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February 6, 2022

Mr. Keith McDonald
Investment Property Management
3 Hotel Street Warrenton, VA 20186

RE: 3 Hotel Street
Warraton, VA
Street Drainage Concerns
CV # 20221005

Mr. McDonald:

A field meeting was held at the subject address on January 24, 2022 to evaluate and provide plausible solutions to decrease the volume of stormwater flowing against the building. The area of focus was limited to the building line fronting Hotel Street.

It's reported that storm water draining from the intersection of Main Street and Court Street flows down Hotel Street and up the depressed brick ramp in front of and then flows against the building for its full length. Other possible contributing drainage areas (although insignificant in volume) include the roof gutter systems from both the subject property and the adjacent 7 Hotel Street.

Stormwater does enter 3 Hotel Street in three generally locations; the at-grade stoop, the English (basement) window and at through various points along the building/ sidewalk's grade interface (see attached photos).

There are significant concerns that the continuous water intrusion is having a deleterious structural effect on the basement walls, adjacent wooden beams/joists and, the construction of the sidewalk may have accelerated the rate of inflow.

The field evaluation and interior review of the structure, as well as a video and pictures of the storm water flowing as described (provide by the owner) tend to verify the owners' noted concerns.

This report will outline the evaluator's findings and recommend corrective actions to mitigate the water intrusions. It's important to note that the Town was contacted and record drawings or other plans that may have been used for the sidewalk's construction where not available. Historical building inspections and or pre/post streetscape inspection documents are unavailable as well.

This report is not intended to provide architectural or structural evaluations, methods or recommendations to repair or modify the building, assign fault, or pass professional judgment against those involved with the design, construction, and inspection of the brick streetscape on Hotel Street. This report of finding will make recommendations to decrease the volume of surface flows against the building and suggest various methods to decrease infiltration.

EVALUATION

Streetscape improvements by the Town included the installation of brick pavers installed on a concrete base. It appears that the sidewalk grades along Hotel Street were raised to provide an ADA accessible route in front of the subject property. The sidewalk was installed flush to the edge of the existing entrance's door stoop and encased the bottom 3-1/2" of the door's exterior butted casings. The concrete base appears to have been poured directly against the building without the benefit of flashing, flexible expansive materials or sealants.

Without the benefit of pre-streetscape inspection of the building foundations or streetscape construction plans, it is difficult to determine to what extent the improvements may have affected the structure. Nevertheless, storm water flowing against the building should be addressed to prevent further deterioration of the circa 1870 foundation and related assemblages.

SUGGESTED STREETScape MODIFICATIONS

Diverting the storm water around the brick sidewalk is critical. This may be accomplished with the removal of the existing curb and ramp and installing a higher concrete curb.

The installed curb should tie back to the existing curb in the vicinity of the brick wall at the wood fence.

The roof's downspouts should continue to discharge up stream of the noted new curbing. Care should be taken to avoid the water meter and its vault. It may also be necessary to slightly modify the street paving to channel the higher flows away from the curbing.

The brick sidewalk abutting the building should be lowered approximately 4" and sloped toward the street to decrease the volume of water flowing against the building. The reinstalled sidewalks should be constructed with the maximum cross slope permitted by ADA regulations. The new section should include, at a minimum the installation of a flexible expansive material between the walk and the building to allow for expansion and contraction of the dissimilar materials while providing a 'gasketed' joint at their interface.

To improve aesthetics, a ground based decorative concrete planter box/seat bench with two protective traffic bollards (on its west side) could be installed. The decorative 'greenscaping' could be constructed on top of or incorporated within the curb to provide public seating with seating oriented toward the reinstalled sidewalk.

DESIGN PLAN RECOMMENDATIONS

An architect with significant experiences with building foundations comparable to 3 Hotel Street should be consulted to inspect the envelope focusing on the basement/ground level and its interface with the sidewalk. An existing condition survey should be performed as part of the design. Detailed photographs and measurements (vertical and horizontal) should be taken to document the existing conditions both interior and exterior of the subject property. These records will serve as benchmarks to monitor potential settlement and document the effectiveness of the installed barrier system(s).

An architect and CV Inc. can provide a reconstruction plan that includes detailed elevations, sidewalk cross slope adjustments and the “greenscape” barrier system. The plans should also include detailed construction drawings specific to the English basement window area.

During construction, any exposed/degraded foundation joints should be repaired as directed by a qualified architect or mason. The architect should recommend an appropriate barrier system to provide the maximum protection from expansion and contraction of the sidewalk section and the natural movement of the building while preventing water intrusion.

The Town maintains the sidewalks. Any invasive inspections of the sidewalks or building foundation from the exterior should be approved by and permitted the Town. Conversely, any proposed improvements and or restoration of the ‘public’ infrastructure should review and approved and permitted by the Town.

Although this report focused on the frontage of 3 Hotel Street, the entire envelope should be inspected including the concrete walk/drainage area within the alley between 3 Hotel Street and 12 Culpeper Street to determine if similar factors are impacting the foundation in these areas.

CV. Inc. is prepared to discuss this report further with you, your architect and or the Town if requested for an additional fee.

Thank you for your continued trust.
Sincerely, CV. Inc.

Michael F. Schramm
Project Manager -Special Projects

Attachments