



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

SENT VIA ELECTRONIC MAIL

In the Matter of an Application for Permit by:

September 12, 2019

Pamela Keyes, P.E., Director
Lee County Utilities
1500 Monroe Street, Third Floor
Fort Myers, Florida 33902
pkeyes@leegov.com

FDEP UIC Permit No. 320678-004-005-UC/1X
FDEP WACS Facility ID 101458
Lee County
Class I Injection Well System, IW-1 & IW-2
Construction and Testing Permit, Green
Meadows Water Treatment Plant

NOTICE OF PERMIT

Enclosed is Permit Number 320678-004-005-UC/1X to construct and operationally test a Class I Injection Well System.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, (F.S.), by the filing of a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 323993000, agency_clerk@dep.state.fl.us; and by filing a copy of the Notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

PERMITTEE: Pamela Keyes, P.E., Director
Lee County Utilities
Green Meadows WTP

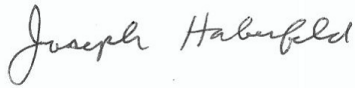
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Date:

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EXECUTING AND CLERKING:

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Joseph Haberfeld, P.G.
Aquifer Protection Program
Division of Water Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated clerk hereby certifies that this NOTICE OF PERMIT and all copies were sent on the filing date Thursday, September 12, 2019, to the following listed persons:

Joseph Haberfeld, FDEP/TLH
Joni Synatschk, FDEP/TLH
Douglas Thornton, FDEP/TLH
James Dodson, FDEP/TLH
Gene Honeycutt, FDEP/TLH
David Rhodes, FDEP/SD
Liz Sweigert, FDEP/SD
Andrew Price, FDEP/SD
Brianna LaPapa, FDEP/SD
Erik Howard, Johnson Engineering
Tyler Weinand, LCU
Cathleen McCarty, FDEP/TLH
Andrew E. Franz, FDEP/TLH
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FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section.120.52, Florida Statutes, (F.S.), with the designated Department Clerk, receipt of which is hereby acknowledged.

Lisa R. Williams
Clerk

09/12/2019
Date



FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

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Underground Injection Control Class I Injection Well System Construction and Testing Permit

Permittee

Pamela Keyes, P.E., Director
Lee County Utilities
1500 Monroe Street, Third Floor
Fort Myers, Florida 33902
pkeyes@leegov.com

Permit/Certification

UIC Permit Number: 320678-004-005-UC/1X
WACS Facility ID: 101458
Date of Issuance: September 12, 2019
Date of Expiration: September 12, 2024
Permit Processor: Douglas Thornton

Facility

Green Meadows Water Treatment Plant
Green Meadows Road
Fort Myers, Florida 33902

Location

County: Lee
Latitude: 26° 30' 42" N
Longitude: 81° 43' 28" W

Project: Class I Injection Well System IW-1 & IW-2

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and the rules adopted thereunder, particularly Rule 62-528, Florida Administrative Code (F.A.C.). The above-named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and made a part hereof and specifically described as follows.

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Lee County Utilities
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TO CONSTRUCT AND OPERATIONALLY TEST: To continue operational testing of one non-hazardous Class I injection well (IW-1) and one associated monitor well (DZMW-1) and to construct one non-hazardous Class I injection well (IW-2) and one associated monitor well (DZMW-2). Each injection well is for the disposal of reverse osmosis concentrate and ion-exchange regeneration concentrate from the Green Meadows Water Treatment Plant. Additionally, water may be withdrawn from IW-2, when it is not being used for injection, for regeneration of the ion exchange resin used in water table aquifer water treatment. The maximum injection rate for each injection well shall be 3,542 gallons per minute (GPM) and the maximum injection volume for each injection well shall be 5.1 million gallons per day (MGD), with 5.1 MGD being the maximum injected volume for the facility. Injection well IW-1 is constructed with a 24-inch diameter steel casing set to 2,740 feet below land surface (bls), and a 15.8-inch diameter tubing set to 2,740 feet bls with a cemented annulus, and total depth of 3,307 feet bls. Dual-zone monitor well DZMW-1 is completed in the Ocala Formation from 1,350 to 1,500 feet bls and Avon Park Formation from 1,700 to 1,800 feet bls. Injection well IW-2 is to be located approximately 6,900 feet east of IW-2. Injection well IW-2 shall be constructed with an 18-inch diameter casing set to 2,600 feet bls, a 13-inch diameter tubing set to 2,600 feet bls with a cemented annulus, and a total depth of 3,300 feet bls. Dual zone monitor well DZMW-2 will be completed in the Ocala Formation from 1,500 to 1,600 feet bls and the Avon Park Formation from 1,700 to 1,800 feet bls.

IN ACCORDANCE WITH: The Application to Construct DEP Form No. 62-528.900(1) received, March 7, 2019, response to the Department's request for additional information dated March 14, 2019, and supporting information submitted to the Aquifer Protection Program (APP) Tallahassee office.

LOCATION: Green Meadows Water Treatment Plant, Green Meadows Road, Fort Myers, Florida 33902 in Lee County.

The injection and monitor wells, as designated below by Well Name and Water Assurance Compliance System (WACS) Testsite identification (ID), and construction details at this facility, are as follows:

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Injection Well(s; IW)

Well Name	WACS Testsite ID	Well Depth (feet bls)	Casing Diameter (in)	Casing or Tubing Type	Casing Depth or Interval (feet bls)
IW-1 320678-004-UC/1X	13987	3,307	54	Steel	100
			42	Steel	660
			34	Steel	1,656
			24	Steel	2,740
			15.8	FRP	2,740
			Open Hole		2,740 – 3,307
IW-2 320678-005-UC/1X	13988	3,300	42	Steel	100
			34	Steel	800
			28	Steel	1,650
			18	Steel	2,600
			13	FRP	2,600
			Open Hole		2,600 – 3,300

Injection Well Notes: Injection well IW-1 is constructed with new unused steel and a fully cemented annulus. Injection well IW-2 will be constructed with new unused steel and a fully cemented annulus.

Monitor Well(s; MW)

Well Name	WACS Testsite ID	Monitor Zone	Casing Diameter (in)	Casing Type	Casing Depth (feet bls)	Monitoring Depth (feet bls)
DZMW-1			34	Steel	39	
			24	Steel	695	
			16	Steel	1,350	
	29234A	Upper Zone				1,350 – 1,500
			7	FRP	1,700	
	29234B	Lower Zone				1,700 – 1,800
DZMW-2			30	Steel	100	
			24	Steel	800	
			16	Steel	1,500	
	29235A	Upper Zone				1,500 – 1,600
			7	FRP	1,700	
	29235B	Lower Zone				1,700 – 1,800

SUBJECT TO: Specific Conditions I-IX and General Conditions 1-24.

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Specific Conditions

I. GENERAL REQUIREMENTS

1. This permit is for Lee County Utilities to construct and operationally test two non-hazardous Class I injection wells and two dual-zone monitor wells. This permit does not authorize the construction or operational testing of any other well or wells. *[62-528.440(2)(a), F.A.C.]*
2. No underground injection is allowed that causes or allows movement of fluid into an underground source of drinking water (USDW) if such fluid movement may cause a violation of any Primary Drinking Water Standard or may otherwise affect the health of persons. *[62-528.440(2)(c), F.A.C.]*
3. In the event a well must be plugged or abandoned, the permittee shall obtain a permit from the Department as required by Rule 62-528, F.A.C. When no longer used for their intended purpose, these wells shall be properly plugged and abandoned. Within 180 days of well abandonment, the permittee shall submit to the Department the proposed plugging method, pursuant to Rule 62-528.460, F.A.C. *[62-528.435(6) and 62-528.460(1), F.A.C.]*
4. If injection is to continue beyond the expiration date of this permit the permittee shall apply for and obtain an operation permit. If necessary to complete the two-year operational testing period as referenced in Rule 62-528.450(3)(e), F.A.C., the permittee shall apply for renewal of the construction permit at least 60 days prior to the expiration date of this permit. Operational testing of injection well IW-1 began on April 1, 2018. *[62-528.307(2)(a) and 62-528.450(3)(e), F.A.C.]*

II. SITE REQUIREMENTS

1. A drilling pad shall be provided to collect spillage of contaminants and to support the heaviest load that will be encountered during drilling. *[62-528.410(9)(b), F.A.C.]*
2. No drilling operations shall begin without an approved disposal site for drilling fluids, cuttings, or waste. It shall be the permittee's responsibility to obtain the necessary approval(s) for disposal prior to the start of construction. A detailed disposal plan shall be submitted to the Department prior to the commencement of drilling activities for the injection and monitor wells. *[62-528.410(9)(a), F.A.C.]*
3. Specific drilling pad dimensions and design drawings for Department record shall be provided prior to commencing construction and shortly after selection of the drilling contractor. *[62-528.410(9)(b), F.A.C.]*

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4. The water table monitor wells surrounding the well pads shall be sampled and analyzed prior to drilling the test injection or monitor wells and then weekly thereafter. Sampling shall include specific conductance (micromhos/centimeter [umhos/cm]), pH (standard units), chloride (milligram per liter [mg/L]), temperature (Celsius [C]), and water level (pound per square inch [psi] or feet [ft] North American Vertical Datum [NAVD] of 1988). *[62-528.410(9)(b), F.A.C.]*
5. Hurricane Preparedness – Upon the issuance of a “Hurricane Watch” by the National Weather Service, the preparations to be made include but are not necessarily limited to the following:
 - a. Secure all on-site salt and stockpiled additive materials to prevent surface and/or groundwater contamination.
 - b. Properly secure drilling equipment and rig(s) to prevent damage to well(s) and on-site treatment process equipment.
[62-528.307(1)(f), F.A.C.]

III. CONSTRUCTION AND TESTING REQUIREMENTS

A. General (for IW-2 and DZMW-2)

1. Any construction, modification, repair, or abandonment of a well shall be performed by a Florida licensed water well contractor, licensed under Rule 62-532, F.A.C., to engage in the business of construction, modification, repair, or abandonment of a well. *[62-532.200, F.A.C.]*
2. Well construction shall follow the requirements of Rule 62-532.500 for Water Well Construction Standards. *[62-532.500, F.A.C.]*
3. The measurement points for drilling and logging operations shall be surveyed and referenced to the NAVD of 1988 prior to the onset of drilling activities for the injection and monitor wells. *[62-160.240(3)(b)3., F.A.C.]*
4. Blow-out preventers or comparable flow control devices shall be installed on the injection and monitor wells prior to penetration of the Floridan aquifer system. *[62-528.410(9)(c), F.A.C.]*
5. The Department shall be notified 7 days prior to the mobilization of drilling operations to the site. *[62-528.430(1), F.A.C.]*
6. Waters spilled during construction or testing of the injection well system shall be contained and properly disposed. *[62-528.307(1)(e) and (f), and 62-528.410(9)(b), F.A.C.]*
7. If additives that were not approved in the permit application are used during grouting, for lost circulation, or for any other reason, information on their properties shall be submitted to the Department prior to their use for review and approval. *[62-528.410(5)(c), F.A.C.]*

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8. No more than 6% bentonite gel shall be used to cement any casing or tubing unless advance approval is received from the Department due to conditions found during the drilling and logging of the well.

[62-528.410(5)(f) and 62-528.420(5)(c), F.A.C.]

B. Monitoring (for IW-2 and DZMW-2)

1. The construction, geophysical logging, and packer testing programs shall be implemented in accordance with this permit and as proposed in the following submittals:

- March 7, 2019, "Well Construction Application";
- April 1, 2019, Response to RAI;
- Other approved submittals received by the Department.

[62.528.307(1)(b), F.A.C.]

2. Exact depths of casing seats and monitor intervals shall be determined based on field conditions and the results obtained during the construction and testing program, and are subject to the conditions of this permit. The injection well will be constructed first followed by the monitor wells. In the case of a multi-well injection system, at least one injection well shall be constructed first.

[62-528.410(4)(c), F.A.C.]

3. Packer tests shall be conducted in both injection and monitor wells to identify confinement and the base of the USDW.
 - a. The program shall include the number of packer tests identified in the permit application, at intervals which are to be field determined.
 - b. At least one packer test shall be conducted in each proposed monitor interval.
 - c. Packer tests shall be conducted in the anticipated confining intervals, from the lowermost zone of the USDW to the top of the injection zone. Results from the packer tests will contribute to the demonstration of confinement. To the extent feasible, the packer tests shall be performed over intervals that are sufficiently narrow so as not to include high hydraulic conductivity beds.
 - d. Water samples shall be collected from each packer test, and analyzed for total dissolved solids (TDS), chlorides, specific conductance, ammonia, total Kjeldahl nitrogen, and sulfate.

[62-528.405(1)(a) and (2)(a), and 62-528.420(6)(f), F.A.C.]

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4. Department approval is required prior to the following stages of construction and testing:
 - a. Intermediate (28-inch) casing seat in each injection well
 - b. Final (18-inch) casing seat in each injection well
 - c. Final seat for tubing and packer in each injection well
 - d. Intermediate (16-inch) casing seat in monitor well
 - e. Final (7-inch O.D.) casing seat in monitor well
 - f. Monitor zone selection
 - g. Short-term injection test
 - h. Operational testing*[62-528.410(4)(c) and 62-528.420(4)(c), F.A.C.]*
5. The depth of the USDW and the background water quality of the monitor zones shall be determined during drilling and testing using the following information:
 - a. Water samples from packer test data with analysis and interpretation.
 - b. Geophysical logging upon reaching the total depth of the appropriate pilot hole interval including the following logs at a minimum: caliper, gamma ray, dual induction, and borehole compensated sonic. Other logs as identified in the permit application documents shall be run.*[62-528.405(1)(a) and 62-528.405(3)(b), F.A.C.]*
6. The upper monitor interval shall be established within the lowermost portion of the USDW unless it can be demonstrated that no zone is present that can produce adequate water for collection of representative ground water samples. It is acceptable for the TDS of this zone to be slightly greater than 10,000 mg/L.
[62-528.425(1)(g)4., F.A.C.]
7. The lower monitor interval shall be positioned in a zone below the base of the USDW that can produce adequate water for collection of representative ground water samples. The purpose of the lower monitor zone is to verify the effectiveness of the confining unit and external mechanical integrity of the injection well. This zone shall be placed far enough below the base of the USDW to function as an early warning for fluid movement. *[62-528.425(1)(g)4., F.A.C.]*
8. The data and analysis supporting the selection of the monitor intervals shall be submitted to the Department after the collection, interpretation, and analysis of all pertinent cores, geophysical logs, packer tests and analysis of fluid samples. The Department shall approve the final selection of the specific upper and lower monitor intervals prior to monitor well completion. *[62-528.420(4)(c), F.A.C.]*

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9. To identify the upper and lower monitor zones, the following information from the injection and monitor wells and all available on-site sources of data shall be analyzed, interpreted and submitted for Department review and approval:
 - a. Borehole televiewer or downhole television survey.
 - b. The characteristics of the transition zone (especially regarding TDS) in the vicinity of the base of the USDW.
 - c. Packer test data including water quality (TDS, chlorides, sulfate, specific conductance, ammonia, and total Kjeldahl nitrogen, at a minimum).
 - d. The specific capacity of the proposed upper and lower monitor zones based on packer testing results.
 - e. The identification of the base of the USDW.
[62-528.420(4)(c), F.A.C.]
10. Confinement shall be demonstrated using at a minimum, directly measured lithologic properties, geophysical evidence, and tests performed while pumping the formation. *[62-528.405(2)(c), F.A.C.]*
11. Test results pertaining to formation testing shall include and/or specifically reference the following informational and quality control items:
 - a. Information that documents the calibration of tools, including field checks prior to testing.
 - b. The conditioning/development of the borehole prior to logging, including the techniques used and the time periods in which they were applied, and
 - c. Pertaining to packer/pump testing - recording the pumping rate regularly throughout the test to account for possible variations in the pumping rate, and providing information regarding the detection of packer leaks, if any, during testing.
[62-528.405(2) and (3), F.A.C.]
12. Representative samples of circulation fluid shall be collected when drilling with water, air, or reverse air during the drilling of the pilot holes of injection and monitor wells. Representative samples of circulation fluid shall be collected at a minimum of every 90 feet during drilling. The circulation fluid samples shall be analyzed for chloride and specific conductance at a minimum.
[62-528.405(1)(a), 62-528.420(6)(g), F.A.C.]
13. At sites where previous injection has occurred, the representative samples of circulation fluid below the intermediate 28-inch casing in the injection well(s) shall be analyzed for TDS, chloride, sulfate, specific conductance, ammonia, and total Kjeldahl nitrogen, at a minimum. *[62-528.405(2)(c) and (3)(b), F.A.C.]*

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14. If effluent is encountered or suspected during pilot hole drilling and testing, the Department shall be notified immediately by telephone and in writing and immediate appropriate precautionary measures shall be taken to prevent any upward fluid movement. *[62-528.440(2)(d), F.A.C.]*

C. Mechanical Integrity (IW-1 and IW-2)

1. Mechanical Integrity:
- a. Injection is prohibited until the permittee affirmatively demonstrates that the well has mechanical integrity. Prior to operational testing the permittee shall establish, and thereafter maintain the mechanical integrity of the well at all times.
 - b. If the Department determines that the injection well lacks mechanical integrity, written notice shall be given to the permittee.
 - c. Within 48 hours of receiving written notice that the well lacks mechanical integrity, unless the Department requires immediate cessation of injection, the permittee shall cease injection into the well unless the Department allows continued injection pursuant to subparagraph d below.
 - d. The Department shall allow the permittee to continue operation of a well that lacks mechanical integrity if the permittee has made a satisfactory demonstration that fluid movement into or between underground sources of drinking water is not occurring.
- [62-528.307(2)(f), F.A.C.]*
2. Mechanical integrity of each injection well shall be determined pursuant to Rule 62-528.300(6)(b) and (c), F.A.C. For wells with a fluid-filled casing/tubing annulus, this includes both continuous annular monitoring and a pressure test of the casing/tubing annulus every 5 years. *[62-528.300(6)(b) and (c), F.A.C.]*

Well	Maximum Permitted Wellhead Pressure (psi)	Most Recent Tested Wellhead Pressure At The Time of Issuance Of This Permit (psi)
IW-1	101	152
IW-2	To be determined	To be determined

3. Verification of pressure gauge calibration must be provided to the Department representative at the time of the test and in the certified test report. *[62-528.300(6)(f), F.A.C.]*
4. The Department's South District office must be notified a minimum of seventy-two (72) hours prior to all testing for mechanical integrity on the injection wells. Any change in the approved testing procedure must be approved by the Department before testing begins. All testing must be initiated during daylight hours, Monday through Friday other than State Holidays, unless approval has

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been given by the Department. An evaluation of test results must be submitted with all test data. *[62-528.300(6)(f), F.A.C.]*

5. The permittee shall demonstrate mechanical integrity at least once every five years for each existing injection well. In the event operational or other data indicate a possible loss of integrity in an injection well, mechanical integrity and other testing may be required at less than a five-year interval. For each injection well, the mechanical integrity testing program shall include: a television survey, pressure test, radioactive tracer survey (RTS), and temperature log. Mechanical integrity testing shall be run and completed prior to the following dates:

Five-Year MIT	
Well Name	Required Completion Date
IW-1	December 20, 2020
IW-2	To be determined

[62-528.300(6)(b)2, 62-528.300(6)(c), and 62-528.425(1)(d)]

6. A plan describing the mechanical integrity procedures for IW-1 shall be submitted to the Department's APP Tallahassee office and South District offices for approval at least 90 days prior to the required completion date noted above. *[62-528.307(1)(m)4, F.A.C.]*
7. Pursuant to Rule 62-528.430(2)(b)2.a., F.A.C., the final report for the demonstration of mechanical integrity for injection well IW-1 shall be submitted to the APP Tallahassee office for review and approval within three months of the completion date for mechanical integrity testing. In addition, a copy of the cover letter for the MIT results shall be sent to the U.S. Environmental Protection Agency, Region 4, Underground Injection Control program, 61 Forsyth St. SW, Atlanta, GA 30303-8909, or R4gwuic@epa.gov. The final MIT report shall be prepared by a Florida-Licensed Professional Engineer and/or Professional Geologist (as appropriate), and it shall address all tests performed (including procedures followed, results, and interpretations), and shall include a tabular presentation/graphical evaluation of monitoring well data over the previous five-year period. For wells with a fluid-filled annulus, the report shall also include a tabular presentation/graphical evaluation of annular pressure data over the previous five-year period, with the addition or removal of pressure and annular fluid noted. If the well has failed any of the specified tests, or the annular pressure system exhibits leaks, the MIT report shall include a plan for corrective action for all discovered deficiencies. *[62-528.440(5)(b), F.A.C.]*

D. Surface Equipment

1. The integrity of the monitor zone sampling systems shall be maintained at all times. Sampling lines shall be clearly and unambiguously identified by monitor zone at the point at which samples are drawn. All reasonable and prudent precautions shall be taken to ensure that samples are properly identified by monitor well name or zone and that samples obtained are representative of those zones. Sampling lines and equipment shall be kept free of contamination with independent discharges and no interconnections with any other lines.
[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]
2. The surface equipment for each injection well disposing of domestic (municipal) effluent shall maintain compliance with Rule 62-600.540(4), F.A.C., for water hammer control, screening, access for logging and testing, and reliability and flexibility in the event of damage to the well and effluent piping.
[62-600.540(4), 62-528.307(1)(f), and 62-528.307(2)(b), F.A.C.]
3. Injection wells not disposing of domestic (municipal) effluent shall maintain compliance with Rule 62-528.450(2)(j), F.A.C. for water hammer control, as well as access for logging and testing, and reliability and flexibility in the event of damage to the well and effluent piping.
[62-528.450(2)(j), 62-528.307(1)(f), and 62-528.307(2)(b), F.A.C.]
4. The surface equipment and piping for the injection and monitor wells shall be kept free of corrosion at all times.
[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]
5. Spillage onto the injection well pad(s) during construction activities, and any waters spilled during mechanical integrity testing, maintenance, testing, or repairs to the system(s) shall be contained on the pad(s) and directed to a sump which in turn discharges to the pumping station wet well, via other approved means to the injection well system, or by another method approved by the Department. *[62-528.307(1)(f) and 62 528.307(2)(b), F.A.C.]*
6. After well construction activities are complete, the injection well pads are not, unless specific approval is obtained from the Department, to be used for storage of any material or equipment at any time.
[62 528.307(1)(f) and 62-528.307(2)(b), F.A.C.]

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7. Four surficial aquifer monitor wells, identified as Pad Monitor wells (PMWs), shall be located near the corners of the pads to be constructed for the injection and monitor wells IW-2 and DZMW-2, and shall be identified by number or pad location, i.e. NW, NE, SW, and SE. If located in a traffic area the well head(s) must be protected by traffic bearing enclosure(s) and cover(s). Each cover must lock and be specifically marked to identify the well and its purpose. The PMWs shall be sampled as follows:
 - a. During the construction and associated testing phases, the PMWs shall be sampled weekly for chlorides (mg/L), specific conductance ($\mu\text{mho/cm}$), field temperature, and water level (ft NAVD of 1988). Initial PMW analyses shall be submitted prior to the onset of drilling activities.
 - b. The PMWs shall also be sampled for total dissolved solids (mg/L) during the first four weeks of PMW sampling and at all times when specifically requested by the Department.
 - c. The results of the PMW analyses shall be submitted to the Department in the weekly progress report. The PMWs shall be retained in service throughout the construction phase of the project. Upon completion of construction, the permittee may submit a request to the Department for cessation of sampling followed by capping, or plugging and abandonment of these wells.

[62-528.410(9)(b), F.A.C.]

IV. QUALITY ASSURANCE/QUALITY CONTROL

1. The permittee shall ensure that the operation of this injection well system shall be as described in the application and supporting documents. Any proposed modifications to the permit, construction procedures, testing procedures, completion procedures, operation procedures, or any additional work not described in the application or supporting documents shall be submitted in writing to the Tallahassee office of the Aquifer Protection Program for review and clearance prior to implementation. Changes of negligible impact to the environment and staff time will be reviewed by the program manager, cleared when appropriate and incorporated into this permit. Changes or modifications other than those described above will require submission of a completed application and appropriate processing fee as per Rule 62-4.050, F.A.C.
[62-528.100, 62-4.050, F.A.C.]
2. Proper operation and maintenance include effective performance and appropriate quality assurance procedures; adequate operator staffing and training; and adequate laboratory and process controls. *[62-528.307(2)(b), F.A.C.]*

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3. All water quality samples required by this permit shall be collected in accordance with the appropriate Department Standard Operation Procedures (SOP), pursuant to Rule 62-160.210, F.A.C., *Approved Field Procedures*. A certified laboratory shall conduct the analytical work, as provided by Rule 62-160.300, F.A.C., *Laboratory Certification*. Department approved test methods shall be utilized, unless otherwise stated in this permit. All calibration procedures for field testing and laboratory equipment shall follow manufacturer's instrumentation manuals and satisfy the requirements of the Department SOPs. A listing of the SOPs pertaining to field and laboratory activities is available at the Department's website: <https://floridadep.gov/dear/quality-assurance/content/dep-sops>.
[62-4.246, 62-160, F.A.C.]
4. All indicating, recording and totalizing devices associated with the injection well system shall be maintained in good operating condition and calibrated annually at a minimum. The pressure gauges, flow meter, and chart recorders shall be calibrated using standard engineering methods.
[62-528.307(1)(f) and 62-528.307(2)(b), F.A.C.]
5. All reports submitted to satisfy the requirements of this permit shall be signed by a person authorized under Rule 62-528.340(1), F.A.C., or a duly authorized representative of that person under Rule 62-528.340(2), F.A.C. All reports required by this permit which are submitted to the Department shall contain the following certification as required by Rule 62-528.340(4), F.A.C.:
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
[62-528.340(1), (2), and (4), F.A.C.]
6. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the South District as being more representative of ground water conditions. [62-520.310(5), F.A.C.]
7. A professional engineer registered pursuant to Chapter 471, F.S., shall be retained throughout the construction period to be responsible for the construction operation and to certify the application, specifications, completion report, and other related documents. The Department shall be notified immediately of any change of engineer. [62-528.440(5)(b), F.A.C.]

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8. Continuous on-site supervision by qualified personnel (engineer and/or geologist, as applicable) is required during all testing and geophysical logging operations.
[62-528.440(5)(b), F.A.C.]

V. REPORTING REQUIREMENTS (IW-2 and DZMW-2)

1. The drilling and construction schedule, site layout of drilling pad, and pad monitor well locations shall be submitted to the Department during site preparation but prior to drilling operation commencement for the injection well system. *[62-528.430(2)(a), F.A.C.]*
2. Weekly progress reports shall be submitted to the Department's Tallahassee and South District offices throughout the construction period for each well. These reports, which may be submitted by electronic mail, shall be submitted within 48 hours of the end of the period of record and shall include at a minimum the following information:
 - a. A cover letter summary of the daily engineer report, driller's log, and a projection for activities in the next reporting period.
 - b. Daily engineer's reports and driller's/work logs with detailed descriptions of all drilling progress, cementing, testing, logging, and casing installation activities.
 - c. Description of daily footage drilled by diameter of bit, size of hole opener, or reamer being used.
 - d. Collection of drilling cuttings every 10 feet and at every formation change.
 - e. Description of work during installation and cementing of casing, including amounts of casing and cement used. Details of cementing operations shall include the number of cementing stages, and the following information for each stage of cementing: the volume and type of cement pumped, the theoretical fill depth, and the actual tag depth. From both the physical tag and the geophysical logs, a percent fill shall be calculated. An explanation of any deviation between actual versus theoretical fill shall be provided.
 - f. Details of the additions of salt or other materials to suppress well flow, including the date, depth, and amount of material used.
 - g. Description of testing accomplished including (but not limited to) pumping and packer tests.
 - h. Lithologic logs and core descriptions with cuttings description, formation and depth encountered.
 - i. Geophysical logs, video logs, and deviation survey results.
 - j. Water quality analyses, including but not limited to the weekly water quality analysis and water levels for the PMWs.
 - k. Well development records.
 - l. Description of any construction problems that developed during the reporting period and current status.
 - m. Interpretations included with all test results and logs submitted.

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n. Documentation of disposal of drilling fluids, cuttings, formation water, or waste as per specific condition II.2.

[62-528.410(9)(a) and 62-528.430(1), F.A.C.]

3. The final selection of specific injection and monitor intervals must be approved by the Department. In order to obtain an approval, the permittee shall submit a written request to the APP Tallahassee office. All casing seat requests for the injection and monitor wells shall be accompanied by technical justification. To the extent possible, each casing seat request should address the following items:
 - a. Lithologic and geophysical logs with interpretations, as the interpretations relate to the casing seat.
 - b. Water quality data (including but not necessarily limited to TDS concentrations).
 - c. Identification of confining units, including hydrogeologic data and interpretations.
 - d. Identification of monitor zones.
 - e. Casing depth evaluation (mechanically secure formation, potential for grout seal).
 - f. Lithologic drilling rate and weight on bit data, with interpretations (related to the casing seat).
 - g. Identification of the base of the USDW using water quality and geophysical log interpretations.
 - h. A certified (P.E. or P.G.) evaluation of all logging and test results submitted with test data.
 - i. Transmissivity or specific capacity of proposed monitor zone.
 - j. Packer test drawdown curves and interpretation.*[62-528.410(4)(c), 62-528.420(4)(c), F.A.C.]*
4. The short-term injection test request shall contain the following justifications:
 - a. Cement bond logs and interpretation.
 - b. Final downhole television survey with interpretation.
 - c. Demonstration of mechanical integrity, which shall include radioactive tracer test results, pressure testing results, and temperature logging results (if the injection test is to be after any of these mechanical integrity tests).
 - d. Reasonable assurance that adequate confinement exists.
 - e. Planned injection testing procedures.
 - f. Proposed source water to be used. Per Rule 62-528.405(3)(b), F.A.C., if an adequate potable water supply for the injection test does not exist, and the data collected during drilling provide assurance of the presence of confining bed(s), the applicant shall, after demonstrating mechanical integrity pursuant to Rules 62-528.300(6)(b)2. and (c), F.A.C., be allowed to use an alternate source for testing only with specific prior written authorization from the

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Department. An analysis of the alternate water source is required prior to Department approval, according to the table below:

Water Source	Required Analyses
Potable Water	No analysis needed.
Domestic Wastewater	A copy of the latest comprehensive analysis submitted to the Department's domestic wastewater program.
Desalination Concentrate or Other Industrial Wastewater	A copy of the latest comprehensive analysis submitted to the Department's industrial wastewater program. If more than one year old, sample the water for the parameters required for monthly monitoring of the wastewater in Specific Condition VI.
Ground Water	Sample the water for: <ul style="list-style-type: none">• total dissolved solids (mg/L)• chloride (mg/L)• specific conductance (temperature compensated, $\mu\text{mho}/\text{cm}$ or mS/cm)• total suspended solids (TSS) (mg/L)• nitrogen, ammonia, total as N (mg/L)• nitrogen, total Kjeldahl as N (TKN, mg/L)• nitrogen, nitrate, total as N (mg/L)• sodium (mg/L)• potassium (mg/L)• calcium (mg/L)• magnesium (mg/L)• total iron (mg/L)• bicarbonate (mg/L)• phosphorous, total as P (mg/L)• pH (standard units)• sulfate, total as SO_4 (mg/L)• field temperature ($^{\circ}\text{C}$)• gross alpha (picoCuries per liter [pCi/L])• combined radium-226 and radium-228 (pCi/L)
Surface Water	As above for ground water, with the additional constituents: <ul style="list-style-type: none">• total and fecal coliform (cts/100ml),• Escherichia Coli (cts/100ml), Enterococci (cts/100ml), andTurbidity (Nephelometric Turbidity Unit [NTU]).

[62-528.405(3)(b), F.A.C.]

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5. Upon completion of analysis of cores and sample cuttings recovered during the construction of wells covered by this permit (when no longer needed by the well owner), the permittee shall contact the Geological Sample Acquisition & Management Section of the Florida Geological Survey (FGS) to arrange for the transfer of the cores and cuttings. *[62-528.450(5), F.A.C.]*
6. All cores and cuttings for FGS shall be shipped to the Florida Geological Survey, Geological Sample Acquisition & Management Section, 3915 Commonwealth Boulevard, Tallahassee, Florida 32399. All cores and samples shall clearly identify the site name, well name/number, depths of samples/cores, and the latitude/longitude location of the well(s) using the form in this permit. *[62-528.450(5), F.A.C.]*
7. A final report of the construction and testing of the injection and monitor wells shall be submitted no later than 120 days after commencement of operational testing, pursuant to Rule 62-528.430(1)(e), F.A.C. In addition, a copy of the cover letter for the report shall be sent to the U. S. Environmental Protection Agency, Region 4, Underground Injection Control (UIC) Program, 61 Forsyth St. SW, Atlanta, GA 30303-8909, or R4gwuic@epa.gov. This report shall include as a minimum, definitions of the injection interval, all relevant confining units, the depth of the base of the USDW, and all monitoring zones, including all relevant data and interpretations. *[62-528.450(5), F.A.C.]*

VI. OPERATIONAL TESTING AND MONITORING REQUIREMENTS

A. Operational Testing

1. The permittee shall conduct operational testing of the injection well system to demonstrate that the well can absorb the design and peak daily flows that are expected, prior to granting approval for operation. *[62-528.450(3)(a), F.A.C.]*
2. Prior to operational testing of injection well IW-2, the permittee shall comply with the requirements of rule 62-528.450(3)(a),(b), and (c), F.A.C. *[62-528.307(2)(e), F.A.C.]*
3. The operational testing of injection well IW-2 under this permit shall not commence without written authorization from the Department. *[62-528.450(3)(b), F.A.C.]*

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4. Prior to operational testing approval for IW-2, the following items must be submitted with the request for operational testing approval for APP Tallahassee office review and approval:
- a. Lithologic and geophysical logs with interpretations.
 - b. A copy of the borehole television survey(s) or borehole televiewer log(s) of the injection well with interpretation.
 - c. Certification (P.E. or P.G.) of mechanical integrity and interpreted test data.
 - d. Results of the short-term injection test with interpretation of the data.
 - e. A description of the actual injection procedure including the anticipated maximum pressure and flow rate at which the well will be operated under normal and emergency conditions.
 - f. Information concerning the compatibility of the injected waste with fluids in the injection zone and minerals in both the injection zone and the confining zone.
 - g. Certification of completion of well construction from water well contractor and certification by the Engineer of Record that permit conditions are met.
 - h. Surface equipment (including piping, pressure gauges and flow meters, and all appurtenances) completion certified by the Engineer of Record.
 - i. Draft operation and maintenance manual, including a description of surge and water hammer control and emergency discharge management plan procedures. The emergency discharge system must be fully constructed and operational (ready to operate) prior to approval of operational testing.
 - j. Calibration certificates for pressure gauges and flow meters.
 - k. Signed and sealed record "as-built" engineering drawings of the injection well system including all well construction, subsurface and surface piping and equipment, and appurtenances.
 - l. Demonstration of confinement and definition of the injection and confining sequences shall utilize data collected during the drilling, logging, and testing of the injection and monitor wells. This submittal shall be prepared, signed, and sealed by a Florida Registered Professional Geologist or appropriately qualified Florida Registered Professional Engineer.
 - m. Background water quality data from the monitoring and injection zones, analyzed for primary and secondary drinking water standards (62-550, F.A.C.) excluding pesticides, PCB's, asbestos, dioxin, butachlor, acrylamide, and epichlorohydrin. The results submitted as part of the Facility's request for Department authorization to conduct short-term injection testing (specific condition V.4.) may be referenced.
 - n. A wastestream analysis for the same parameters as in condition VI.A.4.m., above. Unless already submitted, this analysis shall be submitted within 60 days after the beginning of operational testing.

- o. Other data obtained during well construction needed by the Department to evaluate whether the injection well system will operate in compliance with Department rules.
- p. A survey indicating the exact location in metes and bounds of all wells authorized by this permit shall be provided prior to issuance of an operating permit.

[62-528.450(3)(a)3. and 62-528.455(1)(c)6., F.A.C.]

- 5. Pressure gauges and flow meters shall be installed on the injection wells prior to initiating injection activities at the site. *[62-528.450(3)(a), F.A.C.]*
- 6. Prior to the authorization of operational testing of IW-2 by the APP Tallahassee office, the permittee shall contact the South District office to arrange a site inspection. The inspection will determine if the conditions of the permit have been met and to verify that the injection well system is operational. During the inspection, emergency procedures and reporting requirements shall be reviewed. *[62-528.450(3)(c), F.A.C.]*
- 7. The Engineer of Record or designated qualified representative must be present for the start-up operations of IW-2 and the APP Tallahassee office must be notified in writing of the date operational testing commenced for the subject wells. *[62-528.440(5)(b), F.A.C.]*
- 8. The flow to the injection wells at each wellhead shall be monitored and controlled at all times to ensure the maximum fluid velocity down the well during operation does not exceed the respective flow rate indicated below, and shall not exceed 10 feet per second except during planned testing, maintenance, or emergency conditions in which case the flow rate shall not exceed 12 feet per second *[62-528.415(1)(f), F.A.C.]*:

Well	Peak Flow Rate (GPM)	Maximum Injection Volume (MGD)
IW-1	3.542	5.1
IW-2	To be determined	To be determined

IW-2 maximum flow and volume is dependent on short-term injection testing but will not exceed the limits for IW-1.

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B. Monitoring

1. The permittee shall submit monthly to the APP Tallahassee office the results of all injection well and monitor well data required by this permit no later than the last day of the month immediately following the month of record. The report shall include:
 - a. A cover page summarizing the current status of all monthly activities, including, but not limited to, the certification and signature required in Specific Condition Number II.5 above.
 - b. Operational and water quality data in a tabular format. The following identifying information must be included on each data sheet:
 - i. Facility Name
 - ii. Well Name
 - iii. UIC Permit Number
 - iv. WACS Facility ID
 - v. WACS Testsite ID on the appropriate data sheet (as provided on the Injection Well and Monitor Well tables on pages 2 and 3 above).
 - c. Laboratory pages and original supporting documentation including DEP Form FD 9000-24, *Groundwater Sampling Log*, for the purging of each monitor well.

[62-528.307(2)(d), F.A.C.]

2. The report may be sent via electronic mail in Adobe™ (.pdf) format to the following Program e-mail addresses:

South District	SouthDistrict@dep.state.fl.us
Aquifer Protection Program	TAL_UIC@dep.state.fl.us

If a paper copy of the report is submitted, it should be sent to Department staff at the following addresses:

South District	2295 Victoria Avenue, Suite 364, Ft. Myers, Florida 33901- 3875
Aquifer Protection Program	2600 Blair Stone Road, MS 3530, Tallahassee, Florida, 32399-2400

[62-528.307(3)(d), F.A.C.]

3. The injection system shall be monitored in accordance with Rules 62-528.425(l)(g) and 62-528.430(2), F.A.C. The following injection well performance data and monitor zone data shall be recorded and reported in the *Monthly Operation Report* (MOR) as indicated below. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

[62-528.307(2)(d), 528.430(2), and 62-528.450(3)(b), F.A.C.]

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PARAMETER	UNIT	RECORDING FREQUENCY OR SAMPLING METHOD	FREQUENCY OF ANALYSES		
			Injection Wells 13987 & 13988	DZMW-1 29234A & 29234B	DZMW-2 29235A & 29235B
Injection Pressure, max.	psi	continuous	D/M ^a		
Injection Pressure, min.	psi	continuous	D/M ^a		
Injection Pressure, avg.	psi	continuous	D/M ^a		
Flow Rate, max.	GPM	continuous	D/M ^a		
Flow Rate, min.	GPM	continuous	D/M ^a		
Flow Rate, avg.	GPM	continuous	D/M ^a		
Volume Injected per Well	MG	daily/monthly	D/M		
Volume Injected per Facility	MG	daily/monthly	D/M		
Pressure or Water Level max.	psi or ft NAVD	continuous		D/M ^a	D/M ^a
Pressure or Water Level min.	psi or ft NAVD	continuous		D/M ^a	D/M ^a
Pressure or Water Level avg.	psi or ft NAVD	continuous		D/M ^a	D/M ^a
pH ^b	standard units	grab/purge	M	M	M
Specific Conductance ^b	µmhos/cm	grab/purge	M	M	M
Temperature ^b	°C	grab/purge	M	M	M
Bicarbonate	mg/L	grab/purge	M	M	M
Calcium	mg/L	grab/purge	M	M	M
Chloride	mg/L	grab/purge	M	M	M
Iron	mg/L	grab/purge	M	M	M
Magnesium	mg/L	grab/purge	M	M	M
Potassium	mg/L	grab/purge	M	M	M
Sodium	mg/L	grab/purge	M	M	M
Sulfate	mg/L	grab/purge	M	M	M
Total Dissolved Solids	mg/L	grab/purge	M	M	M
Total Kjeldahl Nitrogen	mg/L	grab/purge	M	M	M
Gross Alpha	pCi/L	grab/purge	Q	Q ^c	Q ^c
Radium ^{226/228}	pCi/L	grab/purge	Q	Q ^c	Q ^c

D - daily; M - Monthly; Q- Quarterly

^a - Operational data reporting for flows, pressures and water levels: daily maximum, minimum and average from continuous reporting; monthly maximum, minimum and average (calculated from daily averages).

^b - Field samples

^c - Lower monitor zone only.

One wastewater sample taken per month no matter which injection well is used.

Refer to the Tables on Pages 2 and 3 above for the appropriate WACS testsite IDs to be used for reporting.

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4. A pressure fall-off test shall be performed annually, with test data submitted along with the monitoring results of the injection and monitoring well data, for the month of record the test is performed in. *[62-528.430(2)(b) and (d), F.A.C.]*
5. Monitor well purging and field stabilization parameter measurement is required prior to the collection of laboratory samples for the MORs. The facility shall conduct the monitor well sampling following the monitor well sampling protocols specified in FS 2200-*Groundwater Sampling* in the DEP-SOP-001/01 Standard Operating Procedures for Field Activities. The results of the purging techniques and field stabilization parameters shall be provided on DEP Form FD 9000-24 or a similar alternative approved by the Department, and the completed forms shall be submitted to the Department with the MORs.
 - a. Calculate the volume of water in the well casing (or sample pipe if installed), and the monitoring interval. For dual zone monitor wells, calculate the upper monitor zone volume with allowance for reduced volume due to the hollow cylinder created by the lower zone tubing. Purge until the water level has stabilized (when the well recovery rate equals the purge rate), purging a minimum of one well volume, and then collect the first set of stabilization parameters.
 - b. Thereafter, collect stabilization parameters after every $\frac{1}{4}$ well volume beyond the initial one volume.
 - c. Purging shall be complete when three consecutive readings of the parameters listed below are within the following ranges^[1] **and** a minimum of 1.5 well casing volumes of fluid since the beginning of purging have been evacuated from the monitor well:
 - pH: ± 0.2 Standard Units
 - Specific Conductance: $\pm 5.0\%$ of reading
 - Temperature: $\pm 0.2^\circ \text{C}$
 - Dissolved Oxygen: $\leq 20\%$ Saturation
 - Turbidity: ≤ 20 NTU
 - d. If necessary, continue to take the above readings every additional $\frac{1}{4}$ well volume until three consecutive readings meet the above criteria.
 - e. Typical field conditions may not allow the temperature parameter to be met. If all the other purging criteria have stabilized, the sampling team leader may decide whether to collect a sample if the temperature criteria has not been met (DEP SOP FS2212 Section 3.6). Documentation as to why the sample was collected without meeting a field parameter must be recorded in the groundwater sampling log.
 - f. If three consecutive $\frac{1}{4}$ well volume readings have not reached the stabilization criteria listed above by the time the fifth well volume has been

^[1] Provided dissolved oxygen in the groundwater of the zone being monitored is $\leq 20\%$ of saturation for the measured temperature and turbidity is ≤ 20 NTUs. This assumption holds true for groundwater in most zones of the Floridan aquifer.

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reached, the monitor well sample shall be taken, and document the reason(s) in the groundwater sampling log.

- g. If a sampling pipe is used for purging, the sampling pipe volume will substitute for the well casing volume.

The APP Tallahassee office will consider an alternate purging method meeting monitor well sampling protocol in FS 2200-Groundwater Sampling in the DEP-SOP-001/01 Field Sampling Procedures Manual in the case where the above procedure causes a hardship to the facility. The permittee shall request an alternate method and receive written APP Tallahassee approval before implementing it. *[62-160.210(1) and 62-528.430(2), F.A.C.]*

6. The flow from the monitoring zones during well evacuation and sampling shall not be discharged to surface waters or aquifers containing an underground source of drinking water. Waters purged from monitor wells in preparation for sampling shall be diverted to the injection well head via the pad drainage system, wet well, or treatment plant.

[62-4.030, 62-620.320, 62-520.420 and .430, F.A.C.]

VII. ABNORMAL EVENTS

1. In the event the permittee is temporarily unable to comply with any of the conditions of a permit due to breakdown of equipment, power outages or destruction by hazard of fire, wind, or by other cause, the permittee of the facility shall notify the South District office. *[62-528.415(4)(a), F.A.C.]*
2. Notification shall be made in person, by telephone, or by electronic mail (e-mail) within 24 hours of breakdown or malfunction to the South District office. *[62-528.307(1)(x), F.A.C.]*

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3. A written report of any noncompliance referenced in Specific Condition Number IV.1 above shall be submitted to the South District office and the APP Tallahassee office within five days after its occurrence. The report shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in accordance with permit conditions.
[62-528.415(4)(b), F.A.C.]

4. Reporting Requirements

The permittee shall report to the Department's South District office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- a. The following shall be included as information which must be reported within 24 hours under this condition:
 - 1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
 - 2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
 - 3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
 - 4) Any unauthorized discharge to surface or ground waters.
- b. Oral reports as required by this subsection shall be provided as follows:
 - 1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER 800-320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Watch Office:
 - a) Name, address, and telephone number of person reporting;
 - b) Name, address, and telephone number of permittee or responsible person for the discharge;

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- c) Date and time of the discharge and status of discharge (ongoing or ceased);
 - d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
 - e) Estimated amount of the discharge;
 - f) Location or address of the discharge;
 - g) Source and cause of the discharge;
 - h) Whether the discharge was contained on-site, and cleanup actions taken to date;
 - i) Description of area affected by the discharge, including name of water body affected, if any; and
 - j) Other persons or agencies contacted
- 2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's South District office within 24 hours from the time the permittee becomes aware of the circumstances.
- c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's South District office shall waive the written report.

[403.077(2)(d), F.S., 62-528.307(1)(e) and 62-528.307(1)(x), F.A.C.]

5. **Pollution Notification**

- a. In accordance with subsection 403.077, F.S., in the event of a reportable pollution release, an owner or operator of the installation at which the reportable pollution release occurs must provide to the department information reported to the State Watch Office within the Division of Emergency Management pursuant to any department rule, permit, order, or variance, within 24 hours after the owner's or operator's discovery of such reportable pollution release. The Department's Pollution Notice website is at <https://floridadep.gov/pollutionnotice>.
- b. If multiple parties are subject to the notification requirements based on a single reportable pollution release, a single notification made by one party in accordance with this section constitutes compliance on behalf of all parties subject to the requirement. However, if the notification is not made in accordance with this section, the department may pursue enforcement against all parties subject to the requirement.
- c. If, after providing notice pursuant to paragraph (a), the owner or operator of the installation determines that a reportable pollution release did not occur or that an amendment to the notice is warranted, the owner or operator may submit a letter to the department documenting such determination.

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- d. If, after providing notice pursuant to paragraph (a), the installation owner or operator discovers that a reportable pollution release has migrated outside the property boundaries of the installation, the owner or operator must provide an additional notice to the department that the release has migrated outside the property boundaries within 24 hours after its discovery of the migration outside of the property boundaries.

[403.077(2)(d), F.S., 62-528.307(1)(e) and 62-528.307(1)(x), F.A.C.]

VIII. EMERGENCY DISPOSAL

1. All applicable federal, state and local permits must be in place to allow for any alternate discharges due to emergency or planned outage conditions.
[62-528.415(4)(c)1, F.A.C.]
2. Any proposed changes in emergency disposal methods shall be submitted to the South District office and the APP Tallahassee office for review and approval prior to implementation. *[62-528.415(4)(c), F.A.C.]*
3. The emergency disposal method must be fully operational in the event of planned or emergency outages of the injection well system.
[62-528.415(4)(c)2, F.A.C.]

IX. FINANCIAL RESPONSIBILITY

1. The permittee shall maintain at all times the financial resources necessary to close, plug, and abandon the injection and associated monitor wells.
[62-528.435(9), F.A.C.]
2. The permittee shall annually review the cost estimate for plugging and abandonment. Upon the occurrence of the plugging and abandonment cost estimate exceeding, by 10 percent or more on an annual basis, the cost estimate upon which the current financial responsibility is based, the permittee shall submit to the Department certified financial documentation necessary to amend, renew, or otherwise replace the existing financial responsibility pursuant to Rule 62-528.435(9)(b), F.A.C. and the conditions of this permit. Documentation that the annual updates are being conducted shall be submitted thirty (30) months after the date of permit issuance. *[62-528.435(9)(b), F.A.C.]*

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3. In the event that the mechanism used to demonstrate financial responsibility should become insufficient or invalid for any reason, the permittee shall notify the APP Tallahassee office in writing within 14 days of such insufficiency or invalidation. The permittee shall within 90 days of said notification submit to the APP Tallahassee office for approval new financial documentation certifying either the remedy of current financial insufficiency or resolution of the financial instrument invalidation to comply with Rule 62-528.435(9)(b), F.A.C, and the conditions of this permit.
[62-528.435(9)(b), F.A.C.]

General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to section 403.141, F.S. *[62-528.307(1)(a), F.A.C.]*
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action.
[62-528.307(1)(b), F.A.C.]
3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
[62-528.307(1)(c), F.A.C.]
4. This permit conveys no title to land, water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
[62-528.307(1)(d), F.A.C.]
5. This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties there from; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. *[62-528.307(1)(e), F.A.C.]*

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6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, or are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
[62-528.307(1)(f), F.A.C.]
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of this permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
 - d. Reasonable time will depend on the nature of the concern being investigated.*[62-528.307(1)(g), F.A.C.]*
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent the recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.*[62-528.307(1)(h), F.A.C.]*
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules. *[62-528.307(1)(i), F.A.C.]*
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. *[62-528.307(1)(j), F.A.C.]*

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11. This permit is transferable only upon Department approval in accordance with rules 62-4.120 and 62-528.350, F.A.C. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department. *[62-528.307(1)(k), F.A.C.]*
12. This permit or a copy thereof shall be kept at the work site of the permitted activity. *[62-528.307(1)(l), F.A.C.]*
13. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records shall be extended automatically unless the Department determines that the records are no longer required.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - 1) the date, exact place, and time of sampling or measurements;
 - 2) the person responsible for performing the sampling or measurements;
 - 3) the dates analyses were performed;
 - 4) the person responsible for performing the analyses;
 - 5) the analytical techniques or methods used;
 - 6) the results of such analyses.
 - d. The permittee shall furnish to the Department, within the time requested in writing, any information which the Department requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
 - e. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.
[62-528.307(1)(m), F.A.C.]
14. All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete. *[62-528.307(1)(n), F.A.C.]*
15. Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date.
[62-528.307(1)(o), F.A.C.]

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16. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *[62-528.307(1)(p), F.A.C.]*
17. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-528.307(1)(q), F.A.C.]*
18. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit. *[62-528.307(1)(r), F.A.C.]*
19. This permit may be modified, revoked and reissued, or terminated for cause, as provided in 40 C.F.R. sections 144.39(a), 144.40(a), and 144.41 (1998). The filing of a request by the permittee for a permit modification, revocation or reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. *[62-528.307(1)(s), F.A.C.]*
20. The permittee shall retain all records of all monitoring information concerning the nature and composition of injected fluid until five years after completion of any plugging and abandonment procedures specified under rule 62-528.435, F.A.C. The permittee shall deliver the records to the Department office that issued the permit at the conclusion of the retention period unless the permittee elects to continue retention of the records. *[62-528.307(1)(t), F.A.C.]*
21. All reports and other submittals required to comply with this permit shall be signed by a person authorized under rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in rule 62-528.340(4), F.A.C. *[62-528.307(1)(u), F.A.C.]*
22. The permittee shall notify the Department as soon as possible of any planned physical alterations or additions to the permitted facility. In addition, prior approval is required for activities described in rule 62-528.410(1)(h). *[62-528.307(1)(v), F.A.C.]*
23. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or injection activity which may result in noncompliance with permit requirements. *[62-528.307(1)(w), F.A.C.]*

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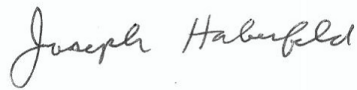
24. The permittee shall report any noncompliance which may endanger health or the environment including:

- a. Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or
- b. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. *[62-528.307(1)(x), F.A.C.]*

Issued this 12th day of September 2019

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Joseph Haberfeld, P.G.
Aquifer Protection Program
Division of Water Resource Management

FDEP Underground Injection Control Program Sample Form

(Cores/Cuttings/Formation Water)

Contact: David Paul, P.G.
Geological Sample Acquisition & Management Section
Florida Geological Survey
Florida Department of Environmental Protection
3915 Commonwealth Blvd
Tallahassee, FL 32399
Office: (850) 245-3131
Fax: (850) 245-3136
David.Paul@dep.state.fl.us

Well Name:	
Well Type (circle one)	Class I Class V Exploratory Monitoring
Date Collected:	Date sent to FGS:
Sample type (circle one)	Core Cuttings Formation Water
Preservative used — if formation water sample — (circle one) Nitric n/a Other (describe)	
Datum and elevation:	Sample Interval:
Elevation method (circle one) Survey USGS Quadrangle Other (describe)	
Sample Interval Drilling Method (circle one) Reverse Air Mud Rotary Sonic/Acoustic Other (describe)	
Well Coordinates ° ' " N / ° ' " W	
Method (circle one) AGPS (hand held) DGPS (GPS survey) Map Derived	
FDEP Permit Number:	
Facility Name:	
Permittee (owner):	
Facility Address:	
Drilling Company:	Lead Driller:
Project Geologist:	Consulting Company:

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:		SITE LOCATION:	
WELL NO:	SAMPLE ID:		DATE:

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:				SAMPLER(S) SIGNATURE(S):			SAMPLING INITIATED AT:		SAMPLING ENDED AT:	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y N				TUBING Y N (replaced)			DUPLICATE: Y N			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, $+0.2$ mg/L or $+10\%$ (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally $+5$ NTU or $+10\%$ (whichever is greater)