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ADDENDUM LETTER FOR REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ANALYSIS

VAMC SALEM – EMERGENCY DEPARTMENT EXPANSION &
RENOVATION – BUILDING 2A
SALEM, VIRGINIA

ECS REPORT NO. 12:7952





January 15, 2015

Mr. Hal Marvin, P.E., LEED AP BD+C
Atriax Group
102 3rd Avenue, NE (28601)
P.O. Box 1629
Hickory, North Carolina 28603

ECS Project No. 12:7952

Reference: Addendum Letter for Subsurface Exploration and Geotechnical Analysis
Stone Impact Piers
VAMC Salem – Emergency Department Expansion & Renovation – Building 2A
Salem, Virginia

Dear Mr. Marvin:

ECS Mid-Atlantic, LLC (ECS) is pleased to submit this Addendum Letter to our previous "VAMC Salem – Emergency Department Expansion & Renovation – Building 2A", which was designated as ECS Project No. 12:7952 and dated December 31, 2014.

The commentary provided herein is not submitted as a stand-alone document. Instead, it should be reviewed only in conjunction with the complete document referenced above. Unless otherwise stated herein, all data and recommendations of our previous report remain valid.

Purpose of Addendum

The purpose of this addendum letter is to address the option of improving the existing subgrade soils at the site. Specifically, in conversations with Mr. Mark Rickher, P.E. of Laurene, Rickher and Sorrell, P.C., the project structural engineer, we discussed whether **stone impact piers (also known as rammed aggregate piers or Geopiers®)**, could be used to increase the bearing capacity of the near-surface soils to 3,000 pounds per square foot (psf), in lieu of bearing the footings at a depth of 8 feet or more, as used in our analysis for the initial report.

We have discussed this option with a specialty contractor who installs stone impact piers. They have indicated that a minimum of 3,000 psf can be readily attained using stone impact piers, and that up to 5,000 psf could be possible, depending on their design.

It is our opinion that stone impact piers can be utilized at this site to improve the subgrade soils to a minimum allowable bearing capacity of 3,000 psf.

Please note that stone impact piers are generally a propriety measure and the design is typically performed by the installer.

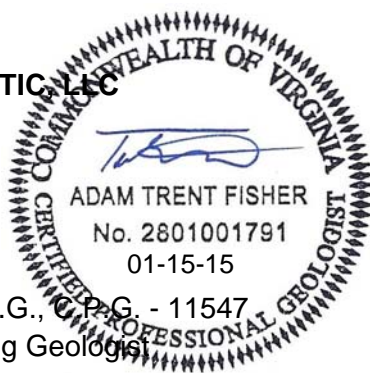
CLOSING

As with our initial report, the commentary and opinions contained herein were developed from the data obtained in the soil test borings, which indicate subsurface conditions at specific locations at the time of exploration. Subsurface conditions may vary between the borings. If, during the course of construction, variations appear evident, the geotechnical engineer should be informed so that the conditions can be addressed. Commentary and opinions were developed based on the information provided and on building design criteria considered typical for this type of structure. Should structural loading characteristics differ from those discussed herein, ECS should be contacted for review of these conditions and possible revisions to this report.

We have appreciated the opportunity to be of continued service to you. If you have any questions with regard to the information and commentary contained in this addendum letter, or if we can be of further assistance to you during construction, please do not hesitate to contact us.

Respectfully,

ECS MID-ATLANTIC



A. Trent Fisher, P.G., - 11547
Senior Engineering Geologist
Project Manager



Stephen D. Hjelle, P.E.
Principal Engineer
Geotechnical Department Manager

cc: William Bevins, FAIA - Atriax Group, PLLC
Mark Rickher, PE - Laurene, Rickher & Sorrell, P.C.