AMERICAN TECHNICAL SERVICES, INC.

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Erika LaCraft
201 S. Grange Avenue
Sioux Falls, South Dakota

October 4, 2016

Attn: Mrs. Erika LaCraft

C: 359-1754

Subj: Engineering Evaluation of Foundation
201 S. Grange Avenue
Sioux Falls, SD

ATS Ref. No. 16F-16804.2

INTRODUCTION

At your request, we have completed additional engineering evaluations regarding soils and elevations of the west footing. This study was completed in general accordance with our proposal. The factual data gathered during our field work, along with the conclusions and recommendations generated from our engineering analyses are attached.

The conclusions and recommendations presented in this report are based upon the data gathered at, or concerning the site, analysis of that data and experience with similar soil and structural conditions. Information and data were gathered during the study by:

1. Taking a soil sample at bottom of footing elevation along the west wall at the time Bacchus Construction was uncovering the footing.

2. Take elevation shots of the top of footing along the West wall.

CONCLUSIONS/RECOMMENDATIONS

Based on our engineering evaluation, our conclusions and recommendations are as follows:

1) The soil sample taken at bottom of footing along the west wall confirmed our previous finding and analysis from the soil boring taken along the east wall. The soil is a medium-fat clay with a liquid limit of 48.

2) Elevations of the west wall footing were taken along the length of the foundation from North to South. The footing elevations varied from the north end to the south end by approximately 1". This difference in elevation is within industry standard of +- ½".

3) West wall, South window well- Raise Rite removed the interior wood stud along the north side of the window to observe the crack. Upon further inspection it was determined that the top of the window does not have rebar extending beyond the opening. Our recommendation is to cut in a #4 rebar x 4' long on the outside of the wall centered on the crack using Hilti HY 200 adhesive and install carbon fiber reinforcement on the interior of the wall along both sides of the opening and the middle.

4) East Foundation Wall- There is a large 1" wide crack in the garage foundation wall just South of the foundation step from the garage to the house. There is no footing under this garage foundation wall for approximately 40". Additionally, the foundation wall is not frost depth at this location. Our recommendation is to cut in a #4 rebar x 4' long on the outside of the wall centered on the crack using Hilti HY 200 adhesive.

5) Foundation Repair for Potential Water Infiltration- To minimize water infiltration another alternative of installing a MiraDrain system around the foundation was suggested by Roger Bacchus of Bacchus Construction. This option was chosen by the owner in an effort to mitigate any future damage to the interior of the residence from potential water infiltration coming through the existing cracks. Likewise, this system would help to minimize any water infiltration through cracks that may develop in the future.

CLOSURE

We are available to discuss the details of this report with you. We are also available for additional consultation upon request. Please call should further engineering services be required.

Sincerely,
American Technical Services, Inc.

Ryan Ollerich, BSCE
Project Manager

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