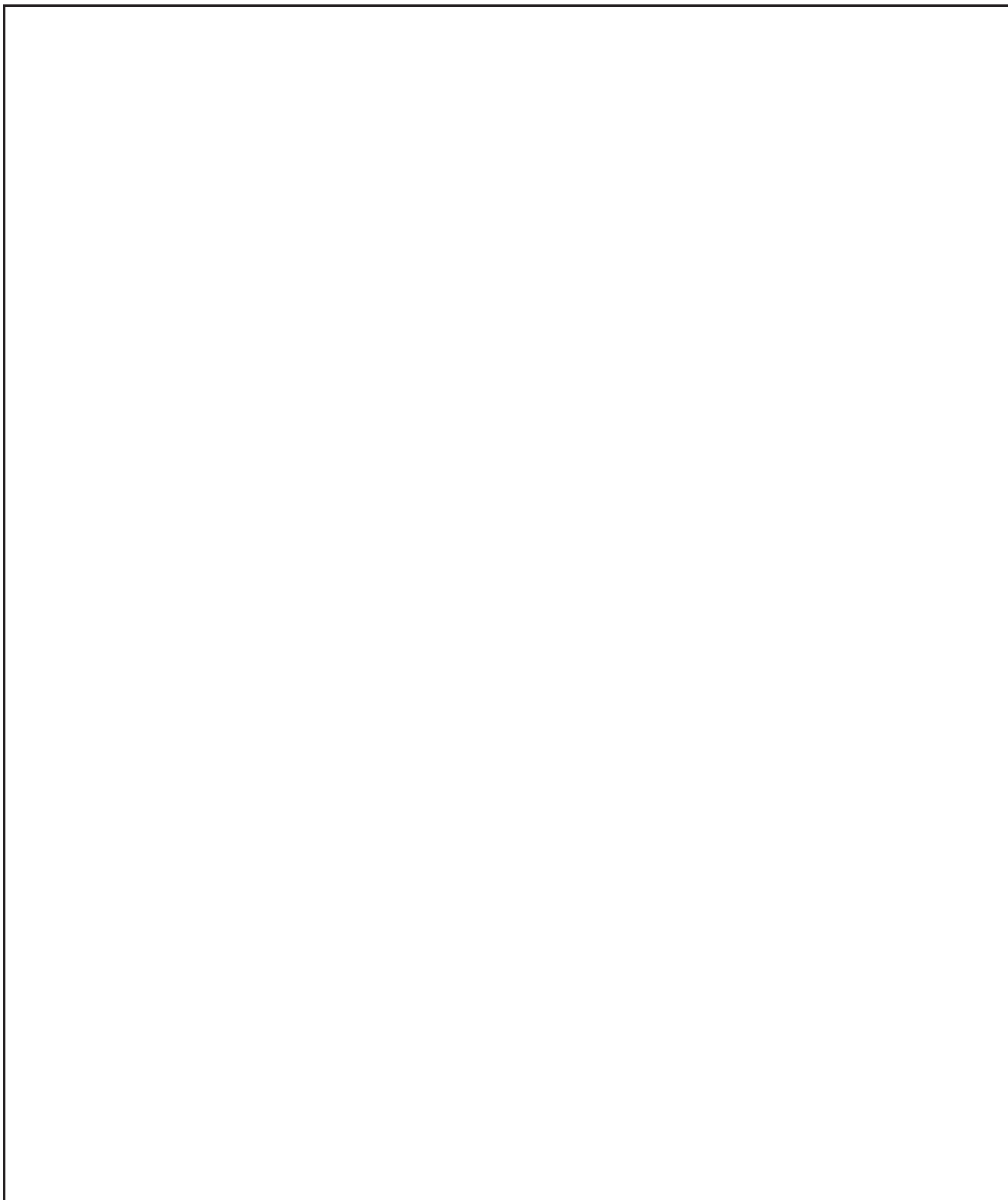


# Geohydrologic Data Section Work Plan 2022



Southwest Florida  
Water Management District

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**Cover Photo:** Core drilling and testing operation at the ROMP 88.5 – Northeast Polk well site. Photograph by Julie Zydek.

# **Geohydrologic Data Section Work Plan 2022**

August 2021

# **Southwest Florida Water Management District**

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# Preface

The 2022 Geohydrologic Data Section Work Plan lists the projects planned by the Geohydrologic Data Section (GEO) for fiscal years 2022 to 2025. The GEO is responsible for the collection of hydrogeologic data and the oversight of monitor well construction activities at the Southwest Florida Water Management District (District). The GEO conducts exploratory core drilling and aquifer testing, and contracts private well drilling firms to construct the monitor wells to support the data collection needs for various District projects.

The Regional Observation and Monitor-well Program (ROMP), administered by the GEO, has historically been the primary source for hydrogeologic data collection. The ROMP was started in 1974 in response to the need for hydrogeologic information by the District. The focus of the ROMP is to characterize the hydrogeology and water quality of the groundwater systems that serve as the primary source of drinking water within southwestern Florida. The original design of the ROMP consisted of an inland 10-mile grid network composed of 122 well sites and a coastal transect network composed of 24 coastal monitor transects of two to three well sites each. The number of wells at a well site varies with specific regional needs; usually two to five permanent monitor wells are constructed at each site. The numbering system for both networks generally increases from south to north with ROMP-labeled wells representing the inland grid network and TR-labeled wells representing the coastal transect network. Currently, 105 inland grid network well sites are complete and 24 coastal transect network well sites have one or more wells in the transect complete. The need for additional ROMP inland and coastal transect well sites will depend on the future priorities of the District.

Expanded District initiatives have created the need for data from new well sites outside the original two well networks. These well sites, known as Project Support well sites, facilitate the exploration of target areas within the District such as the Southern Water Use Caution Area, Central Florida Water Initiative, and the Northern District Water Resources Assessment Project. Some well sites provide information for multiple projects, as well as enhancing the original two well networks.

The broad objectives at each well site are to determine the geology, hydrology, groundwater quality, hydraulic properties, and to install wells for long-term monitoring. Site activities include exploratory core drilling, aquifer testing, and well construction. These activities provide data necessary for the hydrogeologic and groundwater quality characterization of the well sites. At the completion of each well site, a summary report is generated and can be found at the District's website at <https://www.swfwmd.state.fl.us/resources/data-maps/geohydrologic-data>. The monitor wells form the backbone of the District's long-term aquifer monitoring networks, which supply critical data for the District's regional models, hydrologic conditions, and water quality reporting.



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## Conversion Factors

<b>Multiply</b>	<b>By</b>	<b>To obtain</b>
foot (ft)	0.3048	meter (m)
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m <sup>3</sup> )
gallon (gal)	3.785	cubic decimeter (dm <sup>3</sup> )
million gallons (Mgal)	3,785	cubic meter (m <sup>3</sup> )
mile (mi)	1.609	kilometer (km)
ounce, avoirdupois (oz)	28.35	gram (g)

## Acronyms and Abbreviations

APT	aquifer performance test
bls	below land surface
CFWI	Central Florida Water Initiative
CGWQMN	Coastal Groundwater Quality Monitoring Network
CME	Central Mining Equipment
District	Southwest Florida Water Management District
DMIT	Data, Monitoring, and Investigation Team
DWRM	District Wide Regulation Model
ECFTX	East Central Florida Transient Model
FY	Fiscal Year
GEO	Geohydrologic Data Section
MFL	Minimum Flows and Levels
MIA	Most Impacted Area
MCU	Middle Confining Unit
NDDP	Northern District Drilling Program
NDM	Northern District Groundwater Flow Model
NDWRAP	Northern District Water Resources Assessment Project
ROMP	Regional Observation and Monitor-well Program
SWUCA	Southern Water Use Caution Area
UDR	Universal Drill Rigs
UFANMN	Upper Floridan aquifer Nutrient Monitoring Network
Work Plan	Geohydrologic Data Section Work Plan



# Geohydrologic Data Section Work Plan 2022

## Introduction

As the demand for water resources within the Southwest Florida Water Management District (District) increases, the need to monitor and evaluate the condition of the water resources also increases. The Geohydrologic Data Section (GEO) Work Plan 2022 (Work Plan) identifies current and future core drilling and testing, and well construction sites, details the required work, and prioritizes the well sites to ensure the hydrogeologic data needs of the District are being met for fiscal years (FY)<sup>1</sup> 2022 to 2025. As of FY2021, all well sites added to the Work Plan are vetted and approved through the Data Collection Working Group or the Data Governance Committee or both depending on the scope of the project. The goal of the data collected from the construction of these well sites is to improve the understanding of the hydrogeologic systems in the District.

The Work Plan is generally updated every two years. The GEO solicits information from the Water Resources, Natural Systems and Restoration, Data Collection, and Water Use Permit Bureaus about future hydrogeologic data collection and well construction requirements of the District. These future project requirements are detailed on GEO scope of work forms or work orders submitted through FootPrints. The scope of work forms and FootPrints work orders received for the listed projects are presented in appendix A.

Data collected at the well sites identified in this Work Plan will be used for hydrologic conditions reporting, water quality monitoring, groundwater modeling, minimum flows and levels development, long-term water resource availability estimates, well field recovery monitoring and evaluating, and regulatory guidelines evaluating. The data collection objectives for each project will vary depending on the data needs in the particular area. These objectives may include: identifying the potable water thickness, locating the saltwater/freshwater interface, determining the thickness of the Upper Floridan aquifer, determining the presence and groundwater quality of the Lower Floridan aquifers (below middle confining units I, II, VI, and VIII), and other similar objectives. A summary of the hydrogeology of the District, and the stratigraphic and hydrologic terms used in this Work Plan are given in appendix B.

The GEO is responsible for the Well Repair and Maintenance Program (WRMP) that was implemented in FY2021.

As part of the WRMP, the GEO responds to well problems and performs repairs or abandonments as required for wells the District monitors. Also, routine inspection of all District-owned monitor wells is an objective of the WRMP to ensure the integrity of the wells and the associated resource data (water quality and levels) collected from the wells.

## Work Plan Organization

Projects in the Work Plan are grouped according to the data collection needs. Projects requiring the highest level of data collection are listed as Core Drilling and Testing projects (table 1). Projects requiring well construction and minimal data collection are listed as Project Support Well Construction projects. Table 2 lists all the monitor wells planned for both project types. Projects that require aquifer performance tests (APTs) are presented in table 3. Figure 1 presents the locations of the projects. The core drilling and testing, monitor well construction, and APTs proposed to be completed by the GEO section from FY2022 to FY2025 are what can be reasonably accomplished with the available resources.

The number of wells identified as needing evaluation, repair, or abandonment under the WRMP is presented in Table 4 and the number of District-owned monitor wells that will need inspection as part of the WRMP is presented in Table 5.

## Core Drilling and Testing Projects

Well construction sites selected for core drilling and testing are completed in three phases and require the highest level of data collection. The first phase includes collecting continuous rock core samples from land surface up to 3,000 feet below land surface (bls) to delineate formation boundaries, aquifers, permeable zones, and confining units. In addition, slug tests are conducted, and water quality samples are collected while core drilling to characterize the hydrogeologic units encountered. Core drilling and testing can take twelve months to complete depending on the planned depth of data collection. The District-owned Universal Drill Rigs (UDR) 200D LS and Central Mining Equipment (CME) 85 drill rigs are used for core drilling and data collection. The current and proposed core drilling projects are detailed below and listed in table 1.

<sup>1</sup>The fiscal year begins October 1 and ends September 30

## 2 Geohydrologic Data Section Work Plan 2022

**Table 1.** Planned core drilling and testing projects for fiscal years 2022 – 2025

[bls, below land surface; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; FAS, Floridan aquifer system; LFA, Lower Floridan aquifer; MCU I, middle confining unit I; MCU II, middle confining unit II; NDWRAP, Northern District Water Resource Assessment Project; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; TLA, temporary license area; TR, transect]

Site Number	Site Name	Project	County	Starting Fiscal Year <sup>1</sup>	Easement Status	Starting Depth (feet bls) <sup>2</sup>	Estimated End Depth (feet bls)	Core Drilling Objective
ROMP 88.5	Northeast Polk	ROMP, CFWI	Polk	2018	Acquired; TLA expires at project completion	1,847	2,500	Complete coring to Delineate MCU I, II, and VIII, base of FAS
ROMP 46	Baird	ROMP, CFWI	Polk	2021	Acquired; TLA expires 3/10/2024	800	2,600	Complete coring to 50 feet into LFA below MCU II, or base of FAS
TR 7-3	Durante Park	SWUCA, ROMP	Manatee	2022	No Expiration	0	600	Locate saltwater interface
-	Coon Wal-low	CGWQMN	Hernando	2023	District Prop-erty	0	700	Locate saltwater interface
-	Stage Coach Trail	NDWRAP, ROMP	Citrus	2024	Not Acquired	0	1,000	50 feet into MCU II
-	Camp Mining Replace-ment	NDWRAP	Citrus	2025	Not Acquired	0	800	Delineate MCU I and top of MCU II

<sup>1</sup>Starting fiscal year is projected if a future site

<sup>2</sup>Starting depth is projected if site is currently under construction.

Phase two includes the construction of the permanent and temporary monitor wells, which is performed by private drilling firms contracted by the District. Well construction usually begins after core drilling and testing is complete. The monitor wells proposed for construction for FYs 2022 to 2025 are presented in table 2.

Phase three includes conducting APTs, which are performed after all wells are constructed. The APTs proposed for FYs 2022 to 2025 are presented in table 3.

### ROMP 75 – Auburndale

This well site is located in Polk County and supports the Central Florida Water Initiative (CFWI) and the ROMP inland 10-mile grid network. A detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, Upper Floridan aquifer, and Lower Floridan aquifer was performed during core drilling at the site.

Core drilling and testing was completed to a depth of 2,810 feet bls in the top of the basal confining unit of the Floridan aquifer system in 2013. Monitor wells have been completed in the surficial aquifer, Upper Floridan aquifer, and Lower Floridan aquifer below middle confining unit I. A permanent Lower Floridan aquifer monitor well was

completed below middle confining unit II in July 2016, as part of the 2016 CFWI Data, Monitoring, and Investigations Team (DMIT) Hydrogeologic Work Plan Update for FY2016-FY2020. The permanent and temporary Upper Floridan aquifer monitor wells will be modified before conducting APTs. APTs are planned in the surficial aquifer, Upper Floridan aquifer, and the Lower Floridan aquifer below middle confining unit I during FY2023. This well site will be equipped for long-term monitoring of water levels and water quality.

### ROMP 88 – Rock Ridge (Green Swamp West)

This is an existing ROMP site located in northern Polk County that contained one permanent Upper Floridan aquifer well. This site is part of the ROMP inland 10-mile grid network and will improve the calibration of the District Wide Regulation Model (DWRM), Northern District Groundwater Flow Model (NDM), and the East Central Florida Transient (ECFTX) model. The site was revisited in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2020-FY2025). Data collection from this site is important for monitoring and evaluating the Lower Floridan aquifers that have been identified as an alternative water supply source in Polk

County. Core drilling and testing at this well site will provide a detailed characterization of the Upper and Lower Floridan aquifers, and delineate the extent of middle confining units I and II.

Core drilling and testing started during FY2017 and ended at 2,607 feet bls in April 2020. Monitor wells were constructed in the Lower Floridan aquifer below middle confining unit I and Lower Floridan aquifer below middle confining unit II. APTs in the Upper Floridan aquifer and Lower Floridan aquifers below middle confining units I and II are planned to begin in FY2022. This well site will be equipped for long-term monitoring of water levels and water quality.

## ROMP 88.5 – Northeast Polk

This well site is located in northeastern Polk County. Well construction and testing at this location is being performed in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2020-FY2025). This site will infill the ROMP inland 10-mile grid network, and will improve the calibration of the DWRM, NDM, and the ECFTX models. Data collection from this site is important for monitoring and evaluating the Lower Floridan aquifers that have been identified as an alternative water supply source in Polk County. This site will provide a detailed characterization of the Upper and Lower Floridan aquifers, and delineate the extent of middle confining unit I, middle confining unit II, and middle confining unit VIII..

Core drilling and testing started during FY2018 and is at 1,847 feet bls as of July 2021. Coring and testing will extend to the base of the Floridan aquifer system. Monitor wells are required in the Upper Floridan aquifer, Lower Floridan aquifer below middle confining unit I, the Lower Floridan aquifer below middle confining unit II, and the Lower Floridan aquifer below middle confining unit VIII. The Upper Floridan aquifer monitor well was completed in FY2020. APTs are needed in the Upper Floridan aquifer, Lower Floridan aquifer below middle confining unit I, Lower Floridan aquifer below middle confining unit II, and Lower Floridan aquifer below middle confining unit VIII (if present). This well site will be equipped for long-term monitoring of water levels and water quality.

## ROMP 46 – Baird

This well site is located in southwestern Polk County. Well construction and testing at this location is being performed in accordance with the CFWI DMIT Hydrogeologic Annual Work Plan (FY2020-FY2025). This site will infill the ROMP inland 10-mile grid network, support the SWUCA, and will improve the calibration of the DWRM, NDM, and ECFTX models. Core drilling and testing at this site will provide a detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan

aquifer, and will determine the elevation of middle confining unit II.

Core drilling and testing started April 2021 and is at 725 feet bls as of July 2021. Coring and testing will extend to 50 feet into the Lower Floridan aquifer below middle confining unit II. Monitor wells are needed in the surficial aquifer, any of the aquifers present within the Hawthorn (intermediate) aquifer system, and any discrete permeable zones of the Upper Floridan aquifer. APTs are needed for any aquifer or permeable zone containing freshwater. This well site will be equipped for long-term monitoring of water levels and water quality.

## TR 7-3 – Durante Park

This well site is located in southwestern Manatee County. This well site is part of the ROMP coastal transect network and will assist in completing a coastal transect of existing wells within the Most Impacted Area (MIA) of the Southern Water Use Caution Area (SWUCA) to monitor the saltwater interface. Core drilling and testing at this well site will provide a detailed characterization of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan aquifer. This site is critical for determining the top of the Upper Floridan aquifer because it is in an area with insufficient data.

Core drilling and testing is needed from land surface to the saltwater/freshwater interface. Monitor wells are required in the surficial aquifer, any of the aquifers present within the Hawthorn (intermediate) aquifer system, and the Upper Floridan aquifer. This well site will be equipped for long-term monitoring of water levels and water quality.

## Coon Wallow

This well site is located in northwestern Hernando County about 1.5 miles west of the Centralia well site. This site supports the CGWQMN. Core drilling and testing at this site will provide a detailed characterization of the saltwater interface within the Upper Floridan aquifer.

Core drilling and testing is needed from land surface to the saltwater interface. A monitor well is required in the Upper Floridan aquifer to monitor the saltwater interface. The surficial aquifer and shallow Upper Floridan aquifer wells at the Centralia well site will be used in conjunction with this saltwater interface well. This well site will be equipped for long-term monitoring of water levels and water quality.

## Stage Coach Trail

This well site (previously named Dames Cave) is proposed to be located in south-central Citrus County. This site will support the NDWRAP and improve the calibration of the DWRM and NDM. This site also will infill the ROMP inland 10-mile grid network. Core drilling and testing at the site will

**Table 2.** Planned monitor well construction projects for fiscal years 2022 – 2025

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; LFA VIII, Lower Floridan aquifer below middle confining unit VIII; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TLA, temporary license area; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

[illegible]

**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2022 – 2025

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; LFA VIII, Lower Floridan aquifer below middle confining unit VIII; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells								Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II	Perm LFA VIII	Temp LFA VIII
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I						
-	Lake Alfred Deep at Lake Alfred	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
ROMP 51	Little Manatee River	CGWQMN	Hillsborough	District Property/FDOT access	-	-	-	-	1	-	-	-	-	-	-	-	-	-
-	Watermelon Pond 75th St NE	UFANMN	Levy	Acquired	-	-	-	-	1	-	-	-	-	-	-	-	-	-
-	NE 30th St near Deerpen Pond	UFANMN	Levy	Acquired	-	-	-	-	1	-	-	-	-	-	-	-	-	-
-	Guest Road at SR 121	UFANMN	Levy	Acquired	-	-	-	-	1	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2022</b>					<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	
<b>FISCAL YEAR 2023</b>																		
ROMP 88.5	Northeast Polk	ROMP, CFWI	Polk	Acquired; TLA expires at project completion	-	-	-	-	-	-	-	-	-	-	-	1	1	
ROMP 46	Baird	CFWI, ROMP, SWUCA	Polk	Acquired; TLA expires 3/10/2024	1	1	2	2	2	2	-	-	1	-	-	-	-	
TR 7-3	Durante Park	SWUCA, ROMP	Manatee	No Expiration	1	-	2	-	1	-	-	-	-	-	-	-	-	
-	Lake Mabel	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	
-	Gator Creek Reserve 1	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	

**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2022 – 2025

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; LFA VIII, Lower Floridan aquifer below middle confining unit VIII; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells											
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II	Perm LFA VIII	Temp LFA VIII
-	Gator Creek Reserve 2	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Hilochee Osprey West	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Bonnet Lake Marsh	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Bartow Airport (formerly Lakeland Highlands Scrub)	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
-	Wetland Well REG	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
TOTAL FOR FISCAL YEAR 2023					11	1	4	2	3	2	0	0	1	0	1	1
FISCAL YEAR 2024																
ROMP 86R	Moon Lake Replacement	MFL	Pasco	Not Acquired	1	-	-	-	1	-	-	-	-	-	-	-
	USGS SR 52 near Fivay Replacement	MFL	Pasco	Not Acquired	1	-	-	-	1	-	-	-	-	-	-	-
	-	ROMP	Pasco	Not Acquired	1	-	-	-	1	-	-	-	-	-	-	-
	Peace River at Bartow	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
	Peace River at Fort Meade	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-
	Lake Lowery	CFWI, MFL	Polk	NotAcquired	1	-	-	-	1	-	-	-	-	-	-	-



**Table 2. (Continued)** Planned monitor well construction projects for fiscal years 2022 – 2025.

[-, none; CFWI, Central Florida Water Initiative; CGWQMN, Coastal Groundwater Quality Monitoring Network; LFA I, Lower Floridan aquifer below middle confining unit I; LFA II, Lower Florida aquifer below middle confining unit II; LFA VIII, Lower Floridan aquifer below middle confining unit VIII; MFL, Minimum Flows and Levels; NDWRAP, Northern District Water Resource Assessment Project; Perm, permanent; REG, Regulation Department; ROMP, Regional Observation and Monitor-well Program; SWUCA, Southern Water Use Caution Area; Temp, temporary; TE, temporary easement; UFA, Upper Floridan aquifer; UFANMN, Upper Floridan aquifer Nutrient Monitoring Network]

Site Number	Site Name	Project	County	Easement Status	Monitor Wells								Perm LFA I	Temp LFA I	Perm LFA II	Temp LFA II	Perm LFA VIII	Temp LFA VIII
					Perm Surficial	Temp Surficial	Perm Hawthorn	Temp Hawthorn	Perm UFA	Temp UFA	Perm LFA I	Temp LFA I						
-	Homeland DEP 9	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	Salon Ranch	CFWI	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	Stagecoach Trail	NDWRAP, ROMP	Citrus	Not Acquired	1	1	-	-	1	1	-	-	-	-	-	-	-	-
-	Coon Wallow	CGWQMN	Hernando	District Property	-	-	-	-	1	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2024</b>					<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>FISCAL YEAR 2025</b>																		
-	Lake Bonnie	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	North Lake Wales	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	Crooked Lake Prairie	CFWI, MFL	Polk	Not Acquired	1	-	-	-	-	-	-	-	-	-	-	-	-	-
-	Camp Mining Replacement	NDWRAP	Citrus	Not Acquired	-	-	-	-	1	-	-	-	-	-	-	-	-	-
<b>TOTAL FOR FISCAL YEAR 2025</b>					<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL FISCAL YEARS 2022 – 2025</b>					<b>29</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>16</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

**Table 3.** Planned aquifer performance tests for fiscal years 2022 – 2025

[ -, none; ROMP, Regional Observation and Monitor-well Program; TLA, temporary license area]

Site Number	Site Name	County	Easement Status	Fiscal Year	Aquifer Performance Tests			
					Surficial	Hawthorn	Upper Floridan	Lower Floridan
-	Thornhill Ranch	Polk	Acquired	2022	-	-	1	-
ROMP 88	Rock Ridge	Polk	District Property	2022	-	-	1	2
ROMP 75	Auburndale	Polk	Easement expires 2041	2023	1	-	2	1
ROMP 88.5	Northeast Polk	Polk	Acquired; TLA expires at project completion	2024	-	-	1	3
ROMP 46	Baird	Polk	Acquired; TLA Expires 3/10/2024	2025	1	2	2	-
<b>TOTAL FOR FISCAL YEARS 2022 – 2025</b>					<b>2</b>	<b>2</b>	<b>7</b>	<b>6</b>

provide a detailed characterization of the surficial aquifer and the Upper Floridan aquifer.

Core drilling and testing is needed 50 feet into the middle confining unit II. Monitor wells are required in the surficial and Upper Floridan aquifers. APTs are required for the surficial and Upper Floridan aquifers. This well site will be equipped for long-term monitoring of water levels only.

## Camp Mining Replacement

This well site is proposed to be located in northeastern Citrus County about a half mile from the plugged Camp Mining Upper Floridan aquifer well. This area is a key location to monitor Upper Floridan aquifer water levels to aid in groundwater modeling and May/September potentiometric mapping. Core drilling and testing will determine the geographical extent of the middle confining units I and II. Core drilling is needed to 50 feet within the middle confining unit II. This site will require the construction of one Upper Floridan aquifer monitoring well.

## Project Support Well Construction Projects

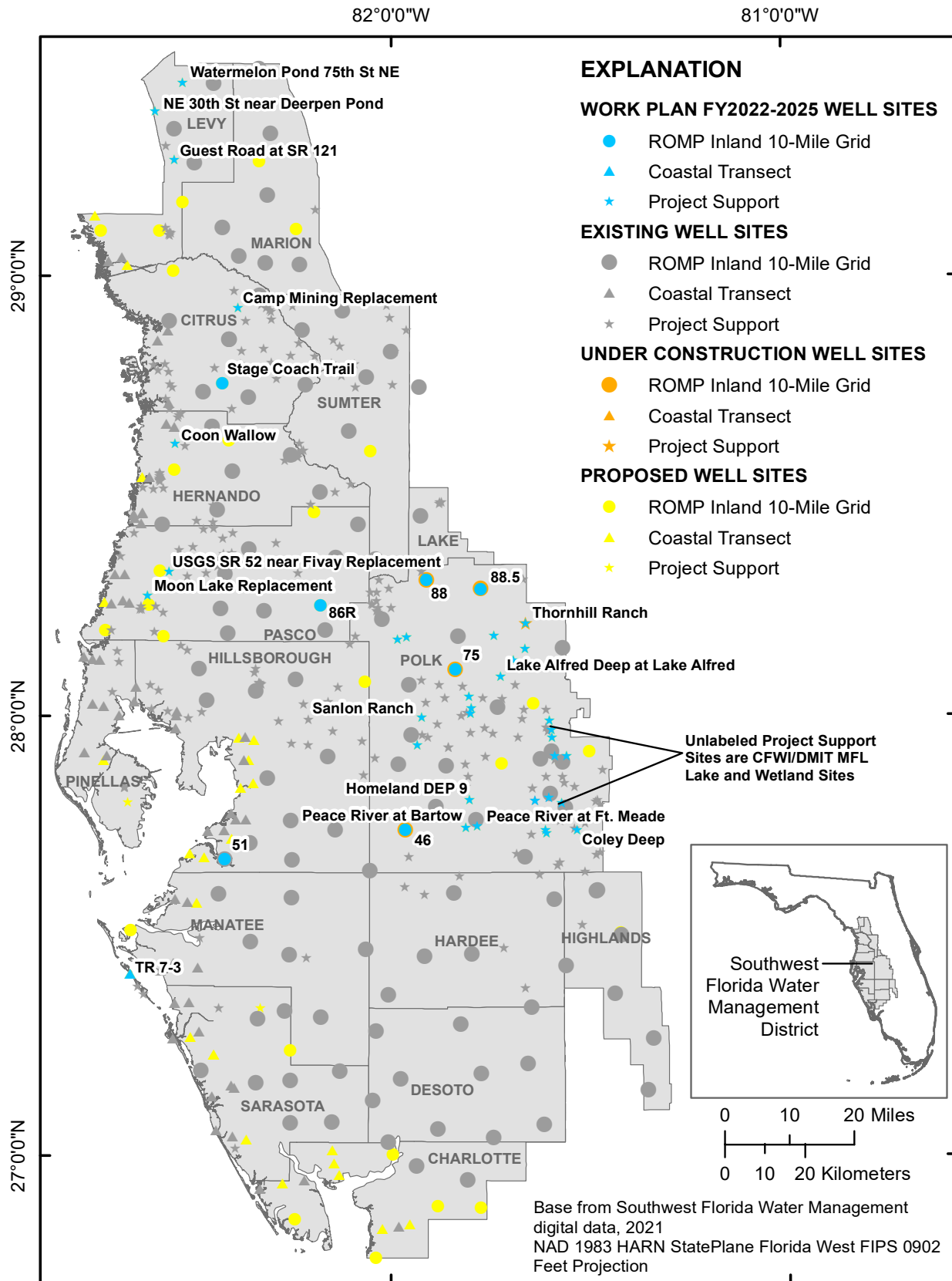
Project support well construction sites require well construction and minimal hydrogeologic data collection. The data collection work is limited to split-spoon sampling, drill cuttings collection, and geophysical logging. These well sites are typically completed in two to three weeks from the start of construction because of the limited data collection activities. Some well sites are included in more than one District project.

The monitor wells planned for each project are presented in table 2.

## Central Florida Water Initiative

The CFWI is a water supply planning effort to review existing and projected water use demands in a five-county region of Central Florida. The boundaries of the St. Johns River Water Management District, the South Florida Water Management District, and the Southwest Florida Water Management District meet in the area of southern Lake, Orange, Osceola, Seminole, and Polk Counties. This project involves the collaborative efforts of the three water management districts to determine the sustainable limits of the Floridan aquifer system and study alternative sources of water to address central Florida's current and long-term water supply needs (Central Florida Water Initiative, 2021).

The DMIT was created to identify existing hydrologic data currently collected within the CFWI boundaries and to make recommendations for future monitoring activities in the CFWI region. The DMIT produced a Hydrogeologic Work Plan which was updated in February 2020, that identifies and lists monitoring requirements for wetlands, the surficial aquifer, the Upper Floridan aquifer, and the Lower Floridan aquifer. Well sites requiring coring and testing, well installation and/or aquifer testing include ROMP 88 – Rock Ridge, ROMP 88.5 – Northeast Polk, and ROMP 46 – Baird, which are discussed in the previous section. Most CFWI sites will also provide data for the MFL project, which is explained in the next section (Data, Monitoring, and Investigations Team, 2020).



[FY, fiscal year; ROMP, Regional Observation and Monitor-well Program; CFWI, Central Florida Water Initiative; DMIT, Data, Monitoring, and Investigations Team; NAD, North American Datum; HARN, High Accuracy Reference Network; FIPS, Federal Information Processing Standard]

**Figure 1.** Geohydrologic Data Section core drilling and well construction sites.

## Minimum Flows and Levels

This project involves the establishment of MFLs for lakes, wetlands, rivers, and aquifers to identify the minimum flow and level at which further withdrawals would be significantly harmful to the water resources or ecology of the area (Southwest Florida Water Management District, 2021). Rivers, streams, springs, and estuaries require the establishment of minimum flows; and lakes, wetlands, and aquifers require the establishment of minimum levels. These projects require split-spoon sample collection and the construction of surficial aquifer and/or Upper Floridan aquifer monitor wells adjacent to the water body.

Surficial aquifer monitor wells are required to help establish and/or monitor minimum levels at several lakes and wetlands within the CFWI. Upper Floridan aquifer monitor wells are required for the following Polk County lakes: Lake Starr, Lake Annie, and Lake Lowery (Data, Monitoring, and Investigations Team, 2020).

Monitor well construction is required at two locations along the Peace River. Surficial monitor wells are required at Bartow and Fort Meade to quantify the relationship between the Peace River and the surficial aquifer (Data, Monitoring, and Investigations Team, 2020).

## Coastal Groundwater Quality Monitoring Network

The CGWQMN is a network of monitor wells used to monitor the groundwater quality in areas of the District that are susceptible to saltwater intrusion and/or upwelling of mineralized water (Kraft, 2011). Proposed projects that will be included in this network include: TR 7-3 – Durante Park and Coon Wallow.

In addition, 27 Upper Floridan aquifer well sites were proposed to be added to existing transect sites and were approved in the FY2022 Business Plan Summary. These well sites will be evaluated in the future to determine if more inland well sites are needed because of saltwater intrusion (Southwest Florida Water Management District, 2020). As of May 2021, the construction of these additional wells is on hold until funds and staff are available.

## Upper Floridan aquifer Nutrient Monitoring Network

The Upper Floridan aquifer Nutrient Monitoring Network (UFANMN) is a well network used to monitor nutrients in groundwater basins of major springs in the District. The network is mostly made up of existing monitor wells and private wells volunteered by homeowners for sampling. Sixty three well site replacements were proposed and approved in the FY2022 Business Plan Summary to replace existing private wells and infill gaps in the existing monitor well networks for nutrient assessments and modeling. Water quality from these

well sites will support the springs restoration initiatives in the northern portion of the District. Three well sites are proposed to be installed in fiscal year 2022 (delayed from fiscal year 2021): Watermelon Pond 75th St NE, NE 30th St near Deerpen Pond, and Guest Road at SR 121. These three sites will also infill gaps in groundwater level data for potentiometric surface maps of the Upper Floridan aquifer.

## Well Repair and Maintenance Program

The WRMP was established to routinely assess District monitor wells and perform necessary repairs, modifications, or abandonments as needed. Since the 1970s, hundreds of monitor wells have been constructed or acquired by the GEO section within the District as part of the ROMP and other support projects. Many of these wells are now 30 to 40 years old and repair and maintenance are needed to maintain the integrity of these wells. Wells acquired by the District after they were constructed may need to be modified to comply with the District's well construction standards and to make sure there is no cross-connection of aquifers. Monitor wells that are damaged by vehicles or vandalism and wells in the way of road construction projects may require repair, replacement, or abandonment.

Historically, the GEO section has responded to well problems and performed repairs or abandonments on an as-needed basis and when work loads permit. The WRMP ensures a proactive approach by routinely inspecting and maintaining the District's monitor wells to avoid failing wells and allow continuous collection of accurate data.

Table 4 shows the number of well repair requests received by the GEO section as of July 2021 and percent completed. Table 5 shows the number of District-owned monitor wells that require routine inspection and maintenance by the GEO section as part of the WRMP and percent completed as of July 2021. The backlog of repair requests will need to be worked on while incorporating a certain number of routine inspections and maintenance during FY2022 to FY2025.

## Summary and Conclusions

Groundwater demand continues to increase throughout the District. The potential to adversely affect the water resources increases as a result of this demand. Hydrogeologic data and thorough monitoring are necessary to ensure that sound management decisions can be made.

The GEO Section's data collection programs and monitor well networks serve as the District's primary source for hydrogeologic data. This Work Plan identifies the hydrogeologic data collection and well construction activities planned for FY2022 to FY2025. Construction of 65 new wells are planned to support District projects during those fiscal years.

Projects requiring extensive data collection are grouped as core drilling and testing projects. Three ongoing core drilling and testing projects will be completed and four new core

**Table 4.** Well repair requests received by the Geohydrologic Data Section as of July 2021

Total Number of Well Repair Requests	Completed Well Repair Requests	Pending Repairs	Percent Completed
225	132	93	59

**Table 5.** District-owned monitor wells needing inspection per the Well Repair and Maintenance Program as of July 2021

District-owned Monitor Wells	Number of Wells Inspected	Total Number of Wells Pending Inspection	Percent Completed
2364	217	2147	9

drilling and testing projects will be started. The construction of 28 wells and completion of 17 aquifer performance tests are planned. These projects support regional District projects including the CFWI, ROMP, NDWRAP, SWUCA, and CGWQMN.

Projects that require monitor well construction but minimal data collection are grouped as project support well construction projects. The construction of 37 monitor wells are planned for these projects from FY2022 to FY2025. The project support well construction projects support District regional projects including the CFWI, CGWQMN, and MFLs.

## Selected References

Central Florida Water Initiative, 2021, What is CFWI: [https://cfiwater.com/what\\_is\\_CFWI.html](https://cfiwater.com/what_is_CFWI.html) (accessed February 10, 2021).

Data, Monitoring, and Investigations Team, 2020, DMIT Hydrogeologic Annual Work Plan for FY2020-2025, 19 p.

Kraft, Carol, 2011. Coastal Groundwater Quality Monitoring Network/Water-Use Permit Network Report Volume VI, 146 p.

Southwest Florida Water Management District, 2020, FY2022 Business Plan Summary. Brooksville, Florida: Southwest Florida Water Management District.

Southwest Florida Water Management District, 2021, Strategic Plan 2021-2025, Updated February 2021. Brooksville, Florida: Southwest Florida Water Management District.

## **Appendix A. Scope of Work Checklists/FootPrints Work Orders**

# ROMP Site Scope of Work Checklist

## Site Information

**Name** ROMP 75 - Auburndale

**County** Polk

**Project** Regional Observation and Monitor-well Program

**STR** 29/27/25

Is this an existing District well site? ☒ No ☐ Yes

**Lat/Long** 28 06 31.7 / 81 50 13.9

## Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

## Aquifer Performance Testing ☐ No ☒ Yes

**parameters to be tested**

- surficial aquifer: ☒ T ☒ S
- Peace River aquifer (PZ1): ☐ T ☐ S ☐ L
- upper Arcadia aquifer (PZ2): ☒ T ☒ S ☒ L
- lower Arcadia aquifer (PZ3): ☐ T ☐ S ☐ L
- Upper Floridan aquifer: ☒ T ☒ S ☒ L
- Lower Floridan aquifer below MCU I: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU II: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU VI: ☐ T ☐ S

*An APT may not be possible if water quality is poor*

## Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

## Other Data Collection ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

## Comments:

Wells and APTs needed for all aquifers present in the HAS. I suspect we should look at the Lower Floridan at this site. But I will defer to M Barcelo on this.

☐ No changes

☒ Changes noted above

☐ New Site

**Initial:** MHB

## Well Site Scope of Work Checklist

Is this an existing District well site? ☐ No ☒ YesDate 7/30/2015

<b>Site Name</b>	ROMP 88	<b>County</b>	Polk
<b>Project</b>	Central Florida Water Initiative/P005	<b>STR</b>	16/25/24
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	28 18 38.5 / 81 54 40.0
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☒ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU II: | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☐ Upper Floridan aquifer
- ☒ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☒ Video Logging
- ☒ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Existing ROMP 88 site. Site currently has an Upper Floridan aquifer well. A surficial aquifer well and a minimum of two Lower Floridan aquifer wells below middle confining units I and II are being proposed.

Geologic sampling: Exploratory drilling to determine presence of both middle confining units I and II. Water quality, water level and hydraulic property profiling is necessary to determine presence of both middle confining units I and II.

☐ No changes☐ Changes noted above☐ New SiteInitial: JGP



### Justification for the work required (cost and benefit):

#### Purpose and Scope:

This is an existing ROMP site located in an area that is critical toward establishing the geographic extent of middle confining units I and II and the extent of the Lower Floridan aquifers below these confining units. This site will be improved to a "full ROMP site" with the addition of a surficial aquifer well, a Lower Floridan aquifer well below middle confining unit I and a Lower Floridan aquifer well below middle confining unit II. Exploration will be conducted to the degree necessary to define the boundaries of the middle confining units I and II and the Lower Floridan aquifers. Discrete zone testing for water quality and water level should be conducted to assist in defining these boundaries and to characterize the water supply potential of the aquifers. Exploration will extend to the base of the Floridan aquifer system.

Wells will be constructed in the surficial aquifer and Lower Floridan aquifers below middle confining units I and II. Additional temporary wells in the Lower Floridan aquifers below middle confining units I and II may be constructed in order to conduct multi-well aquifer performance tests. Multi-well aquifer performance tests are essential in this region to determine the sustainability of water quality for the Upper Floridan and the Lower Floridan aquifers below each unit. The multi-well aquifer performance tests will also determine the leakage coefficients between the surficial aquifer and the Upper Floridan, the Upper Floridan and the Lower Floridan below middle confining unit I and between the Lower Floridan aquifers below middle confining units I and II.

#### Justification:

1. This site is located within Polk County which is part of the Central Florida Water Initiative (CFWI) region. The Lower Floridan aquifers have been identified in the CFWI Regional Water Supply Plan as an alternative water supply as a non-traditional groundwater source. Increased withdrawals from the Lower Floridan aquifers are anticipated due to the expectation of meeting water supply demands within the CFWI region through non-traditional water supply sources.
2. This site has been identified in the Data, Monitoring and Investigations Team (DMIT) FY2015-FY2020 Work plan. The DMIT is a subgroup of the CFWI and has identified this location as a key site to collect water levels and water quality data in the Lower Floridan aquifers below middle confining units I and II.
3. This site will refine the hydraulic properties of the Lower Floridan aquifer below middle confining units I and II for use in the District Wide Regulatory Model (DWRM), Northern District Model (NDM), East Central Florida Transient Expanded Model (ECFTX) and future modeling efforts.
4. This site will improve the calibration of the DWRM, NDM, ECFTX and future modeling efforts.
5. This site will be used for collecting long-term water levels for the Lower Floridan aquifers below middle confining units I and II.
6. This site will improve current knowledge of the extent of middle confining units I and II within the region of the WMD jurisdictional boundary.

The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District, local water users and the CFWI. Data collection will be key in the determination of the health of the resource in northern Polk County as future water supply demands from the Lower Floridan aquifers within this region grows.

#### Benefits:

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

#### Supported Projects:

Data- Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiatives (C005)  
 CFWI- Data, Monitoring and Investigations Team  
 CFWI- Expansion of East Central Florida Transient Model  
 Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County (P280)  
 District Wide Regulatory Model - (P625)  
 MFL Technical Support- Northern District WRAP (P876)

#### Potentially Supported projects:

WUP- Water Use Permitting Program (M002)  
 Regional Water Supply Plan  
 Water Quality Monitoring Network  
 Hydrologic Conditions Reporting

## Well Site Scope of Work Checklist

Is this an existing District well site? ☒ No ☐ YesDate 3/9/2021

<b>Site Name</b>	ROMP 88.5	<b>County</b>	Polk
<b>Project</b>	Central Florida Water Initiative/P005	<b>STR</b>	TBD
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	TBD
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☒ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☒ Lower Floridan aquifer below MCU I
- ☒ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU II: | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☒ Video Logging
- ☒ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Geologic sampling: Exploratory drilling to determine presence of both middle confining units I and II and the glauconite marker unit. Water quality, water level and hydraulic property profiling is necessary to determine presence of both middle confining units I and II and the glauconite marker unit.

☐ No changes☐ Changes noted above☒ New SiteInitial: JGP

### Justification for the work required (cost and benefit):

#### Purpose and Scope:

This is a new ROMP site located in an area that is critical toward establishing the geographic extent of middle confining units I and II, the glauconite marker unit (GMU), and the extent of the Lower Floridan aquifers below these confining units. This site will be a "full ROMP site" with a surficial aquifer well, Upper Floridan aquifer well, Lower Floridan aquifer well below middle confining unit I, Lower Floridan aquifer well below middle confining unit IIa, and a Lower Floridan aquifer well below the GMU (Lower Floridan aquifer IIb), for a total of 5 monitor wells. Exploration will be conducted to the degree necessary to define the boundaries of the middle confining units I and II, the GMU, and the Lower Floridan aquifers I, IIa, and IIb. Discrete zone testing for water quality and water level should be conducted to assist in defining these boundaries and to characterize the water supply potential of the aquifers. Exploration will extend to the base of the Floridan aquifer system.

Wells will be constructed in the surficial aquifer, Upper Florida aquifer, Lower Floridan aquifers below middle confining units I and II, and Lower Floridan aquifer below the GMU. Additional temporary wells in the Lower Floridan aquifers below middle confining units I, IIa, and below the GMU may be constructed in order to conduct multi-well aquifer performance tests. Multi-well aquifer performance tests are essential in this region to determine the sustainability of water quality for the Upper Floridan and the Lower Floridan aquifers below each unit. The multi-well aquifer performance tests will also determine the leakance coefficients between the surficial aquifer and the Upper Floridan, the Upper Floridan and the Lower Floridan below middle confining unit I and between the Lower Floridan aquifers below middle confining units I and II.

#### Justification:

1. This site is located within Polk County which is part of the Central Florida Water Initiative (CFWI) region. The Lower Floridan aquifers have been identified in the CFWI Regional Water Supply Plan as an alternative water supply as a non-traditional groundwater source. Increased withdrawals from the Lower Floridan aquifers are anticipated due to the expectation of meeting water supply demands within the CFWI region through non-traditional water supply sources.
  2. This site has been identified in the Data, Monitoring and Investigations Team (DMIT) FY2015-FY2020 Work plan. The DMIT is a subgroup of the CFWI and has identified this location as a key site to collect water levels and water quality data in the Lower Floridan aquifers below middle confining units I and II and the Lower Floridan aquifer below the GMU (IIb).
  3. This site will refine the hydraulic properties of the Lower Floridan aquifers below middle confining units I, and II, and the Lower Floridan aquifer below the GMU (IIb) for use in the District Wide Regulatory Model (DWRM), Northern District Model (NDM), East Central Florida Transient Expanded Model (ECFTX) and future modeling efforts.
  4. This site will improve the calibration of the DWRM, NDM, ECFTX and future modeling efforts.
  5. This site will be used for collecting long-term water levels for the Lower Floridan aquifers below middle confining units I, II, and the Lower Floridan aquifer below the GMU (IIb).
  6. This site will improve current knowledge of the extent of middle confining units I and II, and the glauconite marker unit within the region of the WMD jurisdictional boundary.
- The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District, local water users and the CFWI. Data collection will be key in the determination of the health of the resource in northern Polk County as future water supply demands from the Lower Floridan aquifers within this region grows.

#### Benefits:

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

#### Supported Projects:

Data- Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiatives (C005)  
 CFWI- Data, Monitoring and Investigations Team  
 CFWI- Expansion of East Central Florida Transient Model  
 Hydrogeological Investigation of the Lower Floridan Aquifer in Polk County (P280)  
 District Wide Regulatory Model - (P625)  
 MFL Technical Support- Northern District WRAP (P876)  
 Potentially Supported projects:  
 WUP- Water Use Permitting Program (M002)  
 Regional Water Supply Plan  
 Water Quality Monitoring Network  
 Hydrologic Conditions Reporting

## Well Site Scope of Work Checklist

Is this an existing District well site? ☐ No ☒ Yes

Date \_\_\_\_\_

<b>Site Name</b>	ROMP 46 - Baird	<b>County</b>	Polk
<b>Project</b>		<b>STR</b>	31/31/24
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	27 44 24.3 / 81 57 02.6
<b>PIMS Project No.</b> (if applicable)			

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| lower Arcadia aquifer (PZ3):         | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU II: | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☒ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Other Data Collection ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

This site has been acquired.

Wells and ATPs need for all aquifers present in the HAS.

☐ No changes☐ Changes noted above☐ New Site

Initial: \_\_\_\_\_

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## Well Site Scope of Work Checklist

Reset Form

Is this an existing District well site? ☒ No ☐ Yes

Date Jul 12, 2012

<b>Site Name</b>	ROMP TR 7-3 Durante Park	
<b>Project</b>	SWUCA Recovery Strategy	<b>County</b> Manatee
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>STR</b> 25/35/16
<b>PIMS Project No. (if applicable)</b>	P085, C005	<b>Lat/Long</b> 27 24 52.72 / 82 39 30.00

**Geologic Sampling** ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☒ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☐ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

**Well Construction** ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☒ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☒ upper Arcadia aquifer (PZ2)
- ☒ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

**Aquifer Performance Testing** ☒ No ☐ Yes

parameters to be tested

- surficial aquifer: ☐ T ☐ S
- Peace River aquifer (PZ1): ☐ T ☐ S ☐ L
- upper Arcadia aquifer (PZ2): ☐ T ☐ S ☐ L
- lower Arcadia aquifer (PZ3): ☐ T ☐ S ☐ L
- Upper Floridan aquifer: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU I: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU II: ☐ T ☐ S ☐ L
- Lower Floridan aquifer below MCU VI: ☐ T ☐ S

An APT may not be possible if water quality is poor

**Other Data Collection** ☒ No ☐ Yes

- ☐ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

**Comments:**

This site is acquired and there is no expiration date for temporary construction easement.

-Wells are needed for any aquifer present in the HAS.  
-Saltwater intrusion well.

☐ No changes☒ Changes noted above☐ New Site

Initial: JGP

**Site Name** ROMP TR 7-3 Durante Park

**Justification for the work required (cost and benefit):**

**Purpose and Scope:**

This site will be a critical part of the the ROMP coastal transect network used to measure the movement of the saltwater/freshwater interface in Manatee County. The site will assist in completing a transect of existing wells within the Most Impacted Area (MIA) of the SWUCA to monitor the saltwater/freshwater interface. In order to provide detailed information about the location of the saltwater/freshwater interface, exploration will be conducted to the degree necessary to define the boundaries of the surficial aquifer, Hawthorn (intermediate) aquifer system, and Upper Floridan aquifer. Coring and testing will be conducted to the saltwater/freshwater interface.

The development and maintenance of this site will assist in the evaluation of the SWUCA Recovery Strategy and future Regional Water Supply Plan assessments. The data collection program, which includes this site, is used to set minimum aquifer levels within the SWUCA and MIA.

**Justification:**

1. This site will be used for collecting long-term Upper Floridan water levels.
2. This site will be used for collecting long-term water quality data.
3. This site will be the only hydrogeologic data point located within the Manatee County barrier islands.
4. This site will be used to determine the rate and rate of change of saltwater/freshwater within the MIA.
5. This site will be key for future modeling efforts in this region.
6. This site can potentially be used as an APT site for refining the hydraulic properties of the Hawthorn (intermediate) aquifer system as well as the Upper Floridan aquifer within the SWUCA/MIA.

**Benefits:**

Expansion of data collection in this region will help manage and protect the resource. These data will allow the District to forecast limitations in groundwater supply and the saltwater/freshwater interface along the coastal regions so cost-effective solutions can be properly planned. This will help prevent additional impacts that need to be resolved with water users of the region under the current recovery strategies (SWUCA and MIA). These data will also contribute to reducing environmental impacts that are not able to be recovered or mitigated.

**Supported Projects:**

SWUCA Recovery Strategy (P085)  
 Data - Aquifer Exploration & Monitor Well Drilling Program (ROMP) District-wide Initiative (C005)  
 Hydrologic Conditions Reporting  
 Upper Floridan Aquifer Potentiometric Surface Mapping  
 Regional Water Supply Plan

## Geohydrologic Data Request for Well Construction, Modification, Testing

<b>Work Request Number</b>	562	<b>Submitted On</b>	08/14/2019
<b>Priority</b>	Normal	<b>Submitted At</b>	11:55:42
<b>Status</b>	Assigned	<b>Last Edited On</b>	08/14/2019
<b>Submitted By</b>	ddewitt	<b>Last Edited At</b>	11:55:45
<b>Assignees</b>	Manager		
<b>Description</b>			
Entered on 08/14/2019 at 11:55:42 AM EDT (GMT-0400) by Dave Dewitt: [ no Description entered ]			
<b>Well Site Name</b>	Saltwater interface monitor well at Coon Wallow	<b>Name of Project</b>	ROMP
<b>Is this an Existing District Well Site?</b>	NO	<b>Is the Well Site Already Acquired?</b>	YES
<b>County</b>	Hernando		
<b>Description of Work</b>			
Core drilling and testing needed to identify the depth to the saltwater interface inland of the Chassahowitzka Swamp in coastal Hernando County. A single Upper Floridan aquifer monitor well will be constructed following test drilling.			
<b>Is New Well Construction Required?</b>	YES	<b>Select Aquifers that Require Long-Term Monitoring:</b>	Upper Floridan aquifer
<b>Is Exploratory Data Required?</b>	YES	<b>Depth of Exploration for Lithologic</b>	to saltwater/freshwater interface
<b>Is Aquifer Performance Testing Required?</b>	NO	<b>Logging, Other Data Collection Needs</b>	YES
<b>Select All Other that Apply</b>	Geophysical Logging	<b>I have read the TERMS OF REQUEST</b>	Yes
<b>Request Type</b>	Well Construction, Modification, Testing	<b>Priority Explanation</b>	Requested work will be included in the GEO workplan and scheduled accordingly
<b>PIMS Project Number</b>	C005		
<b>Justification (Cost-Benefit)</b>			
Addition of this saltwater interface monitoring site was discussed during the 2019 GEO Workplan meeting with members of the Resource Evaluation section and the WQMP. An apparent gap in groundwater-quality monitoring had been identified between the recently completed TR 19-3 site and the two TR-20 transect sites to the north. This new well site will close that gap in the coastal interface monitoring, and will aid in delineating the subsurface saline water for tracking saltwater intrusion in the coastal margin of Hernando County.			
<b>The Primary Long-Term Use for the Well(s) will be</b>	Water Level and Quality Monitoring	<b>Is Existing Well Modification Required?</b>	No
<b>Lithologic Sampling Required?</b>	Yes	<b>Water Quality Profile Required?</b>	Yes
<b>Depth of Exploration for Water Quality</b>	to saltwater/freshwater interface	<b>Water Level Profile Required?</b>	Yes
<b>Depth of Exploration for Water Level</b>	to saltwater/freshwater interface	<b>Hydrologic Profile (Slug Test) Required?</b>	No
<b>Master Ticket Number</b>	562	<b>Last Name</b>	Dewitt
<b>First Name</b>	Dave	<b>Email Address</b>	dave.dewitt@swfwmd.state.fl.us
<b>User ID</b>	DDEWITT	<b>Call Back Number</b>	4512



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## Well Site Scope of Work Checklist

Is this an existing District well site? ☒ No ☐ YesDate Jul 30, 2012

<b>Site Name</b>	Stage Coach Trail (formerly Dames Cave)	<b>County</b>	Citrus
<b>Project</b>	MFL Technical Support - Northern District WRAP	<b>STR</b>	16/19/18
<b>Justification (cost/benefit)</b>	Described on Page 2	<b>Lat/Long</b>	28 45 34.43/ 82 25 52.94
<b>PIMS Project No. (if applicable)</b>	P876, C005		

### Geologic Sampling ☐ No ☒ Yes

Depth of exploration:

- ☐ to top of rock
- ☐ to saltwater/freshwater interface
- ☐ 50 feet into middle confining unit I
- ☒ 50 feet into middle confining unit II
- ☐ 50 feet into middle confining unit VI
- ☐ to the base of the Floridan aquifer system
- ☐ Other (please specify in comments)

### Well Construction ☐ No ☒ Yes

The primary long-term use for the well(s) will be:

- ☒ Water Level Monitoring
- ☐ Water Quality Monitoring
- ☐ Other (please specify in comments)

Check all aquifers that require long-term monitoring:

- ☒ surficial aquifer
- ☐ Peace River aquifer (PZ1)
- ☐ upper Arcadia aquifer (PZ2)
- ☐ lower Arcadia aquifer (PZ3)
- ☒ Upper Floridan aquifer
- ☐ Lower Floridan aquifer below MCU I
- ☐ Lower Floridan aquifer below MCU II
- ☐ Lower Floridan aquifer below MCU VI
- ☐ Other (please specify in comments)

### Aquifer Performance Testing ☐ No ☒ Yes

parameters to be tested

- |                                      |                                       |                                       |                                       |
|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| surficial aquifer:                   | <input checked="" type="checkbox"/> T | <input type="checkbox"/> S            |                                       |
| Peace River aquifer (PZ1):           | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| upper Arcadia aquifer (PZ2):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| lower Arcadia aquifer (PZ3):         | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Upper Floridan aquifer:              | <input checked="" type="checkbox"/> T | <input checked="" type="checkbox"/> S | <input checked="" type="checkbox"/> L |
| Lower Floridan aquifer below MCU I:  | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU II: | <input type="checkbox"/> T            | <input type="checkbox"/> S            | <input type="checkbox"/> L            |
| Lower Floridan aquifer below MCU VI: | <input type="checkbox"/> T            | <input type="checkbox"/> S            |                                       |

*An APT may not be possible if water quality is poor*

### Other Data Collection ☐ No ☒ Yes

- ☒ Geophysical Logging
- ☐ Video Logging
- ☐ Flow Logging
- ☐ Sonic Logging
- ☐ Other (please specify in comments)

### Comments:

Exploratory drilling to define the geology and hydrogeology of the site. This includes water quality profiling, water level profiling, hydraulic property profiling, and geophysical logging. This activity can be exploratory drilling if it is deemed more cost-effective compared to coring.

☐ No changes☒ Changes noted above☐ New SiteInitial: jlm

**Site Name** Stage Coach Trail (formerly Dames Cave)

#### Justification for the work required (cost and benefit):

##### Purpose and Scope:

During the last 10 to 15 years, environmental impacts to lakes and wetlands in the Tampa Bay region along with the threat of saltwater intrusion in the Southern Water Use Caution Area has led District staff to focus data collection and drilling activities in these two areas. Consequently, limited information on the groundwater resource exists in the northern part of the District. The Northern District Water Resources Assessment Project was initiated in 1999 to gain a better understanding of the water resource issues from Pasco County north to Levy County within the Southwest Florida Water Management District. As part of this assessment, a data collection program is currently underway to obtain the necessary level of information needed to improve our conceptual understanding of the groundwater resources, characterize the saline water interface, identify areas of poor groundwater quality, determine the nature of flow to major springs, and provide information for regional flow models. This effort will also assist in the evaluation of future Regional Water Supply Plan assessments and minimum flow and level establishment. This data collection site is one of the sites identified in the data collection program for the Northern District.

The development and maintenance of a groundwater flow model (ND Model) assists in the evaluation of future Regional Water Supply Plan assessments and minimum flow and level establishment. The data collection program, which includes this site, is used to improve the ND Model's conceptual framework and improve calibration. The ND Model is being used for the minimum flow and level establishment for the Homosassa, Chassahowitzka, and Rainbow Spring Systems. This model is also being expanded as part of a cooperative project with Marion County and the St. Johns River Water Management District so it can be used for resource assessments in Marion County and for the Silver Springs minimum flow and level. The ND Model will be used on an ongoing basis to determine compliance with minimum flows and levels of the regions making ongoing model improvement a beneficial activity.

##### Justification:

1. This site is located in south-central Citrus County near a proposed wellfield for the Withlacoochee River Water Supply Authority (WRWSA).
2. This site will establish baseline water levels in this area prior to wellfield development.
3. This site will be the only hydrogeologic data point within the southwest quarter of Citrus County.
4. This site will define the hydraulic properties of the Upper Floridan aquifer for use in the ND Model and the District Wide Regulatory Model.

The unit boundaries, hydraulic test data, and long-term monitoring will be utilized by the District and local water users (e.g., WRWSA). This site will be used for determining potentiometric surfaces, for refinement of the Districtwide Regulatory and Northern District models, and be key in the determination of the health of the resource in south-central Citrus County as this is most certainly an area of future water supply growth. The data collected from this site will also be important to simulate the potential impact of the proposed WRWSA wellfield.

##### Benefits:

Expansion of data collection in this region of future water supply growth will help manage and protect the resource. These data will allow the District to forecast limitation in groundwater supply so cost-effective solutions can be properly planned. This will prevent unanticipated impacts that will need to be resolved with water users of the region under a recover strategy. These data will also contribute to the prevention of environmental impacts that may not be able to be recovered or mitigated once experienced.

##### Supported Projects:

MFL Technical Support - Northern District WRAP (P876)  
Data - Aquifer Exploration & Monitor Well Drilling Program (ROMP) Districtwide Initiative (C005)

##### Potentially Supported Projects:

WUP - Water Use Permitting Program (M002)  
Hydrologic Conditions Reporting  
Upper Floridan Aquifer Potentiometric Surface Mapping  
Regional Water Supply Plan

## 26 Geohydrologic Data Section Work Plan 2022

### Geohydrologic Data Request for Well Construction, Modification, Testing

<b>Work Request Number</b>	566	<b>Submitted On</b>	10/22/2019
<b>Priority</b>	Normal	<b>Submitted At</b>	11:02:09
<b>Status</b>	Assigned	<b>Last Edited On</b>	02/08/2021
<b>Submitted By</b>	jpatterson	<b>Last Edited At</b>	14:00:52
<b>Assignees</b>	Manager Well Repair Team: Chris Tomlinson Individual Users: Tiffany Horstman		
<b>Description</b>			
Entered on 10/22/2019 at 1:19:29 PM EDT (GMT-0400) by Ted Gates: Tiffany, please initiate a new site acquisition request for a new site to replace this existing well.			
Entered on 10/22/2019 at 11:02:09 AM EDT (GMT-0400) by Jason Patterson: [ no Description entered ]			
<b>Well Site Name</b>	Camp Mining UFA	<b>Name of Project</b>	Camp Mining FLDN
<b>Is this an Existing District Well Site?</b>	YES	<b>County</b>	Citrus
<b>Description of Work</b>			
Installation of an Upper Floridan aquifer within 1/4 to 1/2 mile from original Camp Mining well site.			
<b>Is New Well Construction Required?</b>	YES	<b>Select Aquifers that Require Long-Term Monitoring:</b>	Upper Floridan aquifer
<b>Is Exploratory Data Required?</b>	YES	<b>Depth of Exploration for Lithologic</b>	50 feet into middle confining unit II
<b>Exploratory Data Comments</b>			
Verify existance of MCUI and tag top of MCUII.			
<b>Select Aquifers that Require Testing</b>	Upper Floridan aquifer	<b>Logging, Other Data Collection Needs</b>	YES
<b>Select All Other that Apply</b>	Geophysical Logging	<b>I have read the TERMS OF REQUEST</b>	Yes
<b>Request Type</b>	Well Construction, Modification, Testing	<b>Priority Explanation</b>	Install a replacement Upper Floridan aquifer monitoring well near the recently plugged Camp Mining FLDN well
<b>Justification (Cost-Benefit)</b>			
Camp Mining FLDN is approximately 1.25 miles west of the closest active monitoring well. The well is in a key location to monitor Upper Floridan aquifer water levels to aid in groundwater modeling and create the May/September potentiometric mapping.			
<b>SID #1</b>	23439	<b>STR for SID #1</b>	10 18 19
<b>Latitude for SID #1</b>	28 56 08.75	<b>Longitude for SID #1</b>	82 23 34.74
<b>The Primary Long-Term Use for the Well(s) will be</b>	Water Level and Quality Monitoring	<b>Is Existing Well Modification Required?</b>	No
<b>Transmissivity</b>	Monitoring	<b>Storativity</b>	Monitoring
<b>Leakance</b>	Monitoring	<b>Submit Site Acquisition Memo to Real Estate</b>	Completed
<b>Notes for Site Acquisition Memo to Real Estate</b>			
Submitted FootPrints Land Acquisition Request ticket #149 and attached memo.			
<b>Field Site Evaluation and Approval</b>	Completed		
<b>Notes for Field Site Evaluation and Approval</b>			
6/9/20 - Tana to visit possible sites soon. 1/25/2021 - Followed up with Tana. No visits completed but did locate a county ROW that may be feasible. Will perform a visit on 2/1/2021 with Chris T. 2/8/2021 - site seems suitable. Prepared field review for Tana.			
<b>Easement Agreement</b>	Work in Progress		
<b>Note for Easement Agreement</b>			
Sent field review of county ROW to Tana to pursue.			
<b>Lithologic Sampling Required?</b>	Yes	<b>Water Quality Profile Required?</b>	Yes
<b>Water Level Profile Required?</b>	Yes	<b>Depth of Exploration for Water Level</b>	Other
<b>Hydrologic Profile (Slug Test) Required?</b>	No	<b>Depth of Exploration Hydrologic Profile</b>	Other
<b>Master Ticket Number</b>	566	<b>Last Name</b>	Patterson
<b>First Name</b>	Jason	<b>Email Address</b>	jason.patterson@swfwmd.state.fl.us
<b>User ID</b>	JPATTERSON	<b>Call Back Number</b>	4234

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## Appendix B. General Hydrogeology of the Southwest Florida Water Management District

The District is underlain by numerous aquifers of varying productivity and water quality. These aquifers, in general, include, in descending order: the surficial aquifer, the Peace River aquifer, the upper Arcadia aquifer, the lower Arcadia aquifer, the Upper Floridan aquifer, the Lower Floridan aquifer below middle confining unit I, the Lower Floridan aquifer below middle confining unit II, the Lower Floridan aquifer below middle confining unit VIII, and rarely the Lower Floridan aquifer below middle confining unit VI (fig. B1). The surficial aquifer is present, sometimes intermittently, throughout most of the District but is not a major source of water to wells. The Peace River, upper Arcadia, and lower Arcadia aquifers compose the Hawthorn (intermediate) aquifer system. These aquifers are present throughout much of the southern portion of the District (fig. B2). The Upper and Lower Floridan aquifers compose the Floridan aquifer system and underlie all of Florida and portions of Georgia, Alabama, and South Carolina (Miller, 1986). Groundwater from the Upper Floridan aquifer constitutes the majority of the potable water supply underlying the District. The Lower Floridan aquifer below middle confining unit I contains potable water and is withdrawn in portions of northeastern Sumter County at this time. The Lower Floridan aquifer below middle confining unit II and VIII commonly contains non-potable water and is not a major source of water historically, but is being investigated as an alternative water supply in Polk County.

There has been a lot of variation in the nomenclature used to describe the aquifers underlying the District. The Geohydrologic Data Section naming convention is consistent with aquifer nomenclature guidelines proposed by Laney and Davidson (1986) and the North American Stratigraphic Code (2005) to appropriately rank and name the hydrogeologic units underlying the District. A comparison of the nomenclature convention used by the Geohydrologic Data Section and other published conventions can be seen in figures B3, B4, and B5.

The surficial aquifer is the uppermost aquifer within the District. It contains water under unconfined conditions. The surficial aquifer is composed mostly of undifferentiated sand, but may also contain shell, gravel, and clay. The surficial aquifer is absent in areas in counties in the northern part of the District including Hillsborough, Pasco, Hernando, Sumter, Citrus, Marion, and Levy counties and greater than 250 feet thick along the Lake Wales Ridge in areas of Polk and Highlands counties (fig. B2). The surficial aquifer is frequently, but inappropriately, ranked as an aquifer system. Throughout the District, the surficial aquifer is a single aquifer and does not achieve the rank of an aquifer system.

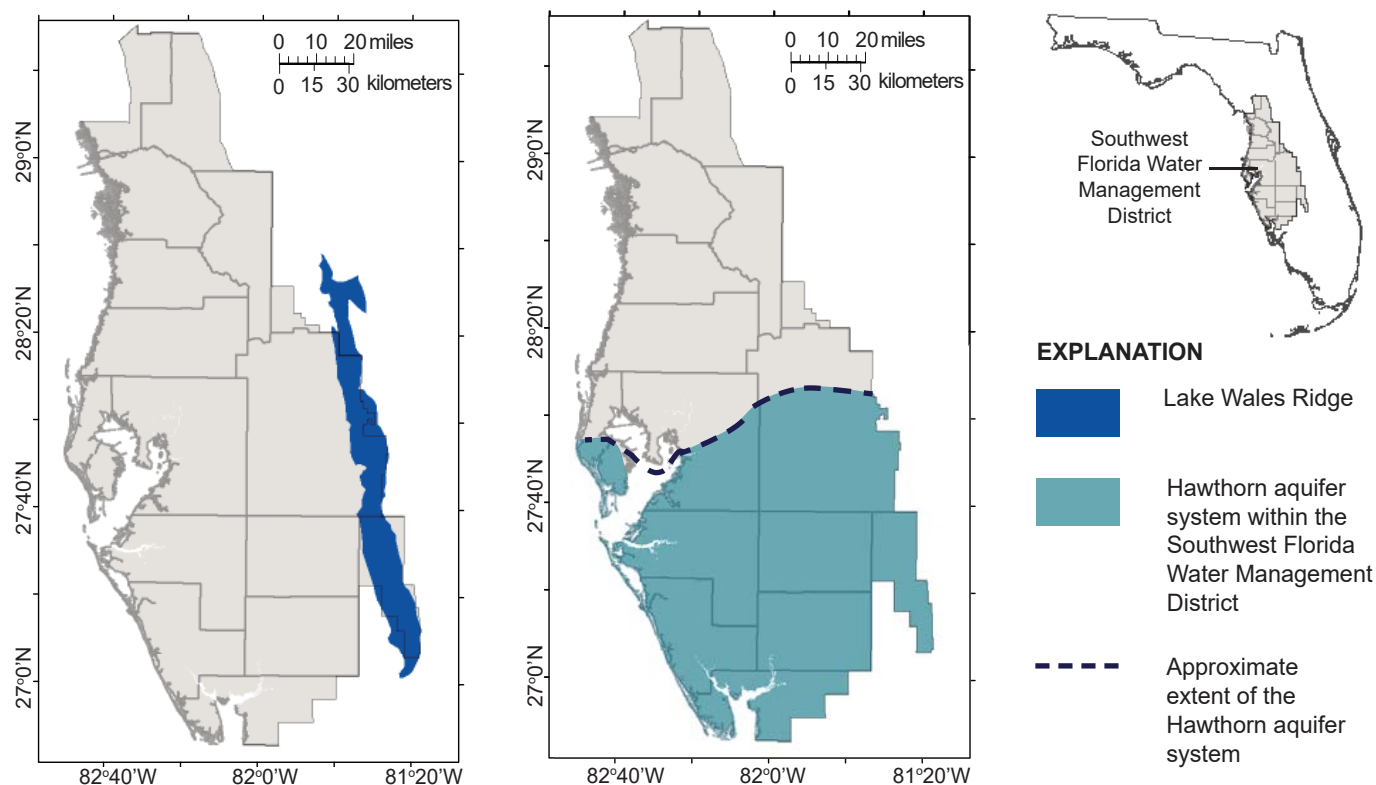
The Hawthorn aquifer system is present in the southern portion of the District because it pinches out north of central Hillsborough County (fig. B2). This aquifer system has commonly been referred to as the intermediate aquifer system (fig. B4). The Hawthorn aquifer system (within the District) con-

Southwest Florida Water Management District Hydrogeologic Framework

Holocene		undifferentiated sand and clay		surficial aquifer			
Pleistocene							
Pliocene						Cypresshead Fm	
						Caloosahatchee Fm	
		Tamiami Fm					
Miocene	late	Hawthorn Group	Coosawhatchie Formation	Peace River Formation	Bone Valley Member	confining unit	
	middle						
	early		Arcadia Formation			upper Arcadia aquifer	
Oligocene	late					confining unit	
	early	Suwannee Limestone			lower Arcadia aquifer		
Eocene	late	Ocala Limestone				confining unit	
	middle	Avon Park Formation			Upper Floridan aquifer		
	early	Oldsmar Formation					
Paleocene		Cedar Keys Formation				confining unit	

[<sup>1</sup>The Hawthorn aquifer system was previously referred to as the intermediate aquifer system. <sup>2</sup>The Avon Park high-permeability zone (SWFWMD fracture zone) crosses middle confining unit I in central Polk County; therefore, it occurs above the middle confining unit I in northern Polk and below the middle confining unit I in southern Polk. <sup>3</sup>The middle confining unit VIII of Miller (1986) was extended across the entire Florida peninsula based on new data.]

**Figure B1.** Formations, aquifers, and confining units found within the Southwest Florida Water Management District.



**Figure B2.** Location of the Lake Wales Ridge and the extent of the Hawthorn aquifer system within the Southwest Florida Water Management District.

tains up to three aquifers; the Peace River aquifer, the upper Arcadia aquifer, and the lower Arcadia aquifer. The Hawthorn aquifer system generally coincides with the Hawthorn Group, which is composed of highly variable deposits of siliciclastics, phosphates, various clays, and carbonates. The groundwater within the Hawthorn aquifer system is under confined conditions. The aquifers within this aquifer system have incorrectly been ranked as zones (1, 2, and 3) in the past; however, the Geohydrologic Data Section has made considerable progress in correcting this ranking error. A correlation chart showing the various names used for the Hawthorn aquifer system and its aquifers is presented in figure B4.

The Floridan aquifer system underlies all of Florida and parts of Georgia, Alabama, and South Carolina (Miller, 1986). Within the District, generally four of the eight subregional middle confining units delineated by Miller (1986) are known to occur. Where present, these units divide the Floridan aquifer system into the Upper Floridan aquifer and separate Lower Floridan aquifers. The four subregional middle confining units include middle confining unit I, middle confining unit II, middle confining unit VI, and middle confining unit VIII.

The Upper Floridan aquifer is the most important source of groundwater in the District. The Upper Floridan aquifer contains groundwater under confined conditions except in areas in the northern District where the clay confining unit is thin and discontinuous. As a result, the Upper Floridan aquifer

becomes unconfined regionally in the northern part of the District.

Laney and Davidson (1986) referred to regionally mappable units within aquifers that demonstrate permeability that is not characteristic of the entire aquifer as zones. The Upper Floridan aquifer is a single aquifer that, in some areas of the District, can contain mappable zones of substantially higher or lower permeability that is not characteristic of the entire aquifer. The District identifies two zones that occur regionally within the Upper Floridan aquifer: the Ocala low-permeability zone and the Avon Park high-permeability zone. These zones are present throughout the southern part of the District but are mostly absent north of Pasco County. The development of secondary permeability from fractured dolostone produces the high hydraulic conductivity observed in the Avon Park high-permeability zone.

The Lower Floridan aquifers occur below any of the subregional middle confining units that are encountered. The base of the Upper Floridan aquifer is the top of the shallowest subregional middle confining unit and the permeable rock below is considered a Lower Floridan aquifer below the subregional middle confining unit encountered. In west-central Florida and most of the District, very low permeability evaporitic dolostones of middle confining unit II (Miller, 1986) separate the Upper and Lower Floridan aquifers. In east-central Florida, at a higher elevation, low permeability micritic limestone and

[illegible]

[SWFWMD, Southwest Florida Water Management District]

**Figure B3.** Surficial aquifer correlation.

[illegible]

[FAS, Floridan aquifer system; PZ, permeable zone; SWFWMD, Southwest Florida Water Management District]

**Figure B4.** Hawthorn aquifer system correlation.





fine-grained dolomitic limestone of middle confining unit I (Miller, 1986) separate the Upper and Lower Floridan aquifers. In rare parts of the southernmost portion of the District, the evaporitic dolostones of middle confining unit VI can be present. Where no middle confining unit exists, the Lower Floridan aquifer becomes part of the Upper Floridan aquifer.

In a narrow northwest-trending band in central peninsular Florida, middle confining unit II is overlapped and separated from the middle confining unit I by a few hundred feet of permeable rock (Miller, 1986). Where this overlap is encountered, the base of the Upper Floridan aquifer is the top of the middle confining unit I and two Lower Floridan aquifers are present. The permeable rock between the middle confining unit I and middle confining unit II is the western portion of the Lower Floridan aquifer below middle confining unit I. The permeable rock below middle confining unit II is the Lower Floridan aquifer below middle confining unit II.

The middle confining unit VIII of Miller (1986) was originally mapped in south and east-central Florida within Early Eocene rocks (Oldsmar Formation) above the Boulder Zone based on available data. Williams and Kuniansky (2016) later extended the middle confining unit VIII across the entire peninsula as the 'Glaconite marker unit' based on a consistently observed gamma-ray spike attributed to glauconite. The permeable rock below the middle confining unit VIII is the Lower Floridan aquifer below middle confining unit VIII. Initially, the origin and stratigraphic rank of the Glaconite marker unit being mapped in the District was unclear, and the permeable rock below it was informally referred to as the Lower Floridan aquifer below middle confining unit II-B. After further review, it is clear the Glaconite marker unit in the District is the extension of middle confining unit VIII of Miller; therefore, the naming was adopted to be consistent with the established Floridan aquifer system framework of the District.

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