



# Utilities Department Report

To: Albert Childress, City Manager

*ACS*

Date: June 8, 2023

From: Kelly Crowe, P.E., Utilities Director

Subject: May 2023- Utilities Department Report

## Utilities Department

### ***Administrative***

- Posted for the Principal Engineer position. Received application from qualified candidate.
- Obtained Hurricane Plan from OMI/Jacobs
- Held first round of budget hearings on 5/22
- Issues Resolved-Click Fix 16 of 19 resolved to date (all categories)
- Pay Apps: 7; \$1,167,086.79 total
- PO's Issued: 6; \$238,310 total
- Back Utility Fees Assessed/Collected: \$113.35 / \$221.89.
- Undiscovered Sewer Base Charges recognized: 6 EDUs @ \$291/EDU/Yr.
- Add or Re-assess new parcels: 2 @ \$3,316.00

### ***Solid Waste***

- Waste Hauled
  - MSW: 3,226 tons
  - Yard Waste: 399 tons
  - Construction and Demolition: 18 tons
- White Goods (Pick Ups): 147 Pick Ups
- Bulk Pick Ups (Tons): 60 tons
- Extra Pick Ups (Pick Ups): 26
- Carts Delivered: 75
- Carts Repaired: 8
- Commercial Recycling Pilot Program held from May 8-12

### ***Sewer/Storm***

- Catwalks installed at WWTP Anoxic Zone
- Bids received for RAS/WAS project. Bid of \$3,600,000.00 will be awarded.
- Directional Bore project at Fleming Key will be
- Refer to attached report from OMI/Jacobs for Operations and Maintenance Data



## **Operations, Maintenance & Management Services**

**Monthly Report**

Period of Performance

April 2023

**City of Key West**

5-17-2023



## Operations, Maintenance & Management Services

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### Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
1	5-17-2023	Report issued to Client	Rick C.	Jayci H.	Andy R.	Rick C.

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## **Executive Summary**

This report captures the activities of the Jacobs team at Key West for the preceding month. Key information on work orders completed, inspection requests received, locates performed, and other significant activities are summarized in this report for your information. Your local Jacobs team takes pride in serving the City of Key West. Should you require any additional information on the contents of this report, please do not hesitate to reach out to Rick Cleaver, Project Manager.

# 1. Operations

Begin		4/1/2023		End		4/30/2023			
FLOW	Influent INF-1			Effluent EFF-1		UV Light	Disinfection UV		
	Flow FLW-1 Annual Avg	Flow FLW-1 Combined	Flow FLW-1 Three Month Moving Average	Flow	UV Dose Min		UV Transmittance Min	UV Intensity Min	
	MGD	MGD	MGD	MGD	uW/S/cm2		MIN%	mW/cm2	
Actual for Report Period	4.2	3.792	3.570	3.460	Actual for Report Period	52	68	16.00	
Permit Limit	10.0 An Avg	Report Report Dates Avg	Report 3 Mo Avg	N/A Report Dates Avg	Permit Limit	35 Minimum	65 Min	N/A Report	
CBOD5	Effluent EFF-1				Coliforms	Effluent EFF-1			
	CBOD - Annual Avg EOM Only	CBOD - Lab	CBOD Weekly Avg	CBOD - Lab		Fecal Coliforms - An Avg of Mo Geomeans	Fecal Coliforms - Geomean - monthly	Fecal Coliforms - Lab	
	mg/L	mg/L	mg/L	mg/L		CFU/100 mL	CFU/100 mL	CFU/100 mL	
Actual for Report Period	1.9	4.6	3.4	2.84	Actual for Report Period	7	5	5	
Permit Limit	5.0 Annual Average	10.0 Monthly Max	7.5 Weekly Average Max	6.25 Monthly Average	Permit Limit	200 Annual Average	200 Monthly Geo Mean	800 Max	
TSS	Effluent EFF-1				pH	Effluent EFF-1			
	TSS - Annual Avg	TSS - Lab	TSS Weekly Avg	TSS - Lab		pH Min	pH Max		
	mg/L	mg/L	mg/L	mg/L		SU	SU		
Actual for Report Period	3.8	1.8	1.3	1.1	Actual for Report Period	7.1	7.7		
Permit Limit	5.0 Annual Average	10.0 Monthly Max	7.5 Weekly Average Max	6.25 Monthly Average	Permit Limit	6.0 Min	8.5 Max		
Nitrogen	Effluent EFF-1				Other	Effluent	Influent INF-1		
	Total Nitrogen Annual Avg	Total Nitrogen	Total Nitrogen Weekly Average	Total Nitrogen		Flow, % Capacity	CBOD	TSS	
	mg/L	mg/L	mg/L	mg/L		%	mg/L	mg/L	
Actual for Report Period	1.1	2.3	1.5	1.07	Actual for Report Period	34.6	240	202	
Permit Limit	3.0 Annual Average	6.0 Monthly Max	4.5 Weekly Average Max	3.75 Monthly Average	Permit Limit	N/A Report	N/A Report	N/A Report	
Phosphorus	Effluent EFF-1								
	Total P Annual Avg	Total P	Total P Weekly Avg	Total P					
	mg/L	mg/L	mg/L	mg/L					
Actual for Report Period	0.4	0.6	0.5	0.32					
Permit Limit	1.0 Annual Average	2.0 Monthly Max	1.5 Weekly Average Max	1.25 Monthly Average					

## 2. Maintenance

### 2.1 Treatment Plant

- Installed new AC drain line
- Adjusted chain on classifier
- Replaced SST valve
- Investigated SST blower issues and realigned belts
- Replaced vertical and horizontal belts on #1 belt press
- Pulled and cleaned both wash boxes on belt presses
- Discovered effluent pump 3's motor had a dead short and removed it for rebuilding
- Repaired broken chlorine pump
- Installed new piping and sprayer heads for clarifier 2
- Installed 2 new pipe stands in utilidor
- Removed old davit from basin 1 and installed new replacement
- Installed new ferric pump
- Installed new shaft and bearing on filter 2
- Investigated hydraulic issue on belt press and found vane pump needs replacement
- Pulled aeration motor and found motor had dead short. Started disassembly for rebuild.

### 2.2 Lift Stations

- Pulled LS N for rebuild
- Readjusted LS P transmission antenna due to high winds
- Exercised generator at Dennis St.
- Repaired LS E level bubbler

### 2.3 Vehicles

- N/A

## **2.4 Equipment Out of Service**

- Filter 2 (locating parts to order)



### 3. Collection System

#### 3.1 Salinity Levels

Navy Points of Connection Salinity Readings for April 2023										MONTHLY	
Location	Week 1		Week 2		Week 3		Week 4		AVERAGE		
Trumbo Front Gate	0.3	0.9%	0.2	1%	0.2	1%	0.2	1%	0.4	1%	
Trumbo Backflow Preventer	0.4	1%	0.2	1%	0.2	1%	0.3	1%	0.275	1%	
Trumbo Back Gate	4.4	13%	1.4	4%	4.2	12%	2.3	7%	3.075	9%	
Emma/Amelia	0.3	1%	0.2	1%	0.2	1%	0.3	1%	0.25	1%	
Truman and Fort	0.3	1%	0.2	1%	0.4	1%	0.2	1%	0.275	1%	
United and Whitehead	1.4	4%	1.1	3%	2.0	6%	1.6	5%	1.525	4%	
Sigsbee	18.4	53%	22.5	64%	24.4	70%	20.2	58%	21.375	61%	
Medical Center	0.4	1%	1.2	3%	0.3	1%	1.3	4%	0.8	2%	

#### 3.2 Collection System Activities

**April 2023**

**Plugged Main**

230 Virginia Street

**Repaired Main**

None

**Main Cleaned**

None

**Plugged Lateral**

230 Virginia

**Repaired Lateral**

None

**New Lateral**

None

**New C/O**

None

**Repaired C/O**

None

**M/H Rain Guard (Repaired)**

None

**M/H Ring & Cover**

None

**Odor Complaint**

None

**CCTV Surveying**

None

**Other**

Cleaned and checked Navy meters weekly

Worked on 2019 Vactor, which included boom replacement and flex insert tube. Maintenance performed by EP.

Cleaned wet wells at stations A, R, D, H, F

Cleaned berm at plant

Located mark for Sunshine One Call

**Spills**

- None

**Storm Drains / Sediment Traps Cleaned**

- 4th and North Roosevelt
- 7th and Staples
- 8th and Patterson
- Albury and Pearl
- Whitehead and Amelia
- Angela and Margret
- Pearl and Angela
- Ashe and Angela
- Simonton and Angela
- Angela and White
- Atlantic and Ashby
- Leon and Atlantic
- George and Blanch
- Caroline and Margaret
- Grinnell and Johnson
- Grinnell and Von Phister
- Harriett and 15th
- Howe and Virginia
- Seidenberg and 3rd

**Storm Manhole Ring and Covers**

- None

**Storm Injection Wells Cleaned (Shallow)**

- 1500 South (3)
- 2832 Staples
- 1601 Von Phister
- 700 Frances
- 600 Louisa (2)
- 2828 Staples

**Storm Drain Grates Replaced / Installed**

- None

**Storm Water Lines Televised**

- None

**Catch Basin Repairs**

- None

**Trench Drains Installed**

- None

**Other Stormwater Activities**

- Cleaned catch basin insert baskets (28)
- Maintained and clean grates throughout month due to above average storm activity
- Maintenance on 2022 Vactor performed by EP
- Assisted Mosquito Control at 601 Duval with problem

## Appendix A. Additional Information

LIFT STATION WET WELL SALINITY (PPT) AND PERCENT SEAWATER						
<b>Month:</b> <b>April 2023</b>						
LOCATION	Week 1	Week 2	Week 3	Week 4	AVERAGE	% Seawater
WWTP Infl.	4.4	4.2	4.4	4.5	4.4	12.5%
Lift Station A	1.8	1.7	1.7	1.3	1.6	4.6%
Lift Station B	4	4.6	4.4	4.8	4.5	12.7%
Lift Station C	1.1	1.3	1.1	1	1.1	3.2%
Lift Station D	9.5	8.7	9.3	6.8	8.6	24.5%
Lift Station D/A	3.2	4.2	3.9	2.7	3.5	10.0%
Lift Station E	10.9	6	7.7	4.5	7.3	20.8%
Lift Station F	4.8	3.6	4.2	2.3	3.7	10.6%
Lift Station G	6.9	*****	*****	*****	6.9	19.7%
Lift Station H	6.5	*****	*****	*****	6.5	18.6%
Lift Station J	0.9	*****	*****	*****	0.9	2.6%
Lift Station K	0.4	*****	*****	*****	0.4	1.1%
Lift Station L	0.5	*****	*****	*****	0.5	ns
Lift Station M	1	*****	*****	*****	1.0	2.9%
Lift Station N	0.5	*****	*****	*****	0.5	1.4%
Lift Station O	4.9	*****	*****	*****	4.9	14.0%
Lift Station R	4.8	*****	*****	*****	4.8	ns
Lift Station S	5.6	*****	*****	*****	5.6	16.0%
Lift Station T	7.6	*****	*****	*****	7.6	21.7%
				<b>AVERAGE</b>	<b>3.9</b>	<b>11.1%</b>

nc = needs cleaning  
 ns = no sample