

1/20/2025

**Client: Client Doe**

123 Sample, Address, TX, 12345



**Engineer: Philip W. Bullock Jr., M.E., M.B.A., P.E. (TX)**

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**Reviewer: Amanda Bullock**

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# Executive Summary

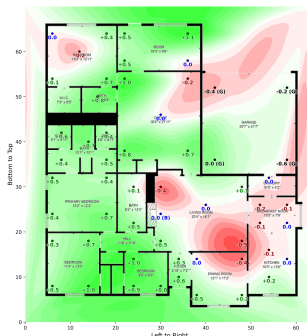
Engineering Report V1.0

*This executive summary statement provides an abbreviated 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.*

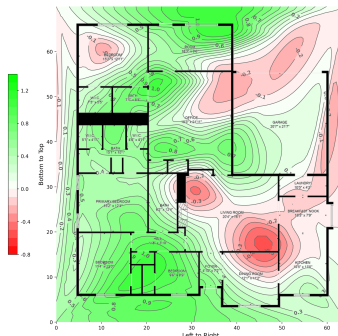
**This evaluation indicates few, but some, signs of possible impending foundation issues. Calculations were not found to be within industry standard thresholds, however, the foundation exceeds limitations only in some profiles and/or only some profiles are failing. The results do indicate the possibility of future foundation issues, but indications may be disguised as stabilized settlement. Foundation repair work is not recommended at this time, however these deficiencies should be monitored and it is not fully known nor determinable if foundation stabilization will be necessary in the future. We also recommend you perform another house elevation plot before 2 years. Visual deficiencies noted in this report are considered minor, possibly cosmetic, and should be resolved as preventive maintenance measures for the time being. Read the entire report in detail for a comprehensive explanation of this conclusion.**

*It is highly recommended that the client find, review, and comprehend these various colored Figures A, B, C, D located throughout the report, as these figures are instrumental in the development of the conclusions derived.*

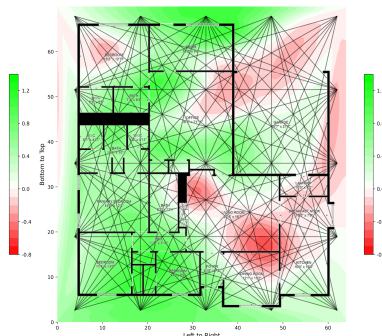
**Figure A**



**Figure B**



**Figure C**



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# Engineer's Foundation Evaluation

123 Sample, Address, TX, 12345

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## 0.0 - Background and Purpose

On 1/10/2025 a foundation evaluation was performed at the property located at address 123 Sample, Address, TX, 12345, which consists of a 2621 square-foot single family attached structure built in 1978 (47 years old) with a slab on grade foundation.

As shown in the attached inspection report (Appendix A dated 1/10/2025), a visual condition assessment and elevation plot of the structure's foundation was performed on-site by inspector Greg House (House Inspection Services, 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 determine, to the extent possible, the foundation's current condition and any necessary repairs that may be needed immediately and/or in the future (as calculations and predictions allow). This evaluation is considered a Level B evaluation, as defined by the "Guidelines for the Evaluation and Repair of Residential Foundations" by the Texas Section of the American Society of Civil Engineers (ASCE). Our evaluation involved collecting data and photographs of the structure to assess its performance and identify any signs of distress. Based on our findings, we will provide recommendations for repairs to ensure the long-term stability and safety of the structure. We understand that foundation issues can be a cause for concern for property owners, and we aim to provide clear and concise information to help you make informed decisions about any repairs needed for your property. The data and photographs presented in this report are intended to provide a representative sample of the types of distress observed throughout the structure, and are not a comprehensive catalog of all the distress present.

Per the Foundation Performance Association 'Guidelines for the Evaluation of Foundation Movement for Residential and Other Low-Rise Buildings', a Level B Investigation includes:

- Section 1: Documenting visual observations made during a physical walkthrough
- Section 2: Observation of factors influencing the performance of the foundation
- Section 3: If possible, an interview of occupants/owners/managers regarding a history of the property and foundation
- Section 4: Review of pertinent info including geotech reports, construction drawings, field reports, and repair docs
- Section 5: Deflection and tilt calculations to assess foundation performance and establish a baseline
- Section 6: Description of factors that affect soil moisture

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.

## 1.0 - Visual Condition Assessment

This section of the report documents visual observations made during a physical walkthrough of this investigation. 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 (such as foundation cracking, unevenness, misaligned doors, windows that won't open, etc.) 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.

The attached inspection report dated 1/10/2025 and completed by Greg House 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.

**2.0 - Observation Summary**

Below is a table that represents a summary of the observed deficiencies at the property discovered in the field that may be considered to be influencing the performance of the foundation. See attached property inspection report for photos, detailed locations, and other information about these visual deficiencies.

**Visual Condition Report Summary Table**

<i>Foundation Cracks - Minor</i>	Present	<i>Trees Near Structure</i>	Not-Present
<i>Foundation Corner Cracks</i>	Present	<i>Misaligned Trim Areas</i>	Not-Present
<i>Foundation Cracks - Major</i>	Present	<i>Wall Cracking</i>	Present
<i>Areas Sloping and Uneven</i>	Not-Present	<i>Floor / Ceiling Deficiencies</i>	Present
<i>Exposed Rebar or Anchors</i>	Not-Present	<i>Window Deficiencies</i>	Present
<i>Spalling Concrete</i>	Not-Present	<i>Door Deficiencies</i>	Present
<i>Visual Discovery of Previous Foundation Work</i>			Yes

It should be noted that, while foundation movement can cause interior and exterior visual cosmetic distress, it is not the only reason that cracks and separations may appear in a structure. The majority of cracks do not compromise structural integrity. The normal and expected thermal expansion and contraction of dissimilar building materials (such as veneer, trim materials, windows, wood framing, and interior drywall on a typical exterior wall) can cause cracks and separations that are not necessarily an indication of structural failure. In addition, some building materials, such as sealants, deteriorate over time and require regular maintenance.

Note: garage elevations are excluded from tilt and deflection calculations, as accurate measurements are nearly impossible to gather. In general, garages can be non-monolithic or they are poured to purposefully slope toward the exterior garage door making any conclusions derived difficult to interpret.

There exist signs of previous foundation improvements that were completed to the structure. Refer to the inspection report for approximate locations of the improvements to the structure. The exact extent (depth, width, type, etc.) could not be field-verified (other than capped field-observations reported herein). Existing underpinning is typically concealed entirely below grade. No invasive or destructive investigation nor subgrade radar readings were performed to confirm the presence or absence of any existing foundation underpinning.

**3.0 - Interviews**

The owner/occupant was not interviewed as part of this investigation. That said, there exists relevant knowledge of previous defects and/or foundation work; the documentation that the company received is attached and discussed in Section 4.0 below.

#### 4.0 - Pertinent Documents

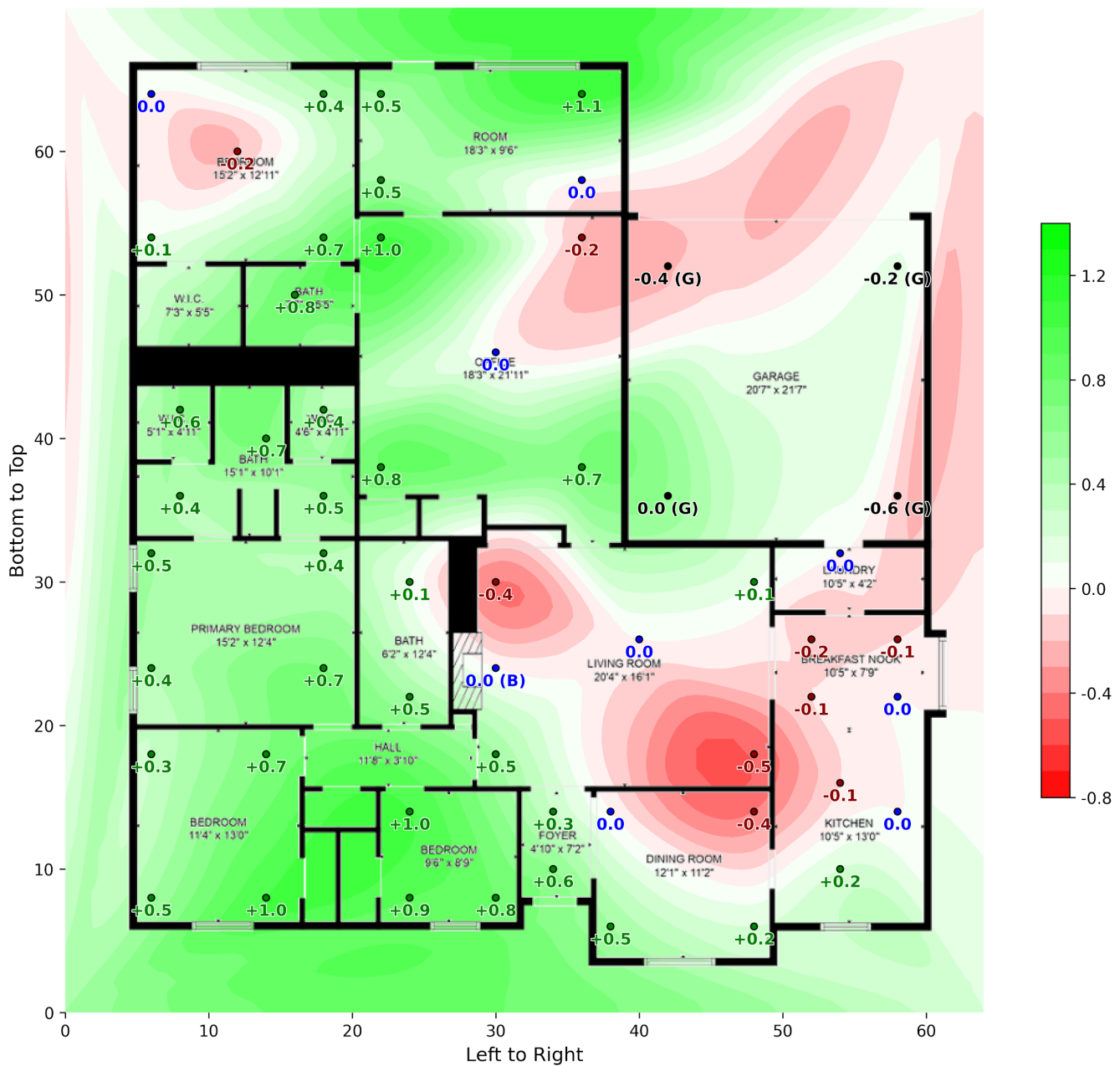
No pertinent documents were provided as part of this investigation; our company has not received any previous foundation reports from the builder, owner, occupant, client and/or agents. It is outside the scope of this investigation to determine if foundation repairs were permitted/required at a municipal level and to what extent they were documented. It is highly recommended that the client contact any owners/occupants/agents to confirm no relevant documentation of previous defects and/or foundation work that may have been performed on the structure. Obtaining pertinent documentation is important to the overall assessment of the foundation; when none exists the evaluation is limited to existing conditions only.

Other documents that outline foundation work were provided; see attached documentation.

#### 5.1 - Elevation Plot

To calculate deflection and tilt of the structure, an elevation plot must be performed. An elevation plot determines the relative elevations of the structure comparative to a base elevation of zero (0.0) at a chosen and documented location in the structure. Foundation deficiencies are typically judged based on the following generally accepted criteria:

- The elevation deflection across an entire structure should remain within 0.5 to 1-inch depending on the age of the structure. Generally newer structure, should remain less than 0.5 inches or less of deflection across the entire structure. This is subjective depending on other factors (primarily visual condition and age of the structure).
- The elevation deflections measured as the bending of a straight line do not approach the generally accepted criteria for foundation performance and repair of 1.00/360 (1-inch of bend in 30-feet).
- The elevations measured as tilting of a level line across the foundation to not approach the generally accepted criteria for foundation performance (not repair) of 1.00% (2.4-inches of difference across 20-feet).
- The elevations measured as a slope of floors do not approach 2.00% (1.2-inches of difference across 5-feet).

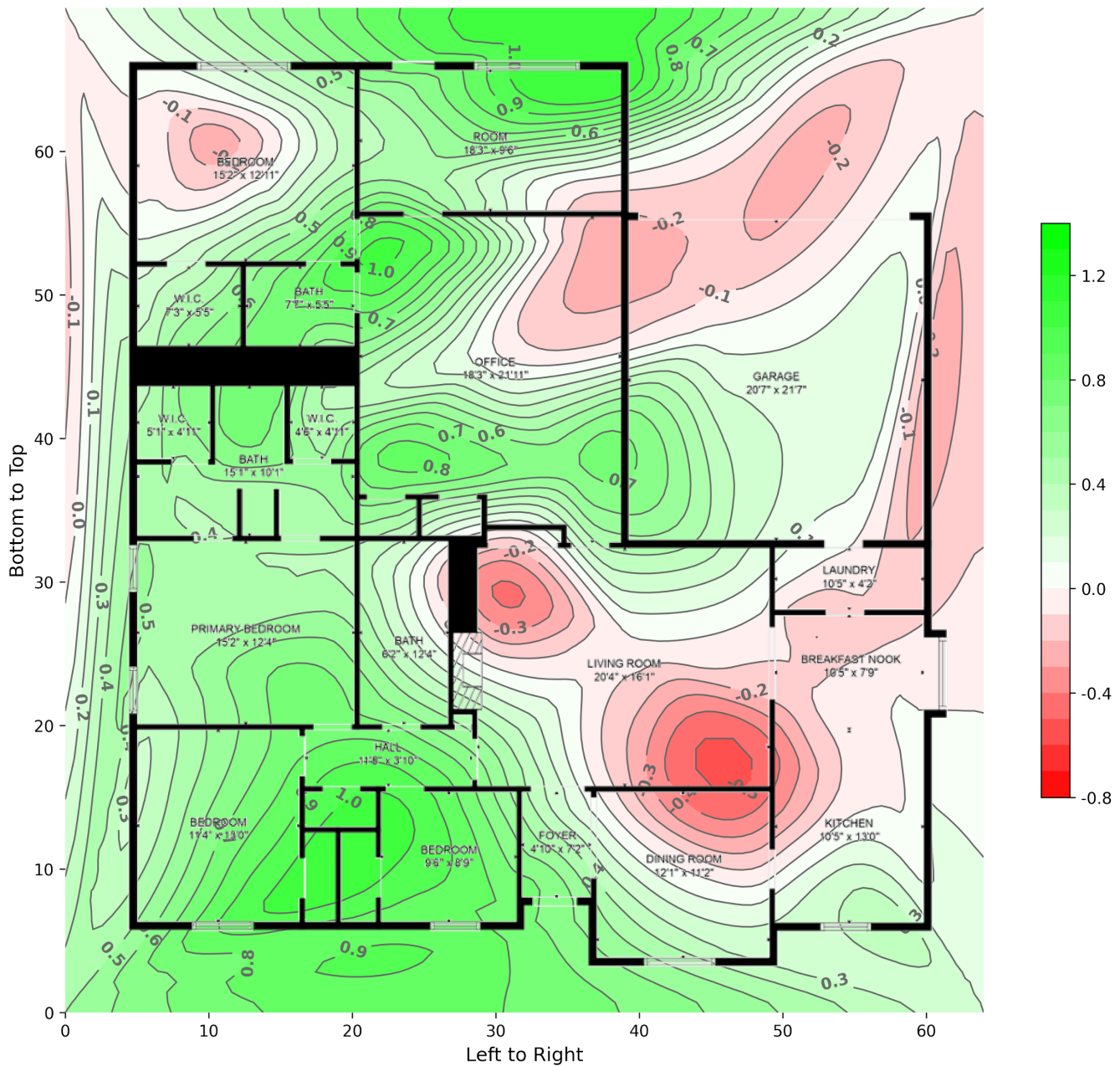


**Elevation Plot Graphic (Figure A)**

The elevation plot resulted in the graphic as depicted above in Figure A. The red-points and areas are elevation measurements that were lower than the base station elevation (0.0). The green-points and areas are elevation measurements that were higher than the base station elevation (0.0). The blue-points (and white areas) are equal to the base station elevation (0.0). The base station is depicted with a (B) symbol. The maximum elevation point was determined to be 1.1 inches and the minimum was -0.5 inches, resulting in an elevation difference of 1.6 inches of difference across the structure.

The elevation plot graphic above will show points labeled with a (G) symbol representing Garage. These elevation points were measured and plotted so they can be compared year-to-year, however, they are excluded from the foundation analysis. This is because these locations purposefully deviate from the finished floor elevation.

A mesh contour is a graphic that is designed to look and feel like a geographic topography map. Some clients find the graphic useful and some find the graphic confusing and difficult to understand. In general, the client should envision walking the foundation where areas of red are lower than the base station elevation (0.0) and areas of green are higher than the base station elevation (0.0). The darker the color (both red and green) the higher/lower the elevation.



**Mesh Contour Graphic (Figure B)**

The mesh contours graphic depicted above in Figure B is similar to the elevation plot. The red, green, and white areas depict areas that are lower, higher, and equal to the base station elevation (0.0). The contour intervals are labeled.

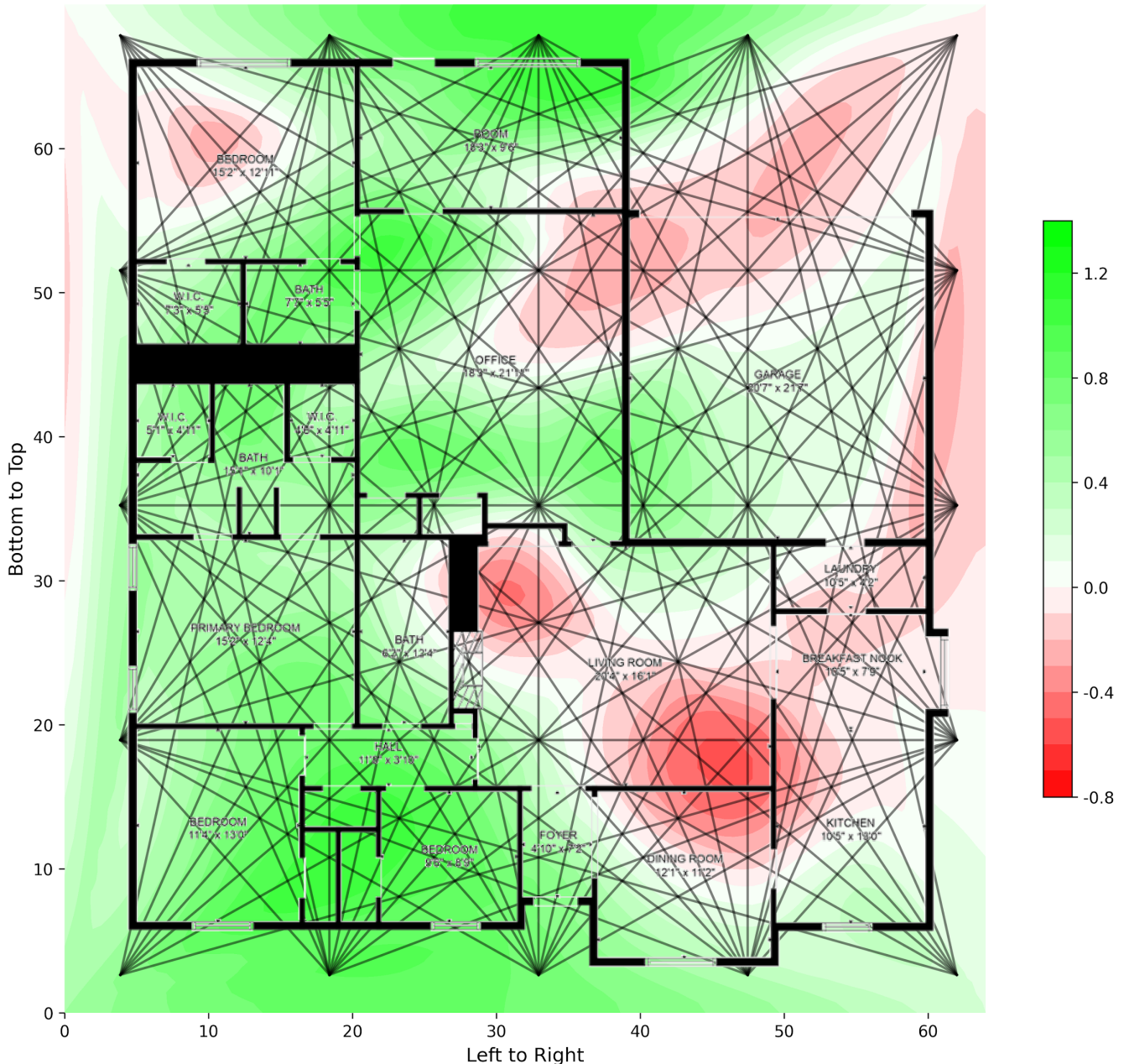
## 5.2 - Deflection and Tilt Calculations

In a level-B foundation evaluation, deflection and tilt calculations are essential components for assessing the structural integrity and stability of the foundation. Deflection refers to the degree to which a structural element, such as a foundation, bends or deforms under load. It is typically measured as the vertical displacement of a point on the foundation relative to its original position. Calculating deflection involves analyzing individual arc-deflections for each profile across the floorplan. Tilt, on the other hand, refers to the inclination or angular deviation of a structure from its intended level or vertical alignment. In the context of a level-B foundation evaluation, tilt calculations involve measuring the horizontal displacement of points on the foundation relative to a reference plane or datum. Tilt can result from various factors, including uneven settlement of the foundation, soil movement, or structural deficiencies.

Foundation movement calculations have been performed according # FPA-SC-13-1 'Guidelines for the Evaluation of Foundation Movement for Residential and Other Low-Rise Buildings.' The calculations separate foundation movement into foundation 'Deflection' (bending) and foundation 'Tilting' - straight line arithmetic of the elevation readings provided on the Elevation Survey will not yield the same results and should not be incorrectly compared. The standard allowable stabilized deflection is based on 1.0 inch of vertical movement, up or down, over a horizontal distance of 30 feet; expressed as Length (L in inches) / 360. The standard allowable tilt is based on 1% slope over the entire length, width, or diagonal of the foundation.

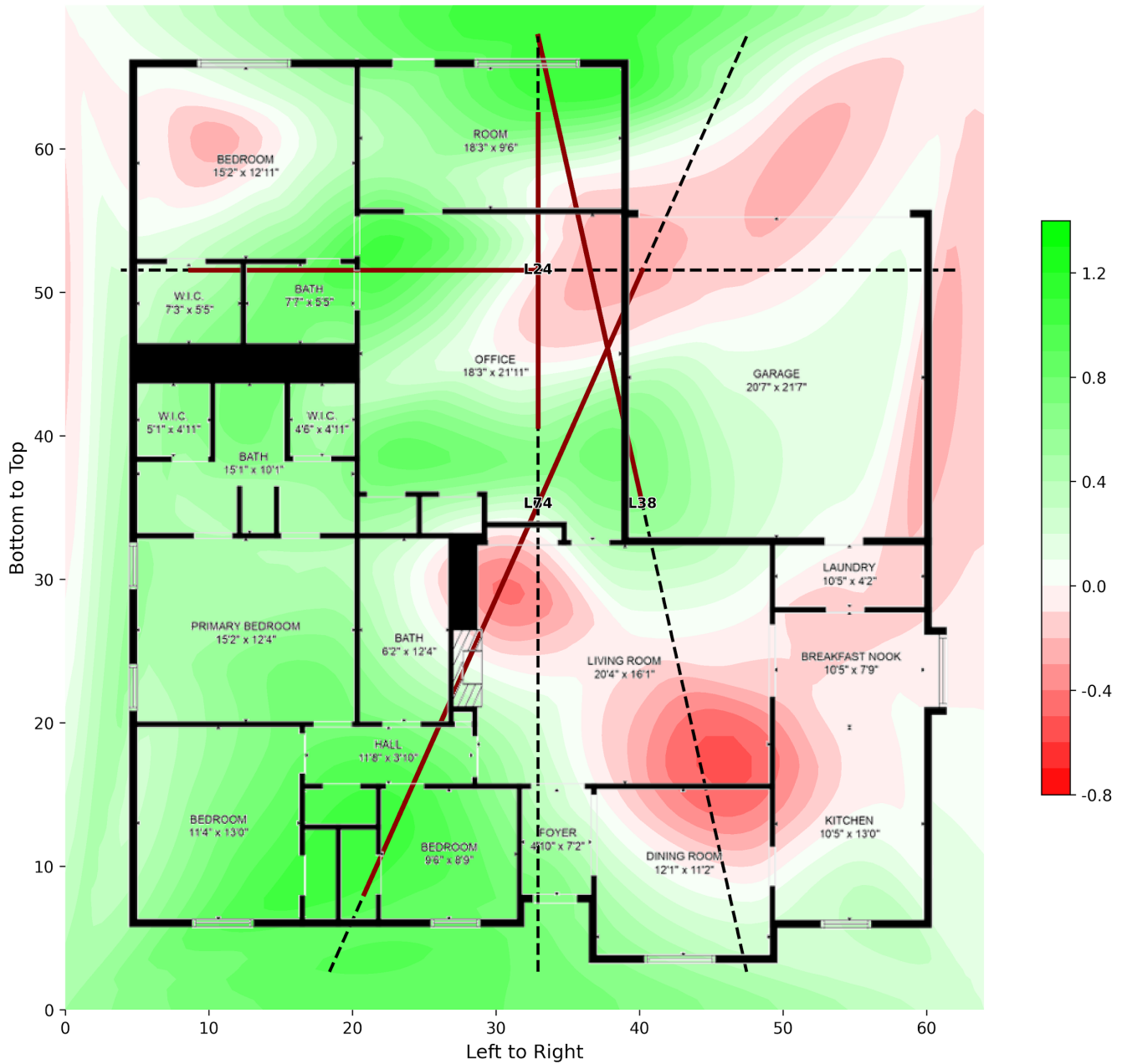
In layman's terms, the deflection calculations represent localized areas of concern where tilt calculations represent entire foundation movement as a singular plane. By accurately quantifying deflection and tilt, this evaluation can assess the overall performance of the foundation, identify potential issues such as excessive settlement or structural misalignment, and recommend appropriate remedial measures to ensure the foundation's stability and longevity. These calculations are crucial for safeguarding the structural integrity of buildings and mitigating the risk of foundation-related failures.

Below is a graphic that shows the locations of deflection and tilt profiles that were calculated. The total profiles calculated was 79 with a total usable profiles (above the effective length threshold) of 79.



**All Profiles Graphic (Figure C)**

Below is a graphic that indicates the locations of the 4 deflection calculation failures.



**Deflection Failures Graphic (Figure D)**

The above Figure D shows deflection failures along the foundation. Deflection failures can be considered localized failures in (sometimes) isolated portions of the foundation. The profile lines that were calculated are represented by a dashed black line and the areas that the deflection failures occur are represented by a dark red line segment. Of the 79 deflection profiles calculated, 4 profile failures were identified.

**5.3 - Comparison of Other Elevation Plots**

No previous elevation plot was provided. It is highly recommended that the Client maintain a record of elevation plot reports so that comparison from year-to-year is possible. Without a comparable elevation plot the evaluation only represents a single point in time and a timeline of movement is not possible.



## 6.0 - Soils and Geotechnical

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.

## 7.1 - Results: Elevation Plot

As documented above, the maximum elevation point of this structure was determined to be 1.1 inches and the minimum was -0.5 inches, resulting in an elevation difference of 1.6 inches of difference across the structure. The elevation deflection across an entire structure should remain within 0.5 to 1-inch depending on the age of the structure. Measured differences approaching 2-inches are a sign of foundation fatigue. The maximum allowable elevation difference is subjective, depending on other factors such as the visual condition and age of the structure (47 year(s) old).

Based on observed elevations of the foundation from the elevation plot, the structure should be considered currently stable. Elevation differences fall within industry standards and tolerable limits. These findings indicate that the foundation has consistent and uniform elevation demonstrating foundation settling that is within tolerable limits.

## 7.2 - Results: Deflection

Deflection failures can be considered localized failures of the foundation in (sometimes) isolated portions of the foundation. Of the 79 deflection profiles calculated, 4 failures were identified.

Deflection failures are above standard acceptable limits; they exceed industry-standard thresholds and the structure should be considered actively moving/settling in areas where deflection failures are occurring.

## 7.3 - Results: Tilt

Tilt failures can be considered structure-wide failures of the foundation. Of the 79 tilt profiles calculated, 0 failures were identified. The tilt calculations resulted in a maximum tilt profile of 0.32%.

As no tilt failures are present, these findings indicate that the foundation has consistent and uniform elevation demonstrating foundation settling that is within tolerable limits.

## 8.0 - 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, as documented in Sections 1-7 above, are all considered when applying overall conclusive statements about the existing condition of the foundation and the future likelihood of foundation fatigue/failure.

This evaluation indicates few, but some, signs of possible impending foundation issues. Calculations were not found to be within industry standard thresholds, however, the foundation exceeds limitations only in some profiles and/or only some profiles are failing. The results do indicate the possibility of future foundation issues, but indications may be disguised as stabilized settlement. Foundation repair work is not recommended at this time, however these deficiencies should be monitored and it is not fully known nor determinable if foundation stabilization will be necessary in the future. We also recommend you perform another house elevation plot before 2 years. Visual deficiencies noted in this report are considered minor, possibly cosmetic, and should be resolved as preventive maintenance measures that may include:

- Patch and monitor visible foundation cracks
- Patch/cover exposed tension anchors
- Patch and monitor exterior brick or siding cracking
- Patch and monitor interior sheetrock cracking/separation
- Repair and monitor door misalignment
- Windows that won't open to resolve and monitor

One of the best ways to monitor foundation related issues is to fix the problems that do exist and wait to see if they reappear. This would include fixing doors that are misaligned, fixing windows that don't open, repairing sheetrock cracking, patching brick cracks with mortar, and re-caulking exterior areas that have separation. If these problem areas do not reappear in the coming years then the foundation movement may be considered stabilized settlement and may not continue to shift. If problem areas reappear then the foundation is in a failure mode and will need to be stabilized.

Client should talk with the previous/current owner about previous foundation repairs and if any have been completed. Additionally, it is always best to assume that with the presence of onset foundation concerns, the client should budget for the possibility of a foundation remediation project at some point in the future.

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.

## 9.0 - Limitations

This report documents a limited engineer's foundation evaluation scope inspection only. Inspector will only report deficiencies of the elements that are within the agreed-upon foundation-related scope, and will not perform an inspection of the entire property.

This report has been assembled by a team, each member bringing specialized expertise to ensure a comprehensive evaluation within the scope of our project. The team comprises a field-experienced home inspector, responsible for conducting thorough on-site examinations; a reviewer, who reviews and consolidates the findings; and a skilled engineer, who applies a desktop evaluation and calculations to the field data collected. The structuring of our team and the distribution of roles have been strategically designed to optimize both the quality and cost-efficiency of the provided services. The team may (or may not) be comprised of individuals working for different companies.

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

## 10.0 - Liability

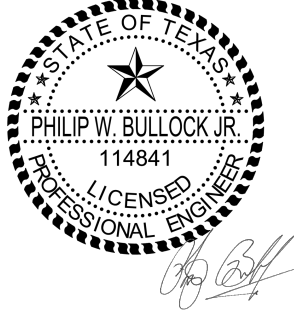
The contents of this report supersede any verbal communication regarding the subject foundation during or after the inspection. This report was prepared for the exclusive use of the client listed above. There is no obligation or contractual relationship to any party other than our client and their agents 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.

The most effective long-term solution to foundation movement is deep foundation underpinning for the entire structure, however these methods may not be economically feasible and often causes unwanted cosmetic damage. As such, this report may present options that consider factors such as viability, timeliness, and cost. This report provides engineering advice intended to correct the observed foundation deficiencies assuming normally expected subsurface conditions and conventional construction methods.

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 stabilized 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.

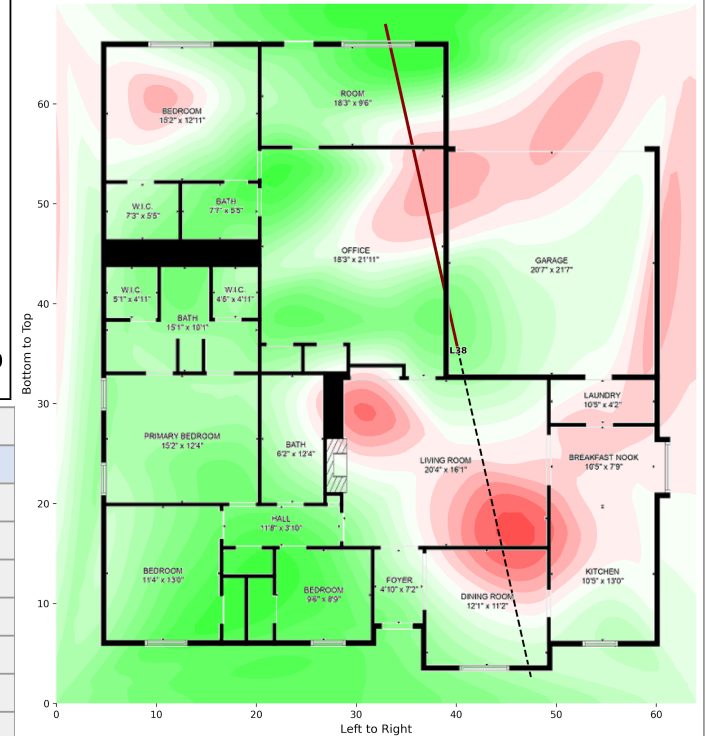
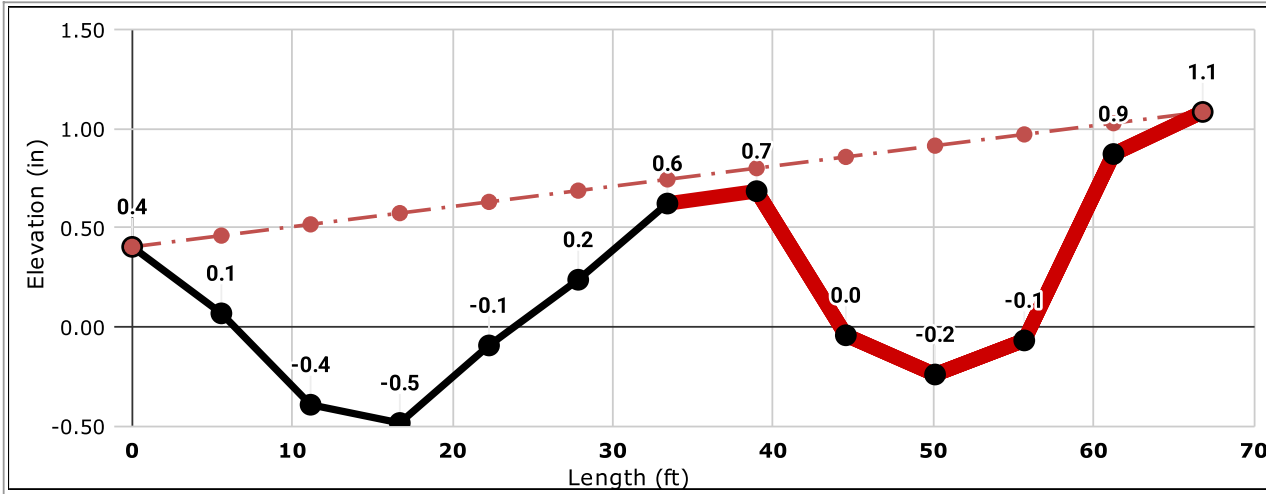
Limits of liability for any claims with respect to this report is limited to the fees paid for services and anyone relying on the content of this report agrees to indemnify the company for all costs exceeding the fee paid.

<p>Engineer's Seal</p> <p>Philip W. Bullock Jr., M.E., M.B.A., P.E. (TX) TBPE #114841   Firm #21369 Noble Engineering Services, LLC (TX) (In partnership with House Inspection Services, PLLC) P: (832) 210-1397 E: engineering@noble-pi.com</p>	
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### Possible Attachments:

<i>X - Not Provided</i>	Exhibit A	Proposed Repair Plan
<i>√ - Provided</i>	Exhibit B	Identified Deflection/Tilt Failure
<i>√ - Provided</i>	Exhibit C	Table of Deflection and Tilt Failures
<i>X - Not Provided</i>	Exhibits D/E/F/G	Proposed Repair Plan Details
<i>√ - Provided</i>	Appendix A	On-Site Inspection Report with Photos Dated 1/10/2025
<i>√ - Provided</i>	Appendix B	Other Pertinent Documents (repairs, previous plots, etc.)

## Exhibit B: Identified Deflection/Tilt Failure (L38)



Profile Data for L38		Actual Length (ft)						Effective Length (ft)					
Point (#)	1	2	3	4	5	6	7	8	9	10	11	12	13
Length (ft)	0	6	11	17	22	28	33	39	45	50	56	61	67
Tilt (in)	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.1
Z (in)	0.4	0.1	-0.4	-0.5	-0.1	0.2	0.6	0.7	0.0	-0.2	-0.1	0.9	1.1
Deflection 1 (Failures)								0.7	0.0	-0.2	-0.1	0.9	
Deflection 2 (Failures)								0.7	0.0	-0.2	-0.1	0.9	
Deflection 3 (Failures)								0.7	0.0	-0.2	-0.1	0.9	1.1
Deflection 4 (Failures)							0.6	0.7	0.0	-0.2	-0.1	0.9	1.1
Deflection 5 (Failures)										-0.2	-0.1	0.9	1.1

k-factor Calculation										
Start Position (x,y) (ft)	47.47	67.36	End Position (x,y) (ft)		32.94	2.16	k-factor (1.00 to 1.41)			1.02
Length (ft)	65.2		Width (ft)		14.53		Limit			L / 353

Performance Output							
Deflection & Tilt	Pass/Fail	Actual		Result Description	Point 1	Point 2	Point 3
Deflection 1 (using k)	FAIL	L /	262	EXCEEDS THE kL/360 (L/353) LIMIT BY 35%	8	10	12
Deflection 2 (using k)	FAIL	L /	299	EXCEEDS THE kL/360 (L/353) LIMIT BY 18%	8	11	12
Deflection 3 (using k)	FAIL	L /	308	EXCEEDS THE kL/360 (L/353) LIMIT BY 15%	8	10	13
Deflection 4 (using k)	FAIL	L /	330	EXCEEDS THE kL/360 (L/353) LIMIT BY 7%	7	11	13
Deflection 5 (using k)	FAIL	L /	336	EXCEEDS THE kL/360 (L/353) LIMIT BY 5%	10	12	13
Tilt	PASS	0.08 %		USING 8% OF THE ALLOWABLE 1% LIMIT			

\*Calculations developed by FPA for Document # FPA-SC-13-1 - Guidelines for the Evaluation of Foundation Movement for Residential And Other Low-Rise Buildings

## Exhibit C - All Deflection and Tilt Failures Table

Profile	Deflection Calculation?	Tilt Calculation?	Lengths		Deflections 1-5										Tilt	
			Actual Length	Effective Length	Deflection 1		Deflection 2		Deflection 3		Deflection 4		Deflection 5		%	Exceeds
					%	Exceeds	%	Exceeds	%	Exceeds	%	Exceeds	%	Exceeds		
L24	FAIL	PASS	58	20	0.06%	YES	0.95%	NO	0.94%	NO	0.93%	NO	0.89%	NO	0.06%	NO
L38	FAIL	PASS	67	20	0.34%	YES	0.17%	YES	0.14%	YES	0.06%	YES	0.04%	YES	0.08%	NO
L64	FAIL	PASS	71	20	0.19%	YES	0.08%	YES	0.06%	YES	0.02%	YES	0.86%	NO	0.04%	NO
L74	FAIL	PASS	65	20	0.03%	YES	0.01%	YES	0.96%	NO	0.95%	NO	0.94%	NO	0.04%	NO



**HOUSE INSPECTION SERVICES**  
"Know What You're Buying"

## **Appendix A**

### **On-Site Inspection Report with Photos Dated 1/10/2025**

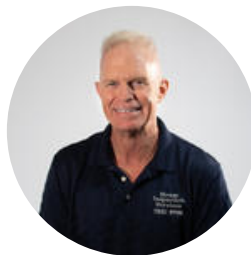
*123 Sample, Address, TX, 12345*



ENGINEER'S EVALUATION - NOBLE ENGINEERING SERVICES

1748 Hartford Dr  
Carrollton, TX 75007

Greg House  
01/10/2025



Inspector  
Greg House



TREC#9986 / SPCS#559963 / MAC#2029

214-243-5676

[greg@houseinspects.com](mailto:greg@houseinspects.com)

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# 1: INFORMATION

## Information

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<b>Date of inspection</b> 01/10/2025	<b>Type of building</b> Single Family Attached	<b>Style</b> Ranch
<b>In attendance</b> Owner	<b>Weather conditions</b> Cloudy	<b>Outdoor temperature</b> 30°F to 60°F
<b>Occupancy &amp; furnishings</b> Furnished	<b>Inspection address</b> 1748 Hartford Dr, Carrollton, TX 75007	<b>Inspection company</b> House Inspection Services, PLLC
<b>Agent's name</b> N/A	<b>Inspector's name</b> Greg House	<b>Client's name</b> Greg House
<b>Year built</b> 1978	<b>Square feet</b> 2621	<b>Inspection date</b> 01/10/2025

## Limitations

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General

### **FURNISHINGS OBSTRUCTION**

The property contains furnishings. Furnishings can obstruct the inspectors view and access to particular areas of the home. As such, the inspector performed the inspection to the best of his abilities. Due to liability considerations, the inspector is not permitted to move furnishings to complete an inspection.

## 2: STRUCTURAL SYSTEMS

### Information

#### A. Foundations: Type of foundation

Slab on Grade

#### C. Walls (Interior and Exterior): Wall material (exterior)

Brick, Wood

#### C. Walls (Interior and Exterior): Wall material (interior)

Drywall

### Limitations

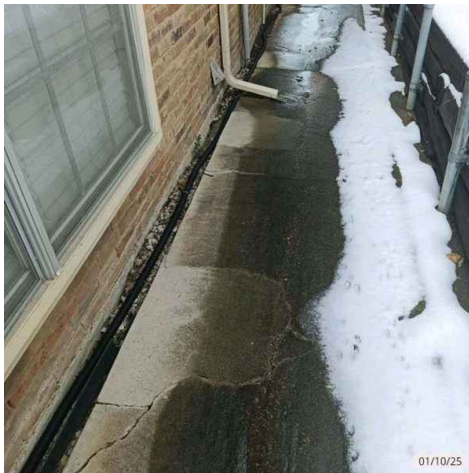
#### A. Foundations

#### PHOTO(S) OF POSSIBLE FOUNDATION REPAIR

There are indications of previous foundation repair. This represents a limitation to the performance statement.

Assessment of true and present foundation deficiencies is difficult when foundation repair has been completed because inspector is unable to determine the extent of the stabilization and resolution of present foundation issues. Common indicators of foundation problems may be resolved or may continue to exhibit failure. It is a difficult situation to fully understand without a timeline of events.

Recommend contacting the owner about the extent of the repairs to determine their validity as a true foundation stabilization, type of repair, and warranty. Recommend researching the previous foundation repair company to determine if they have quality reviews, have a long standing reputation, and if any warranty is transferable.



Right exterior.



Left exterior.

#### A. Foundations

#### PERFORMANCE - ENGINEER'S FOUNDATION EVALUATION PENDING

The Engineer's Foundation Evaluation (to be delivered at a later date) will determine the performance of the foundation by utilizing the visual deficiencies gathered in this report coupled with analytical methods for calculating elevation, deflection, and tilt. Instead of making a statement of performance here, the inspector will rely on the results of the Engineer to ultimately determine the foundation's performance.

## Structural concerns

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### 2.1.1 A. Foundations

#### **SLAB - FOUNDATION CRACKS - MINOR**

Minor cracking was noted at the foundation. This is common as concrete ages and shrinkage surface cracks are normal. Recommend patching the minor cracks to prevent moisture/pest intrusion. Also recommend monitoring for more serious shifting/displacement.



Right exterior. Garage.

### 2.1.2 A. Foundations

#### **SLAB - FOUNDATION CRACKS - CORNERS**

Corner cracks are visible in the foundation slab but are of minimal structural concern. Shrinkage is a natural part of the curing process of concrete and cracks located in corners of structures are common. Recommend patching the corner cracks to prevent moisture/pest intrusion. Also recommend monitoring to confirm the cracking does not worsen.



Back right. Garage.

### 2.2.1 B. Grading and Drainage

#### **GUTTERS ARE FULL**

The gutters are full of leaves and debris. Recommend removal.

### 2.3.1 C. Walls (Interior and Exterior)

#### **CRACKS MAJOR**

Major cracking observed in wall structure that is likely due to structural foundation issues and is considered evidence of a structural deficiency. Recommend a qualified foundation contractor evaluate and advise on course of action.



Right exterior. Garage.

2.3.2 C. Walls (Interior and Exterior)

**CRACKS MINOR**

Minor cracking was observed in wall structure. This is common in structure this age and is often determined to be cosmetic. That said, cracking is a first sign of foundation failure and cracks can grow over time; recommend monitoring. The best way to monitor a crack is to patch it (with mortar or caulk) and repaint it, to see if the crack reappears.



Left exterior. Soldier bricks



Right exterior. Garage.



Frieze board corners



Back exterior. Garage.



Nook.



Utility room.



Dining room. Previous patching



Office. Room addition



Office. Room addition

2.3.3 C. Walls (Interior and Exterior)

**SEPARATION - FLOATING PATIO**

Separations at attached storage closet on floating patio slab.



Floating patio. Attached storage closet

2.4.1 D. Ceilings and Floors

**CEILING - SHEETROCK CRACKS MINOR**

Minor sheetrock cracking was observed on the ceiling. This is common in structures this age and is often determined to be cosmetic, most often the separation of drywall tape joints. Recommend patching, repainting, monitoring these locations for further cracking.



Office. Room addition

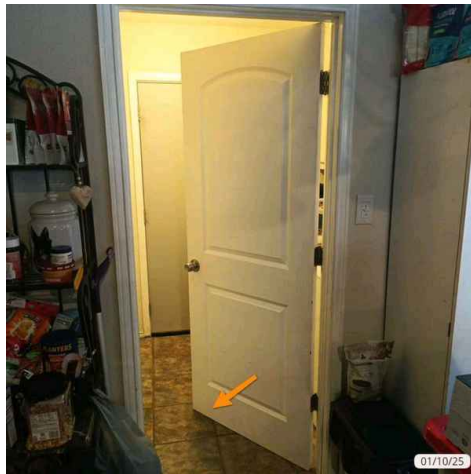
## 2.5.1 E. Doors (Interior and Exterior)

**DOOR RUBS / STICKS AND IS MISALIGNED**

Door sticks, rubs the frame, and is tough or impossible to open and/or close. The door is not aligning with the frame. Recommend hiring a door repair and installation contractor to realign the door or sanding down offending sides.



Back patio enclosed room.

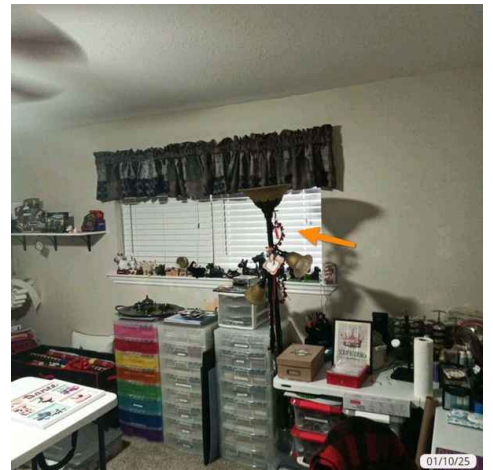


Utility room. Rubbing floor

## 2.6.1 F. Windows

**WINDOW WON'T OPEN**

One or more windows won't open. This could be caused by a number of reasons including structural deficiencies, windows that are locked, broken, or are painted shut. Recommend windows be restored to functional use by a window repair and installation contractor.



Back left bedroom. Room addition

## 3: Z. ELEVATION PLOT - APPENDIX

### Information

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#### General: Habitability

Habitable

#### General: Interview

No Interviews

For the purpose of understanding the history of the structure, a brief interview is conducted only in the case where the seller/owner/occupant is on-site and available to provide any they recall about foundation performance.

#### General: Type of foundation

Slab on Grade

#### General: Visual deficiencies

Foundation Cracks - Minor, Door  
Deficiencies, Window  
Deficiencies, Foundation Corner  
Cracks, Floor / Ceiling  
Deficiencies, Wall Cracking

#### General: Type of building

Single Family Attached

#### General: Documentation

Client is strongly encouraged to investigate the possibility of previous foundation work or the existence of previous documentation of foundation performance. This would involve locating, for the purpose of the Engineer's Foundation Evaluation, documentation such as:

- Builder's elevation measurements (typically for warranty claims)
- Historic elevation measurements (typically by other repair or Engineering companies)
- Previous foundation work performed
- Warranty paperwork

Any documentation discovered should be prepared in a digital format and emailed to us for inclusion into the Engineer's Foundation Evaluation.

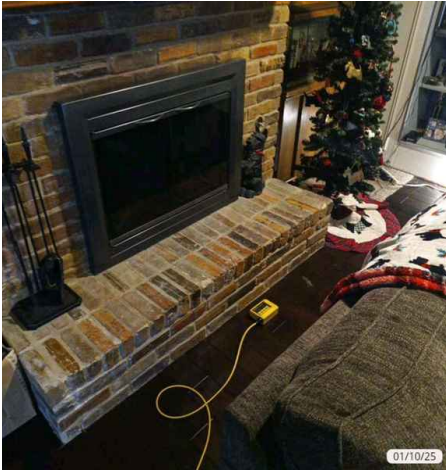
**Base Station: Base station location photo(s)**

Family room. Fireplace

This inspection included an elevation plot. The elevation plotter (ZipLevel) is a high precision altimeter that measures the elevation differences throughout the structure. The altimeter works by measuring the difference between the base station elevation and the adjoining rooms. The measurements shown on the control panel in this section of the report are in inches and represent the difference (both positive + and negative -) in elevation between the base station and the control panel photo. An elevation plot is only completed on the slab elevation (typically the 1st floor).

The altimeter only reads differences in elevation throughout the structure and does not determine the mean sea level elevation of the finished floor as a survey would for base floodplain elevation consideration, for example.

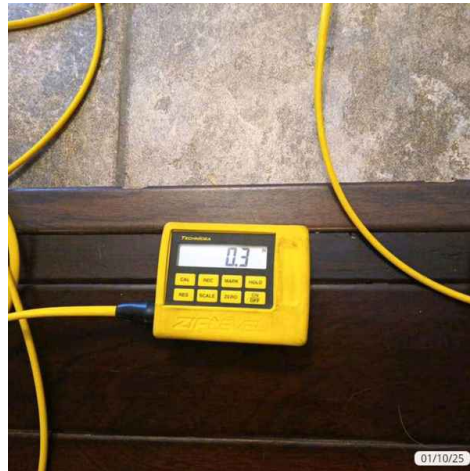
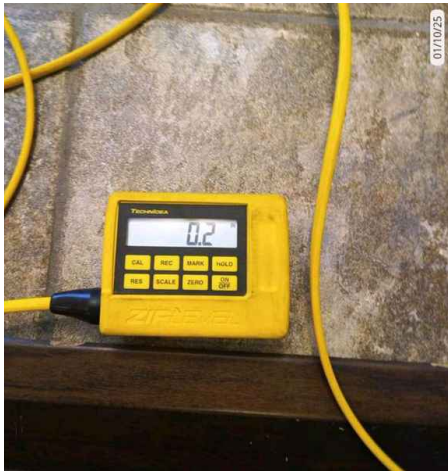
The base location represents the 0-elevation mark where all other elevation readings are based. The other elevations read from the control panel represent the difference in elevation (in inches) from this base.

**Base Station: Base station zeroed photo**

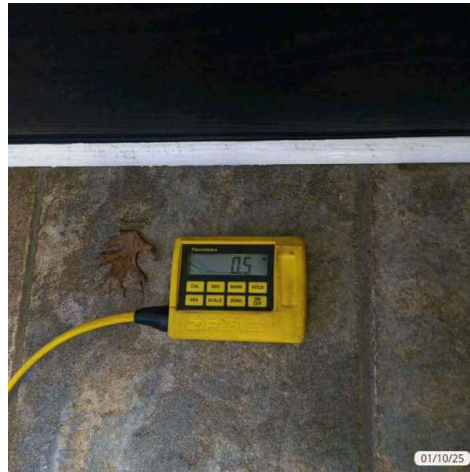
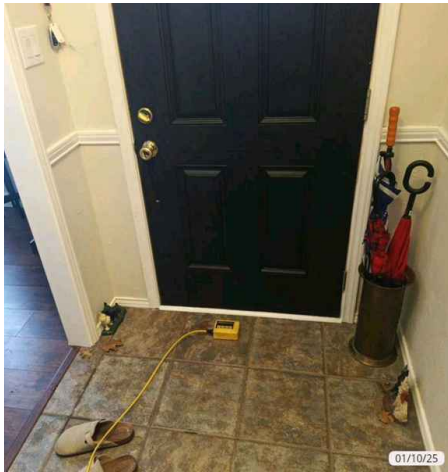


**Entry: Flooring difference factor**

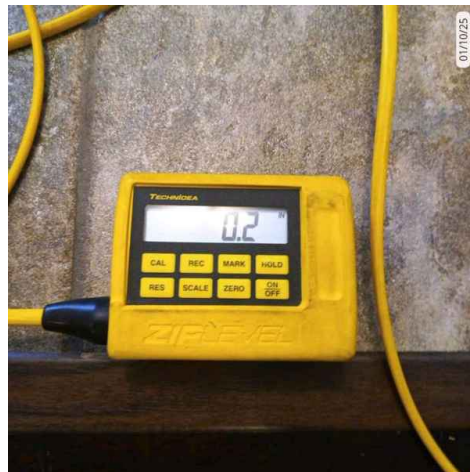
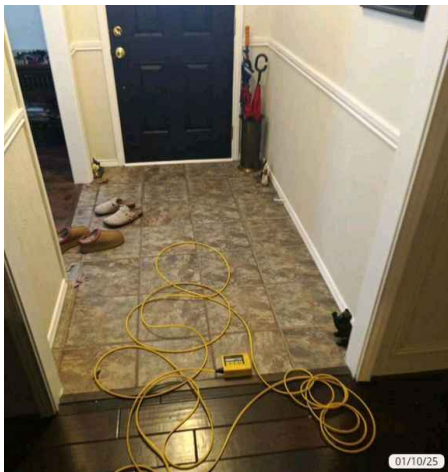
Entry  
-0.1"



**Entry: Middle of entry door elevation & photo(s)**



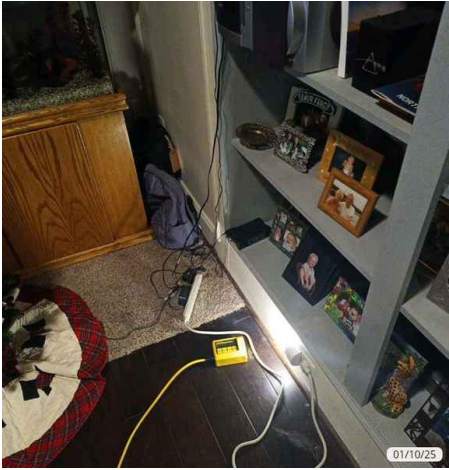
**Entry: Middle of room elevation & photo(s)**



**Living Room: Flooring difference factor**

Living Room  
Same Flooring (0.0)

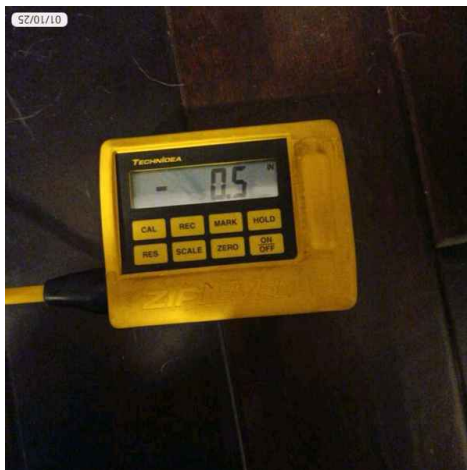
**Living Room: Back-left elevation & photo**



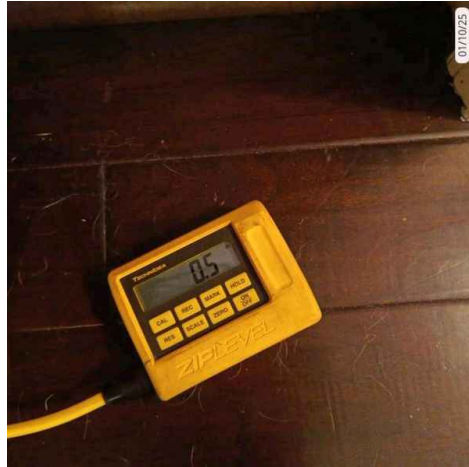
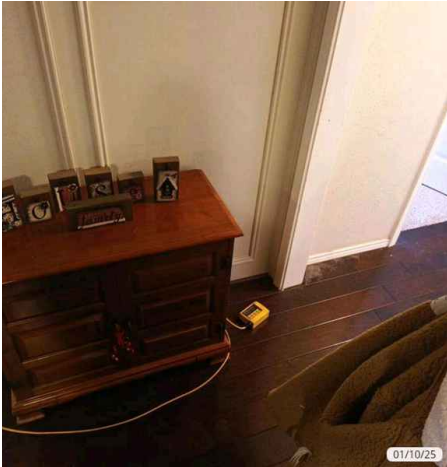
**Living Room: Back-right elevation & photo**



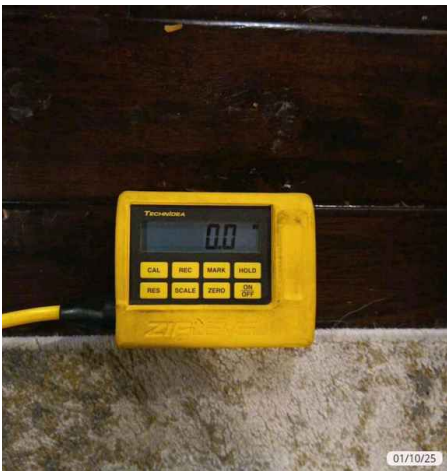
**Living Room: Front-right elevation & photo**



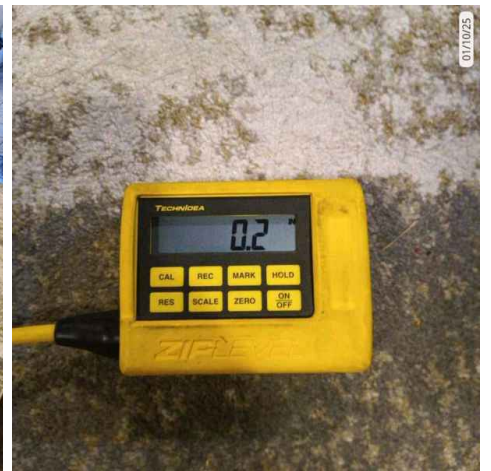
**Living Room: Front-left elevation & photo**



**Living Room: Mid-room elevation & photo**



Rug in room



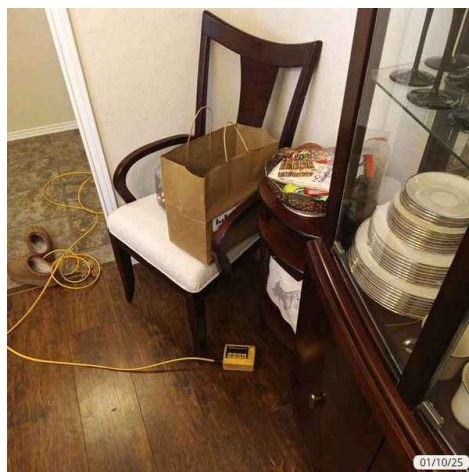
Rug elevation change. 0.2

**Dining Room: Flooring difference factor**

Dining Room

Same Flooring (0.0)

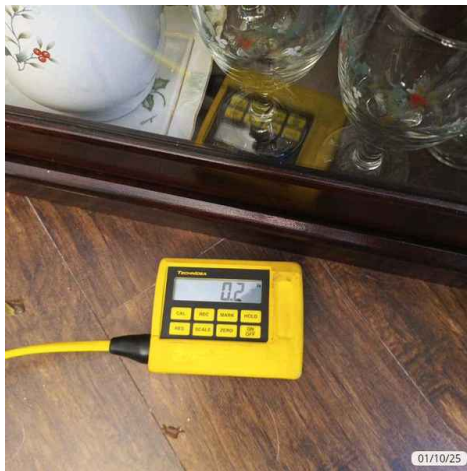
**Dining Room: Back-left elevation & photo**



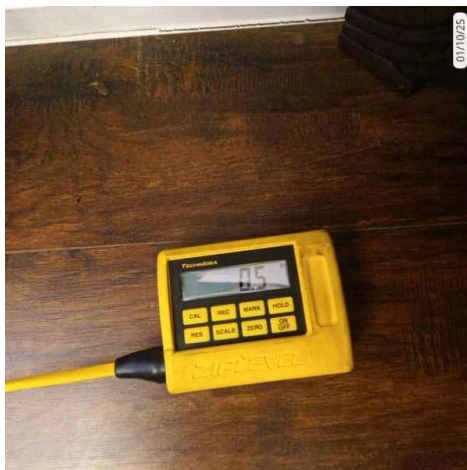
**Dining Room: Back-right elevation & photo**



**Dining Room: Front-right elevation & photo**



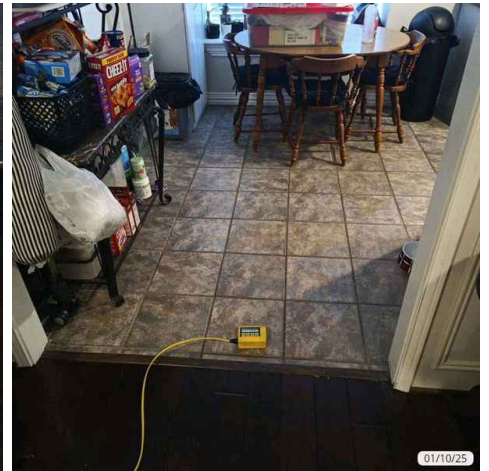
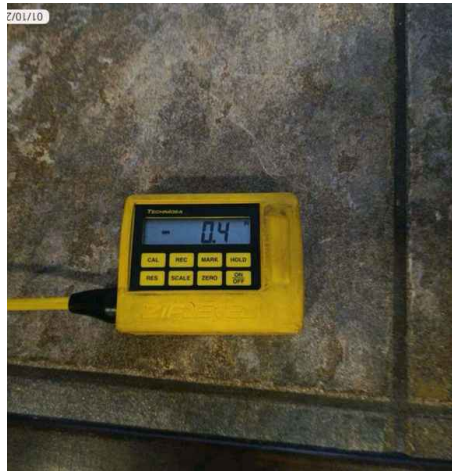
**Dining Room: Front-left elevation & photo**



### Kitchen & Nook: Flooring difference factor

Kitchen

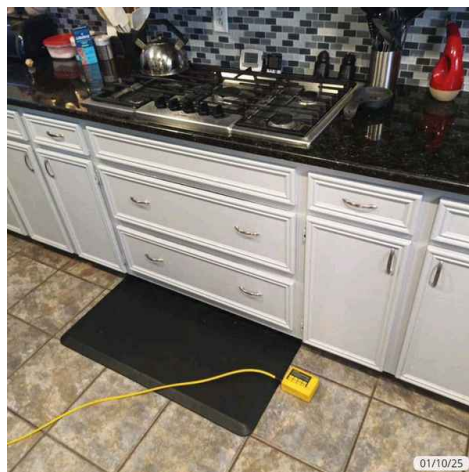
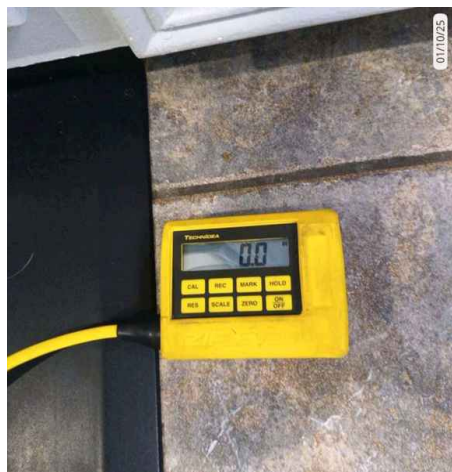
Same Elevation (0.0)



### Kitchen & Nook: Front of fridge elevation & photo



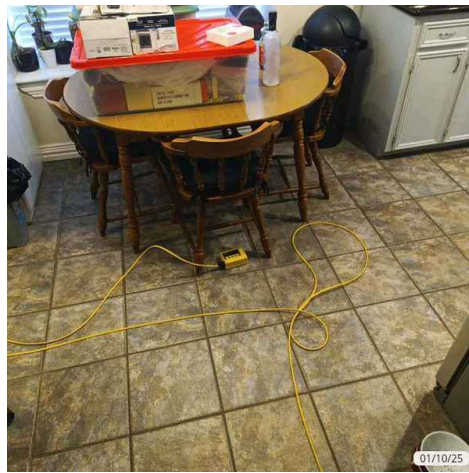
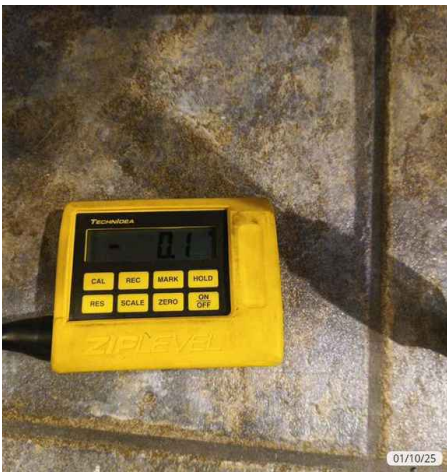
### Kitchen & Nook: Front of range/cooktop elevation & photo



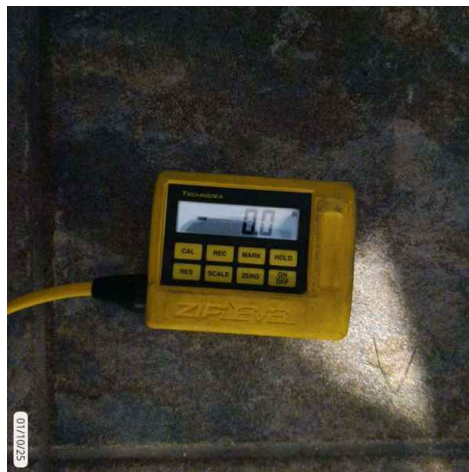
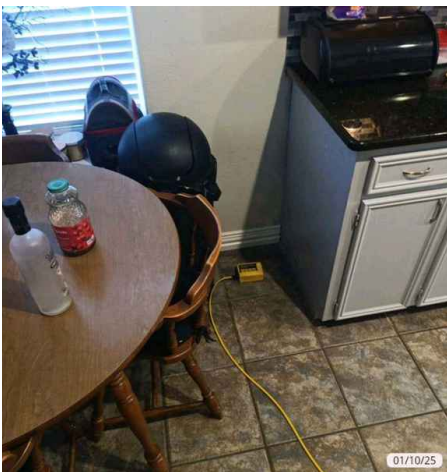
**Kitchen & Nook: Front of sink elevation & photo**



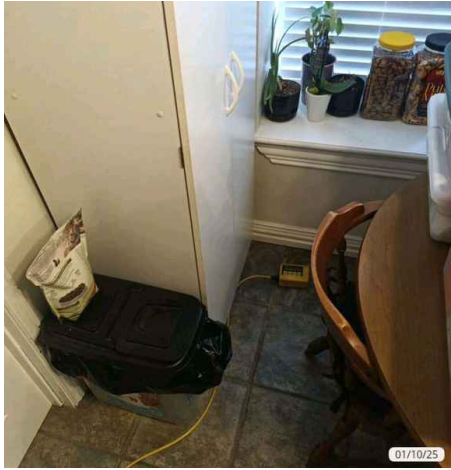
**Kitchen & Nook: Middle of nook elevation & photo**



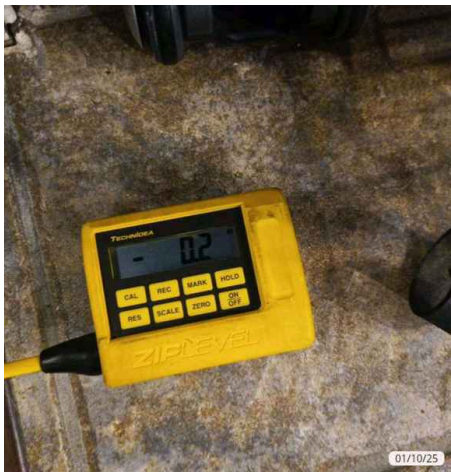
**Kitchen & Nook: Nook front right corner**



**Kitchen & Nook: Nook back right corner**



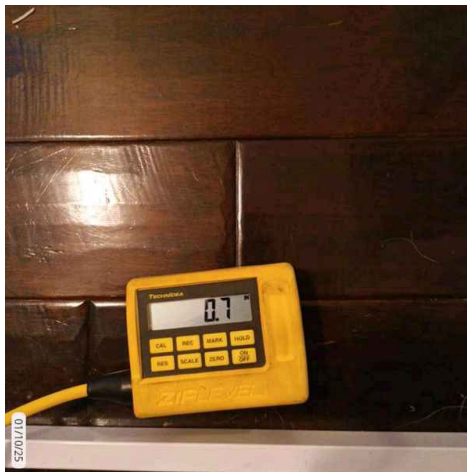
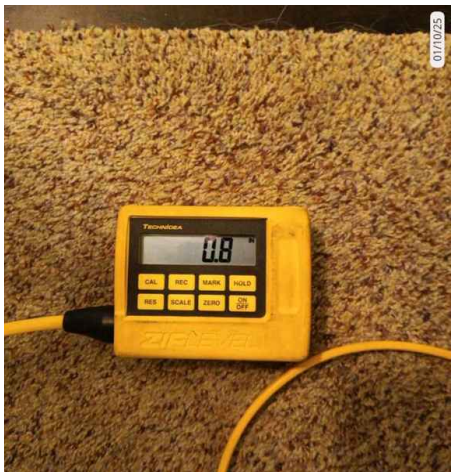
**Kitchen & Nook: Nook back left corner**



**Primary Bedroom: Flooring difference factor**

Primary Bedroom

+0.1"

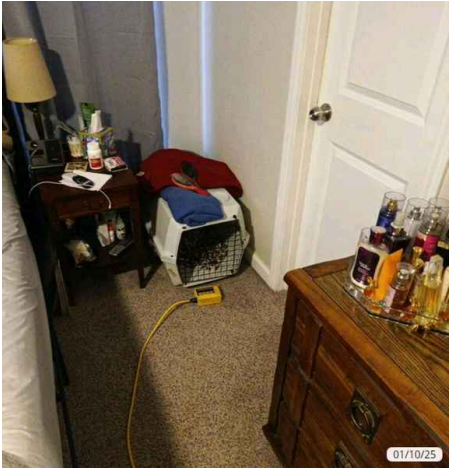


**Primary Bedroom: Location in structure**

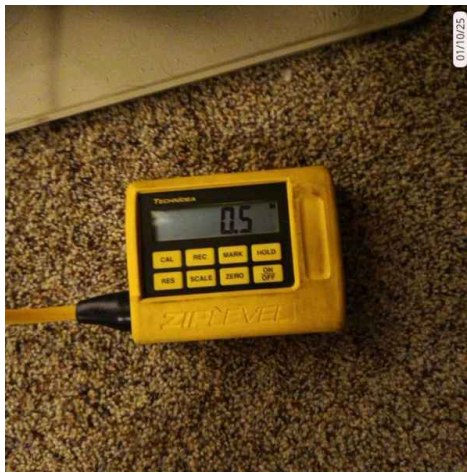
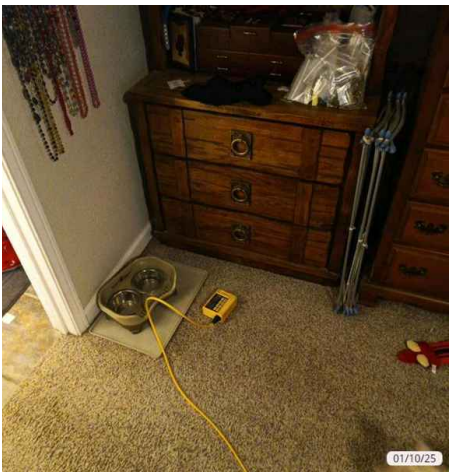
Primary Bedroom

Left, Middle

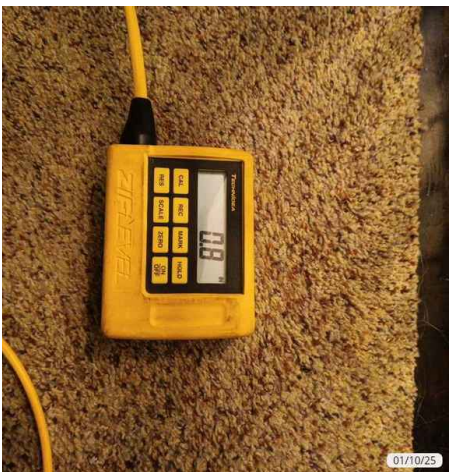
**Primary Bedroom: Back-left elevation & photo**



**Primary Bedroom: Back-right elevation & photo**

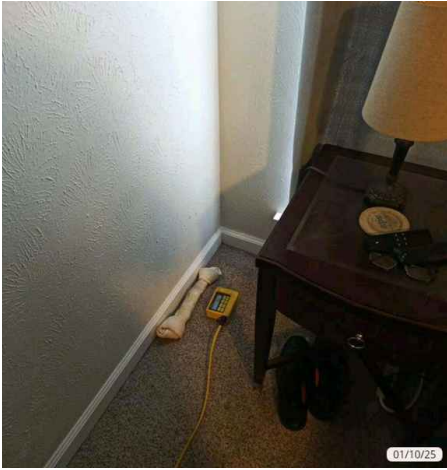


**Primary Bedroom: Front-right elevation & photo**





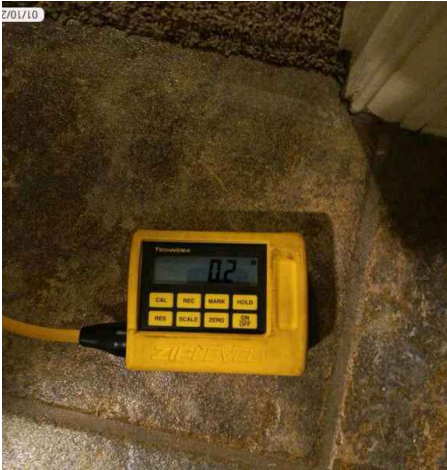
**Primary Bedroom: Front-left elevation & photo**



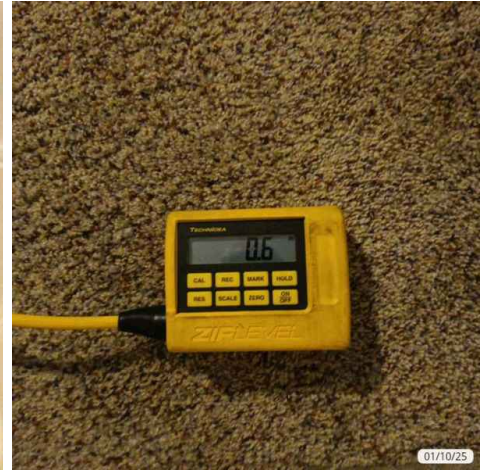
**Primary Bathroom: Flooring difference factor**

Primary Bathroom

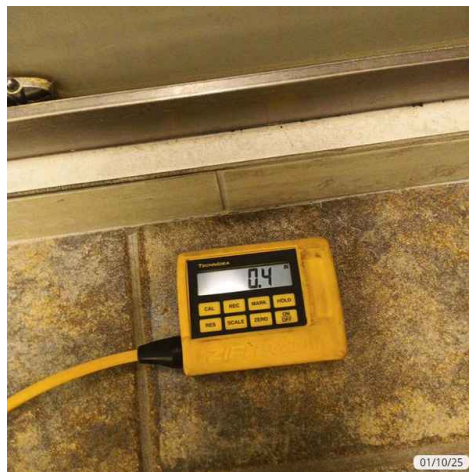
Carpet to tile transition



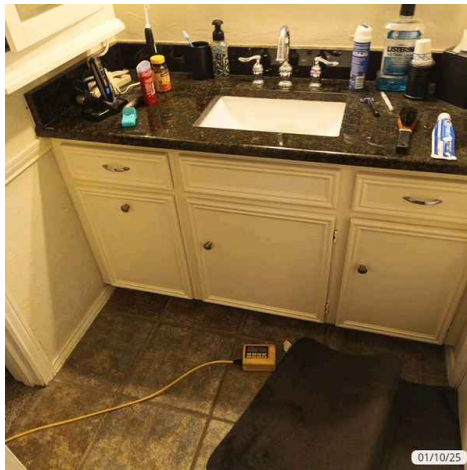
Same tile as entry and kitchen



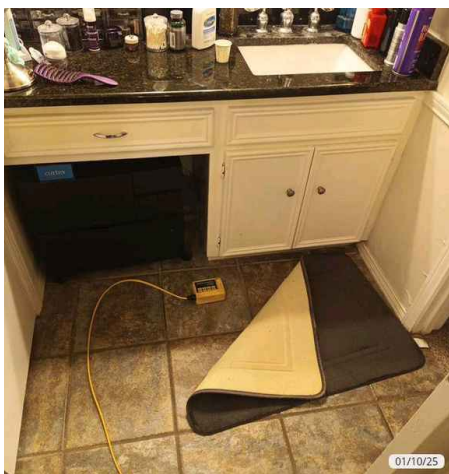
**Primary Bathroom: Front shower/bath elevation & photo**



**Primary Bathroom: Front of sink. Left**



**Primary Bathroom: Front of sink. Right.**

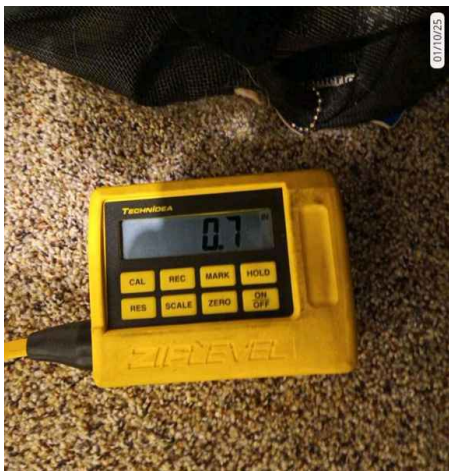


**Primary Closet: Flooring difference factor**

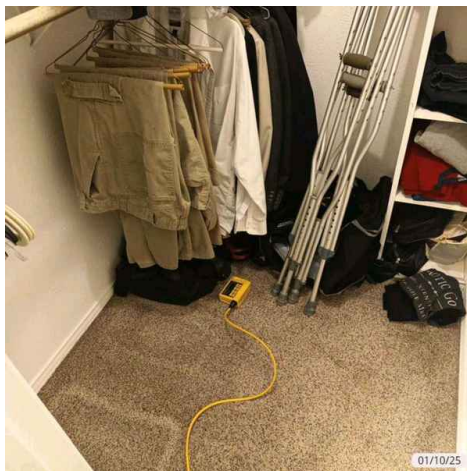
Primary Closet

Tile to carpet transition

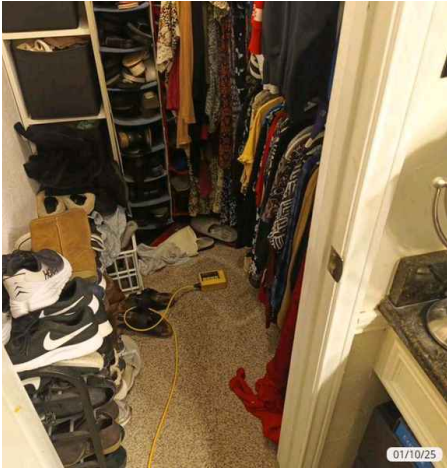
**Primary Closet: Primary closet elevation left & photo**



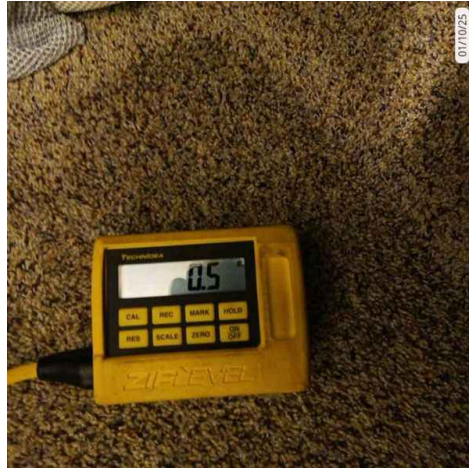
Left side closet



**Primary Closet: Primary closet elevation right & photo**



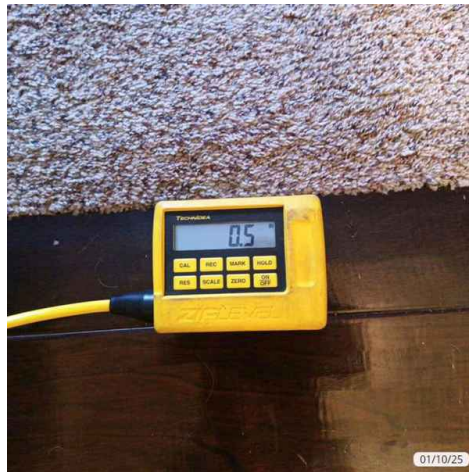
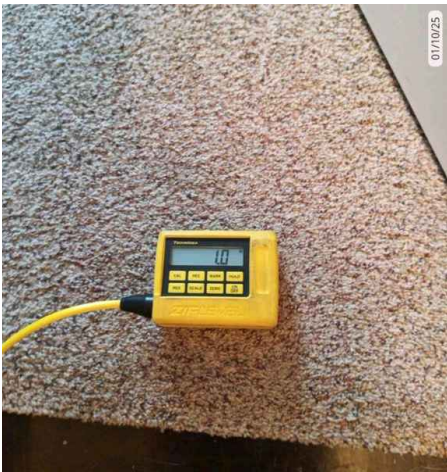
Right side closet



**Bedroom: Flooring difference factor**

Bedroom

+0.5"

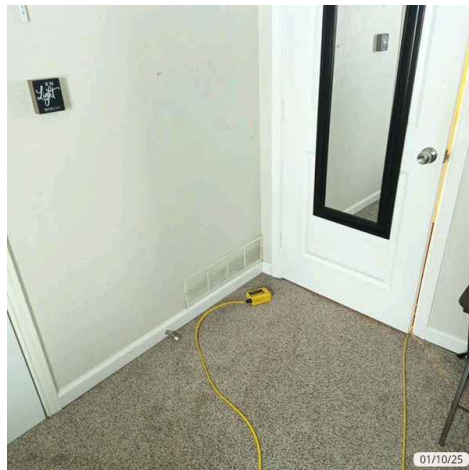
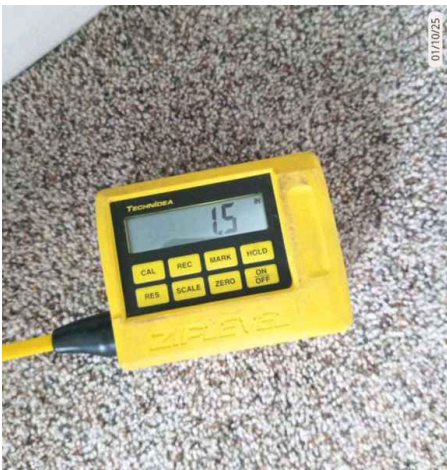


**Bedroom: Location in structure**

Bedroom

Front

**Bedroom: Back-left elevation & photo**



**Bedroom: Back-right elevation & photo**

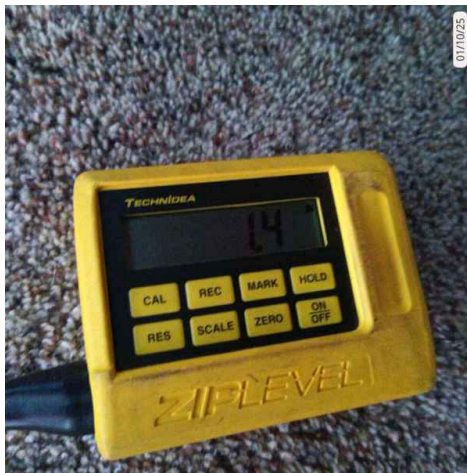


Obstructed

**Bedroom: Front-right elevation & photo**



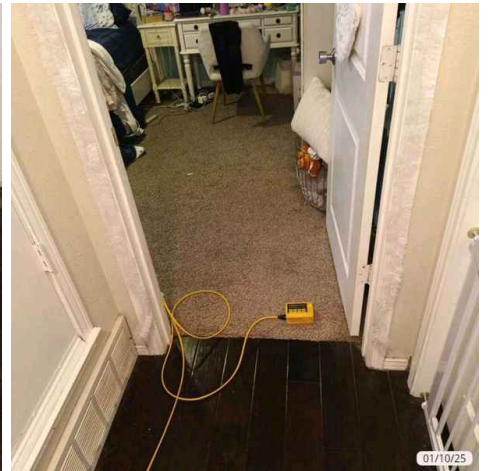
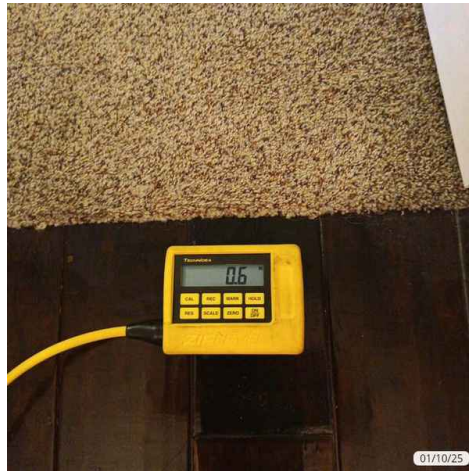
**Bedroom: Front-left elevation & photo**



### Bedroom 3: Flooring difference factor

Bedroom

+0.3"

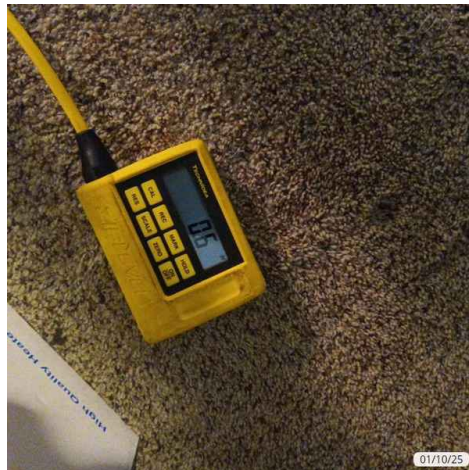


### Bedroom 3: Location in structure

Bedroom

Front left

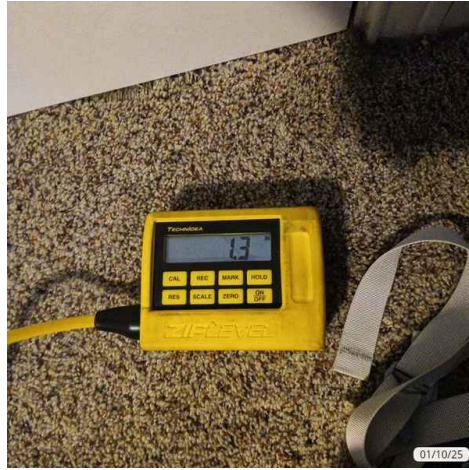
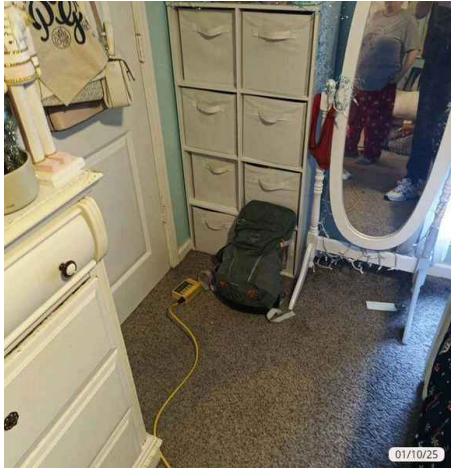
### Bedroom 3: Back-left elevation & photo



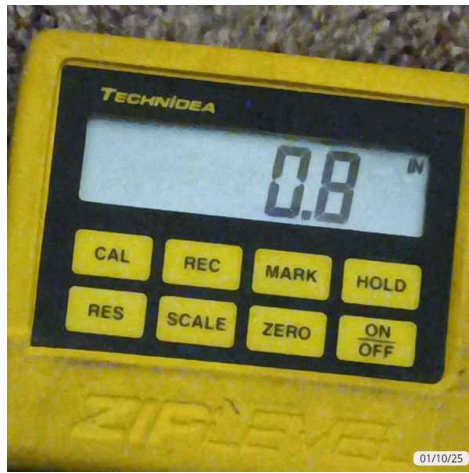
### Bedroom 3: Back-right elevation & photo



**Bedroom 3: Front-right elevation & photo**



**Bedroom 3: Front-left elevation & photo**



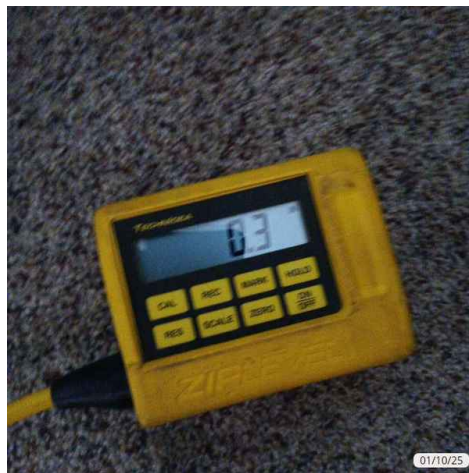
**Bedroom 4: Flooring difference factor**

Bedroom  
Same carpet

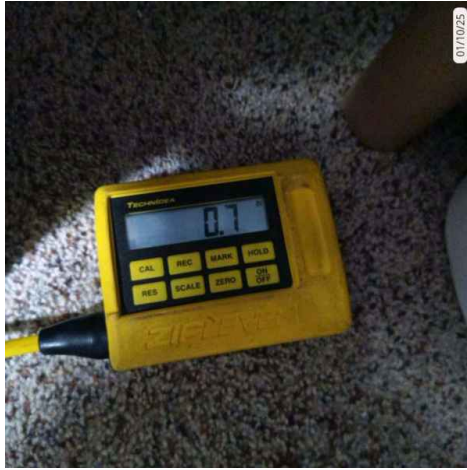
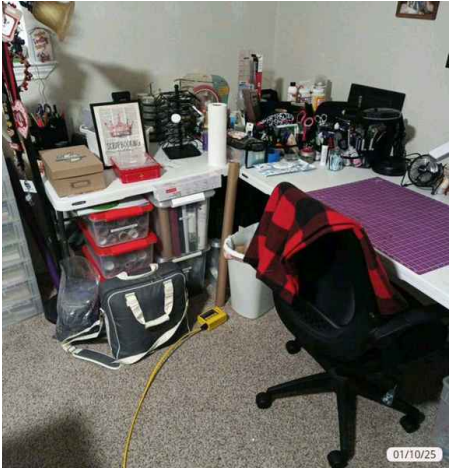
**Bedroom 4: Location in structure**

Bedroom  
Back, Left, Room addition

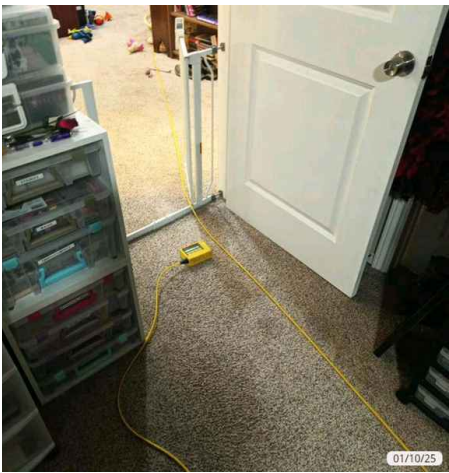
**Bedroom 4: Back-left elevation & photo**



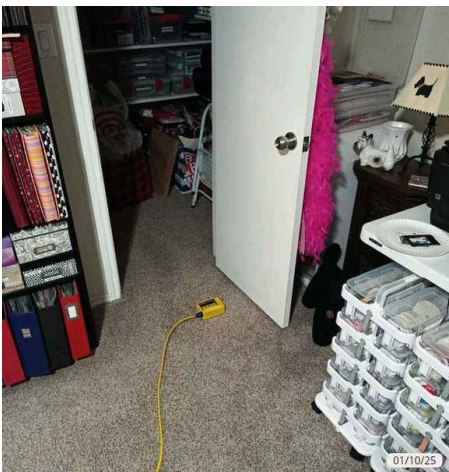
**Bedroom 4: Back-right elevation & photo**



**Bedroom 4: Front-right elevation & photo**



**Bedroom 4: Front-left elevation & photo**

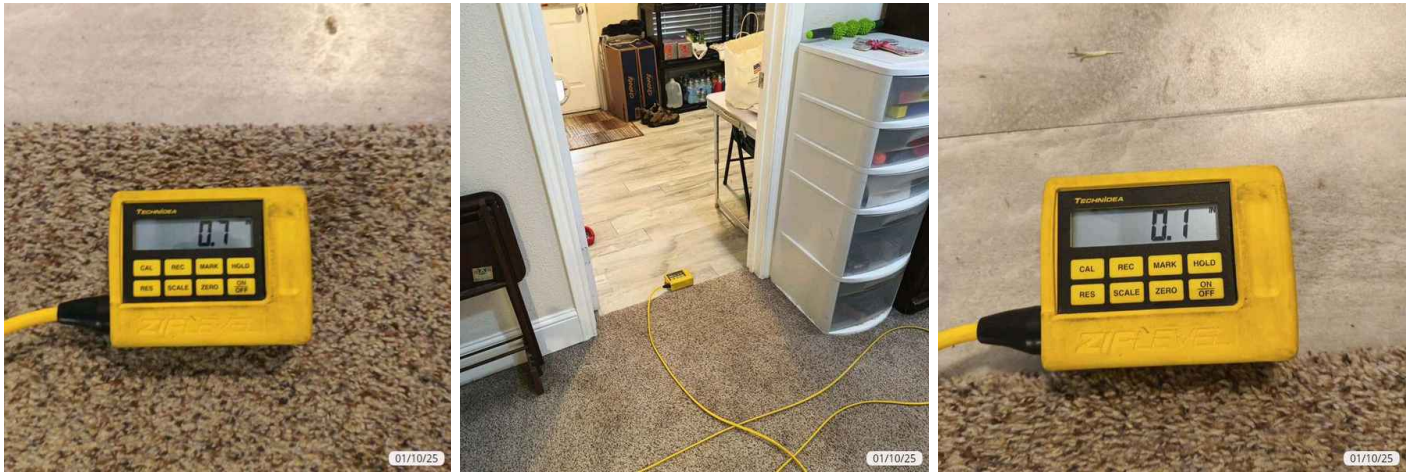


**Bedroom 4: Center of room elevation and photo**



**Patio Room: Flooring difference factor**

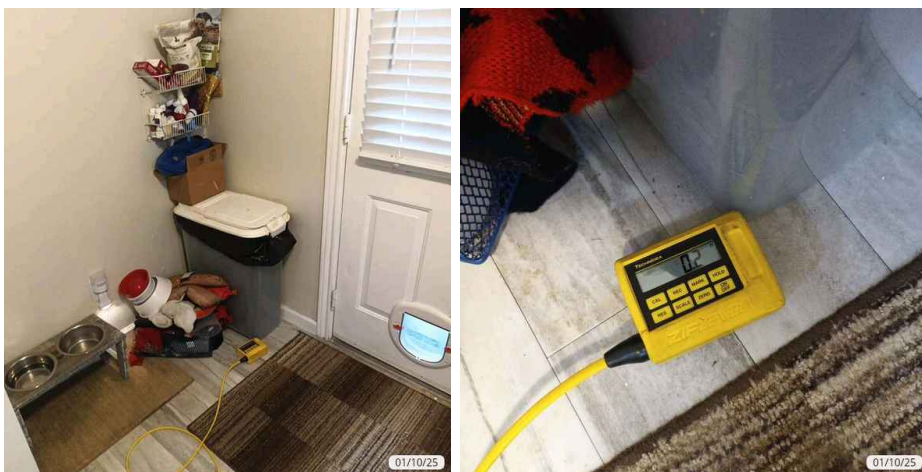
Patio room. Carpet to laminate tile  
-0.6



**Patio Room: Location in structure**

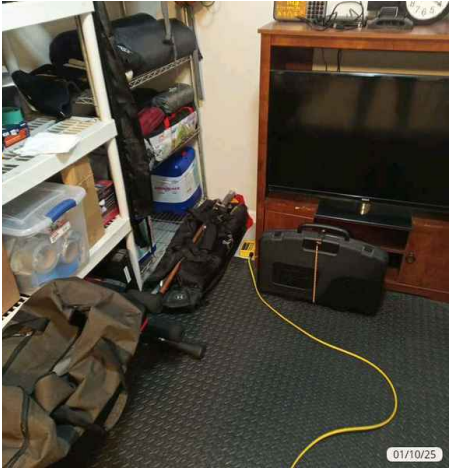
Patio room  
Back

**Patio Room: Back-left elevation & photo**

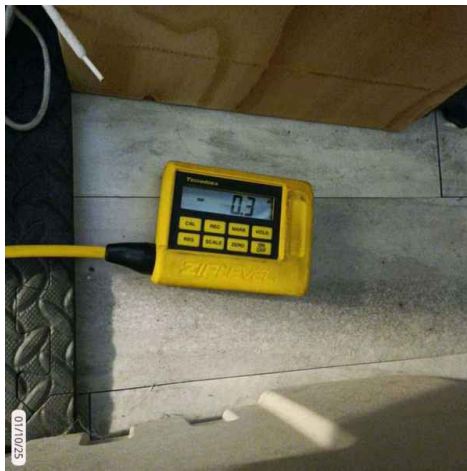




**Patio Room: Back-right elevation & photo**



**Patio Room: Front-right elevation & photo**



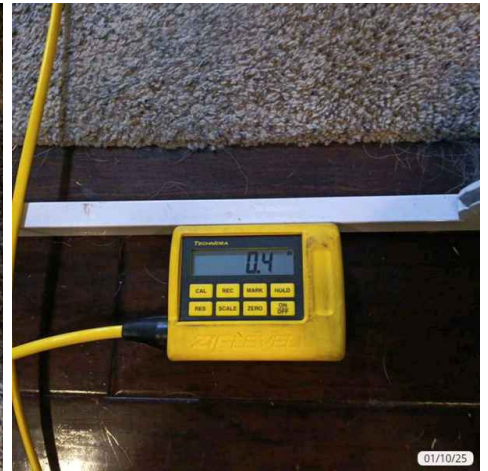
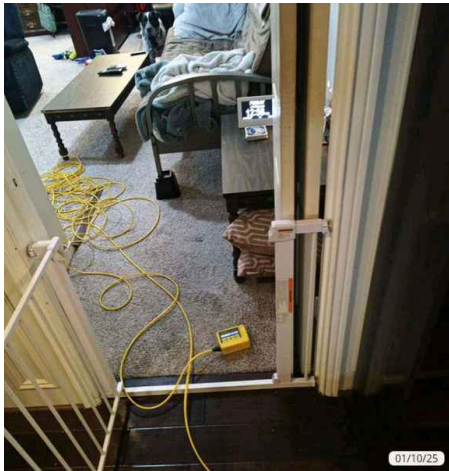
**Patio Room: Front-left elevation & photo**



**Office - Room Addition : Flooring difference factor**

Bedroom

+0.3"

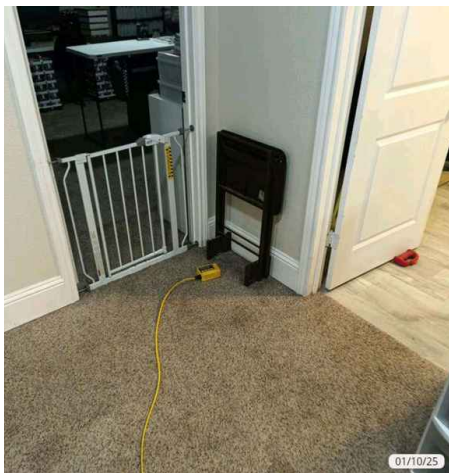


**Office - Room Addition : Location in structure**

Bedroom

Middle

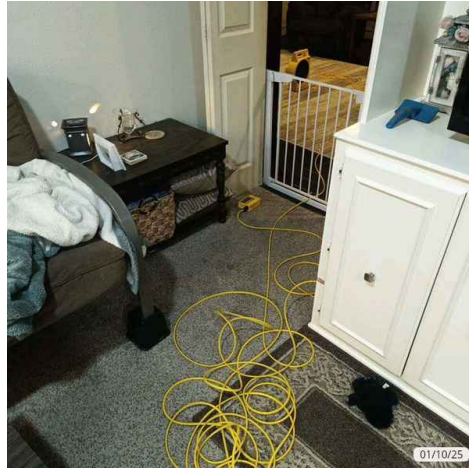
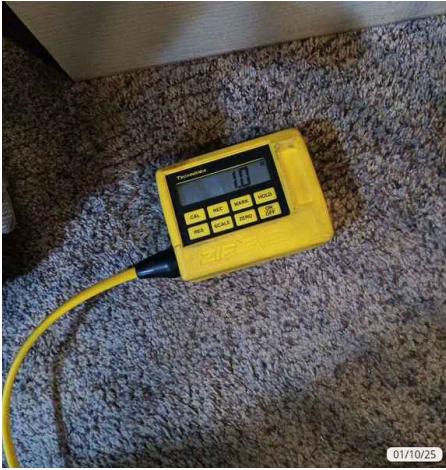
**Office - Room Addition : Back-left elevation & photo**



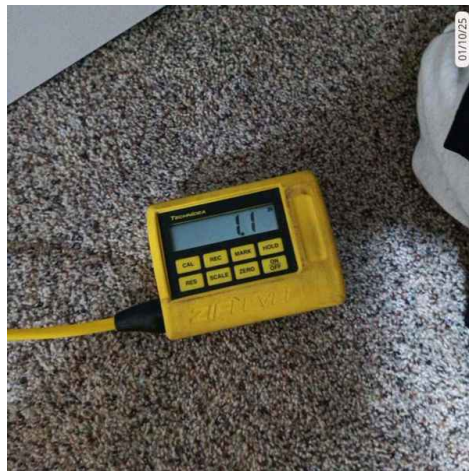
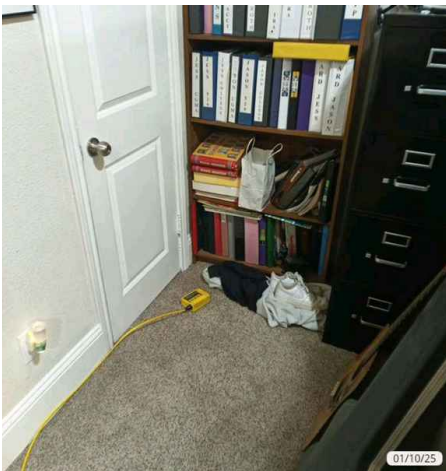
**Office - Room Addition : Back-right elevation & photo**



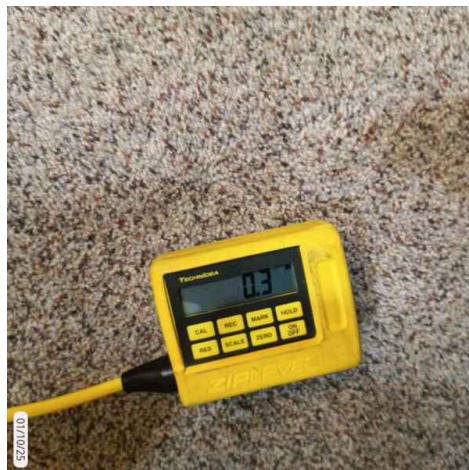
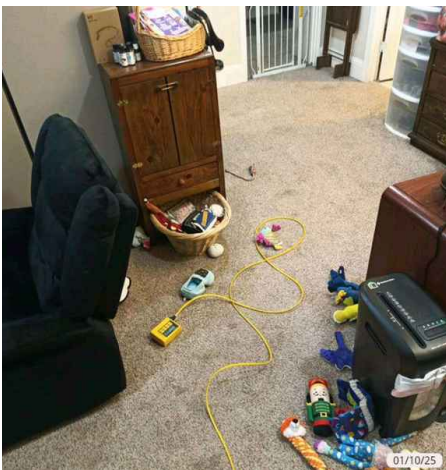
**Office - Room Addition : Front-right elevation & photo**



**Office - Room Addition : Front-left elevation & photo**



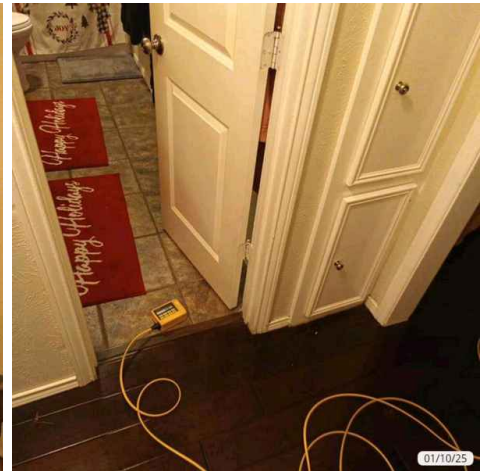
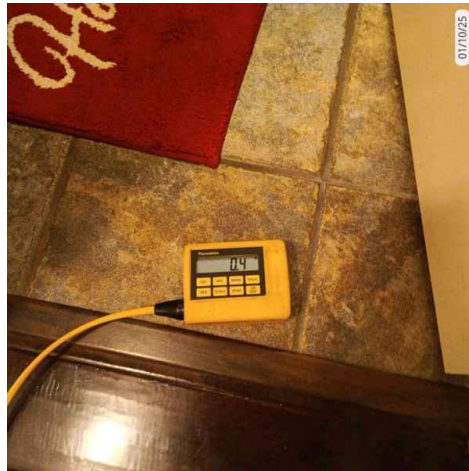
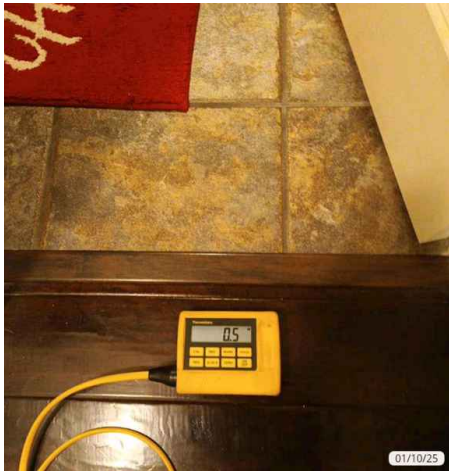
**Office - Room Addition : Center of room elevation and photo**



**Bathroom: Flooring difference factor**

Bathroom

-0.1"

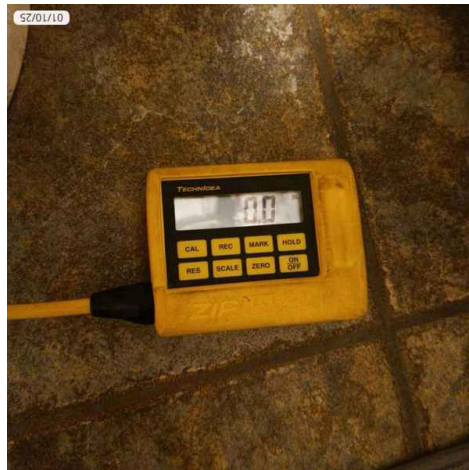


**Bathroom: Type**

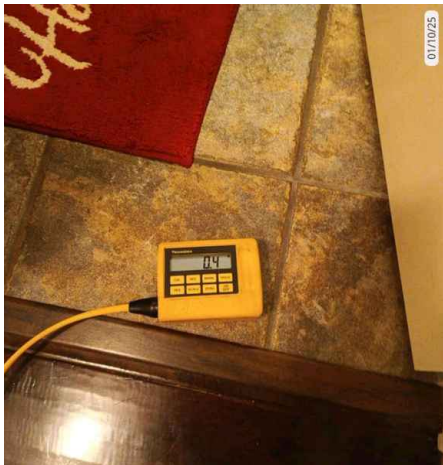
Bedroom hallway

Full-Bath

**Bathroom: Front shower/bath elevation & photo**



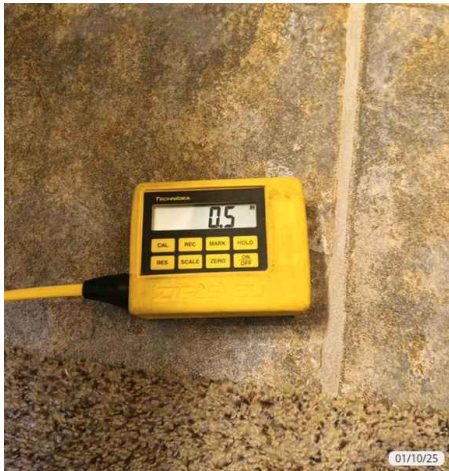
**Bathroom: Entry elevation & photo**



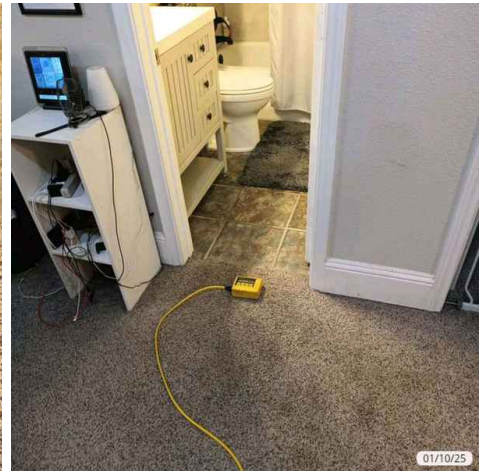
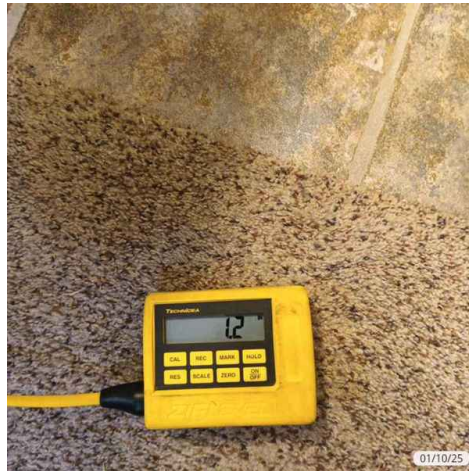
### Bathroom 3: Flooring difference factor

Bathroom

-0.7



Same tile as kitchen



### Bathroom 3: Type

Bathroom

Full-Bath

### Bathroom 3: Mid-room elevation & photo

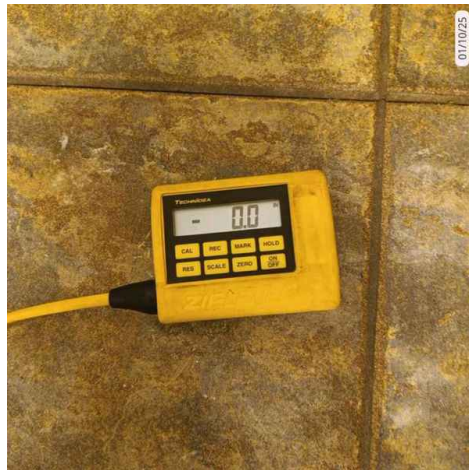


### Laundry: Flooring difference factor

Laundry

Tile floor

**Laundry: Mid-room elevation & photo**



**Garage: Type**

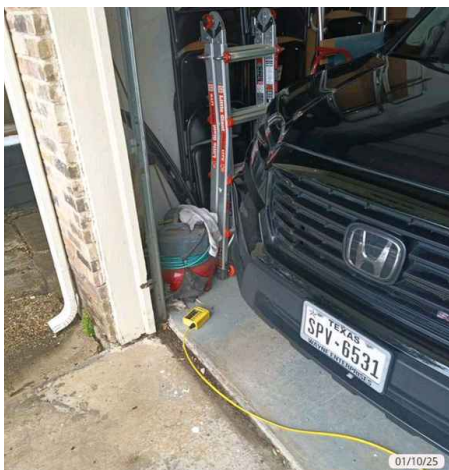
Garage

Flat Across

**Garage: Back-left elevation & photo**



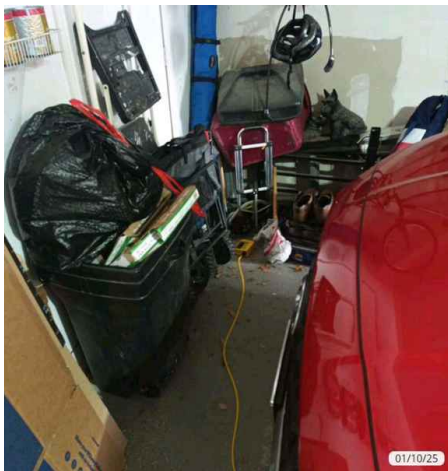
**Garage: Back-right elevation & photo**



### Garage: Front-right elevation & photo



### Garage: Front-left elevation & photo



## Limitations

General

### **PERFORMANCE - ENGINEER'S FOUNDATION EVALUATION PENDING**

The Engineer's Foundation Evaluation (to be delivered at a later date) will determine the performance of the foundation by utilizing the visual deficiencies gathered in this report coupled with analytical methods for calculating elevation, deflection, and tilt. Instead of making a statement of performance here, the inspector will rely on the results of the Engineer to ultimately determine the foundation's performance.