

Pluris Wedgefield, Inc. Water/Wastewater Utilities

DOCKET NO. 20170166-WS Wedgefield FL

November 2017

Presentation by Gus Ambler, Interested Party

20143 Ralston Street

Orlando FL

It is important that utilities be operated efficiently. To do this they need to be well maintained.

Utilities that are not well maintained suffer high operating costs that are passed on to customers.

It is the Florida Public Service Commission's fiduciary duty to see that utilities that serve the public are efficient and well maintained to assure reasonable rates.

Pluris Wedgefield Wastewater Operations

A well maintained wastewater collection system will have a minimal amount of rain water and ground water infiltration/inflow during a summer rainstorm.

Definition of Inflow & Infiltration

Inflow and infiltration, is clean storm and/or groundwater that enters the sewer system through cracked pipes, leaky manholes, or improperly connected storm drains, down spouts and sump pumps. Most inflow comes from storm water and most infiltration comes from groundwater.

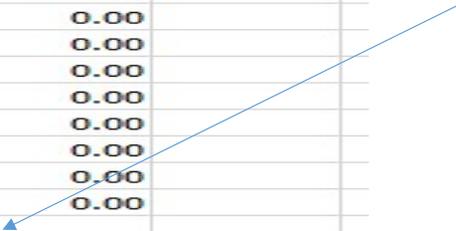
Inflow occurs when rainwater is misdirected into the sanitary sewer system instead of storm sewers. Examples are roof downspouts, yard and area drains, manhole covers, and cross connections from storm drains. The remedy for inflow is to remove improper connections to the sanitary sewer system.

Infiltration occurs when ground water seeps into the sanitary sewer system through cracks or leaks in sewer pipes. The cracks or leaks may be caused by age related deterioration, loose joints, damage or root infiltration. The remedy for infiltration is repairing or replacing the leaking infrastructure.

Wastewater flows at the Wedgefield plant during the April 2017 dry season

Pluris Wastewater plant flows		
Apr-17	Plant flow FLW1	Pluris rain
4/1/2017	0.275	0.00
4/2/2017	0.267	0.00
4/3/2017	0.259	0.00
4/4/2017	0.246	0.00
4/5/2017	0.26	0.00
4/6/2017	0.226	0.00
4/7/2017	0.268	0.00
4/8/2017	0.235	0.00
4/9/2017	0.262	0.00
4/10/2017	0.212	0.00
4/11/2017	0.156	0.00
4/12/2017	0.151	0.00
4/13/2017	0.214	0.00
4/14/2017	0.263	0.00
4/15/2017	0.262	0.00
4/16/2017	0.276	0.00
4/17/2017	0.266	0.00
4/18/2017	0.271	0.00
4/19/2017	0.251	0.00
4/20/2017	0.218	0.00
4/21/2017	0.28	0.00
4/22/2017	0.252	0.00
4/23/2017	0.237	0.00
4/24/2017	0.24	0.00
4/25/2017	0.24	0.00
4/26/2017	0.213	0.00
4/27/2017	0.098	0.00
4/28/2017	0.21	0.00
4/29/2017	0.242	0.00
4/30/2017	0.238	0.00
	7.088	

7 million gallons treated during the month of April 2017



*DEP monthly reports

The April 2017 wastewater report generated by Pluris and received from the Florida Department of Environmental Protection (DEP) (via Oculus) shows no significant infiltration/inflow at the Wedgefield Wastewater Plant (FLA010900). This makes April 2017 a perfect baseline month to evaluate the Pluris Wedgefield Wastewater Plant for infiltration/inflow.

Wastewater flows at the Wedgefield plant during the August 2017 rainy season



Aug-17	MGD	Pluris Rain
8/1/2017	0.243	0
8/2/2017	0.253	0
8/3/2017	0.233	0
8/4/2017	0.352	0.25
8/5/2017	0.266	0
8/6/2017	0.264	0
8/7/2017	0.227	0
8/8/2017	0.327	0
8/9/2017	0.247	0
8/10/2017	0.258	0
8/11/2017	0.242	0
8/12/2017	0.278	1.4
8/13/2017	0.292	1.5
8/14/2017	0.3	0
8/15/2017	0.316	0.55
8/16/2017	0.301	0
8/17/2017	0.303	0.4
8/18/2017	0.249	0
8/19/2017	0.271	0.36
8/20/2017	0.267	0
8/21/2017	0.281	0
8/22/2017	0.305	0
8/23/2017	0.256	0
8/24/2017	0.285	0.3
8/25/2017	0.281	0.62
8/26/2017	0.276	0
8/27/2017	0.261	0
8/28/2017	0.288	0
8/29/2017	0.287	0
8/30/2017	0.282	0
8/31/2017	0.266	0
	8.557	5.38

When it rains Wedgefield sewer plant flows go up.

8.5 million gallons treated in August. 1.5 million more than in April 2017 and .83 million gallons more than in August 2012.

*DEP monthly reports

The August 2017 DEP report when compared with the baseline month of April 2017 show very significant infiltration/inflow into the Pluris operated Wedgefield Wastewater Plant. This infiltration/inflow is most apparent when it rains.

Permit Number: FLA010900-007-DW2P

Facility: Wedgefield WWTF

Monitoring Period

From: 7/1/2017

To: 7/31/2017

	Flow [Flow to R001] MGD	Flow [Total to Golf Course] MGD	Flow [Total to Zone 1] MGD	Flow [Total to Zone 2] MGD	Flow [Total to Zone 3] MGD	Flow [Ground Water] MGD	BOD, Carbonaceous 5 day, 20C [Influent] mg/L	Solids, Total Suspended mg/L [Influent] mg/L	Rainfall Inches
Code	50050	50050	50050	50050	50050	50050	80082	00530	
Mon. Site	FLW-1	FLW-2	FLW-3	FLW-4	FLW-5	FLW-6	INF-1	INF-1	
1	0.317	0.000	0.000	0.000	0.000	0.000			1.38
2	0.281	0.000	0.000	0.000	0.000	0.000			0.00
3	0.348	0.000	0.000	0.000	0.000	0.000			0.45
4	0.332	0.000	0.000	0.000	0.000	0.000			0.00
5	0.338	0.000	0.000	0.000	0.000	0.000			0.00
6	0.308	0.000	0.000	0.000	0.000	0.000			0.00
7	0.297	0.308	0.000	0.000	0.000	0.000			0.00
8	0.294	0.000	0.000	0.000	0.000	0.000			0.00
9	0.288	0.000	0.000	0.000	0.000	0.000			0.61
10	0.309	0.000	0.000	0.000	0.000	0.000			0.36
11	0.292	0.000	0.000	0.000	0.000	0.000			0.00
12	0.298	0.000	0.000	0.000	0.000	0.000			0.43
13	0.273	0.417	0.000	0.000	0.000	0.000	240	217	0.00
14	0.283	0.284	0.000	0.000	0.000	0.000			0.00
15	0.276	0.000	0.000	0.000	0.000	0.000			0.00
16	0.267	0.893	0.000	0.000	0.000	0.000			0.00
17	0.284	0.026	0.000	0.000	0.000	0.000			0.00
18	0.285	0.000	0.000	0.000	0.000	0.000			0.00
19	0.262	0.000	0.000	0.000	0.000	0.000	132	93	0.00
20	0.267	0.498	0.000	0.000	0.000	0.000			0.00
21	0.265	0.000	0.000	0.000	0.000	0.000			0.00
22	0.275	0.195	0.000	0.000	0.000	0.000			0.00
23	0.275	0.314	0.000	0.000	0.000	0.000			0.00
24	0.276	0.085	0.000	0.000	0.000	0.000			0.00
25	0.261	0.401	0.000	0.000	0.000	0.000			0.00
26	0.276	0.402	0.000	0.000	0.000	0.000			0.00
27	0.247	0.000	0.000	0.000	0.000	0.000			0.00
28	0.253	0.000	0.000	0.000	0.000	0.000			0.00
29	0.261	0.458	0.000	0.000	0.000	0.000			0.00
30	0.292	0.000	0.000	0.000	0.000	0.000			0.00
31	0.321	0.000	0.000	0.000	0.000	0.000			0.80
Total	8.901	4.281	0.000	0.000	0.000	0.000	372.00	310.00	4.03
Mo. Avg.	0.287	0.138	0.000	0.000	0.000	0.000	186.00	155.00	0.130

July 2017 Wastewater report

The Wedgefield wastewater plant treated 8.9 million gallons of wastewater in July 2017 (FLW-1). That is 1.9 million gallons more than in April 2017 the baseline dry season month. 1.9 million gallons is enough to service 175 more houses.

The Wedgefield wastewater plant often exceeds its "Permitted" daily capacity of .330 MGD.

These are indications of a poorly maintained collection system.

The month of July 2017 shows that August 2017 is not an isolated event. In fact the months of June, July, August and September all show significant infiltration/inflow. Wastewater treatment plants with significant infiltration/inflow are a reflection of poor collection system maintenance.

The additional wastewater treated by the Pluris Wedgeield Wastewater Plant in the 4 months after the April 2017 baseline month is 4.168 million gallons.

Month	Millions of gallons treated	Millions of Gallons over April
Apr-17	7.088	
May-17	7.18	0.092
Jun-17	7.882	0.794
Jul-17	8.901	1.813
Aug-17	8.557	1.469
Four month total in Millions of Gallons		4.168

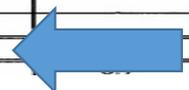
Each year Pluris treats millions of gallons of wastewater that is actually rain water and ground water and their customers pay for this.

Below are Wastewater flows for August 2012, the last rate increase granted to Pluris. The data shows the infiltration/inflow problem is worse in August 2017 than in August 2012. This rate factor should be reevaluated.

Permit Number: FLA010900
 Monitoring Period: From: August 01, 2012 To: August 31, 2012
 Facility: Wedgefield WWTF

DAILY SAMPLE RESULTS - PART B

	CBOD5 (mg/L)	Fecal Coliform Bacteria (#/100ML)	pH (Max)	pH (Min)	TRC (For Disinfect.) (mg/L)	TSS (mg/L)	Turbidity (NTU)	Flow (MGD)	Nitrogen, Nitrate, Total (as N) (mg/L)
Code	80082	74055	00400	00400	50060	00530	00070	50050	00620
Mon. Site	EFA-1	EFA-1	EFA-1	EFA-1	EFA-1	EFB-1	EFB-1	FLW-1	EFA-1
1	2.0	<1	7.4	7.4	1.5	1.0	1.5	0.212	11.0
2		<1	7.6	7.6	2.2	1.0	1.5	0.235	
3			7.5	7.5	1.8		1.5	0.237	
4			7.4	7.4	1.7		2.9	0.203	
5			7.3	7.3	1.3		1.4	0.234	
6		<1	7.4	7.4	1.3	1.0	2.4	0.201	
7		<1	7.4	7.4	2.5	1.0	1.5	0.267	
8		<1	7.4	7.4	2	1.6	2.5	0.205	
9		<1	7.4	7.4	2.4	1.2	2.6	0.205	
10			7.5	7.5	2.2		1.3	0.176	
11			7.4	7.4	1		2.9	0.277	
12			7.4	7.4	1.8		1.9	0.237	
13		<1	7.5	7.5	2.1	1.0	1.4	0.242	
14		<1	7.5	7.5	1.5	1.0	1.6	0.277	
15	2.0	<1	7.5	7.5	1.2	1.2	1.8	0.244	3.8
16		<1	7.5	7.5	1.6	1.0	2.3	0.233	
17			7.5	7.5	3.5		1.2	0.261	
18			7.5	7.5	2.6		1.6	0.240	
19			7.5	7.5	3.2		2.2	0.272	
20		<1	7.5	7.5	1.6	1.6	1.7	0.286	
21		<1	7.4	7.4	1.7	1.0	1.7	0.244	
22		<1	7.4	7.4	1.7	1.6	1.8	0.233	
23		<1	7.4	7.4	1.4	1.0	2.6	0.273	
24			7.6	7.6	2.2		1.2	0.265	
25			7.6	7.6	1.8		1.6	0.247	
26			7.5	7.5	1.6		2.4	0.251	
27		<1	7.7	7.7	3.9	1.8	2.1	0.318	
28		<1	7.5	7.5	1.9	1.0	2.5	0.344	
29	2.0	<1	7.4	7.4	1.8	1.0	2.1	0.289	5.3
30		<1	7.5	7.5	1.4	1.0	1.5	0.247	
31			7.7	7.7	1.7		1.3	0.276	
Total	6.0	9	60	232	232	21	59	7.731	
Mo. Avg.	2.0	0.5	1.0	7.48	7.48	1.16	1.0	0.2494	



September 2017: How does a plant with a Hydraulic Capacity of .400 MGD operate at .506 MGD? A well maintained collection system can prevent a calamity when a hurricane strikes.

Permit Number: FLA010900-007-DW2P Facility: Wedgfield WWTF

Monitoring Period From: 9/1/2017 To: 9/30/2017

Code	Flow [Flow to R001] MGD	Flow [Total to Golf Course] MGD	Flow [Total to Zone 1] MGD	Flow [Total to Zone 2] MGD	Flow [Total to Zone 3] MGD	Flow [Ground Water] MGD	BOD, Carbonaceous 5 day, 20C [Influent] mg/L	Solids, Total Suspended [Influent] mg/L	Rainfall Inches
Mon. Site	FLW-1	FLW-2	FLW-3	FLW-4	FLW-5	FLW-6	80082	00530	
1	0.258	0.000	0.000	0.000	0.000	0.000			0.00
2	0.276	0.000	0.000	0.000	0.000	0.000			0.00
3	0.262	0.000	0.000	0.000	0.000	0.000			0.00
4	0.274	0.359	0.000	0.000	0.000	0.000			0.25
5	0.282	0.000	0.000	0.000	0.000	0.000			0.00
6	0.305	0.815	0.000	0.000	0.000	0.000			0.00
7	0.274	0.546	0.000	0.000	0.000	0.000			0.00
8	0.278	0.000	0.000	0.000	0.000	0.000			0.00
9	0.309	0.673	0.000	0.000	0.000	0.000			0.00
10	0.351	0.241	0.000	0.000	0.000	0.000			0.00
11	0.386	0.899	0.000	0.000	0.000	0.000			0.00
12	0.506	0.000	0.000	0.000	0.000	0.000	166	138	0.00
13	0.412	0.503	0.000	0.000	0.000	0.000			1.40
14	0.310	0.356	0.000	0.000	0.000	0.000			1.50
15	0.370	0.000	0.000	0.000	0.000	0.000			0.00
16	0.430	0.113	0.000	0.000	0.000	0.000			0.55
17	0.380	0.000	0.000	0.000	0.000	0.000			0.00
18	0.281	0.438	0.000	0.000	0.000	0.000			0.40
19	0.205	0.383	0.000	0.000	0.000	0.000			0.00
20	0.268	0.000	0.000	0.000	0.000	0.000			0.36
21	0.228	0.000	0.000	0.000	0.000	0.000			0.00
22	0.294	0.000	0.000	0.000	0.000	0.000			0.00
23	0.301	0.476	0.000	0.000	0.000	0.000			0.00
24	0.341	0.424	0.000	0.000	0.000	0.000			0.00
25	0.276	0.000	0.000	0.000	0.000	0.000			0.30
26	0.289	0.276	0.000	0.000	0.000	0.000	135	94	0.62
27	0.285	0.403	0.000	0.000	0.000	0.000			0.00
28	0.283	0.000	0.000	0.000	0.000	0.000			0.00
29	0.256	0.000	0.000	0.000	0.000	0.000			0.00
30	0.239	0.503	0.000	0.000	0.000	0.000			0.00
31			0.000	0.000	0.000	0.000			0.00
Total	9.209	7.408	0.000	0.000	0.000	0.000	301.00	232.00	5.38
Mo. Avg.	0.307	0.247	0.000	0.000	0.000	0.000	150.50	116.00	0.174

A record .506 MGD "treated" in one day



A record of 9.209 gallons "treated" in one month



PLANT STAFFING:

Permitted Capacity and Hydraulic Capacity for the Wedgefield Pluris Wastewater Plant are shown below. Both of these measures were exceeded in September 2017.

UTILITY NAME: Pluris Wedgefield, Inc.
 SYSTEM NAME / COUNTY: Pluris Wedgefield / Orange

YEAR OF REPORT December 31, 2016
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WASTEWATER TREATMENT PLANT INFORMATION
 Provide a separate sheet for each wastewater treatment facility

Permitted Capacity	.330 mgd		
Basis of Permit Capacity (1)	AADF		
Manufacturer	US Filter		
Type (2)	Contact Stabilization		
Hydraulic Capacity	0.400 mgd		
Average Daily Flow	251,000		
Total Gallons of Wastewater Treated	92,167,000		
Method of Effluent Disposal	Golf course & spray fields		

(1) Basis of permitted capacity as stated on the Florida DEP WATER Operating Permit

When it rains the Pluris Wedgefield Wastewater Plant receives increased infiltration/inflows from the Wedgefield collection system and residents report sewer overflows.

Repairs are needed on the wastewater collection system to stop rainwater and ground water infiltration/inflow and thus lower operating expenses.

The subdivision of Wedgefield was started in the 1960's. The Wedgefield Wastewater collection system pipe joints need to be inspected and sealed or replaced.

A well maintained water utility should have water distribution system losses between 5% and 10% per month. Water utilities that have high water losses have high operational costs.

The Pluris Wedgfield water system had very high water losses during 2015

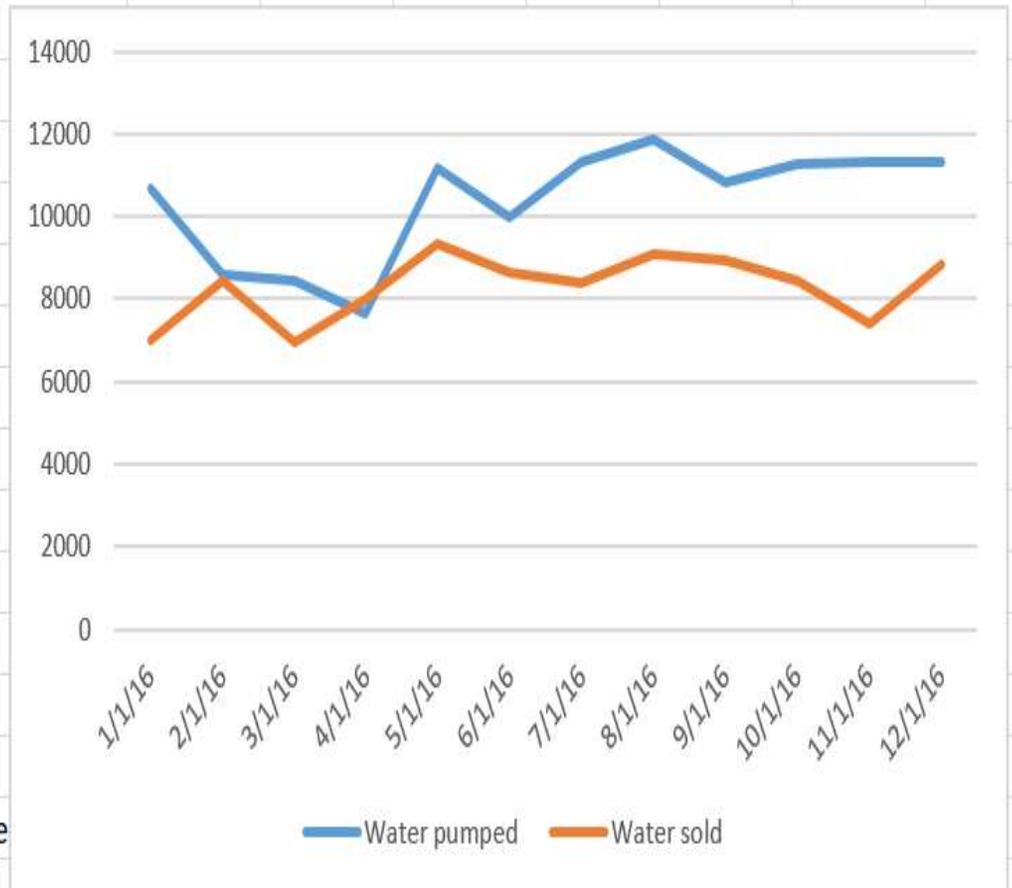
2015	Water pumped	Water sold	Percent
1/31/15	7974	6863	13.93%
2/28/15	7612	7131	6.32%
3/30/15	8846	6050	31.61%
4/30/15	9380	7231	22.91%
5/30/15	10622	7946	25.19%
6/30/15	9678	8937	7.66%
7/30/15	9652	8054	16.56%
8/30/15	10187	7773	23.70%
9/30/15	9523	6498	31.77%
10/30/15	10274	6383	37.87%
11/30/15	9858	6990	29.09%
12/30/15	12853	8055	37.33%
	116459	87911	24.51%



* From Pluris 2015 annual report

2016 Pluris Wedgefield water system had very high water losses during 2016.

	Water pumped	Water sold	Percent loss
1/30/16	10688	6981	34.68%
2/28/16	8569	8467	1.19%
3/30/16	8420	6941	17.57%
4/30/16	7670	8007	-4.39%
5/30/16	11178	9327	16.56%
6/30/16	9988	8650	13.40%
7/30/16	11318	8394	25.83%
8/30/16	11890	9091	23.54%
9/30/16	10815	8943	17.31%
10/30/16	11258	8425	25.16%
11/30/16	11319	7412	34.52%
12/30/16	11309	8850	21.74%
	124422	99488	20.04% *addition e



* From Pluris 2016 annual report

When water losses are high and wastewater infiltration/inflow from rainwater and ground water is high utility operating expenses are high. Poorly maintained utilities have high operational costs!

Pluris data from Florida Department of Environmental Protection reports show the Pluris Wedgefield Utility is a poorly maintained utility. These problems are worse than the last time they were evaluated by the PSC for a rate increase in 2012.

The Florida Public Service Commission must say NO when a utility requests a rate increase yet fails to control their operational costs because of poor facility maintenance. The PSC must reevaluate the rate increase granted in 2012 when compared to 2017 data.

Customers should not be required to pay high utility bills because a utility is poorly maintained.

Two other very important safety subjects need to be evaluated but Pluris Management refuses to provide details on these subjects. Customers and PSC should ask Pluris themselves what these issues are and how they will impact future rates. One of these subjects could increase rates another 30% in 3 to 5 years.

Gus Amber interested party to DOCKET NO. 20170166-WS

Mr. Ambler's Utility experience before the year 2000:

Florida Keys Aqueduct Authority

Key West Florida

Data conversions and management reports

General Waterworks

Coral Gables FL

Warehouse Operations and Utility Materials Buyer

Miami Dade Water and Sewer

Miami FL

Warehouse Operations and Utility Materials Buyer

Orange County Public Utilities

Orlando, FL

Budget analyst, management reports and warehouse operations

Graduate of the University of Kentucky with a Bachelor of Business Administration