May 27, 2011

Derek Doughty, PE
Applied Sciences Consulting, Inc.
5808 Breckenridge Parkway, Suite A
Tampa, FL 33610

Geotechnical Exploration and Evaluation Services for
30th Street and Hillsborough Avenue Existing Ponds
Hillsborough County, Florida
MC² Proposal No. T0151107.083

MC Squared, Inc. (**MC²**) has performed geotechnical engineering services for the referenced project. The services consisted of performing four (4) hand auger borings (AB-1, AB-2, AB-3, & AB-4) to depths of 5.0 feet below the existing ground. The borings were performed along the slopes of the existing ponds (due to the presence of standing water) in the southwest quadrant of the intersection of 30th Street and E Osborne Avenue. The specific locations in which the borings were performed were based on an aerial photograph provided by Applied Sciences Consulting, Inc.

NCRS Soil Survey

The U.S. Department of Agriculture - Soil Conservation Service, now known as Natural Resources Conservation Service (NRCS), has mapped the shallow soils in this area of Hillsborough County. This information is available through the NRCS Web Soil Survey. The soil information of Hillsborough County, Florida was issued in May 1989 with updated seasonal high water levels published in September 2008. The aerial photographs used in the mapping were compiled in August 2007. The soil survey indicates the site is located entirely within an area mapped as Wabasso Urban land complex (mapping unit 58). A soil mapping unit is an area dominated by a particular soil type. Urban land is covered with buildings and pavements and contains soils altered by development so that their identification is not feasible.

Wabasso fine sand in its natural state is nearly level and poorly drained. It is located on broad plains in the flatwoods and has slopes of less than 2 percent. In some places, the depth of the black fine sands can be greater than 2.6 feet and they can be either brown or dark yellowish brown. The brown mottled clayey fine sands can also be at

depths greater than 4.0 feet. In its natural state, the Wabasso fine sand has a seasonal high water table between 0 and 0.8 feet below the existing grade for 2 months. The water table can recede to a depth greater than 3.3 feet during prolonged dry periods.

The USDA Soil Survey is not necessarily an exact representation of the soils on the site. The mapping is based on interpretation of aerial maps with scattered shallow borings for confirmation. Accordingly, borders between mapping units are approximate and the change may be transitional. Differences may also occur from the typical stratigraphy, and small areas of other similar and dissimilar soils may occur within the soil-mapping unit. As such, there may be differences in the mapped description and the boring descriptions obtained for this report. The survey is, however, a good basis for evaluating the shallow soil conditions of the area.

Soil Borings and Subsurface Conditions

Borings AB-1 through AB-4 were terminated at a depth of 5.0 feet below the existing ground surface.

The findings of the borings are presented as follows:

- Boring AB-1 encountered a grayish brown fine sand, to slightly silty fine sand, to slightly clayey fine sand (SP/SP-SM/SP-SC) from existing ground to a depth of approximately 1 foot. Light greenish gray to brown sandy clay to clay (CL/CH) was encountered below the sandy soil to the boring termination depth of five (5) feet.

- Boring AB-2 encountered grayish brown to brown clayey fine sand (SC) from existing ground surface to the boring termination depth of five (5) feet.

- Boring AB-3 encountered light greenish gray or brown sandy clay to clay (CL/CH) from the existing ground surface to a depth of approximately four (4) feet. Grayish brown to brown clayey fine sand (SC) was encountered from 4 feet to the boring termination depth of 5 feet.

- Boring AB-4 encountered black organic silt (OL) material with roots from the existing ground surface to a depth of 0.5 feet. Grayish brown to brown clayey fine sand (SC) was then encountered to a depth of 4 feet, followed by light greenish gray to brown sandy clay to clay (CL/CH) to the boring termination depth of 5 feet.

Groundwater Information

The hand auger borings were performed on May 19, 2011 and the groundwater measured during a relatively dry season. The measured groundwater level at the time of our investigation, at all borings, was at the existing ground surface.

The groundwater table can be expected to vary at times and will fluctuate seasonally based on environmental variations and seasonal conditions, such as the frequency and magnitude of rainfall patterns, area geology, surface drainage conditions, man-made influences, such as existing swales, drainage ponds, underdrains and other factors. It was difficult, if not impossible, to determine the Seasonal High Goundwater Level in the ponds due to the presence of confining clays encountered in all borings. We estimate the Seasonal High Groundwater Level to be at some level above the existing pond bottom due to perched conditions.

It should be noted that Double Ring Infiltration (DRI) Testing was not performed in the area due to the presence of shallow confining clays encountered at or slightly below the existing ground surface.

If the groundwater level is critical to design or construction, temporary observation wells should be installed within the proposed swale to monitor groundwater fluctuations over a period of time and permit more accurate determinations of wet and dry seasonal levels.

Should you have any questions or require additional information, please do not hesitate to contact us at your convenience.

Respectfully submitted,
MC² Engineers, Inc.

William "Ian" Rovira, EI
Project Engineer

Kermit Schmidt, PE
Vice President/Chief Engineer
Florida Registration No. 45603

Appendix A:
Sheets 1 & 2 – Boring Location Plan & Report of Core Borings

LEGEND

APPROXIMATE HAND AUGER BORING LOCATION

MC Squared Inc.
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5808 BRECKENRIDGE PARKWAY, SUITE A
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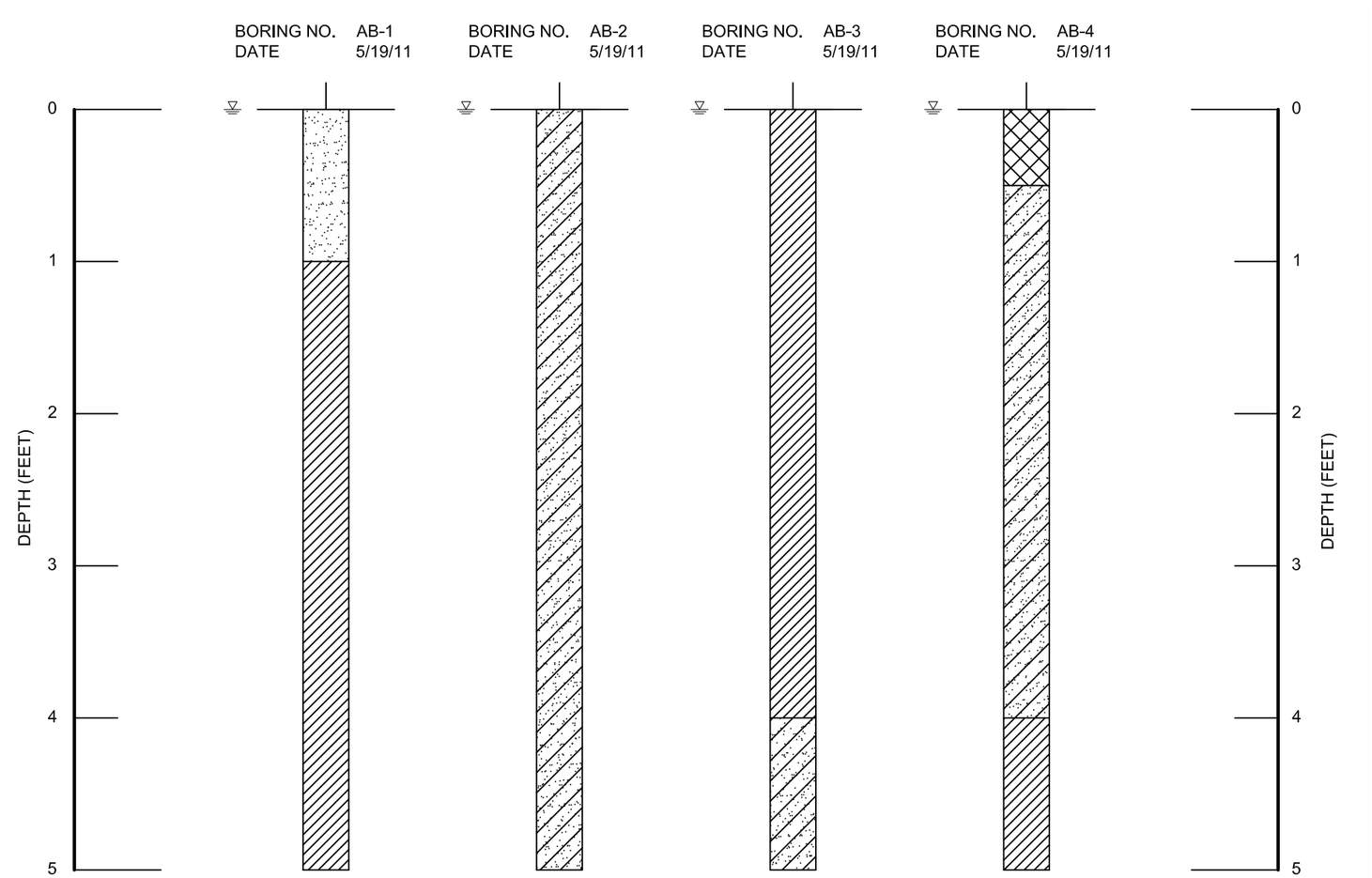
GEOTECHNICAL • ENVIRONMENTAL
MATERIALS TESTING

Boring Location Plan

30th Street & Hillsborough Avenue Ponds
Hillsborough County, FL

NTS	Revised:	Drawn By: IR	Checked By: KS	MC² Project No.T051107.083	Sheet 1



LEGEND

- (SP/SP-SM/SP-SC) GRAYISH BROWN FINE SAND, SLIGHTLY SILTY FINE SAND, TO SLIGHTLY CLAYEY FINE SAND.
- (SC) GRAYISH BROWN OR BROWN CLAYEY FINE SAND.
- (CL/CH) LIGHT GREENISH GRAY OR BROWN SANDY CLAY TO CLAY.
- (OL) BLACK ORGANIC SILT WITH ROOTS.

NOTES:

WATER TABLE

0' 1'

VERTICAL SCALE: 1" = 1'
HORIZONTAL: N.T.S

DATE	NAME	REVISION	APPROVED BY:

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FLORIDA ENGINEERING CERTIFICATE OF AUTHORIZATION No. 9191
Kermit Schmidt, P.E.
FLORIDA LICENSE No. 45603

	NAME	DATE
DESIGNED BY:	IR	05/11
DRAWN BY:	IR	05/11
CHECKED BY:	KS	05/11
SUPERVISED BY:		

REPORT OF CORE BORINGS	PROJECT NO.	SHEET NO.
30 Street & Hillsborough Avenue Ponds Hillsborough County, FL	T051107.083	2