STRUCTURAL FOUNDATION EVALUATION REPORT

Prepared for:

Jane Homeowner

Subject Property:

1234 Stringer Lane, Keller, Texas 76248

Date of Inspection:

June 12, 2026

Date of Report:

June 12, 2026

Prepared by:

Ken Anthony, P.E.

Texas PE License No. 151995

North Star Structural PLLC | TBPELS Firm Reg. F-28383

northstarstructural.com



SAMPLE

SUMMARY OF FINDINGS

A plain-language summary of this evaluation's findings, provided for quick reference. The full technical assessment, including supporting data and photographs, follows in the sections below.

Engineer's Opinion

In my opinion, the foundation is performing its intended function, and structural foundation repair is not recommended at this time. A localized raised area between the dining room and kitchen should be addressed by correcting the drainage and moisture conditions identified in this report and re-checking the floor levels within 12 months.

Findings

- The overall floor tilt across the house is within commonly accepted limits, but a localized raised area (hump) in the Dining Room and Kitchen zone exceeds commonly accepted limits for local floor smoothness.
- The driveway has a tilted repair patch at the front corner that is a trip hazard and sends water back toward the house, and the flagstone patios on the right and rear are broken and uneven with trip hazards throughout.
- Several downspouts discharge too close to the house, the underground backyard drain system is clogged and holding standing water, and soil is piled against the brick on the rear and left sides of the house.

Recommendations

- Have a licensed plumber pressure-test the pipes under the slab and flush the backyard French drain system to make sure water is moving away from the foundation.
- Remove and repour the tilted driveway patch at the front corner and fix or replace the damaged flagstone patios to eliminate trip hazards and improve drainage away from the house.
- Add downspout extensions wherever discharge is too close to the house and remove the soil built up against the brick on the rear and left sides.
- See the full report and photographs below for complete details on all conditions and recommendations.

SAMPLE

1. INTRODUCTION

1.1 Site Overview

The subject property is a two-story, single-family residence of approximately 3,800 square feet situated on a 0.20-acre lot within the Hidden Lakes subdivision in Keller, Texas. The structure is founded on a post-tensioned slab-on-grade and is clad in brick veneer beneath a pitched gable roof. The inspection was conducted on June 12, 2026.

For the purposes of this evaluation, north is assumed to be from the front of the house toward the rear. Further, orientation terms such as "front" or "left" refer to the home as observed from the inside of the house looking toward the front of the house, not from the outside.

1.2 Purpose

The purpose of this evaluation is to assess the visible condition of the foundation system, identify evidence of differential movement or distress through visual observation and field measurements, and provide professional engineering opinions regarding the foundation's performance and repair needs, if any.

1.3 Limitations

The scope of this evaluation is limited to visual observations of accessible interior and exterior areas at the time of inspection. Items obscured by furniture, floor or wall coverings, foliage, soil, appliances, or insulation were not assessed. No material testing, physical sampling, subsurface exploration, or geotechnical analysis was performed. Geological faults and subsidence are excluded from scope. Crawl space entry is outside the scope of North Star Structural's evaluation services. The opinions expressed herein are based solely on conditions observed during the site visit. Where multiple floor finish types are present, elevation readings have been adjusted using field-measured transition differentials; these corrections are approximate and subject to the accuracy of field conditions at the time of measurement.

1.4 Scope of Work

This evaluation was performed in general accordance with a Level B evaluation as described in the Texas Section of the American Society of Civil Engineers (ASCE) Guidelines for the Evaluation and Repair of Residential Foundations (Version 2), including a relative floor elevation survey. Floor performance was evaluated against the benchmarks commonly cited from those guidelines: 1.0% tilt and L/360 deflection.

The following areas were assessed during the site visit:

Exterior Assessment

- Visual inspection of the slab edge (perimeter beam), exterior cladding, and hardscape for evidence of movement or distress
- Perimeter crack mapping (slab edge, slab flatwork, stucco/brick/stone veneer)

SAMPLE

- Evaluation of grading, drainage, and downspout discharge conditions

Interior Assessment

- Visual inspection of walls, ceilings, and floors for evidence of structural movement
- Floor elevation survey using a high-precision digital altimeter

SAMPLE

2. OBSERVATIONS

2.1 Exterior Assessment

Slab Edge and Exterior Cladding

Access to the perimeter beam was limited at the front elevation, where brick veneer extended over much of the beam face; two cracks measuring between 1/16 and 1/4 inch in width were observed, exhibiting vertical and diagonal stair-step patterns. The right elevation perimeter beam showed moderate cracking in the 1/16-to-1/4-inch range with a horizontal pattern, though no crack was considered concerning in isolation. The left elevation presented the most significant perimeter beam crack: a diagonal stair-step crack with associated spalling, measuring approximately 1/4 inch, located at the corner where the left elevation meets the front elevation.


Front


Right


Rear


Left

Concrete Flatwork: Driveways, Walkways, and Patios

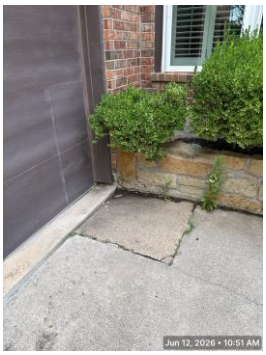
The driveway at the front elevation exhibited cracking and spalling throughout, with predominantly diagonal cracking that appears to be the result of soil heave. Multiple concrete patches were present at the front elevation where pier installations had previously been performed; one of those patches at the front corner had tilted, creating a tripping hazard and sloping back toward the foundation. The flagstone patio on the right elevation was severely damaged, with loose and uneven stones presenting tripping hazards throughout. The rear elevation flagstone patio was likewise severely damaged.


Front

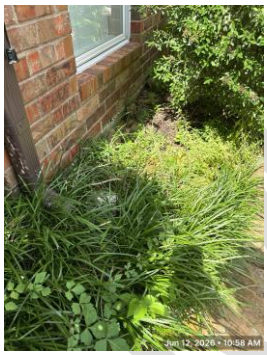

Right

Grading, Drainage, and Downspout Conditions

At the front elevation, drainage was observed to be mostly positive away from the structure, with the exception of the tilted concrete patch at the front corner, which directed surface water back toward the foundation. All front-elevation downspout extensions discharged at least 10 feet from the foundation. At the right elevation, drainage was generally positive; however, one downspout near the air-conditioning units lacked an adequate extension, a second downspout drained directly into a flower bed and was observed to trap water between the flagstone patio and the perimeter beam, and a third appeared to discharge through and below the flagstone patio. At the rear elevation, drainage was mostly positive with some flat areas; all rear downspouts discharged with extensions present. Six area-drain inlets in the backyard were observed to connect to a subsurface French drain system that discharges to the street at the front of the property. Most French drain inlets were packed with mud and sediment, and standing water was noted at the highest inlet with mosquitoes present, which suggests water is not flowing adequately through the system. Soil was observed pushed against the structure at the rear elevation, covering brick façade. At the left elevation, one downspout discharged too close to the foundation and required an extension; a second appeared to drain through and under the flagstone patio. Soil was observed built up against the brick façade at the left elevation as well.



Front



Right



Rear



Left

2.2 Interior Assessment

Walls, Ceilings, and Floor Finishes

Interior drywall cracking was minimal overall, and the home appeared to be in good condition. Cracking in drywall at door and window corners was noted at isolated locations. At the corner of the living room near the rear of the house, drywall cracking and paint peeling were observed, which may suggest possible water intrusion from the roof above. Both downstairs bathroom doors were observed to swing on their own, which suggests slope in the foundation. The upstairs home-office door to the Jack-and-Jill bathroom exhibited minor sticking when opening and closing.



Representative photo

SAMPLE

Floor Elevation Survey

A relative floor elevation survey was performed using a high-precision digital altimeter, with 82 readings taken across the first floor. Readings are referenced to a benchmark (0.0 inches) located at the corner of archway between foyer and living room adjacent to light switch. Where floor finishes changed (for example, tile to hardwood), readings were adjusted using field-measured transition differentials. Recorded elevations ranged from +1.1 to -0.7 inches relative to the benchmark, an overall differential of 1.8 inches. Results were compared to the Texas Section ASCE benchmarks of 1.0% tilt and L/360 deflection. The maximum tilt was 0.88% (1.2 inches over 11.4 feet, between the foyer and the dining room), within the 1.0% benchmark. The maximum local deflection was 0.67 inches, an upward hump, over 15.3 feet between the dining room and the kitchen (L/273), beyond the L/360 benchmark of 0.51 inches for that span. Table 1 lists the spans closest to the benchmarks; all readings are shown on Figure A and interpolated contours on Figure B.

Maximum differential recorded: 1.2 inches over 11.4 linear feet (0.88% tilt, limit 1.0%; maximum local deflection 0.67 inches over 15.3 feet, L/273, limit L/360).

SAMPLE



Figure A — Floor Elevation Survey

All readings in inches relative to benchmark (0.0). North assumed toward rear of property.

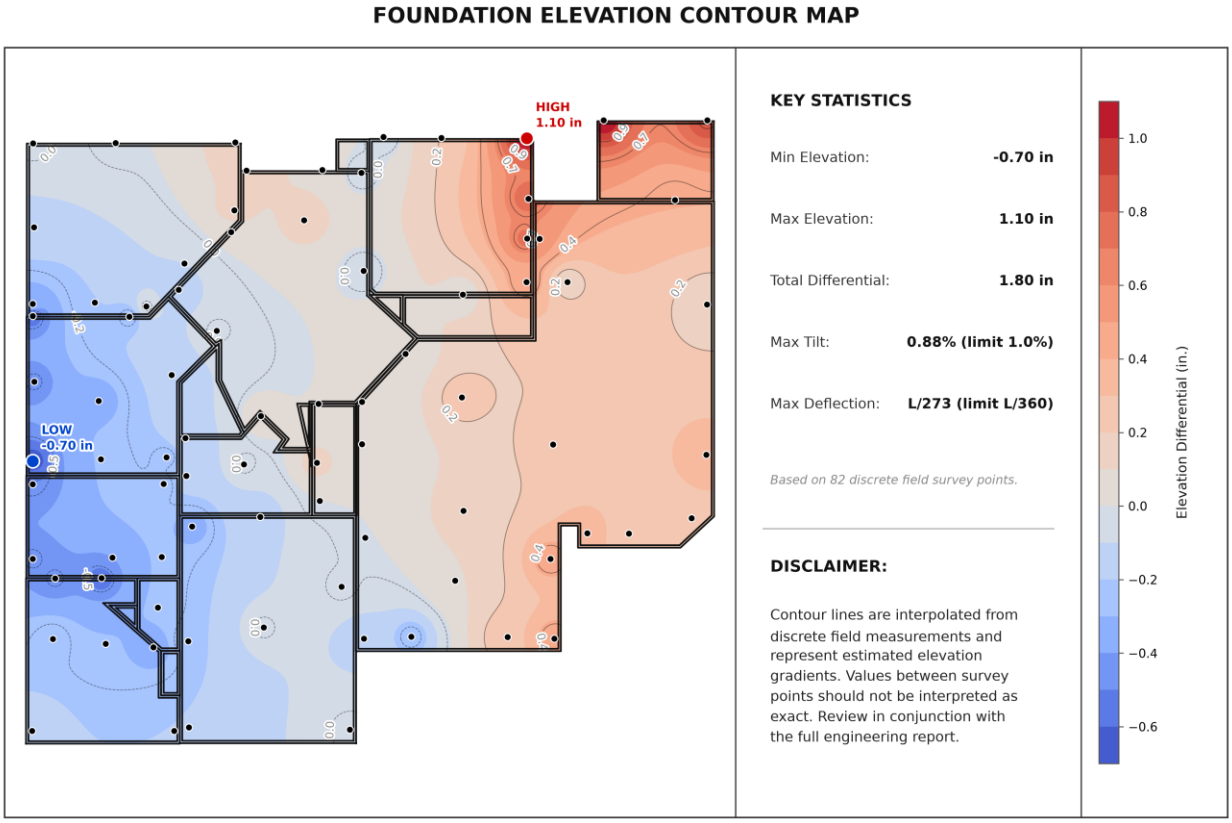


Figure B — Floor Elevation Contour Map

Table 1 — Tilt and Deflection Summary

Table 1 lists the survey spans closest to the Texas Section ASCE benchmarks of 1.0% tilt and L/360 deflection. Spans are measured between survey points at least 10 feet apart; deflection is the largest offset of intermediate points from a straight line between the span end points (hump = upward, sag = downward). All readings are shown on Figure A. Slabs are not perfectly level when built, so part of any measured differential may reflect original construction and floor-finish variation rather than foundation movement.

Location	Span (ft)	Tilt (%)	Deflection (in)	Flag
Dining Room → Kitchen	15.3	0.05	0.67 hump (L/273)	Exceeds
Foyer → Kitchen	18.7	0.09	0.75 hump (L/298)	Exceeds
Dining Room → Laundry Room	13.0	0.58	0.43 hump (L/361)	Approaching
Dining Room → Pantry	22.5	0.33	0.75 sag (L/361)	Approaching
Kitchen → Kitchen	14.1	0.06	0.42 hump (L/402)	Approaching
Foyer → Dining Room	11.4	0.88	0.18 sag (L/743)	Approaching
Pantry → Laundry Room	25.9	0.32	0.76 hump (L/408)	Approaching
Dining Room → Study	24.0	0.31	0.70 sag (L/414)	Approaching

Flag Key: Within Tolerance — below 75% of both limits. Approaching — 75% to 100% of a limit. Exceeds — beyond 1.0% tilt or L/360 deflection; see Engineering Opinion.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Foundation Performance

The maximum measured tilt, 0.88%, is within the Texas Section ASCE benchmark of 1.0%. The maximum measured local deflection, L/273, is beyond the L/360 benchmark. The following spans exceed a benchmark: between the dining room and the kitchen (L/273, hump); between the foyer and the kitchen (L/298, hump). Upward deflection (a hump) is consistent with localized upward movement of the slab. Whether these measurements warrant repair is addressed in the Engineering Opinion below.

Engineering Opinion: It is my professional opinion that the post-tensioned slab-on-grade foundation is performing its intended function at the time of this evaluation. Measured tilt (0.88%) is within the 1.0% benchmark. Local deflection between the dining room and kitchen (L/273, upward) exceeds the L/360 benchmark; the upward shape indicates localized soil-induced heave of the slab rather than perimeter settlement. Interior distress is limited (minimal drywall cracking, self-swinging bathroom doors, one sticking door), and no indications of structural failure were observed.

Because the movement is upward, foundation underpinning (piers) is not recommended; lifting the slab perimeter would not correct an interior high area and could increase the out-of-level condition. The appropriate course is to address potential moisture sources, specifically the drainage deficiencies documented in Section 3.5 and a pressurized test of the under-slab plumbing, and then re-survey the floor within 12 months. If the follow-up survey shows continued movement, or if a plumbing leak is found, the foundation should be re-evaluated and repair options reconsidered.

3.2 Foundation Cracking

Perimeter beam cracks at the front and right elevations were moderate in width and warrant sealing and periodic monitoring. The diagonal stair-step crack with spalling at the left-front corner was the most significant perimeter beam crack observed and should be sealed, monitored for change, and re-evaluated if width or length increases.

3.3 Foundation Recommendations

- Engage a licensed plumber to perform a pressurized hydrostatic test of both the under-slab supply and drain lines to rule out subsurface leakage as a moisture source contributing to the localized floor hump in the Dining Room–Kitchen area.
- Commission a follow-up floor-elevation survey within 12 months of this report, or sooner if observable distress increases, to determine whether floor movement in the flagged spans is ongoing.
- Seal all observed perimeter beam cracks, beginning with the spalled diagonal stair-step crack at the left-front corner, using an appropriate polyurethane or epoxy sealant, and monitor sealed cracks at six-month intervals for renewed opening or extension.
- Monitor the self-swinging downstairs bathroom doors and the sticking upstairs home-office door at each revisit; document any change in severity or the development of new door or window operational issues.

SAMPLE

- Investigate the drywall cracking and paint peeling at the rear living-room corner for evidence of water intrusion and remediate any identified moisture pathway before repairing the finish surfaces.

3.4 Exterior Flatwork

The tilted driveway patch at the front corner directs water toward the foundation and presents a tripping hazard; it should be removed and repoured with positive drainage away from the structure. The flagstone patios on the right and rear elevations are severely damaged with loose, uneven stones that pose tripping hazards throughout and require thorough remediation or replacement.

- Remove and repour the tilted concrete driveway patch at the front corner, ensuring the finished surface is sloped away from the foundation.
- Remediate or fully replace the severely damaged flagstone patio on the right elevation, addressing all loose and uneven stones to eliminate tripping hazards and water intrusion.
- Remediate or fully replace the severely damaged flagstone patio on the rear elevation, addressing all loose and uneven stones to eliminate tripping hazards and water intrusion.

3.5 Drainage

- Maintain all gutters, downspouts, and drain lines fully connected, discharging at least 5 feet from the foundation (IRC R801.3), preferably 10 feet where the site allows.
- Ensure positive drainage slope away from foundation at all perimeter elevations.
- Install downspout extensions on all right-elevation and left-elevation downspouts that currently discharge within 10 feet of the foundation, targeting discharge at least 5 feet from the foundation (IRC R801.3), preferably 10 feet where the site allows. Regrade or redirect the right-elevation downspout that drains into the flower bed to prevent water from being trapped against the perimeter beam. Remove soil built up against the brick façade at the rear and left elevations and regrade to slope away from the structure. Engage a licensed plumber to flush the subsurface French drain system using hydro-jetting or equivalent means, and clean all sediment-packed inlets; thereafter maintain inlets clear of debris as routine upkeep.

3.6 Summary of Findings and Recommendations

Area of Concern	Priority	Recommendation
Foundation movement (tilt / deflection)	Priority	Max tilt 0.88% (within 1.0%); max deflection L/273 hump (beyond L/360).
Foundation wall cracking	Monitor / Repair	Moderate perimeter beam cracks on front and right elevations; significant spalled diagonal crack at the left-front corner.
Concrete slab / walkway condition	Priority	Tripping hazards from a tilted driveway patch at the front and severely damaged flagstone patios on the right and rear.
Drainage / grading	Priority	Multiple downspouts too close to the foundation, clogged French drain inlets, and soil piled against the structure on rear and left.
Possible Water Intrusion	Monitor / Repair	Investigate the source of suspected water intrusion at the rear living-room corner and remediate any identified moisture pathway before repairing interior finishes.

SAMPLE

4. RECOMMENDED MAINTENANCE PROGRAM

The following standard maintenance practices are recommended to protect the long-term performance of the foundation system:

- Keep gutters, downspouts, and drain extensions clean and fully connected, discharging at least 5 feet from the foundation (IRC R801.3), preferably 10 feet where the site allows.
- Maintain positive drainage grades at all hardscape adjacent to the foundation; regrade as needed if settlement creates reverse slopes.
- Have the foundation re-evaluated by a licensed structural engineer every three years, or sooner after prolonged drought, unusually heavy rainfall, or any new or worsening distress.
- Maintain proper function of all interior and exterior plumbing to prevent ground saturation near the foundation.
- Monitor all areas of noted distress at 6- to 12-month intervals; document any changes in crack width or floor elevation.
- Implement a professional pest control program to protect wood framing and trim from termite and insect activity.

SAMPLE

5. LIMITATIONS OF LIABILITY AND DISCLAIMER

This report has been prepared by North Star Structural PLLC ("Engineer") solely for the use of the client identified on the cover page ("Client") in connection with the subject property. The opinions and recommendations expressed herein are based on visual observations made during a single site visit under the conditions present at that time and are limited in scope as described in Section 1.3 of this report.

No Third-Party Reliance

This report is not intended for reliance by any party other than the Client. Any use of this report, or reliance upon its contents, by any third party — including but not limited to real estate agents, brokers, buyers, sellers, lenders, insurers, or subsequent property owners — is unauthorized and at that party's sole risk. Engineer assumes no duty of care and no liability to any third party.

No Warranty

The findings contained herein reflect professional engineering judgment based on conditions observable at the time of inspection. Engineer makes no warranty, express or implied, regarding the current or future condition, habitability, insurability, or structural adequacy of the subject property beyond what is expressly stated herein. Conditions may exist that were not observable or accessible at the time of inspection.

Scope Limitations

This evaluation is visual in nature. No destructive investigation, material testing, subsurface exploration, or geotechnical analysis was performed. The Engineer's opinions do not substitute for a geotechnical investigation, a full structural engineering assessment, or any other specialized study that may be warranted by the findings herein.

Report Currency

This report reflects conditions observed on the date of inspection noted on the cover page. Engineer assumes no obligation to update this report to reflect changes in conditions, codes, or standards occurring after that date.

Limitation of Damages

To the fullest extent permitted by law, Engineer's total liability to Client for any claims arising out of or related to this report shall not exceed the total fee paid by Client for the services described herein.

Notice to Clients

The Texas Board of Professional Engineers and Land Surveyors (TBPELS) has jurisdiction over complaints regarding the professional practices of persons licensed as professional engineers in Texas. TBPELS may be contacted at: Texas Board of Professional Engineers and Land Surveyors, 1917 S. Interstate 35, Austin, Texas 78741-3702; Telephone (512) 440-7723; https://pels.texas.gov.

SAMPLE

6. ENGINEER'S CERTIFICATION

This report has been prepared by a licensed professional engineer in the State of Texas based on a visual evaluation of the subject property. The findings, opinions, and recommendations contained herein reflect professional engineering judgment based on conditions observed at the time of the site visit and are subject to the limitations described in Sections 1.3 and 5 of this report.

Engineer's Seal:

Seal, signature, and date

Ken Anthony, P.E.
Texas Professional Engineer License No. 151995
North Star Structural PLLC | TBPELS Firm Registration F-28383
Date of Report: June 12, 2026

SAMPLE

Appendix A – Photographic Log

The following log contains the complete set of field photographs recorded during the site evaluation, organized by inspection category.

Foundation Photos — Front



Photo 2



Photo 3



Photo 4

Flatwork Photos — Front



Photo 5



Photo 6



Photo 7

SAMPLE

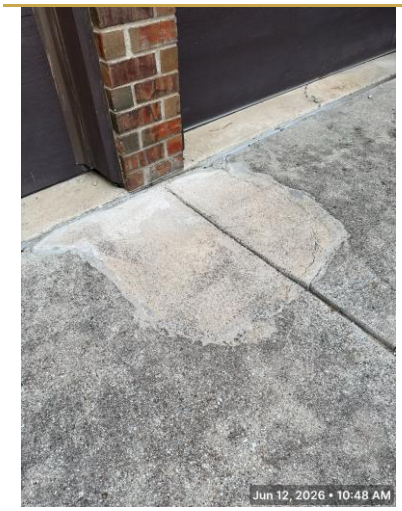


Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13

Drainage Photos — Front



Photo 14



Photo 15

Flatwork Photos — Right



Photo 16



Photo 17



Photo 18

Drainage Photos — Right



Photo 19



Photo 20



Photo 21

SAMPLE

Foundation Photos — Rear



Photo 22

Drainage Photos — Rear



Photo 23



Photo 24



Photo 25

SAMPLE

Foundation Photos — Left



Photo 26

Drainage Photos — Left



Photo 27

SAMPLE

Interior Distress Photos



Photo 28



Photo 29



Photo 30

SAMPLE