



Robert E. Quick, P.E.  
312 SW Greenwich Dr Suite 529  
Lee's Summit, MO, 64082  
(816) 728-2081

March 21, 2024

RE: Structural Review  
305 NW Shamrock Ave  
Lee's Summit, MO

Per the request of the owner, per written agreement, I completed a visual review and report on the foundation at 305 NW Shamrock Ave, Lee's Summit, MO to evaluate its structural condition and give opinions on deficiencies, and to recommend necessary improvements or maintenance.

The building is a single-family residential home which faces generally west. The foundation of the house is constructed of concrete foundation walls that form a basement and garage under the living area of the home.

The foundation walls of the house have experienced some common lateral movement and some settlement in the past. The lateral movement appears to have been created by pressures from excessive moisture in the soil near the foundation walls, generally created by poor grading around the foundation. The settlement appears to be the result of extreme dry weather effects on the soil near the foundation walls.

The walls do not show additional or continued lateral movement which appears to be excessive at this time and do not appear to require any bracing. The settlement has been addressed with piering in the past and does not show any signs of needing additional piering at this time.

I would not require any structural improvements at this time, but I would recommend the owner maintain the following items in the future:

- Maintain grading around the foundation of the house per the attached specifications
- Epoxy patch all cracks in the foundation walls per the attached specifications as they appear
- Keep soil near the foundation walls moist during dry weather

The proposed maintenance is designed to retain strength of the foundation walls. The maintenance is not designed to, nor guaranteed to stop water seepage in the future. The owner of the property should be aware that the foundation will continue to age and the foundation walls are susceptible to pressures in the future which could create movements and require structural improvements at that time. The owner should be aware that in the area foundation walls commonly require bracing, piering, or waterproofing as they age.

The owner should continue to monitor the foundation walls, and maintain the walls properly. Recent extreme dry weather has allowed several foundations in the area to settle. The owner should be certain to apply water near the foundation walls during dry weather to stop further settlement.

The grading around the house must be monitored in the future and the owner must provide for a positive slope away from the foundation. The owner must continue to keep the grade away from the foundation and thus reduce future pressures on the walls. The owner should also begin a water

maintenance program during the Spring and Summer to keep moisture content levels around the foundation consistent and avoid extreme dry or wet conditions.

It should be noted that this inspection did not attempt to examine for possible termite damage, water damage, or for structural components which are concealed from view by finish materials.

When making visual observations of a building, it is required that certain assumptions be made regarding the existing conditions. Because these assumptions may not be verifiable without expending added sums of money, or destroying adequate or serviceable portions of the building, the owner or recipient of this report agrees that, except for negligence on the part of the engineer, we will be held harmless, indemnified and defended from and against all claims arising out of the services provided by this report.

The structural soundness of the home is not a guarantee against water or future damage to the home. As with any foundation changing conditions in the soil, drainage patterns, extreme weather conditions, or other factors can create damage. The owner of the home must continue to monitor the foundation throughout its life and provide for preventative and general maintenance as it is needed. If any questions arise about the condition of the foundation the owner should have it re-inspected as soon as possible.

A copy of the agreement has been attached to the report. The agreement must be properly initialed and signed for the report to be valid. The agreement must be initialed to reject the exhaustive inspection, agree to limits of liability, and agree to an arbitration clause. The contract must also be signed and dated.

Without exception, this report will expire 180 days from the date of issuance. Any reliance by the named client or any third-party after the expiration date of the report will be done at their own risk.

If you have any specific questions concerning the foundation, please give me a call.

Very truly yours,

Robert E. Quick, P.E.  
President



**Robert E. Quick, P.E.**  
10212 E 85<sup>th</sup> Terr  
Raytown, Missouri  
(816) 728-2081

### Crack Repair

Crack repair methods to add strength and water proofing using an epoxy.

#### Preparation:

Mechanically open cracks to a depth that allows removal of weakened concrete due to movement of the wall, leaving strong clean dry concrete surface that will allow penetration of the epoxy in an existing wall. Torch dry as needed air blow cracks to clean epoxy.

#### Application:

The epoxy application shall use only 100% solids. Heat cure of two-part epoxy. Any patch material using water will not add strength to the wall. Brush all crack surfaces with epoxy liquid and allow five minutes for absorption. Trowel epoxy mortar using crushed and sieved flint with liquid epoxy to make the mortar full depth leaving a smooth surface. Use Sinmast epoxy mortar or equivalent to provide a cure strength equal to 5 times that of 3000 psi concrete.

### Grading Improvements

Final grading around the foundation of the house should provide a minimum of 6" of slope in the first 6' directly away from the foundation. The grade should provide for a easy flow of surface water away from the foundation and off the property. When necessary the owner should use french drains or other mechanical means to remove excess water.

The final grade within 3' of the foundation walls should be covered with Ruberoid or another impervious material to stop water penetration and direct water away from the foundation. All downspouts and splash blocks must extend away from the foundation and be kept operational by the owner.

## INSPECTION AGREEMENT & DISCLAIMER

### Property Inspected:

Client:	Inspected By: Robert E. Quick, P.E.
Phone:	Inspector Telephone Number: (816) 728-2081

Reports are based on the standards of performance and code of ethics established by the American Society of Civil Engineers. The inspection is essentially visual, is not technically exhaustive, and does not imply that every defect will be discovered. Latent defects or defects detectable only by invasive means are not addressed. The inspection covers only the items listed on the report for function and safety, not for code compliance. The inspection is not an environmental assessment of the site or building (radon, asbestos, pesticides, etc.) and those items not listed should not be considered inspected. Always check our opinions with specialists, prior to closing. Problems or areas of concern may be more extensive upon investigation by a specialist. **This report is intended for the sole use of the client (named above) and is not to be relied upon or shared in anyway with third parties.** NO EXPRESSED WARRANTY IS GIVEN CONCERNING THE BUILDING(S) AND EQUIPMENT FOR THEIR FURURE USEFULNESS. Client or agent authorization of the inspection of the property constitutes acceptance of this agreement of the inspection and the inspection fees and authorizes Royal Engineers Consultants, Inc, and its representatives to disclose information, within the reports, to sellers, agents, lenders, and insurers intimate to this transaction for the purposes of clarification or facilitation of repairs. Areas/Items not in the report or stated not observed/not applicable were not inspected, inaccessible, or otherwise totally disclaimed.

**NO DESTRUCTIVE TESTING OF ANY KIND WILL BE PERFORMED.** This includes water hose flood testing, chimney smoke test, heat exchanger gas tests, etc. Exceptions to the above with prior arrangement and permission from the property owners, These are exception tests and an appropriate quote will be given.

You have the right to a technologically exhaustive inspection of the property you are purchasing. This type of inspection requires 3 appointments including today's session. Other experts will be called in for additional analysis. Delivery of the finished report will be within 14 working days. Cost for this inspection will be \$3,000. Initial here to reject this additional service. \_\_\_\_\_ (*Initial*)

### \*\*ARBITRATION CLAUSE\*\*

Any dispute, controversy, interpretation or claim including claims for, but not limited to, breach of contract, any form of negligence, fraud or misrepresentation, arising out of, from or related to, this contract or arising out of, from or related to the inspection or inspection report shall be submitted to final and BINDING arbitration under the Rules and Procedures of the Expedited Arbitration of Home Inspection Disputes of Construction Arbitration Services, Inc. The decision of the Arbitrator appointed there under shall be final and binding and judgment on the award may be entered in any Court of Competent jurisdiction.

To the extent allowed by law, it is understood and agreed by and between the parties hereto that the Engineers's/Engineering Company's and it officers', agents' or employees LIMITATION OF LIABILITY for errors or omissions in the inspection report is limited and fixed to a refund of the fee paid for the inspection and inspection report.

The fee for this inspection is: \$250.00 (*Initial*)X \_\_\_\_\_

Any legal action or proceeding of any kind, including those sounding in tort or contract, against the engineer/engineering company's and its officers', agents' or employees must be brought within one (1) year from the date of the inspection or will be deemed waived and forever barred. Any costs for

attorneys, legal fees, and/or court costs to defend the engineer/engineering company, its officers, agents or employees will be the responsibility of the Client. Any costs of arbitration are the responsibility of the client until such time as determined by the arbitrator that the engineer should be responsible. Time is expressly of the essence herein. X \_\_\_\_\_ (Initial)

**OUR FEES FOR THIS REPORT DO NOT INCLUDE CHECKING OR PERFORMING TESTS FOR THE FOLLOWING ITEMS OR CONDITION UNLESS OTHERWISE SPECIFICALLY INCLUDED IN WRITING:**

1. Water/air quality. Toxic or allergic substances. **Asbestos, Radon, Pesticides, Urea Formaldehyde, etc.**
2. Items or condition which cannot be seen or which require disassembly or removal:
3. Inaccessible areas or areas likely to pose a hazard to the engineer.
4. Defects beneath or behind wall or floor coverings, etc.

**THE FOLLOWING POTENTIALS/TESTS/INSPECTION/OPINIONS ARE NOT INCLUDED WITH THIS INSPECTION BUT ARE RECOMMENDED FOR A MORE ACCURATE ASSESSMENT OF A PRCHASE RISK. AN APPROPRIATE SPECIALIST SHOULD BE CONSULTED.**

Geologic, site and soil analysis, slide, tremor, wind, flood, noise (cars, planes, etc.)

Underground piping or utilities or location, impediments, electrical fields, septic systems, water wells, etc.

Easements, covenants, restrictions, right of ways, etc. By City, Community, or Homes Association.

Conformance to statutes, laws, codes, regulations, occupancy, suitability for a specific use, other property influences, etc.

Structural/durability analysis, wood destroying insects, pests, etc.

Water leakage and drainage test of any type. Roof, siding, outside faucets, underground & site drainage, etc.

Land, boundary surveys, site hazards, insurability, development potential, etc.

**Expert Analysis:** Electrical, heating/air conditioning, plumbing, waterproof, roofing, siding, glazing, painting, plastering/masonry, swimming pool, hot tub, security, fire protections, etc.

**TIME IS MONEY**

Return trips and re-inspections, follow-up reports and interpretations will be payable at the rate of \$100.00/hr (1 hour min.)

**DEFINITION OF TERMS**

**GOOD** – The term Good implies that the inspector has determined that the referenced item is either in better than expected condition or that the item is new or near new condition.

**SATISFACTORY** – The term Satisfactory implies that the inspector has determined that the referenced item is in functional condition or that the item is performing as intended. This term is relative to its age and current usage.

**ATTENTION NEEDED** – The Attention Needed implies that the referenced item needs some minor repairs or adjustment so that it will function as intended. This term takes into consideration the items age and current usage.

**ACTION NECESSARY** – The term Action Necessary implies that in order for the referenced item to perform as intended repair or replacement of some part of all of the item will be necessary. This term takes into consideration the items age and current usage.

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By affixing my signature to this document, I acknowledge that I have read and understand the document and I agree to its terms and conditions.

  X   \_\_\_\_\_ Date \_\_\_\_\_  
Client/Agent