



LIMITED STRUCTURE EVALUATION REPORT

Prepared For:

G. EYRICH

c/o: L. Corrin ~ Better Homes and Gardens Realty

Site Location:

4340 Bona Court
Raleigh, North Carolina 27604

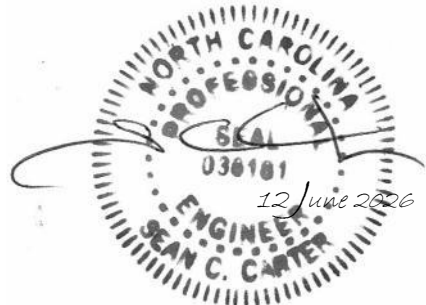
Assessment Date: 10 June 2026

Scope: Limited evaluation of the structural condition of the residential home.

Objective: Provide opinion from visual observations of the specifically listed structural condition.

Prepared By:

**CARTER ENGINEERING & CONSULTING, PLLC
STRUCTURAL + CIVIL**



Sean C. Carter, P.E.



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II. CONSIDERATIONS

A. Construction

The intent of this visit is not to check [past or current] code compliance but to identify deficiencies in structural integrity. All work shall be completed in compliance with the current code and permitted with the local building authority as required.

B. Environment

The environment of this home includes seasonal cyclical temperature and moisture fluctuations. The effects of abnormal and extreme (too dry or too wet) precipitation levels on local soil optimum moisture content are soils that compress where moisture loss has left voids, or soils that shift [pump] when over saturated. These dynamics promote soil migration and foundation movement (settlement) that subject the exterior and interior materials to cracking. This area of North Carolina is known for expansive clay soils that tend to influence foundation movement and crack developments compared to other regions.

C. Drainage

Surface drainage from precipitation events can cause erosion, foundation deterioration and instability, and structural failure. Yard and roof drainage should convey water away from a structures foundation. Incorrect site grading, a lack of gutters, or downspouts without leaders can result in excessive water / moisture in the soil within the foundation zone that can adversely affect the properties of the construction materials, the soil and masonry. Maintaining good drainage around the house will help prevent or minimize moisture and pest infiltrations, foundation settlement, and interior distresses.

III. FINDINGS & RECOMMENDATIONS:

All directions are oriented as looking at the front of the house from the front yard.

A. OBSERVATIONS:

The townhouse incorporates a combination slab-on-grade and stem wall foundation system. The front portion of the structure is supported by a brick masonry stem wall foundation. Along the front right section of the building, extending from the front entry door to the front right corner, the stem wall has displaced outward approximately 1/2 inch. This movement has caused corresponding displacement of the base of the exterior wall framing and has resulted in misalignment of the front entry door and the front right bathroom window.

The observed condition is consistent with a combination of foundation settlement and lateral soil pressure acting against the stem wall over an extended period. The movement is attributable to historically deficient yard grading and roof drainage that allowed surface water runoff to accumulate adjacent to the foundation, increasing soil moisture and lateral earth pressures against the front corner of the structure.

The stem wall displacement has not compromised the structural integrity of the townhouse. However, the movement has produced noticeable distortion of the wall framing at the front entry door and front right bathroom window. Similar foundation cracking and stem wall movement were observed in other portions of the building complex serving adjacent townhouse units.

B. DISCUSSION:

The observed movement represents a localized foundation condition that developed gradually over time due to long-term drainage deficiencies. Elevated soil moisture adjacent to the foundation contributed to both settlement of supporting soils and increased lateral pressure against the brick stem wall. Recent drainage improvements around the structure have substantially reduced the sources of water contributing to this condition. Based upon the observed condition and the drainage improvements that have been completed, no further significant movement is expected.

The moisture appears to be historically from the rear left corner downspout that ties into a buried collector pipe with unknown discharge location and unknown clear flow, and to front roof surface water runoff above this right corner.

While the stem wall can potentially be realigned by applying inward force at the base of the wall framing, such corrective measures are not expected to close existing foundation cracks within the masonry stem wall. The presence of soil and fill material behind the wall limits the ability of the masonry to return to its original position.

C. RECOMMENDATIONS:

To improve wall alignment, the base of the front exterior wall may be carefully pushed inward until satisfactory vertical alignment is achieved. Once aligned, install four new anchor bolts through the wall framing bottom plate into the stem wall foundation at 2-foot on-center spacing to secure the wall in its corrected position.

Cracks within the brick masonry stem wall should be filled with grout to restore continuity of the masonry and limit water infiltration. Along the interior face of the front wall, gaps between the concrete slab and stem wall should be sealed using a polyurethane sealant to reduce moisture migration and air infiltration.

For the rear left roof gutter downspout, locate the discharge point of the buried collector pipe system and ensure unobstructed flow. If the system is obstructed then replace with a new buried 6" diameter PVC collector pipe with a clear discharge location.



