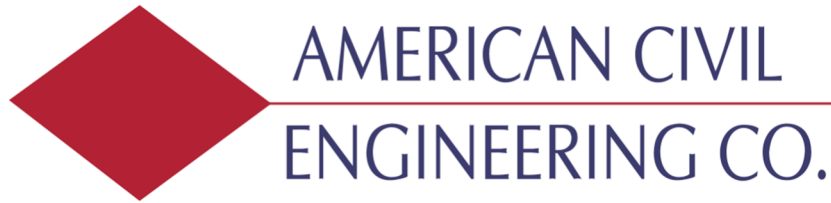


# Park Street Commerce Center

## Master Storm System

Storm Report by



---

John J Herbert IV, PE #84698

5/24/2023



American Civil Engineering Co.

## Stormwater Summary

### **Park Street Commerce Center**

5/24/2023

SJRWMD #:

**Basin Size:** 16.65 AC (Total Site)

**Special Basin Criteria:** Lake Okeechobee (+50% treatment over standard SFWMD criteria)

**Wetlands:** #56-00002-M Bluefield Ranch Mitigation Bank

**Hydraulic Soils:** Manatee #6 Type B/D (77%), Immokalee #11 Type B/D (23%)

**Impervious Area:** 0.05 AC existing, 6.80 AC Total Impervious Area

**Treatment Volume Required:** 1.5 " over basin or 2.5" x % impervious plus 50%

**Peak Design Storm:** 100 Yr – 72 hr

**Pre vs Post Discharge:** S-133 Basin 15.6 cfs/SM for 25YR-72HR storm or 0.36 cfs, proposed 0 cfs

**Pond Volume:** Dry Pond 4.938 AF (22 Top, 17.60 Bottom) , Wet Pond 4.07 AF (20 Top, 15 NWL)

**Pond Recovery:** 72 hours

**Seasonal High Groundwater Elevation:** 14.50 elv. (See Geotech Report)

**FEMA:** Zone X (12093C0480C - 7/16/2016)

**Slopes:** 4:1 Dry pond

**Maintenance Berm:** 10 ft

**Fencing:** No fence proposed





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### **Site Location / Existing Conditions:**

The project is 16.65 acres in size and located on 1000 East S.R.70 in the City of Okeechobee, Florida. The site is currently undeveloped apart from an unoccupied house in the back northeast corner. A man-made drainage swale has been cut through the center of the site emptying into Taylor Creek in the north. Several isolated wetlands are present on the property. Topography of the site flows from higher elevations in the east to lower elevations in the west, ultimately discharging north into the creek. During geotechnical investigations organic muck layers were discovered in portions of the site (approx. 27%) that correlated with higher water tables relative to the borings without muck.

### **Proposed Conditions:**

Project proposes four individual commercial lots and city-controlled roadway created with master stormwater. Lot 1 (1 AC impervious) is proposed carwash, Lot 2 (1.5 AC impervious) is Culver's restaurant, Lot 3 & 4 have no current planned development but are still allotted 1.75 AC of impervious area each in the master system. The proposed roadway is allotted 0.80 AC of impervious in the same shared system.

### **Water Quality:**

The site requires nutrient loading be met for Lake Okeechobee basin and includes 50% additional treatment volume over the standard requirements. SFWMD criteria of 1" over basin or 2.5" over percent impervious area (less roofs & wet ponds). The system is designed to exceed the required 2.13 AC-FT of dry retention over the basin providing 3.58 AC-Ft before discharging into the wet pond. All required treatment is met within the dry pond, additional treatment is provided in the wet pond further surpassing the requirements.

### **Water Quantity:**

Rainfall tables used from SFWMD regarding the 10 year – 1 day (5"), 25 year – 3 day (9") and 100 year – 3 day (10") storm events were used to set the final elevations of roads and buildings via ICPR routing simulation. The proposed storm system maintains the 100 Year storm event with additional freeboard. No outfall is proposed.

	Dry Pond (elv)	Wet Pond (elv)
No Outfall – 100 YR – 72 Hour storm :	21.57	18.95
No Outfall – 25 YR – 72 Hour storm :	21.30	18.09
No Outfall – 10 YR – 24 Hour storm :	19.76	15.53

Min Road Elevation = 19.76

provided min. road elv = 20.56



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### **Water Discharge:**

No discharge is proposed, all storm events held within proposed storm system.

### **System Recovery:**

Drawdown of the storm pond was performed using a 3-day recovery via groundwater with percolation rates at half rate given in geotech report. The dry pond holds 3.58 AC-FT at elevation 20.95 before discharging into the wet pond at the rear of the site for attenuation. The required treatment volume of 2.13 AC-FT recovers within the required 72 hour simulation with total recovery in 72 hour window equaling recovers 2.32 AC-FT

### **Operation & Maintenance:**

Lots 1 – 4 will be owned and operated by separate entities. The proposed roadway, storm easement and rear pond will be owned and operated by City of Okeechobee.

**Dry Pond Stage / Storage**

Stage (ft)	Area (sf)	Area (ac)	Volume (ac-ft)	Notes
17.6	37,464	0.860	0.000	
18.0	41,429	0.951	0.362	
19.0	45,499	1.045	1.360	
20.0	49,670	1.140	2.452	
21.0	54,134	1.243	3.644	
22.0	58,598	1.345	4.938	
Rear Dry Pond		TOP		

**Wier Elevation**

Design Wier Elevation =	20.95	ft
<b>Treatment Volume Provided =</b>	<b>3.584</b>	<b>ac-ft</b>

**Wet Pond Stage / Storage**

Stage (ft)	Area (sf)	Area (ac)	Volume (ac-ft)	Notes
6.0	7,866	0.181	0.000	
7.0	8,677	0.199	0.190	
8.0	9,534	0.219	0.399	
9.0	10,440	0.240	0.628	
10.0	11,401	0.262	0.879	
11.0	12,423	0.285	1.152	
12.0	13,519	0.310	1.450	
13.0	28,332	0.650	1.931	
14.0	33,541	0.770	2.641	
15.0	38,878	0.893	0.000	Waterline (2.641 AF vol)
16.0	44,343	1.018	0.955	
17.0	49,929	1.146	0.000	
18.0	55,619	1.277	1.212	
19.0	61,409	1.410	2.555	
20.0	70,882	1.627	4.073	TOP

**Wier Elevation**

No Outfall on Pond	

<b>Development Drainage Basin A</b>					
<b>Basin</b>	<b>Area (AC)</b>	<b>% impervious</b>	<b>Cover</b>	<b>CN</b>	<b>Imperv (AC)</b>
Commerical	13.940	49%	Impervious	98	6.800
			Drained Pervious (Type B Soil)	40	
			Roof		
			Sub-Total CN	68	
<i>Totals</i>	<i>13.940</i>	<i>49%</i>		68	6.800
<b>Development Drainage Basin B</b>					
<b>Basin</b>	<b>Area (AC)</b>	<b>%Water</b>	<b>Cover</b>	<b>CN</b>	<b>Imperv (AC)</b>
Wet Pond / FPL	2.71	33%	Water	100	0.000
			Pervious (Type B Soil)	60	
<i>Totals</i>	<i>2.71</i>	<i>33%</i>		73	0.000
<b>Total Site</b>	<b>16.65</b>	<b>41%</b>			6.800

Time of Concentration

Assume Minimum 15 minimum for all basins

## Treatment Volumes

Basin Area	16.65 AC	
Impervious Area	41%	6.80 AC

1	1" over the development	
	1" x 16.65 AC	
	1.420 AC-FT	
	Add 50%	
	2.09 AC-FT	

2	2.5" over % impervious area	
	2.5" x 41% x 16.65 AC	6.8 AC total Impervious
	1.42" AC-FT	
	Add 50%	
	2.130 AC-FT	

### Impervious Area Accounted

Lot 1	1.00 AC
Lot 2	1.50 AC
Lot 3	1.75 AC
Lot 4	1.75 AC
Roadway	0.80 AC
Total	<hr/> 6.80 AC

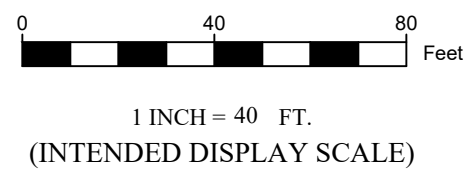


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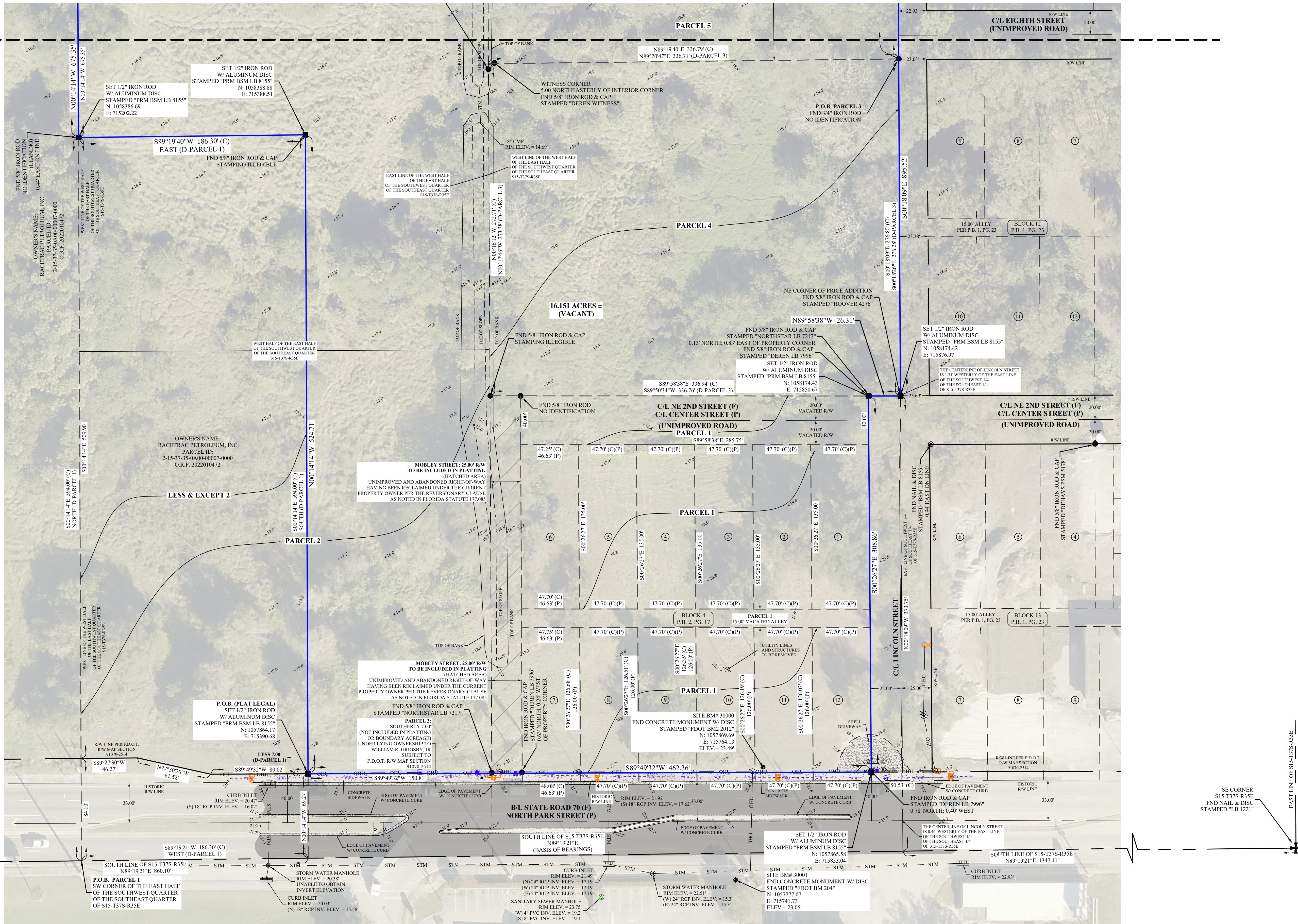
# PRE-BASIN MAP

BOUNDARY & TOPOGRAPHIC SURVEY  
TO ALTA/NSPS  
LAND TITLE STANDARDS  
LOCATED IN SECTION 15; TOWNSHIP 37 SOUTH; RANGE 35 EAST

GRAPHIC SCALE



MATCH LINE "A" FROM SHEET 3



**B.S.M. & ASSOCIATES**  
LAND SURVEYING SERVICES  
80 SE 31st Lane, Okeechobee, FL 34974  
ricky.barnes@bsmsurvey.com  
863.484.8324  
LB 8155

BY:		REVISIONS:	
BIM		DATE:	
REVISED BOUNDARY TO REFLECT CITY COMMENTS		3-23-23	
DWG		SHEET 2 OF 3	
OFF BHM		DATE 11/11/22	
REF		FB: PG. BSM 48/20	
CAD		G:\My Drive\BSM & ASSOCIATES, INC\2022\22-445 ALTA TOPO & PLAT - KINGS CONDO PARTNERSHIP PLAT & BOUNDARY VERSION 2.1	

BOUNDARY & TOPOGRAPHIC SURVEY

HWY 70 EAST

OKEECHOBEE, FLORIDA 34972

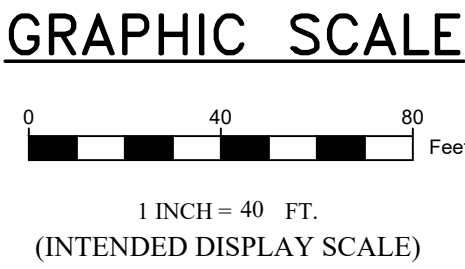
BOUNDARY & TOPOGRAPHIC SURVEY  
TO ALTA/NSPS  
LAND TITLE STANDARDS  
LOCATED IN SECTION 15; TOWNSHIP 37 SOUTH; RANGE 35 EAST



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& ASSOCIATES  
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ricky.barnes@bsmsurvey.com  
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LB 8155



MATCH LINE "A" FROM SHEET 2



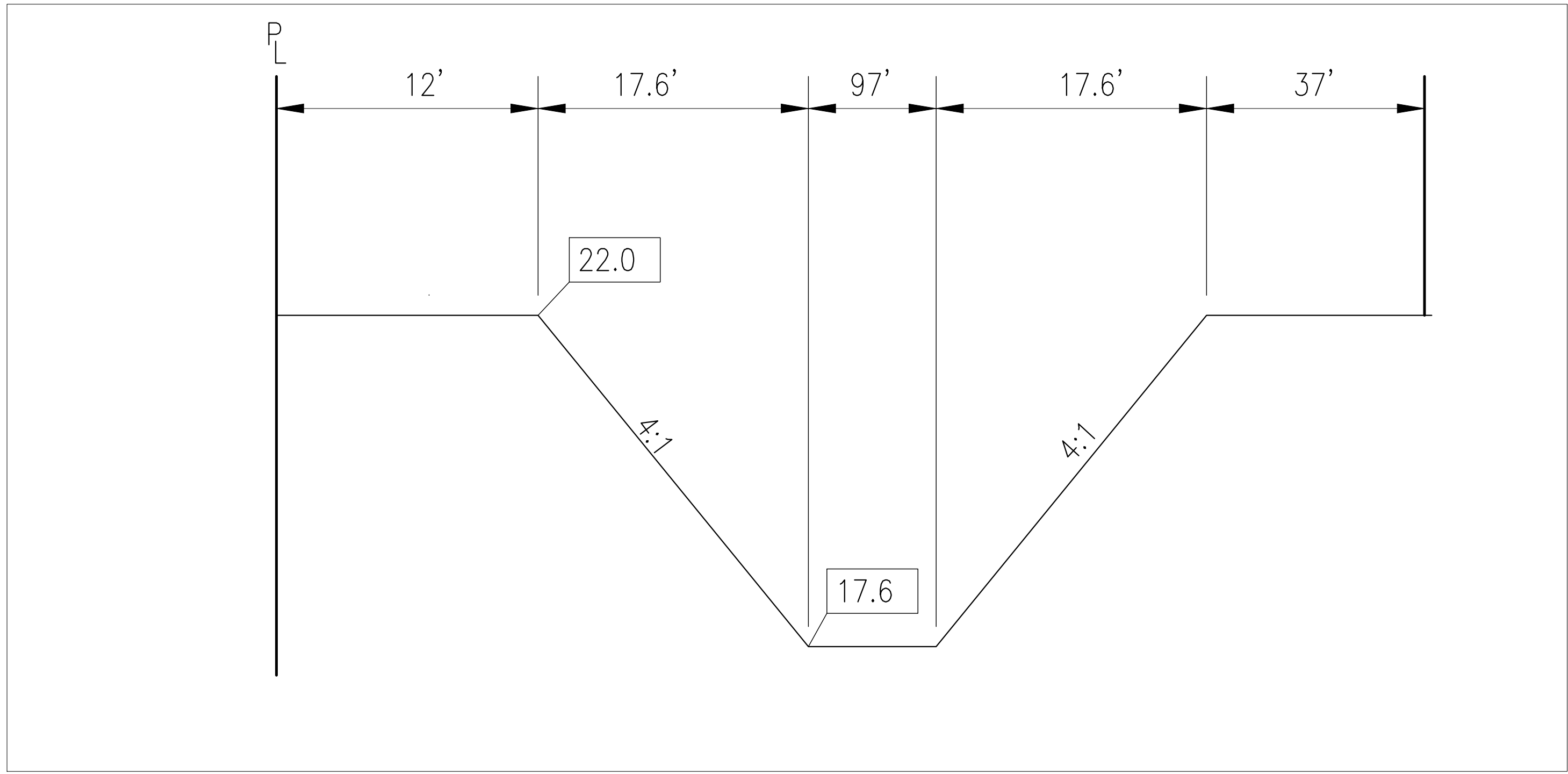
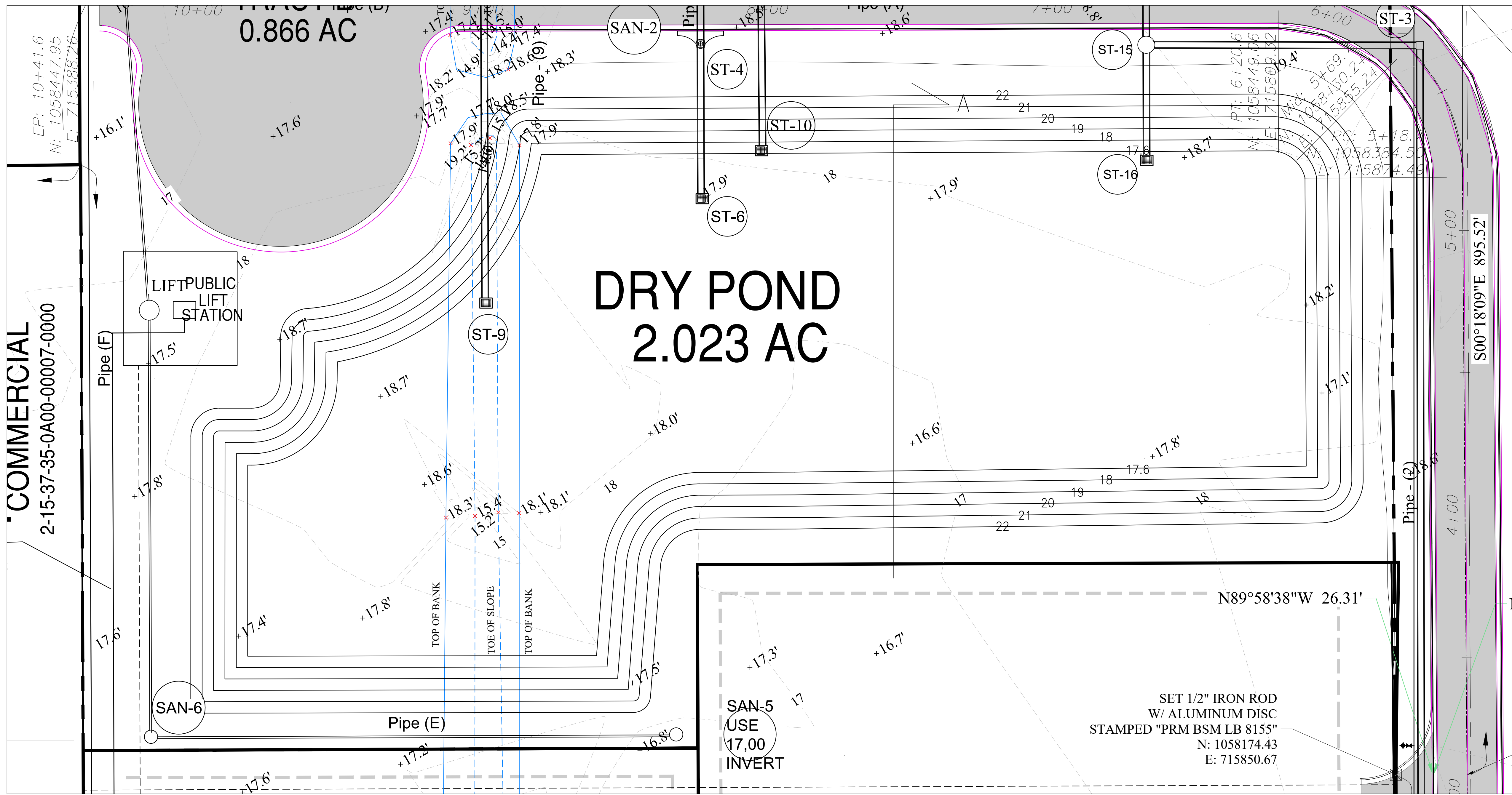
BOUNDARY & TOPOGRAPHIC SURVEY			
HWY 70 EAST			
OKEECHOBEE, FLORIDA 34972			
CAD	G:\My Drive\B&M & ASSOCIATES, INC\2022\22-445 ALTA TOPO & PLAT - KINGS CONDO PARTNERSHIP & BOUNDARY VERSION 2	REF	
FLD	DF	FB	PG. BSM #820
OFF	BHM	DATE	11/11/22
CKD	REB	DWG	3-23-23
SHEET 3 OF 3		DATE:	
		REVISIONS:	BY:
		REVISED BOUNDARY TO REFLECT CITY COMMENTS	BHM



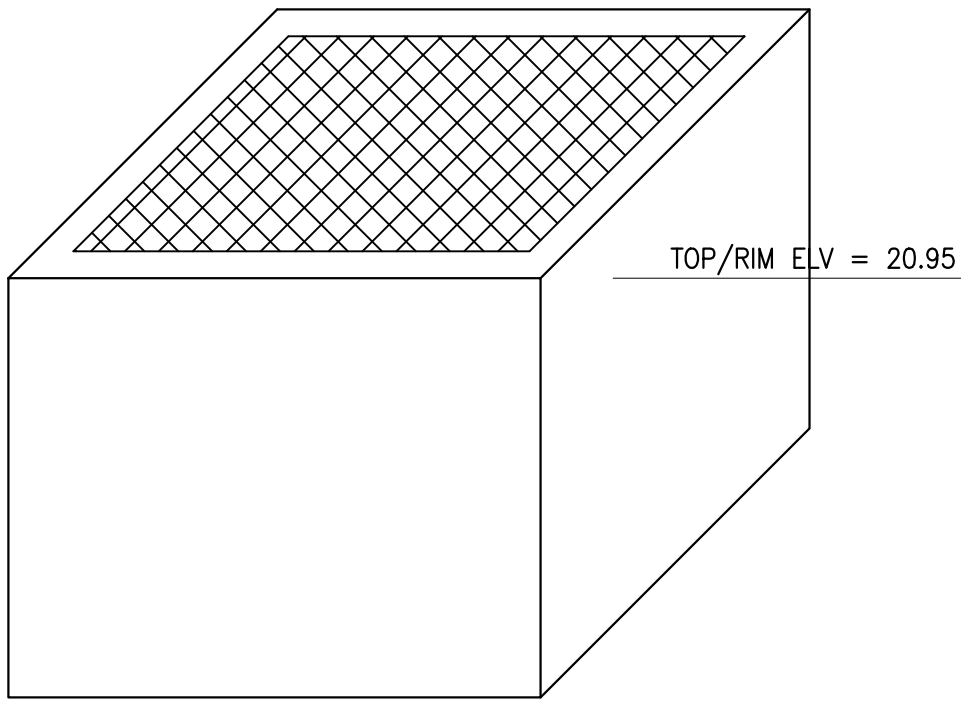
American Civil Engineering Co.

# POST-BASIN MAP

1



Dry Pond Stage / Storage				
Stage (ft)	Area (sf)	Area (ac)	Volume (ac-ft)	Notes
17.6	37,464	0.860	0.000	
18.0	41,429	0.951	0.362	
19.0	45,499	1.045	1.360	
20.0	49,670	1.140	2.452	
21.0	54,134	1.243	3.644	
22.0	58,598	1.345	4.938	
Rear Dry Pond				TOP
Wier Elevation				
Design Wier Elevation =			20.95	ft
Treatment Volume Provided =			3.584	ac-ft



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ENGINEER: JOHN J. HERBERT IV, P.E. CHECKED BY: TOM SHELTON, P.E. TECHNICIAN: J.W.H.

PROJECT NO. 22640

AMERICAN CIVIL ENGINEERING CO.

207 N. MOSS RD., SUITE 211, WINTER SPRINGS, FLA 32708 (407) 327-7700

cert. of authorization number 0725

DRY STORM POND PLAN

PARK STREET

COMMERCE CENTER

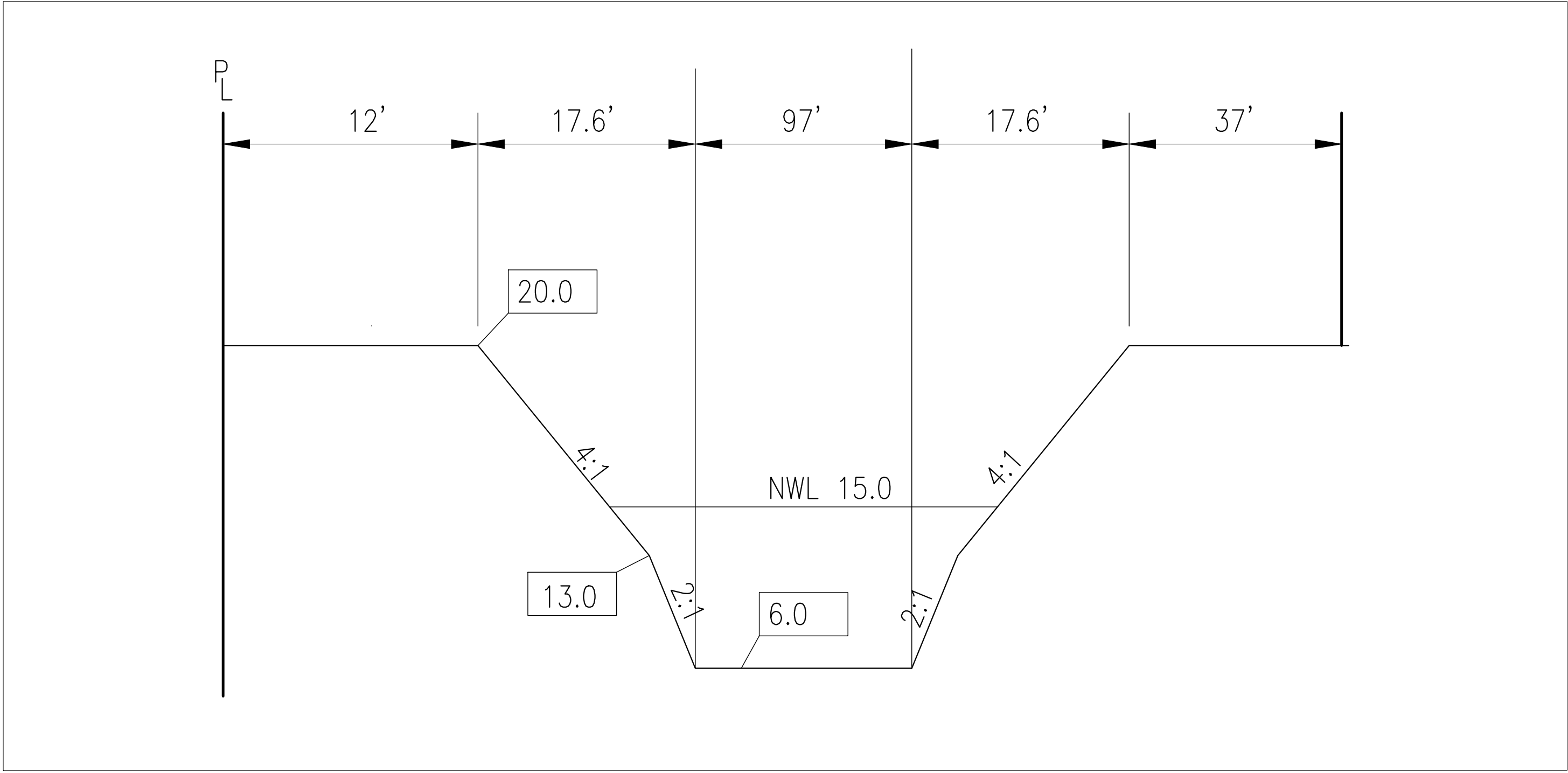
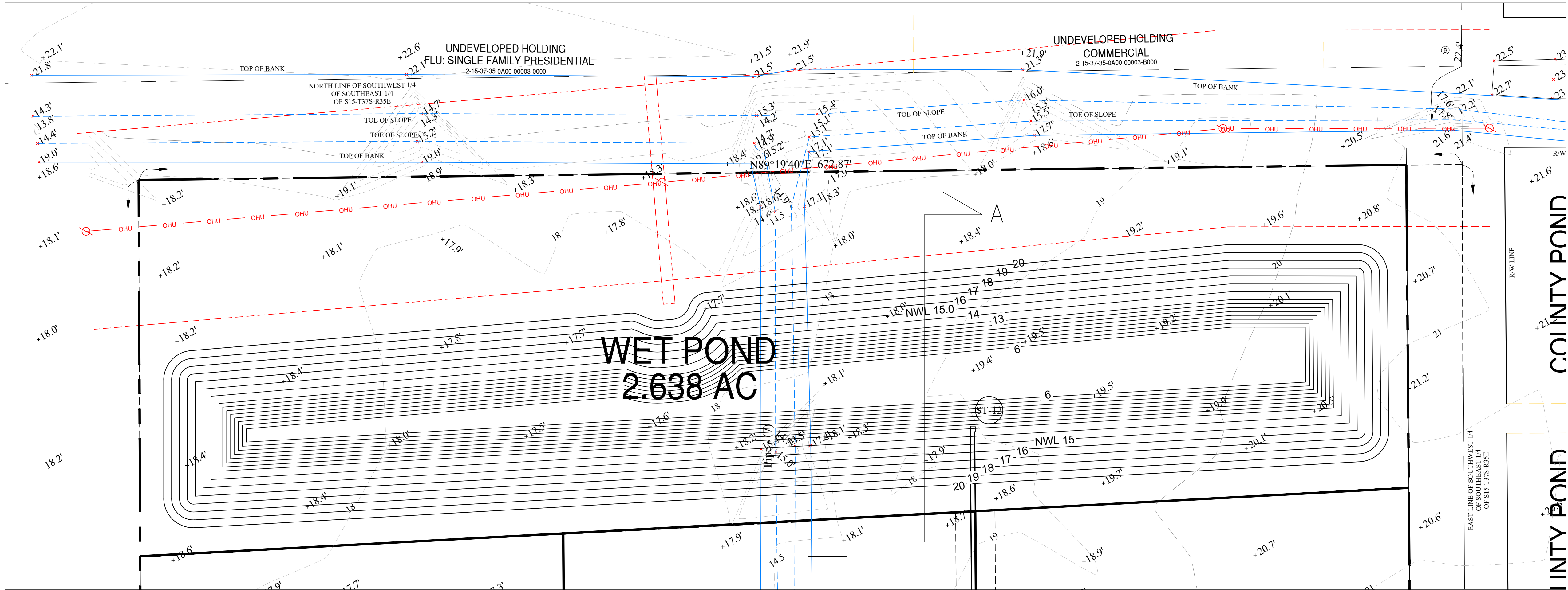
1000 STATE ROAD 70 E, OKEECHOBEE, FLORIDA 34972

8/12/2023

DRY STORM POND PLAN

PROJECT NO. 22640

C14.0



Wet Pond Stage / Storage				
Stage (ft)	Area (sf)	Area (ac)	Volume (ac-ft)	Notes
6.0	7,866	0.181	0.000	
7.0	8,677	0.199	0.190	
8.0	9,534	0.219	0.399	
9.0	10,440	0.240	0.628	
10.0	11,401	0.262	0.879	
11.0	12,423	0.285	1.152	
12.0	13,519	0.310	1.450	
13.0	28,332	0.650	1.931	
14.0	33,541	0.770	2.641	
15.0	38,878	0.893	0.000	Waterline (2.641 AF vol)
16.0	44,343	1.018	0.955	
17.0	49,929	1.146	0.000	
18.0	55,619	1.277	1.212	
19.0	61,409	1.410	2.555	
20.0	70,882	1.627	4.073	TOP
Wier Elevation				
No Outfall on Pond				



American Civil Engineering Co.

FEMA MAP

# DWLRQD DRRG-EPUGHU, BWVH



## HHG

4) 655 755 (655) 555 555

655 2  
655 5

LWHRW %DHJDRGPHDWLRQ %  
-FCH\$ 9 \$  
LWK%RUFBWK -FCH\$ 25 9 \$  
\$HODWRLU,DRG

2655 2  
2655

\$DQD &DHFDRG-EPUG \$HJ/  
R DQD FDDHIOFZWKDUDH  
G-BWKOHW/WHQRQHRRW RU ZWKDULQ  
DJHD/R OHW/WHQRQHVRDUEOH-FCH;  
XWUH&DQWLQ/\$DQD  
&DHFDRG-EPUG -FCH;  
\$HJZWK&G-HGDRG\$NGHWR  
HHH &H RVH -FCH;  
\$HJZWKDRG\$NGHWRHHH -FCH'

2655

\$HJDR DQED DRG-EPUG -FCH;  
(HFWLHH/  
\$HJDR &GWHUEHGDRG-EPUG -FCH'  
--- &DQD &OYHUW RU &VRUPEU  
||||| HHHH RU DRGDOO

26  
26

\$URW&FWLRQ/ZWKSDQD &DHF  
DWHU &DHFHODWLRQ  
--- &DQD DQDHW  
%DHJDRGPHDWLRQ %  
LEW R &VXG  
-XULVLFWLRQ%&DQD  
--- &DQD DQDHW %DQDQ  
-URLOH%DQDQ  
-URUDSLF-DWHU

655 6

LJLWDD DWD\$DQDQ  
RLJLWDD DWD\$DQDQ  
DQDQ

74SLQQLVSDHGRQWKHSLV/DQDDBRLEWH  
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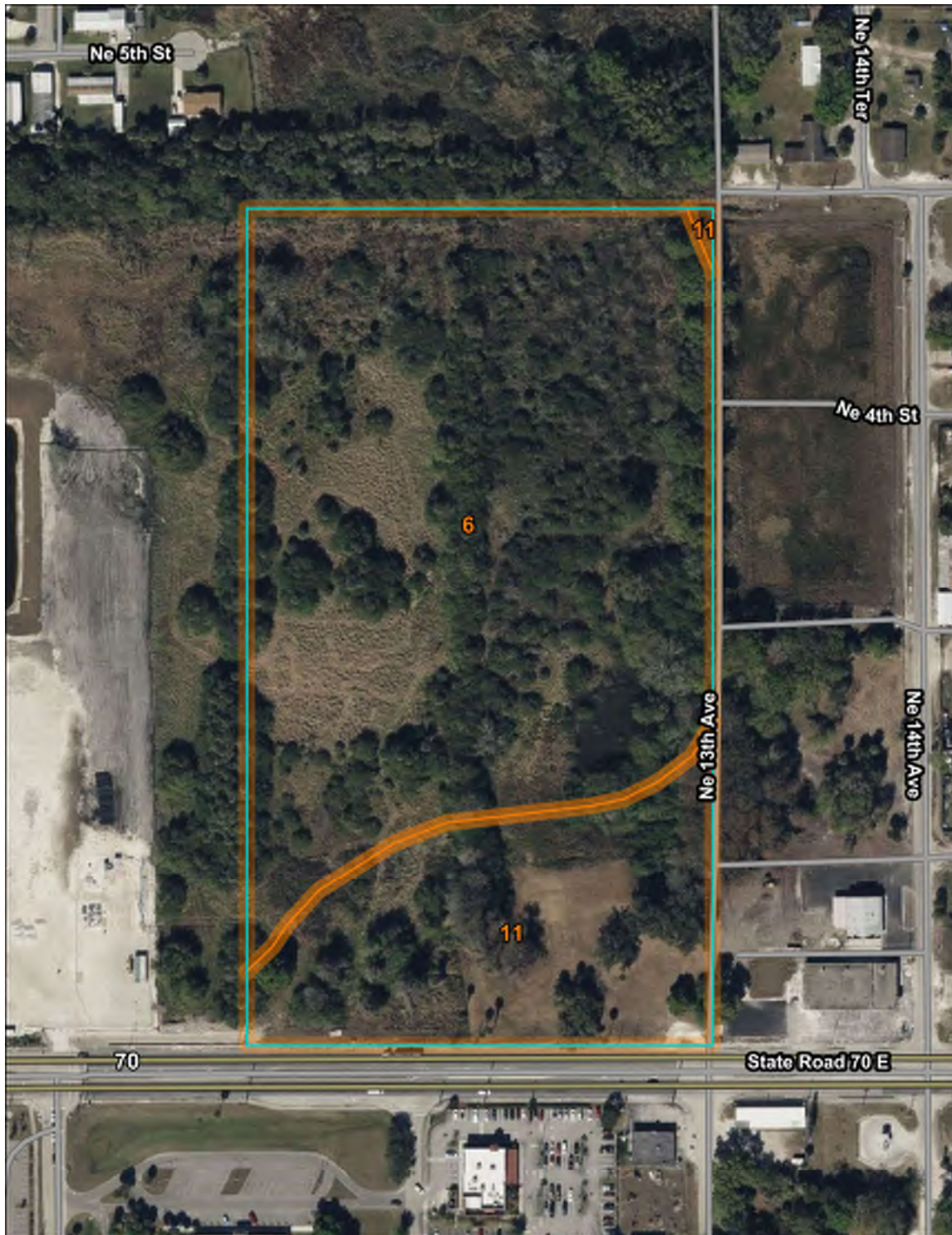
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GLJLWDD IOFGBB/LI LW LVQRV YRLGDV/GHFWLHGBDRZ  
74HEDFBVVRQDFFBOLHV/ZWKQV EDHFB  
DFXUR WDDQDUG/  
74HIOFGBBGLQRUBMLRLV GULYHGGLUFWO\IURWKH  
DVKRLWDWL YH%ZEVHUYLHV/SURLGHGB 74LVB  
ZV HSRUWHGRQ DV, \$ DQDGRV/QRV  
UHOHFW FQDQV RU DQDQV V&HIXQV VRWLV GDWHQDQ  
WLR 74H%DQDGHFWL YHLQRUBMLRLV FQDQV  
BFFRVSHUWHGBQZGDVDRYU WLR  
74LVBBLHLV YRLGLI WKHRQRU RUHR WKHROORZQB  
HOFQV/GRQRV DQDQ, EDHFBBLHV IOFGBBQDQDQ  
OHFG VDDHEDU BSRUHWLRQDQV FQDQWLGQDVLHV  
)SDQD Q&H DQDGHFWL YHGDVH DQDQV/IRU  
XQDQDQDQXQDQDQDQDQV FQDQV BHXHGRU  
UHQDWRU/SURVH

%DHB\$ 655 DWLRQD D\$ ZWKRLBHJ DVDUHHMFGZVFEU



American Civil Engineering Co.

# SOIL MAP



## USDA SOILS SURVEY

**6—Manatee loamy fine sand, frequently ponded, 0 to 1 percent slopes**  
**11—Immokalee fine sand, 0 to 2 percent slopes**

PROJECT: 1000 State Road 70, Okeechobee, Florida

SHEET 2 OF 2  
 PERMIT #:  
 PROJECT #: 2210339-soils

**KSM ENGINEERING  
 AND TESTING**

DRAWN BY: C.V.  
 DESIGNED BY: C.C.C.  
 DATE: 20221228  
 SCALE: NOT TO SCALE



American Civil Engineering Co.

ICPR

## Node Max Conditions [Recover]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
Groundwater	Recover	14.50	14.50	0.0000	4.06	0.00	0
Recover	Recover	23.00	20.95	-0.0010	0.00	4.06	53921

## Node Max Conditions [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
POST WET POND	100YR-72HR	20.00	18.95	0.0010	15.34	0.00	64129
Post Dry Pond	100YR-72HR	22.00	21.57	0.0010	47.00	10.97	56689
Pre- Node	100YR-72HR	20.00	14.00	0.0000	27.00	0.00	0
POST WET POND	10YR-24HR	20.00	15.53	0.0003	5.46	0.00	42298
Post Dry Pond	10YR-24HR	22.00	19.76	0.0010	23.63	0.00	48646
Pre- Node	10YR-24HR	20.00	14.00	0.0000	7.23	0.00	0
POST WET POND	25YR-72HR	20.00	18.09	0.0010	8.46	0.00	58643
Post Dry Pond	25YR-72HR	22.00	21.30	0.0010	40.69	6.65	55482
Pre- Node	25YR-72HR	20.00	14.00	0.0000	22.73	0.00	0

## Simple Basin: POST-BASIN DRY

Scenario: Scenario1  
Node: Post Dry Pond  
Hydrograph Method: NRCS Unit Hydrograph  
Infiltration Method: Curve Number  
Time of Concentration: 15.0000 min  
Max Allowable Q: 0.00 cfs  
Time Shift: 0.0000 hr  
Unit Hydrograph: UH323  
Peaking Factor: 323.0  
Area: 13.9400 ac  
Curve Number: 68.0  
% Impervious: 0.00  
% DCIA: 0.00  
% Direct: 0.00  
Rainfall Name:

Comment:

## Simple Basin: POST-BASIN WET

Scenario: Scenario1  
Node: POST WET POND  
Hydrograph Method: NRCS Unit Hydrograph  
Infiltration Method: Curve Number  
Time of Concentration: 15.0000 min  
Max Allowable Q: 0.00 cfs  
Time Shift: 0.0000 hr  
Unit Hydrograph: UH323  
Peaking Factor: 323.0  
Area: 2.7120 ac  
Curve Number: 72.0  
% Impervious: 0.00  
% DCIA: 0.00  
% Direct: 0.00  
Rainfall Name:

Comment:

## Simple Basin: PRE-BASIN

Scenario: Scenario1  
Node: Pre- Node  
Hydrograph Method: NRCS Unit Hydrograph  
Infiltration Method: Curve Number  
Time of Concentration: 45.0000 min  
Max Allowable Q: 0.00 cfs

Time Shift: 0.0000 hr  
 Unit Hydrograph: UH323  
 Peaking Factor: 323.0  
 Area: 16.6500 ac  
 Curve Number: 58.0  
 % Impervious: 0.00  
 % DCIA: 0.00  
 % Direct: 0.00  
 Rainfall Name:

Comment:

#### Node: Groundwater

Scenario: Recover  
 Type: Time/Stage  
 Base Flow: 0.00 cfs  
 Initial Stage: 14.50 ft  
 Warning Stage: 14.50 ft  
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	14.50
0	0	0	72.0000	14.50

Comment:

#### Node: Recover

Scenario: Recover  
 Type: Stage/Area  
 Base Flow: 0.00 cfs  
 Initial Stage: 20.95 ft  
 Warning Stage: 23.00 ft

Stage [ft]	Area [ac]	Area [ft2]
17.60	0.8600	37462
18.00	0.9510	41426
19.00	1.0450	45520
20.00	1.1400	49658
21.00	1.2430	54145
22.00	1.3450	58588

Comment:

## Node: POST WET POND

Scenario: Scenario1  
 Type: Stage/Area  
 Base Flow: 0.00 cfs  
 Initial Stage: 15.00 ft  
 Warning Stage: 20.00 ft

Stage [ft]	Area [ac]	Area [ft2]
15.00	0.8930	38899
20.00	1.6270	70872

Comment:

## Node: Post Dry Pond

Scenario: Scenario1  
 Type: Stage/Area  
 Base Flow: 0.00 cfs  
 Initial Stage: 17.60 ft  
 Warning Stage: 22.00 ft

Stage [ft]	Area [ac]	Area [ft2]
17.60	0.8600	37462
18.00	0.9510	41426
19.00	1.0450	45520
20.00	1.1400	49658
21.00	1.2430	54145
22.00	1.3450	58588

Comment:

## Node: Pre- Node

Scenario: Scenario1  
 Type: Time/Stage  
 Base Flow: 0.00 cfs  
 Initial Stage: 14.00 ft  
 Warning Stage: 20.00 ft  
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	14.00
0	0	0	72.0000	14.00

Comment:

## Percolation Link: L-0110PERC

Scenario:	Recover	Surface Area Option:	Vary Based on Stage/Area Table
From Node:	Recover		
To Node:	Groundwater	Vertical Flow Termination:	Horizontal Flow Algorithm
Link Count:	1	Perimeter 1:	1152.00 ft
Flow Direction:	Both	Perimeter 2:	1602.00 ft
Aquifer Base Elevation:	5.00 ft	Perimeter 3:	2216.00 ft
Water Table Elevation:	14.50 ft	Distance P1 to P2:	50.00 ft
Annual Recharge Rate:	0 ipy	Distance P2 to P3:	100.00 ft
Horizontal Conductivity:	7.500 fpd	# of Cells P1 to P2:	50
Vertical Conductivity:	6.500 fpd	# of Cells P2 to P3:	50
Fillable Porosity:	0.250		
Layer Thickness:	3.10 ft		

Comment: 1/2 the perc rate for FS

## Drop Structure Link: Dry to Wet

	Upstream Pipe	Downstream Pipe
Scenario:	Scenario1	Invert: 16.50 ft
From Node:	Post Dry Pond	Invert: 13.00 ft
To Node:	POST WET POND	Manning's N: 0.0120
Link Count:	1	Manning's N: 0.0120
Flow Direction:	Both	Geometry: Circular
Solution:	Combine	Geometry: Circular
Increments:	0	Max Depth: 1.50 ft
Pipe Count:	1	Max Depth: 1.50 ft
Damping:	0.0000 ft	Bottom Clip
Length:	538.00 ft	Default: 0.00 ft
FHWA Code:	0	Op Table:
Entr Loss Coef:	0.00	Ref Node:
Exit Loss Coef:	0.00	Manning's N: 0.0000
Bend Loss Coef:	0.00	Manning's N: 0.0000
Bend Location:	0.00 dec	Top Clip
Energy Switch:	Energy	Default: 0.00 ft
		Op Table:
		Ref Node:
		Manning's N: 0.0000

Pipe Comment:

## Weir Component

Weir:	1	Bottom Clip
Weir Count:	1	Default: 0.00 ft
Weir Flow Direction:	Both	Op Table:
Damping:	0.0000 ft	Ref Node:
Weir Type:	Horizontal	Top Clip
Geometry Type:	Rectangular	Default: 0.00 ft
Invert:	20.95 ft	Op Table:
Control Elevation:	20.95 ft	Ref Node:
Max Depth:	2.00 ft	Discharge Coefficients
Max Width:	3.00 ft	Weir Default: 3.200
Fillet:	0.00 ft	Weir Table:
		Orifice Default: 0.600

Orifice Table:

Weir Comment:

Drop Structure Comment:

## Simulation: Recover

Scenario: Recover

Run Date/Time: 5/24/2023 11:28:42 AM

Program Version: ICPR4 4.07.08

## General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

## Output Time Increments

## Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

## Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

## Restart File

Save Restart: False

## Resources &amp; Lookup Tables

## Resources

Rainfall Folder:

Unit Hydrograph  
Folder:

## Lookup Tables

Boundary Stage Set:  
Extern Hydrograph Set:  
Curve Number Set:Green-Ampt Set:  
Vertical Layers Set:

Impervious Set:

## Tolerances &amp; Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	Rainfall Name: ~SFWMD-72
Link Optimizer Tol: 0.0001 ft	Rainfall Amount: 0.00 in
	Storm Duration: 72.0000 hr
Edge Length Option: Automatic	
	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area 100 ft2
	(1D):
	Energy Switch (1D): Energy

Comment:

## Simulation: 100YR-72HR

Scenario: Scenario1  
Run Date/Time: 5/24/2023 11:28:49 AM  
Program Version: ICPR4 4.07.08

## General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

## Output Time Increments

## Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

## Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

## Resources &amp; Lookup Tables

## Resources

Rainfall Folder:

Unit Hydrograph  
Folder:

## Lookup Tables

Boundary Stage Set:  
Extern Hydrograph Set:  
Curve Number Set:Green-Ampt Set:  
Vertical Layers Set:  
Impervious Set:

## Tolerances &amp; Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight: 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	
Link Optimizer Tol: 0.0001 ft	Rainfall Name: ~SFWMD-72
	Rainfall Amount: 10.00 in
Edge Length Option: Automatic	Storm Duration: 72.0000 hr
	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area 100 ft2
	(1D):
	Energy Switch (1D): Energy

Comment:

Simulation: 10YR-24HR

Scenario: Scenario1

Run Date/Time: 5/24/2023 11:28:59 AM

Program Version: ICPR4 4.07.08

## General

Run Mode: Normal

Year

Month

Day

Hour [hr]

Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

#### Output Time Increments

##### Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

##### Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

##### Restart File

Save Restart: False

#### Resources & Lookup Tables

##### Resources

Rainfall Folder:

Unit Hydrograph  
Folder:

##### Lookup Tables

Boundary Stage Set:  
Extern Hydrograph Set:  
Curve Number Set:

Green-Ampt Set:  
Vertical Layers Set:  
Impervious Set:

#### Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Smp/Man Basin Rain Global
	Opt:
Max dZ: 1.0000 ft	Rainfall Name: ~SCSII-24
Link Optimizer Tol: 0.0001 ft	Rainfall Amount: 5.00 in
	Storm Duration: 24.0000 hr
Edge Length Option: Automatic	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area 100 ft2
	(1D):

Energy Switch (1D): Energy

Comment:
----------

Simulation: 25YR-72HR

Scenario: Scenario1  
 Run Date/Time: 5/24/2023 11:29:01 AM  
 Program Version: ICPR4 4.07.08

## General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

## Output Time Increments

## Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

## Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

## Restart File

Save Restart: False

## Resources &amp; Lookup Tables

## Resources

Rainfall Folder:

Unit Hydrograph  
Folder:

## Lookup Tables

Boundary Stage Set:  
 Extern Hydrograph Set:  
 Curve Number Set:

Green-Ampt Set:  
 Vertical Layers Set:  
 Impervious Set:

## Tolerances &amp; Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight	0.5 dec		
Fact:			
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain	Global
		Opt:	
Max dZ:	1.0000 ft	Rainfall Name:	~SFWMD-72
Link Optimizer Tol:	0.0001 ft	Rainfall Amount:	9.00 in
		Storm Duration:	72.0000 hr
Edge Length Option:	Automatic		
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area	100 ft2
		(1D):	
		Energy Switch (1D):	Energy

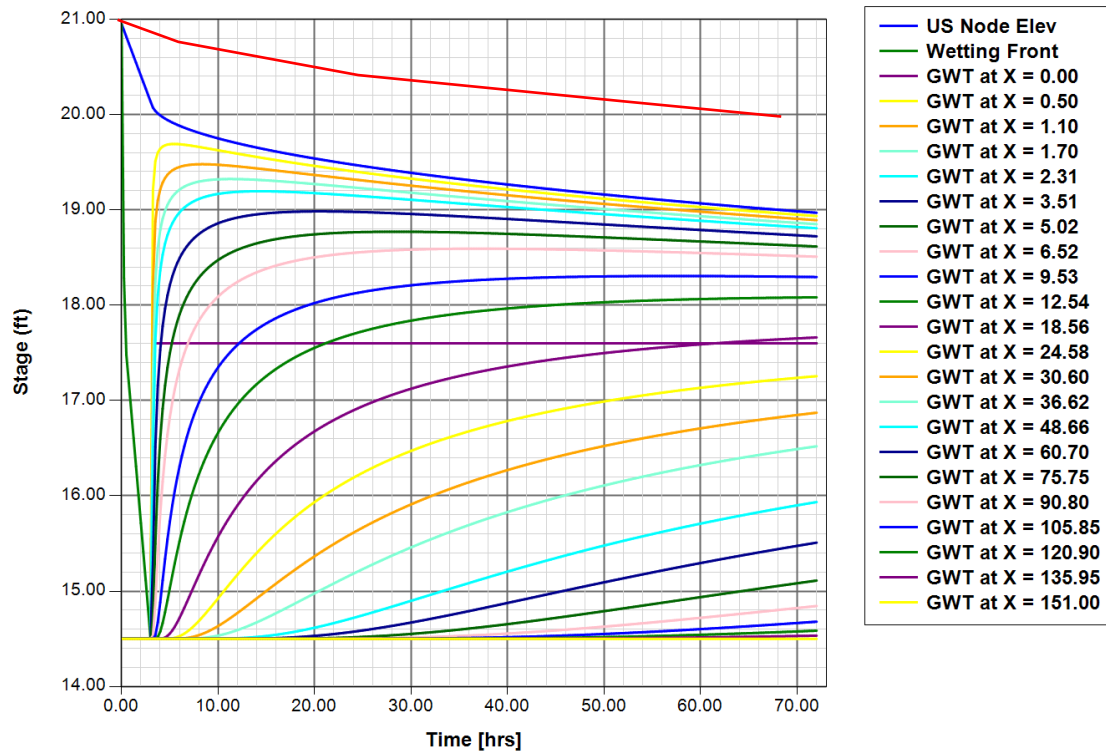
Comment:



American Civil Engineering Co.

# RECOVERY

Perc Link: L-0110PERC (Sim: Recover) [L-0110PERC]





American Civil Engineering Co.

# GEOTECH REPORT

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Workspace Collective  
Adam Ramsay  
603 E. Fort King Street  
Ocala, FL 34471

December 30, 2022

**Re: 1000 State Road 70  
Okeechobee, Florida  
KSM Project #: 2210339-b&p**

Dear Mr. Ramsay:

As requested, KSM Engineering & Testing has performed a preliminary subsurface investigation at the referenced site. The purpose of this investigation was to determine the general nature of the subsurface conditions at the subject property and to offer preliminary guidance on the development of the property for its intended use. Presentation of the data gathered during the investigation, together with our geotechnical related opinions, are included in this report.

### Scope of Work and Professional Service Agreement:

The scope of work and the agreement to perform a geotechnical exploration was provided by KSM's October 27, 2022, proposal to Workspace Collective, in care of Mr. Adam Ramsay. The agreement was signed by Mr. Ramsay on November 4, 2022 and was returned to KSM thereafter.

### Summary of Findings and Conclusions:

The following is a summary of the principal findings and conclusions that are contained in this report, based on the results of KSM's subsurface exploration and analytical laboratory testing:

- Within the depth of exploration, the property was underlain by generally weak (very loose to loose) near surface layer of granular material with an organic content varying from less than 5%, which is the typically accepted limit before a soil is considered problematic for construction, to 10.9%. When inherently problematic soils were encountered they were typically at the surface with an estimated thickness of 1 foot however several borings encountered problematic soil deposits to depths ranging from 1 to 6 feet below grade. Below the organic layer deposits of loose to medium dense cohesionless fine sand underlain by loose to medium dense clayey/silty fine sand were discovered.
- The recorded depth to the surface of the groundwater body was very shallow and KSM expects that the surface of the wet season groundwater body will be at or near to the altitude of the existing land surface.

- The discovered subsurface conditions are expected to negatively impact the development of this property in that creation of a stable subgrade for support of the proposed dwellings and roadways will be difficult due to the combined effect of the expected shallow position of the groundwater surface, the excessive organic content and weak nature of the upper zones of soil. Specifically, we anticipate that the excavation and backfill of near surface organic deposits and the compaction of very loose subgrade soils may be difficult due to the shallow water table position. Consideration should also be given to scheduling the earthwork operations to be performed during the seasonally dry winter and spring months to decrease the amount of anticipated dewatering that will be required.
- The installation of buried utility lines (i.e., stormwater piping, water supply lines, power lines, and telecommunication lines) are likely to involve excavation of trenches below the groundwater surface. Accordingly, dewatering of the trench excavations is likely to be necessary to enable the installation to be performed in dry conditions.
- Given the existing weak nature of the subgrade soils, the foundations that support the new structures on this property should bear at elevations that are as shallow as practical, in order to contain the stress transmitted by the foundations within the compacted engineered fill soils that will be placed during the mass grading operations. Monolithic slab foundation systems are generally better suited to this situation than are conventional shallow spread footings and a separate slab-on-grade systems.

The nature and extent of earthwork methods that would best suit this property will depend to a great extent on the details of the proposed grading and drainage plan. The development of the land into a retail development would benefit from the raising the land surface above the existing landform, by installation of structural fill, in order to enable the streets and structures to be supported above the seasonal groundwater levels, upon engineered fill materials. This report offers preliminary recommendations that assume that the landform will be raised a height of not less than 5 feet above the existing land surface.

### Site Description:

Location & Physiography – The project site was located in Okeechobee, Florida, on State Route (SR) 70. At the time of the investigation, the site was found to have a generally flat topography. Vegetation on the site consisted mostly of light ground surface cover vegetation and many trees.

### Project Description:

The following information is based, in part, on our review of the Conceptual Sizing Plans for “Park Prime Retail (22.10.10)” and “Plan Park Street Commerce Center (12.14.22)” by American Civil Engineering Co. Due to the preliminary nature of this project, it is our understanding that the development site plan has not been finalized. Please contact KSM to provide the most recent plans, so we can make any adjustments and review this report accordingly.

Overall Development – It is our understanding that the proposed site may be developed with a typical low rise three-story commercial hotel structure, a one-story car wash building, a one-story commercial restaurant building and various one-story storage structures/canopies constructed on the property. As part of the overall development, two (2) ponds are proposed

for the purpose of stormwater management on the site. Typical pavement areas will consist of driveways and parking areas.

### The Scope of KSM's Study Included:

1. Performed soil borings within the approximate limits of the proposed structures and pavement areas, as well as in the proposed pond locations.
2. Measured the encountered groundwater level at each boring.
3. Reviewed the soil samples and field soil boring logs (by a geotechnical engineer) in our laboratory and assigned analytical laboratory testing to selected samples.
4. Performed the assigned analytical laboratory tests on the selected soil samples.
5. Evaluated the discovered subsurface conditions with respect to the construction of the proposed structures and roadways.
6. Prepared this preliminary report to document the data that was gathered, to present our findings and to present our preliminary recommendations.

### Site Investigation:

Limitations – The preliminary opinions and recommendations are based on the discovered subsurface conditions in the locations of the performed tests.

Subsurface Testing – KSM's site investigation program consisted of performing the following tests:

- Twenty-nine (29) Standard Penetration Test (SPT) Borings, terminated at approximate depths ranging from 10 to 15 feet below the existing ground surface, were performed within the limits of the site.
- Fifteen (15) Hand Auger (HA) Borings with corresponding Static Cone Penetrometer (SCP) Soundings, terminated at an approximate depth of 6 feet below the existing ground surface, were performed within the limits of the proposed pavement areas.
- Two (2) SPT borings, denoted as PB, terminated at an approximate depth of 20 feet below the existing ground surface, were performed within the limits of the proposed stormwater management areas.

SPT Borings – The SPT borings were performed in general accordance with procedures described in ASTM D1586.

HA Borings – The HA borings were performed using a bucket auger tool to advance the borehole and to return disturbed samples of the soils. The drilling was performed in general accordance with the procedures delineated in ASTM D1452.

SCP Soundings – Execution of a SCP sounding consists of pushing a thin steel shaft, with an attached 60°-conical point, by hand through the soil. The capacity of this tool to measure the relative density of the soil is directly related to the weight that is applied on the shaft by the technician that operates the tool. The thrust required to push the cone tip is measured by an

attached proving ring with a calibrated gauge. The value of the bearing pressure exerted by the cone point has been correlated with the relative soil density. The relationship of the SCP reading to the relative density is listed in the table below:

<b>Static Cone Penetrometer</b>	
<b>Relative Density</b>	<b>Static Penetrometer Reading</b>
Very Loose or Soft	<15
Loose	15-40
Medium Dense	40-70
Dense	>70

Soil Classification – The field soil boring logs and recovered soil samples were transported to KSM's office from the project site. Following the completion of the field exploration activities, visual and tactile examination of the soil samples was performed by a geotechnical engineer to identify the engineering classification of the soil samples that were obtained in the field exploration. The visual classification of the samples was performed in general accordance with the current United Soil Classification System (ASTM D2487).

General Subsurface Soil Classification Summary – The following table outlines the general subsurface conditions encountered during our investigation. Refer to the boring logs and location map for specific information regarding our interpretation of the field boring logs.

<b>Generalized Soil Profile</b>	
<b>Approximate Depth Below Grade (Feet)</b>	<b>Discovered Subsurface Conditions</b>
0 to 5	Variable near surface soil conditions include: <ul style="list-style-type: none"> <li>• Very loose sand with organic material (problematic soil deposits) generally within 1 foot of the surface however some borings revealed problematic soil deposits to depths of 5 feet below grade;</li> <li>• Very loose to medium dense fine sand</li> </ul>
6 to 15	Loose to medium-dense fine sand, slightly clayey/slightly silty sand, and clayey sand

Observed Groundwater Table – Following the completion of each soil boring, the groundwater was allowed to attain an equilibrium level and the approximate depth to the surface of the groundwater was measured from existing ground elevation and recorded in the field log. The typical observed water table was encountered at approximate depths ranging from at or above the existing grade to depths of 5.3 feet below existing grade. These values were recorded at the time of investigation, which took place between the dates of November 21, 2022, and December 15, 2022.

## Analytical Laboratory Testing:

Natural Moisture Content – Testing was performed in general accordance with procedures described in ASTM D2216-19.

Fines Content – Testing was performed in general accordance with procedures described in ASTM D1140-17.

Organic Content Tests – Testing was performed in general accordance with procedures described in ASTM D2974-20e1.

Analytical Laboratory Testing Results					
Boring	Sample Depth (ft)	Soil Description	Moisture %	Fines %	Organic Content %
B-1	2	Gray Clayey Sand	19%	24%	
B-3	13	Brown Clayey Sand	22%	29%	
B-9	6	Dark Gray Slightly Clayey Sand	26%	5.2%	
B-10	2	Dark Brown Sand with Organics	34%		
B-11	6	Light Gray Sand	24%	1.2%	
B-19	6	Gray Slightly Silty Sand	35%	5.5%	
B-19	13	Gray Clayey Sand	25%	23%	
B-22	2	Gray Sand	17%	3.1%	
B-24	2	Dark Gray Sand	34%	3.7%	
B-24	13	Brown Clayey Sand	2%	33%	
B-25	4	Brown Sand	31%	4.9%	
B-26	1	Dark Gray Sand with Traces of Roots	27%		
B-29	2	Brown Sand	22%	2.5%	
B-29	13	Brown Slightly Clayey Sand	29%	11%	
HA-2	1	Dark Gray Silty Sand with Organics	47%		7.9%
HA-9	1	Dark Gray Silty Sand with Organics	45%	12%	8.0%
HA-12	1	Dark Gray Sand, Slightly Silty with Organics	49%		10.9%

Analytical Laboratory Testing Results (Continued)					
Boring	Sample Depth (ft)	Soil Description	Moisture %	Fines %	Organic Content %
PB-1	3	Light Gray Slightly Silty Sand	27%	5.8%	
PB-1	5	Grayish Brown Sand	24%	3.7%	
PB-1	10	Grayish Brown Sand	25%	2.2%	
PB-1	12	Gray Slightly Clayey Sand	23%	9.8%	
PB-2	3	Light Gray Sand	25%	2.0%	
PB-2	5	Dark Gray Sand, Slightly Silty	24%	11%	
PB-2	7	Light Gray Sand	25%	0.6%	
PB-2	12	Gray Clayey Sand	22%	33%	
PB-2	16	Light Brown Clayey Sand	27%	19%	
PB-2	18	Light Gray Clayey Sand with Shell	13%	12%	

### Engineering Evaluation:

Based on the information obtained from this site investigation, we are pleased to offer the following evaluation:

Limitations – Due to the preliminary nature of this project, KSM recommends that additional testing is performed within the development features once the final locations are known. The following information is preliminary and based on the initial conceptual site layout and may not correspond to the final design site layout.

Seasonal Groundwater Fluctuation – The following table indicates the recorded measurement taken from the existing grade to the encountered groundwater table for each test location along with our estimated depth normal wet season water table and normal dry season water table depths (below existing grade) for the test locations. The measurements were taken after the borings were performed and the groundwater table was allowed to stabilize.

Estimated Normal Season Groundwater Table Fluctuation			
Test Location (See Location Plan)	Depth (feet,') Below Existing Grade		
	Measured Encountered Groundwater Table	Estimated Normal Wet Season Water Table	Estimated Normal Dry Season Water Table
PB-1	1.0'	0.3'	3.3'
PB-2	2.4'	1.0'	4.0'

Absent land surface elevation measurements at the boring locations, and assuming that the surface of the groundwater table is not steeply inclined, KSM has concluded that borings that

featured deeper groundwater surface depths were likely to have been drilled at locations where the land surface altitude was above boring locations that featured shallower groundwater surface depth measurements, or that the range and depth of the water table elevation may be affected by the proximity of man-made or natural drainage features. Accordingly, as part of the design phase geotechnical studies, KSM recommends that the land surface elevation of the borings be surveyed to determine the approximate altitude of the groundwater surface, at the time that the measurements were made. Using that data, KSM can provide a more precise estimate of seasonal groundwater levels.

Dewatering – Given the normal wet season groundwater surface level estimates, and assuming that KSM's estimates of the height of the fill stated in the "Project Description" section is accurate, it is KSM's preliminary opinion that the position of the groundwater table is unlikely to affect either the design or the installation of the shallow foundations that will support the dwellings constructed on this property. Conversely, KSM anticipates that the earthwork stage of site development will require the compaction and/or excavation of soils located below the groundwater surface. Additionally, excavations that are made to install buried utility lines could also require excavations below the groundwater surface. Accordingly, the earthwork contractor should recognize that temporary dewatering of excavations that penetrate below the prevailing groundwater surface will be necessary to allow the earthwork operations to be performed in dry conditions and plan his operations accordingly.

Analysis and Opinions: Fill Suitability – Based on the discovered soils in the locations of PB-1 and PB-2, KSM offers the following recommendations on the suitability of fill deposits that will be used to rough grade the property in preparation for the installation of the roadway and utility networks and for the construction of the individual dwellings.

- Fine sands deposits, which feature less than 5 percent "fines", are considered to be best suited as a structural fill source because they drain freely when excavated below the water table and are not as moisture sensitive as material that contains higher fines.
- The slightly clayey/silty fine sands containing between 5 and 12 percent fines, are suitable as structural fill, but may require extra effort to be properly moisture conditioned and compacted. These soil deposits drain fairly well but will require more effort than the fine sand deposits above to create optimum moisture conditions in order to avoid compaction issues. Thinner lifts not exceeding 6 inches in loose thickness may be required for placement and compaction of these soils.
- Clayey and/or silty fine sand deposits, (i.e., sand deposits that contain more than 12 percent fines, by weight) are typically not considered desirable for structural fill, due to their poor workability characteristics in comparison with sand deposits that feature fewer fines. Due to the moisture sensitive nature of these materials a substantial amount of time and effort would be required in order to improve their workability. The discovered clayey sand deposits may be more suitable for use as fill material in non-structural areas outside the building pad and within the pavement area footprint, and potentially as a stabilized subgrade component in the roadway pavement cross section. KSM recommends that the earthwork contractor use these materials selectively. Properly compacted, such materials can be used as structural fill, provided that the earthwork contractor is prepared to contend with the effort that will be

necessary to moisture condition and densify such soil deposits. Such efforts could include draining/drying of saturated soils before attempting compaction, reduction in the thickness of lifts that are compacted, and the use of non-vibratory compaction machinery.

- Soil deposits that featured organic contents greater than 5 percent should not be considered suitable soils for structural fill.

Borrow Source Suitability Opinions – KSM assumes that the soil that is excavated to create the stormwater management basin will be used as a source of fill in creating the landform of the developed property. Based on the results of the field investigation, together with the analytical laboratory testing of the selected soil samples, KSM offers the following opinions:

- From the surface to an approximate depth of 10 feet below existing grade – Deposits of fine sand and slightly clayey/silty sand were discovered. These granular, low fines content deposits can be considered suitable for structural fill.
- From a depth of approximately 10 to 15 feet below existing grade – Deposits of clayey/silty sand were discovered. We anticipate that most of the excavated soils within this depth interval will feature fines contents that exceed 12 percent. These soil deposits are expected to be moisture sensitive soils, given their elevated fines content and the estimated shallow position of the surface of the wet season groundwater table. To avoid compaction-related issues during construction, it is KSM's opinion that excavated soils with elevated fines content should not be considered suitable as structural fill for building pads or in pavement areas. In no case should these materials be used in areas that are expected to contain septic drain fields, due to their expected low internal permeability.
- From a depth of approximately 15 to 20 feet below existing grade – Deposits of fine sand with shell and slightly silty/clayey sand were encountered. These granular, low fines content deposits can be considered suitable for structural fill.

The contractor and civil engineer should coordinate to determine the appropriate methods for borrow source excavation. It is important to segregate the low-fines soil deposits from the near-surface clayey and silty sand deposits.

Preliminary Utility and Storm Sewer Opinions – Due to the expected very shallow seasonal depth to the surface of the groundwater, we believe that difficulties may arise when installing any utility that will require trenching and/or that will rely on gravity flow. Trench excavations that encounter very loose subsurface materials may require over-excavation, typically to a depth of 1 foot below the utility subgrade elevation, backfilled with ¾-inch stone compacted to produce a firm, unyielding surface. Any excavated materials with elevated fines content will likely prove to be problematic if intended to be used as backfill. Blending of the excavated material with dry, clean fine sand may be necessary, but due to the time and effort required to properly blend these materials, for ease of construction and scheduling considerations, it may be advantageous to import clean, free-draining fine sand for use as utility trench backfill. Additionally, dewatering operations may be required in order to achieve proper backfill compaction requirements.

**Analysis and Opinions : Preliminary Subgrade Opinions** – Based on our experience in the area, the results of the borings, and KSM’s understanding of the project, we believe that the current conditions of the near surface soils are problematic for development due to the high degree of variation between borings, elevated organic content, to the elevated fines content, to the very loose to loose condition of the near-surface soil deposits, and to the anticipated shallow depth to the groundwater table. Excavation of problematic soils and backfill of the exposed areas to create a stable platform for the expected fill deposits will require that temporary dewatering systems be installed to depress the groundwater level. Please note that estimating the vertical and horizontal limits of any problematic material was as part of our scope for this investigation. KSM recommends that a design level geotechnical investigation is performed on this site to aid in the development of design plans.

**Preliminary Minimum Roadway Opinions** – It is our preliminary opinion that the discovered subsurface conditions are generally problematic to support a roadway subgrade. It appears that prior to the installation of the proposed roadway section, improvement of the existing subgrade can be achieved using a proper excavation and backfilling techniques. Additionally, the cost of dewatering should be considered. Provided that the subgrade is properly prepared and that the building pads are properly installed, it is KSM’s opinion that the improved subgrade can support the proposed roadway section.

The pavement should be designed for the anticipated axle weights, vehicle velocities, traffic mix and frequencies. Please refer to the following table for the minimum recommended pavement section.

A minimum of 16 inches of separation should be maintained between the bottom of the base and the high-season water table.

Minimum Pavement Section			
Pavement Type	Material	Layer Thickness (in)	
		Standard Duty	Heavy Duty
Flexible	Florida DOT Asphalt Type 3	1.5	2.5
	Base Course* (Min. LBR of 100) Cemented Coquina Rock	6	10
	Stabilized Subgrade* (Min. LBR of 40)	12	12

\* Compacted to minimum 98 percent of its modified dry Proctor value (AASHTO T180)

**Preliminary Foundation Opinions** – In order for a shallow foundation to perform satisfactorily, it must be able to support the structural loads while limiting both total and differential settlement to tolerable values. It is our preliminary opinion that the discovered subsurface conditions are generally problematic to support a building pad subgrade. It appears that prior to the installation of the proposed buildings pads, improvement of the existing subgrade can be achieved using a proper excavation and backfilling techniques. Additionally, the cost of dewatering should be considered. Provided that the subgrade is properly prepared and that the building pads are properly installed, it is KSM’s opinion that conventional shallow foundation systems are feasible to support the expected low-rise (3-story maximum) structures.

For more precise building area site and roadway preparation recommendations, as well as recommendations pertaining to foundation design and settlement calculations, we recommend performing a design level investigation. KSM should be provided with the civil construction drawing set as well as the structural plans for review. Please see the section titled "Future Studies" for additional information.

### Estimated Aquifer Parameters:

Limitations – Due to the preliminary nature of this project, KSM recommends that additional testing is performed within the proposed stormwater management features once the locations and elevations are better defined. The following information is preliminary and based on the initial stormwater management layout and may not correspond to the proposed stormwater management layout.

Factor of Safety – KSM has not applied a factor of safety to the estimated aquifer parameters within this report. The Engineer of Record is responsible for applying the appropriate factor(s) of safety to the estimated aquifer parameters contained within this report for use in their design. For any stratum where the estimated flow rate exceeds 10 inches per hour (20 feet per day), we recommend that a design flow rate equal to 10 in/hr (20 ft/day) is used.

In-Field Testing – At the test location, Usual Condition Test was performed in general conformance with the South Florida Water Management District described procedures for the 'Usual Open-Hole Test' method.

Estimated Aquifer Parameters – In-Field Testing	
Test Location	Estimated Hydraulic Conductivity (CFS/SF- Ft Head)
P-1	$2.5 \times 10^{-5}$
P-2	$7.6 \times 10^{-5}$

Laboratory Testing and Professional Judgement – Selected samples obtained from our site investigation were tested in our laboratory in general accordance with ASTM D2434, ASTM D1140-17 and ASTM C136.

Estimated Aquifer Parameters – Laboratory Testing			
Test Location	Stratum Depth Range (ft)	Horizontal Saturated Flow Rate (in/hr)	Vertical Saturated Flow Rate (in/hr)
P-1	0.8 – 1.8	1.9	0.9
	1.8 – 4.2	3.2	2.2 †
P-2	0.0 – 4.5	7.0	5.8

† Estimation; reduction of estimated horizontal saturated flow rate applied.

Restrictive Stratum – Based on the results of our soil borings and the laboratory testing, in boring PB-1 we encountered a stratum which we estimate exhibit restrictive flow rates relative to the overlying stratum, and are described below:

- Deposits of Dark Gray Silty Sand with Organics encountered at an approximate depth range from the surface to 0.8 feet below grade.

### Future Studies:

Design Phase Geotechnical Explorations – KSM recommends that a design-phase geotechnical exploration be performed to determine whether individual structures are underlain by any organic soil deposits or inherently problematic soils and to generate the subsurface data that is necessary to provide site specific foundation design and earthwork recommendations. Upon request, KSM will provide a detailed scope of work and cost proposal to address these features, based on the preliminary plan documents.

### Closure:

Based upon KSM's subsurface investigation at the above-mentioned project location, the reliance of the preliminary opinions and recommendations presented within this signed and sealed report is predicated on KSM being engaged to perform design-basis geotechnical explorations and testing. The opinions and recommendations given in this report are preliminary and should not be used to create final plan documents and specifications.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices based on the results of the borings and the assumed loading conditions. No warranties, either expressed or implied, are intended or made. This report does not reflect any variations which may occur between the borings. If variations appear evident during construction, it will be necessary for you or your representative to engage KSM to perform any supplementary studies and to re-evaluate the recommendations made in this report.

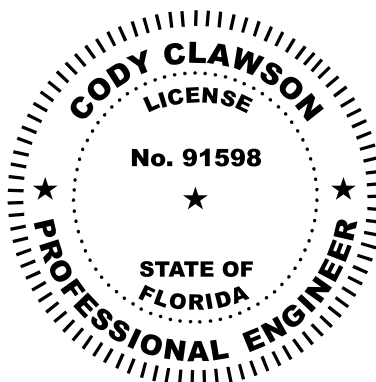
Environmental conditions, wetland delineation, karst activity, water quality, and municipal requirements were not a part of this study.

KSM is pleased to have been of assistance to you on this phase of your project. When we may be of further service to you or should you have any questions, please contact us.

Respectfully,

*Christopher LeBrun*

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# BORING NUMBER B-01

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 2.0 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0		Gray Slightly Clayey Sand	SS		1-2-2 (4)						
		Gray Clayey Sand	SS		3-4-4 (8)						
5		Brown Sand	SS		4-4-4 (8)						
		Dark Brown Slightly Silty Sand	SS		3-2-2 (4)						
10			SS		3-4-4 (8)						
15		Brown Sand	SS		8-8-8 (16)						

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-02

PAGE 1 OF 1

CLIENT Workspace Collective

PROJECT NAME 1000 State Road 70

PROJECT NUMBER 2210339-b&p

PROJECT LOCATION Okeechobee, Florida

DATE STARTED 12/14/22 COMPLETED 12/14/22

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches

DRILLING CONTRACTOR \_\_\_\_\_

GROUND WATER LEVELS:

DRILLING METHOD Split Spoon Sample

▽ AT TIME OF DRILLING 0.9 ft

LOGGED BY DC/CW CHECKED BY CCC

AT END OF DRILLING ---

NOTES See Attached Location Plan

AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Sand	SS		1-1-1 (2)						
		Gray Sand	SS		3-4-6 (10)						
5		Light Gray Sand	SS		7-7-8 (15)						
		Dark Gray Sand	SS		6-5-5 (10)						
10			SS		4-5-4 (9)						

Bottom of borehole at 10.0 feet.



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# BORING NUMBER B-03

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/15/22	COMPLETED	12/15/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		AT TIME OF DRILLING	1.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	SS		1-1-2 (3)						
		Light Gray Sand	SS		6-7-7 (14)						
			SS		6-7-6 (13)						
			SS		5-6-5 (11)						
10		Dark Gray Sand	SS		4-4-5 (9)						
15		Brown Clayey Sand	SS		3-4-3 (7)						

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-04

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/12/22 COMPLETED 12/12/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.0 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲	
								20 40 60 80	20 40 60 80
								PL MC LL	20 40 60 80
0								□ FINES CONTENT (%) □	
								20 40 60 80	
		Dark Gray Sand with Organics	SS		1-1-3 (4)				
		Dark Gray Slightly Clayey Sand	SS		4-5-6 (11)				
5		Dark Gray Sand	SS		4-5-5 (10)				
			SS		5-7-7 (14)				
10			SS		5-5-6 (11)				
15		Gray Sand	SS		5-5-8 (13)				

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-05

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/15/22	COMPLETED	12/15/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.1 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Light Gray Sand	SS		2-2-3 (5)						
		Gray Sand	SS		4-5-5 (10)						
5			SS		4-5-5 (10)						
		Light Gray Sand	SS		8-9-9 (18)						
10			SS		7-8-8 (16)						

Bottom of borehole at 10.0 feet.



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## BORING NUMBER B-06

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/12/22 COMPLETED 12/12/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 2.1 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0											
		Dark Gray Silty Sand with Organics (Muck)	SS		1-1-1 (2)						
		Brown Sand with Traces of Organics	SS		1-1-2 (3)						
5			SS		6-6-5 (11)						
		Brown Sand, Slightly Silty	SS		5-5-6 (11)						
			SS		6-7-7 (14)						
10											
		Brown Sand	SS		5-4-4 (8)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-07

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/13/22 COMPLETED 12/13/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.2 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Sand	SS		1-1-2 (3)						
		Light Gray Sand	SS		4-4-7 (11)						
5			SS		3-4-5 (9)						
			SS		4-4-4 (8)						
10			SS		4-5-5 (10)						
		Gray Sand	SS		9-5-4 (9)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-08

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/13/22	COMPLETED	12/13/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.1 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	SS		1-1-2 (3)						
		Gray Sand	SS		4-4-5 (9)						
			SS		4-4-3 (7)						
			SS		2-2-4 (6)						
10			SS		4-5-6 (11)						

Bottom of borehole at 10.0 feet.



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# BORING NUMBER B-09

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.1 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	SS		1-1-3 (4)						
			SS		3-4-4 (8)						
		Dark Gray Slightly Silty Sand	SS		4-4-5 (9)						
		Light Gray Sand	SS		5-8-9 (17)						
10			SS		5-6-6 (12)						
15		Dark Gray Sand with Traces of Gravel	SS		5-5-5 (10)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-10

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
AT TIME OF DRILLING --- Ground Level  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Brown Sand with Organics	X SS		1-1-1 (2)						
		Dark Brown Silty Sand with Organics	X SS		1-1-2 (3)						
5		Light Gray Sand	X SS		4-5-5 (10)						
		Dark Gray Sand	X SS		4-5-5 (10)						
10			X SS		5-6-6 (12)						
		Gray Sand	X SS		3-4-4 (8)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-11

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 0.8 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Slightly Silty Sand	SS		1-1-2 (3)						
		Dark Gray Sand with Traces of Roots	SS		1-1-2 (3)						
5		Gray Sand	SS		4-5-5 (10)						
		Light Gray Sand	SS		5-9-9 (18)						
10		Dark Gray Sand	SS		7-7-8 (15)						
		Light Gray Slightly Clayey Sand	SS		2-2-2 (4)						
15											

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-12

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/15/22	COMPLETED	12/15/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.8 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Sand	SS		1-2-3 (5)						
		Dark Gray Slightly Silty Sand	SS		4-5-5 (10)						
5		Dark Gray Sand	SS		4-4-4 (8)						
			SS		4-5-7 (12)						
		Gray Sand	SS		6-7-7 (14)						
10											

Bottom of borehole at 10.0 feet.



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# BORING NUMBER B-13

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/15/22	COMPLETED	12/15/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Light Gray Sand	SS		1-1-3 (4)						
			SS		4-5-5 (10)						
			SS		4-5-5 (10)						
		Gray Sand	SS		6-7-7 (14)						
			SS		6-6-7 (13)						
10											
15		Gray Slightly Clayey Sand	SS		3-3-4 (7)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-14

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/13/22	COMPLETED	12/13/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		AT TIME OF DRILLING	2.0 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Light Gray Sand	SS		2-2-4 (6)						
		Brown Sand	SS		6-7-7 (14)						
5		Light Gray Sand	SS		7-10-10 (20)						
		Gray Sand	SS		3-4-4 (8)						
10			SS		6-6-7 (13)						

Bottom of borehole at 10.0 feet.



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# BORING NUMBER B-15

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/14/22 COMPLETED 12/14/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 2.3 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Light Gray Sand	SS		1-1-5 (6)						
		Dark Brown Sand	SS		5-8-10 (18)						
			SS		7-7-9 (16)						
			SS		8-6-5 (11)						
		Light Gray Sand	SS		5-4-6 (10)						
		Gray Slightly Silty Sand	SS		6-5-4 (9)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-16

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/13/22	COMPLETED	12/13/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		AT TIME OF DRILLING	---
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Gray Sand	X SS		1-1-2 (3)						
		Light Gray Sand	X SS		5-6-6 (12)						
		Gray Sand, Slightly Silty	X SS		7-8-10 (18)						
			X SS		4-8-7 (15)						
10			X SS		6-5-3 (8)						
		Gray Clayey Sand	X SS		5-5-5 (10)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-17

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/15/22	COMPLETED	12/15/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		AT TIME OF DRILLING	2.0 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Sand	SS		1-2-2 (4)						
		Gray Sand	SS		4-5-5 (10)						
5			SS		4-3-3 (6)						
		Light Gray Sand	SS		6-8-8 (16)						
10			SS		7-8-8 (16)						
15			SS		8-9-8 (17)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-18

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.8 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Slightly Silty Sand	SS		1-2-2 (4)						
		Dark Gray Sand	SS		3-4-4 (8)						
		Light Gray Sand	SS		4-5-7 (12)						
		Dark Gray Sand	SS		5-6-7 (13)						
		Dark Gray Sand	SS		3-4-6 (10)						
		Light Gray Slightly Clayey Sand with Shell Fragments	SS		4-5-6 (11)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-19

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.8 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Light Gray Sand									
		▽ Gray Slightly Silty Sand	X SS		1-2-2 (4)						
			X SS		4-5-5 (10)						
5			X SS		4-4-5 (9)						
			X SS		6-7-7 (14)						
10		Gray Sand	X SS		6-5-5 (10)						
15		Gray Clayey Sand	X SS		6-4-5 (9)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-20

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/15/22 COMPLETED 12/15/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 2.0 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	X SS		1-1-2 (3)						
			X SS		3-4-5 (9)						
			X SS		5-6-7 (13)						
		Light Gray Sand	X SS		7-8-8 (16)						
			X SS		6-6-7 (13)						
10											
15		Gray Sand, Slightly Silty with Traces of Shell	X SS		4-4-4 (8)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-21

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	12/14/22	COMPLETED	12/14/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	DC/CW	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		AT TIME OF DRILLING	2.3 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	SS		1-1-2 (3)						
			SS		4-5-5 (10)						
		Dark Brown Sand	SS		5-6-6 (12)						
		Light Gray Sand	SS		8-8-9 (17)						
10			SS		8-7-9 (16)						
15		Gray Sand, Slightly Silty	SS		5-3-4 (7)						

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-22

PAGE 1 OF 1

CLIENT Workspace Collective

PROJECT NAME 1000 State Road 70

PROJECT NUMBER 2210339-b&p

PROJECT LOCATION Okeechobee, Florida

DATE STARTED 12/14/22 COMPLETED 12/14/22

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches

DRILLING CONTRACTOR \_\_\_\_\_

GROUND WATER LEVELS:

DRILLING METHOD Split Spoon Sample

▽ AT TIME OF DRILLING 2.0 ft

LOGGED BY DC/CW CHECKED BY CCC

AT END OF DRILLING ---

NOTES See Attached Location Plan

AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Gray Sand	X SS		1-1-2 (3)						
		Dark Brown Sand	X SS		4-5-5 (10)						
5			X SS		4-5-6 (11)						
			X SS		4-3-4 (7)						
10		Brown Sand	X SS		3-3-3 (6)						
15		Gray Slightly Silty Sand	X SS		6-6-7 (13)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-23

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/14/22 COMPLETED 12/14/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 2.4 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL
								20 40 60 80
□ FINES CONTENT (%) □								20 40 60 80
0		Dark Gray Sand						
	▽		X SS		1-1-1 (2)			
			X SS		2-2-2 (4)			
5		Light Gray Sand						
			X SS		4-6-6 (12)			
			X SS		4-5-5 (10)			
10			X SS		7-9-8 (17)			
15		Gray Slightly Clayey Sand	X SS		4-3-3 (6)			

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-24

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/22/22	COMPLETED	11/22/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	SH/NV	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		AT TIME OF DRILLING	2.7 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0		Gray Sand with Root	X SS		1-0-1 (1)						
		▽ Brown Sand	X SS		1-0-0 (0)						
5			X SS		0-0-3 (3)						
			X SS		4-5-6 (11)						
10			X SS		7-8-10 (18)						
15		Brown Clayey Sand	X SS		4-4-3 (7)						

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-25

PAGE 1 OF 1

CLIENT Workspace Collective

PROJECT NAME 1000 State Road 70

PROJECT NUMBER 2210339-b&p

PROJECT LOCATION Okeechobee, Florida

DATE STARTED 11/21/22 COMPLETED 11/21/22

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches

DRILLING CONTRACTOR \_\_\_\_\_

GROUND WATER LEVELS:

DRILLING METHOD Split Spoon Sample

▽ AT TIME OF DRILLING 3.3 ft

LOGGED BY NV/MH CHECKED BY CCC

AT END OF DRILLING ---

NOTES See Attached Location Plan

AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Brown Sand	X SS		1-1-1 (2)						
			X SS		2-1-1 (2)						
			X SS		2-2-3 (5)						
			X SS		3-4-6 (10)						
10		Light Brown Sand	X SS		4-4-4 (8)						
15		Brown Clayey Sand	X SS		3-3-4 (7)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-26

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/14/22 COMPLETED 12/14/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.3 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Dark Gray Sand with Roots	SS		1-1-1 (2)						
		Gray Sand	SS		1-2-2 (4)						
5			SS		3-4-4 (8)						
			SS		5-6-6 (12)						
10		Dark Gray Sand	SS		6-6-8 (14)						
		Gray Slightly Clayey Sand	SS		1-1-1 (2)						
15											
20		Light Gray Sand with Shell	SS		9-10-10 (20)						

Bottom of borehole at 20.0 feet.



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## BORING NUMBER B-27

PAGE 1 OF 1

CLIENT Workspace Collective

PROJECT NAME 1000 State Road 70

PROJECT NUMBER 2210339-b&p

PROJECT LOCATION Okeechobee, Florida

DATE STARTED 11/21/22 COMPLETED 11/21/22

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches

DRILLING CONTRACTOR \_\_\_\_\_

GROUND WATER LEVELS:

DRILLING METHOD Split Spoon Sample

▽ AT TIME OF DRILLING 3.3 ft

LOGGED BY NV/MH CHECKED BY CCC

AT END OF DRILLING ---

NOTES See Attached Location Plan

AFTER DRILLING ---

GEOTECH BH PLOTS - GINT STD US LAB.GDT - 12/29/22 16:59 - K:\KSM FILES\22 DOCS (KSM-SERVER)\2210339\SOIL INVESTIGATION\2210339-B&P.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
		Gray Sand	X SS		1-2-3 (5)						
		Brown Sand	X SS		2-2-2 (4)						
5			X SS		2-3-4 (7)						
		Light Brown Sand	X SS		4-5-5 (10)						
10			X SS		4-4-4 (8)						
		Brown Clayey Sand	X SS		3-4-4 (8)						
15											

Bottom of borehole at 15.0 feet.



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# BORING NUMBER B-28

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/21/22	COMPLETED	11/21/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD	Split Spoon Sample	HOLE SIZE	inches
LOGGED BY	NV/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan	GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	4.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Dark Gray Sand	SS		1-1-1 (2)						
		Brown Sand	SS		2-4-4 (8)						
			SS		3-4-5 (9)						
			SS		8-8-9 (17)						
			SS		8-9-10 (19)						
15		Brown Clayey Sand	SS		2-3-3 (6)						

Bottom of borehole at 15.0 feet.



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## BORING NUMBER B-29

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 11/21/22 COMPLETED 11/21/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY NV/MH CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 5.3 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
5		Gray Sand	X SS		2-3-3 (6)						
		Brown Sand	X SS		2-2-2 (4)						
	▽		X SS		2-3-4 (7)						
			X SS		4-4-5 (9)						
10			X SS		4-5-4 (9)						
15		Brown Clayey Sand	X SS		4-4-4 (8)						

Bottom of borehole at 15.0 feet.



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# BORING NUMBER HA-01

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 11/23/22 COMPLETED 11/23/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD \_\_\_\_\_  
LOGGED BY RC/MH CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches  
GROUND WATER LEVELS:  
AT TIME OF DRILLING --- 4" of Standing Water  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL 20 40 60 80
0								<input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/>
		Dark Gray Slightly Silty Sand with Organics (Muck)				7		20 40 60 80
		Light Gray Sand				30		
						30		
						35		
						40		
5		Brown Sand				40		

Bottom of borehole at 6.0 feet.



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## BORING NUMBER HA-02

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.3 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Silty Sand with Organics				8					
		▽ Light Gray Sand				30					
						30					
						35					
						35					
5		Brown Slightly Silty Sand				39					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-03

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.7 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL
0								20 40 60 80
		Dark Gray Silty Sand with Organics				29		
		▽ Light Gray Sand				30		
						30		
5		Brown Slightly Silty Sand				25		
						35		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-04

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.6 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL
0								20 40 60 80
		Dark Gray Slightly Silty Sand with Some Organics				30		
		▽ Light Gray Sand				35		
						35		
5						35		
		Brown Slightly Silty Sand				35		

Bottom of borehole at 6.0 feet.



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## BORING NUMBER HA-05

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.4 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Silty Sand with Traces of Roots				8					
		▽ Light Gray Sand				32					
						43					
						46					
5		Brown Slightly Silty Sand				44					
						49					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-06

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Silty Sand with Traces of Roots				8					
		Light Gray Sand				34					
						40					
						40					
		Brown Slightly Silty Sand				43					
5						47					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-07

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.8 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL
0								20 40 60 80
		Dark Gray Silty Sand with Organics (Muck)				6		
		Light Gray Sand				34		
		▽				37		
						39		
5						42		
		Brown Silty Sand				46		

Bottom of borehole at 6.0 feet.



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## BORING NUMBER HA-08

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.8 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Slightly Silty Sand with Some Organics				8					
		Brown Sand				29					
		▽				30					
						35					
5		Light Brown Sand				35					
						35					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-09

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	1.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
0								PL MC LL
								20 40 60 80
								□ FINES CONTENT (%) □
								20 40 60 80
		Dark Gray Silty Sand with Some Organics				8		
						8		
						9		
		Dark Gray Sand with Organic Debris				29		
						30		
5		Brown Sand, Slightly Silty				31		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-10

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.3 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
0								PL MC LL
								20 40 60 80
								□ FINES CONTENT (%) □
								20 40 60 80
		Dark Brown Sand with Root				20		
						30		
						20		
		Light Gray Sand				45		
						45		
5						50		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-11

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	5.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
								PL MC LL
0								20 40 60 80
		Gray Sand				16		
						21		
						29		
						33		
5		Brown Sand				40		
	▽	Light Brown Sand				40		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-12

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.3 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Sand, Slightly Silty with Organics (Muck)				8					
		▽ Light Gray Sand				10					
						30					
						35					
5						50					
						50					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-13

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	2.0 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
0								20	40	60	80
		Dark Gray Silty Sand with Organics (Muck)				8					
		Brown Sand				28					
						30					
						35					
5		Light Brown Sand				35					

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-14

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	4.5 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80
0								PL MC LL
								20 40 60 80
								□ FINES CONTENT (%) □
								20 40 60 80
		Gray Sand with Traces of Root				18		
						29		
						30		
		Brown Sand				37		
		▽ Light Brown Sand				40		
5						40		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER HA-15

PAGE 1 OF 1

CLIENT	Workspace Collective	PROJECT NAME	1000 State Road 70
PROJECT NUMBER	2210339-b&p	PROJECT LOCATION	Okeechobee, Florida
DATE STARTED	11/23/22	COMPLETED	11/23/22
DRILLING CONTRACTOR		GROUND ELEVATION	
DRILLING METHOD		HOLE SIZE	inches
LOGGED BY	RC/MH	CHECKED BY	CCC
NOTES	See Attached Location Plan		
		GROUND WATER LEVELS:	
		▽ AT TIME OF DRILLING	5.2 ft
		AT END OF DRILLING	---
		AFTER DRILLING	---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲
								20 40 60 80 PL MC LL 20 40 60 80
0								□ FINES CONTENT (%) □ 20 40 60 80
		Gray Sand with Buried Debris				42		
		Dark Brown Sand				40		
		Brown Sand				38		
5						43		
						46		
						47		

Bottom of borehole at 6.0 feet.



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# BORING NUMBER PB-1

PAGE 1 OF 1

CLIENT Workspace Collective  
PROJECT NUMBER 2210339-b&p  
DATE STARTED 12/13/22 COMPLETED 12/13/22  
DRILLING CONTRACTOR \_\_\_\_\_  
DRILLING METHOD Split Spoon Sample  
LOGGED BY DC/CW CHECKED BY CCC  
NOTES See Attached Location Plan

PROJECT NAME 1000 State Road 70  
PROJECT LOCATION Okeechobee, Florida  
GROUND ELEVATION \_\_\_\_\_ HOLE SIZE \_\_\_\_\_ inches  
GROUND WATER LEVELS:  
▽ AT TIME OF DRILLING 1.0 ft  
AT END OF DRILLING ---  
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	PENETROMETER	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
								20	40	60	80
								PL	MC	LL	
								20	40	60	80
								□ FINES CONTENT (%) □			
								20	40	60	80
0		Dark Gray Silty Sand with Organics (Muck)									
		Gray Sand, Slightly Silty	X SS		1-1-2 (3)						
		Light Gray Sand	X SS		6-9-5 (14)						
5		Grayish Brown Silty Sand	X SS		4-3-3 (6)						
			X SS		3-3-4 (7)						
10		Gray Slightly Clayey Sand	X SS		3-3-3 (6)						
			X SS		4-4-3 (7)						
			X SS		3-3-4 (7)						
15		Light Gray Slightly Silty Sand	X SS		3-4-3 (7)						
			X SS		4-3-2 (5)						
			X SS		3-3-8 (11)						
20		Gray Sand with Shell									

Bottom of borehole at 20.0 feet.



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## BORING NUMBER PB-2

PAGE 1 OF 1

CLIENT Workspace Collective

PROJECT NAME 1000 State Road 70

PROJECT NUMBER 2210339-b&p

PROJECT LOCATION Okeechobee, Florida

DATE STARTED 12/15/22

COMPLETED 12/15/22

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE inches

DRILLING CONTRACTOR \_\_\_\_\_

GROUND WATER LEVELS:

DRILLING METHOD Split Spoon Sample

▽ AT TIME OF DRILLING 2.4 ft

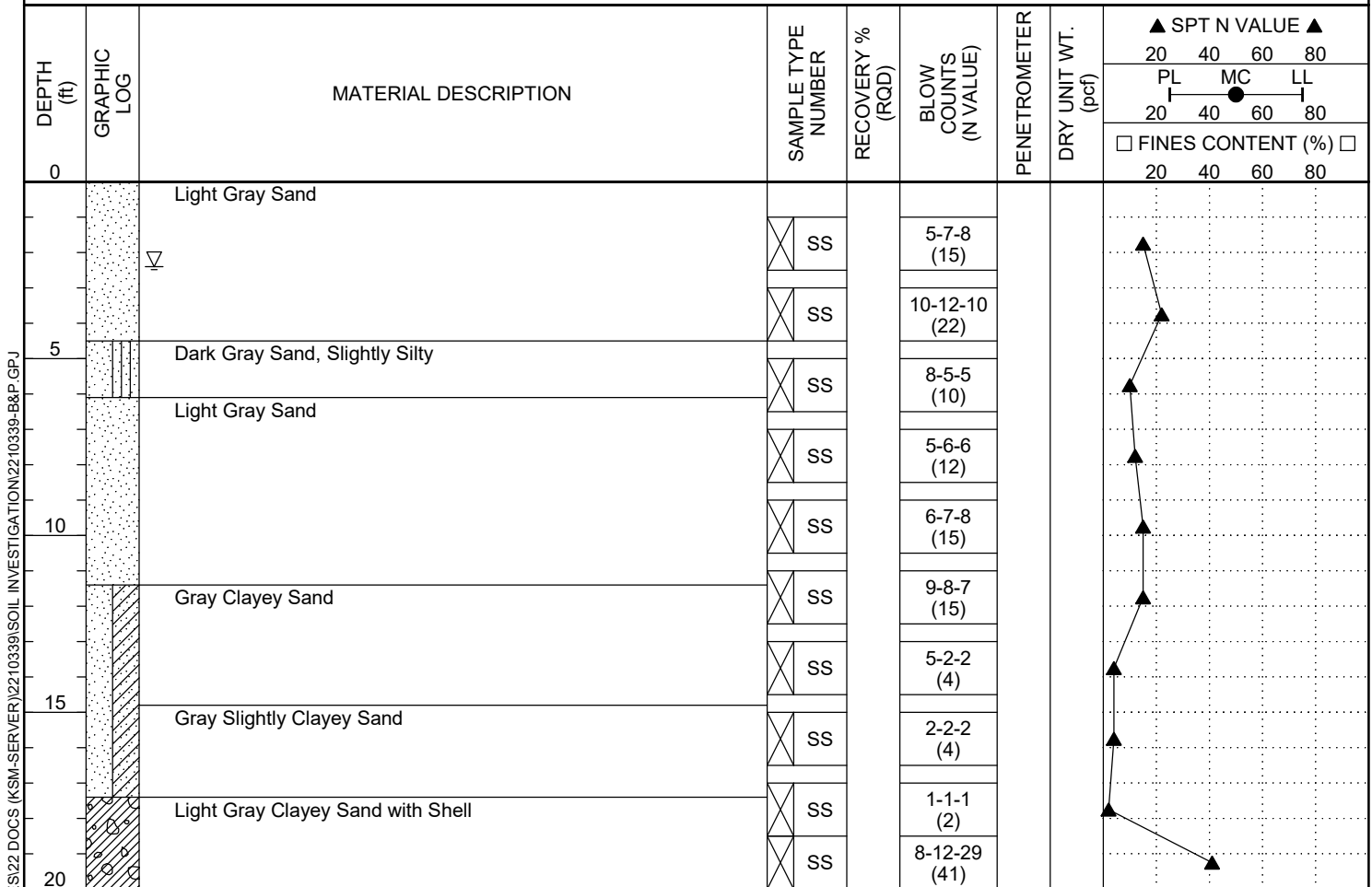
LOGGED BY DC/CW

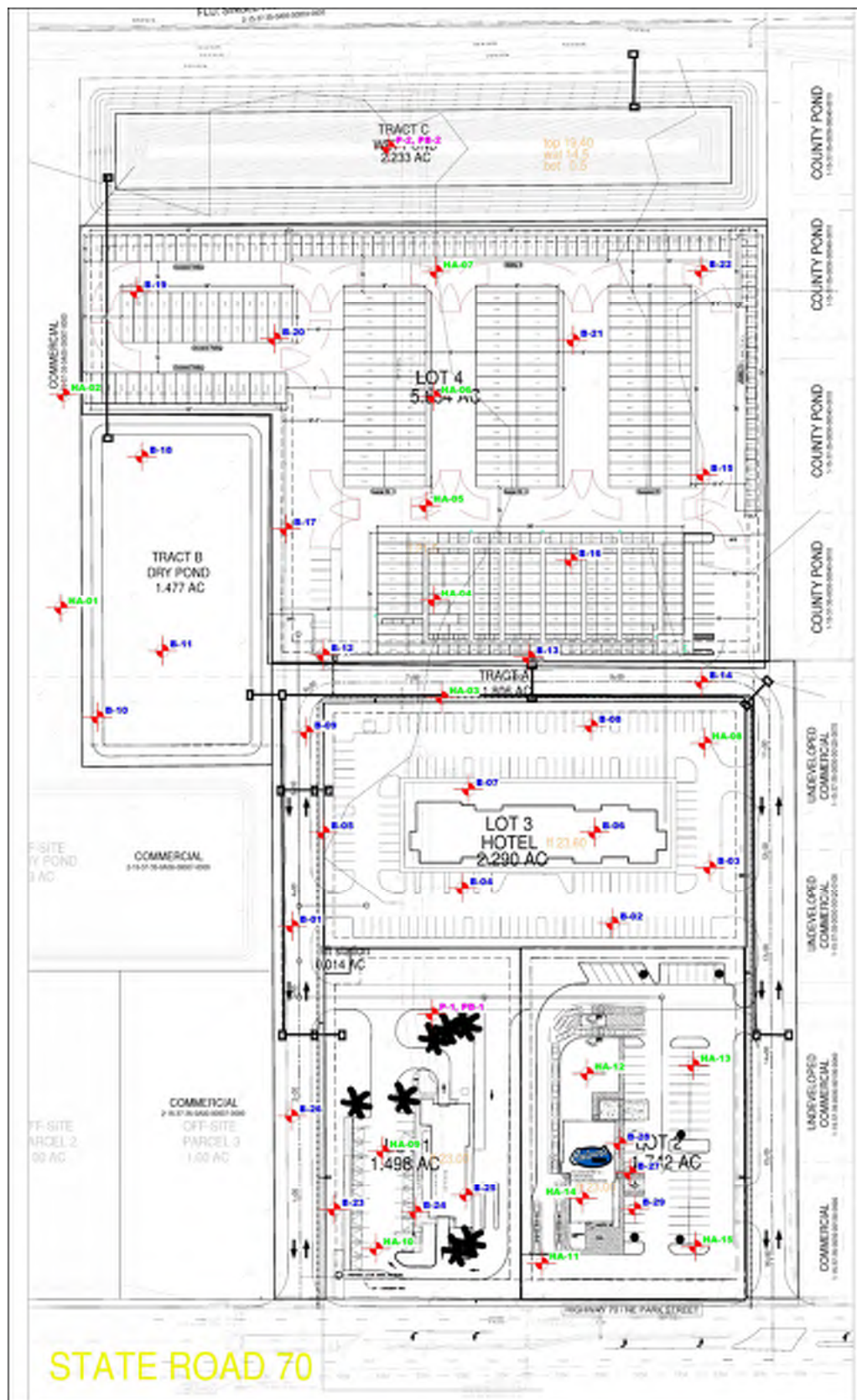
CHECKED BY CCC

AT END OF DRILLING ---

NOTES See Attached Location Plan

AFTER DRILLING ---





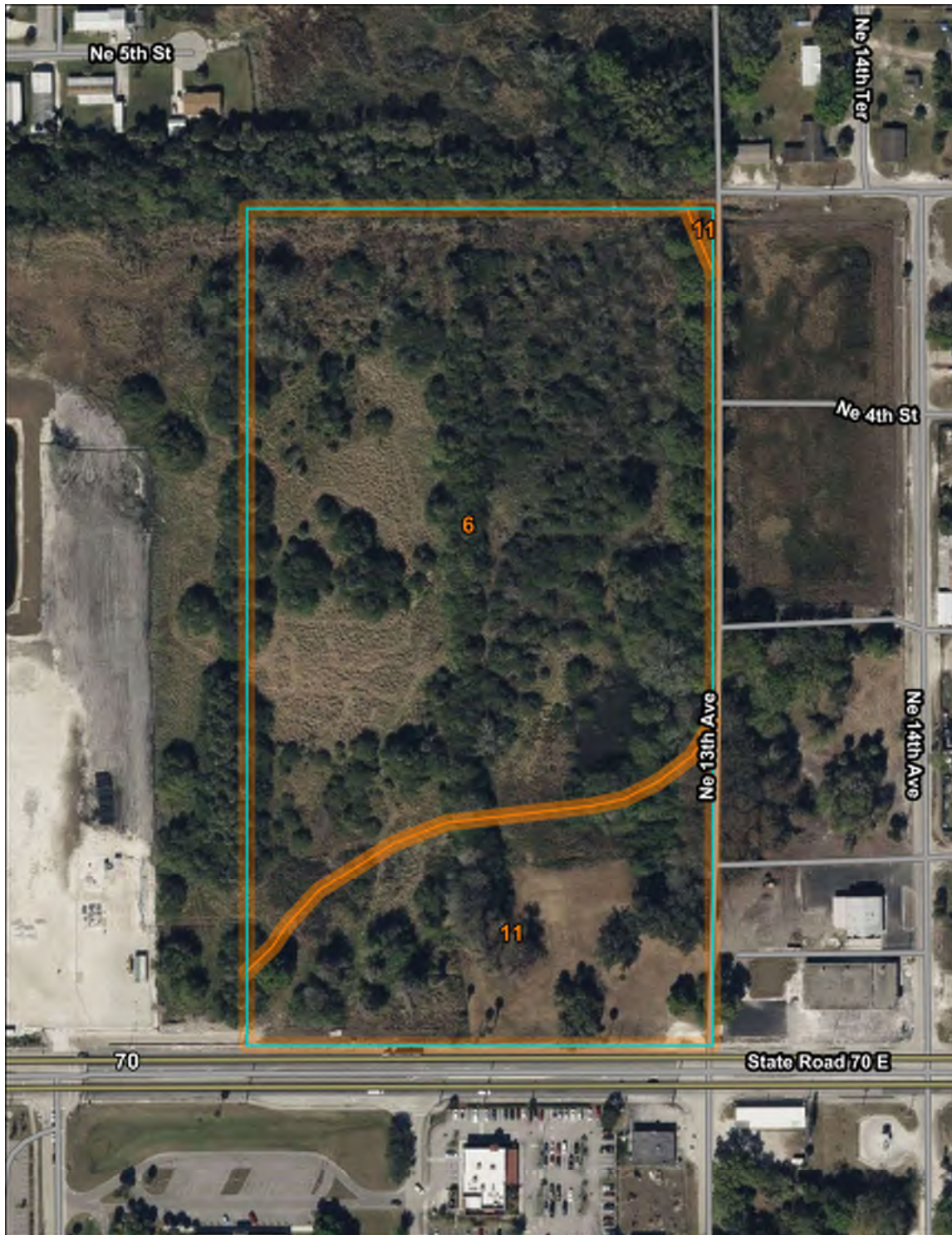
## LOCATION OF SOIL TESTING

PROJECT: 1000 State Road 70, Okeechobee, Florida

SHEET 1 OF 2  
PERMIT #:  
PROJECT #: 2210339-b&p

**KSM** ENGINEERING  
AND TESTING

DRAWN BY: C.V.  
DESIGNED BY: C.C.C.  
DATE: 20221228  
SCALE: NOT TO SCALE



## USDA SOILS SURVEY

**6—Manatee loamy fine sand, frequently ponded, 0 to 1 percent slopes**  
**11—Immokalee fine sand, 0 to 2 percent slopes**

PROJECT: 1000 State Road 70, Okeechobee, Florida

SHEET 2 OF 2  
 PERMIT #:  
 PROJECT #: 2210339-soils

**KSM ENGINEERING  
 AND TESTING**

DRAWN BY: C.V.  
 DESIGNED BY: C.C.C.  
 DATE: 20221228  
 SCALE: NOT TO SCALE