### **BEST AVAILABLE COPY**

# AIR TESTING & CONSULTING 333 FALKENBURG RD. N. B-214 · TAMPA, FLORIDA 33619 · (813) 651-0878 · FAX (813) 653-9082

**April 8, 2004** 

James McDonald

Department of Environmental Protection
3804 Coconut Palm Dr.
Tampa, FL 33619

Re: Largo City Sewage Plant

FDEP File Project No.: 1030060-00\$-AV

Dear Jim:

SOUTHWEST DISTRICT

APR 0 9 2004

TAMPA

RECEIVED

APR 14 200%

In response to your letter of November 4, 2003, the following is subunitation

1. Is the name of your facility the "City of Largo", "City of Largo-WWTP", "City of Largo WWPT" or "Largo City Sewage Plant"?

The name of the facility is "City of Largo – Wastewater Reclamination Facility".

2. Attachment B – Process Flow Diagram in the Facility Supplemental Information of the application shows material from the "grinder (crusher)" going to the "screen" whereas permit 1030060-002-AV states material from the crusher is redirected to the dried solids recycle bin. Note, Attachment 1A shows "product" from the screen can also go to the crusher. Which description is correct and resubmit the diagrams, if appropriate?

Attached are corrected Attachments B and 1A showing that the grinder discharge is directed to the recycle bin. Material from the screen normally discharges to the recycle bin, but when the bin reaches a preset level, the excess product is diverted to the product storage silos. Once the bin level drops all material goes to the recycle bin.

3. Attachment B – Process Flow Diagram in the Facility Supplemental Information of the application shows the "product" going to either of the 2 silos or joining the fines, which go to the dried solids recycle bin. Can the product simultaneously go to a silo and the dried solids recycle bin? Note, permit 1030060-002-AV states the product just goes to the 2 silos. Can the product only go to 1 silo at a time?

Product from the screen goes to the silos one at a time. There is also a screw that transfers material from the product storage silos to be sent to the recycle bin (see Attachment B).

4. Should Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application also shows emissions from the Fugitive Dust System (screens, grinder, etc.) going to the cyclone?

Emissions from the Fugitive Dust System vent to the cyclone (see Attachment B).

5. Explain why Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application shows a Truck Unloading Station?

The truck unloading station allows removal of cake sludge if the system goes down.

6. Page 15 of the application shows the cyclone's model number as "MS-520" whereas Condition No. 18 of permit 1030060-002-AV shows the model number as "XQ Series XQ340-27 Dual Cyclones". Explain this difference.

Attached is a corrected page 15 showing the correct model number.

- 7. Regarding No.2 (bottom) on page 33 of the application for the allowable pollutants "Particulate" and "Volatile Organic Compounds (VOC)", please provide the following:
  - A. A Compliance Assurance Monitoring (CAM) non-applicability determination to justify your claim that CAM is "Not Applicable" for each pollutant (Particulate and VOC). Your determination should include emission factors and the rational used.

B. If you can't justify that CAM does not apply, provide a complete CAM plan that identifies the indicators that will be monitored, the acceptable indicator ranges and the test data to justify the indicator/ranges. For your information, please follow the CAM format examples in Appendix A of the Technical Guidance Document found at the U.S. EPA's web page <a href="http://www.epa.gov/ttn/emc/cam.html">http://www.epa.gov/ttn/emc/cam.html</a>; they may be of help to you. Additionally, please also provide the CAM plans as an electronic copy in M.S. WORD format.

While AP-46 data indicates that the PTE for VOC is approximately 180 tons per year, actual test data from 7/25/00 and 5/13/03 show that the RTO inlet is less than 2.5 lbs/hr or less than 11 tons per year. Attached is a summary of the test results. Based on the test data we believe the unit is not subject to CAM for VOC. The RTO unit has the outlet temperature continuously monitored and the unit is subject to a minimum temperature of 1100°F per permit conditions. The sludge dryers have an uncontrolled PTE for particulate emissions greater than 100 TPY. Therefore CAM is applicable. See attached CAM plan. The two storage silos and the truck loading use baghouses for product recovery and are not subject to CAM.

- 8. Should No. 1 on page 24 of the application show ESCNAA vs ESCTV? ESCNAA. See attached page 24.
- 9. No. 6 on page 32 of the application states the dryers were tested on July 15, 2003. Condition A.7. of permit 1030060-002-AV states the dryers are to be tested for odors and visible emissions annually on, or during the 60 day period prior to the date of May 12. Were the tests conducted late? If yes, explain why.

The date stated was in error. The compliance testing began with setup on Monday, May 12 and testing on May 13 - 15, 2003.

10. In accordance with stipulations of Condition No. A.8. of permit 1030060-002-AV, submit the appropriate emission test results for particulates, visible emissions.

The consultant, EEC, submitted the test report in July 2003.

11. Regarding the 2<sup>nd</sup> page of Attachment 1A of the application, explain why fuel oil and wood chips are shown when permit 1030060-002-AV only allows natural gas.

The facility no longer uses any fuel but natural gas.

12. Re-submit pages 57 and 58 of the application when using 450 dscfm, since information submitted for construction permit AC52-172854 reduced the airflow to 150 – 450 dscfm. Thus, the Operation and Maintenance (O & M) Plan should be updated (corrected) and resubmitted with this new information (450 dscfm) to match the O & M Plan attached to permit AC52-172854.

Attached are corrected pages 57 and 58 of the application and a corrected O&M Plan for the storage silo.

13. In accordance with stipulations of Condition No. C.5. of permit 1030060-002-AV, submit the visible test report for each silo.

The visible emissions test reports were submitted in July as part of the compliance test report.

14. No. 6 on page 62 of the application states the silos were tested on July 15, 2003. Explain why this date is shown since Condition C.5. of permit 1030060-002-AV requires the silos to be tested for visible emissions during the 180 day period prior to the expiration date of permit 1060060-002-AV.

All units were tested during the annual compliance testing in mid-May.

15. Regarding No. 5 on page 69 of the application, should 224,256 be 226,008 (25.8 x 8,760)?

Attached is a corrected page 69. The emissions should be 25.6 lbs/hr and 224,256 tons/yr.

16. No.6 on page 74 of the application states that the truck loading station's baghouse was tested on July 15, 2003. Condition C.4. of permit 103006-002-AV states the baghouse is to be tested for visible emissions annually on, or during the 60 day period prior to the date of April 1. Was this test conducted late? If yes, explain why.

Emission Unit No.: 006 was due to be tested on April 1, but was tested during annual compliance testing in mid-May. We want to request that all annual testing be due at the same time and not be spread out during the year.

17. The O & M Plan for Emission Unit Nos. 001, 003, 005, and 006 will need to be updated with Pinellas County Code Subsection 58-158. The plans and logs need to have the acceptable parameters included. In order to respond to this request, please contact Mr. Gary Robbins of the Pinellas County Department of Environmental Management (PCDEM) at 727-464-4657 for further assistance.

Attached is a copy of the O&M Plan.

18. Please explain why the waste water treatment plant should not be shown as an emission unit, in and out of itself, and subject to 40 CFR 63, Subpart VVV – Publicly Owned Treatment Works. Should the plant be classified as a regulated emission unit, an unregulated emission unit, or an insignificant emission unit?

This facility is neither a major source of HAP emissions nor is it classified as an industrial POTW. Also, the facility has not been under reconstruction as defined in 63.1595. Therefore it is not subject to 40 CFR 63, Subpart VVV.

Based upon the treatment capacity of 18 MGD and the estimated VOC emissions (SSC 5-01-007-01), of 8.9 lbs/million gallons, the POTW is an unregulated emission unit. See attached application pages.

If you have any questions please contact me at (813) 651-0878.

Sincerely,

Kenneth Given, P.E.

cc: Craven Askew, Largo

Gary Robbins, Pinellas County

# APPLICATION INFORMATION SIGNATURE PAGE

### APPLICATION INFORMATION

### **Application Responsible Official Certification**

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

10.	ponsible official.				
1.	Application Responsible Official Name: Joseph V. Carlini, Treatment Plant Manager				
2.	Application Responsible Official Qualification (Check one or more of the following options, as applicable):				
	For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.				
	For a partnership or sole proprietorship, a general partner or the proprietor, respectively.				
	X For a municipality, county, state, federal or other public agency, either a principal executive officer or ranking elected official.				
	☐ The designated representative at an Acid Rain source.				
3.	11 <del>-</del>				
~	Organization/Firm: City of Largo – Wastewater				
Re	clamination Facility Street Address: 5000 150th Avenue North				
	City: Clearwater State: Florida Zip Code: 33760				
4.	Application Responsible Official Telephone Numbers Telephone: (727) 518-3080 ext. Fax: (727) 518-3081				
5.	Application Responsible Official Email Address: jcarlini@largo.com				
6.	Application Responsible Official Certification:				
\	I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.				
	Signature Date				

5

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### APPLICATION INFORMATION

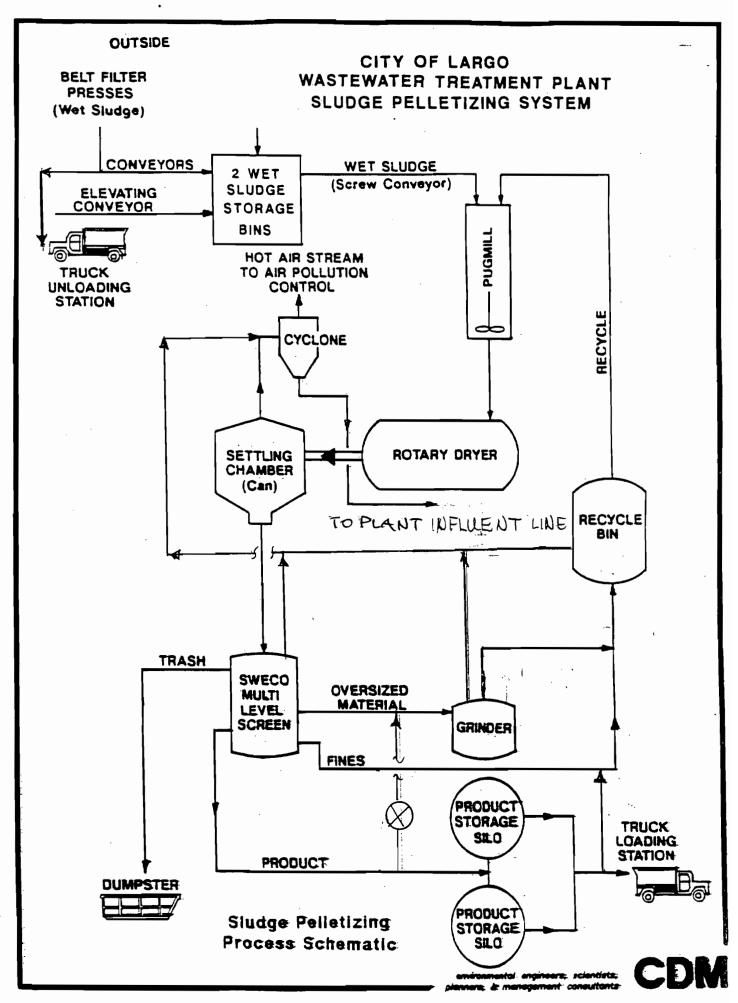
Pr	Professional Engineer Certification				
1.	. Professional Engineer Name: Kenneth E. Given				
	Registration Number: 23203				
2:	Professional Engineer Mailing Address				
	Organization/Firm: Air Testing & Consulting, Inc.				
	Street Address: 333 Falkenburg Road, North Unit B-214				
	City: Tampa State: Florida Zip Code: 33619				
3.	Professional Engineer Telephone Numbers				
	Telephone: (813) 651 - 0878 ext. Fax: (813) 653 - 9082				
4.	Professional Engineer Email Address: airtest@verizon.net				
5.	Professional Engineer Statement:				
	I, the undersigned, hereby certify, except as particularly noted herein*, that:				
	(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and				
	(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.				
	(3) If the purpose of this application is to obtain a Title V air operation permit (check here , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.				
	(4) If the purpose of this application is to obtain an air construction permit (check here , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.				
	(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here $X$ , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.				
	Signature Date				

6

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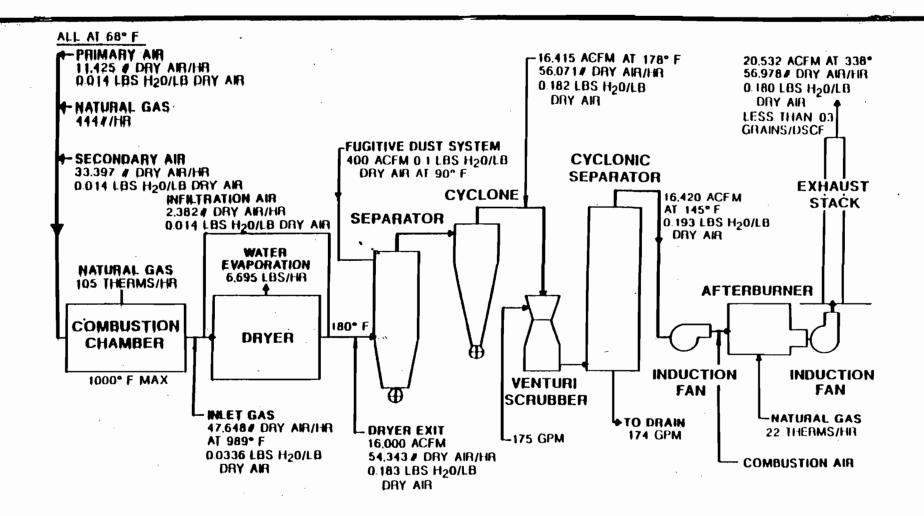
<sup>\*</sup> Attach any exception to certification statement.

**B-PROCESS FLOW DIAGRAM** 



•	
1A – PROCESS	FLOW DIAGRAM
1A – PROCESS	
1A – PROCESS	

FIGURE 4-4



### ALL QUANTITIES ARE BASED ON THE FOLLOWING:

OPERATION: 6 DAYS/WEEK, 312 DAYS/YR. 15.167 HR/DAY SOLIDS LOADING: 22,723 DRY LB/DAY (1.498 DRY LB/HR) WET SLUDGE LOADING: 126,239 WET LB/DAY (8.323 WET LB/HR). @ 18% SOLIDS

NOTE: TYPICAL PROCESS TRAIN

SLUDGE PELLETIZING PROCESS
SYSTEM PROCESS FLOW DIAGRAM
CITY OF LARGO, FLORIDA
SLUDGE HEAT DRYING FACILITY
CDM PROJECT NO. 6157-03

CAMP DRESSER & McKEE INC.

# EMISSIONS UNIT INFORMATION Section [1] of [4]

### **Emissions Unit Control Equipment**

1.	1. Control Equipment/Method(s) Description: The gas stream passes through a Fisher-Klosterman, Inc. Model XQ Series XQ340-27 Dual Cyclones, then to a venturi scrubber and than to a Hunngton Energy System, Inc., Model #65 three chamber, regenerative, ceramic bed-type afterburner.				
2.	Control Device or Method Code(s): 007,022, 053				

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## City of Largo - Wastewater Reclamination Facility

### Results of past two stack tests

Date	Dryer	VOC Inlet lbs/hr	VOC Outlet lbs/hr
7/25/00	#1	2.12	0.08
	#2	0.38	0.09
5/13/03	#1	2.28	0.08
	#2	1.48	0.11

# POLLUTANT DETAIL INFORMATION Page [2] of [4]

# F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions 1 of 1

1.	Basis for Allowable Emissions Code: ESCNAA	2. Future Effective Date of Allowable Emissions:			
3.	Allowable Emissions and Units: 2.05 lb/hour	4.	Equivalent Allowable Emissions: 2.05 lb/hour 9 tons/year		
5.	Method of Compliance: EPA Method 18 or 2	25A			
6.	Allowable Emissions Comment (Description Original construction permit estimated				
All	lowable Emissions Allowable Emissions	(	of		
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:		
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions:  lb/hour tons/year		
5.	Method of Compliance:				
6.	Allowable Emissions Comment (Description	of (	Operating Method):		
All	lowable Emissions Allowable Emissions		of		
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:		
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions:  lb/hour tons/year		
5.	Method of Compliance:				
6.	Allowable Emissions Comment (Description	of (	Operating Method):		

DEP Form No. 62-210.900(1) - Form

# POLLUTANT DETAIL INFORMATION Page [1] of [1]

# F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

### Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted:	2. Total Percent Efficiency of Control:
PM .	99
3. Potential Emissions:	4. Synthetically Limited?
0.1157 lb/hour 0.50°	7 tons/year Yes X No
5. Range of Estimated Fugitive Emissions (as	applicable):
to tons/year	
6. Emission Factor: 0.03 gr/dscf	7. Emissions
	Method Code:
Reference: Rule 62-296.700,F.A.C.	0
8. Calculation of Emissions:	
0.03 gr/dscf x lb/7,000 gr x 450 dscfm	$n \times 60 \text{ min/hr} = 0.1157 \text{ lb/hr}$
0.1157 lb/hr x 8,760 hrs/yr x ton/2,00	0 lbs = 0.507 tons/yr
9. Pollutant Potential/Estimated Fugitive Emis	sions Comment
7. Tomana Totolina Bollina Taglii vo Billio	

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# POLLUTANT DETAIL INFORMATION Page [1] of [1]

# F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions 1 of 1

1.	Basis for Allowable Emissions Code: RULE	2.	Future Effective Date of Allowable Emissions:
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions:
	0.03 gr/dscf		0.1157 lb/hour 0.507 tons/year
5	Method of Compliance: EPA Method 5		
٦.	Method of Comphance. EFA Method 3		
6.	Allowable Emissions Comment (Description	of (	Operating Method):
	Testing by EPA Method 9 per Rule 62	-296	5.711(3)(c),F.A.C.
	Permit 1030060-002-AV limits each si	ilo to	0.12 lbs/hr and 0.53 tons/yr
	•		·
Al	lowable Emissions Allowable Emissions	(	of
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:
_	411 11 11 11 11 11 11 11 11 11 11 11 11		
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions:
			lb/hour tons/year
5.	Method of Compliance:		
			·
6	Allowable Emissions Comment (Description	of (	Inerating Method):
0.	Titlowable Emissions Comment (Description	OI (	operating intenior).
Al	lowable Emissions Allowable Emissions		of
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable
			Emissions:
3	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions:
٥.	Tinowable Emissions and Onits.	٦٠.	lb/hour tons/year
			10/110ti tolis/year
5.	Method of Compliance:		
	•		•
6.	Allowable Emissions Comment (Description	of (	Operating Method):
	` `		

58

DEP Form No. 62-210.900(1) - Form

**FINAL Permit No.:** 1030060-002-AV

### Operation and Maintenance Plan

C.8. Pursuant to Rules 62-297.700(6), F.A.C. and the Pinellas County Code 58-128., as amended, the permittee shall comply with the Operation and Maintenance (O&M) Plan:

- a. Process parameters for each storage silo.
  - 1. Source Designator: Storage silo for dried sludge
  - 2. Baghouse Manufacturer: American Air Filter
  - 3. Model Name: Arrestall AR-30
  - 4. Design Flow Rate: 150 450 dscfm
  - 5. Efficiency Rating at Design Capacity: 99%
  - 6. Pressure Drop: 6 1/2" 4" WG
  - 7. Air to Cloth Ratio: 3.4
  - 8. Bag Material: Cotton Sateen
  - 9. Bag Cleaning Conditions: Periodic/Automatic Shaker
  - 10. Gas Temperature: Ambient
  - 11. Stack Height Above Ground: 45 ft.
  - 12. Exit Dimension: 160 sq. inches
  - 13. Exit Velocity: 2.8 ft./min.
  - 14. Water Vapor Content: System designed for zero vapor content.
  - 15. Process controlled by collection system: Transfer of dried sludge from a dryer to a product storage silo.
  - 16. Material Handling Rate: 0.76 tons/hr., max.
  - 17. Operation Schedule: 8760 hrs./yr.

### **EMISSIONS UNIT INFORMATION** Section [4] of [4]

### D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

Truck loading of pelletizied sludge				
2. Source Classification Cod 3-05-006-12	e (SCC):	3. SCC Units tons	: processed	
4. Maximum Hourly Rate: 25.6	5. Maximum 224,2		6. Estimated Annual Activity Factor:	
7. Maximum % Sulfur:	8. Maximum	% Ash:	9. Million Btu per SCC Unit:	
10. Segment Comment: SCC code for ceme	ent raw material t	ransfer		
Segment Description and Ra	ate: Segment	of	·	
1. Segment Description (Pro	cess/Fuel Type):			
			· ·	
2. Source Classification Cod	e (SCC):	3. SCC Units:	:	
4. Maximum Hourly Rate:	5. Maximum A	Annual Rate:	6. Estimated Annual Activity Factor:	
7. Maximum % Sulfur:	8. Maximum 9	% Ash:	9. Million Btu per SCC Unit:	
10. Segment Comment:				
	. –			

69

DEP Form No. 62-210.900(1) - Form Effective: 06/16/03

# APPLICATION INFORMATION UNREGULATED EMISSION UNIT – WASTE WATER TREATMENT PLANT

### A. GENERAL EMISSIONS UNIT INFORMATION

### **Title V Air Operation Permit Emissions Unit Classification**

1.	Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)					
	The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.  The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.					
<u>En</u>	aissions Unit	Description and Sta	<u>ıtus</u>			
1.						
				dresses, as a single em es which produce fugi		
De	Description of Emissions Unit Addressed in this Section: Waste water treatment plant					
3.	Emissions U	nit Identification Nur	nber: N/A			
	Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit?  Yes  No	
9.	Package Unit			Model Number:		
10	Generator N	Jameplate Rating:	MW		•	
	11. Emissions Unit Comment:					

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# EMISSIONS UNIT INFORMATION Section [5] of [5]

### **Emissions Unit Control Equipment**

	1.	Control Equipmen N/A.	t/Method(s) Descriptio	n:	
			•		
					•
				•	
I	2	Control Device or	Method Code(s):		

### **B. EMISSIONS UNIT CAPACITY INFORMATION**

(Optional for unregulated emissions units.)

### **Emissions Unit Operating Capacity and Schedule**

1.	Maximum Process or Infougnpo	it Rate: 18 MGD		
2.	Maximum Production Rate:		<del></del>	
3.	Maximum Heat Input Rate:			
4.	Maximum Incineration Rate:	pounds/hr		
		tons/day		
5.	Requested Maximum Operating	Schedule:		
		hours/day		days/week
		weeks/year	8,760	hours/year
6.	Operating Capacity/Schedule Co	omment:		
	·	•		
	•			
			•	
			•	
		•		

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# C. EMISSION POINT (STACK/VENT) INFORMATION (Optional for unregulated emissions units.)

### **Emission Point Description and Type**

1.	Identification of Point on I Flow Diagram:	Plot Plan or	2. Emission Point	Гуре Code:
3.	Descriptions of Emission			
	ID Numbers or Descriptio			
5.	Discharge Type Code:	6. Stack Height feet	:	7. Exit Diameter: feet
8.	Exit Temperature: °F	9. Actual Volur acfm	netric Flow Rate:	10. Water Vapor: % (ambient)
11.	Maximum Dry Standard F dscfm	low Rate:	12. Nonstack Emissi feet	ion Point Height:
13.	13. Emission Point UTM Coordinates  Zone: East (km):  North (km):		14. Emission Point I Latitude (DD/M Longitude (DD/I	,
15.	Emission Point Comment:		Longitude (DD/1	VIIVI155)

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### D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

5. Segment Description (Process/Fuel Type):  Treatment of waste water				
	_	<del></del>		
2. Source Classification Cod	e (SCC):	3. SCC Units:		. 1
5-01-007-01	,		_	reated
4. Maximum Hourly Rate: 0.75	5. Maximum 6570		6.	Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum	% Ash:	9.	Million Btu per SCC Unit:
10. Segment Comment:	<u> </u>		I	<del></del>
				•
Segment Description and Ra	to: Sagment			
1. Segment Description (Pro	cess/Fuel Type):			
2. Source Classification Cod	e (SCC):	3. SCC Units:		
	- ()			
4. Maximum Hourly Rate:	5. Maximum	Annual Rate:	6.	Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum	% Ash:	9.	Million Btu per SCC Unit:
10. Segment Comment:				
-				

DEP Form No. 62-210.900(1) - Form

### D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment \_\_ of \_\_\_

Segment Description (Process/Fuel Type):				
2. Source Classification Cod	le (SCC):	3. SCC Units:	_	
4. Maximum Hourly Rate:	5. Maximum	Annual Rate:	6.	Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum	% Ash:	9.	Million Btu per SCC Unit:
10. Segment Comment:				
		·		
		·		
Segment Description and Ra	ate: Segment	of		
1. Segment Description (Pro	cess/Fuel Type):			
		·		
2. Source Classification Cod	le (SCC):	3. SCC Units:		
4. Maximum Hourly Rate:	5. Maximum	Annual Rate:	6.	Estimated Annual Activity
			0.	Factor:
7. Maximum % Sulfur:	8. Maximum	% Ash:	9.	Million Btu per SCC Unit:
10. Segment Comment:	<b>'</b>	<del>-</del>	1	
<ul><li>4. Maximum Hourly Rate:</li><li>7. Maximum % Sulfur:</li></ul>	5. Maximum 8. Maximum	Annual Rate:	6.	

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### E. EMISSIONS UNIT POLLUTANTS

### List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	Primary Control     Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC		-	NS

DEP Form No. 62-210.900(1) - Form

# EMISSIONS UNIT INFORMATION Section [5] of [5]

POLL	UTANT	DETAIL	INFORMATION
Page	[ ] of	[ ]	

# F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

### Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted:	2. Total Percent Efficiency of Control:
VOC	%
3. Potential Emissions:	4. Synthetically Limited?
6.675 lb/hour 29.2	4 tons/year Yes X No
5. Range of Estimated Fugitive Emissions (a	s applicable):
to tons/year	
6. Emission Factor: 8.9 lbs/Mgals	7. Emissions
	Method Code:
Reference: Fire, SCC: 5-01-007-01	3 .
8. Calculation of Emissions:	
18 MGD x 8.9 lbs/Mgals x day/24 h	
6.675 lbs/hr x 8,760 hrs/yr x ton/2,0	00  lbs = 29.24  TPY
·	
·	
9. Pollutant Potential/Estimated Fugitive Emi	ssions Comment:
_	

DEP Form No. 62-210.900(1) - Form

# POLLUTANT DETAIL INFORMATION Page [ ] of [ ]

# F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Al	<b>lowable Emissions</b> Allowable Emissions	(	of
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions: lb/hour tons/year
5.	Method of Compliance:		
	Allowable Emissions Comment (Description	of (	Operating Method):
<u>Al</u>	lowable Emissions Allowable Emissions	(	of
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:
3.	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions: lb/hour tons/year
	Method of Compliance:		
6.	Allowable Emissions Comment (Description	of (	Operating Method):
Al	lowable Emissions Allowable Emissions	(	of
1.	Basis for Allowable Emissions Code:	2.	Future Effective Date of Allowable Emissions:
	Allowable Emissions and Units:	4.	Equivalent Allowable Emissions: lb/hour tons/year
5.	Method of Compliance:		· .
6.	Allowable Emissions Comment (Description	of (	Operating Method):

DEP Form No. 62-210.900(1) - Form

# EMISSIONS UNIT INFORMATION Section [5] of [5]

### G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

<u>Vi</u>	sible Emissions Limitation: Visible Emissions Limitation of
1.	Visible Emissions Subtype:  2. Basis for Allowable Opacity: Rule Other
3.	Allowable Opacity: Normal Conditions:  Maximum Period of Excess Opacity Allowed:  **Maximum Period of Excess Opacity Allowed:**  **min/hour**
	Method of Compliance:
5.	Visible Emissions Comment:
<u>Vi</u>	sible Emissions Limitation: Visible Emissions Limitation of
1.	Visible Emissions Subtype:  2. Basis for Allowable Opacity:  Rule  Other
3.	Allowable Opacity:  Normal Conditions:  % Exceptional Conditions:  %  Maximum Period of Excess Opacity Allowed:  min/hour
	Method of Compliance:
5.	Visible Emissions Comment:

DEP Form No. 62-210.900(1) - Form

### H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

<u>Co</u>	ntinuous Monitoring System: Continuous	Monitor of
1.	Parameter Code:	2. Pollutant(s):
3.	CMS Requirement:	Rule Other
4.	Monitor Information	
	Manufacturer:	G : 137 .
	Model Number:	Serial Number:
5.	Installation Date:	6. Performance Specification Test Date:
7.	Continuous Monitor Comment:	
		·
		<del>-</del>
<u>Co</u>	ntinuous Monitoring System: Continuous	Monitor of
<u>Co</u>		Monitor of  2. Pollutant(s):
1.	Parameter Code:	2. Pollutant(s):
3.	Parameter Code:  CMS Requirement:  Monitor Information	2. Pollutant(s):
3.	Parameter Code:  CMS Requirement:  Monitor Information  Manufacturer:	2. Pollutant(s):  Rule Other
3.	Parameter Code:  CMS Requirement:  Monitor Information  Manufacturer:  Model Number:	2. Pollutant(s):  Rule Other  Serial Number:
<ol> <li>3.</li> <li>4.</li> <li>5.</li> </ol>	Parameter Code:  CMS Requirement:  Monitor Information  Manufacturer:  Model Number:  Installation Date:	2. Pollutant(s):  Rule Other  Serial Number:
<ol> <li>3.</li> <li>4.</li> <li>5.</li> </ol>	Parameter Code:  CMS Requirement:  Monitor Information  Manufacturer:  Model Number:  Installation Date:	2. Pollutant(s):  Rule Other  Serial Number:
<ol> <li>3.</li> <li>4.</li> <li>5.</li> </ol>	Parameter Code:  CMS Requirement:  Monitor Information  Manufacturer:  Model Number:  Installation Date:	2. Pollutant(s):  Rule Other  Serial Number:

DEP Form No. 62-210.900(1) - Form

### H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor \_\_\_\_\_ of 1. Parameter Code: 2. Pollutant(s): 3. CMS Requirement: Rule Other 4. Monitor Information... Manufacturer: Model Number: Serial Number: 5. Installation Date: 6. Performance Specification Test Date: 7. Continuous Monitor Comment: Continuous Monitoring System: Continuous Monitor of 1. Parameter Code: 2. Pollutant(s): 3. CMS Requirement: Rule Other 4. Monitor Information... Manufacturer: Model Number: Serial Number: 6. Performance Specification Test Date: 5. Installation Date: 7. Continuous Monitor Comment:

DEP Form No. 62-210.900(1) - Form

# EMISSIONS UNIT INFORMATION Section [5] of [5]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

### Additional Requirements for All Applications, Except as Otherwise Stated

1.	Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID: Previously Submitted, Date
2.	Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID: Previously Submitted, Date
3.	Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID: Previously Submitted, Date
4.	Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID: Previously Submitted, Date  Not Applicable (construction application)
5.	Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)  Attached, Document ID:  Previously Submitted, Date  Not Applicable
6.	Compliance Demonstration Reports/Records  Attached, Document ID:  Test Date(s)/Pollutant(s) Tested:
	Previously Submitted, Date:  Test Date(s)/Pollutant(s) Tested:
	<ul><li>☐ To be Submitted, Date (if known):</li><li>☐ Test Date(s)/Pollutant(s) Tested:</li><li>☐ Not Applicable</li></ul>
	Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
<i>T.</i>	Other Information Required by Rule or Statute  Attached, Document ID: Not Applicable

DEP Form No. 62-210.900(1) - Form

### EMISSIONS UNIT INFORMATION

Section [5]

of [5]

### Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7),
F.A.C.; 40 CFR 63.43(d) and (e))  Attached, Document ID: Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)  Attached, Document ID: Not Applicable
Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)     Attached, Document ID: Not Applicable
Additional Requirements for Title V Air Operation Permit Applications
Identification of Applicable Requirements     Attached, Document ID:
2. Compliance Assurance Monitoring  Attached, Document ID: Not Applicable
3. Alternative Methods of Operation  Attached, Document ID: Not Applicable
4. Alternative Modes of Operation (Emissions Trading)  Attached, Document ID: Not Applicable
5. Acid Rain Part Application  Certificate of Representation (EPA Form No. 7610-1)  Copy Attached, Document ID:  Acid Rain Part (Form No. 62-210.900(1)(a))  Attached, Document ID:  Previously Submitted, Date:  Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)  Attached, Document ID:  Previously Submitted, Date:  New Unit Exemption (Form No. 62-210.900(1)(a)2.)  Attached, Document ID:  Previously Submitted, Date:  Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)  Attached, Document ID:  Previously Submitted, Date:  Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)  Attached, Document ID:  Previously Submitted, Date:  Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)  Attached, Document ID:  Previously Submitted, Date:  Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)  Attached, Document ID:  Previously Submitted, Date:  Not Applicable

DEP Form No. 62-210.900(1) - Form

# Section [5] [5] Additional Requirements Comment

DEP Form No. 62-210.900(1) - Form

**EMISSIONS UNIT INFORMATION** 

of

### City of Largo – Wastewater Reclamination Facility

### **Emissions Unit -001**

### Two Sewage Sludge Drying Trains

Particulate matter emissions controlled by Fisher-Klosterman Dual Cyclones, Scrubber – Train No.1 – Poly Con Corporation, Train No.2 - Fisher-Klosterman and Huntington Energy System, Inc. Afterburner

**Monitoring Approach** 

#### MONITORING APPROACH JUSTIFICATION

Facility ID No.: 1030060

### I. Background

The facility has two sewage sludge drying trains at this wastewater treatment plant. The two trains, Train No. 1 and Train No.2, are identical but can operate only one at a time. They share a common afterburner.

The gas stream passes from the dryer into a solids settling chamber where most of the dried material is separated from the gas stream. The gas stream from the chamber and from a fugitive dust system enters a cyclonic separator then passes to a venturi scrubber with a cyclonic for disentrainment of water particles. The gas then enters a RTO afterburner before exiting through the exhaust stack.

#### II. Rational for Selection of Performance Indicators

The dryer operation is fairly constant from day to day. Therefore the operation of the control device was selected as an indicator of performance.

The scrubber differential pressure was selected as the indicator of control device performance. The differential pressure is proportional to the water flow and airflow through the scrubber venturi throat and is an indicator of the energy across the scrubber and the proper operation of the scrubber. Also, the other indicator is water flow through the scrubber.

### III. Rational for Selection of Indicators Ranges

The units have operated for several years and have been tested every 5 years upon renewal of permit. During the last two tests (2000 and 2003) the operating conditions showed that the scrubber venturi differential ranged from a low of 6.75 in.  $H_2O$  to a high of 13 in.  $H_2O$ . The scrubber water flow ranged from a low of 90 gpm to a high of 125 gpm. The afterburner temperature remained above  $1100^{O}F$ .

Facility ID No.: 1030060

EMISSIC	ON UNIT 001 – DRYERS 1 & 2
	Indicator No. 1
I. Indicator	Scrubber pressure differential.
Measurement Approach	Measured separately at each of two scrubbers. Locally there are magnehelics gauges. The pressure differential is measured by differential pressure transducer on a continuous basis.
II. Indicator Range	While Dryers are operating, an excursion is defined as a pressure differential outside the range from 6 to 13 inches of water. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The magnehelics and differential transmitters measure the pressure differential between the inlet and outlet of the scrubber.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The units are calibrated on a yearly basis. The operational status of the units are checked if the pressure differential is outside the proposed range. The units are calibrated against Fluke 744 pneumatic calibrator.
D. Monitoring Frequency	The pressure differential is observed and recorded once per hour for each scrubber when the dryers are operating.
E. Data Collection Procedures	Pressure differential recorded on the daily log sheet with the time, date, and name of the observer.
F. Averaging Period	Not Applicable.

TABLE 1: MONITORING APPROACH

Facility ID No.: 1030060

<b>EMISSIO</b>	N UNIT 001 – DRYERS 1 & 2
	Indicator No. 2
I. Indicator	Scrubber liquid feed rate
Measurement Approach	Measured separately at each of two scrubbers using flow meters.
II. Indicator Range	While Dryers are operating, an excursion is defined as liquid flow below 80 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The flow meters measure the liquid flow to the scrubber.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The flow meters will be checked if the flow falls out of range. Calibration is performed annually.
D. Monitoring Frequency	The flow rate is observed and recorded once per hour on the daily log sheet for each scrubber when the dryers are operating.
E. Data Collection Procedures	Flow rate recorded with the time, date, and name of the observer.
F. Averaging Period	Not Applicable.

Facility ID No.: 1030060

EMISSIC	ON UNIT 001 – DRYERS 1 & 2
,	Indicator No. 3
IV. Indicator	Afterburner temperature.
Measurement Approach	Measured at outlet using thermocouple.
V. Indicator Range	While Dryers are operating, an excursion is defined as a temperature below 1100°F. Excursions trigger an inspection, corrective action, and a reporting requirement. A temperature below 1100°F causes the unit to shutdown.
VI. Performance Criteria	
A. Data Representativeness	The thermocouple measures the afterburner outlet temperature.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The thermocouple is calibrated yearly or if temperature readings are below required.
D. Monitoring Frequency	The temperature is recorded continuously when the dryers are operating.
E. Data Collection Procedures	Chart recorder and is recorded hourly on the daily log sheet.
F. Averaging Period	Not Applicable.

# COMPLIANCE ASSURANCE MONITORING VENTURI SCRUBBER FOR PM CONTROL

### I. Background

#### A. Emissions Units

Description:

Sewage Sludge Drying Train

Identification:

Train No. 1 & 2

Facility:

City of Largo - Wastewater Reclamination Facility

Clearwater, Florida

### B. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation:

Florida Rule 62-296.712(2), F.A.C.

Facility ID No.: 1030060

**RACT** 

**Emissions Limit:** 

Particulate Matter (PM):

0.03 grains/dscf

The state also specifies that the opacity of visible emissions shall be no visible emissions (5% opacity) except that visible emissions not exceeding 20% opacity are allowed for up to three minutes in any one-hour. (Rule 62-296.401(1)(a).

Monitoring Requirements: Annual opacity test (EPA Method 9)

### C. Control Technology

Venturi Scrubber followed by afterburner

### II. Monitoring Approach

The key elements of the monitoring approach are presented in Table 1. The indicators of performance are the differential pressure across the scrubber venturi, the scrubber water flow rate to the venturi and the RTO afterburner operating temperature.

### Operation and Maintenance Plan

- a. Sludge pelletizer cyclones for each train.
  - 1. Source Designator: Sludge Drying Train
  - 2. Cyclone (dry scrubber) Manufacturer: Fisher-Klosterman
  - 3. Model Name and Number: XQ Series XQ340-27 Dual Cyclones
  - 4. Design Flow Rate: 17,172 ACFM
  - 5. Efficiency Rating At Design Capacity: 94.29%
  - 6. Pressure Drop: 4.76 inches W.C. at Full Load
  - 7. Stack Gas Exit Temperature: N/A exhausts to scrubber/afterburner
  - 8. Stack Height: N/A exhausts to scrubber/afterburner
  - 9. Stack Diameter: N/A exhausts to scrubber/afterburner
  - 10. Stack Velocity: N/A exhausts to scrubber/afterburner
  - 11. Process Controlled By Collection System: Emissions from sludge drying train
  - 12. Total Material Handling Rate:
    - 32,680 lbs./hr. sludge input rate to Dryer Train No. 1
    - 32,680 lbs./hr. sludge input rate to dryer Train No. 2
  - 13. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.
- b. Sludge pelletizer scrubbers for each train.
  - 1. Source Designator: Sludge Drying Train
  - 2. Scrubber Manufacturer:
    - Train No. 2 Fisher-Klosterman .
    - Train No. 1 Poly con Corporation
  - 3. Model Name and Number: Train No. 2 MS-520.000-M Train No. 1 - 1514SS
  - Measured Flow Rate: Train No. 2 18,898 ACFM Measured Flow Rate: Train No. 1 - 18,802 ACFM
  - 5. Efficiency Rating At Design Capacity:
    - Train No. 2 99.03%
    - Train No. 1 99.03% based on data from Train No. 2
  - 6. Design Pressure Drop: Train No. 2: 6 13 inches W.C.
    - Train No. 1: 6 13 inches W.C.
  - 7. Fans Current at Rated Voltage: 173 amperes-Train No. 1
    167 amperes-Train No. 2
    - io / amperes=fram ivo
  - 8. Liquid Feed Rate: 200 gpm, maximum

### "City of Largo – Wastewater Reclamination Facility". EU ID No. –001 Two Sewage Sludge Drying Trains

#### 6. Complete Log Sheet Indicating:

Pugmill speed/amps
Ratio wet/dry
Dryer temp. in/out
Belt scales
Sludge feed
Polymer feed
Belt speed
Hydraulic psi
RTO fan amperes
RTO combustion chamber temp.
% solids cake/pug/prod
Recycle bin level/high temp
product silos level/high temp
Incline wet screw amperes

#### Weekly

1. Record afterburner's bearing temps.

#### Monthly

- 1. Inspect fan/housings for corrosion and material build-up/
- 2. Check all drive belts for wear and tensions.
- 3. Check scrubber differential pressure.
- 4. Check scrubber H<sub>2</sub>O flow rate.
- 5. Check scrubber H<sub>2</sub>O inlet pressure
- 6. Lubricate RTO fan damper bearings.
- 7. Confirm vibration detection equipment is operational.
- 8. Lubricate flow control valve drive system.

#### Every 2 Months

- 1. Inspect scrubber nozzle and spray bars.
- 2. Inspect cyclone interior.

#### Every 6 Months

- 1. Inspect fan damper and packing.
- 2. Inspect fan impeller.
- 3. Inspect fan impeller seal.
- 4. Check torque anchor and lag bolts.
- 5. Calibrate vibration detectors.

### "City of Largo – Wastewater Reclamination Facility". EU ID No. –001 Two Sewage Sludge Drying Trains

- 9. Stack Gas Exit Temperature: N/A exhausts to afterburner
- 10. Stack Height: N/A exhausts to afterburner
- 11. Stack Diameter: N/A exhausts to afterburner
- 12. Stack Velocity: N/A exhausts to afterburner
- 13. Process Controlled By Collection System: Emissions from sludge drying train
- 14. Total Material Handling Rate:
  - 32,680 lbs./hr. sludge input rate to Dryer Train No. 1 32,680 lbs./hr. sludge input rate to dryer Train No. 2
- 15. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.
- c. Afterburner serving 2 sewage sludge drying trains 1 at a time.
  - 1. Source Designator: Sludge Drying Train
  - 2. Afterburner Manufacturer: Huntington Energy System, Inc.
  - 3. Model Name and Number: Model #65
  - 4. Design Flow Rate: 20532 ACFM
  - 5. Efficiency Rating At Design Capacity: 95%
  - 6. Stack Average Temperature: 240 degrees F
  - 7. Stack Height: 65 feet
  - 8. Stack Diameter: 38 inches
  - 9. Stack Gas Exit Velocity: 36 fps
  - 10. Stack Moisture Content: 8%
  - 11. Process Controlled By Collection System: Emissions from sludge drying train
  - 12. Total Material Handling Rate:
    - 32,680 lbs./hr. sludge input rate to Dryer Train No. 1 32,680 lbs./hr. sludge input rate to dryer Train No. 2
  - 13. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.
- d. The following observations, checks, and operations apply to the cyclones, scrubbers, and afterburner and shall be conducted on the following schedule as specified:

#### Daily

- 1. Observe stack (visual).
- 2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, etc.).
- 3. Note any unusual occurrence in the process being ventilated.
- 4. Observe all indicators on control panel.
- 5. Check bearing oil level for fan.

# "City of Largo – Wastewater Reclamination Facility". EU ID No. –001 Two Sewage Sludge Drying Trains

- 6. Change bearing oil.
- 7. Inspect chamber flow control valve packing (6 valves).
- 8. Lubricate chamber flow control valve bearings (6 valves).
- 9. Inspect bypass flow control valve packing (4 valves).
- 10. Change oil valve drive system gearbox.

#### Annually

- 1. Check all bolts and welds.
- 2. Grease motor.
- 3. Inspect chamber insulation.
- 4. Inspect ceramic support.
- 5. Inspect and adjust gas burners.
- 6. Leak test gas piping system.
- 7. Calibrate process instrumentation.
- e. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- f. A record log which will indicate, at a minimum:
  - 1. When maintenance was performed.
  - 2. What maintenance was performed.
  - 3. Why maintenance was performed.
  - 4. Who performed the maintenance.
- g. Records of inspections, maintenance, and performance parameters shall be made available to the Department of the PCDEM upon request.

### Operation and Maintenance Plan

- a. Process parameter for each scrubber.
  - 1. Source Designator: Odor Control System No. 1 which consists of two scrubbers
  - 2. Scrubbers' Manufacturer: Met-Pro corporation/Duall Division
  - 3. Model Name: Duall Packed Scrubber Towers #P510-120 Serial No. 2269
  - 4. Design Air Flow For Each Scrubber: 35,500 SCFM
  - 5. Efficiency Rating For Each Scrubber At Max. Design: 99%
  - 6. Reclaimed Water (1-6 ppm CL<sub>2</sub>) From Waste Water Treatment Plant: 200 gpm design.
  - 7. Stack Gas Temp. For Each Scrubber: Ambient
  - 8. Stack Exit Diameter For Each Scrubber: 48 inches
  - 9. Stack Exit Velocity For Each Scrubber: 2,800 fpm
  - 10. Oxidation/Reduction Potential (ORP), 575-675 mv.
  - 11. pH Range, minimum of 8.
  - 12. Stack Water Vapor Content For Each Scrubber: 100%
  - 13. Process Controlled: Odors from the pelletizer building which includes the belt filter presses and wet storage bins.
  - 14. Operation Schedule: 8760 hrs./yr.
- b. The following observations, checks, and operations apply to each scrubber and shall be conducted on the following schedule as specified:

#### **Daily**

- 1. Walk through system listening for proper operation (audible leaks, proper fan and pump functions, etc.).
- 2. Note any unusual occurrence.
- 3. Check for fluid leaks.
- 4. Check liquid flow rate (gpm) and CL2 ppm.
- 5. Record ORP and pH.

### Weekly

1. Grease fan bearings.

"City of Largo – Wastewater Reclamination Facility".

EU ID No. –003 Pelletizer Building with Odor Control System No. 1

#### Monthly

- 1. Fan /Pump rotation.
- 2. Check fan belts.
- 3. Change tower H<sub>2</sub>O.
- 4. Exercise recirculating pump.
- 5. Check electronic control panels.
- 6. Check ampere readings for fans and pumps.
- 7. Verify spray bar operation.

#### Quarterly

- 1. Tighten lag bolts.
- 2. Check all welds.

#### <u>Yearly</u>

- 1. Grease motor bearings.
- 2. Inspect ductwork.
- 3. Inspect fans.
- c. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- d. A record log which will indicate, at a minimum:
  - 1. When maintenance was performed.
  - 2. What maintenance was performed.
  - 3. Who performed the maintenance.
- e. records of inspections, maintenance, and performance parameters shall be retained and shall be made available to the Department or the PCDEM upon request.

"City of Largo – Wastewater Reclamination Facility". EU ID No. –005 Two Sludge Storage Silos EU ID No. -006 Truck Loading Area

### Operation and Maintenance Plan

- a. Process parameters for each storage silo.
  - 1. Source Designator: Storage silo for dried sludge
  - 2. Baghouse Manufacturer: American Air Filter
  - 3. Model Name: Arrestall AR-30
  - 4. Design Flow Rate: 150 450 dscfm
  - 5. Efficiency Rating at Design Capacity: 99%
  - 6. Pressure Drop: 6 1/2" 4" WG
  - 7. Air to Cloth Ratio: 3.4
  - 8. Bag Material: Cotton Sateen
  - 9. Bag Cleaning Conditions: Periodic/Automatic Shaker
  - 10. Gas Temperature: Ambient
  - 11. Stack Height Above Ground: 45 ft.
  - 12. Exit Dimension: 160 sq. inches
  - 13. Exit Velocity: 2.8 ft./min.
  - 14. Water Vapor Content: System designed for zero vapor content.
  - 15. Process controlled by collection system: Transfer of dried sludge from a dryer to a product storage silo.
  - 16. Material Handling Rate: 0.76 tons/hr., max.
  - 17. Operation Schedule: 8760 hrs./yr.

"City of Largo - Wastewater Reclamination Facility".

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

b. The following observations, checks, and operations apply to each silo and shall be conducted on the following schedule as specified:

#### Daily

- 1. Observe stack (visual).
- 2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, bag cleaning systems, etc.).
- 3. Note any unusual occurrence in the process being ventilated.
- 4. Observe all indicators on control panel.

#### Weekly

1. Inspect conveyor and air lock bearing for lubrication.

#### **Monthly**

- 1. Check cleaning mechanism moving parts.
- 2. Inspect fans for corrosion and material build-up.
- 3. Check all drive belts and chains for wear and tensions.
- 4. Check all hoses and clamps.
- 5. Inspect housing for corrosion.

#### Quarterly

- 1. Check shaker motor ampere reading.
- 2. Inspect fan wheel.
- 3. Thoroughly inspect filter cartridges.
- 4. Check gaskets on all doors.
- 5. Inspect paint.

#### Semi-Annually

- 1. Lubricate baghouse explosion vent latches.
- 2. Inspect vacuum vent diaphragms.
- 3. Inspect vacuum vent guides.

#### Annually

- 1. Check all bolts.
- 2. Check welds.
- 3. Inspect hopper for wear.
- 4. Change filter cartridges.

"City of Largo - Wastewater Reclamination Facility".

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

- c. Process parameters for truck loading:
  - 1. Source Designator: Loading trucks with dried sludge from 1 of 2 storage silos.
  - 2. Baghouse Manufacturer: Sternvent Company, Inc.
  - 3. Model Name: CCPS0258 Hopper Style
  - 4. Design Flow Rate: 1000 dscfm
  - 5. Efficiency Rating at Design Capacity: 99%
  - 6. Pressure Drop: 2" 6" WG
  - 7. Air to Cloth Ratio: 4.24
  - 8. Bag Material: Polyester felt
  - 9. Bag Cleaning Conditions: Jet air pulse, 80-100 psig
  - 10. Gas Temperature: Ambient
  - 11. Stack Height Above Ground: 45 ft.
  - 12. Exit Dimension: 72.5 sq. inches
  - 13. Exit Velocity: 13.8 fpm (design)
  - 14. Water Vapor Content: Ambient
  - 15. Process controlled by collection system: Transfer of dried sludge from 1 of 2 sludge storage silos to a truck.
  - 16. Material Handling Rate: 25.8 tons/hr., max.
  - 17. Operation Schedule: 8760 hrs./yr.
- D. The following observations, checks, and operations apply to the sludge truck loading operation and shall be conducted on the following schedule as specified:

#### Daily during loading

- 1. Observe stack (visual).
- 2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, bag cleaning systems, etc.).
- 3. Note any unusual occurrence in the process being ventilated.
- 4. Observe all indicators on control panel.
- 5. Assure that dust is being removed from system.
- 6. Check reverse air pressure.

#### Weekly

1. Inspect conveyor and air lock bearing for lubrication.

"City of Largo – Wastewater Reclamination Facility". EU ID No. –005 Two Sludge Storage Silos EU ID No. -006 Truck Loading Area

#### Quarterly

- 1. Check all hoses and clamps.
- 2. Inspect housing for corrosion.
- 3. Check bag cleaning sequence to see that all valves are opening and closing properly.
- 4. Check compressed air lines, including line oilers and filters.
- 5. Inspect fan.
- 6. Grease fan bearings.
- 7. Grease fan shaft seal.
- 8. Check fan belts.
- 9. Tighten lag bolts.
- 10. Inspect electrical control panels.
- 11. Check fan motor ampere reading.
- 12. Thoroughly inspect bags.
- 13. Check gaskets on all doors.

#### <u>Annually</u>

- 1. Check paint.
- 2. Check welds.
- 3. Change filter-tubes.
- e. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- f. A record log which will indicate, at a minimum:
  - 1. When maintenance was performed.
  - 2. What maintenance was performed.
  - 3. Who performed the maintenance.
- g. Records of inspections, maintenance, and performance parameters shall be retained and shall be made available to the Department or the PCDEM upon request.

City of	Largo				Factory D	ata Log	Dry S	Side)	Date		
Midnight Main Gas RTO Gas	3		Train #1 _ Train #2 _		Total Gals Pro Polymer Batc	essed hes		Polymer Bags Midnight Scale Readin	gs - Train #1	Train #2	
Time	Pugmill Speed	Dry Incline Feed	Wet Bin Speed	Dryer Burner Inlet Trmp	Dryer Burner Outlet Trmp		RTO Temp	RTO (amp max 240) Amps / Chart Rec		Sludge Feed #1 /#2	Wet Incline Amps
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#### RTO MCC INVENTORY SHEET System

**Item** 

P-C 2 UV Scanner Order INS# 21651

3 Pole Contact Kit # 99983L3

3 Pole Contact Kit # 99983L4

Spare Range Board - Dryer Inlet Temp Transmitter 0 -1500 Deg. F Item # 00444-0262-0007

Range Board 0 - 300 Dryer outlet Item # 00444-0262-0002

C7035A 1023 FSG UV Flame Detector

9070EL2D9 Industrial Control Transformer

Ashcroft Transducer 2F219

Solenoid Valve - 120V -60Hz -2630007

**Buss semiconnuctor FWP -600** 

Slo-Blo Fuses - Volts 250 FLNR 1 1/2

Class CC Fuses Volts 600 KLK 1 1/2

125 Volts small Dimension fuse assortment Box

Ultra Slimpak G428

Fuse FNQ 1

Fuse FNQ 2

Fuse FNQ 5

Fuse FNQ R 1/2

Fuse FNQ R 1

Fuse FNQ R 2

Fuse FNQ R 3

Fuse FNQ R 3.5

Fuse FNQ R 5

Fuse FNQ R10

Fuse KTKR 1

Fuse KTKR 2

Fuse KTKR 3

Fuse KTKR 5

Fuse KTKR 10

LP CC 5 6/10

**LP CC 12** 

**LP CC 15** 

FRNR1

FRN R 1 6/10

LPJ 10 SP

**JKS 400** 

Joacomatic 881-22-404

Pyco Thermocouple S0# 083392-00 item # 001 K375-316-S-18-A-2-(Y)

Pyco Thermocouple S0# 083392-00 Item # 002 K375-316-S-18-A-2-(Y)

Ultrasonic Transducer

Programmer Multi +/DPL ' Potter

**Multirange Plus** 

DC motor speed control 2Hp

Thirmocouple / Millivolt Imput Module Cat1746-NTS

Output Module Cat#1746-0X8

Analog input module Cat#1746-N14

#### RTO MCC INVENTORY SHEET System

#### <u>ltem</u>

Alimentation Remote I/O Adapter Molule Thermo Couple /With out Module 1771IXE Thermo Couple /With out Module 1771IOAD Thermo Couple /With out Module 1771IXE Thermo Couple /With out Module 1771IXE Thermo Couple /With out Module 1771IAD Thermo Couple /With out Module 1771IL Power Supply - AC (120-220V) 1GA **Dynamic Rectification Amplifier Keyboard Display Module Automatic Primary Control Modutrol IV Motor Honeywell Function control Readout Actionator Motor** RTO Spare 200HP motor

I.D. Fan spare 150 HP motor

### **BEST AVAILABLE COPY**

**City of Largo** 

## **Wastewater Treatment Facility**

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Check RTO Fan for abnormal noises and vibrations																						
Fill RTO bearing oil container														·		 						
Check RTO for proper operation, check for leaks, vibration or abnormal noises	 																					
Weekly Preventative Maintenance		V es							Pel	etiz	ing	Plan	1									
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Lubricate Screw Conveyor, check for proper operation.																 						
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SHD-SC-1B - Train 1 Wet to Pugmill																						
SHD-SC-1C - Train 1 Settling Chamber to Shaker											<u>.</u>	_										
SHD-SC-1G - Train 1 Crusher to Recycle Bin											<u></u>											
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill									 													
SHD-SC-2A - Train 2 Wetbin				,												 						
SHD-SC-2B - Train 2 Wetbin to Pugmill																						
SHD-SC-2C - Train 2 Settling Chamber to Shaker																						
SHD-SC-2G - Train 2 Crusher to Recycle Bin																						
SHD-SC-2H - Train 2 Recycle Bin to Pug Mill			<u></u>																			

### **Wastewater Treatment Facility**

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## **Wastewater Treatment Facility**

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SHD-SS-4B - Common north / south silo feed.																										
Silo to Factory Recycle Screw Conveyor					_																					
New Press to SDB-SC-1A Conveyor																										
Lubricate Belt Conveyor Tall, Head, and Idler bearings check belt alignment.																										
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### **Wastewater Treatment Facility**

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### **Wastewater Treatment Facility**

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## **Wastewater Treatment Facility**

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### **Wastewater Treatment Facility**

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Torque cyclone vibrator mounting bolts, fill oil lubricator on air line																					

### **Wastewater Treatment Facility**

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City of Largo					vate																		che		
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## **Wastewater Treatment Facility**

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#### **BEST AVAILABLE COPY**

## City of Largo

### **Wastewater Treatment Facility**

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Inspect and lubricate RTO exhaust fan damper bearings if required.																										
Perform vibration analysis on RTO fan																								1		
Lubricate RTO fan gear coupling (perform every two months)																										
Check all fan base and motor mounting bolts/nuts for proper torque.																										
Lubricate RTO flow control valve drive system, inspect all bearings for wear.																										
Perform leak test on all gas piping at all joints and valves using leak test solution and gas monitor																										
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SHD-SC-1B - Train 1 Wetbin to pugmill																										
SHD-SC-1C - Train 1 Settling Chamber to Shaker																										
SHD-SC-1G - Train 1 Crusher to Recycle Bin																,										
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																										

## **Wastewater Treatment Facility**

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SHD-SC-1G - Train 1 Crusher to Recycle Bin																						<i>-</i>	
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																							

## **Wastewater Treatment Facility**

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SHD-SS-B - Common second incline to silo								1																		
SHD-SS-4B - Common north / south silo feed.																										
Silo to Factory Recycle Bin																			4							
New Press to SDB-SC-1A Screw Conveyor											_															
Inspect venturi scrubber nozzle and spray bars (perform every two months)																										
Train 1 Venturi Scrubber																										
Train 2 Venturi Scrubber			s trace o trace coops o																****		There are sending.					
Inspect and cyclone Interior (perform every two months)																										
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Train 2 West Cyclone																										

## **Wastewater Treatment Facility**

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SHD-SC-2A - Train 2 Wetbin																										
SHD-SC-2B - Train 2 Wetbin to Pugmill							_																			
SHD-SC-2C - Train 2 Settling Chamber to Shaker																										
SHD-SC-2G - Train 2 Crusher to Recycle Bin																										
SHD-SC-2H - Train 2 Recycle Bin to Pugmill		-	_																							
SHD-SC-D - Common shaker to SHD-SS-A																										
SHD-SS-A - Common first incline to silo																										
SHD-SS-B - Common second incline to silo																										
SHD-SS-4B - Common north / south silo feed.																										
Silo to Factory Recycle Bin																										
New Press to SDB-SC-1A Screw Conveyor																										
inspect venturi scrubber nozzle and spray bars (perform every two months)						<u> </u>	_				ı <del></del>				•											
Train 1 Venturi Scrubber																										
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### **Wastewater Treatment Facility**

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Week Number	2	1	4		Fál: ½	3	4	1	2	3	A	6	2	3		1	2	3	4	1	2	ð	ζ;	
Perform leak test on all gas piping																								
Train 1 Dryer Furnace																								
Train 2 Dryer Furnace																								
Inspect and check combustion blower drive belts, adjust/replace if necessary.																								
Train 1 Combustion Blower										_														
Train 2 Combustion Blower																								
Check all fan base and motor mounting bolts/nuts for proper torque.																								
Train 1 Combustion Blower								  -																
Train 2 Combustion Blower																								
Inspect dryer drum drive chain and sprockets for improper alignment and excessive wear																				r				
Train 1 Dryer Drum																								
Train 2 Dryer Drum																								
Inspect drive for abnormal noises and vibrations, verify proper oil level.																								
Train 1 Dryer Drum				 	ļ																			
Train 2 Dryer Drum																								
Check pugmill tall shaft and bearings, torque bolts if necessary.																								
Train 1 Pugmill																								
Train 2 Pugmill																								
Inspect Pugmili drive train gears, torque set-screws and check gearbox oil level.															,									

### **Wastewater Treatment Facility**

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Perform leak test on all gas piping																									
Train 1 Dryer Furnace																									
Train 2 Dryer Furnace																									
Inspect and check combustion blower drive belts, adjust/replace if necessary.																									
Train 1 Combustion Blower																									· · · · · ·
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Check all fan base and motor mounting bolts/nuts for proper torque.																									
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Train 2 Combustion Blower																									
Inspect dryer drum drive chain and sprockets for improper alignment and excessive wear																									•
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Train 2 Dryer Drum																									
Inspect drive for abnormal noises and vibrations, verify proper oil level.																									
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Train 2 Dryer Drum																									•
Check pugmill tall shaft and bearings, torque bolts if necessary.																									
Train 1 Pugmill																									
Train 2 Pugmill																									
Inspect Pugmili drive train gears, torque set-screws and check gearbox oil level.		<u> </u>	;																	·					

### **Wastewater Treatment Facility**

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Train 1 Pugmill																									
Train 2 Pugmill																									
Inspect pugmill paddles for wear and torque all bolts securing paddles.																						-			
Train 1 Pugmill																									
Train 2 Pugmill																									
Torque shaker clamp rings, inspect all screens, verify no rips or holes.																									
Train 1 Shaker																									
Train 2 Shaker																									
Inspect diverter valve, verify smooth operation										,															
Train 1 Shaker			_																						
Train 2 Shaker																									
Inspect crusher drive chain tension, inspect sprockets for excessive wear		,	_													,					_				
Train 1 Crusher			_							-				•											
Train 2 Crusher																									
Check gear drive oil level, check for oil leaks and verify proper oil level.																			4						
Train 1 Crusher																									
Train 2 Crusher			_																						
Lubricate gear reducer backstop, and clutch																									
Train 1 Crusher																									

# **Wastewater Treatment Facility**

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Inspect diverter valve, verify smooth operation			_							_															
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Lubricate gear reducer backstop, and clutch																		. ]							
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Train 2 Crusher																										
Inspect press wash-box seals and doctor blades, replace as necessary.																										
New Press																										
Old Press																										
Inspect and check press drive gearbox oil level, lubricate spur gears.																										
New Press																										
Old Press		,																-,							_	
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Monthly Breventative Maintenance Check dust collector cleaning mechanism moving										Sjid	21	ruç	κLο	adin	9											
parts, check shaker operation.																										
Silo 1 Dust Collector																						<u> </u>				
Silo 2 Dust Collector																										
Inspect dust collector fans for corrosion and material build up.																										
Silo 1 Dust Collector																						<u> </u>				
Silo 2 Dust Collector																										
inspect drive belts & chains, hoses and clamps for deterioration and corrosion																										
Silo 1 Dust Collector																										
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Inspect dust collector housing for corrosion					_																					_
Silo 1 Dust Collector																										

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Train 2 Crusher																							
Inspect press wash-box seals and doctor blades, replace as necessary.																							
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Inspect and check press drive gearbox oil level, lubricate spur gears.																							
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Monthly Brevenative Maintenance									8  0	8 1	ruc	KLO	adin	g				W#					
Check dust collector cleaning mechanism moving parts, check shaker operation.																_							
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Inspect dust collector fans for corrosion and material build up.															·								
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Inspect drive belts & chains, hoses and clamps for deterioration and corrosion																							
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Silo 1 Dust Collector																							

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Silo 2 Dust Collector																						
Lubricate and inspect silo diverter valve, verifying smooth operation																						
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Silo 1 South diverter valve										-												
Silo 2 North diverter valve																						
Silo 2 South diverter valve																						
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Quarterly Preventative Maintenance								76	ljetiz	lng:	Rlan											
Inspect screw conveyor drive units and drive belts.				in a set		i e e e e e e e e e e e e e e e e e e e										-						 
SHD-SC-1A - Train 1 Wetbin																						
SHD-SC-1B - Train 1 Wetbin to pugmill															). 	Adel Gydd						
SHD-SC-1C - Train 1 Settling Chamber to Shaker																						
SHD-SC-1G - Train 1 Crusher to Recycle Bin							현실.) (1. 기년 (1. 기 <u>급</u>															
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																						
SHD-SC-2A - Train 2 Wetbin				_		energy of Section 1997 Section 1997					ļ. <u>.</u>							F 40				
SHD-SC-2B - Train 2 Wetbin to Pugmill																* •						
SHD-SC-2C - Train 2 Settling Chamber to Shaker															,							
SHD-SC-2G - Train 2 Crusher to Recycle Bin							! ::!											ing a state of the		:		
SHD-SC-2H - Train 2 Recycle Bin to Pugmill									eren sterwenerer	., )		***************************************							1 (1943) 100			
SHD-SC-D - Common shaker to SHD-SS-A															•				: 4 - 5 - 1 - 5 - 1	;		

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Weak Number		ווונו	ļ Δ		just	Δ	Sép	temb	er A	* <b>5</b>		Oct	obe	N	0V6	mbe	ĵ.	Dece 22. S	iilbei	
Silo 2 Dust Collector	285,4 1,525			1. 447.2 P. 44. 24.		975 80				415 km 3292	3311133	Mary Breath			instelland		e. Lan		SWAS	
Lubricate and inspect silo diverter valve, verifying smooth operation																				
Silo 1 North diverter valve		_																		
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Inspect screw conveyor drive units and drive belts.																	. [			
SHD-SC-1A - Train 1 Wetbin			100 101 101 101 101 101 101 101 101 101			, 沙漠								_						
SHD-SC-1B - Train 1 Wetbin to pugmill					alia da. Maritan									_						
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SHD-SC-2A - Train 2 Wetbin												·								
SHD-SC-2B - Train 2 Wetbin to Pugmill																				
SHD-SC-2C - Train 2 Settling Chamber to Shaker																				
SHD-SC-2G - Train 2 Crusher to Recycle Bin			9																	
SHD-SC-2H - Train 2 Recycle Bin to Pugmill			707																	
SHD-SC-D - Common shaker to SHD-SS-A								-												

# **City of Largo**

# **Wastewater Treatment Facility**

/Year alimnian	Almory spinites Marin	April May June
SHD-SS-A - Common first incline to silo		
SHD-SS-B - Common second incline to silo		
SHD-SS-4B - Common north / south silo feed.		
Silo to Factory Recycle Bin Screw Conveyor		
New Press to SDB-SC-1A Screw Conveyor		
Inspect belt conveyor drive units and drive belts.		
SDB-SC-1A - Common north / south		
SDB-SC-1B - Press 1 East / West		
SDB-SC-1C - First truck loading		
SDB-SC-1D - Second truck loading		
SDB-SC-2A - Train 2 first conveyor to wetbin		
SDB-SC-2B - Train 2 wetbin feed		
Inspect Pugmill drive chain and sprockets.		
Train 1 Pugmill		
Train 2 Pugmill		
Inspect Airlock drive chain and sprockets		
Train 1 West Cyclone Airlock		
Train 1 East Cyclone Airlock		
Train 1 Shaker Airlock		

# City of Largo

# **Wastewater Treatment Facility**

es : Waala Minibaga	July Averual Campariba.	Ogfobert November: December:
SHD-SS-A - Common first incline to silo		
SHD-SS-B - Common second incline to silo		
SHD-SS-4B - Common north / south silo feed.		
Silo to Factory Recycle Bin Screw Conveyor		
New Press to SDB-SC-1A Screw Conveyor		
Inspect belt conveyor drive units and drive belts.	g. with a contribution	
SDB-SC-1A - Common north / south		
SDB-SC-1B - Press 1 East / West		
SDB-SC-1C - First truck loading		
SDB-SC-1D - Second truck loading		
SDB-SC-2A - Train 2 first conveyor to wetbin		
SDB-SC-2B - Train 2 wetbin feed		
Inspect Pugmill drive chain and sprockets.	\$12.53 pt. 1922 pt. 1922 pt. 1923 pt. 1	The St. Ann. Consideration Library.
Train 1 Pugmili		
Train 2 Pugmill		
Inspect Airlock drive chain and sprockets		্ এক নাম্প্রতি হ'ব প্রতি ক্ষিত্র
Train 1 West Cyclone Airlock		
Train 1 East Cyclone Airlock		
Train 1 Shaker Airlock		

City of Largo	Wastewater Treatment	Facility	PM Schedule
	January Gabruary Marc	h April Ma	វុក្សាក្រុ
Van Vunter			
Train 2 West Cyclone Airlock			
Train 2 Foot Cualana Aidaak			
Train 2 East Cyclone Airlock			
Train 2 Shaker Airlock			
Check crusher roller gap (1/8") and inspect discharge chute for tears or rips.			
Train 1 Crusher			
Tidan i Oldonoi			
Train 2 Crusher			
	[25] [25] [25] [25] [25] [25] [25] [25]		5.00 (\$1.00) (\$1.00)
Quarterly Preventative Maintenance	SIIO &	TruckLoading	
Clean and inspect dust collector fan wheel	A service of miles and the		
Silo 1 Dust Collector			
Silo 2 Dust Collector			
One 2 Bust Conector			
Replace filter cartridges			
Silo 1 Dust Collector			
One i Dagi Gonedoi			
Silo 2 Dust Collector		and the second s	
Inspect dust collector door gaskets, replace if necessary, inspect paint.			
Silo 1 Dust Collector			
Silo 2 Dust Collector			
Inspect sternvent hoses, clamps, baghouse housing for deterioration and corrosion			
Check sternvent compressed air lines, including ollers			
& filters.			
Lubricate bag house fan bearings and shaft seal.			

City of Largo	wastewater i reatment	
*Work(Puinkii)	August Septen	nber Ciclober November December 3 4 6 4 2 3 4 4 2 4 4 2 3
rain 2 West Cyclone Airlock		
rain 2 East Cyclone Airlock		
rain 2 Shaker Airlock		
theck crusher roller gap (1/8") and inspect discharge hute for tears or rips.	72.000	
rain 1 Crusher		
Frain 2 Crusher		
ะสอบสหรับสิวิจงคกศีเรษที่เกิดเกิดเกิดเลย	\$lio (	k-Truek-Loading
Clean and inspect dust collector fan wheel		
Silo 1 Dust Collector		
Silo 2 Dust Collector		
Replace filter cartridges		
Silo 1 Dust Collector		
Silo 2 Dust Collector		
nspect dust collector door gaskets, replace if secessary, inspect paint.	and the second s	
Silo 1 Dust Collector		
Silo 2 Dust Collector		
nspect sterrivent hoses, clamps, baghouse housing or deterioration and corrosion		
Check sternvent compressed air lines, including ollers		
ubricate bag house fan bearings and shaft seal.		

PM Schedule

City of Largo

City of Largo	Wastewater Treatment Facility	P	M Schedule
	Ariman arangary Marsh e e	April: May	्र स्थापातः
Fighten bag house lag bolts			
Inspect dust collector fan for corrosion and material build up			
nspect bag house filter bags, replace if necessary			
nspect baghouse door gaskets, replace if necessary			
nspect baghouse fan drive belt tension using tension check, adjust/replace if necessary.			
Check truck loading spout gearbox oil level, lubricate drive bearings			
nspect and lubricate drive pulleys and lifting cables.			
	Regeneratiye Th	iermal Oxidizer	
nspect RTO fan damper and packing			
Inspect RTO fan impeller and Impeller seal			
Check and torque fan anchor and lag bolts.			
Change RTO fan bearing oil			
North Bearing			
South Bearing			
nspect RTO bypass flow control valve packing (4 /alves)			
Change RTO valve drive reducer oil			
nspect and clean RTO chamber flow control valves (6			
Lubricate RTO flow control drive train bearings			
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**Wastewater Treatment Facility** 

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Tighten bag house lag bolts														>39 }}} }}			,				
Inspect dust collector fan for corrosion and material build up																					
Inspect bag house filter bags, replace if necessary														190 190 190 190							
Inspect baghouse door gaskets, replace if necessary																					
inspect baghouse fan drive beit tension using tension check, adjust/replace if necessary.																					
Check truck loading spout gearbox oil level, lubricate drive bearings				int.						ļ											
Inspect and lubricate drive pulleys and lifting cables.														_							
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Inspect RTO fan damper and packing																					
Inspect RTO fan Impeller and Impeller seal																					
Check and torque fan anchor and lag bolts.																					-
Change RTO fan bearing oil										·											
North Bearing												_									
South Bearing																					
Inspect RTO bypass flow control valve packing (4 Valves)														-							
Change RTO valve drive reducer oil																					
Inspect and clean RTO chamber flow control valves (6 Valves)												-									
Lubricate RTO flow control drive train bearings																					

City of Largo

**Wastewater Treatment Facility** 

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	January	Rebruary	March 4 2 2 4 6	April	May 💖	June
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Lubricate induced draft fan motor bearings until old			PARTICINAL PROPERTY.			
ubricant is purged.						
Turis 4 10 fee						
Train 1 ID fan						
Train 2 ID fan						
Inspect and torque screw conveyor tall shaft bolts, gear reducers and couplings					·	
SHD-SC-1A - Train 1 Wetbin						
SHD-SC-1B - Train 1 Wetbin to pugmill						
SHD-SC-1C - Train 1 Settling Chamber to Shaker						
SHD-SC-1G - Train 1 Crusher to Recycle Bin						
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill						
SHD-SC-2A - Train 2 Wetbin						
SHD-SC-2B - Train 2 Wetbin to Pugmill						
SHD-SC-2C - Train 2 Settling Chamber to Shaker						
SHD-SC-2G - Train 2 Crusher to Recycle Bin						
SHD-SC-2H - Train 2 Recycle Bin to Pugmill						
SHD-SC-D - Common shaker to SHD-SS-A						
SHD-SS-A - Common first incline to silo						
SHD-SS-B - Common second incline to silo						
SHD-SS-4B - Common north / south silo feed.						
Silo to Pelletizer Recycle Bin Screw Conveyor						

City of Largo Wastewater Treatment Facility

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Lubricate induced draft fan motor bearings until old lubricant is purged.																
Train 1 ID fan								i								
Train 2 ID fan																
Inspect and torque screw conveyor tall shaft bolts, gear reducers and couplings																
SHD-SC-1A - Train 1 Wetbin											i i					
SHD-SC-1B - Train 1 Wetbin to pugmill											2					
SHD-SC-1C - Train 1 Settling Chamber to Shaker											. 4 . 5 . 6 . 6					
SHD-SC-1G - Train 1 Crusher to Recycle Bin											9 9 7					
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																
SHD-SC-2A - Train 2 Wetbin				_							: 					
SHD-SC-2B - Train 2 Wetbin to Pugmill					-		<u></u>								,	
SHD-SC-2C - Train 2 Settling Chamber to Shaker																
SHD-SC-2G - Train 2 Crusher to Recycle Bin																
SHD-SC-2H - Train 2 Recycle Bin to Pugmill					<del> </del>						: :		_			
SHD-SC-D - Common shaker to SHD-SS-A		-														
SHD-SS-A - Common first incline to silo											; ;					
SHD-SS-B - Common second incline to silo											4 3 4					
SHD-SS-4B - Common north / south silo feed.											č S					
Silo to Pelletizer Recycle Bin Screw Conveyor																

## **Wastewater Treatment Facility**

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New press to SDB-SC-1A Screw Conveyor																	
Drain, flush and refill screw conveyor gear reducer oil					Side datain a ann	er vita i salit	tro Sugaration										
SHD-SC-1A - Train 1 Wetbin				-													
SHD-SC-1B - Train 1 Wetbin to pugmill								* 6 				_					
SHD-SC-1C - Train 1 Settling Chamber to Shaker								4 4						_	_		
SHD-SC-1G - Train 1 Crusher to Recycle Bin								·				_	<u> </u>				
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill										-						_	
SHD-SC-2A - Train 2 Wetbin						fact in										1.	
SHD-SC-2B - Train 2 Wetbin to Pugmill								.									
SHD-SC-2C - Train 2 Settling Chamber to Shaker								:									
SHD-SC-2G - Train 2 Crusher to Recycle Bin	.												<u> </u>			,	
SHD-SC-2H - Train 2 Recycle Bin to Pugmill																	
SHD-SC-D - Common shaker to SHD-SS-A								# 4 					ļ. <u></u>				-
SHD-SS-A - Common first incline to silo SHD-SS-B - Common second incline to silo																-	
SHD-SS-4B - Common north / south silo feed.																	+
Silo to Pelletizer Recycle Bin Screw Conveyor								7.000									
New press to SDB-SC-1A Screw Conveyor																	
Drain, flush and refill belt conveyor gear reducer oil.	:																,

## **Wastewater Treatment Facility**

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New press to SDB-SC-1A Screw Conveyor		The Control of the Co							
Drain, flush and refill screw conveyor gear reducer oil			Thinks, in a straight in the case is a consequent	oute tours					
SHD-SC-1A - Train 1 Wetbin									
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SHD-SC-1C - Train 1 Settling Chamber to Shaker									
SHD-SC-1G - Train 1 Crusher to Recycle Bin									
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill									
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SHD-SC-2H - Train 2 Recycle Bin to Pugmill									
SHD-SC-D - Common shaker to SHD-SS-A									
SHD-SS-A - Common first incline to silo									
SHD-SS-B - Common second incline to silo									
SHD-SS-4B - Common north / south silo feed.									
Silo to Pelletizer Recycle Bin Screw Conveyor									
New press to SDB-SC-1A Screw Conveyor									
Drain, flush and refill belt conveyor gear reducer oil.									

# **Wastewater Treatment Facility**

Westellumber 4 22	nuary, redrustry March	April Ma	y June
SDB-SC-1A - Common north / south			
SDB-SC-1B - Press 1 East / West			
SDB-SC-1C - First truck loading			
SDB-SC-1D - Second truck loading		The second secon	
SDB-SC-2A - Train 2 first conveyor to wetbin			
SDB-SC-2B - Train 2 wetbin feed			
Change belt press hydraulic oil filter, perform oil analysis			
New Press		· · · · · · · · · · · · · · · · · · ·	
Old Press			
Lubricate press roller support bearings, purge old lubricant from bearings.			
New Press			
Old Press			
Inspect dryer furnace fire brick and burner gas ring.	ASS CALLY OF DAVIS DAVIS DAVIS CALL		
mopost argor farmaco mo smar ana sumor gao teng.	- Library States		
Train 1 Dryer Furnace			
Train 2 Dryer Furnace			
Inspect dryer drum rollers, if excessive wear is evident replace or re-machine.	The state of the s	CALLED TO	
Train 1 Dyer Drum			
Train 2 Dryer Drum			
Check and torque drum base mounting bolts, inspect foundation for cracks.	50.000 77% Mar. (\$\)		

# **Wastewater Treatment Facility**

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SDB-SC-1A - Common north / south			0.774									
SDB-SC-1B - Press 1 East / West												-
SDB-SC-1C - First truck loading												
SDB-SC-1D - Second truck loading												
SDB-SC-2A - Train 2 first conveyor to wetbin			19,249 13,500 14,500									
SDB-SC-2B - Train 2 wetbin feed			3.7									
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New Press												
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Lubricate press roller support bearings, purge old lubricant from bearings.												
New Press												
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Inspect dryer furnace fire brick and burner gas ring.					.   <u> </u>					·		
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Train 2 Dryer Furnace												
Inspect dryer drum rollers, if excessive wear is evident replace or re-machine.												
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Train 2 Dryer Drum				;								
Check and torque drum base mounting bolts, inspect foundation for cracks.	-											

**Wastewater Treatment Facility** 

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Train 2 Dryer Drum																							
Check drum floats freely within flanged rollers.								h duch a															
Train 1 Dryer Drum								1,011															1
Train 2 Dryer Drum																							
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Train 1 Cyclone									,														
Train 2 Cyclone																							
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Train 1Venturi Scrubber																							
Train 2 Venturi Scrubber																							
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guides and seating surfaces.	-	_														 		45-0 <sup>3</sup> (2):2					
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Silo 2 Vacuum Relief Valves		_	_																				_
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# City of Largo

### **Wastewater Treatment Facility**

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Inspect and torque all RTO bolts, checking for corrosion, rust and deterioration.						-																
Inspect RTO chamber insulation																	<u> </u>					
Inspect and check all RTO welds, checking for corrosion, rust and deterioration																						
Leak test RTO gas piping																						
Lubricate RTO exhaust fan motor bearing until old lubricant is purged																						
Inspect RTO chamber ceramic support.																						
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Inspect conveyor flights, shafts, hangar bearings for excessive wear.						e Re		zing	Plan													
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SHD-SC-1G - Train 1 Crusher to Recycle Bin					_			ļ							<b></b>							
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill	.			 				ļ. ———														٠
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SHD-SC-2C - Train 2 Settling Chamber to Shaker					-														_			
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### **Wastewater Treatment Facility**

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## **Wastewater Treatment Facility**

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New Press to SDB-SS-1A															 							
Lubricate screw conveyor motor bearings until old lubricant is purged.												 _			 							
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# **Wastewater Treatment Facility**

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SHD-SC-2C - Train 2 Settling Chamber to Shaker																		
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SHD-SC-2H - Train 2 Recycle Bin to Pugmill		80																
SHD-SC-D - Common shaker to SHD-SS-A																		
SHD-SS-A - Common first incline to silo																		

# City of Largo

## **Wastewater Treatment Facility**

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SHD-SS-4B - Common north / south silo feed.																										
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Lubricate belt conveyor motor bearings until old lubricant is expelled.																										
SDB-SC-1A - Common north / south																			<del></del>							
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Lubricate airlock drive motor bearings until old lubricant is purged.	-																									

## **Wastewater Treatment Facility**

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Lubricate belt conveyor motor bearings until old lubricant is expelled.																										
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Lubricate airlock drive motor bearings until old lubricant is purged.																<u>.</u>				,						

# **City of Largo**

## **Wastewater Treatment Facility**

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Drain, flush and refill dryer drum drive gearbox oil																-	,							
Train 1 Dyer Drum Drive																								
Train 2 Dryer Drum Drive.																		,						
Lubricate dryer drum drive motor until old lubricant is purged.																								
Train 1 Dryer Drum Drive Motor																								
Train 2 Dryer Drum Drive Motor			,																					
Inspect dryer drum interior, and outlet gasket																,				-				

# **City of Largo**

## **Wastewater Treatment Facility**

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Lubricate dryer drum drive motor until old lubricant is purged.																									
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Inspect dryer drum Interior, and outlet gasket														ľ											

City of Largo	Wastewater Treatment Facility

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Train 1 Dryer Drum							-																			
Train 2 Dryer Drum								.											,							
Lubricate combustion blower motor bearings until old lubricant is purged.																										
Train 1 Combustion Blower																										
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Drain, flush and refill crusher gear reducer oil																										
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Inspect spacers for proper size (new .935 worn .785)							·																			
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Addural Preventative Maintenance										ŞIIQ	<b>6</b> T	ruc	(LQ	adin	9											
Inspect all bolts, welds and hoppers for wear, deterioration and corrosion.							."										`									
Silo 1 Dust Collector				-						-													_			
Silo 2 Dust Collector																										
Inspect baghouse bolts, welds, hopper and paint for deterioration and corrosion.																										

**Wastewater Treatment Facility** 

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Lubricate combustion blower motor bearings until old lubricant is purged.																										
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# Department of Environmental Protection

Jeb Bush Governor Southwest District 3804 Coconut Palm Drive Tampa, Florida 33619

David B. Struhs Secretary

November 4, 2003

CERTIFIED MAIL

Mr. Joseph V. Carlini Treatment Plant Manager City of Largo - WWTP 5100 150<sup>th</sup> Avenue North Clearwater, FL 33760 RECEIVED

NOV 06 2003

BUREAU OF AIR REGULATION

Re: Title V Air Operation Permit Renewal Application dated September 9, 2003

Current Permit: 1030060-002-AV

FDEP File Project No.: 1030060-009-AV

Dear Mr. Carlini:

On September 12, 2003, the Department received your Title V air operation permit renewal application dated September 9, 2003, regarding your sewage treatment facility located at 5100 150<sup>th</sup> Avenue North, Largo, Pinellas County. In order to continue processing the application, the Department will need the below additional information pursuant to Rules 62-4.055, 62-4.070(1), and 62-213.420(1)(b), F.A.C.

Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

- 1. Is the name of your facility the "City of Largo", "City of Largo WWTP", "City of Largo WWTP" or "Largo City Sewage Plant"?
- 2. Attachment B Process Flow Diagram in the Facility Supplemental Information section of the application shows material from the "grinder (crusher)" going to "screen" whereas permit 1030060-002-AV states material from the crusher is redirected to the dried solids recycle bin. Note, Attachment 1A shows "Product" from the screen can also go to the crusher. Which description is correct and resubmit the diagrams, if appropriate?
- 3. Attachment B Process Flow Diagram in the Facility Supplemental Information section of the application shows the "product" going to either of the 2 silos or joining the fines, which go to the dried solids recycle bin. Can the product

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simultaneously go to a silo and the dried solids recycle bin? Note, permit 1030060-002-AV states the product just goes to the 2 silos. Can the product only go to 1 silo at a time?

- 4. Should Attachment B Process Flow Diagram in the Facility Supplemental Information section of the application also show emissions from the Fugitive Dust System (screens, grinder, etc.) going to the cyclone?
- 5. Explain why Attachment B Process Flow Diagram in the Facility Supplemental Information section of the application shows a Truck Unloading Station?
- 6. Page 15 of the application shows the cyclone's model number as "MS-520" whereas Condition No. 18 a. of permit 1030060-002-AV shows the model number as "XQ Series XQ340-27 Dual Cyclones". Explain this difference.
- 7. Regarding No. 2 (bottom) on page 33 of the application for the allowable pollutants "Particulate" and "Volatile Organic Compounds (VOC)", please provide the following:
  - A. A Compliance Assurance Monitoring (CAM) non-applicability determination to justify your claim that CAM is "Not Applicable" for each pollutant (Particulate and VOC). Your determination should include emission factors and the rationale used.
  - B. If you can't justify that CAM does not apply, provide a complete CAM plan that identifies the indicators that will be monitored, the acceptable indicator ranges, and test data to justify the indicators/ranges. For your information, please follow the CAM format examples in Appendix A of the Technical Guidance Document found at the U.S. EPA's web page <a href="http://www.epa.gov/ttn/emc/cam.html">http://www.epa.gov/ttn/emc/cam.html</a>; they may be of help to you. Additionally, please also provide the CAM plans as an electronic copy in M.S. WORD format.

{Note: Information on pages 21 and 22 of the application indicates the uncontrolled particulate emissions would be greater than 100 tons/yr. Also, page 24 of the application indicates uncontrolled VOC emissions would be 180 tons/yr. When the original construction permit for the 2 dryers/1 afterburner was issued, Pinellas County was classified as non-attainment for ozone. Thus, VOC emission greater than 100 tons/yr. would have triggered "New Source Review".]

8. Should No. 1 on page 24 of the application show ESCNAA vs ESCTV?

- 9. No. 6 on page 32 of the application states the dryers were tested on July 15, 2003. Condition A.7. of permit 1030060-002-AV states the dryers are to be tested for odors and visible emissions annually on, or during the 60 day period prior to the date of May 12. Were these tests conducted late? If yes, explain why.
- In accordance with stipulations of Condition No. A.8. of permit 1030060-002-AV, submit the appropriate emission test results for particulates, visible emissions, mercury, and odor.
- 11. Regarding the 2<sup>nd</sup> page of Attachment 1A of the application, explain why fuel oil and wood chips are shown when permit 1030060-002-AV only allows natural gas.
- 12. Re-submit pages 57 and 58 of the application when using 450 dscfm, since information submitted for construction permit AC52-172854 reduced the airflow to 150 450 dscfm. Thus, the Operation and Maintenance (O&M) Plan should be updated (corrected) and resubmitted with this new information (450 dscfm) to match the O&M Plan attached to permit AC52-172854.
- 13. In accordance with stipulations of Condition No. C.5. of permit 1030060-002-AV, submit the visible emission test report for each silo.
- 14. No. 6 on page 62 of the application states the silos were tested on July 15, 2003. Explain why this date is shown since Condition C.5. of permit 1030060-002-AV requires the silos to be tested for visible emissions during the 180 day period prior to the expiration date of permit 1030060-002-AV.
- 15. Regarding No. 5 on page 69 of the application, should 224,256 be 226,008 (25.8 x 8760)?
- 16. No. 6 on page 74 of the application states the truck loading station's baghouse was tested on July 15, 2003. Condition C.4. of permit 1030060-002-AV states the baghouse is to be tested for visible emissions annually on, or during the 60 day period prior to the date of April 1. Was this test conducted late? If yes, explain why.
- 17. The O&M Plans for Emission Unit Nos. 001, 003, 005, and 006 will need to be updated to comply with Pinellas County Code Subsection 58-158. The plans and logs need to have the acceptable parameters included. In order to respond to this request, please contact Mr. Gary Robbins of the Pinellas County Department of Environmental Management (PCDEM) at 727-464-4657 for further assistance.

18. Please explain why the waste water treatment plant should not be shown as an emission unit, in and of itself, and subject to 40 CFR 63, Subpart VVV – Publicly Owned Treatment Works. Should the plant be classified as a regulated emission unit, unregulated emission unit, or an insignificant emission unit?

Responsible Official (R.O.) Certification Statement: Rule 62-213.420, F.A.C. requires that all Title V permit applications must be certified by a responsible official. Due to the nature of the information requested above, your response should be certified by the responsible official. Please complete and submit a new R.O. certification statement page from the application form, DEP Form No. 62-210.900(1), effective June 16, 2003.

<u>Professional Engineer (P.E.) Certification Statement:</u> Rule 62-4.050(3), F.A.C. requires that all applications of this type for a Department permit must be certified by a professional engineer registered in the State of Florida. As a result, the information above should be certified by a professional engineer registered in the State of Florida. Please complete and submit a new P.E. certification statement page from the application form, DEP Form No. 62-210.900(1), effective June 16, 2003.

Your response should be submitted with the emission test reports required in Nos. 10 and 13 above, unless you (the applicant) request additional time under Rule 62-213.420(1)(b)6., F.A.C. A copy of your response should also be submitted to Mr. Gary Robbins of the PCDEM.

If you should have any questions, please call me at (813)744-6100 extension 106.

Sincerely,

James L. McDonald.

James L McCorold

Air Permitting Engineer

copy to: Mr. Gary Robbins - PCDEM

Mr. Jonathan Holtom, P.E. - DARM, FDEP, Tallahassee

Mr. Kenneth E. Given, P.E. Air Testing & Consultants, Inc. 333 Falkenburg Road North, Unit B-214 Tampa, FL 33619