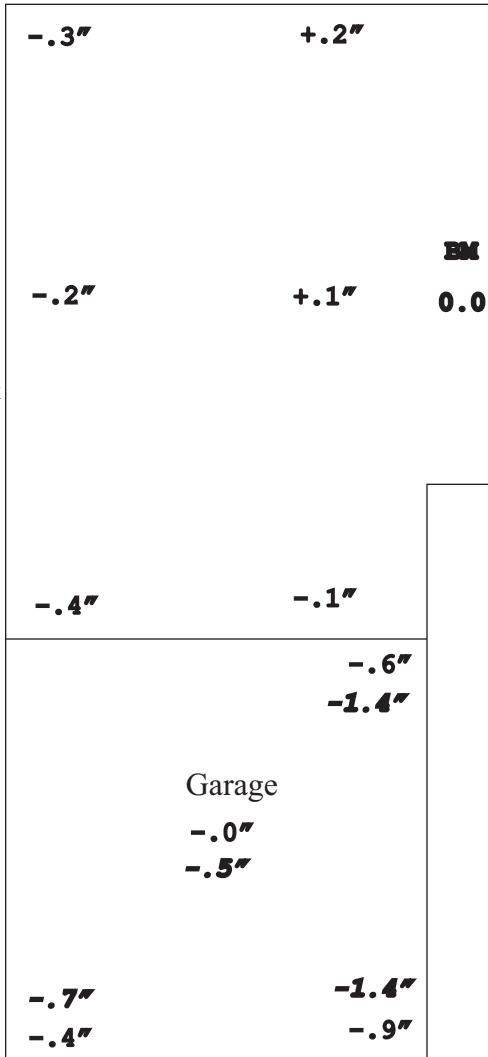
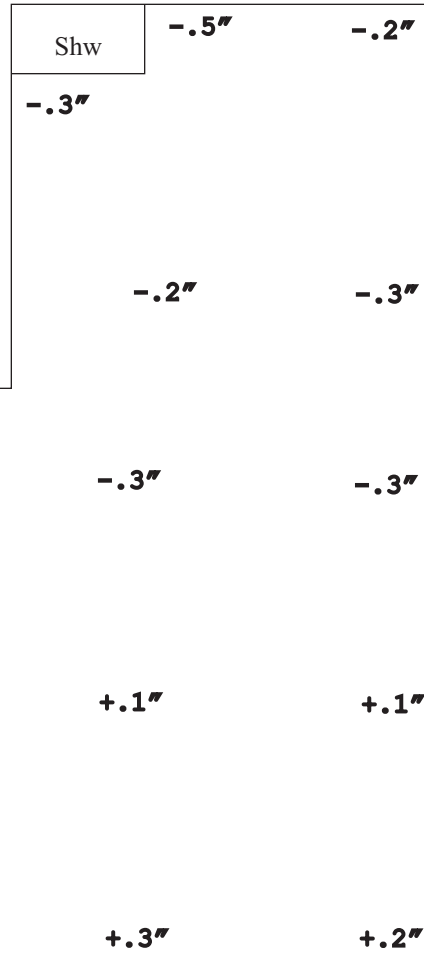
Elevation Differential 0.8" Measured 04-11-24
Instrument Repeatability Error/Drift 0.2"

THIS SKETCH IS TO BE USED ONLY AS A REFERENCE
OF THE FLOOR PLAN REPRESENTING AREAS THAT
WERE MEASURED. APPROXIMATE SCALE 1" = 10'



BM-Benchmark

1/16" Brick
Veneer Crack



Hairline Brick
Veneer Crack

1/8" Brick
Veneer Crack

Front of House

Garage

- .0"

- .5"

1/8" Trim
Separation

Slope built-in Garage slab floor
facilitates the movement of liquids
or gases toward the vehicle door
*Elevations in Bold Italic were
Measured during Inspection 10-04-23*

J. C. Burkman, P.E.
CEI 18532



Champions Engineering
Firm #5832

04-11-24