MORTENSEN ENGINEERING INC

November 14, 2017
Project No. 17-10-08551

TO: CDCT Gardens, LLC
1907 East Hillsborough Avenue, Suite 100
Tampa, Florida 33610

Attention: Mr. Jim Dyal

SUBJECT: *Addendum to Report Dated 8/23/17*
Additional Geotechnical Services
Two Stormwater Pond Areas
Gardens Townhomes – Phase 1
Tampa, Hillsborough County, Florida

As requested by Mr. David Fuxan, P.E. with Fuxan Engineering, Inc. (FEI), we have completed the requested additional geotechnical services related specifically to two stormwater pond areas for the subject project.

We performed two additional auger borings (HA-1 and HA-2), per ASTM D-1452, each to a depth of 7 feet (+/-), in/near the two stormwater pond areas. Also, we performed two double ring infiltration tests (DRIT-A and DRIT-B), per ASTM D-3385, to determine the shallow soil vertical infiltration rate in the two proposed pond areas, each at a depth of 2 feet (+/-) below the existing ground surface (as directed by FEI). The approximate additional test boring and DRIT locations are indicated on Plate 1. Each additional test boring/DRIT location herein was approximated in the field using a recent aerial and measuring off of existing site features. Each test boring location ground elevation was estimated using nearby grade shot elevations performed by the project surveyor, Impact Surveying and Mapping, Inc. (ISM).

The results of our additional test borings (HA-1 and HA-2) are included as drafted soil profiles on Plate 2; the project soils legend is also included on Plate 2. An updated/revised *Shallow Groundwater Data Table* from our previous geotechnical report dated 8/23/17, including the results of HA-1 and HA-2, is attached. The results of each DRIT (DRIT-A and DRIT-B) are also attached.

The submittal herein should be considered an addendum to our previous geotechnical report for the proposed development dated 8/23/17. The same geotechnical qualifications, procedures, limitations, assumptions, evaluations and recommendations, provided in our previous 8/23/17 report, remain appropriate for the additional testing herein and this addendum submittal.

This addendum report and any previous or subsequent geotechnical reports for this project area should be included with and made a part of the project design, permitting, construction and contractor bidding/contract documents. If you have any questions about this submittal, please give us a call. Thank you for this opportunity to be of service to you.

Sincerely,

MORTENSEN ENGINEERING, INC.

Florida Certificate of Authorization No. 5678

Kevin D. Mathewson, P.E.
Vice President
P.E. License No. 68429

Michael T. Gagne, P.E.
President
P.E. License No. 63006

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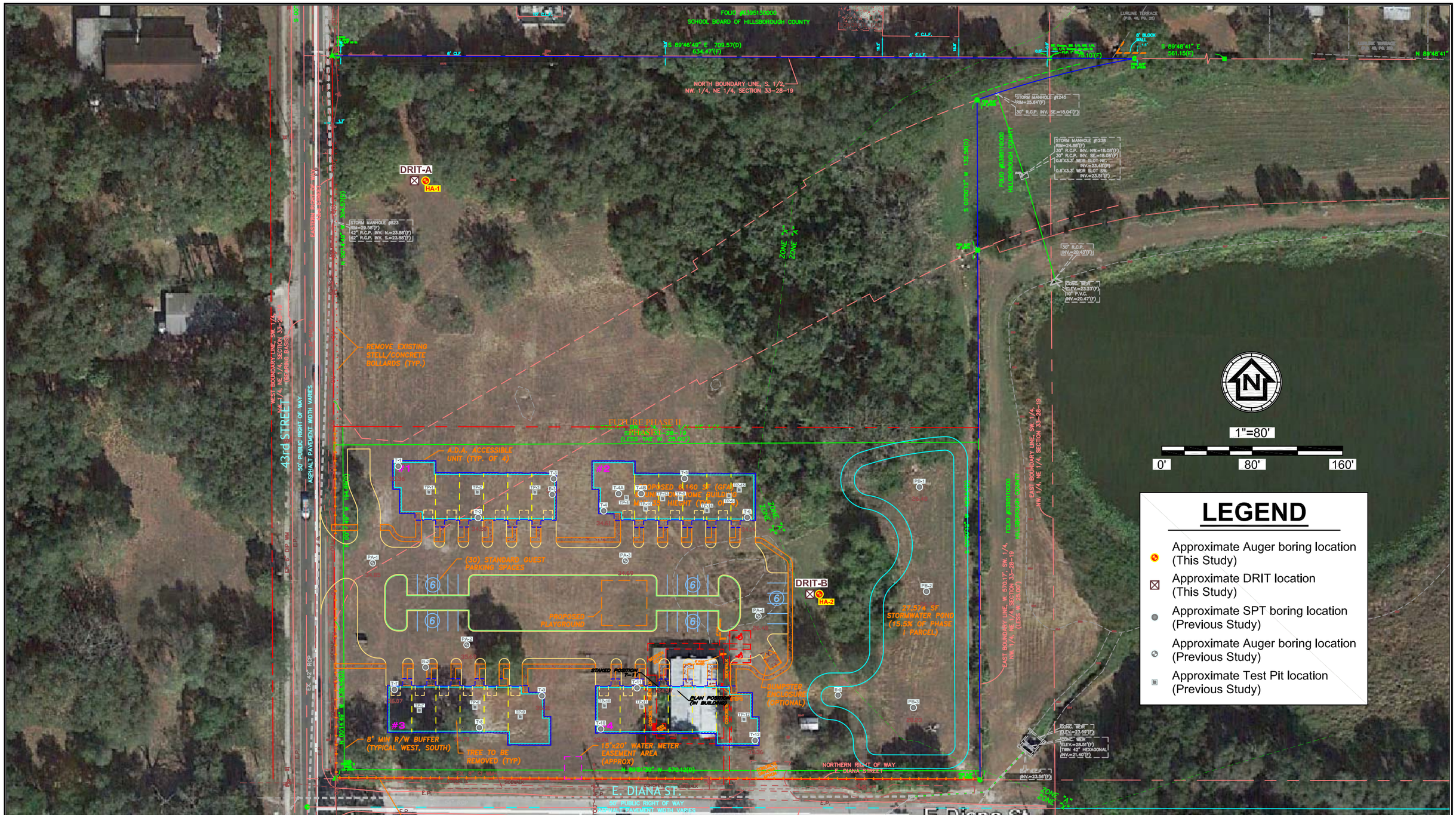
Attachments: Updated/Revised Shallow Groundwater Data Table
Plates 1 and 2
DRIT Results

xc: Mr. David Fuxan, P.E. – FEI

SHALLOW GROUNDWATER DATA TABLE
GARDENS TOWNHOMES - PHASE 1
TEST BORING LOCATIONS
REVISED 11/14/17

Boring Number	Ground Elevation[1]	Depth to GWT Below Grade (Ft.)[2]	Elevation of GWT[2]	Estimated Average (Temporary) NWSGWT[3] Elevation (+/-)
PA-1	34.9	5.4	29.5	32.0
PA-2	35.7	4.2	31.5	32.0
PA-3	34.7	4.5	30.2	31.0
PA-4	34.1	6.9	27.2	29.0
PB-1	26.5	DRY TO 3.5'		25.5
PB-2	26.7	1.8	24.9	25.5
PB-3	28.2	3.6	24.6	25.5
HA-1	29.5 *	DRY TO 7'		26.0
HA-2	32.0 *	DRY TO 7'		29.0

Notes: 1) All elevation data per Impact Surveying and Mapping, Inc.
2) GWT = groundwater level at time of fieldwork.
3) NWSGWT = normal wet season high groundwater level.
* Estimated



LEGEND

- Approximate Auger boring location (This Study)
- Approximate DRIT location (This Study)
- Approximate SPT boring location (Previous Study)
- Approximate Auger boring location (Previous Study)
- Approximate Test Pit location (Previous Study)

MORTENSEN ENGINEERING INC

ADDITIONAL GEOTECHNICAL SERVICES

GARDENS TOWNHOMES - PHASE 1

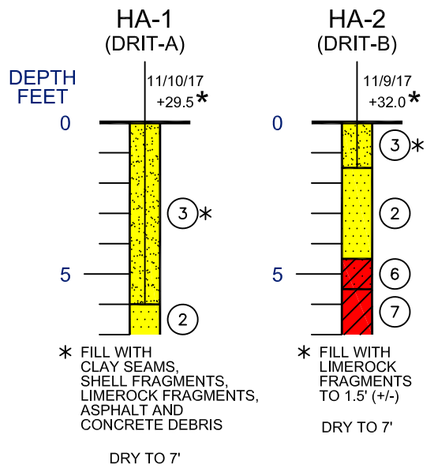
TAMPA, HILLSBOROUGH COUNTY, FLORIDA

BORING LOCATION PLAN

CREATED BY: DNH
CHECKED BY: PWV

DATE: NOV 2017
PROJECT NO: 17-10-08551

PLATE 1



The test boring results hereon are representative of the subsurface conditions only at the noted approximate boring location, only for the noted depth, and only on the date tested. Local variations characteristic of the subsurface materials of the region should be anticipated at different times and may be encountered particularly in areas previously disturbed. The soil profiles and the other field test data hereon are based on the driller's logs and visual review of selected soil samples in the laboratory. The delineations between different soil material types shown hereon should be considered approximate. The generalized soil descriptions hereon represent our interpretation of the subsurface soil conditions at the noted boring locations only on the dates drilled.

The groundwater level data shown hereon alongside the soil boring profiles represent short term (not necessarily stabilized) groundwater levels, measured in the boreholes or in an offset borehole on the date drilled, unless otherwise noted. Fluctuations in the shallow groundwater level from the levels shown hereon will occur and should be anticipated throughout the year; local variations from the levels shown hereon should also be anticipated.

LEGEND

1	Gray to dark gray fine SAND to slightly silty fine SAND, trace organics (SP/SP-SM)
2	White to light brown fine SAND to silty fine SAND (SP/SP-SM/SM)
3	Brown or gray fine SAND to silty fine SAND (SP/SP-SM/SM)
4	Dark brown to reddish brown or black slightly silty fine SAND to silty fine SAND (SP-SM/SM)
5	Gray or brown silty to slightly clayey fine SAND (SM/SM-SC)
6	Gray or brown clayey SAND (SC)
7	Gray or brown to gray-green sandy CLAY to CLAY (CL/CH)
SP	Unified Soil Classification group symbol as determined by visual review
11/10/17	Date of field work
+29.5*	Ground Elevation estimated from Topographic Map provided by Impact Surveying and Mapping, Inc.

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ADDITIONAL GEOTECHNICAL SERVICES

GARDENS TOWNHOMES - PHASE 1

TAMPA, HILLSBOROUGH COUNTY, FLORIDA

AUGER BORING SOIL PROFILES AND SOILS LEGEND

CREATED BY: DNH
CHECKED BY: PWV

DATE: NOV 2017
PROJECT NO: 17-10-08551

PLATE 2

DOUBLE RING INFILTRATION TEST

PER ASTM D-3385

Project Name: **Gardens Townhomes - Phase 1**

Project Number: **17-10-08551**

Date of Test: **November 10, 2017**

Location of Test: **DRIT-A**

Depth of Test: **Approximately 2 feet deep (+/-)**

ELAPSED TIME (MIN)	TIME (MIN)	VOLUME (mL)	INFILTRATION RATE (FT/DAY)
2	2	30	1.0
4	2	100	3.2
6	2	30	1.0
8	2	70	2.3
10	2	70	2.3
15	5	120	1.6
20	5	110	1.4
25	5	80	1.0
30	5	50	0.6
40	10	150	1.0
50	10	130	0.8
60	10	120	0.8
90	30	90	0.2
120	30	70	0.2
150	30	90	0.2
180	30	60	0.1
210	30	60	0.1
240	30	70	0.2

VERTICAL INFILTRATION RATE= 0.2 FT/DAY

DOUBLE RING INFILTRATION TEST

PER ASTM D-3385

Project Name: **Gardens Townhomes - Phase 1**

Project Number: **17-10-08551**

Date of Test: **November 9, 2017**

Location of Test: **DRIT-B**

Depth of Test: **Approximately 2 feet deep (+/-)**

ELAPSED TIME (MIN)	TIME (MIN)	VOLUME (mL)	INFILTRATION RATE (FT/DAY)
2	2	320	10.4
4	2	460	14.9
6	2	290	9.4
8	2	290	9.4
10	2	360	11.6
15	5	770	10.0
20	5	740	9.6
25	5	760	9.8
30	5	710	9.2
40	10	1500	9.7
50	10	1240	8.0
60	10	1340	8.7
90	30	3740	8.1
120	30	3760	8.1
150	30	3720	8.0
180	30	3740	8.1
210	30	3520	7.6
240	30	3540	7.6

VERTICAL INFILTRATION RATE= 8 FT/DAY