PERSPOLIS ENGINEERING INC.

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This letter summarizes the results of my structural and foundation assessment of a single-family residence located at 114 Yale Ave, San Antonio, TX 78201, inspected on February 26, 2026.



Inspectipon Process:

A non-destructive visual inspection of the residence was conducted to evaluate the condition of the structural system and identify indications of foundation movement. The subject property is a one-story single-family home consisting of approximately 1,817 square feet with an approximate footprint of 60 feet by 35 feet. The structure is supported on a pier foundation system elevated slightly above the ground surface. The roof covering consists of composition shingles.

The inspection included a review of accessible interior walls, ceilings, and visible framing components. Exterior wall surfaces were also reviewed for evidence of structural distress.

A floor elevation survey was performed using a calibrated laser level to assess relative elevation variations and identify potential differential movement patterns. Approximately 40 elevation readings were collected throughout the residence to determine relative floor elevation differentials and slope directions.

The crawlspace/substructure was covered and not accessible at the time of inspection. Therefore, the condition, number, spacing, and performance of the existing piers and support elements could not be directly observed or verified.

Findings:

The following conditions indicative of foundation movement and structural distress were observed during the inspection:

- Diagonal cracking in interior drywall finishes
- Vertical and horizontal separations in wall finishes
- Localized separation between wall finishes and floor surfaces

Observed crack widths generally range from approximately 1/16 inch to 1/8 inch. No door or window sticking was observed at the time of inspection. No noticeable framing sagging or joist deflection was observed. No exterior brick cracking was observed.

The observed distress is consistent with differential movement affecting the foundation support system; however, due to a lack of substructure access, the exact condition of the piers could not be confirmed.















Floor Level:

Floor elevation measurements indicate measurable and significant differential movement across the structure.

The maximum measured floor elevation differentials are approximately:

- **3.2 inches** in the front-to-back (north–south) direction across the 60-foot dimension, and
- **2.3 inches** in the left-to-right (east–west) direction across the 35-foot dimension.

The highest measured elevation was observed at the front-right portion of the residence. From this location, floor elevations decrease toward the rear of the structure and toward the left side of the residence, creating a two-directional sloping pattern.

Using commonly accepted residential serviceability guidance consistent with the 2021 International Residential Code (IRC) deflection guideline of L/360:

Allowable differential over 60 feet:

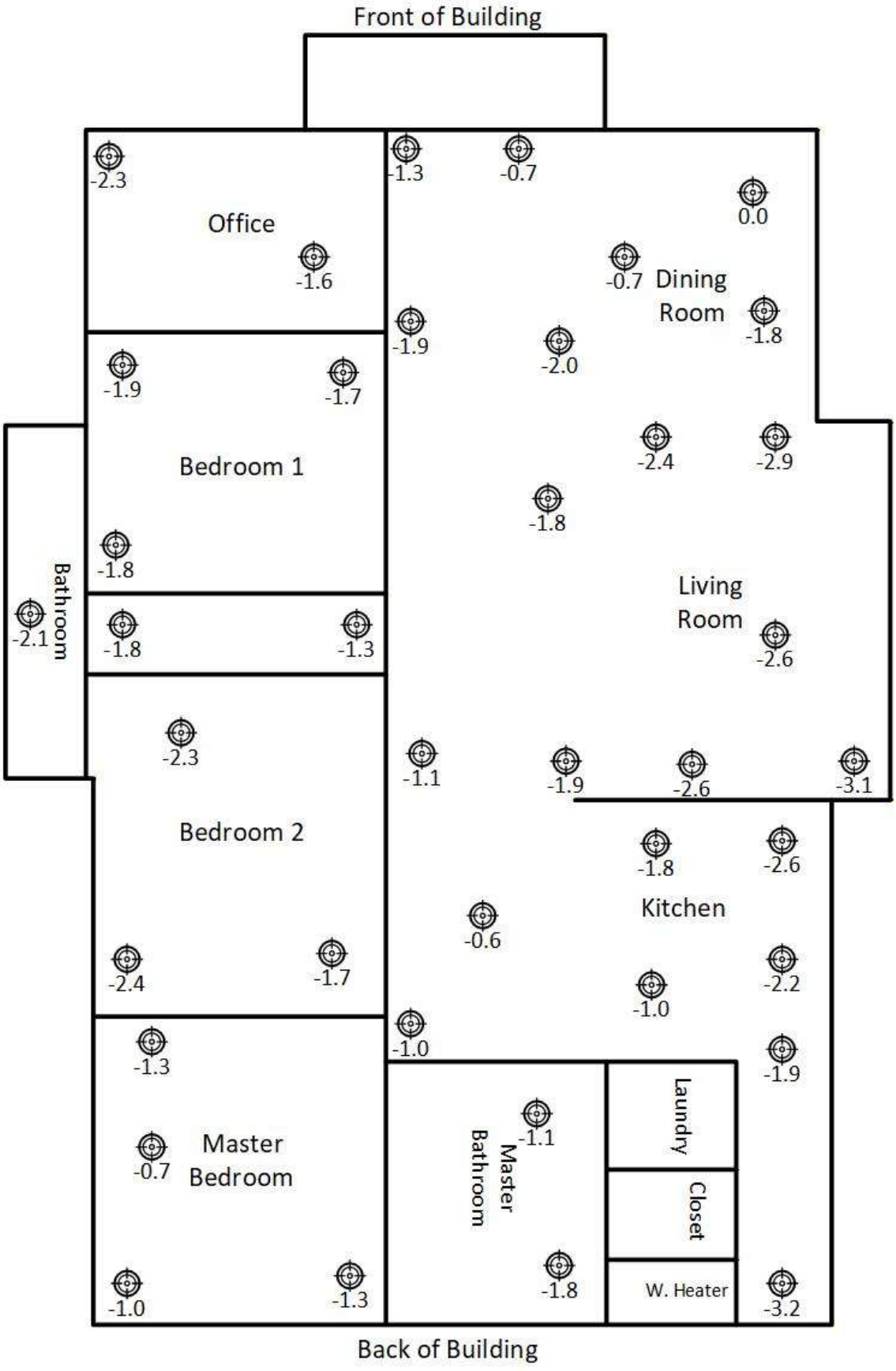
(60 ft × 12 in/ft) / 360 = **2.0 inches**

Allowable differential over 35 feet:

(35 ft × 12 in/ft) / 360 = **1.17 inches**

The measured differential movements of **3.2 inches** and **2.3 inches** exceed typical residential serviceability tolerances.

Elevation readings are summarized in the attached foundation elevation results.



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Engineering Assessment:

The observed cracking patterns, in conjunction with documented floor elevation differentials obtained during the survey, are indicative of significant differential movement within the foundation support system. The magnitude and spatial distribution of the measured elevation variances generally exceed accepted residential serviceability criteria for slab-on-grade and shallow foundation systems.

The distortion profile suggests non-uniform foundation movement resulting in both structural and architectural distress. While there is no indication of imminent structural collapse at the time of inspection, the current level of differential movement is beyond acceptable serviceability limits and warrants corrective action to restore structural performance and mitigate the potential for continued movement and associated damage.

Due to limited access to substructure components during the inspection, the number, depth, spacing, load-transfer capacity, and overall adequacy of the existing foundation piers could not be verified. Accordingly, the precise scope and extent of required remedial foundation work cannot be fully quantified within the limitations of this evaluation.

Summary and Recommendations:

Based on field observations and elevation survey data, the residence exhibits significant differential foundation movement exceeding commonly accepted residential tolerances. Foundation stabilization is required to restore acceptable serviceability performance.

1. Foundation Stabilization and Elevation Correction

A qualified foundation repair contractor shall evaluate the condition and performance of the existing piers. If the existing piers are structurally sound, properly bearing, and adequately configured, adjustments may be performed to reduce differential elevations where feasible.

Foundation repair may include re-leveling the structure by adjusting existing piers through mechanical lifting and the installation of steel shims or other approved load-transfer components

to achieve improved elevation uniformity, provided the existing piers are structurally adequate and capable of sustaining design loads.

If the existing piers are determined to be inadequate, improperly spaced, structurally compromised, or otherwise insufficient to provide long-term stability, supplemental or replacement piers shall be installed as necessary. The final quantity, spacing, and locations of new piers must be determined in the field by the contractor based on actual subsurface conditions encountered during repair operations.

Given the limited access at the time of inspection, the required number of additional piers cannot be established within the scope of this report and shall be determined during construction.

Elevation correction and stabilization efforts should be performed to the maximum practical extent achievable without inducing additional structural distress.

2. Interior Crack Repairs

Repair of interior drywall cracking, wall separations, and related architectural distress should be deferred until completion of foundation stabilization and elevation correction. Typical remedial measures may include localized drywall replacement, taping, texturing, and refinishing as required.

3. Post-Repair Monitoring

Following completion of foundation repairs, periodic monitoring of floor elevations and observable cracking is recommended to verify stabilization performance. A follow-up engineering evaluation within approximately 6 to 12 months is recommended to confirm that no ongoing differential movement is occurring and that the foundation system is performing within acceptable limits.

This report is based on a visual and non-destructive assessment (including measurements) of the structure. The information provided is based on the professional engineer's opinion, considering the information collected at the time of the inspection. Any conclusions are valid for as long as the structure's conditions have not changed and are limited to the capacity of the methods used. Please contact me with any questions about this letter.

Best regards,

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