HP Geotech

Hepworth-Pawlak Geotechnical, Inc.
P.O. Box 388
Monument, Colorado 80132-0388
Phone: 719-633-5562

Fax: 719-633-5582
email: hpgeo3@hpgeotech.com

April 28, 2007

Roger Sams
GMS, Inc.
611 North Weber, Suite 300
Colorado Springs, Colorado 80903

Subject: Wastewater Treatment Facility
Lower Fountain Metropolitan Sewage Disposal District (LFMSDD)
Birdsall Road East of Old Pueblo Road
El Paso County, Colorado

Job Number: 3070112

Dear Mr. Sams:

As requested, we have performed a field reconnaissance at the site of the proposed Wastewater Treatment Facility for the LFMSDD. We also reviewed the Preliminary Geotechnical Investigation prepared for the site by Chen & Associates, Inc. (job number 2-411-86, report dated November 5, 1986).

Proposed Construction: The proposed wastewater treatment facility will be located on the southern portion of the site. The facility will consist of cast-in-place concrete tankage and an operations building. No lagoons are planned.

Site Conditions: The site is currently vacant and has been used as a cattle pasture. Vegetation consists of native grass, weeds, cactus and a few deciduous trees. The ground surface is generally flat with a slight slope down to the south and southeast. The maximum elevation difference across the site is approximately 60 feet. A large steeply sided channel crosses the southern portion of the site from the northwest down to the southeast. The channel leads to a shallow drainage with several small earthen embankments located south and east of the site. The channel slopes are near vertical in many areas and show signs of erosion. The channel varies from about 30 to 100 feet wide and is up to about 25 feet deep. Several embankments and channels having a height or depth of a few feet extend out from the large channel. No water was observed in either the large channel or the smaller channels. Except for the channels and embankments, it does not appear that any significant grading has occurred on the site. The site appears to relatively unchanged since the Preliminary Geotechnical Investigation was performed. Properties adjacent to the site are currently vacant and have also been used as cattle pastures.

Geotechnical Investigation: During the Preliminary Geotechnical Investigation performed by Chen & Associates, 10 exploratory borings were drilled on the site. Borings TH 7 through TH 10 were drilled on the southern portion of the site in the area of the proposed treatment plant. The soils encountered in TH 7 through TH 10 consisted of slightly sandy to sandy clay which was encountered to the maximum depth drilled of 25 feet. The results of swell-consolidation tests indicate the clay possesses a low to moderate swell potential.

One of the clay samples tested from TH 6 exhibited a collapse potential upon loading and wetting. In borings TH 3 and TH 6, claystone bedrock was encountered below the clay at depths of 35 and 16½ feet, respectively. The results of a swell-consolidation test indicate the claystone possesses a high swell potential.

Spread footings were recommended in the report for support of structures. To reduce foundation movements due to swelling and/or collapsible soils, bearing the footings on a layer of nonexpansive structural fill was recommended. In areas where bedrock was shallow, founding the structures on drilled piers was discussed as a foundation alternative.

Conclusions: Based on our site reconnaissance, it appears that the Preliminary Geotechnical Investigation performed by Chen & Associates is still applicable for the site. Based on the site conditions observed and the results reported in the Preliminary Geotechnical Investigation, the site will support the proposed facility subject to following the preliminary recommendations in the report. As discussed in the report, measures to mitigate the effects of expansive/collapsible soils will be required. The effects of the large channel on the proposed construction will also need to be addressed during final design.

The Chen report is preliminary in nature and intended for general design and planning. Additional investigations will be required to provide specific design criteria for foundations, floor slabs, pavements and other soil related activities.

If there are any questions, please feel free to contact us.

Sincerely,

HEPWORTH-PAWLAK GEOTECHNICAL, Inc.

David A. Herman, P.E.

COLORADO REGISTERED DAVID A. HERMAN 16613 PROFESSIONAL ENGINEER

3070112.doc