

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**LAST STAND  
(PROTECT KEY WEST AND  
THE FLORIDA KEYS, d/b/a  
LAST STAND) AND  
GEORGE HALLORAN**

**Petitioners**

**DEP FILE NO.: FLA014951-DWIP  
DEP PROPOSED PERMIT: FLA014951-012-  
DWIP; AND  
UIC PERMIT 18490-020&021-UIC**

v.

**FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION, AND  
KEY WEST RESORT UTILITIES  
CORPORATION (Applicant)**

**Respondents**

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**VERIFIED PETITION FOR FORMAL ADMINISTRATIVE HEARING,  
REQUEST FOR MEDIATION  
&  
MOTION TO INTERVENE**

**Four Shallow Injection Wells on Stock Island Permitted to Dispose of 1.27 MGD treated  
sewage effluent**

Pursuant to Section 120.569 and 120.57, Florida Statutes (“F.S.”) and Rules 28-106.111, 28-106.201, Florida Administrative Code (F.A.C.”), Petitioners, LAST STAND, INC. (PROTECT KEY WEST AND THE FLORIDA KEYS, D/B/A LAST STAND)(“Last Stand”) and GEORGE HALLORAN (“Petitioners”), by and through their undersigned counsel, request a formal administrative hearing concerning Respondent, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION’S (“DEP” or “agency”) proposed issuance of a Domestic Wastewater Treatment Plant Permit FLA014951-012-DWIP, to KEY WEST RESORT UTILITIES CORPORATION (“KWRU WWTP” or “Plant”), for construction of additional

Plant treatment capacity, which will increase KWRU WWTP's Stock Island Plant in Monroe County to treatment of sewage at a stated 0.849 million gallons per day ("MGD") annual average daily flow; which as stated in the permit application is also equivalent to 1,273,500 gallons per day (1.27 MGD) based on peak hourly flows; and grants a UIC Permit 18490-020 and 021 for new construction and operation of two new shallow Underground Injection Wells to increase the total disposal capacity for the sewage treated to secondary standards to a maximum of 1.27 MGD disposal of treated sewage into the 4 shallow wells for disposal on the Stock Island Plant Site; and grants construction and operation authorization to increase reuse to 1.348 MGD, with 1 MGD reuse at the 100 acre Florida Keys Golf Course on Stock Island. **Exhibit 1.** In support thereof, Petitioners' allege:

#### **THE PARTIES & NOTICE**

1. Petitioner, Last Stand, incorporated as a 501(c)(3) corporation in Florida, since 1987, and is still in good standing. It is an organization of volunteer citizens who are interested in preserving the Florida Keys' unique quality of life and its fragile beautiful natural environment. Last Stand is represented by Diana Lee Davis, Attorney, Legacy Matters, P.A., 800 Village Square Crossing Suite 348, Palm Beach Gardens, FL 33410, phone 561-201-6191, E-mail service preferred: LegacyMatters@outlook.com.
2. Petitioner, George Halloran, is a Monroe County resident, whose address is 16B Hilton Haven Drive, Key West, FL 33040. George Halloran is represented by Diana Lee Davis, Attorney, Legacy Matters, P.A., 800 Village Square Crossing Suite 348, Palm Beach Gardens, FL 33410, phone 561-201-6191, E-mail service preferred: LegacyMatters@outlook.com.

3. Respondent, DEP, is the state agency proposing to issue the authorizations challenged herein, with its South District office, address is P.O. Box 2549, Fort Myers, FL 33902-2549. The agency's file number is Permit DEP FILE NO.: FLA014951-DWIP.
4. Applicant, Key West Resort Utilities Corporation ("KWRU WWTP" or "Applicant") is a private for-profit corporation organized in Florida, who manages domestic and commercial waste water on Stock Island in Monroe County from areas outside of the City of Key West. KWRU WWTP's President is Christopher Johnson, and the KWRU WWTP is located 6630 Front Street, Key West, Florida 33040. (Note, facility address is listed as Key West, however location is in area referred to as Stock Island, which is unincorporated.)
5. Petitioners' received notice of the proposed agency action by publication in Monroe County on July 3, 2014, and timely filed a request for extension of time to file a Petition until August 5, 2014. Accordingly, this petition is timely filed.

### **STANDING**

6. Petitioners' substantial interests are adversely affected because the activities being permitted by the Department upon application of Respondent KWRU are in violation of Florida Statutes and Department regulations and will impermissibly degrade and impair the nearshore waters of Stock Island and Key West, the Florida National Marine Sanctuary and part of Outstanding Florida Waters, and will endanger the federally protected coral reefs, manatees, sea turtles, and protected sea grasses and other local fauna and will adversely affect the businesses and quality of life of Petitioners, including their economic interests, as well as their interest in the local economy, as set forth with specificity for each Petitioner below.

1. Petitioner, Last Stand, consists of a group of 526 voluntary members whose shared purpose is to protect the natural environment and the quality of life in the Florida Keys. Last Stand works to prevent environmental damage to the Florida Keys upland and wetland habitats, endangered and threatened species, groundwater and surface water quality, Florida Keys outstanding Florida Waters and National Marine Sanctuary, and represents its members in administrative and judicial proceedings to oppose land use and permitting decisions that have negative environmental impacts.
  - a. Last Stand works to preserve and protect a healthy ecosystem in the Florida Keys, which is directly linked to clean water. Last Stand's passion for clean water results in its interest in ensuring that agency rule and law are followed and that reasonable assurances are provided by permit applicants to prevent elevated concentrations of nutrients such as nitrogen and phosphorus from degrading groundwater and traveling through surrounding porous limestone rock to pollute surface waters, which can cause algal blooms in very low nutrient waters such as those of the Lower Keys including Key West.
  - b. A substantial number of Last Stand's 526 members enjoy the natural environment of the Keys and regularly engage in water based recreational activity in the vicinity of the proposed project in the Lower Keys including Key West, such as boating, kayaking, paddle boarding, bird watching, nature photography, fishing, snorkeling and other activities. Petitioner reasonably believes that the proposed permitted activity will impair their ability to participate in these activities, especially near shore in the Lower Keys including Key West.

- c. A substantial number of Last Stand members, 432 members in the lower keys, reasonably believe that their economic interest will be adversely impacted by the DEP proposed permit due to an economic downturn in and around Key West due to water quality deterioration. The health of the ecosystem attracts visitors and ensures a robust economy, promotes tourism and encourages property values. The health of the ecosystem depends upon appropriate management of sewage, including appropriate management of treatment effluent at very large capacity privately owned for-profit sewer plants, such as the Stock Island plant. Last Stand has 48 members who are property owners in the lower Keys, and other members who own property in the upper Keys such as Key Largo Property Owners Association, and other members who work and recreate at businesses who depend on tourism.
  - d. Naja Girard d'Albissin is President of Last Stand and represents its interests. The subject matter of the challenged proposed activity is within the non-profit corporation's general scope of interest and activity. The relief requested in this petition is authorized and appropriate for the Last Stand to request and receive on behalf of its members.
- 2. Individual Petitioner, GEORGE HALLORAN, is a homeowner in Key West. George Halloran will suffer injury in fact which is of sufficient immediacy to entitle him to a Section 120.57, F.S., hearing, and his substantial injury is of a type or nature which this proceeding is designed to protect. Because:
  - a. George Halloran will be adversely and immediately affected by the proposed agency action because he utilizes nearby surface waters and natural marine

life resources for recreation that will suffer adverse effects from the large quantity and poor quality of effluent that would dispose in the shallow injection wells(s).

- b. George Halloran enjoys activities in marine waters, including, boating, kayaking, paddle boarding, bird watching, nature photography, fishing, snorkeling and other activities. Petitioner reasonably believes that the proposed permitted activity will impair his ability to participate in these activities, especially near shore in the Lower Keys including Key West.
- c. George Halloran will be adversely and immediately affected by the proposed agency action because it will impact his economic interests, most specifically his ability to obtain income from rental property that borders surface waters and offers as its attraction the draw of water recreation activities. George Halloran derives a substantial portion of his income from water front rental property, including dock rentals. Negative impacts to water quality in near shore waters of Key West, including algal blooms and degradation of sea grass beds, would negatively impact the rental market

**ULTIMATE FACTS THAT WARRANT REVERSAL OR MODIFICATION OF AGENCY DECISION**

- 7. Laws specific to the Florida Keys, require deep well injection for treated effluent when a waste water treatment plan has a design capacity of greater or equal to 1,000,000 gallons per day (1 MGD). The proposed permit allows KWRU WWTP to treat waste water in amounts of 1,273,500 gallons per day (1.27 MGD) based on peak hourly flows. The proposed permit allows KWRU WWTP to operate a total of 4 shallow wells for disposal

of treated sewage effluent at 1.27 MGD, and reuse for 1.1 MGD. The DEP proposed permit fails to require a deep well for the discharge of effluent from the Plant with a design capacity  $\geq$  1 MGD as required by law.

8. Even if the design capacity did not exceed the  $\geq$  1 MGD threshold for a deep well to be required for injection disposal, the project warrants deep well injection for the sewage treatment effluent, because the increased quantities of treated sewage effluent into 4 shallow injection wells at a permitted flow of 1.27 MGD at the KWRU Waste Water Treatment Plant on Stock Island will result in effluent discharges that will negatively impact groundwater, cause pollution of surface waters impacting Outstanding Florida Waters (OFW), and will violate state water quality standards, further degrading OFW waters. Laws specific to the Florida Keys, require the Department to make alternative requirements for discharges, even if otherwise in compliance, that will cause or contribute to a violation of state water quality standards, such as requiring the method of discharge to be into a deep well where a confining layer could avoid environmental harm.
9. KWRU WWTP's commitment to reuse of the proposed permit's 1,100,000 million gallons per day (1 MDG) treated effluent is a worthy goal; however the volume in the permit proposed of 1,000,000 gallons per day (1 MDG) to be reused on the Key West Golf Course is not supported by engineering or hydrogeological calculations that would provide reasonable assurances that this amount of load would not result in groundwater contamination, result in surrounding surface water impacts, or cause other negative impacts to human health or the environmental.

#### **MATERIAL FACTS AND ISSUES OF LAW IN DISPUTE**

10. KWRU WWTP is located on Stock Island. Stock Island and its neighboring island of Key

West are part of a chain of islands in the lower Florida Keys in Monroe County surrounded on all sides by Outstanding Florida Waters and The Florida Keys National Marine Sanctuary. **EXHIBIT 2.**

*“An Outstanding Florida Water (OFW) is a waterbody deemed worthy of special protection because of its natural attributes (e.g., excellent water quality, or exceptional ecological, social, educational, or recreational value).... Waters are designated OFW to prevent the lowering of existing water quality and to preserve the exceptional ecological and recreational significance of the waterbody.... OFWs are protected through more stringent requirements for activities requiring a permit from the Department of Environmental Protection (DEP)....”*  
*See. DEP Fact Sheet, Outstanding Florida Waters, DEP website.*

11. Outstanding Florida Waters (OFW) of the Florida Keys waters are subject to an anti-degradation water quality standard. Rule 62-302.700 F.A.C.
12. KWRU WWTP’s effluent disposal wells are shallow injection wells drilled to 110 ft. cased to 60 ft., with exposure to porous Key Largo and Miami Oolitic rock and groundwater 60 ft. – 110 ft. below land surface on the Stock Island plant property that is bordered by surface waters that are part of OFWs, which have special protection because of “excellent water quality, exceptional ecological, social, educational or recreational value.”
13. KWRU WWTP is currently permitted to operate under DEP PERMIT FLA01491, **EXHIBIT 3.** KWRU’s existing permit allows shallow water underground injection wells for the treated sewage waste water disposal DEP PERMIT 184940-018 and 019, and land application R-001 consisting of Key West Golf Course irrigation, toilet flushing, AC makeup water, and fire protection at the Monroe County Detention Center. The existing permit allows the facility to meet secondary standard treatment standards. However, the existing permit does require the facility to come into compliance with advanced water treatment standards based upon the statutory required date for existing permitted



facilities, which is January 1, 2016.

14. DEP's proposed permit authorizes a major modification to the KWRU WWTP existing DEP PERMIT FLA014951. The proposed permit allows the operation of the existing treatment facility at 0.499 MGD annual average daily flow (AADF) and approves the construction and operation of new treatment capacity of .350 MGD annual average daily flow (AADF) that will allow the plant to treat at a total of 0.849 MGD annual average daily flow; that is also expressed in the permit application as being equivalent to treatment of 1.27 MGD based on peak hour flow. **EXHIBIT 4.**
15. When the DEP proposed permit annual average flows are expressed in peak hour flow, the design capacity and permitted capacity of the facility is 1.27 MGD, as stated page 7 of 26 in the permit application.
16. DEP's proposed permit authorizes disposal of sewage effluent at a maximum daily disposal of 1.27 MGD by injection into the Key Largo and Miami Oolite Formations from 4 wells that open into the formation at 60 ft. bls to 110 ft. bls. as the primary means of disposal of secondary treated domestic wastewater from KWU WWTP on Stock Island which is surrounded by OFW. The maximum injection rate for the sewage treated to secondary standards shall not exceed a peak hourly flow rate of 882 gallons per minute.
17. DEP's proposed permit authorizes reuse of sewage effluent for operation of a total reuse R-001 and R-002 of 1.348 MGD, which includes golf course irrigation, toilet flushing, AC makeup water, fire protection at Monroe County Detention System, the Florida Keys Community College and the Lower Keys Medical Center. The golf course irrigation system consist of two interconnected lakes. The golf course use in the KWRU WWT application was the largest user with 1 MGD allocated to them.

18. KWRU WWTP is a privately owned sewage treatment plant regulated by the Public Service Commission of Florida. The Public Service Commission requires annual reports and monthly connection reports. The most current PSC Annual Report is dated year ended December 31, 2012.

**THE PROPOSED ACTIVITY WILL VIOLATE FLA. STAT. §403.086(10)(e)(2):  
(DEEP WELL REQUIRED)**

19. A deep well is required under Florida law. Section 403.086(10)(e)(2), F.S. states, in pertinent part:

“... if the **design capacity** of the facility is equal to or greater than 1 million gallons per day, each primary injection well must be cased to a minimum depth of 2,000 feet or to such greater depth as may be required by department rule.” (emphasis added)

20. Department rule Section 62-600.200, FAC defines **design capacity** as follows:

62-600.200 (19) “*Design capacity*” means the average daily flow *projected for the design year* which *serves as the basis for the sizing and design* of the wastewater facilities. The design capacity is established by the permit applicant. The time frame associated with the design capacity (e.g., **annual average daily flow**<sup>1</sup>, maximum monthly average daily flow, **three-month average daily flow**<sup>2</sup>) shall be specified by the permit applicant. (emphasis added)

21. On the Waste Water Division<sup>3</sup> page of the DEP website there are responses to frequently asked questions in regard to waste water treatment plant permitting. A lengthy discussion is given to distinguish flow from capacity – both permitted capacity and design capacity, examples are given, excerpted below.

*“Flow” is the actual amount of water flowing by a particular point over some specific time...*

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<sup>1</sup> **Annual Average Daily Flow** is denoted as (“AADF”)

<sup>2</sup> **Three Month Average Daily Flow** is denoted as (“TMADF”)

<sup>3</sup> DEP District permitting offices rely upon the Waste Water Division for interpretations. In order to ensure statewide and intradepartmental consistency, the department’s divisions shall direct the district offices and bureaus on matters of interpretation and applicability of the department’s rules and programs. Section 20.255, F.S.

*“Capacity” represents the ability of facilities to move or process water.*

*Consider a pump. When the pump is turned on, it has the ability to move a set amount of water within a particular time period. A pump having a capacity of 2 MGD is capable of moving 2 million gallons of water during 24 hours (one day).*

*[t]he term “permitted capacity” represents the maximum amount of water that the facility is allowed to treat or direct to a particular reuse or effluent disposal system. Consider a domestic wastewater treatment plant having a permitted capacity of 3 MGD. ...The permitted capacities place limits on the operation of these treatment, reuse, and disposal facilities. This treatment facility must not process more than 3 MGD. ...*

*Flows may be significantly less than the permitted capacity, particularly shortly after a treatment facility is constructed. This results from the fact that utilities will design their facilities looking 5, 10, or more years into the future...By the end of the **design period**, flows being treated will begin to approach the treatment facility’s **permitted capacity**. As this occurs, it becomes time to plan for and construct expanded facilities, such that **the permitted capacity remains larger than the actual flow being treated**. (emphasis added)*

Last Updated Sept. 11, 2011 on DEP Division Waste Water Treatment. **EXHIBIT 5.**

22. With regard to design capacity, Section 11.241.a. of the *Recommended Standards for Wastewater Facilities*, (RSWF) Rule 62-604.300 (g)<sup>4</sup> F.A.C. require that plants in areas of seasonal higher loads be designed for the high flow period rather than the annual average. According to *Recommended Standards for Wastewater Facilities*, supra, the Plant must be designed to handle “critical seasonal high hydraulic loading periods,” **peak day flows**, and **peak hour flows**.
23. In the KWRU WWTP permit application “Anticipated Flow” and “Preliminary Design Report,” beginning on page 22 of 26, it appears on the flow diagram that 2020 is the design year, however for 2020 the projected flows on an annual average daily flow basis show 0.849 MGD; which the application also shows to have been exceeded by daily maximum flow on a peak hour basis of 1.27 MGD. EXHIBIT 5.
24. In the KWRU WWTP permit application titled “technical information / design criteria”

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<sup>4</sup> (g) Recommended Standards for Wastewater Facilities (1997). Health Education Service, Inc., P. O. Box 7126, Albany, New York 12224, www.hes.org.

on page 7 of 26, design capacity for the Plant is described as:

Q <sub>PHF</sub>	1,273,500	Design peak hour flow
Q <sub>MDF</sub>	976,350	Design monthly average daily flow
Q <sub>AADF</sub>	849,000	Design annual average daily flow.

25. Use of Average Annual Daily Flow (AADF) does not “reflect seasonal variations in flows,” that exist in the Florida Keys. See, Rule 62-600.400(3)(a), F.A.C. The AADF obscures the highest and lowest daily flow during any given year and does not reflect seasonal variations in flows.
26. In a DEP inquiry about design capacity to KWRU WWTP prior to the issuance of the draft permit, the DEP believed that the design capacity/permitted capacity should be stated as 1.27 MGD, which corresponds to the peak hour flow.
27. The applicant responded by letter to the DEP belief that the design capacity was 1.27 MGD, stating that the applicant can select the design capacity of the plant and can select a time frame for that capacity. The applicant stated a design capacity of 0.849 MGD based on Annual Average Daily Flow in its permit application. **EXHIBIT 6.**
28. KWRU WWTP is located in the Florida Keys which does have high seasonal load. The Florida Keys have a wet season in the summer and a dry season in the winter with large variations in rainfall. The Plant would experience high flows in the summer depending on storm water flow at the Plant. The Florida Keys also have tourist season in the winter when the islands experience their largest population, which would correspond to high flow periods for the waste water treatment plant. The fall and the spring months would be expected to experience the least amount of waste water treatment flow.

29. Rule 62-600.400(3)(a), F.A.C.<sup>5</sup> requires that “[T]he time frame selected shall reflect seasonal variations in flow, if any.” The AADF (average annual daily flow) chosen by the Applicant for the design capacity determination of daily flow does not reflect the seasonal variations of the Florida Keys.
30. The design capacity must be based on accurate, realistic data and projections for the design year. The sizing and design of the Plant must reflect the actual design capacity of the Plant.
31. The design capacity is established by the Applicant, which means that the Applicant can build a larger or smaller plant, however it does not mean that the Applicant can state a design capacity that does not reflect the true design capacity of the Plant.
32. DEP’s proposed permit provides a “design capacity” of .849 MGD annual average daily flow, which when applied to highly seasonal flows of the KWRU WWTP, is equivalent to a “permitted capacity” of 1.27 MGD, to correspond to the peak hour flow of 1,273,500 GPD.
33. DEP rules and guidance interpretation indicates that design capacity is a higher volume than the permitted capacity given that the treatment facility must not process more than its permitted capacity and the design capacity is to correspond with flows anticipated in future years.
34. The Rule does not allow DEP, and the statute does not authorize DEP, to simply accept KWRU WWTP’s statement that the design capacity is less than 1 MGD when Florida Statute § 403.086(10) (e) (2) requires that:

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<sup>5</sup> (3) (a) The permittee shall establish the **design capacity** of a wastewater facility in the permit application and shall specify the time frame (e.g., annual average daily flow, maximum monthly average daily flow, three-month average daily flow). **The time frame selected shall reflect seasonal variations in flows, if any.**

“... if the design capacity of the facility is equal to or greater than 1 million gallons per day, each primary injection well must be cased to a minimum depth of 2,000 feet or to such greater depth as may be required by department rule.

35. This statutory requirement for a deep well for injection of effluent equal to or greater than 1 MGD effluent was imposed by the Legislature and applies to Monroe County in order to protect the quality of the coastal environment of the Florida Keys.

36. The Legislature found that: “the discharge of inadequately treated and managed domestic wastewater ...in the Florida Keys compromises the quality of the coastal environment, including nearshore and off shore waters, and threatens the quality of life and local economies that depend on those resources.” Section 403.086 (10), F.S.

37. KWRU WWTF should not attempt to avoid the important requirements of § 403.086(10) (e) (2), which was intended by the Florida Legislature to protect the Florida Keys coastal environment.

#### **THE PROPOSED ACTIVITY WILL VIOLATE GROUNDWATER RULES**

38. The proposed agency action permitting the disposal of 1.27 MGD of sewage effluent into the four (4) shallow injection wells will violate state groundwater standards because the activity will impair the reasonable and beneficial use of adjacent waters in violation of 62-520.400, F.A.C., which provides in pertinent part:

(1) All ground water shall at all places and at all times be free from *domestic*, ... or other man-induced non-thermal components of discharges in concentrations which, alone or in combination with other substances, or components of discharges ...

(f) **Impair the reasonable and beneficial use of adjacent waters.** (emphasis supplied)

39. The applicant did not provide the Department with information to show that the reasonable and beneficial uses of adjacent surface waters would not be impacted by this increased volume to 1.27 MGD of effluent injected into porous limestone on an island

adjacent to surface waters.

40. The proposed activity of reuse of 1 MGD on the Key West Golf Course applicant may impact groundwater quality due to the loading and leaching or runoff into adjacent waters impairing their reasonable and beneficial use.

**THE PROPOSED ACTIVITY WILL VIOLATE CLASS V INJECTION WELL RULE**

41. The proposed agency action permitting the disposal of 1.27 MGD of sewage effluent into the four (4) shallow injection wells will violate Section 62-528.630 F.A.C., which provides in pertinent part:

**(7) All Class V Group 3 wells designed to inject domestic wastewater in Monroe County shall be required as part of the operation permit application to provide reasonable assurance that operation of the well will not cause or contribute to a violation of surface water standards as defined in Chapter 62-302, F.A.C.**

42. The KWRU WWTP has not provided reasonable assurance in its permit application that the proposed use of shallow injection wells will not cause or contribute to a violation of surface water standards. The proposed agency action permitting the disposal of 1.27 MGD of effluent into the four (4) shallow injection wells on Stock Island, Monroe County will violate Florida Statutes and DEP regulations because the discharge will impermissibly impair and degrade Outstanding Florida Waters, impair the reasonable and beneficial use of surface waters in the Florida Keys, and contribute to violations of water quality standards as set forth in this Petition below.

**THE PROPOSED ACTIVITY WILL DISCHARGE TO SURFACE WATERS  
AND  
VIOLATE SURFACE WATER QUALITY STANDARDS**

43. The groundwater gradients and flow in the area are heavily influenced by tides, salinity differences and recharge (rain or underground injection of water) and by the considerable porosity and permeability of the limestone strata.

44. At low tide, the gradient (slope) of the nearshore water table is from the land towards the surface water, and these groundwater gradients flow upward into surface water.
45. Rainwater recharge creates a freshwater lens floating on the saline groundwater, which can affect gradients and flow towards surface water. The proposed injection of relatively low salinity (compared to seawater) wastewater will affect the salinity level near the injection wells and affect the gradient, increasing flow of the injected waste toward and into surrounding near shore waters.
46. The DEP draft permit allows KWRU WWTP to inject 1.27 MGD of effluent by installing two additional wells. The wells are located on the Stock Island Plant property that is surrounded by water. They are all drilled to 110 feet below ground surface in the porous limestone below, and are cased to 60 feet (ft.), with an open borehole from 60 ft. to 110 ft.
47. The injected low salinity sewage effluent is treated to secondary standards and contains nitrogen, ammonium, nitrate and phosphorus, which are nutrients.
48. The saline nearshore waters around Stock Island and Key West are shallow, marine ecosystems that are impacted by salinity and nutrients contained in the waste water treatment plant effluent including nitrogen, ammonium, nitrate and phosphorus.
49. Even with Advanced Wastewater Treatment (AWT)<sup>6</sup> required as of January 1, 2016, the nutrients remain at levels which will cause exceedances of background levels in the nearshore waters of Stock Island and Key West.
50. Nutrients have been identified as causing or contributing to an imbalance of algal overgrowth and are causing or contributing to existing violations of water quality

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<sup>6</sup> AWT will require CBOD and TSS 5 mg/l annual average, Total Nitrogen 3mg/l annual average and Total Phosphorus 1 mg/l annual average as of January 1, 2016.



standards in near shore waters of Stock Island and Key West.

51. Because of the hydrogeology of the porous limestone in the area, the large volume of low salinity partially treated effluent injected into shallow wells will quickly rise to the surface and adversely impact the marine surface waters and ecosystems.
52. The use of shallow wells for injection of treated sewage effluent in these Outstanding Florida Waters will violate existing water quality standards, further degrade the nearshore waters, interfere with their beneficial use, and will violate Florida Statutes and DEP regulations.
53. Surface waters, adjacent to the Stock Island, are designated as an Outstanding Florida Water and are part of the Florida Keys National Marine Sanctuary and proximate to the Great White Heron National Wildlife Refuge. FAC 62-302.700<sup>7</sup>. The draft permit impermissibly allows degradation of the Outstanding Florida Water under Rule 62-4.242<sup>8</sup>.
54. The applicant failed to show that “[u]se of other discharge locations, which would reduce adverse impacts on water quality” is not economically and technologically reasonable.”  
Rule 62-4.242(1) (c).
55. A deep injection well is another “discharge location” which is both technologically and

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<sup>7</sup> Rule 62-302.700 **Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters.** “(1) It shall be the Department policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters. No degradation of water quality, other than that allowed in subsections 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource Waters, respectively, notwithstanding any other Department rules that allow water quality lowering.”

<sup>8</sup> Rule 62-4.242 **Antidegradation Permitting Requirements; Outstanding Florida Waters**

(2) Standards Applying to Outstanding Florida Waters. (a) No Department permit or water quality certification shall be issued for any proposed activity or discharge within an Outstanding Florida Waters, or which significantly degrades, either alone or in combination with other stationary installations, any Outstanding Florida Waters,...

economically feasible, as local, state and federal funds have been allocated for wastewater projects in the Florida Keys. Alternatively, KWRU WWTP could place more emphasis on finding viable reuse customers, and exploring other options such as determining whether any remaining effluent flow could be piped to the existing deep well for City of Key West Waste Water Treatment Plant, as another discharge location.

56. The impacts of the pollutant loads from the partially treated low salinity effluent will be especially evident in near shore waters around Stock Island and Key West.

57. After January 1, 2016, under the proposed permit, KRU WWTP will be allowed to discharge into a shallow injection well system 1.27 MGD, which makes even the low discharge limits of AWT significant due to the load. Total Nitrogen (TN) of 3.0 mg/l annual average permitted to carry an annual average daily pollutant load of 3mg/liter of TN, with single sample TN loads of up to 6 mg/liter. The treated wastewater effluent is also permitted to carry an annual average daily pollutant load of 1mg/liter of TP with single sample loads of up to 2 mg/liter of TP, along with other contaminants. The forms of Nitrogen (N) present in the partially treated wastewater will include ammonium and nitrate, which are the most reactive forms of N that initiate and sustain harmful algal blooms. The forms of Phosphorus (P) in the partially treated wastewater will include soluble reactive phosphorus, which will adversely affect habitats including habitats that are strongly Phosphorus limited.

58. The effluent will be injected into groundwater at the Plant in highly porous limestone, uncased below 60 feet and drilled to approximately 90', and the effluent would rise via buoyant flow to the surface waters of the State of Florida, Outstanding Florida Waters and the Florida Keys National Marine Sanctuary.

59. Once in the Sanctuary and OFW surface waters, the lower salinity effluent carrying pollutant loads of increased ammonium, nitrate, and soluble reactive phosphorus concentrations would generate harmful algal blooms, adversely affecting sea grasses, corals, patch reefs and benthic organisms, and could result over time in a "dead zone," violating Florida water quality standards.

60. Contaminants in the effluent injected in the shallow injection wells would disperse through Sanctuary and Outstanding Florida Waters, leading to eutrophication and water quality degradation, including increased sea grass and coral die-offs, and result in harm to the habitat of species that rely on the Florida Keys' waters for their survival, including federally protected corals and sea turtles which feed on sea grasses in the area.

61. The surface waters around Stock Island and Key West are already near, at, or exceed the numeric nutrient criteria recently adopted for the Florida Keys by the State of Florida. Rule 62-302.532 F.A.C. contains numeric nutrient standards for the Florida Keys, Lower Keys waters:

(g) Florida Keys	Annual geometric means that shall not be exceeded more than once in a three year period		
<i>Estuary</i>	<i>Total Phosphorus</i>	<i>Total Nitrogen</i>	<i>Chlorophyll a</i>
1. Back Bay	0.009 mg/L	0.25 mg/L	0.3 µg/L
2. Backshelf	0.011 mg/L	0.23 mg/L	0.7 µg/L
3. Lower Keys	0.008 mg/L	0.21 mg/L	0.3 µg/L
4. Marquesas	0.008 mg/L	0.21 mg/L	0.6 µg/L
5. Middle Keys	0.007 mg/L	0.22 mg/L	0.3 µg/L
6. Oceanside	0.007 mg/L	0.17 mg/L	0.3 µg/L
6. Oceanside	0.007 mg/L	0.17 mg/L	0.3 µg/L
7. Upper Keys	0.007 mg/L	0.18 mg/L	0.2 µg/L

62. Even slight increases in reactive forms of N and P can initiate harmful algal blooms in the shallow low nutrient waters of the Florida Keys. The proposed permitted discharge of effluent in quantities of 1.27 MGD a day is such a large quantity carrying additional

amounts of TN and TP, even at the advanced waste water treatment levels, the effluent will average **3 mg/liter of TN and 1 mg/liter of TP** and the effluent will further degrade these waters, and cause or contribute to harmful algal blooms, eutrophication, violations of Florida DEP narrative and numeric nutrient standards, and contribute to violation of water quality standards, and impairment of the use of and the further degradation of the Outstanding Florida Waters.

63. The 1.27 MGD of treated sewage effluent disposal into shallow injection wells will violate Surface Water Quality Criteria set forth in 62-302.530 including the narrative criteria for nutrients. 62-302.530 (47) (b) “Nutrients. In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna.”

64. The proposed agency action permitting the disposal of 1.27 MGD of treated sewage effluent into the four (4) shallow injection wells will also violate Section 62-602.302 F.A.C, which states, in pertinent part:

(13) The Department finds that excessive nutrients (total nitrogen and total phosphorus) constitute one of the most severe water quality problems facing the State. It shall be the Department’s policy to limit the introduction of man-induced nutrients into waters of the State. Particular consideration shall be given to the protection from further nutrient enrichment of waters which are presently high in nutrient concentrations or sensitive to further nutrient concentrations and sensitive to further nutrient loadings. Also, particular consideration shall be given to the protection from nutrient enrichment of those waters presently containing very low nutrient concentrations: less than 0.3 milligrams per liter total nitrogen or less than 0.04 milligrams per liter total phosphorus.

(15) Pollution which causes or contributes to new violations of water quality standards or to continuation of existing violations is harmful to the waters of this State and shall not be allowed. Waters having water quality below the criteria established for them shall be protected and enhanced. However, the Department shall not strive to abate natural conditions.

(16) If the Department finds that a new or existing discharge will reduce the quality of the receiving waters below the classification established for them or violate any Department rule or standard, it shall refuse to permit the discharge.

65. The proposed agency action permitting the disposal of 1.27 MGD of treated sewage effluent into the four (4) shallow injection wells will cause or contribute to existing water quality violations and will reduce the quality of the near shore waters around Stock Island and Key West including Safe Harbor and surrounding water bodies.
66. The Florida Legislature requires that DEP prevent any discharge which will cause or contribute to violations of state water quality standards, even if the discharge is otherwise in compliance with the wastewater subsection of the Chapter 403, under Section 403.086 (10) (h), Florida Statutes, which provides:

*“If it is demonstrated that a discharge, even if the discharge is otherwise in compliance with this subsection, will cause or contribute to a violation of state water quality standards, the department shall:*

- 1. Require more stringent effluent limitations;*
- 2. Order the point or method of discharge changed;*
- 3. Limit the duration or volume of the discharge; or*
- 4. Prohibit the discharge.”*

67. The Florida legislature has clearly directed DEP to protect Florida waters from further degradation under Section 403.086 (10) (h) 2. The Department should “order the point or method of discharge changed” to require a deep well to avoid the further degradation of Outstanding Florida Waters and to prevent the wastewater plant’s effluent from causing or contributing to the violation of state water quality standards.
68. For the reuse proposed at 1MGD at the Key West Golf Course, the Department does not have reasonable assurance to conclude that there will be no impact to the environment or to human health from this intensive reuse, including the threat posed by persistence of pharmaceuticals or from viruses that the WWTP is unable to remove or treat.

**SPECIFIC STATUTES & RULES**  
**WARRANTING MODIFICATION OR REVERSAL**

**Florida Statutes, Sections:**

20.255;  
403.061(27);  
403.086 (10);  
403.086(10) (e);  
403.086 (10) (h)

**Florida Administrative Code Sections**

62-110.106(7);  
62-4.242 (2) and (3);  
62-302.532;  
62-302.700;  
62-510 (18);  
62-520.400;  
62-528.630;  
62-600.200;  
62-600.300;  
62-600.400(3)(a)  
62-620.550 (1) and (2);  
62- 620.528;  
62-620.620(1) (g);  
62-110.106 (5);  
62-110.106 (11), FAC

All other rules or statutes cited in this petition.

**QUEST FOR RELIEF**

Petitioners respectfully request that the Department deny or modify the proposed permit and require KWRU WWTF to apply for a deep well permit as soon as possible based on the application design capacity in order to protect the coastal environment of the Florida Keys, and to proceed to permitting, construction of the deep injection well without delay; and Petitioners also respectfully request that the Department deny or modify the proposed permit allowing reuse of 1 MGD on the Key West Golf Course until a demonstration of reasonable assurance is provided regarding the capacity of the Key West Golf Course to accept the water volume and

that no negative impacts will occur to groundwater, surface waters, human health or the environment given a proposed 1 MGD volume of sewage treated effluent. Alternatively, Petitioners request that the Department transmit the Petition to the Division of Administrative Hearings (DOAH) for a Formal Administrative Hearing held by a DOAH Administrative Judge on the disputed issues of fact and law and that the DOAH ALJ enter a Recommended Order consistent with the above request to the Department, namely recommending modification of the permit to require KWRU WWTF to utilize a deep injection well or recommending denial of the permit, and the requirement for a demonstration of reasonable assurances for no impact to groundwater, surface waters or storm water management for the given volume of treated effluent to be used on the Key West Golf Course; and that DEP issue a Final Order modifying or denying the Application.

#### **Certificate of Service**

I certify that the foregoing petition requesting a formal administrative hearing has been FILED on Tuesday, August 5, 2014 with the Department of Environmental Protection (DEP), DEP Agency Clerk Lea Crandall 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399 Phone: (850) 245-2212 and was

FILED ELECTRONICALLY: [Lea.crandall@dep.state.fl.us](mailto:Lea.crandall@dep.state.fl.us)

FILED BY FAX: (850) 245-2303  
Petition w/o EXHIBITS

/s/ Diana L. Davis  
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VERIFICATION

STATE OF FLORIDA  
COUNTY OF MONROE

PROTECT KEY WEST AND THE FLORIDA KEYS, INC. D/B/A LAST STAND ("Last Stand"), read the foregoing Petition for Formal Administrative Hearing ("Petition"), have authorized the filing of the Petition and based upon reasonable inquiry, believe it is not interposed for any improper purposes, such as to harass or to cause unnecessary delay, or for frivolous purpose or needless increase in the cost of litigation. Last Stand believes based upon its knowledge and reliance on expert opinions the activity to be licensed or permitted including the shallow well injection of 1.27 MGD of effluent (DEP PROPOSED PERMIT: FLA014951-012-DWIP and UIC PERMIT 18490-020 and 021-UIC) will have the effect of impairing, polluting, or otherwise injuring the water and natural resources of the State of Florida.

*Naja Girard d'Albissin*

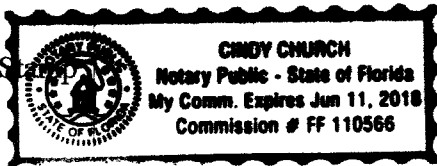
Naja Girard, President Last Stand

Naja Girard d'Albissin

NOTARY PUBLIC

As sworn and subscribed before me this 5 day of August, 2014 by Naja Girard who is either personally known to me \_\_\_\_\_, or produced identification +, type of identification produced FLDL \_\_\_\_\_.

Notary



*Cindy Church*

Notary Public  
State of Florida  
County of Monroe




VERIFICATION

STATE OF FLORIDA  
COUNTY OF MONROE

Under penalty of perjury, I declare that the following is true based upon my personal knowledge:

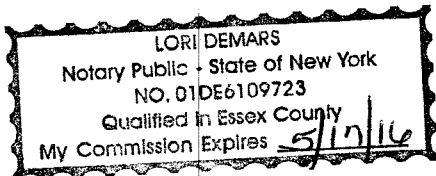
**George Halloran**, have read the foregoing Petition for Formal Administrative Hearing ("Petition"), have authorized the filing of the Petition and based upon reasonable inquiry, believe it is not interposed for any improper purposes, such as to harass or to cause unnecessary delay, or for frivolous purpose or needless increase in the cost of litigation and based upon my personal knowledge and reliance on expert opinions the activity, conduct or product to be licensed or permitted including the shallow well injection of effluent (DEP PROPOSED PERMIT: FLA014951-012-DWIP and UIC PERMIT 18490-020 and 021-UIC) will have the effect of impairing, polluting, or otherwise injuring the water and natural resources of the State of Florida.

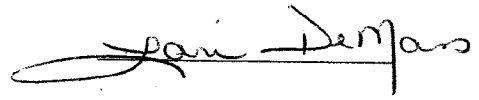
  
George Halloran

NOTARY PUBLIC

As sworn and subscribed before me this 5<sup>th</sup> day of August, 2014 by George Halloran who is either personally known to me , or produced identification       , type of identification produced N/A.

Notary Stamp



  
Notary Public  
State of Florida  
County of Warren