



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:

January 24, 2020

John Paul Castro, Utilities Director
City of Key West
Post Office Box 1409
Key West, Florida, 33041
jcastro@cityofkeywest-fl.gov

FDEP UIC Permit No.: 327710-003-004-UO/5W
FDEP WACS Facility ID: 93574
Monroe County
Class V Injection Well System, IW-1 & IW-2
Operation, Richard A. Heyman Environmental
Protection Facility

NOTICE OF PERMIT

Enclosed is Permit Number 327710-003-004-UO/5W to operate a Class V 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: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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 Friday, January 24, 2020, to the following listed persons:

Joseph Haberfeld, FDEP/TLH	joe.haberfeld@floridadep.gov
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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

01/24/2020
Date



FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
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Tallahassee, FL 32399-2400

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Underground Injection Control Class V, Group 3 Injection Well System Operation Permit

Permittee

John Paul Castro, Utilities Director
City of Key West
Post Office Box 1409
Key West, Florida, 33041
jcastro@cityofkeywest-fl.gov

Permit/Certification

UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date of Issuance: January 24, 2020
Date of Expiration: January 24, 2025
Permit Processor: Douglas Thornton

Facility

Richard A. Heyman Environmental
Protection Facility
Trumbo Annex Point
Key West, Florida 33040

Location

County: Monroe
Latitude: 24° 34' 00" N
Longitude: 81° 47' 45" W

Project: Class V 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 Chapter 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.

TO OPERATE: A non-hazardous underground injection control (UIC) well system, consisting of two Class V injection wells and associated monitor wells, at the Richard A. Heyman Environmental Protection Facility (EPF). Injection well IW-1 is constructed with a 24-inch diameter steel casing to 2,775 feet below land surface (bls), and a total depth of 3,004 feet bls. Injection well IW-2 is constructed with a 24-inch diameter steel casing to 2,758 feet below land surface (bls), and a total depth of 3,000 feet bls. Injection is into the Oldsmar Formation for the disposal of treated domestic wastewater with advanced waste treatment from the EPF. The maximum injection rate for each injection well shall be 12,917 gallons per minute (GPM) and the maximum injection volume for each injection well shall be 18.6 million gallons per day (MGD). The single zone monitor

PERMITTEE: John Paul Castro, Utilities Director
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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

well SZ-1 is completed from 165 to 210 feet bls. The dual-zone monitor well DZ-1 is completed from 675 to 724 feet bls and from 1,280 to 1,320 feet bls. Well SZ-1 will be plugged and abandoned under this permit.

IN ACCORDANCE WITH: The Application to Operate DEP Form No. 62-528.900(1) received, February 6, 2019 and supporting information submitted to the Aquifer Protection Program (APP) Tallahassee office.

LOCATION: Richard A. Heyman Environmental Protection Facility, Trumbo Annex Point, Key West, Florida 33040, in Monroe County.

The injection and monitoring 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:

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	9124	3,004	62	Steel	24
			52	Steel	246
			42	Steel	1,090
			24	Steel	2,775
			Open Hole		2,775 – 3,004
IW-2	13127	3,000	54	Steel	36
			42	Steel	250
			34	Steel	1,085
			24	Steel	2,758
			Open Hole		2,758 – 3,000

PERMITTEE: John Paul Castro, Utilities Director
 City of Key West
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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

Monitor Well(s; MW)

Well Name	WACS Testsite ID	Monitor zone	Casing Diameter (in)	Casing Type	Casing Depth (feet bls)	Monitoring Depth (feet bls)
SZ-1			16	Steel	47	
			16.625	FRP	165	
	19527	Shallow Zone				165 – 210
DZ-1			34	Steel	40	
			26	Steel	248	
			16	Steel	675	
	19526A	Upper Zone				675 – 724
			6.625	FRP	1,280	
	19526B	Lower Zone				1,280 – 1,320

Note: Well SZ-1 will be plugged and abandoned under this permit.

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

Specific Conditions

I. OPERATING REQUIREMENTS

A. General

1. Only non-hazardous injectate as described in this permit and purge water from the on-site monitor wells (associated with the injection well system) may be discharged into the injection wells. *[62-528.400(1), F.A.C.]*
2. The injection pressure at the wellhead shall be monitored and controlled at all times to ensure the maximum pressure at the wellhead does not exceed two-thirds of the most recent tested pressure on the final casing, final cemented tubing, or casing/tubing annular space, as applicable. The following table outlines the wellhead pressures in pounds per square inch (psi) applicable at the time of permit issuance:

Well	Maximum Permitted Wellhead Pressure (psi)	Most Recent Tested Wellhead Pressure At The Time of Issuance Of This Permit (psi)
IW-1	107	160.2
IW-2	109	164.2

At such time as the next pressure test is performed and a report for that test is submitted to and accepted by the Department, the maximum wellhead pressure allowable will become two-thirds of the tested pressure from the successive test. *[62-528.300(6)(e), F.A.C.]*

PERMITTEE: John Paul Castro, Utilities Director
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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

3. 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	12,917	18.6
IW-2	12,917	18.6

4. No underground injection is allowed that causes or allows movement of fluid into an underground source of drinking water 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.]*
5. All equipment of this facility shall be operated and maintained so as to function consistently as designed in removing pollutants. The wastewater stream shall remain non-hazardous at all times. *[62-528.307(3)(b) and 62-528.400(1), F.A.C.]*
6. 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 its intended purpose, a well 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. *[62-528.460(1) and 62-528.435(6), F.A.C.]*
7. In accordance with rules 62-4.090 and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for permit renewal at least 60 days prior to expiration of this permit. *[62-528.307(3)(a), F.A.C.]*
8. Hurricane Preparedness: Preparations to be made by permittee upon issuance of a "Hurricane Watch" by the National Weather Service include, but are not limited to:
 - a. Secure all onsite salt and other stockpiled additive materials to prevent surface and/or ground water contamination.
 - b. Properly secure equipment to prevent damage to well(s) and onsite treatment process equipment.*[62-528.307(1)(f), F.A.C.]*
9. The plugging and abandonment of monitor well SZ-1 is authorized under this permit. Prior to this activity, the permittee shall submit a work plan for

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

Department approval. Approval shall contain requirements for conducting the work and reporting of activities.

B. Mechanical Integrity and Mechanical Integrity Testing (MIT)

1. Mechanical Integrity.
 - a. The permittee shall 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(3)(e), F.A.C.]

2. 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	April 2, 2024
IW-2	April 7, 2024

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

3. A plan describing the mechanical integrity procedures 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.]
4. The Department's South District office must be notified a minimum of seven (7) calendar days prior to all testing for mechanical integrity on the injection wells. The testing procedure must be approved by the Department before testing begins. 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 been given by the Department. An evaluation of all test results must be submitted with all test data. *[62-528.300(6)(f), F.A.C.]*

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
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UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date: January 24, 2020

5. Pursuant to Rule 62-528.430(2)(b)2.a., F.A.C., the final report for the demonstration of mechanical integrity for the injection wells 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 noted in Specific Condition Number I.B.2. above (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.]

C. 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 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(3)(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(3)(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(3)(b), F.A.C.]
4. The surface equipment and piping for the injection and monitoring wells shall be kept free of corrosion at all times.
[62-528.307(1)(f) and 62-528.307(3)(b), F.A.C.]

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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, or 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(3)(b), F.A.C.]*
6. 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(3)(b), F.A.C.]*
7. The surficial aquifer monitor wells adjacent to the injection and monitor wells shall be secured, maintained, and retained in service for subsequent sampling that may be needed (e.g., should there be an accidental discharge to the surficial aquifer); alternatively, the facility may submit a request to the Department for cessation of sampling followed by capping, or plugging and abandonment of these wells. *[62-528.307(3)(b) and 62-520.600(6)(k), F.A.C.]*

II. 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 APP Tallahassee office 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(3)(b), F.A.C.]*
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

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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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(3)(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.]

III. TESTING AND REPORTING REQUIREMENTS

A. General

1. The permittee shall submit monthly to the Department 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

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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

- iv. WACS Facility ID
- v. WACS Testsite ID on the appropriate data sheet (as provided on the Injection Well and Monitoring 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(3)(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 Office	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 Office	2295 Victoria Avenue, Suite 364, Ft. Myers, Florida 33901- 3875
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Aquifer Protection Program	2600 Blair Stone Road, MS 3530, Tallahassee, Florida, 32399-2400
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[62-528.307(3)(d), F.A.C.]

B. Monitoring

1. 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 Operating Report* (MOR) as indicated below. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

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

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UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date: January 24, 2020

PARAMETER	UNIT	RECORDING FREQUENCY OR SAMPLING METHOD	FREQUENCY OF ANALYSES			
			IW-1 9124	IW-2 13127	SZ-1 19527	DZ-1 19526A, 19526B
Injection Pressure, max.	psi	continuous	D/M ^a	D/M ^a		
Injection Pressure, min.	psi	continuous	D/M ^a	D/M ^a		
Injection Pressure, avg.	psi	continuous	D/M ^a	D/M ^a		
Flow Rate, max.	gpm	continuous	D/M ^a	D/M ^a		
Flow Rate, min.	gpm	continuous	D/M ^a	D/M ^a		
Flow Rate, avg.	gpm	continuous	D/M ^a	D/M ^a		
Volume Injected per Well	MG	daily/monthly	D/M	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	std. units	grab/purge	M	M	M	M
Specific Conductance ^b	µmhos/cm	grab/purge	M	M	M	M
Temperature ^b	°C	grab/purge	M	M	M	M
Chloride	mg/L	grab/purge			M	M
Sulfate	mg/L	grab/purge			M	M
Total Dissolved Solids	mg/L	grab/purge			M	M
Nitrate + Nitrite as N	mg/L	grab/purge	M	M	M	M
Ammonia as N	mg/L	grab/purge	M	M	M	M
Total Phosphorus	mg/L	grab/purge	M	M	Q	Q
Total Kjeldahl Nitrogen	mg/L	grab/purge	M	M	M	M
Bicarbonate	mg/L	grab/purge			Q	Q
Calcium	mg/L	grab/purge			Q	Q
Total Iron	mg/L	grab/purge			Q	Q
Magnesium	mg/L	grab/purge			Q	Q
Potassium	mg/L	grab/purge			Q	Q
Sodium	mg/L	grab/purge			Q	Q

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

One effluent sample sampled per month no matter what injection well is being used.

Monitoring and reporting for well SZ-1 is required until it is plugged and abandoned.

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

2. A specific injectivity test shall be performed quarterly on the injection well as required by Rule 62-528.450(3)(b)6., F.A.C. Pursuant to Rule 62-528.430(2)(d), F.A.C, the specific injectivity test shall be performed with the pumping rate to the well set at a predetermined level and reported as the specific injectivity index (gallons per minute/specific pressure). The pumping rate to be used shall be based on the expected flow, the design of the pump types, and the type of pump control used. As part of this test, the well shall be shut-in for a period of time necessary to conduct a valid observation of pressure fall-off. The specific

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UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

injectivity and pressure fall-off test data shall be submitted along with the monitoring results of the injection and monitoring well data. [62-528.430(2)(b) and (d); 62-528.450(3)(b)6., F.A.C.]

3. 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 monitoring well:
 - pH: ± 0.2 Standard Units
 - Specific Conductance: $\pm 5.0\%$ of reading
 - Temperature: $\pm 0.2^\circ$ 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.

^[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.

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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

4. The flow from the monitor 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, F.A.C.]*

IV. 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.]*
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

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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;
 - 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

PERMITTEE:	John Paul Castro, Utilities Director	UIC Permit Number:	327710-003-004-UO/5W
	City of Key West	WACS Facility ID:	93574
	Richard A. Heyman EPF	Date:	January 24, 2020

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.
- 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.]

V. 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.]

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date: January 24, 2020

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.]

VI. 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.]*
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.]

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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.]*
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.]*

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

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.]*
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

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date: January 24, 2020

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.]

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.

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-UO/5W
WACS Facility ID: 93574
Date: January 24, 2020

[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.]*

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.]

PERMITTEE: John Paul Castro, Utilities Director
City of Key West
Richard A. Heyman EPF

UIC Permit Number: 327710-003-004-U0/5W
WACS Facility ID: 93574
Date: January 24, 2020

Issued this 24th day of January 2020

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



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

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

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

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (feet - feet) X gallons/foot = gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):		FINAL PUMP OR TUBING DEPTH IN WELL (feet):		PURGING INITIATED AT:		PURGING ENDED AT:		TOTAL VOLUME PURGED (gallons):			
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) μmhos/cm or μS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

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		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:** ± 5% **Dissolved Oxygen:** all readings ≤ 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)