Key Largo Wastewater Treatment District
Board of Commissioner's Meeting
Tuesday, December 6, 2022
4:00 PM

AGENDA

Board of Commissioners Meeting
103355 Overseas Highway
Key Largo, FL 33037

Meeting link for computer, tablet, or smartphone.
www.gotomeet.me/KLWTDClerkboard-meeting

(Toll Free): 1 877 309 2073
(646) 749-3129

Access Code: 587-583-005

BOARD MEMBERS:

Nicolas Rodriguez	Chairman
Susan Heim	Vice Chairman
Kay Cullen	Secretary-Treasurer
Timothy Maloney	Commissioner
Robert Majeska	Commissioner

DISTRICT STAFF:

Peter Rosasco	General Manager
Nicholas Mulick	General Counsel
Shannon McCully	Clerk

MISSION STATEMENT:

"The Mission of the Key Largo Wastewater Treatment District is to preserve and protect the delicate ecosystem of the Florida Keys while providing exceptional customer service."

Please mute cell phones.

A. CALL TO ORDER

B. PLEDGE OF ALLEGIANCE

C. ROLL CALL

D. SWEARING IN OF COMMISSIONERS

E. ANNUAL ELECTION OF BOARD OFFICERS

F. AGENDA ADDITIONS, CORRECTIONS, OR DELETIONS

G. PUBLIC COMMENT

H. APPROVAL OF MINUTES OF PREVIOUS MEETING
1. Minutes of November 15, 2022 3

I. GENERAL MANAGER

J. ADMIN AND CUSTOMER SERVICE

K. IT

L. BUDGET AND FINANCE

M. FIELD
1. Airvac Purchase – Air Terminals 8

N. PLANT/FACILITIES
1. Plant/Facilities Report – October 2022 10
2. Aerzen Blower Repair 13

O. CAPITAL PROJECTS
1. Vac Station I Driveway & Parking Improvements 16
2. Piping Upgrades for Vac Stations 19
3. Change Order No. 1 for Collection System Monitoring Project 23

P. ENGINEERING

Q. LEGAL

R. COMMISSIONER'S ITEMS

S. ROUNDTABLE

T. ADJOURNMENT

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:
December 6, 2022

Agenda Item Number: H-1

Action Required:
Yes

Department:
Legal

Sponsor:
Nicholas Mulick

Subject:
Minutes of November 15, 2022

Summary:
Staff to present the minutes from November 15, 2022 board meeting for approval.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$	1. Minutes
Administration:	_____		
Finance:	_____	Funding Source:	
District Counsel:	_____	N/A	
District Clerk:	_____	Budgeted:	
Engineering:	_____	N/A	

Approved By: _____ **Date:** 12-1-22
General Manager

Key Largo Wastewater Treatment District
103355 Overseas Hwy, Key Largo, FL
Tuesday, November 15, 2022

MINUTES

CALL TO ORDER (A)
Chairman Nicolas Rodriguez called the meeting to order at 4:00 PM.

PLEDGE OF ALLEGIANCE (B)
Commissioner Tobin led the Pledge of Allegiance.

ROLL CALL (C)
Present were: Chairman Nicolas Rodriguez; Commissioners, Andy Tobin, Tim Maloney, Susan Heim, and Kay Cullen.

Also present; General Manager, Peter Rosasco; General Counsel, Nicholas Mulick; Project Administration & HR Coordinator, Laura Weinstock; Plant/Facilities Manager, Ryan Dempsey; Field Manager, Mike Dempsey; District Engineer, Steve Suggs; IT Support, Manny Santana; Lead Plant Operator, Jerry Baker.

Appeared virtually: Finance Manager, Connie Fazio; Customer Account Specialist, Alex Irizarry; IT Consultants, Dave Soper, and Randy Redmond.

Guest: FLOVAC Director of Operations, Michael Pringle

AGENDA ADDITIONS, CORRECTIONS, OR DELETIONS (D)
Approval of Agenda (D-1)

Commissioner Tobin requested the addition of P-1 *Commissioner Tobin's Announcement.* Chairman Rodriguez requested the addition of P-2 *KLWTD Board Meeting.*

Motion: **Commissioner Cullen made a motion to approve the agenda. Commissioner Heim seconded the motion. Motion passed without objection.**

PUBLIC COMMENT (E)
No speakers.

APPROVAL OF MINUTES OF PREVIOUS MEETINGS (F)
Minutes of November 1, 2022 (F-1)

Motion: **Commissioner Maloney made a motion to approve the minutes of the November 1, 2022 meeting. Commissioner Cullen seconded the motion. Motion passed without objection.**

GENERAL MANAGER (G)
2023 Board Meeting Schedule (G-1)
Mr. Rosasco presented the proposed 2023 KLWTD Board of Commissioners meeting schedule.

Motion: Commissioner Cullen made a motion to approve the proposed meeting schedule.
Commissioner Maloney seconded the motion.

Vote on Motion:

Commissioner Tobin – Nay
Commissioner Maloney –Aye
Commissioner Cullen – Aye
Commissioner Heim – Nay
Chairman Rodriguez – Aye

December 20th Board Meeting (G-2)
Mr. Rosasco recommended canceling the December 20th meeting.

Motion: Commissioner Cullen made a motion to approve the recommendation.
Commissioner Maloney seconded the motion.

Vote on Motion:

Commissioner Tobin – Nay
Commissioner Maloney –Aye
Commissioner Cullen – Aye
Commissioner Heim – Aye
Chairman Rodriguez – Aye

CUSTOMER SERVICE (H)
Customer Service Report - October 2022 (H-1) (Laydown Attached)
Mr. Irizarry presented the Customer Service Report for October 2022 and informed the Board of a letter sent by KLWTD to all licensed plumbers in our area informing them that they must notify the District before performing work on District-owned equipment.

IT (I)
IT Report - October 2022 (I-1)
Mr. Soper presented the IT Report for October 2022.

BUDGET AND FINANCE (J)
Budget and Finance Report - October 2022 (J-1)
Ms. Fazio presented the Budget and Finance Report for October 2022.

FIELD (K)
Field Report - October 2022 (K-1)
Mr. M. Dempsey presented the Field Report for October 2022.

PLANT/FACILITIES (L)
No Report.

CAPITAL PROJECTS (M)
Capital Projects Report - October 2022 (M-1)
Mr. Suggs presented the Capital Projects Report for October 2022.

ENGINEERING (N)
FLOVAC Update (N-1)
Mr. Pringle gave a presentation on the FLOVAC project's progress.

LEGAL REPORT (O)
Conservation Parcel Waiver Request (Reso. 19-2022)
Mr. Mulick submitted a request for waiver of ad valorem assessment for AK No's. 1644021, 1644030, 1644048, 1644056, 1644102, 1644111, 1644129, and 1644137; Resolution 19-2022.

Motion: Commissioner Heim made a motion to adopt Resolution 19-2022. Commissioner Tobin seconded the motion.

Vote on Motion:

Commissioner Tobin – Nay
Commissioner Maloney –Aye
Commissioner Cullen – Aye
Commissioner Heim – Aye
Chairman Rodriguez – Aye

COMMISSIONER ITEMS (P)
Commissioner Tobin's Announcement (P-1)
Commissioner Tobin commented on the recent election and his experiences as the longest-serving member of the Board.

KLWTD Board Meeting (P-2)
Chairman Rodriguez presented a copy of the first KLWTD Board Meeting Agenda.

ROUNDTABLE DISCUSSION (Q)
No Report.

ADJOURNMENT (R)
The meeting was adjourned at 6:14 pm.

_____ _____
Nicolas Rodriquez, Chairman Shannon McCully, Clerk

Seal_____

Key Largo Wastewater Treatment District
103355 Overseas Highway, Key Largo, FL 33037
Phone (305) 451-4019 • www.klwtd.com

November ___, 2022

[Plumbing Company Name]
[Plumbing Company Address]

RE: Wastewater Related Calls in Key Largo

Dear [Plumbing Companies Name],

The Key Largo Wastewater Treatment District is reminding plumbing companies to please advise your customers in Key Largo, with wastewater related calls, to contact KLWTD before you begin work that would result in the customer receiving a bill. **If the problem is the District's responsibility it will be handled by KLWTD with no charge to the customer.**

KLWTD system technicians are available 24-hours a day by calling 305-451-4019. Customers should press 1 if they're experiencing a sewer emergency.

We appreciate your support. Please contact me at (305) 451-4019 ext. 209 or Alexis.irizarry@klwtd.com should you have any questions.

Sincerely,

Alexis Irizarry
Customer Account Specialist

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:
December 6, 2022

Agenda Item Number: M-1

Action Required:
Yes

Department:
Field

Sponsor:
Mike Dempsey

Subject:
Airvac Purchase: Air Terminals

Summary:
Mr. Dempsey will present a proposal for Air Terminals to the Board for approval.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$ 70,115.00	1. Airvac Proposal
Administration:	_____	Expense	
Finance:	_____	Funding Source:	
District Counsel:	_____	Rates	
District Clerk:	_____	Budgeted:	
Engineering:	_____	Yes	

Approved By: _____ Date: 12.1.22
General Manager

4217 N. Old US Highway 31
Rochester, IN 46975
Tel# 574.223.3980
Tax ID#:35-2749561

Airvac

Sold-to address
Key Largo Wastewater Treatment Dist
PO Box 491
Key Largo FL 33037

Ship-to address
Key Largo Wastewater Treatment
100301 Overseas Hwy
skidded/palletized orders
Key Largo FL 33037

Repeat printout

Quotation

Number/Date 20115238 / 11/14/2022
Reference no./Date
Sold-To 10000584
Validity period 11/14/2022 to 12/14/2022
Sales person name Southeast
Entered by Becky Smith

We deliver according to the following conditions:
Currency USD
Terms of payment: Within 30 days without deduction
Terms of delivery: CIP Key Largo FL

US13KEY02P01
Freight not included in quote.

Item	Material Description	Qty	UoM	Price		Value
000010	AT1000-1 6" AIR TERM, SANDSTONE, W/DOOR Price quoted is with no grommets.	225.000	EA	290.00	USD	65,250.00
000020	901000001 DEVIATION **** CUSTOM ORDER PART No grommets needed.	225.000	EA		USD	
000030	10000000594 FREIGHT BILLED NON-TAXABLE **Freight is estimated**	1.000	EA	4,865.00	USD	4,865.00
Items total						70,115.00
Tax Jur Code Level 1		0.000		70,115.00		0.00
Final amount						70,115.00

Airvac, Inc., on behalf of its designated affiliates and subsidiaries (such term shall include any subsidiary, division or affiliate of Airvac, Inc. as designated [hereinafter Airvac]) will furnish requested equipment, materials or service (hereinafter Goods) to buyer. Such provision shall be governed by Airvac's terms and conditions published at : www.airvac.com/en/terms-and-conditions and/or that are forwarded with the order request [hereinafter Terms]. These Terms shall control and govern all transactions between Buyer and Airvac, whether under subsequent verbal and/or written requests, unless subject to an express, duly executed agreement which is not a pre-printed form)for the particular subject matter effective either upon buyer signing the Terms or order confirmation or quote, or upon Airvac shipping the Goods or otherwise commencing performance, whichever occurs first. The Terms, together with the specifications, drawings and other requirements specified, constitutes the entire agreement between the parties, and all prior negotiations are proposals related thereto are superseded and of no effect. Any written confirmation by buyer containing additional or different terms from the Terms shall be of no effect, unless Airvac expressly agrees, in writing, to such additional or different terms.

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:
December 6, 2022

Agenda Item Number: N-1

Action Required:
No

Department:
Plant/Facilities

Sponsor:
Ryan Dempsey

Subject:
Plant/Facilities Report - October 2022

Summary:

Mr. Dempsey will present the Plant/Facilities monthly report.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$	1. Monthly Report
Administration:	_____		
Finance:	_____	Funding Source:	
District Counsel:	_____	N/A	
District Clerk:	_____	Budgeted:	
Engineering:	_____	N/A	

Approved By: _____ **Date:** 12-1-22
General Manager

Wastewater Treatment Plant Operations

The wastewater treatment plant processed an average of 2.00 million gallons of influent per day (MGD). The Treatment Plant remains in compliance with the Florida Department of Environmental Protection (FDEP) guidelines.

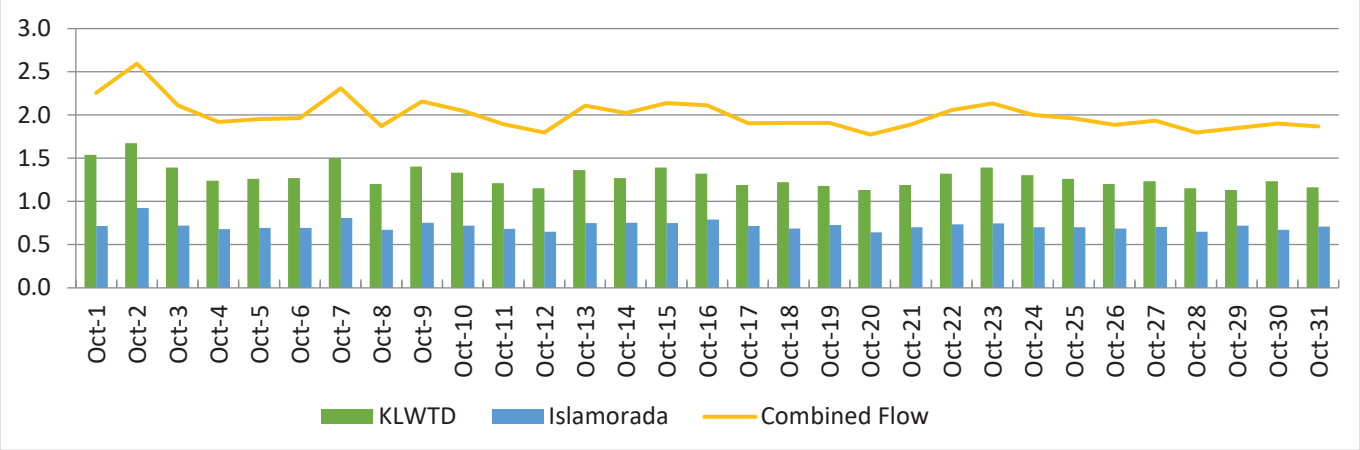
Effluent Quality Reports (mg/L)

Determines the quality of discharge from the wastewater treatment plant.

Effluent Quality Report	October 2022 Plant Performance	12 Month Average Plant Performance
CBOD5 (Carbonaceous Biochemical Oxygen Demand)	1	1.64
TSS (Total Suspended Solids)	1.6	0.94
TN (Total Nitrogen)	2.22	2.68
TP (Total Phosphorous)	.45	0.72

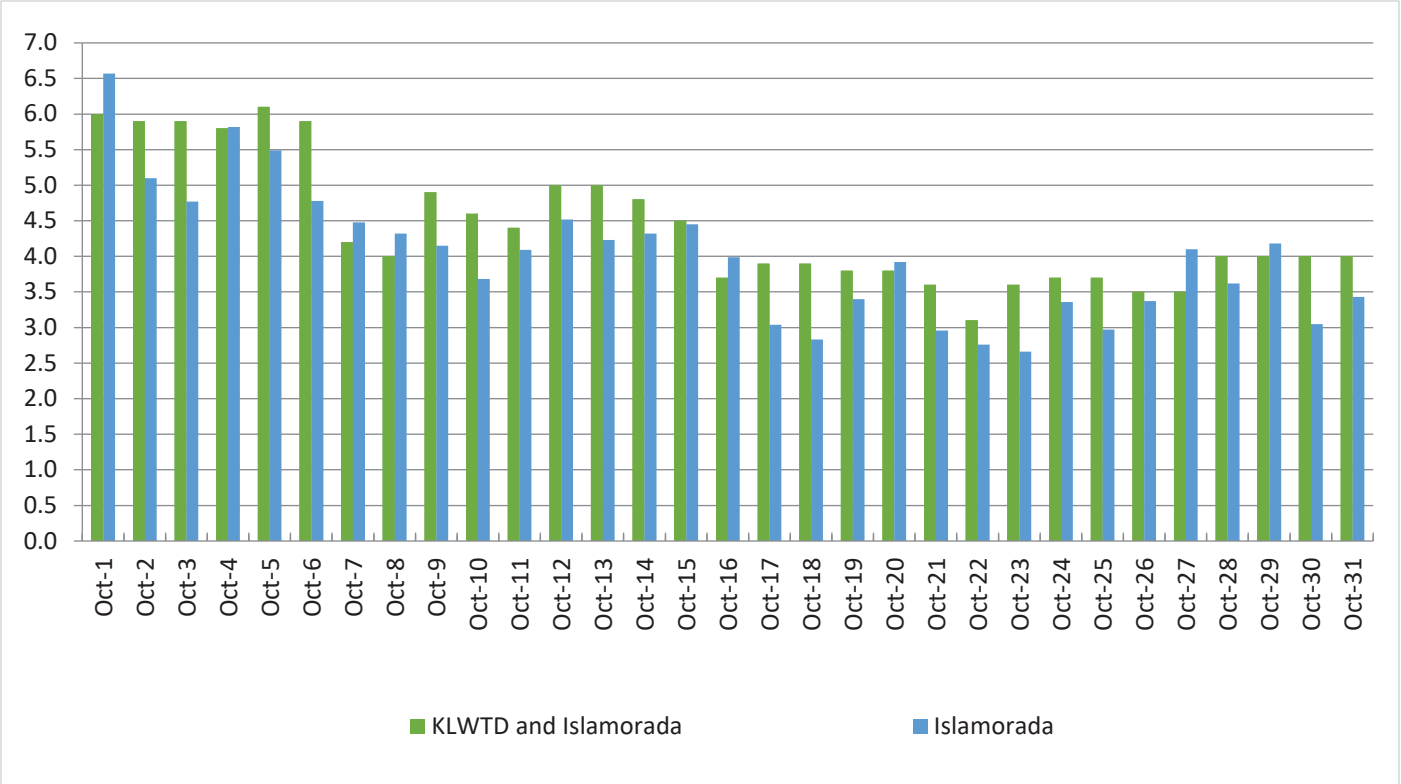
Daily Flow (MGD)

The total flow of influent through the wastewater treatment plant each day.



Daily Peak Salinity (PPT)

The daily peak salinity for the current month.



Islamorada

Average Daily Flow: .718 MGD
Highest Daily Flow: .925 MGD
Monthly Peak Salinity: 6.57 PPT
Days over 4.0 PPT Salinity: 16

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:
December 6, 2022

Agenda Item Number: N-2

Action Required:
Yes

Department:
Plant/Facilities

Sponsor:
Ryan Dempsey

Subject:
Aerzen Blower Repair

Summary:

Mr. Dempsey will request authorization for the Aerzen Blower repair.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$ 39,230.00	1. Aerzen Blower Quote
Administration:	_____	Expense	
Finance:	_____	Funding Source:	
District Counsel:	_____	Rates	
District Clerk:	_____	Budgeted:	
Engineering:	_____	Yes	

Approved By: _____ **Date:** 12-1-22
General Manager

AERZEN

Compressed air, gas
and vacuum solutions

Key Largo Wastewater Treatment Plant
Att.: Beau Sponseller
103355 Overseas Hwy
KEY LARGO, FL 33037

Aerzen USA Corporation
108 Independence Way
Coatesville, PA 19320-1653
USA

order-usa@aerzen.com
www.aerzenusa.com
Phone: 610-380-0244

Quotation

Quote no.	SEQ-22-005246/ 0
Date:	11/17/22
Quote Expiration date:	12/17/22
Salesperson:	Aaron Groover
Handled by:	Bryant MacMillan
Payment Terms:	Net 30 days
Your account no.:	21-04852
Phone number:	+17862831049
E-Mail:	beau.sponseller@klwtd.com

Serial No. 1556639 Service Items SEI-013895
Item No.: 21-G5-150-300, Package, GM150S DeltaBlower, G5 (Internal Invoice)

Repair

Pos.	Item No. / Description	Quantity	Unit of M.	Unit Price USD	Line Amount USD
	Standard overhaul parts/labor	1	each	21,230.00	21,230.00
	160946000 pair of rotary pistons cpl.	1	each	18,000.00	18,000.00

Total USD Excl. TAX	**39,230.00**
Tax Amount USD	**0.00**
Total USD Incl. TAX	**39,230.00**

Ship-to Address:
Key Largo Wastewater Treatment Plant
103355 Overseas Hwy
KEY LARGO, FL 33037

For questions on this order, please contact your Regional Service Coordinator.

Best regards,

Bryant MacMillan
Aerzen USA Corporation

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:

December 6, 2022

Agenda Item Number: O-1

Action Required:

No

Department:

Capital Projects

Sponsor:

Steve Suggs

Subject:

Approval to Publish ITB for Vac Station I Driveways & Parking Improvements

Summary of Discussion:

The Field Operations Department requested that the two entrances to the Vacuum Station I property be paved and that additional parking be provided. The Invitation to Bid (ITB), the plans and the technical specification for the project are prepared. Staff request that the Board authorize publication of the ITB to solicit bids. When bids are received and evaluated, a Recommendation of Award will to the lowest cost responsive and responsible bidder will be brought to the Board for acceptance.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$ 105,000.00	1. WEC memo
Administration:	_____	Expense	2. Site Plan
Finance:	_____	Funding Source:	
District Counsel:	_____	District	
District Clerk:	_____	Budgeted:	
Engineering:	_____	Yes	

Approved By: _____ **Date:** 12-1-22

General Manager

WEILER ENGINEERING CORPORATION
WEC Excellence in engineering
201 WEST MARION AVENUE - SUITE 1306 | PUNTA GORDA | FL 33950
TEL 941·505·1700 | FAX 941·505·1702 | WWW.WEILERENGINEERING.ORG

6805 OVERSEAS HIGHWAY | MARATHON | FL 33050
TEL (305) 289-4161 | FAX(305) 289-4162

MEMORANDUM

To: KLWTD Board of Commissioners

From: Ed Castle, P.E.

Date: November 30, 2022

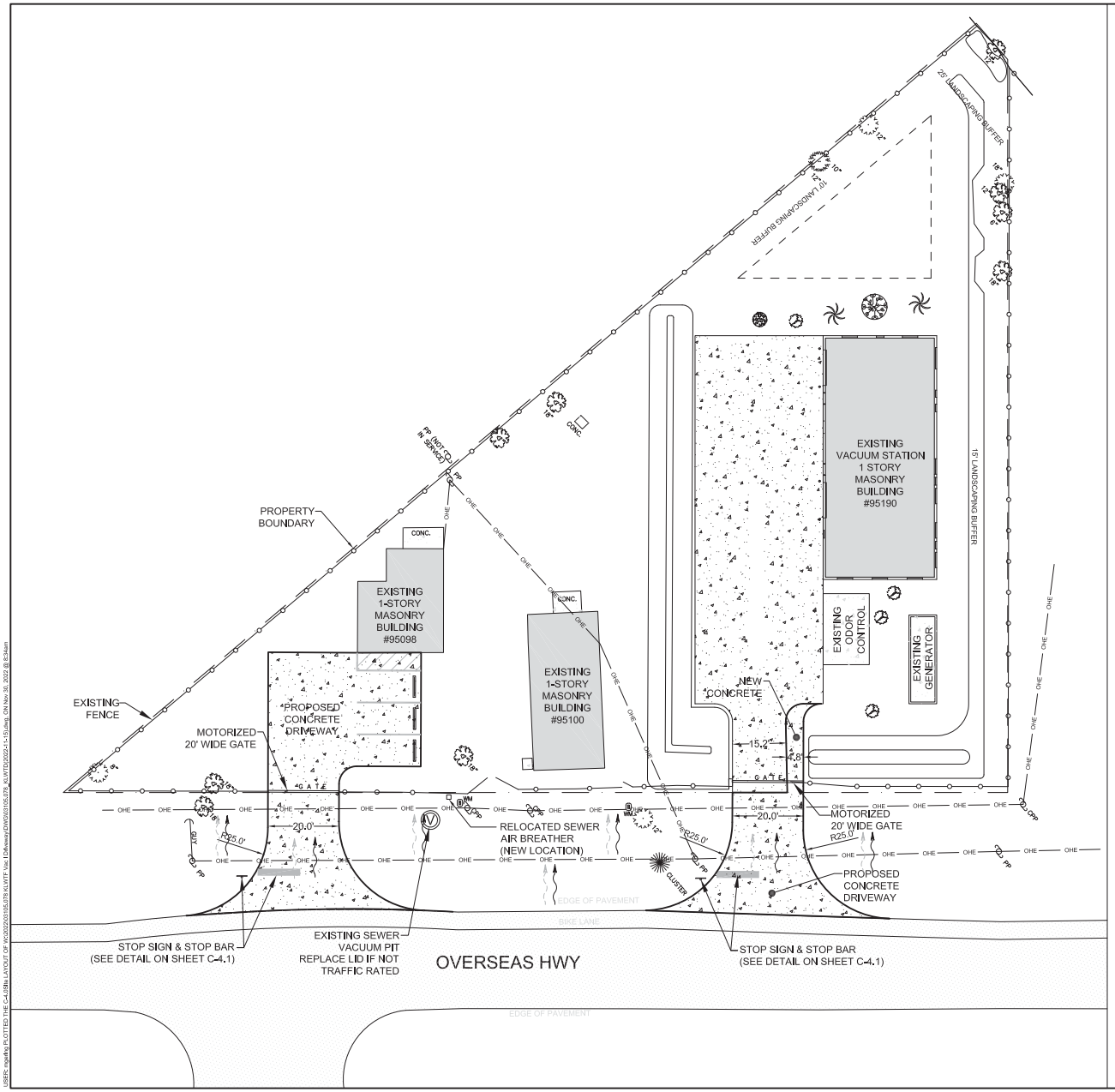
Re: Vacuum Station I Driveway and Parking Improvements

Vacuum Station I fronts on US 1. It has two vehicle entrance gates, neither of which are paved. The Field Operations Department included funds to install two concrete driveway entrances and three additional parking spaces at the vacuum station property in the FY23 budget. The budget includes funds for design, FDOT permitting, construction and construction administration with a total budget of $105,000.00.

The scope of work includes the following:

1. Install two 20' wide concrete entrance driveways where the existing dirt driveways are located. The two existing rolling gates will be re-used. Motorized gate openers will be added to both gates.
2. The existing concrete entranceway at the Vacuum Station Building gate will be widened from 16' to 20'. A 20' wide concrete driveway will be extended through the gate and will tie into the US 1 asphalt.
3. A 20' wide concrete entranceway will be installed at the northern gate leading to the Office Building. The concrete driveway will tie into the existing US 1 asphalt and will extend past the existing gate and into the yard approximately 40' past the gate. Once inside the gate, the concrete slab will be widened to provide three additional parking spaces.

The attached site plan shows the proposed driveways and parking. At this time, staff is requesting approval from the Board to publish the Invitation to Bid (ITB) for this project and to submit the FDOT permit application. When bids are received, they will be evaluated and a Recommendation of Award to the lowest responsive and responsible bidder will be brought to the Board for approval of the award.



GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1" = 30'

PROJECT DATA:

PROJECT:	KLWTD TWO DRIVEWAYS VACUUM STATION I 95190 OVERSEAS HWY KEY LARGO FLORIDA, 33036
OWNERSHIP:	KEY LARGO WASTEWATER TREATMENT DISTRICT 95190 OVERSEAS HWY KEY LARGO FLORIDA, 33036
ENGINEER:	THE WEILER ENGINEERING CORPORATION STEPHEN J. SUGGS, P.E. NO. 85237 6805 OVERSEAS HWY MARATHON, FLORIDA 33050 305.289.4162
SURVEYOR:	LAWRENCE P. FRANK, P.L.S. #4619 95098 & 95100 OVERSEAS HIGHWAY KEY LARGO, FLORIDA 33036 305.664.0764

GENERAL INFORMATION:

DATUM:	(NGVD) 1929
FLOOD ZONE:	MULTIPLE ZONES ON SITE: "AE7", "AE8" AS SHOWN ON: F.E.M.A. FLOOD INSURANCE RATE MAP: COMMUNITY No.125129, PANEL No. 0936 K EFFECTIVE DATE : 2/18/05

LEGEND:

- EXIST. BUILDING
- CONCRETE
- EXISTING VARIOUS TREE
- FENCE
- PROPERTY BOUNDARY
- EXISTING OVERHEAD WIRES

PRELIMINARY

NOT FOR CONSTRUCTION

11-30-2022

Stephen J. Suggs
Professional Engineer
State of Florida
Registration No. 85237

Sheet No. C-4.0

Description | Revisions

SITE PLAN
TWO DRIVEWAYS @
KLWTD VACUUM STATION I

THE WEILER ENGINEERING CORPORATION
engineers in engineering
201 W. MARION AVE. SUITE 1306
PUNTA GORDA, FLORIDA 33950
941.505.1700 EB #6656

Approved By: S.J.S | Design: S.J.S
Scale: AS SHOWN | Drawn: R.V.J
Job No: 03105.078 | Checked: R.C.P./S.J.S
Date Issued: 11/29/2022

USER: rpefky PLOTTED THE C-4.0Site LAYOUT OF W:\2022\03105.078 KLWTF Vac 1\Driveway\DWG\03105.078_KLWTD2022-C1-1-Survey_ON Nov 30, 2022 @ 8:34am

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:

December 6, 2022

Agenda Item Number: O-2

Action Required:

No

Department:

Capital Projects

Sponsor:

Steve Suggs

Subject:

Approval to Publish ITB for Piping Upgrades for Vac Stations

Summary of Discussion:

The Field Operations Department included the replacement of piping and valves at Vacuum Stations A, D, E, G, I and J/K in the FY23 budget. The scope of work includes replacing the ductile iron vacuum trees with Schedule 80 PVC and replacement of ductile iron valves with DeZurick ductile iron valves. These replacements are needed due to wear and corrosion issues. The work would be eligible for use of R&R funds.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$ 425,000.00	1. WEC memo
Administration:	_____	Expense	2. Typical Elevation View Plan
Finance:	_____	Funding Source:	
District Counsel:	_____	District	
District Clerk:	_____	Budgeted:	
Engineering:	_____	Yes	

Approved By: _____ **Date:** 12-1-22
General Manager

WEILER ENGINEERING CORPORATION
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6805 OVERSEAS HIGHWAY | MARATHON | FL 33050
TEL (305) 289-4161 | FAX(305) 289-4162

MEMORANDUM

To: KLWTD Board of Commissioners

From: Ed Castle, P.E.

Date: November 30, 2022

Re: Vacuum Stations Piping Upgrades

The Field Operations Department has requested replacement of certain piping and valves at Vacuum Stations A, D, E, G, I and J/K. The subject piping and valves are ductile iron and are reaching the end of their useful life. The interior coating on ductile iron vacuum piping trees has failed and scale is being drawn into the downstream piping and vacuum pumps. The ductile iron valves are also reaching the end of their useful life. Some of the valves will no longer seat fully and allow leakage when working on the piping. To remedy this, the Field Operations Department proposes the following general scope of work.

Due to budgetary concerns, only the replacement of the piping and valves at Vacuum Stations A and D was budgeted this fiscal year. The replacement of the valves and piping at the remaining stations will be funded in future fiscal years unless the Board directs otherwise. The funds for the replacement of piping and valves would be appropriately drawn from the R&R reserves.

Each vacuum station is similar in layout and piping sizes, although some variations exist from station to station. The general scope of work for each vacuum station is provided below. Note that Vacuum Stations A and D are included in the base bid price, while E, G, I and J/K are included as additive alternates that may be awarded at the Board's discretion.

<u>Vacuum Station A (Base Bid Item #1)</u>

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three ductile iron plug valves and three ductile iron check valves on the sewage pump piping
- Replace three 10" and one 8" ductile iron plug valves on the incoming vacuum mains
- Replace three 10" and one 8" ductile iron vacuum mains from the plug valves at the tank through the vacuum station wall with Schedule 80 PVC

Vacuum Station D (Base Bid Item #2)

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three ductile iron plug valves and three ductile iron check valves on the sewage pump piping
- Replace four 10" ductile iron plug valves on the incoming vacuum mains

Vacuum Station E (Additive Alternate Bid Item #A1)

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three 6" ductile iron plug valves, three 6" ductile iron check valves, one 8" ductile iron plug valve and one 8" ductile iron check vavle on the sewage pump piping
- Replace four 10" ductile iron plug valves on the incoming vacuum mains

Vacuum Station G (Additive Alternate Bid Item #A2)

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three ductile iron plug valves and three ductile iron check valves on the sewage pump piping
- Replace three 10" ductile iron plug valves on the incoming vacuum mains

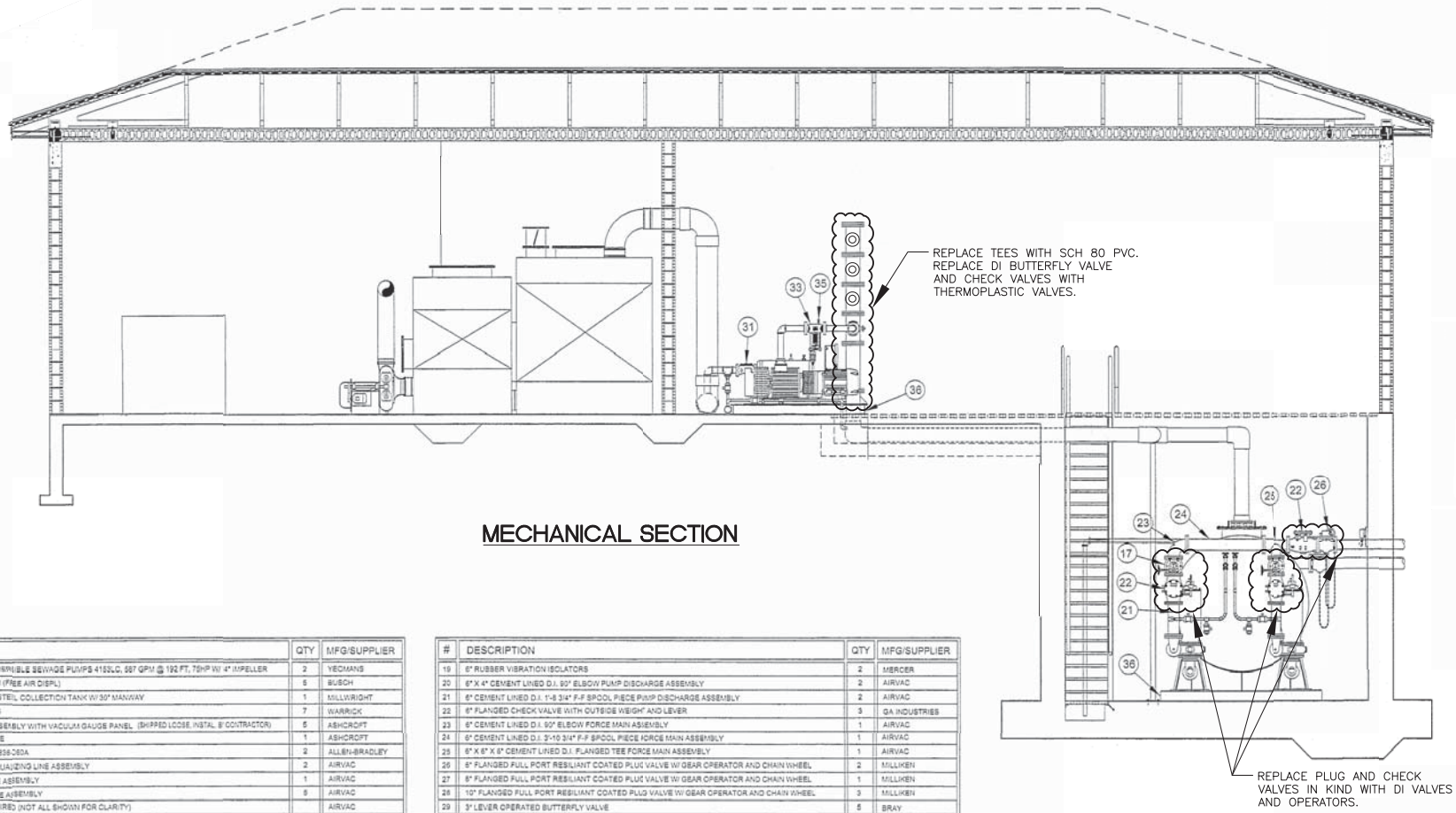
Vacuum Station I (Additive Alternate Bid Item #A3)

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three ductile iron plug valves and three ductile iron check valves on the sewage pump piping
- Replace three 10" ductile iron plug valves on the incoming vacuum mains

Vacuum Station J/K (Additive Alternate Bid Item #A4)

- Replace ductile iron vacuum piping tree with Schedule 80 PVC
- Replace five 3" butterfly valves and five 3" check valves between the piping tree and the vacuum pumps
- Replace three ductile iron plug valves and three ductile iron check valves on the sewage pump piping
- Replace four 10" ductile iron plug valves on the incoming vacuum mains

The budgetary estimate for design, construction and construction administration for Vacuum Stations A and D is $425,000.00. This replacement project would be eligible for use of R&R funds. The total estimated cost for all vacuum stations is $1,306,400.00.



MECHANICAL SECTION

#	DESCRIPTION	QTY	MFG/SUPPLIER
1.	VERTICAL DRY PIT SUBMERSIBLE SEWAGE PUMPS 4155LC, 587 GPM @ 192 FT, 75HP W/ 4" IMPELLER	2	YECMANS
2.	VACUUM PUMP, 455 CFM (FREE AIR DISPL)	5	BUSCH
3.	7'-0" DIA., 5000 GALLON STEEL COLLECTION TANK W/ 30" MANWAY	1	MILLWRIGHT
4.	LEVEL SENSING PROBES	7	WARRICK
5.	1/2" VACUUM GAUGE ASSEMBLY WITH VACUUM GAUGE PANEL (SHIPPED LOOSE, INSTAL. BY CONTRACTOR)	5	ASHCROFT
6.	0-30" HG. VACUUM GAUGE	1	ASHCROFT
7.	0-30" VACUUM SWITCH #836-C60A	2	ALLEN-BRADLEY
8.	1" STAINLESS STEEL EQUALIZING LINE ASSEMBLY	2	AIRVAC
9.	1" CLEAR PVC SITE TUBE ASSEMBLY	1	AIRVAC
10	1" CLEAR PVC DRAIN LINE ASSEMBLY	5	AIRVAC
11	PIPE SUPPORT AS REQUIRED (NOT ALL SHOWN FOR CLARITY)		AIRVAC
12	30" MANWAY COVER	1	MILLWRIGHT
13	2 1/2 HP, 8 GALLON, 120 VOLT SELF-CONTAINED AIR COMPRESSOR	1	C. HAUSFELD
14	1" PVC FULL PORT PLUG VAVE	11	SPEARS
15	2" FULL PORT PLUG VALVE	1	BANJO
16	3" FULL PORT PLUG VALVE	1	BANJO
17	6" FLANGED FULL PORT RESILIANT COATED PLUG VALVE WITH HAND WHEEL	4	MILLIKEN
18	6" X 4" CEMENT LINED D.I. PUMP SUCTION ASSEMBLY	2	AIRVAC

#	DESCRIPTION	QTY	MFG/SUPPLIER
19	6" RUBBER VIBRATION ISOLATORS	2	MERCER
20	6" X 4" CEMENT LINED D.I. 90° ELBOW PUMP DISCHARGE ASSEMBLY	2	AIRVAC
21	6" CEMENT LINED D.I. 1'-8 3/4" F-F SPOOL PIECE PUMP DISCHARGE ASSEMBLY	2	AIRVAC
22	6" FLANGED CHECK VALVE WITH OUTSIDE WEIGHT AND LEVER	3	GA INDUSTRIES
23	6" CEMENT LINED D.I. 90° ELBOW FORCE MAIN ASSEMBLY	1	AIRVAC
24	6" CEMENT LINED D.I. 3'-10 3/4" F-F SPOOL PIECE FORCE MAIN ASSEMBLY	1	AIRVAC
25	6" X 6" X 6" CEMENT LINED D.I. FLANGED TEE FORCE MAIN ASSEMBLY	1	AIRVAC
26	6" FLANGED FULL PORT RESILIANT COATED PLUG VALVE W/ GEAR OPERATOR AND CHAIN WHEEL	2	MILLIKEN
27	8" FLANGED FULL PORT RESILIANT COATED PLUG VALVE W/ GEAR OPERATOR AND CHAIN WHEEL	1	MILLIKEN
28	10" FLANGED FULL PORT RESILIANT COATED PLUG VALVE W/ GEAR OPERATOR AND CHAIN WHEEL	3	MILLIKEN
29	3" LEVER OPERATED BUTTERFLY VALVE	5	BRAY
30	8" PNEUMATICALLY OPERATED BUTTERFLY VALVE	1	BRAY
31	3" RESILIANT COATED SWING CHECK VALVE	5	MILLIKEN
32	3" TYPE 304 STAINLESS STEEL THREADED VACUUM PUMP INLET & OUTLET ASSEMBLIES	1	AIRVAC
33	3" INLET FILTER / SEPERATOR	5	CLEAR-VU
34	1/2" BRASS BALL VALVE FOR VACUUM PUMP OIL DRAIN	5	NIBCO
35	1/4" CHROME PLATED BRASS BALL VALVE FOR AIR INLET ON FILTER CANISTER	5	AIRVAC
36	STRUCTURAL STEEL SKID DECK...SEE SEPARATE DRAWING PJ07-113	1	AIRVAC / ALRO

NOTE: This drawing depicts a "typical" vacuum pump station. The actual number and size of valves, fittings and piping may vary from station to station.

KLWTD
VACUUM STATION
PIPING UPGRADES

WE Alliance in engineering
WELLER ENGINEERING CORPORATION
6905 OVERSEAS HIGHWAY
MARATHON, FLORIDA 33050
305.289.4161
EB #6656

Approved By: ERC | Design: SS
Scale: NTS | Drawn: BS
Job No: 03105.078 | Checked: ERC
Date Issued:

Revisions / Description

THIS SHEET IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL SEAL OF A FLORIDA LICENSED ENGINEER

EXHIBIT
NOT FOR CONSTRUCTION
11/29/2022

Sheet No. EXHIBIT

USER: beth PLOTTED THE G-05 LAYOUT OF W:\2022\03105.078.187 KLWTD--piping upgrades\DWG\Work Folder\Exhibit.dwg, ON Nov 30, 2022 @ 12:21pm

Key Largo Wastewater Treatment District
Board of Commissioners Meeting
Agenda Item Summary

Meeting Date:

December 6, 2022

Agenda Item Number: O-3

Action Required:

Yes

Department:

Capital Projects

Sponsor:

Steve Suggs

Subject:

Change Order No. 1 for Collection System Monitoring Project

Summary of Discussion:

Installation of the vacuum system monitoring components requires running conduit and wires into the existing Airvac air intake pedestals. During construction, it was found that unanticipated cutting and replacement of some of the pedestal concrete bases is needed. The Field Operations Department has also identified flood-prone areas where it is recommended to extend the PVC air intake pipes higher above ground level. The concrete work and remounting of pedestals and the extension of the air intake pipes is a change in the scope of work, increasing the cost of the project. Staff recommends that the Board approve the attached Change Order as further detailed in the WEC memo.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$ 450,500.00	1. WEC memo
Administration:	_____	Expense	2. Change Order No. 1 Form
Finance:	_____	Funding Source:	3. Backup unit cost quote from FloVac
District Counsel:	_____	Grant(s)	
District Clerk:	_____	Budgeted:	
Engineering:	_____	Partially	

Approved By: _____ **Date:** 12-1-22

General Manager

WEILER ENGINEERING CORPORATION
WEC xcellence in engineering
201 WEST MARION AVENUE - SUITE 1306 | PUNTA GORDA | FL 33950
TEL 941·505·1700 | FAX 941·505·1702 | WWW.WEILERENGINEERING.ORG

6805 OVERSEAS HIGHWAY | MARATHON | FL 33050
TEL (305) 289-4161 | FAX(305) 289-4162

MEMORANDUM

To: KLWTD Board of Commissioners

From: Steve Suggs, P.E.

Date: November 30, 2022

Re: KLWTD Collection Monitoring System- Change Order #1

As discussed at the 11/15/2022 Key Largo Board Meeting, some of the existing anticipated field conditions in Basin D differed from the expected and planned for conditions during the design of the project. This resulted in additional effort by the Contractor in order to properly install the equipment. There were two main field conflicts that were identified that caused the additional work and are shown below.

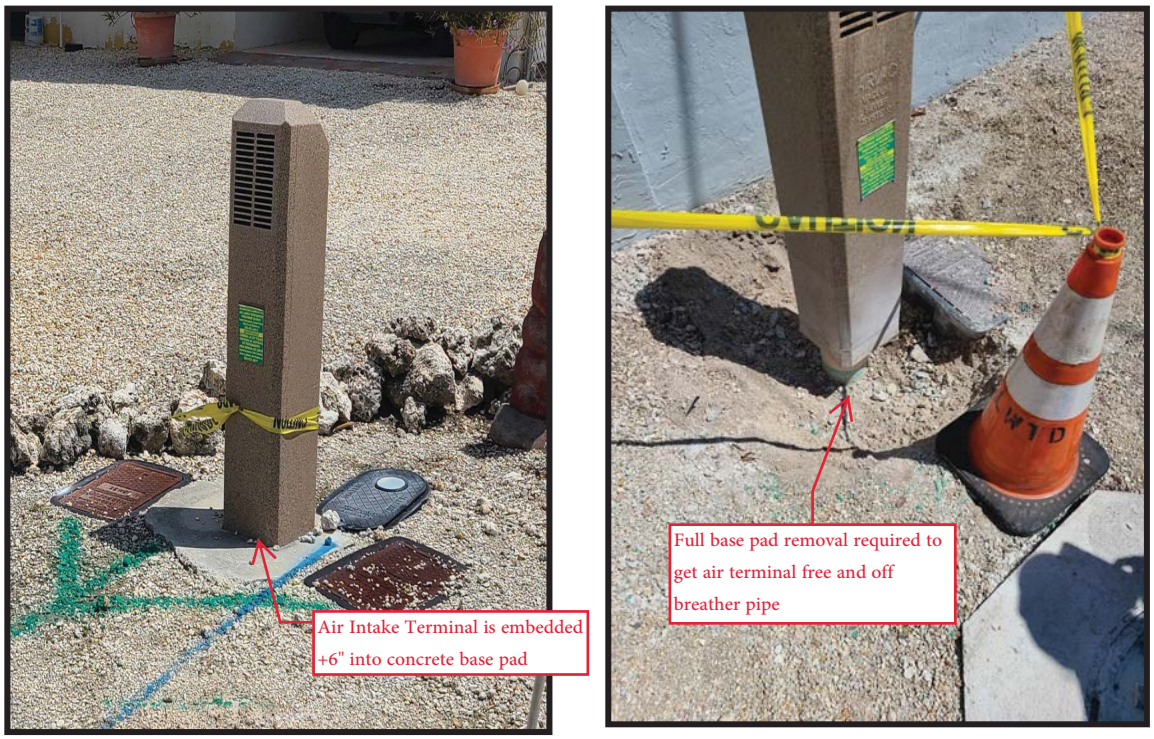
Field Conflicts:

Concrete Pad Thickness:

The first issue encountered was the thickness of the house keeping pad under the air intake terminals (tombstones). Typically, these housekeeping pads are expected to be 4”-6” thick with minimal reinforcement which is what was planned for as part of the Collection System Monitoring project. However, in Basin D it was quickly discovered that the housekeeping pads were 16”-24” thick. This thickness meant that FloVac’s plan of under excavating the pad and coring a hole for the 2”conduit through it would no longer be possible as it would require drilling through +16” of concrete.

As can be seen in the pictures above, the concrete had to be chipped out in order to get the conduit installed. In Basin D there were 205 of the 240 pits that required this additional chipping work.

Embedded Air Intake Terminals:
The second issue encountered was that some of the air intakes were embedded approximately 6" into the concrete housekeeping pads and could not be removed without breaking the pad apart. As with the aforementioned pads, these were also 16"-24" thick but because of the embedment it required full removal of the pad to complete the installation of the FloVac sensors & conduits.



The picture above (left) shows an air intake terminal embedded in the concrete. The other picture above (right) shows the terminal after the pad has been removed. In Basin D there were 35 terminals that were discovered to be embedded in the concrete which require full removal of the pad.

Summary of Two Main Field Conflicts:
As discussed above, in Basin D 205 of the 240 total air intake terminals were poured too thick and required additional effort for the Contactor to install the system. Additionally, 35 of the 240 air intake terminals were embedded approximately 6" into the concrete which required full pad removal resulting in additional effort. This additional effort was beyond what was expected based on project records and design standards. The contractor should be compensated for the work beyond the original scope of the project.

Since this project is at the beginning and is ongoing there is a concern that these two conflicts may arise in the remaining basins. In order to prepare for that WEC along with KLWTD staff & FloVac, have conducted site visits and reviewed the installation in the other basins. After this review it is believed that these conflicts are mostly widespread in Basin D. However, their presence cannot be ruled out entirely until excavation occurs. For this reason WEC has used the collected data to estimate the impact of these conflicts in future phases of the project. Based on this analysis WEC believes that approximately 640 partial base and 150 full base replacements

(including Basin D) will be needed in order to complete the project and should be included in CO#1.

Additional System Hardening:

During construction two other items were brought to KLWTD and WEC attention that could be addressed during this project. They are increasing breather height in flood prone areas and reinforcing the air intake terminal support rod.

Increasing Breather Height:

The breather pipe is the pipe located inside the air terminal that allows air into the vacuum system. It is a crucial part of the system operation. As the air intake terminals were being removed it was noted that several of the pipes were very low to the ground. In a normal environment this may not be an issue but in coastal flood prone areas such as Key Largo, the low elevations mean that water can enter the pipe during large storm events, king tides, as well as storm surge events.

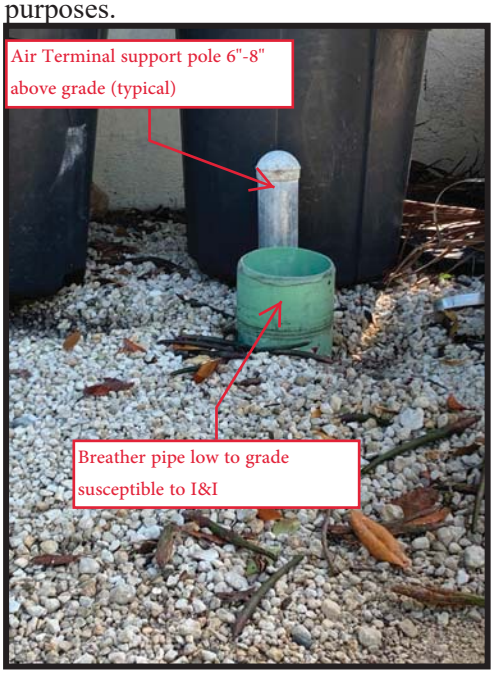
It is recommended that as a hardening effort these pipes be extended 24" above grade in the coastal flood prone areas. KLWTD staff has identified these areas and a pit count was taken. It was determined that approximately 870 breather pipes should be raised to lessen the chances of inflow and infiltration to the system.

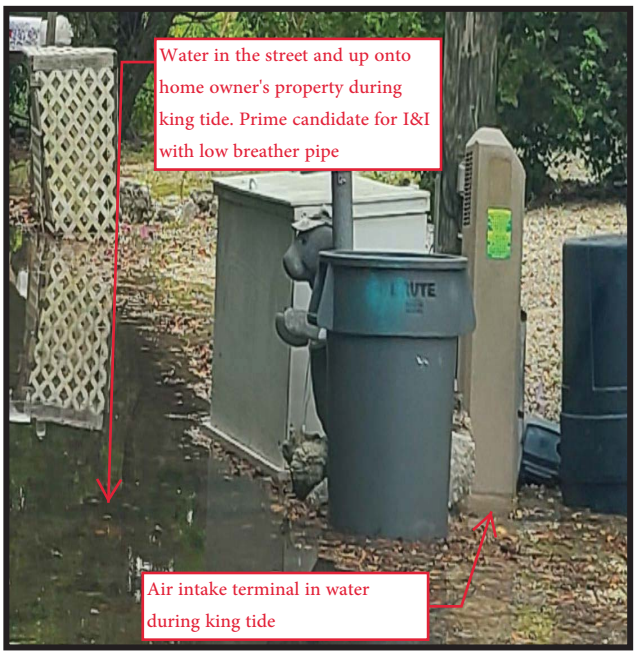
Galvanized Air Terminal Support Rod:

Another potential storm hardening effort that was identified is the support rods for the Air Intake Terminals. Currently these supports are made of a 1"-1.5" galvanized hollow tube like that would be used in chain-link fence construction. Many of these supports currently only extend 6-8" above the grade which is very little support to the intake terminal especially during a flood event.

In order to address this WEC is proposing that a #7 (7/8") galvanized rebar be driven into the center of the existing support and into caprock with an embedment of approximately 3ft. This will provide a much stronger support for the terminals to resist flood loadings. While it may not save all the terminals from damage, it will reduce the number of damaged ones during a large storm event which will lessen inflow and infiltration into the system.

Based on information from the KLWTD staff it is estimated that approximately 2300 (80%) of the existing supports are in the 6-8" range and should be extended for system hardening purposes.





Cost Summary & Recommendation:

Below is a cost summary of the proposed change. Amounts shown are projected for ALL basins so that there is a mechanism in place if these issues arise again. All work proposed will be on a unit cost basis as the rest of the contract is. What this means is that KLWTD will only pay for actual work completed. If approved by the Board, each breather adjusted, concrete pad replaced, support rod installed, will be billed against the quantities shown in the table below. If there is any leftover quantities at the end of the project then there will be a deductive balancing change order if required that would reduce the contract amount by the left over quantities.

FloVac Change Order 1 Qunatities

Item	Description	Quantity	Unit Price	Amount
1	Vent Extension	870	$ 125.00	$ 108,750.00
2	Partial Base Chipping and Replacment	640	$ 137.50	$ 88,000.00
3	Full Base Chipping and Replacment	150	$ 258.00	$ 38,700.00
4	Galvanized Support Rod	2300	$ 93.50	$ 215,050.00
			TOTAL	**$ 450,500.00**

Notes:

*1) Counted 658 via GIS
*2) 205 orginally in basin "D". Assumed 15% total remaining after basin "D"
*3) 35 orginally in basin "D". 150 POA Per WEC
*4) 80% of total per KLWTD Staff & WEC

It is recommended that the Board approve change order 1 to the contract in the amount of **$450,500.00.** This will cover the additional cost of the two conflicts discovered in Basin D as well as provide hardening for the system to reduce the inflow and infiltration and support the air terminal during storm events.

Grant & FY2023 Budget:

As for funding for this additional work, all the work is grant reimbursable. It may be required to shift some funding from other grant projects if necessary, but it can be fully grant reimbursable. As for the FY2023 budget, while this particular set of items is NOT part of the FY23 budget, there is a provision in the budget for *"Vacuum Pit Valve Rebuild" (GL 401-5900-630.000.00-2023-007, $822,000)* that was intended to cover the new Air Terminals to replace the candy canes in Basin E as well as rebuild every vacuum valve in the KLWTD treatment system as recommended by FloVac since all valves would be taken apart during the project. It was decided by KLWTD staff that instead of rebuilding every valve, only valves in rough shape as identified during the sensor install would be rebuilt.

This budget item is $822,000.00 of which the only amount currently being utilized is the purchase of the air terminals for Basin E. It is recommended that the $450,500.00 come out of this budget line. Additionally, it is unlikely that the full $450,500.00 will be spent in FY2023 as the project is on track for completion in mid to late 2024.

SECTION 00950
CHANGE ORDER FORM

CONTRACTOR ("Contractor"): FloVac Inc.	CHANGE ORDER No. 1 PROJECT TITLE: KLWTD Collection System Monitoring Project PROJECT No. 03105.078:130
OWNER: Key Largo Wastewater Treatment District (Owner), or (District)	ENGINEER`: Weiler Engineering 6805 Overseas Hwy Marathon, Florida 33050
DATE OF ISSUE: December 6, 2022	EFFECTIVE DATE: December 6, 2022, contingent upon approval by the District's Board of Commissioners.

Description of Work to be Performed: The Contractor is hereby authorized and directed to perform the following Work, generally described as: A full or partial repair to pedestal concrete bases (on an as-needed basis determined by Owner's Representative). Extension to vent pipes in flood prone areas. Strengthening of galvanized support rods for hurricane hardness.

Reason for Change:

Concrete Base Replacement: Concrete was originally placed in a manner that encapsulated some existing pedestals which required full removal of the existing concrete bases.

Concrete Base Partial Replacement: When installing the communication conduit, it was necessary to either fully or partially remove the encapsulating concrete thus requiring a full or partial repair of the concrete base.

Breather Extension: KLWTD has identified low lying flood prone areas that are a large source of I&I during a storm or high tide event. I&I can lead to system damage and higher treatment costs of the system. Extending the vents will reduce I&I in most storm events and help harden the system during serious storm events.

Galvanized Support Rod Installation: The pedestal posts are what keep the pedestal stationary, as a way of hurricane/storm hardness it is recommended to replace the posts with a rigid piece of rebar that is embedded +3ft into the soil within the existing support. This will help reduce damage to the breathers during large storm events.

Attachments: Price sheet by FloVac for unit cost of the additional work.

Total Proposed Changes in Contract Price and Contract Time for this Change Order

Increase (decrease) in Contract Price:	Increase (decrease) in Contract Time (Calendar days):
$450,500.00	+00 Days

Acknowledgments:

The aforementioned change, and work affected thereby, is subject to and governed by all provisions of the original Agreement and RFP. It is expressly understood and agreed that the approval of this Change Order shall have no effect on the original Agreement, including all GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, and STANDARD SPECIFICATIONS, other than matters expressly provided herein.

This Change Order constitutes full and mutual accord and satisfaction for the adjustment of the Contract Price and Contract Time as a result of increases or decreases in cost and time of performance caused directly and indirectly from the change. Acceptance of this Change Order constitutes an agreement between OWNER and CONTRACTOR that the Change Order represents an equitable adjustment to the Agreement and that CONTRACTOR shall waive all rights to file a Contract Claim or claim of any nature on this Change Order. Execution of this Change Order shall constitute CONTRACTOR's complete acceptance and satisfaction that it is entitled to no more costs or time (direct, indirect, impact, etc.) pursuant to this Change Order. Owner may require consent of the Contractor's surety, if any, to the terms of this Change Order.

Original Contract Price: $2,000,000.00		Original Contract Time: 790 Days (calendar days or dates)	
SUMMARY OF PRIOR CHANGE ORDERS			
C-O No.	Description of Change	Change in Contract Price	Change in Contract Time
1		$	Days
2		$	Days
3		$	Days
4		$	Days
5		$	Days
TOTAL OF ALL PRIOR CHANGES		$ 0.00	0 Days
CURRENT CONTRACT PRICE AND TIME (Adjusted by Prior Change Orders BUT before adjusting for this Change Order)		$2,000,000.00	790 Days
NEW CONTRACT PRICE AND TIME (Adjusted by Prior Change Orders AND this Change Order)		$2,450,500.00	790 Days
Original Contract Substantial Completion Date: 8/21/2024		New Contract Substantial Completion Date: 8/21/2024	

APPROVAL AND CHANGE ORDER AUTHORIZATION

Contractor: Flovac, Inc.	Owner: Key Largo Wastewater Treatment District
_____ By (Signature)	_____ By (Signature)
Mike Pringle, Director of Operations (Printed Name and Title of Officer)	Peter Rosasco, General Manager (Printed Name and Title of Officer)
_____ (Date)	(Date)_____
ATTEST: _____ (Secretary)	ATTEST: _____ District Clerk
(Corporate Seal)	(Seal)

FloVac Change Order 1 Qunatities

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QUOTE

Key Largo Waste Water Treatment District
Attention: Mike Dempsey
103355 Overseas Highway
KEY LARGO FLORIDA 33037
USA

Date
28 Nov 2022

Expiry
18 Dec 2022

Quote Number
QU-0332

Reference
Monitoring Project

15 Utility Dr, Suite A
Palm Coast, FL 32137
(386) 319-0350
www.flovac.com

Item	Description	Quantity	Unit Price	Tax	Amount USD
	Vent Pipe Extension- Ea. Up to 2 feet per pedestal as needed. Included supply and installation of coupling and pipe per submittals. Directive on where and when to install (min-height and finished height requirements) to come from the customer	1.00	125.00	Tax Exempt	125.00
	Partial pedestal concrete base repair- where excessive chipping was needed for the communication conduit install. • Chipped concrete from pedestal • Load and Haul Debris off the property • Level Sub-grade • Form pedestal with 2x4 • Place concrete only we're chipped • light broom finish & edging • Strip Forms • Restore materials directly around pedestal concrete	1.00	137.50	Tax Exempt	137.50
	Full pedestal concrete base repair- where concrete was originally placed in a manner that encapsulated the existing pedestal preventing servicing. • Chip excess concrete from the pedestal • Load and Haul Debris off the property • Level Sub-grade • compact sub-grade materials • Form pedestal with 2x4 @ 20"x20x4" no reinforcement • Install 2-3/8"x 4' - 16g galvanized stand support pipe with cap 12" deep & 3' above grade. • Place concrete around pedestals • light broom finish & edging • Strip Forms • Restore materials directly around pedestal	1.00	258.00	Tax Exempt	258.00

Item	Description	Quantity	Unit Price	Tax	Amount USD
	concrete • place pedestal & anchor with galvanized perforated strapping				
	Pedestal Post Replacement/ Repair • Install (where called for) #7 galvanized reinforcing support rod 2' deep & 3’ above grade. • Grout in existing concrete.	1.00	93.50		93.50

Terms

Terms shall follow those outlined in the existing contract with KLWTD in accordance with the KLWTD General and Supplementary Conditions.