June 30, 2025

MEMORANDUM

TO: Jason Patterson, P.G., Senior Hydrogeologist, Environmental Flows and Levels Section

FROM: Tiffany Horstman, P.G., Senior Professional Geologist, Geohydrologic Data Section
Kristina Mallams, P.G., Professional Geologist, Geohydrologic Data Section

SUBJECT: Central Florida Water Initiative Data, Monitoring, and Investigations Team Lake Bonnie Surficial Aquifer Monitor Well Construction Summary

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The Southwest Florida Water Management District's (District) Geohydrologic Data Section was tasked to install a surficial aquifer monitor well at the Lake Bonnie well site in Polk County, Florida for the Central Florida Water Initiative (CFWI) Data, Monitoring, and Investigations Team (DMIT) (attachment 1). The well site is on a parcel of land granted by easement to the District by the City of Lake Wales (attachment 2). The CFWI DMIT will provide data to support minimum level research for three groundwater basins in five counties. Long-term water level data collected from this well will help understand how water level changes in the surficial aquifer caused by groundwater withdrawals relate to water level changes in Lake Bonnie. The data will also support the assessment and evaluation of minimum lake levels.

National Environmental Technology, Incorporated (NET) installed the surficial aquifer monitor well from January 21 to 22, 2025, using a Central Mine Equipment 75 (CME) drill rig and the hollow-stem auger method. NET drilled a pilot hole from land surface to 2.5 feet below land surface (bls) to remove roadway fill material. Then, NET used a post-hole digger to collect lithologic samples from 2.5 to 7.5 feet bls and used the CME to advance a split-spoon sampler to collect lithologic samples from 7.5 to 9.5 feet bls. Next, NET advanced the hole using hollow-stem augers and mud to 13 feet bls and subsequently collected split-spoon samples in 2-foot intervals every 5 feet to 50 feet bls. The samples were described by the on-site geologist (attachment 3). The water level in the borehole was noted at 18 feet bls during sample collection.

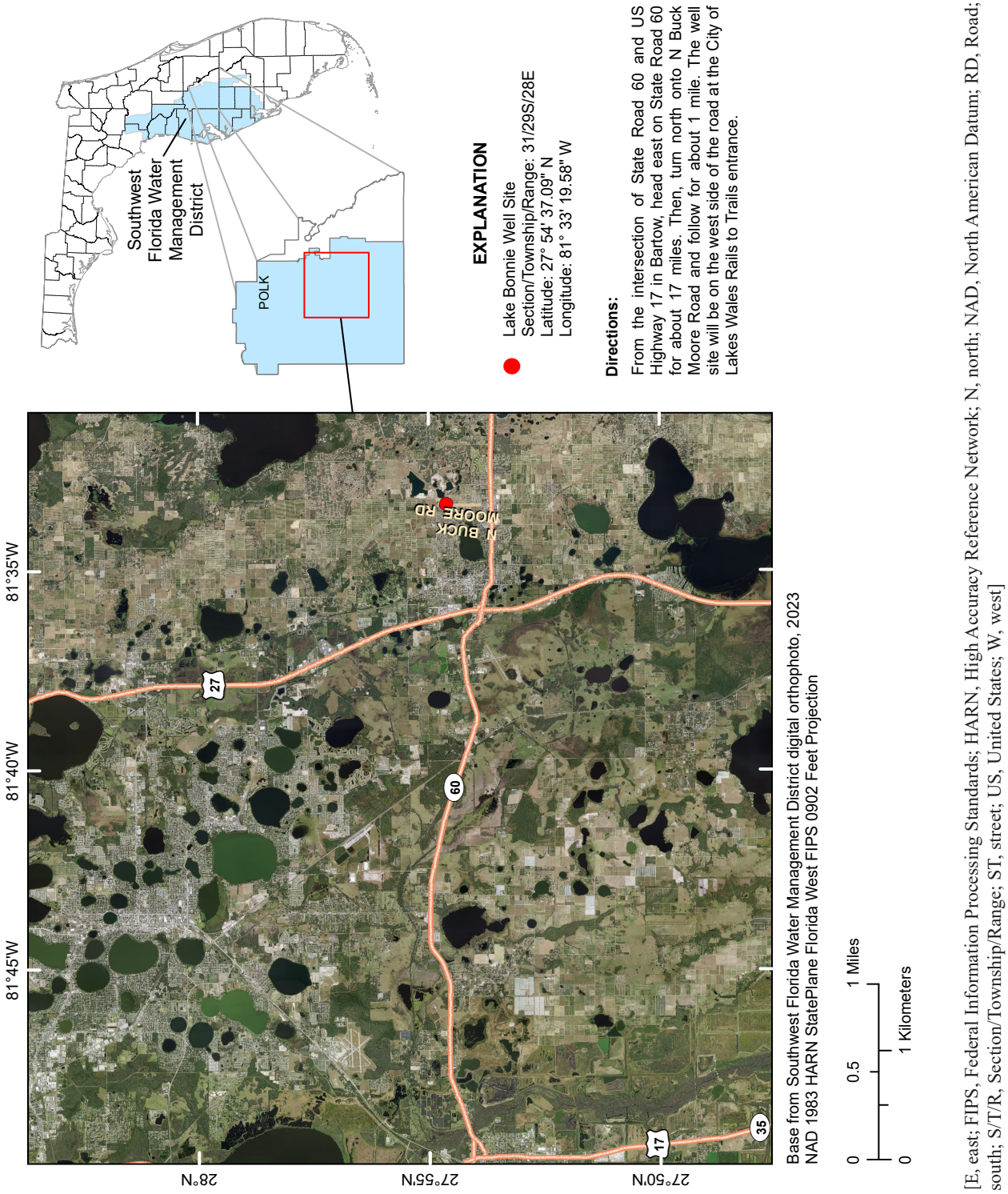
After split-spoon sampling was completed, NET used hollow-stem augers to drill a 6-inch nominal hole to 50 feet bls. Next, NET installed 2-inch, schedule 40, 0.010-inch slot, threaded polyvinyl chloride (PVC) screen pre-packed with 20-40 silica sand from 20 to 50 feet bls, and 2-inch, schedule 40, threaded PVC casing from 3 feet above land surface to 20 feet bls. Then, NET installed 20-30 silica sand from 50 to 22 feet bls, 30-65 fine sand from 22 to 18 feet bls, and cement grout from 18 feet bls to land surface. A 4-inch locking metal well cover and a 2-feet by 2-feet by 6-inch concrete pad were placed around the well (attachment 4). The well was developed for approximately 1 hour until the discharge water was clear. The well is equipped for continuous hourly water-level monitoring.

The following data are attached: maps showing the location and layout of the well site (attachment 1), easement agreement (attachment 2), the field description and photographs of the lithologic samples collected at the well site (attachment 3), the well as-built diagram (attachment

4), a photograph of the finished well (attachment 5), and the daily drilling logs detailing the well construction activities (attachment 6).

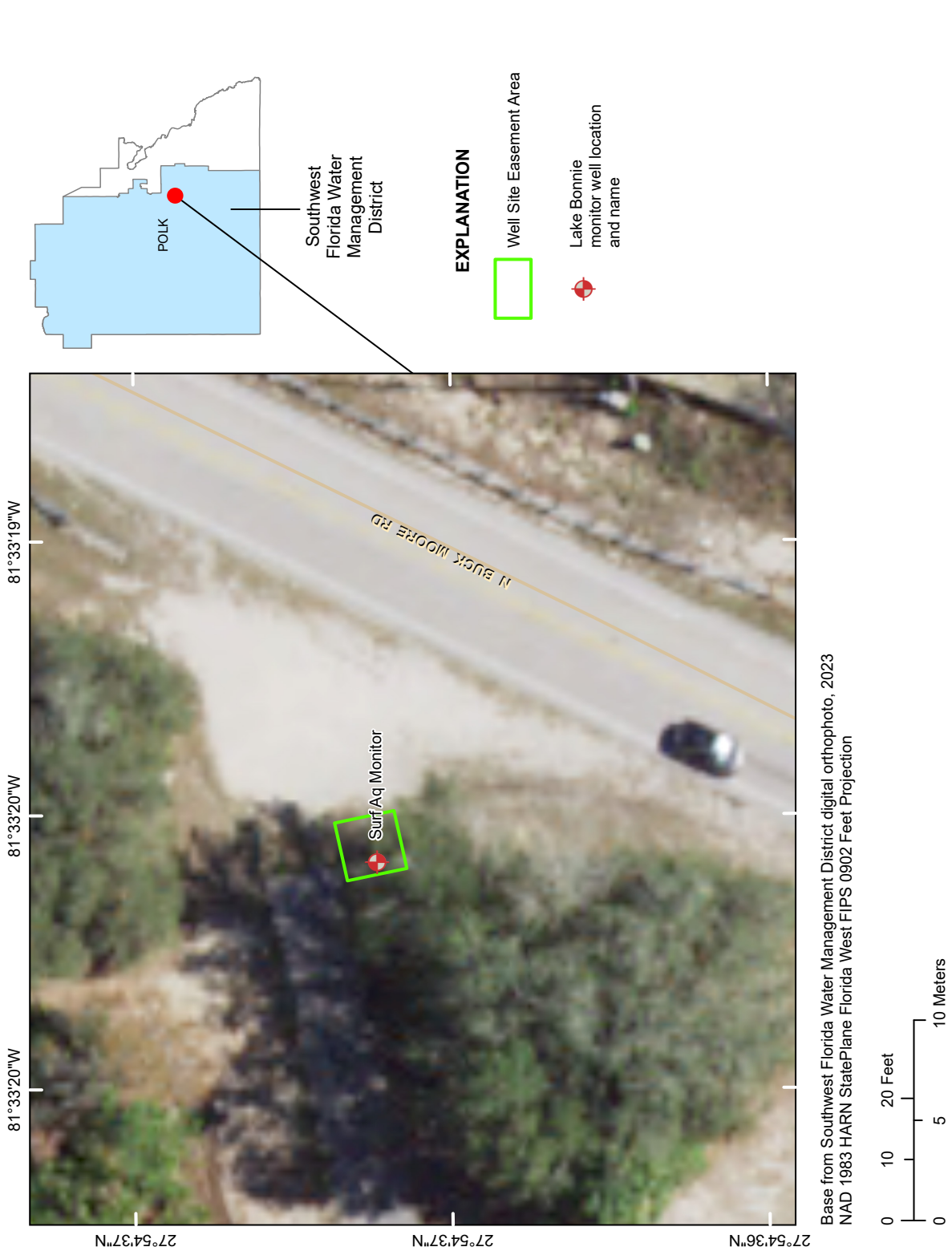
TMH:kdm
Attachments (6)

Attachment 1



[E, east; FIPS, Federal Information Processing Standards; HARN, High Accuracy Reference Network; N, north; NAD, North American Datum; RD, Road; S, south; S/T/R, Section/Township/Range; ST, street; US, United States; W, west]

Attachment 1



[Aq, aquifer; FIPS, Federal Information Processing Standards; HARN, High Accuracy Reference Network; N, north; NAD, North American Datum; RD, Road; S, south; Surf, surficial; W, west]

Attachment 2

INSTR # 2024150161
BK 13171 Pgs 0428-0432 PG(s)5
06/28/2024 01:22:26 PM
STACY M. BUTTERFIELD,
CLERK OF COURT POLK COUNTY
RECORDING FEES 44.00

Prepared by:
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604

Return recorded original to:
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604-6899
Attn. Operations and Land Management Bureau

PERPETUAL EASEMENT

This Easement (this "Easement") is made and entered into this 6th day of March, 2024, by and between City of Lake Wales, a political subdivision of the State of Florida, having an address of 201 West Central Avenue, Lake Wales, Florida 33853, hereinafter called "Grantor", and the Southwest Florida Water Management District, a public corporation, having an address of 2379 Broad Street, Brooksville, Florida 34604-6899, hereinafter referred to as "Grantee".

Grantor, for and in consideration of the sum of Ten Dollars and no cents ($10.00) and other good and valuable consideration from Grantee to Grantor, the receipt and sufficiency of which are hereby acknowledged, hereby grants, bargains, sells and conveys to Grantee a non-exclusive, perpetual easement to enter upon, over and across and to use any and all lands more particularly described below for solely for the following purposes:

a. To construct, maintain, repair, or replace one monitoring well and data monitoring equipment over the land more particularly described on **Exhibit "A"** (the "Well Site Easement Area"); and

b. For ingress and egress upon, over and across the land more particularly described on **Exhibit "A"** (the "Access Easement Area") to access the monitoring wells and equipment in order to perform hydrologic measurements.

Grantee shall exercise all of its rights contained in this Easement in the least intrusive manner so as not to interfere with Grantor's use of its property. Grantor reserves the right to use the Well Site Easement Area and Access Easement Area in any manner not inconsistent with this Easement; provided, however, that Grantor shall avoid physically disturbing the well casing or cover (water meter box) of the monitoring well or wells in any way without the prior written approval of Grantee, which approval shall not be unreasonably withheld, conditioned or delayed. Grantee hereby agrees to restore the Access Easement Area to the same condition as it was prior to any construction, maintenance, repair, or access by Grantee.

Grantee hereby agrees to protect, indemnify and hold harmless the Grantor from and against any and all liabilities, losses, damages or expenses, reasonable attorneys' fees and costs, whether incurred out of court or in litigation including fees and costs incurred for representation on appeals, expert witness fees and costs for paralegal assistance, arising on account of, relating to, in connection with loss of life, bodily injury or damage to property, arising out of the use of the Well Site Easement Area or the Access Easement Area by the Grantee and its contractors and agents, except to the extent such liability is finally judicially determined to directly arise from the willful misconduct or negligence of the Grantor. Upon receiving knowledge of any suit, claim or demand asserted by a third party that Grantor believes is

Lake Bonnie Data Collection Site
SWF Parcel No. 20-020-142

Attachment 2

covered by this indemnity, the Grantor shall give the Grantee notice of the matter. Any failure or delay of the Grantor to notify the Grantee of any such suit, claim or demand shall not relieve the Grantee of its obligations under this provision but shall reduce such obligations to the extent of any increase in those obligations caused solely by any such failure or delay. This provision shall not be construed as a waiver of Grantee's sovereign immunity for torts or an extension of such liability beyond the limits established in Section 768.28, F.S.

All provisions of this instrument, including the benefits and burdens, run with the land and are binding upon and inure to the benefit of the respective assigns, successors, and tenants of the parties hereto. This Easement may be amended or modified only by an instrument signed by Grantor and Grantee.

The formation, interpretation and performance of this Easement shall be construed pursuant to and governed by the laws of the State of Florida. In the event of any dispute arising out of this Easement or any instrument given in connection herewith, or in the event it shall become necessary for any party to employ counsel to protect the party under this Easement or any instrument given in connection herewith, the prevailing party shall be entitled to recover reasonable attorneys' fees and costs, whether incurred out of court or in litigation including fees and costs incurred for representation on appeals, expert witness fees and costs for paralegal assistance, to the extent permitted under Section 768.28, F.S. This provision does not constitute a waiver of the Grantee's sovereign immunity or extend the Grantee's liability beyond the limits established in Section 768.28, F.S.

This grant shall not constitute a dedication to the public, and no parties shall have any rights or entitlements pursuant to the terms of this Easement except as specifically set forth herein.

[signature pages follows]

Attachment 2

IN WITNESS WHEREOF, Grantor has caused these presents to be executed the day and year first written above.

Grantor:

Signed, sealed and delivered in the presence of:

Witness #1 signature

Cynthia Monk
Print Witness #1 name

Witness #2 signature

Jennifer Nanek
Print Witness #2 name

City of Lake Wales, a political subdivision of the State of Florida

By:
Name: Jack Hilligoss
Title: Mayor

ACKNOWLEDGMENT

STATE OF FLORIDA
COUNTY OF Polk

The foregoing instrument was acknowledged before me this 6th day of March 2024, by Jack Hilligoss, as Mayor, for ~~Hillsborough~~ City of Lake Wales ~~County~~, a political subdivision of the State of Florida. He/She [ ] is personally known to me or has produced _____ as identification.

Name of Notary

(Seal)

J. Nanek
(Name of Notary typed, printed or stamped)

Commission No. 187800
My Commission Expires: 11/14/2025

Notary Public State of Florida
Jennifer Jane Nanek
My Commission
HH 187800
Exp.11/14/2025

Stacy M. Butterfield POLK
CFN# 2024150161 OR BK 13171 PG 430 Pgs 0428-0432 06/28/2024 01:22:26 PM

Attachment 2

EXHIBIT "A"

Legal Description Parcel 20-020-142 (Well Site Area)

A parcel of land lying and being a portion of Section 31, Township 29 South, Range 28 East, Polk County, Florida, being more particularly described as follows:

Commencing at the northeast corner of Oakland Park as recorded in Plat Book 64, Page 21 of the Public Records of Polk County, Florida, said point being on the westerly right of way line of Buckmoore Road; thence along and coincident with said westerly line, North 26° 33' 50" East (being the basis of bearing for this description), a distance of 40.67 feet; thence leaving said westerly line North 63° 26' 10" West, a distance of 6.36 feet for a POINT OF BEGINNING; thence continue North 63° 26' 10" West, a distance of 10.00 feet; thence along a line that is 16.36 feet west of and parallel to said westerly right of way line of Buckmoore Road, North 26° 33' 50" East, a distance of 10.00 feet; thence South 63° 26' 10" East, a distance of 10.00 feet; thence along a line that is 6.36 feet west of and parallel to said westerly right of way line of Buckmoore Road, South 26° 33' 50" West, a distance of 10.00 feet to the POINT OF BEGINNING.

The above-described lands contain 100.00 SQFT or 0.002 Acres ±

Legal Description Parcel 20-020-142 (Access Area)

A parcel of land lying and being a portion of Section 31, Township 29 South, Range 28 East, Polk County, Florida, being more particularly described as follows:

Commencing at the northeast corner of Oakland Park as recorded in Plat Book 64, Page 21 of the Public Records of Polk County, Florida, said point being on the westerly right of way line of Buckmoore Road; thence along and coincident with said westerly line, North 26° 33' 50" East (being the basis of bearing for this description), a distance of 40.67 feet for a POINT OF BEGINNING; thence leaving said westerly line North 63° 26' 10" West, a distance of 6.36 feet; thence along a line that is 6.36 feet west of and parallel to said westerly right of way line of Buckmoore Road, North 26° 33' 50" East, a distance of 10.00 feet; thence South 63° 26' 10" East, a distance of 6.36 feet to a point on said westerly right of way line of Buckmoore Road; thence along and coincident with said westerly line, South 26° 33' 50" West, a distance of 10.00 feet to the POINT OF BEGINNING.

The above-described lands contain 63.60 SQFT or 0.001 Acres ±

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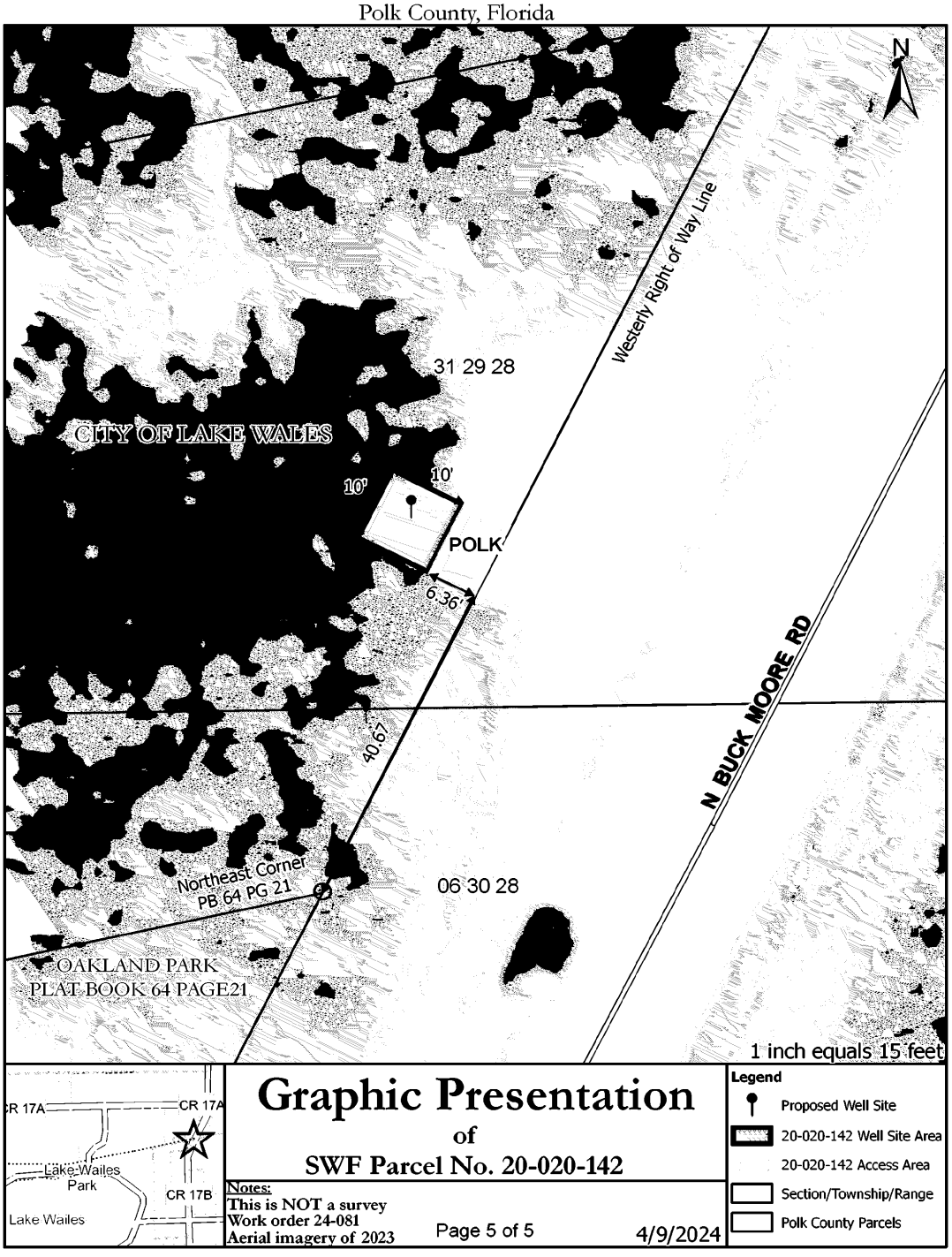
Stacy M. Butterfield POLK
CFN# 2024150161 OR BK 13171 PG 431 Pgs 0428-0432 06/28/2024 01:22:26 PM

Attachment 2

Section 31, Township 29 South, Range 28 East
Polk County, Florida



Path: L:\SURVEY\Projects\24-081 Lake Bonnie - CFWI - 142\GIS\Graphic Presentation 24-081\Graphic Presentation 24-081.aprx

Attachment 3

HYDROGEOLOGY FIELD LOG — **Page: 1 of 2**

Site Name: Lake Bonnie

Geologist: K.Mallams

Date (MM/DD/YYYY)	Box No.	Geology	Hydrology	Hydrostrat.	Depth (ft bls)	Recovery (%)	Lithology	Porosity (%)	Description	Test Interval	SPT Blow Counts	Comments
01/21/2025	1				0-2.5				Roadway and/or Railway Fill			
01/21/2025	1				2.5-3.5				SAND - Dark yellowish brown (10YR 4/2) and Moderate yellowish brown (10YR 7/4); Intergranular porosity; Medium-grained; Subrounded to subangular grains; Unconsolidated; Organics (30%)			
01/21/2025	1	Reworked Cypresshead Formation			3.5-4.5				SAND - Dark yellowish brown (10 YR 6/6) to Grayish orange (10 YR 7/4); Intergranular porosity, Subrounded to subangular grains; Medium-grained; Organics (15%)			
01/21/2025	1				4.5-5.5				SAND - Dark yellowish orange (10 YR 6/6) to Grayish orange (10 YR 7/4); Intergranular porosity; Subangular to subrounded grains; Fine to medium grained; Organics (15%)			
01/21/2025	1			surficial aquifer	5.5-6.5				SAND - Pale yellowish orange (10 YR 8/6); Intergranular porosity; Subrounded to rounded grains; Medium-grained; Organics (5-10%)			
01/21/2025	2				6.5-7.0				SAND - Vary pale orange (10 YR 8/2) to Pale yellowish orange (10 YR 8/6); Intergranular porosity; Subangular, subrounded, and rounded grains; Fine to medium grained; Organics (5-10%)			
01/21/2025	2				7.0-7.5				SAND - Vary pale orange (10 YR 8/2); Intergranular porosity; Subrounded to rounded; Fine to medium grained; Organics (5%)			
01/21/2025	2				7.5-9.5				SAND - Pale yellowish orange (10 YR 8/6) to Very pale orange (10 YR 8/2); Intergranular porosity; Subrounded to rounded grains; Fine to medium grained; Organics (3-5%)		2, 2, 3, 4	
01/21/2025					9.5-13				Drill - no samples			
01/21/2025	2				13-15				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Subrounded to rounded grains; Fine to medium grained; Organics (1-3%)		4, 5, 7, 8	
01/21/2025					15-18				Drill - no samples			
01/21/2025	2				18-20				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Rounded grains; Fine to medium grained; Organics (1-3%)		4, 5, 8, 9	Estimated water level is 18 feet bls

[ft bls, feet below land surface; Hydrostrat., hydrostratigraphy; MM/DD/YYYY, month/day/year; No., number; SPT, standard penetration test]

Attachment 3

HYDROGEOLOGY FIELD LOG

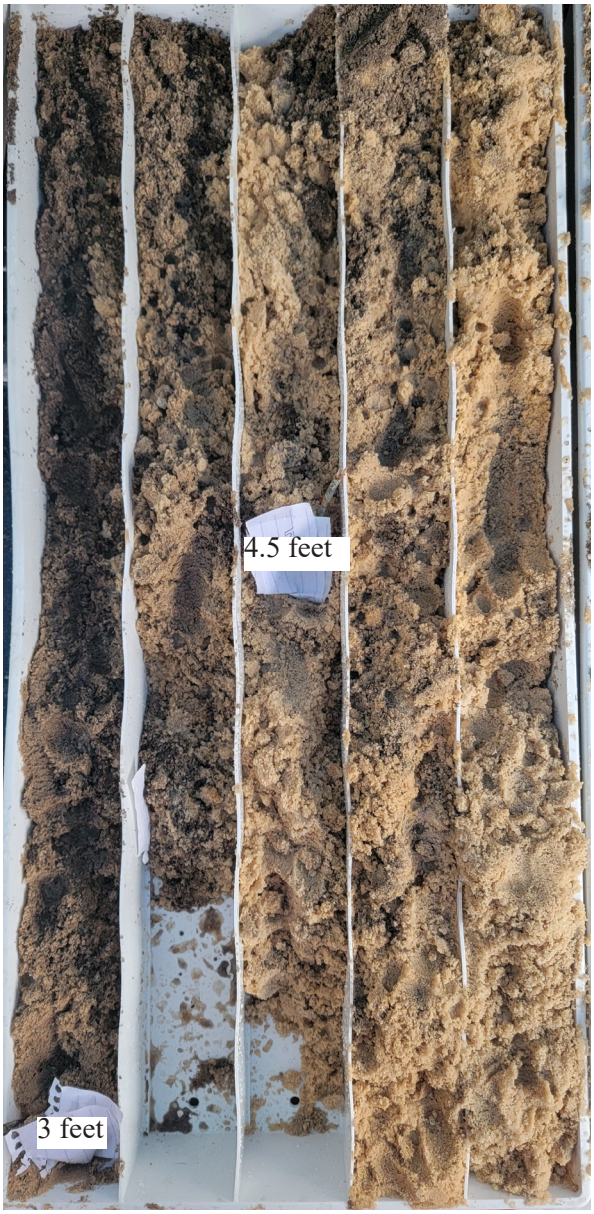
Site Name: Lake Bonnie **Page: 2 of 2**

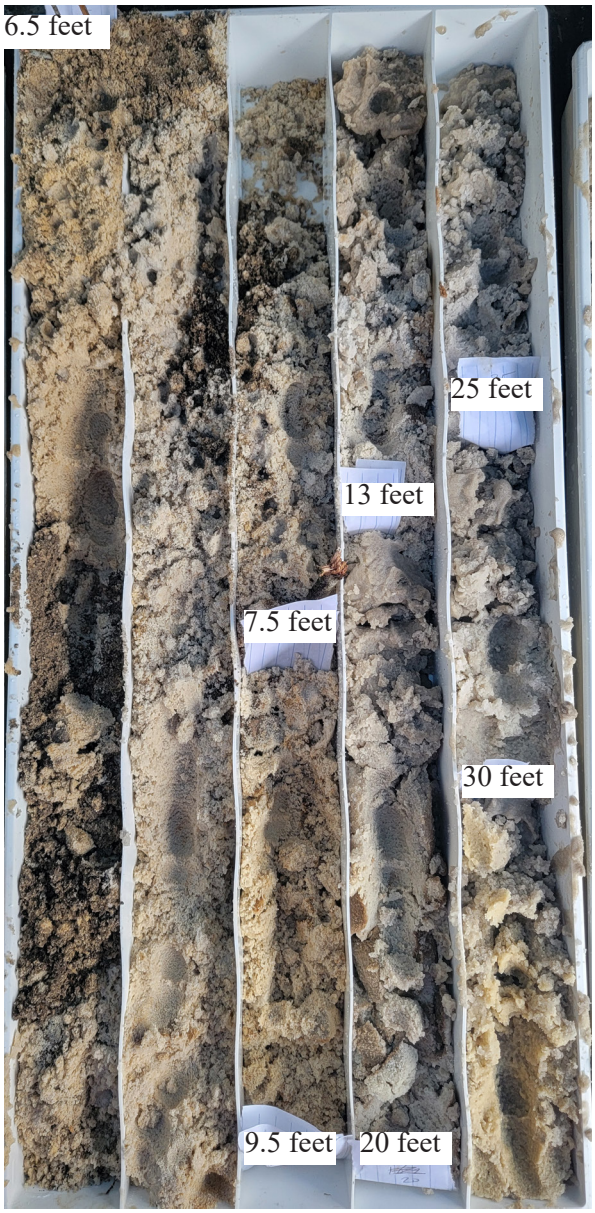
Geologist: K.Mallams

Date (MM/DD/YYYY)	Box No.	Geology	Hydrology	Hydrostrat.	Depth (ft bls)	Recovery (%)	Lithology	Porosity (%)	Description	Test Interval	SPT Blow Counts	Comments
01/21/2025					20-23				Drill - no samples			
01/21/2025	2				23-25				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Rounded grains; Fine to medium grained; Organics (1%)		5, 5, 7, 7	
01/21/2025		Reworked Cypresshead Formation		surficial aquifer	25-28				Drill - no samples			
01/21/2025	2				28-30				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; rounded grains; Fine to medium grained; Organics (1%)		6, 9, 9, 12	
01/21/2025					30-33				Drill - no samples			
01/21/2025	3				33-35				SAND - Pale yellow orange (10 YR 8/6) to very pale orange (10 YR 8/2); Intergranular porosity; Rounded grains; Fine to medium grained; Organics (<1%)		10, 10, 12, 13	
01/21/2025					35-38				Drill - no samples			
01/21/2025	3				38-40				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Fine to medium grained; Rounded grains; No organics		11, 12, 15, 18	
01/21/2025					40-43				Drill - no samples			
01/21/2025	3				43-45				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Fine to coarse grained; Rounded grains; Organics (<1%)		8, 9, 10, 13	
01/21/2025					45-48				Drill - no samples			
01/21/2025	3				48-50				SAND - Very pale orange (10 YR 8/2); Intergranular porosity; Fine to coarse grained; Rounded grains; Organics (<1%)		14, 19, 31, 40	

[ft bls, feet below land surface; Hydrostrat., hydrostratigraphy; MM/DD/YYYY, month/day/year; No., number; SPT, standard penetration test]

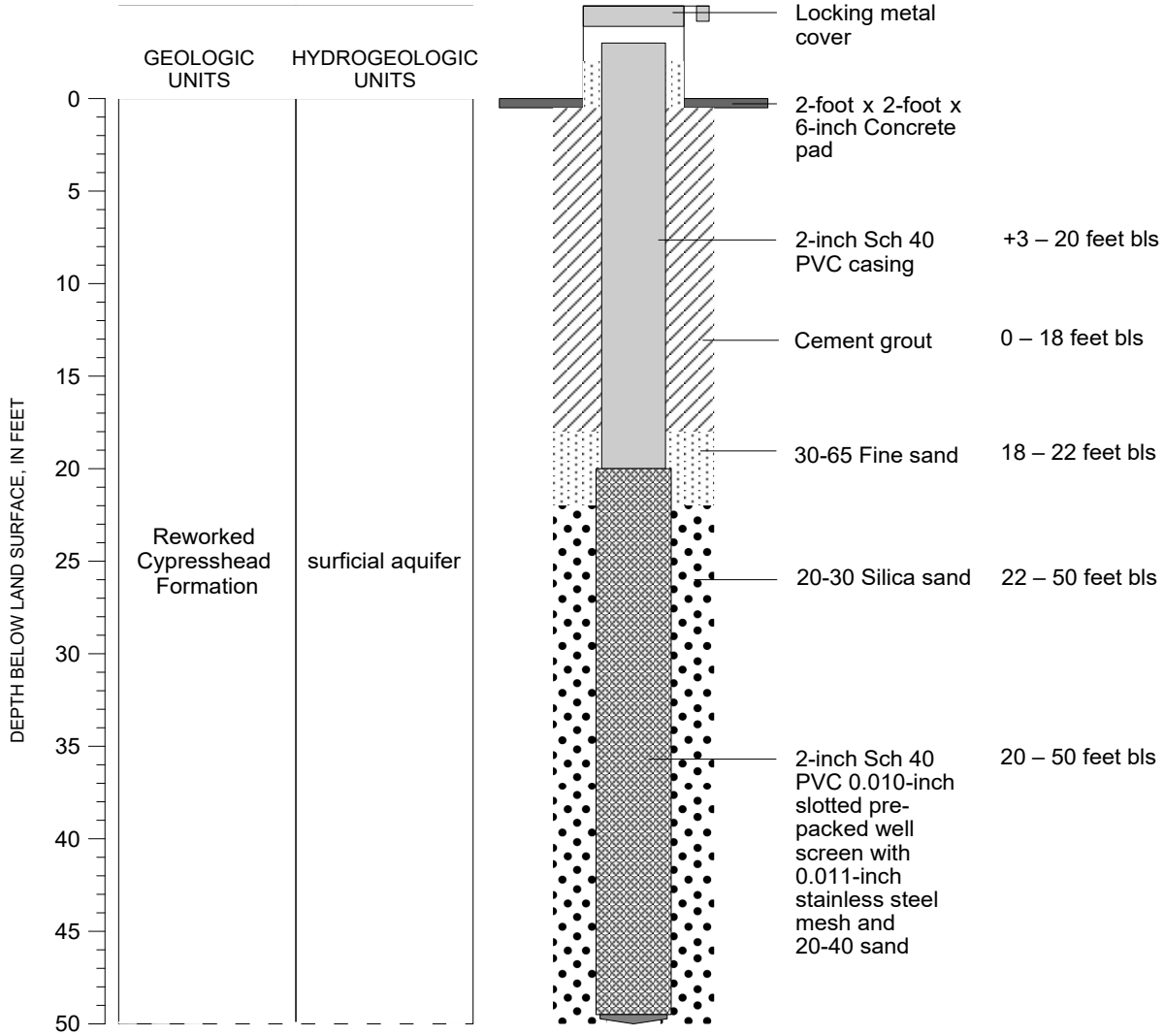
Attachment 3



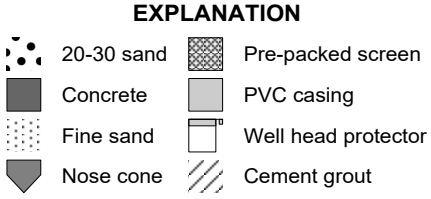


Attachment 3

Attachment 4



Well Name:	Lake Bonnie Surf Aq Monitor
SID:	1034914
WCP:	950636
S/T/R:	31/29S/28E
Latitude:	27° 54' 37.09" N
Longitude:	81° 33' 19.58" W
Reporting Category:	BONN
Const. Began:	01/21/2025
Const. Complete:	01/22/2025



Note: As-built is not to scale above land surface.

[Aq, aquifer; bls, below land surface; Const., construction; E, east; N, north; PVC, polyvinyl chloride; S, south; Sch, schedule; SID, station indentification; S/T/R, Section/Township/Range; Surf, surficial; WCP, well construction permit; W, west]

Attachment 5

Attachment 6

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
GEOHYDROLOGIC DATA SECTION
DAILY CORE DRILLING LOG

REPORT #	SITE GEOLOGIST	DATE	DATE ON-SITE	SID
1	K Mallams	01/21/2025	01/21/2025	

CONTRACTOR	CREW	PROPOSED T.D.	PROGRESS	DEPTH
NET	Bill, Tim	50	50	50

WELL SITE NUM-NAME	Lake Bonnie	WELL NAME/ID	Lake Bonnie SA mon.

TIME LOG FROM	TO	DEPTH	DETAILS OF OPERATIONS
			Rain all day No thunder
			Jay + Drillers already here
			drillers got here by 9:05
1000			KDM arrive
1013			Mast up on hole
1019		0-2.5	Drill-pilot hole - Fill - roadway - WL 4.25ID 6 5/8 OD Augr
		2.5-7.5	Post hole digger
1035		7.5-9.5	SPT (2,2,3,4) 11
		9.5-7	~~Drill~~
			Preparing Mud
1045	11:00		Rain-Heavy
11:15	11:19		Drill to 10
11:19	11:20	10-13	Drill to 13
11:22	11:24	13-15	SPT (4,5,7,8) 24
11:25	11:27	15-18	Drill
			Mix Mud -
1132	1134	18-20	SPT (4,5,8,9) 26 Estimated WL - 18' bls
			Cleaning sand out of mud box
1142	1144	20-23	Drill
1146	1149	23-25	SPT (5,5,7,7) 24
1151	1153	25-28	Drill
1154	1156	28-30	SPT (6,9,9,12) 36
1201	1203	30-33	Drill
1204	1205	33-35	SPT (10,10,12,13) 45
		35-38	Drill
	1216	38-40	SPT (11,12,15,18) 56
		40-43	Drill
	1226	43-45	SPT (8,9,10,13)
		45-48	Drill
		48-52	SPT (14,19,31,40) 104
			Clean up 1400 partner off site

Used CME 75 for lithologic collection and well installation

District Representative		Contractor Representative	

Attachment 6

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
GEOHYDROLOGIC DATA SECTION
DAILY CORE DRILLING LOG

REPORT #	SITE GEOLOGIST	DATE	DATE ON-SITE	SID
2	K. Mallams	01/22/2025	01/21/2025	1034914

CONTRACTOR	CREW	PROPOSED T.D.	PROGRESS	DEPTH
NET	Bill, Tim	50	50	50

WELL SITE NUM-NAME	Lake Bonnie	WELL NAME/ID	Surf Aq Monitor

TIME LOG FROM	TIME LOG TO	DEPTH	DETAILS OF OPERATIONS
			This log is based on an email from Jay M. detailing the activities on 01/22/2025.
			Jay M. on site with NET
			NET installed a 2" well down to 50' with a 2” prepack screen from 20’ – 50’.
			A sand pack was installed using 20-30 sand from 22’ – 50’.
			Then fine sand 30-65 was installed from 18’ – 22’.
			NET poured the pad and installed the 4” aluminum riser.
			The well was developed for approx. one hour with several swabs of the well with
			the pump.
			The water cleared up to almost completely clear by the end.
			A 2640 lock was installed on the riser; NET did not have any expansion plugs
			so there is currently a 2” cap on top of the well
			Everyone off site at 13:30

District Representative		Contractor Representative	