



# Monthly Operating Report

March 2018

0217327.00

So. Sangamon

April 17, 2018

**woodardcurran.com**  
COMMITMENT & INTEGRITY DRIVE RESULTS

# TABLE OF CONTENTS



SECTION	PAGE NO.
<b>Executive Summary.....</b>	<b>ES-1</b>
<b>1. SAFETY .....</b>	<b>1-1</b>
1.1 Safety Training .....	1-1
1.2 Lost time Accidents .....	1-1
1.3 Safety Audit .....	1-1
1.4 Miscellaneous Safety.....	1-1
<b>2. COMPLIANCE, FLOWS AND LOADINGS .....</b>	<b>2-2</b>
2.1 Compliance .....	2-2
2.2 Influent flows and loadings .....	2-2
2.3 Effluent Concentrations .....	2-2
2.4 Lagoon Discharge Concentrations .....	2-3
<b>3. OPERATIONS.....</b>	<b>3-1</b>
3.1 Events impacting operations .....	3-1
3.2 Emergency & Service calls .....	3-3
3.3 Emergency Call-outs .....	3-3
3.4 Customer Inquiries .....	3-5
<b>4. MAINTENANCE AND REPAIR.....</b>	<b>4-6</b>
4.1 Preventative and predictive maintenance.....	4-6
4.2 Corrective repairs .....	4-6
<b>5. PROJECT MANAGEMENT &amp; SUPPORT .....</b>	<b>5-1</b>
5.1 Staffing & Training.....	5-1
5.2 Corporate Support.....	5-1
5.3 Budget .....	5-2
<b>6. CAPITAL PLANNING .....</b>	<b>6-1</b>
6.1 Approved CIP Projects Current status.....	6-1
6.2 Draft Capital Improvement Plan .....	6-1

## LIST OF TABLES

TABLE	PAGE NO.
Table 2.2 Influent Concentrations and Flow.....	2-2
Table 2.3 Finished Water Quality.....	2-2
Table 2.4 Weekly Grab Sample Analysis Results.....	2-3
Table 4.1 Budget Table.....	5-2

## EXECUTIVE SUMMARY

**Safety.** Safety is the number one priority at Woodard and Curran. We continue to provide monthly training for operations staff at the plant, provide weekly safety updates and safety videos are assigned to all employees. The safety topic for this month was “Flammable and Combustible Liquids”. There were no lost time accidents in the month of March 2018. 100 percent of the items identified in the combined list of safety items have been completed.

**Compliance.** The finished water quality was within regulatory limits and all reporting and sampling requirements were met for the month. A copy of the Operations Report submitted to the Illinois Environmental Protection Agency is available at [www.sswc.us](http://www.sswc.us).

During the month of March 2018, the plant pumped 36.060 million gallons from the well field and 28.218 million gallons of finished water. For the period of May 2017 through March 2018, the plant has pumped 1,216,015 more gallons of water then during the same period one year ago.

The SSWC plant remains on Critical Review status. Systems on Critical Review will be evaluated for sufficient capacity before issuance of water main extension permits.

The SSWC is required to produce a Consumer Confidence Report on an annual basis which must be distributed to all customers and any entity to purchases water from SSWC. A draft of this report has been completed and submitted to the Chairman of the SSWC for review and approval.

**Operations.** There was 2 emergency call-outs for the month. There were 3 customer inquiries for the month.

**Maintenance and Repair.** For the month of March 2018, there were 13 inspections, 13 preventative and 0 corrective maintenance activities completed.

**Budget.** Through March 30, 2018, we are \$1,731 under budget for the fiscal year. Plant Operations staff anticipate the project to be over budget by approximately \$22,000 for the fiscal year.

**Capital Planning.** The Capital Improvement Plan (CIP) is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years. The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified.

Woodard and Curran is working with Mecor Engineering to update and prioritize the Capital Improvement Plan. A draft of the 2018-2019 report has been given to Mecor Engineering for review and comment.

## **1. SAFETY**

### **1.1 SAFETY TRAINING**

Woodard and Curran continues to provide safety training for personnel at the plant. This is accomplished by requiring daily safety meetings, weekly safety updates are available to the plant, and safety videos are assigned to all employees and are required to be completed. The March 2018 safety training topic was “Flammable and Combustible Liquids”.

### **1.2 LOST TIME ACCIDENTS**

There were 0 lost time accidents in the month of March 2018.

### **1.3 SAFETY AUDIT**

Since Woodard and Curran assumed operational responsibility for the SSWC plant, two safety audits have been completed. The first audit was conducted in May 2015 and identified 89 items needing to be addressed. Approximately 86 percent of those items identified had been addressed when a second audit occurred in November 2016.

The finding for these two audits were combined to produce a list of 40 items needing to be addressed. As of November 30, 2017, 100 percent of the items have been addressed.

### **1.4 MISCELLANEOUS SAFETY**

There were no Miscellaneous Safety items for the month.

## 2. COMPLIANCE, FLOWS AND LOADINGS

### 2.1 COMPLIANCE

The finished water quality was within regulatory limits and all reporting and sampling requirements were met for March. A copy of the Operations Report to the Illinois Environmental Protection Agency (IEPA) is available on the SSWC website.

### 2.2 INFLUENT FLOWS AND LOADINGS

The total gallons pumped from the well field was 36.060 MG. The influent parameters were all within the normal range.

The influent flow and loadings are summarized below in Table 2.2

Table 2.2 Influent Concentrations and Flow								
	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Well Flow Gals (k)
Max.	7.64	14.8	1.18	0.240	-	362	294	1.448
Min.	7.26	12.8	0.41	0.181	-	310	268	0.981
Avg.	7.43	13.5	0.62	0.204	-	353	283	1.163
Total	-	-	-	-	-	-	-	36.060

### 2.3 EFFLUENT CONCENTRATIONS

The facility filtered 32.693 MG during the month with a daily average of 1.055 MG and a min/max of 0.907/1.315 MG.

Table 2.3 Finished Water Quality										
	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	1.3	1.4	8.09	14.3	0.03	0.019	0.98	170	290	1.41
Min.	1.0	1.2	7.63	12.9	0.00	0.000	0.42	100	250	0.86
Avg.	1.2	1.3	7.86	13.6	0.01	0.010	0.83	108	272	1.10
MCL	-	-	-	-	1.00	-	4.00	-	-	-
SMCL	-	-	-	-	0.30	0.050	2.00	-	-	-

### Finished Water Flow Comparison for FY 2018

Time Period	2017-2018	2016-2017	2015-2016
May – March	368,380,033	367,164,018	373,786,332
Increase for the same period last year		1,216,015	

FINISHED WATER PUMPING HISTORY						
	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013
May	32,301,672	33,248,127	33,376,051	37,669,726	31,157,411	29,592,356
June	39,931,402	<b>41,541,321</b>	31,092,539	38,462,951	36,530,691	47,120,577
July	<b>42,164,927</b>	35,378,396	33,123,375	<b>38,674,894</b>	40,908,704	<b>57,780,876</b>
August	38,760,634	35,401,490	<b>38,109,033</b>	33,748,543	<b>42,999,243</b>	42,398,528
September	39,896,986	36,325,215	36,546,171	29,763,075	37,597,085	32,510,603
October	33,506,605	34,374,820	34,783,455	28,803,052	33,916,594	30,278,765
November	28,617,333	30,478,309	27,217,293	28,426,579	31,615,459	27,114,479
December	28,808,037	32,525,530	27,788,637	28,656,869	32,697,551	29,014,035
January	30,556,824	30,449,215	28,510,121	30,346,721	32,499,427	28,007,432
February	25,617,914	27,373,232	26,095,228	26,336,077	28,745,378	25,763,807
March	28,217,699	30,068,363	27,851,811	28,729,919	31,217,486	28,130,190
April		29,625,797	29,292,618	29,270,184	31,690,073	27,991,597
	-----	-----	-----	-----	-----	-----
Totals	368,380,033	396,789,815	373,786,332	378,888,590	411,575,102	405,703,245
Average		1,087,095	1,022,702	1,038,051	1,127,603	1,111,516
Maximum		2,061,098	2,177,926	1,837,344	2,010,587	2,546,901
Minimum		275,315	-	349,690	363,767	142,411

## 2.4 LAGOON DISCHARGE CONCENTRATIONS

The results for the NPDES lagoon discharge permit are summarized below.

Table 2.4 Weekly Grab Sample Analysis Results

Lagoon Effluent Results						
Date	Fe (mg/l)	Mn (mg/l)	Chloride (mg/l)	Cl <sup>2</sup> (mg/l)	pH (S.U.)	TSS (mg/l)
03/12/2018	0.510	0.408	216	0.0	7.84	0
Minimum						
Maximum						
Average						
<b>Monthly Avg Limit</b>	<b>2.000</b>	<b>1.000</b>				<b>15</b>
<b>Daily Limit</b>	<b>4.000</b>	<b>2.000</b>	<b>500</b>	<b>0.05</b>	<b>6.0-9.0</b>	<b>30</b>

The Chloride sample for the month of March 2018, performed by the Springfield Metropolitan Sanitary District, was 13,800 mg/L. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

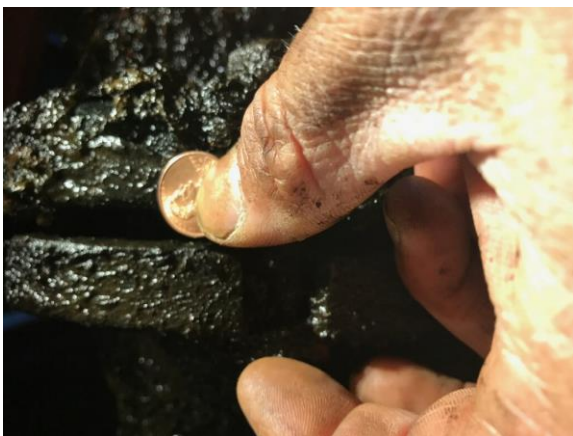


### 3. OPERATIONS

#### 3.1 EVENTS IMPACTING OPERATIONS

**Lagoon Effluent Pump Station.** On Wednesday, March 14, 2018, Henson Robinson was on site to work on the Lagoon Effluent Pump Station. As you may recall, Pump #2 failed on December 11, 2017. A new pump was purchased and installed on March 14. Once the pump was installed, it was tested and follow issues were discovered:

1. Piping connected to the pump is leaking. Pictured below you can see water spraying from the pipe with the pump running. The two smaller pictures on the bottom of the page are close-ups of the leaking joint.





2. The Check Valves for the Lagoon Effluent Pump Station are not functioning correctly. We were able to get the valves working correctly. However, a vacuum breaker needs to be installed down-stream. This will stop water from backflowing into the pumps and cause them to start and run unnecessarily.



We are working with Henson Robinson on a date to return in the near future to power wash the piping near the new pump to determine if the pump was installed correctly and what will need to be done in order to fix the leak. The installation of the vacuum breaker is also anticipated to be completed at approximately the same time.

## 3.2 EMERGENCY & SERVICE CALLS

### Service Calls:

- **Replacement of check valves and leaks on the CIP skid.** Henson Robinson was on-site March 23, 2018 to fix leaks on the CIP skid. New check valves, that were in stock, were installed and leaks were repaired. Pictured below are the chemical lines after repairs were completed.



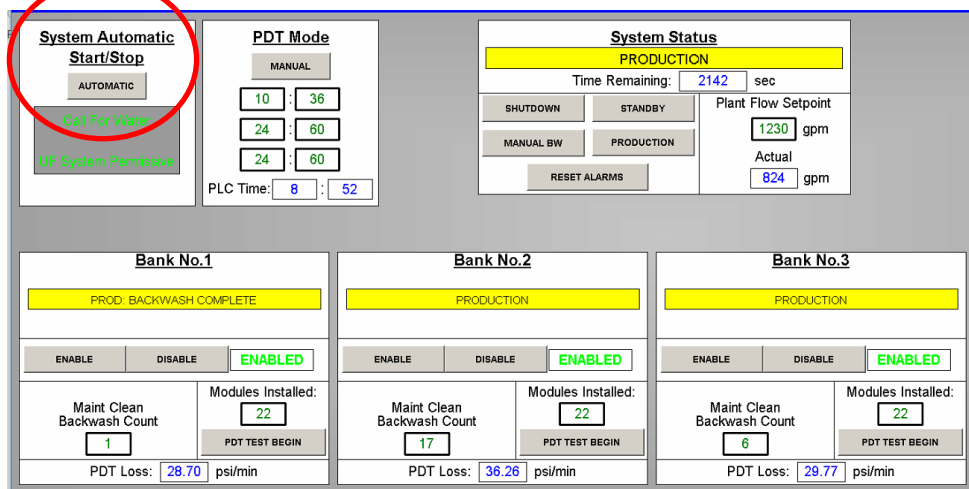
- **Repair Leak at 2113 New City Road.** While on-site March 23, 2018, Henson Robinson was on-site to repair a leak on the distribution line at 2113 New City Road.

## 3.3 EMERGENCY CALL-OUTS

There was 2 emergency call-outs for the month requiring operational personnel at the plant after normal business hours.

- **WesTech Filters.** Plant Operations staff received a “Clear Well High High level” alarm at approximately 3:00 am on March 10, 2018. After logging into the system we found the Clear Well was at 14 feet. We assumed the plant was in Production mode. We put the WesTech filters in Standby mode and the filters shut down. We checked it periodically and the plant was not running, and the Clear Well level was coming down. At 5:30 am the filters still weren’t running, and the filters should have been. At 6:15 am the Clear Well was at 11-foot, so a call was placed to the SCADA Controls Group. Plant Operations staff arrived at the plant around 7:15 a.m. to investigate. The following was discovered.

Found the WesTech Filters were in Manual instead of Automatic.



**System Automatic Start/Stop**

AUTOMATIC

Call For Water

UF System Permissive

**PDT Mode**

MANUAL

10 : 36

24 : 60

24 : 60

PLC Time: 8 : 52

**System Status**

PRODUCTION

Time Remaining: 2142 sec

SHUTDOWN STANDBY

MANUAL BW PRODUCTION

RESET ALARMS

Plant Flow Setpoint: 1230 gpm

Actual: 824 gpm

**Bank No.1**

PROD. BACKWASH COMPLETE

ENABLE DISABLE **ENABLED**

Maint Clean Backwash Count: 1

Modules Installed: 22

PDT TEST BEGIN

PDT Loss: 28.70 psi/min

**Bank No.2**

PRODUCTION

ENABLE DISABLE **ENABLED**

Maint Clean Backwash Count: 17

Modules Installed: 22

PDT TEST BEGIN

PDT Loss: 36.26 psi/min

**Bank No.3**

PRODUCTION

ENABLE DISABLE **ENABLED**

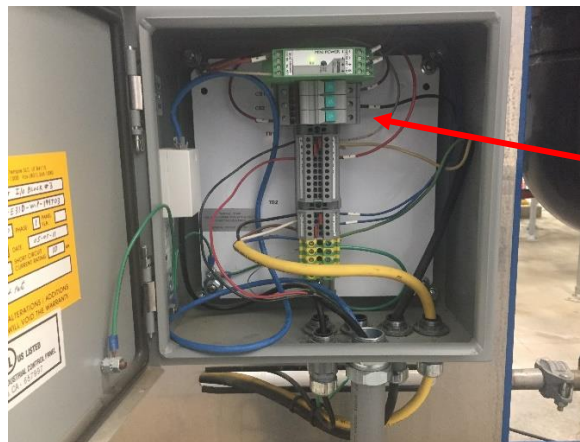
Maint Clean Backwash Count: 6

Modules Installed: 22

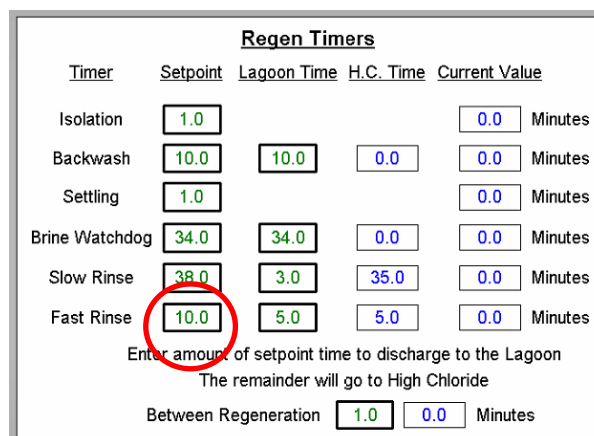
PDT TEST BEGIN

PDT Loss: 29.77 psi/min

The bottom breaker on each of the skids popped in the junction box on the skid.



The fast rinse timer on the softeners were set at zero instead of 10 minutes.



**Regen Timers**

Timer	Setpoint	Lagoon Time	H.C. Time	Current Value	Minutes
Isolation	1.0			0.0	Minutes
Backwash	10.0	10.0	0.0	0.0	Minutes
Settling	1.0			0.0	Minutes
Brine Watchdog	34.0	34.0	0.0	0.0	Minutes
Slow Rinse	38.0	3.0	35.0	0.0	Minutes
Fast Rinse	10.0	5.0	5.0	0.0	Minutes

Enter amount of setpoint time to discharge to the Lagoon  
The remainder will go to High Chloride

Between Regeneration 1.0 0.0 Minutes

Woodard and Curran Controls Group are looking into when these changes took place and who made them.

- **WesTech Pre-Filter Pressure High.** Plant Operations staff were at the plant on Friday, March 30, 2018 to clean the Pre-Filter on Bank #3. This work requires a train to be removed from service, the components cleaned with Citric Acid, reassembled and then reinstalled in the filter.

### 3.4 CUSTOMER INQUIRIES

There were 3 customer inquiries for the month of March:

1. Laura VanProyen requested help with location of a meter at 1720 Cardinal Hill Road.
2. Shane Hill called and informed Woodard and Curran there was a leak at 2113 New City Road.
3. Mr. Dennis Turpin called on behalf of the Wabash Valley Water Commission with questions regarding the commission process.

## 4. MAINTENANCE AND REPAIR

### 4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of March 2018, there were 13 inspections, 13 preventative and 0 corrective maintenance activity completed.

### 4.2 CORRECTIVE REPAIRS

No corrective repairs were completed this month.

### OTHER WORK PERFORMED

Plant Operations staff have constructed storage shelving for the plant. Pictured below is the shelving located on the east side of the plant.



## 5. PROJECT MANAGEMENT & SUPPORT

### 5.1 STAFFING & TRAINING

- Woodard and Curran continues to train and provide staffing to the plant as needed. With the resignation of Mr. Keith Sommers, Mr. Stephen Bivin is filling in on a temporary basis.
- Mr. Kevin Canham started with Woodard and Curran on April 2, 2018. Kevin has previous experience with Industrial treatment and is assigned to the South Sangamon plant.
- Dan Held participated in the Midwest Projects Conference Call with other area Project Managers on March 7, 2018.

### 5.2 CORPORATE SUPPORT

The following individuals, either on-site or remotely, provided assistance in operation and/or maintenance of the plant during the month.

- |                 |                     |
|-----------------|---------------------|
| • Marc Thomas   | • Stephanie Crowell |
| • Jackie Smith  | • Shannon Eyler     |
| • Ray Giguere   | • Wendy Foreman     |
| • Stephen Bivin | • Chip Ridlon       |
| • Tim Hasara    | • Greg Frieden      |
| • Brian Ravens  | • Liz Robinson      |
| • Celina Bland  |                     |



### 5.3 BUDGET

Table 5.3 below is a breakdown of the current budget as of March 30, 2018.

**Table 5.3 Budget Table**

<b>Budget Category</b>	<b>Month Budget</b>	<b>Month Actual</b>	<b>YTD Budget</b>	<b>YTD Actual</b>	<b>Annual Budget</b>	<b>Over (under)</b>	<b>% of budget</b>
Labor (D.L. + OH)	\$24,213	\$27,938	\$266,338	\$239,259	\$290,551	(\$27,079)	82%
Utilities	\$8,150	\$8,150	\$89,650	\$89,938	\$97,800	\$288	92%
Chemicals	\$14,583	\$14,583	\$160,417	\$183,138	\$175,000	\$22,721	105%
Maintenance & Repair	\$9,102	\$9,102	\$100,123	\$122,357	\$109,225	\$22,234	112%
Chloride	\$13,522	\$13,522	\$148,738	\$130,514	\$162,260	(\$18,224)	80%
Lab Supplies and Equipment	\$1,882	\$1,882	\$20,702	\$16,881	\$22,584	(\$3,821)	75%
Office Supplies	\$216	\$216	\$2,371	\$3,840	\$2,586	\$1,470	148%
Miscellaneous Expenses	\$1,141	\$1,141	\$12,554	\$12,588	\$13,695	\$34	92%
Other Operating Costs	\$1,398	\$1,398	\$15,378	\$16,182	\$16,776	\$804	96%
<b>Subtotal of Costs for Contract Year 3</b>	<b>\$74,206</b>	<b>\$77,932</b>	<b>\$816,271</b>	<b>\$814,697</b>	<b>\$890,477</b>	<b>(\$1,573)</b>	<b>91%</b>
Fixed Fee for Contract Year 3	\$7,421	\$8,161	\$81,627	\$81,470	\$89,048	(\$158)	91%
<b>Year One Transition</b>	<b>\$1,366</b>	<b>\$1,366</b>	<b>\$15,023</b>	<b>\$15,023</b>	<b>\$16,389</b>	<b>\$0</b>	<b>92%</b>
<b>Total</b>	<b>\$82,993</b>	<b>\$87,458</b>	<b>\$912,921</b>	<b>\$911,190</b>	<b>\$995,914</b>	<b>(\$1,731)</b>	<b>91%</b>

<b>ESTIMATED PROJECTIONS FOR MAJOR EXPENSES</b>				
<b>Category</b>	<b>2017-2018 Budget</b>	<b>Through 3/30</b>	<b>Needed/April</b>	<b>Difference</b>
<b>Labor</b>	290,551	239,259	21,000	(30,000)
<b>Utilities</b>	97,800	89,938	16,603	8,741
<b>Chemicals</b>	175,000	183,138	8,416	16,553
<b>Maint. &amp; Repair</b>	109,225	122,357	22,380	35,512
<b>Sludge</b>	162,260	130,514	24,778	(6,967)
<b>Other Categories</b>				(1,513)
<b>Totals</b>	<b>834,836</b>	<b>765,206</b>	<b>93,177</b>	<b>22,034</b>

## **6. CAPITAL PLANNING**

### **6.1 APPROVED CIP PROJECTS CURRENT STATUS**

No new information is available.

### **6.2 DRAFT CAPITAL IMPROVEMENT PLAN**

The CIP is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years. The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified.

A draft Capital Plan is being reviewed now and should be finished in the near future.





MONTHLY IRON REMOVAL AND ION EXCHANGE SOFTENING REPC  
ON  
South Sananton Water Commission

Page 2 of 2

Woodard & Curran  
April 17, 2018