ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

5301 East River Road, Suite 101
Fridley, Minnesota 55421
Telephone 651-635-9050
www.atcgroupservices.com

July 16, 2020

Mr. Dion Johnson
President/ CEO
ARE Telecom, Inc.
1041 Grand Avenue, #213
St. Paul, Minnesota 55105

Subject: Proposed Tower Shallow Soil Observations
Spiritwood Site
SE of 27th Street SE and 93rd Ave SE near Spiritwood, North Dakota
Coordinates: 47.022078°, -98.529877°
ATC Project No. M537390001

Dear Mr. Johnson:

ATC Group Services, LLC (ATC) is pleased to submit the results of the shallow subsurface observations to ARE Telecom, Inc. (ARE Telecom) for the proposed cell tower at the above referenced location (site). ATC understands the tower will be a ballasted structure with a diameter of approximately 30 feet placed near the ground surface elevation. ATC has performed these services in general accordance with our proposal and the information requested by ARE Telecom. The purpose of this investigation was to classify the soils and obtain pocket penetrometer readings of the near surface soils that will be utilized for foundation design purposes.

Our observations were performed on July 14, 2020 at the site. The proposed tower site is reportedly the location of an abandoned former tower. ATC observed remnants of this former tower including a concrete pad, an electrical pole, a shed, and a pile of construction debris. The center of the proposed tower was identified to be near the center of the existing concrete pad located at the site.

ATC performed subsurface observations at four locations at the site, which were located 10’ north, 10’ east, 10’ south, and 10’ west of the proposed tower center and off the edges of the existing concrete pad. ATC excavated small holes at these locations with a shovel to a depth of approximately 12” below the existing grade. Upon excavation, the exposed soils were visually classified and observations of the topsoil thickness were made. Pocket penetrometer readings were taken on the exposed soils encountered near the bottom of the excavated holes. Additional soil samples were collected below the bottom of the excavation to a depth of 6 feet by the use of a sampling T probe. The samples collected by T probe were field classified and tested with the pocket penetrometer. The field observations are summarized in the following table:

General Subsurface Soil Profile		
Depth	**Filed Soil Classifications**	**Penetrometer Readings (PSF*)**
7 to 10 inches at surface	Topsoil - Brown clayey silt	NA
Below topsoil to 1.0 feet	Brown silt with trace clay	4,000 to 6,000**
1-2 feet	Brown silt with trace clay	4,000 to 5,000
3-4 feet	Brown silt with trace clay	4,000 to 6,000
4-5 feet	Brown silt with trace clay	5,000 to 6,000
5-6 feet	Brown silt with trace clay	6,000
*(PSF) Pounds per Square Foot **Readings from bottom of excavated hole		

Of note, no groundwater was encountered during the field activities; however, the soils encountered deeper than 4 feet below the grade appeared to be moist when compared to the soils above this elevation.

The tower foundation system should be appropriately designed based on the provided information. Please note that site subsurface conditions could vary from what was observed, and unknown soil conditions encountered below the observation depth could affect the tower foundation system. Observations for unsuitable soils, or soils not consistent with what was observed, should be made during construction.

Our professional services have been performed in accordance with customary practices in the field of engineering. This statement is in lieu of other statements either expressed or implied. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

If you have any questions regarding this report, please contact us at the information provided below.

Sincerely,

ATC Group Services, LLC

Scott Hanson, PE (IA, NE, KS, MO)
Field Observer/Principal Engineer
Direct Line +1 319 233 0441
Email: scott.hanson@atcgs.com

Steve Heikkila, PE (MN, ND)
Principal Engineer
Direct Line +1 763 347 7201
Email: steve.heikkila@atcgs.com