







# WOODARDCUITAN.COM

Monthly Operating Report

**AUGUST 2018** 

0217327.00 So. Sangamon <u>September 2</u>6, 2018

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# 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 "Incident Reporting and Evaluation". There were no lost time accidents in the month of August2018. 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.

During the month of August2018, the plant pumped52.453million gallons from the well field and 41.178 million gallons of finished water. For the period of September2017 through August 2018, the plant has pumped 11.224 Million gallons less gallons of water then during the same period one year ago.

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

**Operations.** There was 8emergency call-outs for the month. There were 0 customer inquiries for the month.

Maintenance and Repair.For the month of August2018, there were 10inspections, 4preventative and 14corrective maintenance activities completed.

**Budget.** The final cost information will be provided when the expenses are finalized.

**Capital Planning.**Woodard and Curran is working with MECO Engineering to update and prioritize the 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.



## 1. SAFETY

#### 1.1 SAFETY TRAINING

Woodard and Curran continue 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.

#### **1.2 LOST TIME ACCIDENTS**

There were 0 lost time accidents in the month of August2018.

#### 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.

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 August. 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 was52.453MG. The influent parameters were all within the normal range.

		Tab	le 2.2 Infl	uent Conce	entrations a	and Flow		
	рН	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Well Flow Gals (mgd).
Max.	7.90	16.9	1.6	.3	-	380	286	1.893
Min.	7.20	14.2	.50	.2	-	350	270	1.234
Avg.	7.40	14.9	1.0	0.250	-	358.3	280	1.692
Total	-	-	-	-	-	-	-	47.0

The influent flow and loadings are summarized below in Table 2.2

#### 2.3 EFFLUENT CONCENTRATIONS

The facility filtered 47.769MG during the month with a daily average of 1.541 MG and a min/max 1.163/1.719 MG.

				Table	2.3 Fir	nished Wat	er Qualit	у		
	Free CL2	Total CL2	рН	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	1.7	1.9	8.40	15.8	.0.00	0.024	1.3	180	370	1.5
Min.	1.2	1.4	7.04	14.3	0.00	0.006	0.6	110	206	.6
Avg.	1.5	1.8	7.50	15.2	0.00	0.015	0.8	128	282	1.28
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
September-August	386,031,132	404,198,317	383,755,982
Increase for the same pe	eriod last year	-18.167 MG	



		FINISHED W	ATER PUMPI	NG HISTORY		
	2017-2018	2016-2017	2015-2016	2014-2015	2013-2014	2012-2013
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	27,110,578	29,625,797	29,292,618	29,270,184	31,690,073	27,991,597
May	33,304,196	32,120,873	33,349,391	33,371,016	31,157,411	29,592,356
June	34,040,000	39,931,402	41,541,321	31,092,539	38,462,951	36,530,691
July	41,178,722	42,164,927	35,378,396	33,123,375	38,674,894	40,908,704
August	35,176,238	38,760,634	35,401,490	38,109,133	33,748,543	42,999,243
Totals	386,031,132	404,198,317	383,755,932	366,028,539	402,022,852	378,841,902
Average	1,123,654	1,098,190	1,058,804	1,007,794	1,154,319	1,036,277
Maximum	2,220,362	2,061,098	2,177,926	1,837,344	2,010,587	2,546,901
Minimum	423,165	275,315	-	349,690	363,767	142,411

#### 2.4 LAGOON DISCHARGE CONCENTRATIONS

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

	L	_agoon Eff	luent Results	i		
Date	Fe (mg/l)	Mn (mg/l)	Chloride (mg/l)	Cl² (mg/l)	pH (S.U.)	TSS (mg/l)
						0
Minimum		.4	unknown			unknown
Maximum		.4	unknown			unknown
Average						
Monthly Avg Limit	2.000	1.000				15
Daily Limit	4.000	2.000	500	0.05	6.0-9.0	30

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





# 3. OPERATIONS

#### 3.1 EVENTS IMPACTING OPERATIONS

PLANT SHUTDOWN - During the month of Augustthe plant had a power surge that knocked out the SCADA system and caused the plant to shut down. In turn the high service pumps drained the clearwell and caused the system pressure to drop below acceptable EPA limits. On August 17<sup>th</sup> a boil order was issued, per EPA requirements, on August 18<sup>th</sup>, after receiving a negative coliform sample, the boil order was lifted.

#### 3.2 EMERGENCY & SERVICE CALLS

#### **Service Calls:**

• There were no emergency call outs for the month.

#### 3.3 EMERGENCY CALL-OUTS

There was 5 emergency call-out for the month requiring operational personnel at the plant after normal business hours

#### 3.4 CUSTOMER INQUIRIES

There was 0 customer inquires for the month.

#### OTHER WORK PERFORMED

On August 7<sup>th</sup> compressor number 2 went down. Called HTE to do a service call. Was told to replace thermostat. Ordered and replaced thermostat. This did not fix the problem. While waiting for the service appointment, compressor number 2 went down. Had to make an emergency call to have them fixed.

Lagoon effluent pump 1 clogged. Called Henson Robinson to repair. Vacuumed out the pit, cleared pump 1 and repaired pump 2 that had been taken out of service the beginning of the year.





Drained and inspected East lagoon.

On August 24<sup>th</sup> a new UPS unit was installed in the Westech main panel in hopes of stopping surge-based shutdowns.

Due to the plant shutdown and SCADA failure HSP #3 damaged a seal. Pump 3 has been taken out of service and dismantled to perform diagnostics and repairs.

The week of August 20<sup>th</sup> new logic was written into the SCADA to prevent the HSPs from running dry and being damaged if a surge-based outage should occur again.

Repairs to the ExMark mower.







# 4. MAINTENANCE AND REPAIR

#### 4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of August2018, there were 10inspections, 5preventative and 7 corrective maintenance activity completed.

#### 4.2 CORRECTIVE REPAIR

**Lagoon effluent pump-** At the beginning of the year lagoon effluent pump #2 was taken out of service due to a malfunctioning flange and seal. This month there was an issue with the pump rate of pump #1. Henson Robinson was called and upon inspection found that pump #1 had sucked up a turtle and the shell was impeding the flow, but while in the pit,the repairs that pump #2 and we returned it back to service

SCADA ISSUES – There have been multiple issues with the SCADA programming that has been trouble shot by SCADASERV.



# 5. PROJECT MANAGEMENT & SUPPORT

#### 5.1 STAFFING & TRAINING

• Woodard and Curran continue to train and provide staffing to the plant as needed. With Stephen Bivin providing training and support to Operator in Training Kevin Canham

#### 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
- Kevin Canham
- Ray Giguere

- Greg Frieden
- David Kraus

• Stephen Bivin



#### 5.3 BUDGET

Table 5.3 is not available. Please note that final numbers will be available once all expenses are processed.

Table 5.3 Budget Table



# 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.

The most recent Capital List was included in the Year 2 Annual Report.

	<ul> <li>Solution Fed</li> <li>Solution Fed</li> <li>Solution Fed</li> <li>ate Solution F</li> <li>Permanganat</li> </ul>	NC NON	1.5	0.4	1.8	47.0	370	1.599	1,637	1.437	1.436	1,334	1,493	1 373	8.1C.1	1,093	0.9/3	0.421	1.538	1.668	1.763	1.100	1.682	1,625	1.583	1.446	1.569	1./38	1.643	1,573	1.629	1.621	1,584	(M gal)	Well	Total	
	Solution Fed Solution Fed Solution Fed Its Solution Fed Permanganate Fed	3	1.4	0.0	1.6	42.5	1228	1,454	1.506	1.306	1.301	1.226	1.369	1.308	1,453	1.554	0.812	0.000	1,525	1.525	1.5/5	1.597	1,524	1,480	1.421	1 285	1.568	1.590	1.495	1.423	1.467	1.472	1.450	(M gal)	Filtered	Callor	Pumping
	ed		1.2	0.2	1.4	36.7	1,000	1.162	1.341	1,149	1.124	1.021	1.163	1.120	1.133	1.406	0.789	0.180	1.325	1.280	1.416	1.374	1.329	1.303	1.260	1 104	+	+-	1.324	1,196	-		1.273	-	d Treated		Tota
	I certify that t and accurate Reported by Bacterials Se Date:		0.0	0.0	0.0	0.3	1000	0.007	0.013	0.005	0.012	0.005	0.016			-	0.00	_	_	0.024	_					0.014		_	-	200	100	_	3 0.013		ed Water	-	Is
	I certify that the and accurate to Reported by Bacterials Sent Date:		7.4	7.2	7.9	1001	1.92	7.32	7.33		-	-	7.93	-	-	+-	-			4	1 7.38	+	0 7.25			c7.1 4	-	+	8 7.43	3 7.57		-	3 7.30	-	er pH	Г	N OF PO
	informa the bes		14.9	14.2	16.9	1.1.1	14.5	14.8	15.0	15.0	15.0	15.0	15.3	+	+	15,0	14.9			15.2	+	-		-	14.7	+	+	+	14.6	-	-	+	14.4	-	Temp	1	JBLIC M
	I verify that the information in this report is complete and accurate to the best of my knowledge Reported by Cent or Req Bacterials Sent: Date:		279.5	270.0	286.0	200	286	280	282	270	274	280	276	+-		-			-	276	+	-	-	+	286	+	+	282	282		-	-	284	100	o Alk		DIVISION OF PUBLIC WATER SUPPLIES
	tis repor cert		358.3	350.0	380.0	000	3/0	360	380	366	360	356	360	304	350	+			+	USC DEC	+		H	+	370	+	-	356	-	+	+	+	-	mg/L	-	Raw	SUPPLI
	report is com wiedge Cert or Req:		1.0	0.5	1,6	0.00	1,38	0.93	0.88	0.97	0.84	114	113	1.25	0.81	0.84		-	-	10.0/	-	_	100	+	1.24	+-	H	0.95	-	+	+	+	+-	mg/L	101		ES
	plete		0.2	0.2	0.3	0.212	122.0	0.210	0.216	0.223	0.217	0.216	0.219				0.222		-	0.204	1.000	-		_	0.217		_	0.232	_	_	_	0.170	-	mg/L			
			1	0.0	0.0							Τ		Γ	Γ				T	t	T			t	T	T	Π	1	T	T	T	T	-	mg/L	Tot		
			0.4		0.4	0.375			0.325		0.367					0.386			0.346		0.376			0.304		0.355			0.359	0.000	0.203			ma/L	Tot	Pre Filter	
			0.0		0.1	040.0	0.093	0.064	0.039	0.020	0.039	0.015	0.024	0.021	0.021	0.021	0.014	0.018	0.011	0.016	0.031	0.028	0.024	0.032	0.026	0.023	0.023	0.034	0.018	0.020	0.025	0.029	_	Mn	Sol	Ä	
		7.0		-	0.0	-	0	0	0	0	0 0			0	0	0	0		2 6			_											_	mo/l		2	
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		CHLORINATION Type of Chlorine Used	.4		0.5	0.23	0.34	0.42	0.48	0.40	0.48	0.28	0.26	0.23	0.54	0.41	0.26	0.28	0.45	0.36	0.27	0.49	0.37	0.39	0.53	0.52	0.49	0.42	0.38	52.0	0.42	0.47	10	_	Nem	ter Po	FOR MONTH OF
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	Chlorine Gas Calcium Hyp Sodium Hypc Chlorine Tes				0 81	-	7	7	7.89	7	7.57	17	7.51	7.58	7,60	7.63	7.65	8.09	4 7	7	7	7	7 -		7	7					-	1	10gr	11111	Total		August 2018
	Chlorine Gas Calcium Hypochlorite Sodium Hypochlorite _12.5 Chlorine Test Kil Used:		_		1 370.0	7.62 28	-	H	-	7.66 382	+	+	+		-	-	+	+	7.68 278	-		-	7.58 282	-	-		+	7.61 2	+	+	+		3	PH	-		August 2018
	le% e12.5 sed:			208.0 110.0	0.0	280 1		H		32 142	+	+	-		0 130		+	-	+			+	+	+			+	200 I	+	t	+		mgrc m	-	Total To		and the second
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ł			-	_	-	01 0.016	01 0.016	-	_	11 0.013	-	01 0.011	1000	01 0.008	-		-	00 0.016	1.0	-	-	_	0.024		-	_	01 0.016	-	-		1000	00 0.015	ar mar	-	Total Total		3
	Hydro Sodiu Other Type	FLUORIDATION Type of Fluoride Used	0.0 0.8	0 0.6	-	16 0.83			_	15 0.75		11 0.92		08 0.68	_		_	16 0.66		_		-	13 0.91	_	-	_	16 0.64	+	_	0.96		0.84	ar mar	Mn F	Total		
	Hydrofluosilicic A Sodium Fluoride Other Type of Test Ins	TION oride Us		6 1.2		83 1.5			75 1.5	+		92 1.6		14.7			+	1.2	+		+		91 1.2	t	H	+	54 1.5	+	+	96 1,6	98 1.5		7	2. 	D		
	he	t	+	+		.5 1.8			1.00	+		6 1.8				+	t	3 1 2 3 4	+		+	6 1 G		-	H	+	5 1.0	+	t	6 1.9	5 1.8	6 1.	T = Total	F = Free	Dist. CI res		
	%F	-	+	1.4 0.9	-	8 1.	7 1.	9 1.		7 1.	8 1.	8 1.	9 1.	9 1		-	4 4 4 4	+	-	00	1		4 1	7 1	8	1		-	8	9 1.	8 1.	7 1.1	2	PO4	-		

WOODARD &CURRAN

		Washed		Gal IEX 1 IEX 2	⊢																											0	0 0.0 0.00	+	RTW Sample		%F TDS		d Calcium Hardness
Softeners	Each day indicate teak months a	nont since previous regeneration	And the second of the second	1 2 3 4	1,0281,8312,110	2,101 310	618 938 1,107	943 1,5422,0261	1,9062,234	436	353 1,2101,611	1,040 1,24/ 242 D 035	651	1,753 911 250	33 719	117	1,004	2,0081,5081,808	1,339	2.2261.559	-	1,2142,208	963	12C 12 12C 12C 12C 12C 12C 12C 12C 12C 1	1,437	1.9401,215 1,020	505	0 1./541,2331,4341,559	600 18	1 2,1282,0061,3161,804				T	FLUORIDATION		Hydrofluosilicic Acid 23 % Sodium Fluoride %F	Other	
	Water Water	Softened Bypassed	Gal. Gal (Migal) (Migal)		0.957 0.493	0.972 0.500	0.968 0.499		0.987 0.508	+	1.035 0.533	0.848 0.437	+	0.977 0.503	1.006 0.518	-	+	1 055 0.543	1 00/ 0.519	┢	0.536 0.276	H	0.959 0.494	0.828 0.478 0.478	+	0.809 0.417	-	0.994 0.512			0.817 0.421	+	1.05 0.54	+	+-	Type o			
	Wash	<ul> <li>Water</li> </ul>	Gal. (M gal)		0.166	0.162	0.171	0.156	0.164	0.171	0.172	0.144	0 163	0.161	0.166	0.171	0.171	0.190	10.15/	0.036	0.088	0.180	0.152	0 140	0.147	0.121	0.149	0.164	0.159	0.138	0.139		0.19	-	2.0			×	
<b>UF Filters</b>	al number of hours	ous backwash. If backwashed at mid-	indicate Thours previous" / Thours following "	3	0.66 0.66	0.66	0.66	0.66	990	0.66	0.66 0.66	0.66	0.66	0.66	0.66 0.66	0.66	0.66	0.66 0.66	0.66	0.66	0.66 0.66	0.66	0.66	_	0.66	0.66	0.66	0.66 0.66	0.66	0.66	0.66 0.66			0.66	85		chiorite %	hlorite_12.5	Kit Lloom
	ach day indicate total number of	evous backwash.	Indicate Thours	н	0.66 0.66	_	_	_	-	-	0.66 0.66	-	+	0.66 0.66	0.66 0.66	-	0.66 0.66	_	_	-	0.66 0.66		0.66 0.66	0.66 0.66	-		-	0.66 0.66	0.66 0.66	_	0.66 0.66			0.66 0.66		ype of Chlorine Used	Chlorine Gas Calcium Hypochlorite	Sodium Hypochlorite 12.5	PICTURE I DATE
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ł	NaMnO4		mg/l		2.75	2.23	2.37	2.45	10.7	87.7	2.60	2.66	2.58	2.43	2.57	2.26	2.41	1.66	0.65	7,64	4.06	1.83	11.7 DC C	2.42	1.40	2.66	2.73	2.18	1.91	2.41	2.58	_	7.64 U	-	2014				
	-		pric Used	+	35.0	1 29.0	+	6 31.0	+	+		+	57 33.0	32.0	+	2 32.0	-	+	-	4 26.0	1 32.0	-	3 2/.0	0 27.0	-		8 32.0	-	2 25.0	-	3 29.0		4 35.0	9 8.0 78.8			miete		
Chemicals Applied	Phosphate	-	ibs. mg/	-+	+	+	+	20.0 0.02 26.0 0.76	+	+	+		50.0 1.57	47.0 1.43	-	18.0 0.52	+	+	+	22.0 4.84	34.0 1.71	-	38.0 1.33	-	-	39.0 1.51	-	22.0 0.65	24.0 0.82	-	37.0 1.33		50.0 4.84	3.0 0.09	-		mont is non	howledge	In AF UAN
Ch	ionde	100	Mgm		81.1	1 35	AL .	PO -	5 8	0.98	1.30	1.36	1.35	1.25	1.28	1.24	1 16	- 11	0.03	7.47	2.06	0.84	1.26	1.33	+	1.43	1.44	1 06		1.25	1.30	-	-	5 1 4 1 2	-		on in this r	of my know	all a
ł	+	Calc 1 Page	_	0.00 00.0	+	0.25 190	+	+	+-	2.16 34.0	2.45 36.0	2.97 38.0	-	+	-	2.02 43.0	+	+-	+-	34.0	5.28 41.0	-	2.46 35.0	+	+	3.02 37.0		45 36.0		72 34.0	36.0		28 45	59 1 26 26	4		cartily that the information in this report is complete	and accurate to the best of my knowledge	
Chlorina	A LA	Lised C	1.1	C 0.880		256.0 2.	0 0	0	275.0 2	226.0 2.	239.0 2.	0	0	-	0 0	205.0 2	0	-	-	226.0	286.0 5.1	100	238.0 2.4	1.0	0	247.0 3.0	267.0 3.0	253.0 2.90		235.0 2.7	247.0 2.99		295 5.28	90 0.59 245 2.65	-		routin that	nd accurate	Developed the
L	Diane	-		0.013	0.013	1.00	0.013	0.018	0.010	0.007	0.014	0.011	0.010	210.0	0.020	0.011	0.015	0.024	0.003	0.000	0.015	0.006	-	-	-	0.005	0.012	0.013 C 0.013	-	0.007	0.018		-	0.18	01.10		-		C
L	al Weter		(M gal)	1 273	2 1.164	1	-	5 1.324	1.412	3 1.366	8 1.096	4	1.260	-	-	-	**	1.280	-	0.180	1	-	1.133	-	-	1.021	-	1.149	-	1.075	1.099	-	-	0.18	- 5	Π	TION: % Chindre Solution Ead	% Fluoride Solution Fed	The second se
	LIF Gai	Filtered	(M gal)	1.450	1.472	1.467	1.423	1.495	1.590	1.568	1.463	1.285	1.421	1.404	1 507	1.575	1.598	1.525	1.525	0.000	0.812	1.554	1.403	1 254	1.369	1.226	1.301	1.305	1.454	1.297	1.238	36.66	1.42	0.18	ast Mon	NO	ine Soli	% Fluoride Solution Fed	AAC ALUM

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