

October 7, 2011

Halifax County Economic Development Commission  
260 Premier Boulevard  
Roanoke Rapids, North Carolina 27870

Attention: Mrs. Cathy Scott  
Executive Director

Subject: Project GWP – Shearin Property  
Executive Summary  
Geotechnical Exploration  
Phase I Environmental Site Assessment  
PN# 08-041.1

Dear Mrs. Scott:

S&ME, Inc., under the direction of Green Engineering, P.L.L.C., has performed a Phase I Environmental Site Assessment and Preliminary Geotechnical Exploration Report for the Shearin Property adjacent to CSX Railroad and Hwy 301 north of the Town of Enfield, Halifax County, North Carolina. The information below is intended to serve as a summary of the information provided in the two reports.

### **Phase I Environmental Site Assessment**

The Phase I Environmental Site Assessment is an assessment of existing and past environmental conditions at the Shearin property based on available information reviewed and identified site conditions. The following is a summary of the report's findings:

- This assessment has revealed no evidence of recognized environmental conditions in connection with this property. This location and environmental condition of this property is well suited for development.
- Areas north of the CSX Railroad and a small area on the north-east portion of the property are located in the 100-year flood plain as addressed in Paragraph 4.4.2 (Regional Hydrology and Geology). All of these areas are outside the areas of proposed site development.
- There are areas of wetlands located on the site, mainly on the north east and south west portion of the property. This area is outside the areas of proposed site development. There is one small finger of wetlands located in the area of the proposed spur rail. Improvements in this area will be subject to routine permitting and will not impact the project's development.
- Paragraph 3.7 (Reason for Performing Phase I ESA) – The first sentence shall be revised to read as follows: "Green Engineering , PLLC has indicated the reason for performing this Phase I ESA is in connection with proposed industrial development."

### **Geotechnical Exploration Report**

The Geotechnical Exploration Report presents an overview of the preliminary geotechnical investigation performed on the area of the Shearin Site proposed for development. All analysis was performed based on the loading parameters provided to Mrs. Cathy Scott. These parameters are that graded areas must support  $250 \text{ kN/m}^2$  (5,200 psf) and the foundation soil conditions for the Ev2-module structure must be able to support bearing conditions ranging from  $120 \text{ kN/m}^2$  (2,500 psf) to  $45 \text{ MN/m}^2$  (940 psf). The following is a summary of the report's findings and recommendations.

- The site soil conditions are acceptable for proposed industrial development.
- Areas where undercut of soils is required should be filled with suitable material. This suitable material is readily available both on-site and from off-site sources including other nearby County owned property, existing local borrow pits and from on-going North Carolina Department of Transportation projects.
- Shallow spread footings are suitable for areas where loads of 100 kips or less are expected. NCDOT #57 stone should be used in some areas to support these footings.
- Foundation support for column loads greater than 100 kips may require in place soil improvement (Geopiers) where shallow spread footings will be utilized or installation of a deep foundation system.
- In place soil improvement may be required in areas where heavy floor slab loading is anticipated.

It should be noted that the Geotechnical Engineer expressed their concern as to the accuracy of the  $250 \text{ kN/m}^2$  (5,200 psf) loading parameter. This loading is extremely excessive for the application proposed and in their opinion and knowledge of similar facilities this excessive loading will not be realized on this site. They have stated they believe the units of this parameter may be incorrect.

The soils present at the subject site are typical of the soils found throughout the Coastal Plain and are suitable for industrial development. Soil preparation, in addition to simple compaction, will be required in areas of heavier foundation loadings as will be the case regardless of the site selected.

I trust you will find this Executive Summary in accordance with the findings of both the Phase I Environmental Site Assessment and the Geotechnical Exploration Report. Should you have any questions regarding the information above please feel free to contact our office for additional explanation.

Respectfully;



E. Leo Green, III P.E., P.L.S.

ELG,III/pbg