

CITY OF ST. JOSEPH WATER FILTRATION PLANT

OPERATIONAL REPORT

MARCH 2021



Mission Statement

WSJOB- The City and Authority working together to provide safe drinking water of the highest quality to all of our customers at the lowest possible price.

WATER PLANT/DISTRIBUTION REPORT- MARCH 2021

Water demand in March was up by 4.34 million gallons representing a 4.7% increase from 2020. This year 92,000,552 gallons were delivered which compares to 87,660,793 gallons in 2020. The March 2021 pumpage ranks 26th in the thirty-year tabulation dating back to 1992.

GENERAL ACTIVITIES

Fiscal Year 2021/2022 Budget

The draft 2021/2022 budget was completed. There is a modest increase in the Water Treatment division largely due to the replacement of the north boiler and state mandated corrosion studies. An update of the SCIP Phase II study is also planned in order to revise the 2015 cost estimates from the original study to reflect inflation and market conditions.

SCIP Project

The resonance plates for high service pumps #2 and #4 were installed. Testing is currently underway. An aluminum maintenance access bridge to the new chlorine feed quills in the north settled water line was ordered and will be installed in May.

Staff Position Changes

The Water Plant Operator position application deadline was March 12th. Interviews were given to four finalists by a panel consisting of the Chief Operator and Superintendent from the Water Plant and the City Engineer. Lyndsey Army was awarded the position and started on April 12th.

Public Works Director Tom MacDonald retired on March 31st. Tom held an S-1 license and managed the Water Distribution section.

Travel and Training

Greg attended a training session on the AWIA Section 2013 Requirements presented by the Cadmus Group under contract from USEPA. Greg also attended a meeting of the Michigan Section AWWA Historical Preservation Committee. Both meetings were virtual.

Sodium Hypochlorite

A trial load of bleach was received from Olin Corporation.

New Main Construction Testing

Jeff collected samples on the Langley Avenue project in St. Joseph for the recently installed water mains on the project. New water mains must be cleaned, disinfected, flushed and must pass testing for chlorine residual and coliform before being placed into service in accordance with AWWA C651-24.

Jeff and Greg provided technical assistance to the City of Benton Harbor on the Highland Avenue project involving new water main disinfection, flushing and sampling procedure in accordance with AWWA C651-24. The initial set of samples were done at the WTP. Subsequently,

Water Plant Laboratory Certification

Shawn completed the renewal application and updated the Quality Assurance Plan for the Water Plant laboratory certification. The EGLE Laboratory Certification Program operates under the authorization of the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399), and the United States

Environmental Protection Agency (USEPA) to certify laboratories for the analysis of drinking water. All laboratories testing Michigan drinking water samples for regulatory and compliance monitoring must be certified by this program.

The Laboratory Certification Program certifies laboratories to ensure that proper methods and quality control are used in the testing of drinking water samples. The certification process includes an extensive review of the applicant laboratory Quality Assurance Program Plan, Standard Operating Procedures, as well as an on-site audit of the facility and analytical data. Areas of certification include Bacteriology, Wet Chemistry and Inorganic Chemistry. The on-site audit will be scheduled later this Spring.

MONTHLY MAINTENANCE NOTES

March 2021

Normal PM Maint. done Monthly	Check all High Service and Low Service Pumps, BPS pumps, Service BPS Chlorinators, Change out air filters on VFD Drives and Air Handlers. Grounds work at Plant, Booster Stations and Water Towers
03/03/21	Rebuilt center blow off valve for Clarifier # 2
03/09/21	Corpro - Inspection and Service for Cathodic Protection systems for Clarifiers # 1, # 2 & # 3
03/11/21	Installed New CL17 Chlorine Analyzer at Cleveland BPS
03/17/21	Changed Oil in in Low Service Pumps #5 and #7
03/18/21	Verification/Calibration of Filter Turbidimeters, 5-12

**ST. JOSEPH WATER FILTRATION PLANT
1701 LIONS PARK DRIVE
SAINT JOSEPH, MI. 49085**

**By: Greg Alimenti
St. Joseph Water Plant
700 Broad St.
Saint Joseph, MI. 49085-1276
(269) 983-1240**

MARCH 2021

DISTRIBUTION:	
Total Gallons	92,000,552
Average Day	2,967,760
Maximum Day	3,154,649
Minimum Day	2,701,536

TREATMENT:	
Total Low Service	92,534,794
Wash Water Gals.	540,089
Wash Water %	0.59%
Plant Use Gals.	18,093
Plant Use %	0.02%

FILTRATION:		
Ave. Filter Run	71.9	hours
Ave. Filter Rate	1.75	g/sqft/min
Filter Eff. Index	588.5	
Ave. Loss of Head	0.9	feet
Plant Sewer Usage		

LABORATORY REPORT		
Average of	Raw	Tap
Chlorides mg/L	19.8	23.0
Fluoride mg/L	0.15	0.73
Alkalinity mg/L	125	114
Hardness mg/L	166	152
pH	8.1	7.5
Calcium mg/L	41	40
Magnesium mg/L	15	13
Turbidity NTU	0.71	0.04
Temperature °F	42	
Total Coliform		0.0
Chlorine Residual		
Mixing Basin		0.84
Applied		0.79
Tap		1.12
Distribution		1.09

TREATMENT CHEMICAL SUMMARY:					
	Applied mg/L	Total Lbs.	Cost	Inventory lbs.	Days Supply
		CHEMICAL			
Alum (Al ⁺³)	19.45	15,027	\$4,901.02	49,733	50
Chlorine (Cl ₂)	2.27	1,749	\$1,305.92	2,568	46
Fluoride (F ₂)	0.59	458	\$802.62	26,692	343

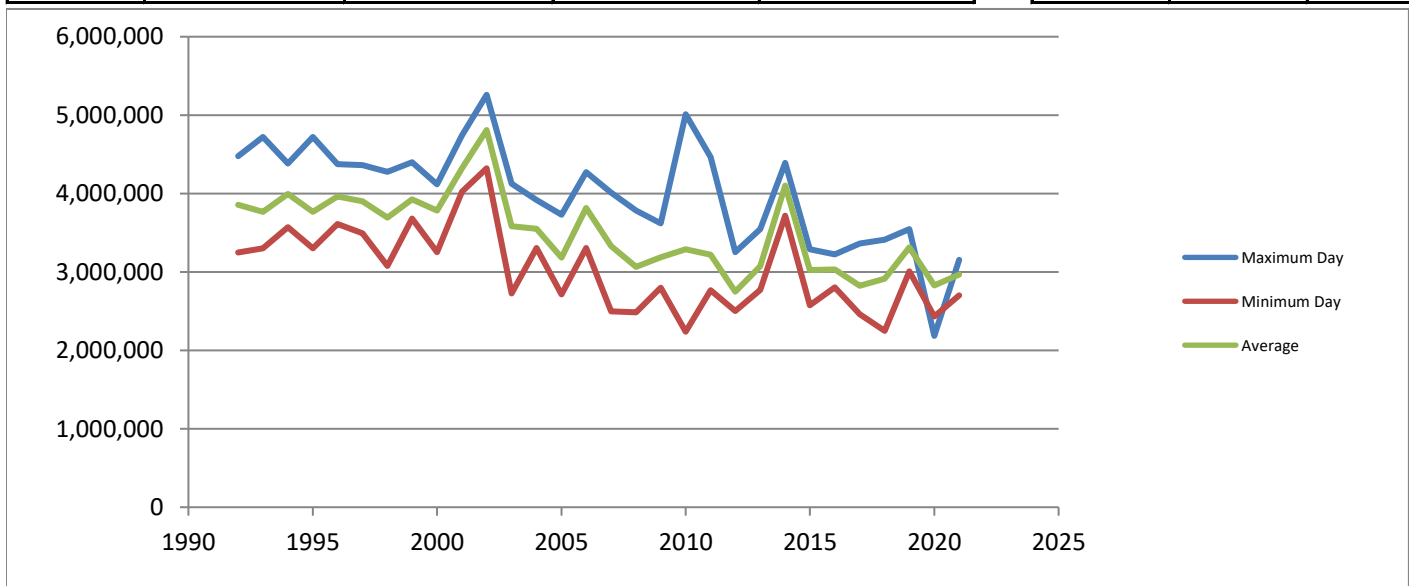
		REMARKS:			
Total Cost all Chemicals	\$7,009.55				
Chemical Cost per Mil. Gallon Treated	\$75.75				
Chemical Cost per Mil. Gallon Delivered	\$76.19				
PLANT UTILITIES SUMMARY					
Electric:					
Total KWH	193,200	***includes measure of melted snow			
Total Power Cost	\$ 15,612.88	visit the City of Saint Joseph's Home page at www.sjcity.com			
Power Cost per Million Gallon Treated	\$ 168.72	e-mail comments to either: operator@sjcity.com or galiment@sjcity.com			
Power Cost per Million Gallon Delivered		WEATHER CONDITIONS AT THE PLANT		Air Temp. °F	
Gallons Pumped per KWH		SJWW Weather Computer		Avg.	42.7
		Rain Guage, Inches	0.85	Max.	73.3
		days it rained***	9	Min.	21.8
Natural Gas:		Wind Speed, Avg	8	Lake Temp. °F	
Metered Cubic Feet	3,196	Wind Speed, Max	46	Avg.	42.1
Natural Gas Cost	\$1,589.85	Prevailing Wind Dir.	NNE	Max.	48.6
Emergency Power Diesel Fuel Inv., Gals.	North	Lake Level (USACE)	580.54	Min.	36.6
	South				

ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED

MARCH 2021

Year	Average	Maximum Day	Minimum Day	Monthly Total
1992	3,854,777	4,475,600	3,246,600	106,036,477
1993	3,767,950	4,721,800	3,303,450	106,411,450
1994	3,996,248	4,384,800	3,571,800	123,883,700
1995	3,767,950	4,721,800	3,303,450	116,806,450
1996	3,964,081	4,375,000	3,613,500	122,886,500
1997	3,903,450	4,361,425	3,495,400	121,006,950
1998	3,693,095	4,275,600	3,076,400	114,485,950
1999	3,927,223	4,401,000	3,679,400	121,743,900
2000	3,785,211	4,118,750	3,251,000	117,341,550
2001	4,322,940	4,742,950	4,023,550	134,011,150
2002	4,810,127	5,259,500	4,322,000	149,113,940
2003	3,582,904	4,124,400	2,727,000	111,070,020
2004	3,549,125	3,917,380	3,304,250	110,022,870
2005	3,184,715	3,728,500	2,713,320	98,726,150
2006	3,817,435	4,273,500	3,304,000	118,340,490
2007	3,329,752	4,013,000	2,498,500	103,222,310
2008	3,065,748	3,783,500	2,486,080	95,038,200
2009	3,188,871	3,621,750	2,800,750	98,855,000
2010	3,290,833	5,010,100	2,238,370	102,015,838
2011	3,218,895	4,463,210	2,767,357	99,785,760
2012	2,748,710	3,254,721	2,500,973	85,210,003
2013	3,074,176	3,547,491	2,769,880	95,299,463
2014	4,102,652	4,391,302	3,719,580	127,182,218
2015	3,024,256	3,289,056	2,576,655	93,751,947
2016	3,031,861	3,222,433	2,801,779	93,987,696
2017	2,822,944	3,362,410	2,460,644	87,511,277
2018	2,915,735	3,411,006	2,249,432	90,387,784
2019	3,313,249	3,545,160	3,009,417	102,710,727
2020	2,827,768	2,185,300	2,432,000	87,660,793
2021	2,967,760	3,154,649	2,701,536	92,000,552

Rank	Year	Monthly Total
1	2002	149,113,940
2	2001	134,011,150
3	2014	127,182,218
4	1994	123,883,700
5	1996	122,886,500
6	1999	121,743,900
7	1997	121,006,950
8	2006	118,340,490
9	2000	117,341,550
10	1995	116,806,450
11	1998	114,485,950
12	2003	111,070,020
13	2004	110,022,870
14	1993	106,411,450
15	1992	106,036,477
16	2007	103,222,310
17	2019	102,710,727
18	2010	102,015,838
19	2011	99,785,760
20	2009	98,855,000
21	2005	98,726,150
22	2013	95,299,463
23	2008	95,038,200
24	2016	93,987,696
25	2015	93,751,947
26	2021	92,000,552
27	2018	90,387,784
28	2020	87,660,793
29	2017	87,511,277
30	2012	85,210,003



SOUTHWEST MICHIGAN REGIONAL SANITARY SEWER & WATER AUTHORITY
CLEVELAND BOOSTER STATION

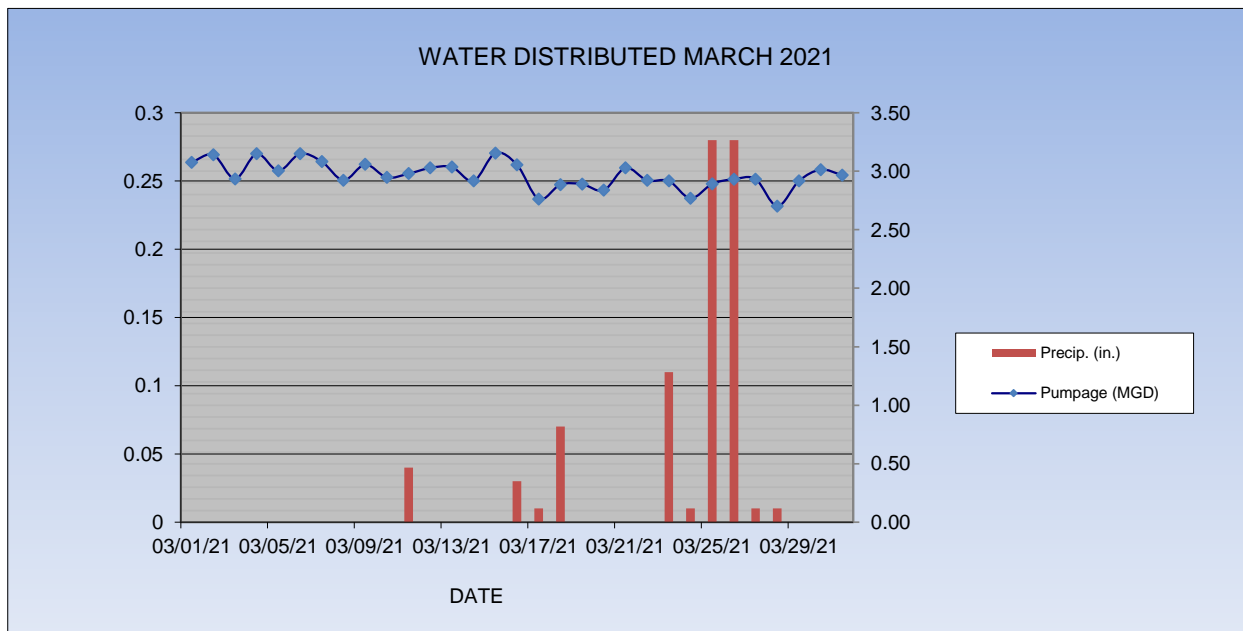
HILLTOP BOOSTER STATION

DATE	FLOW MGD	FEED GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ PRE mg/l	Cl ₂ POST mg/l	Cl ₂ MON mg/l	FLOW MGD	FEED GAL	CHL LBS/DAY	CHLORINE APPLIED mg/l	Cl ₂ PRE mg/l	Cl ₂ POST mg/l	Cl ₂ MON mg/l	BOOSTER MGD	
1-Mar	0.711	109	15.45	2.61	0.87	1.38	1.48	1.428	135	19.14	1.61	1.14	1.18	1.09	2.139	
2-Mar	2.035	291	41.26	2.43	1.13	1.25	1.02	0.000	0	0.00	0.00	1.09	1.26	1.38	2.035	
3-Mar	0.000	0	0.00	0.00	0.84	1.00	0.93	2.187	213	30.20	1.66	1.37	1.18	1.18	2.187	
4-Mar	2.005	277	39.27	2.35	1.33	1.04	1.11	0.000	0	0.00	0.00	0.90	1.39	1.43	2.005	
5-Mar	0.000	0	0.00	0.00	0.89	1.27	1.20	2.148	185	26.23	1.46	1.27	1.09	1.15	2.148	
6-Mar	1.378	197	27.93	2.43				0.712	63	8.93	1.51				2.090	
7-Mar	1.378	197	27.93	2.43				0.712	63	8.93	1.51				2.090	
8-Mar	1.378	197	27.93	2.43	0.98	1.05	0.98	0.712	63	8.93	1.51	0.91	0.83	0.96	2.090	
9-Mar	0.000	0	0.00	0.00	0.63	0.82	0.90	2.130	202	28.64	1.61	1.41	2.02	2.22	2.130	
10-Mar	1.994	307	43.53	2.62	1.00	1.14	1.07	0.000	0	0.00	0.00	1.31	1.58	1.63	1.994	
11-Mar	0.000	0	0.00	0.00	1.11	1.01		2.134	195	27.65	1.55	0.91	0.98	0.98	2.134	
12-Mar	2.780	277	39.27	1.69	1.05	1.05	1.05	0.003	0	0.00	0.00	0.84	0.95	0.97	2.783	
13-Mar	0.402	101	14.32	4.27				1.382	125	17.72	1.54				1.784	
14-Mar	0.402	101	14.32	4.27				1.382	125	17.72	1.54				1.784	
15-Mar	0.402	101	14.32	4.27	0.89	0.94	0.98	1.382	125	17.72	1.54	1.06	1.09	1.15	1.784	
16-Mar	2.027	299	42.39	2.51	1.35	1.09	1.10	0.000	0	0.00	0.00	0.95	1.49	1.55	2.027	
17-Mar	0.000	0	0.00	0.00	1.18	0.96	0.99	2.063	183	25.95	1.51	0.81	0.83	0.93	2.063	
18-Mar	1.960	298	42.25	2.59	1.13	1.06	1.08	0.000	0	0.00	0.00	0.76	0.75	0.81	1.960	
19-Mar	0.000	0	0.00	0.00	1.04	1.35	1.39	2.062	227	32.18	1.87	1.09	1.03	1.07	2.062	
20-Mar	1.372	220	31.19	2.73				0.730	71	10.07	1.65				2.102	
21-Mar	1.372	220	31.19	2.73				0.730	71	10.07	1.65				2.102	
22-Mar	1.372	220	31.19	2.73	0.96	1.07	1.12	0.730	71	10.07	1.65	0.91	1.07	1.00	2.102	
23-Mar	0.004	0	0.00	0.00	1.03	0.98	1.01	2.133	204	28.92	1.63	1.17	1.20	1.25	2.138	
24-Mar	1.949	293	41.54	2.56	1.14	1.00	1.02	0.000	0	0.00	0.00	1.10	0.96	1.03	1.949	
25-Mar	0.000	0	0.00	0.00	0.82	0.96	0.93	1.987	183	25.95	1.57	1.01	0.91	1.00	1.987	
26-Mar	1.977	302	42.82	2.60	0.93	0.99	1.07	0.000	0	0.00	0.00	0.81	1.46	1.45	1.977	
27-Mar	0.653	104	14.75	2.71				1.381	133	18.86	1.64				2.035	
28-Mar	0.653	104	14.75	2.71				1.381	133	18.86	1.64				2.035	
29-Mar	0.653	104	14.75	2.71	0.94	0.96	0.96	1.381	133	18.86	1.64	0.84	0.82	0.97	2.035	
30-Mar	1.983	315	44.66	2.70	1.01	0.97	1.03	0.000	0	0.00	0.00	0.72	1.07	1.00	1.983	
31-Mar	0.000	0	0.00	0.00	0.92	0.91	0.95	2.052	206	29.21	1.71	0.99	1.04	1.05	2.052	
TOTAL	30.841	4,634	657.0					32.942	3,109	440.79					63.783	
AVE DAY	0.995		21.2	1.97	1.0	1.1	1.1	1.0626		14.2	1.13	1.02	1.14	1.18	2.058	
MAX	2.780		44.7	4.27	1.4	1.4	1.5	2.1874		32.2	1.87	1.41	2.02	2.22	2.783	
MIN	0.000		0.0	0.00	0.6	0.8	0.9	0.0000		0.0	0.00	0.72	0.75	0.81	1.784	
MONTHLY TOTALS:	Cleveland Total MG				SJCT EAST				Hilltop Total MG				Cleveland Pump Station:			
	CI Add				Average Day				CI Add				Hilltop Pump Station:			
	30.837				0.151				32.942				30.837			
Total Authority Flow:	63.784				No CI Add				0.000				TOTAL AUTHORITY (Trted.)			
	0.004				4.668				0.000				63.779			

**ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED/RAINFALL
MARCH 2021**

DATE	PUMPAGE (gallons)	PUMPAGE (MGD)	Rainfall (in)	Day to Day Comparison 2021/2020	
				2021	2020
03/01/21	3,076,541	3.08	0	3,076,541	3,044,199
03/02/21	3,139,986	3.14	0	3,139,986	2,958,812
03/03/21	2,934,470	2.93	0	2,934,470	2,985,220
03/04/21	3,149,724	3.15	0	3,149,724	2,890,727
03/05/21	3,003,217	3.00	0	3,003,217	2,963,474
03/06/21	3,149,742	3.15	0	3,149,742	2,651,254
03/07/21	3,082,389	3.08	0	3,082,389	2,891,464
03/08/21	2,922,651	2.92	0	2,922,651	2,917,360
03/09/21	3,058,022	3.06	0	3,058,022	3,106,103
03/10/21	2,947,026	2.95	0	2,947,026	2,655,696
03/11/21	2,979,149	2.98	0.04	2,979,149	2,820,679
03/12/21	3,028,540	3.03	0	3,028,540	2,866,541
03/13/21	3,035,398	3.04	0	3,035,398	2,860,616
03/14/21	2,917,048	2.92	0	2,917,048	2,727,452
03/15/21	3,154,649	3.15	0	3,154,649	2,953,501
03/16/21	3,055,084	3.06	0.03	3,055,084	2,846,957
03/17/21	2,762,046	2.76	0.01	2,762,046	2,789,991
03/18/21	2,885,493	2.89	0.07	2,885,493	2,919,739
03/19/21	2,889,728	2.89	0	2,889,728	2,816,067
03/20/21	2,837,383	2.84	0	2,837,383	2,825,768
03/21/21	3,029,337	3.03	0	3,029,337	2,834,922
03/22/21	2,921,417	2.92	0	2,921,417	2,887,363
03/23/21	2,916,875	2.92	0.11	2,916,875	2,824,396
03/24/21	2,768,578	2.77	0.01	2,768,578	2,729,375
03/25/21	2,891,785	2.89	0.28	2,891,785	2,647,323
03/26/21	2,932,255	2.93	0.28	2,932,255	2,423,501
03/27/21	2,932,361	2.93	0.01	2,932,361	2,657,561
03/28/21	2,701,536	2.70	0.01	2,701,536	2,655,011
03/29/21	2,917,403	2.92	0	2,917,403	3,210,573
03/30/21	3,013,726	3.01	0	3,013,726	2,185,300
03/31/21	2,966,991	2.97	0	2,966,991	3,113,848
TOTAL	92,000,552	92.00	0.85	92,000,552	87,660,793

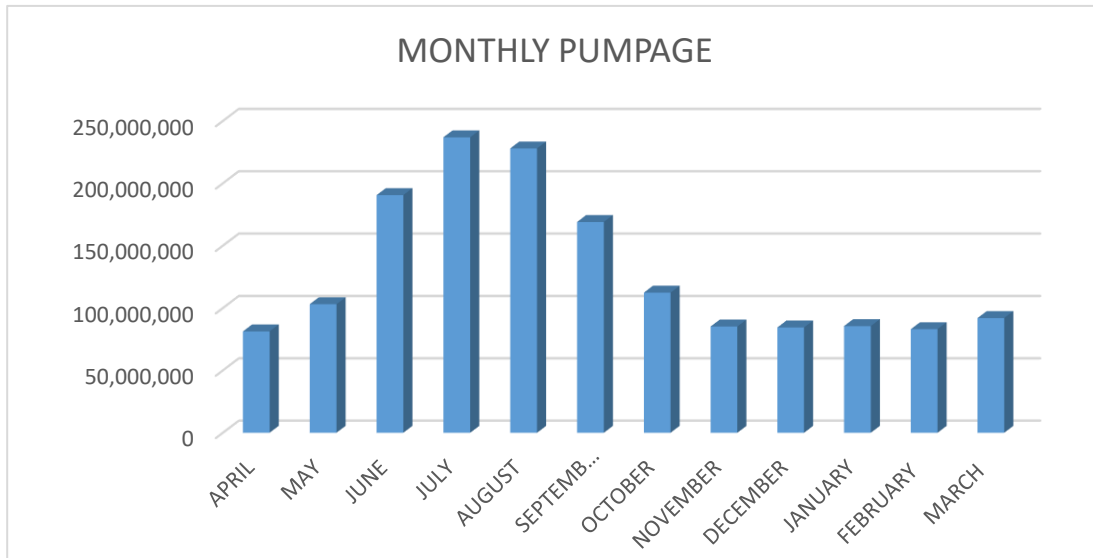
Average Day	2,967,760
Maximum Day	3,154,649
Minimum Day	2,701,536



ST. JOSEPH WATER PLANT-YEAR TO DATE PUMPAGE

February 2021

	Pumpage Month	Pumpage FISCAL YTD	By Quarter
APRIL	81,275,185		
MAY	103,081,905		
JUNE	190,552,034		374,909,124
JULY	236,887,854	236,887,854	
AUGUST	227,968,057	464,855,911	
SEPTEMBER	168,999,470	633,855,381	1,335,599,146
OCTOBER	112,348,772	746,204,153	
NOVEMBER	85,192,969	831,397,122	
DECEMBER	84,424,836	915,821,958	281,966,577
JANUARY	85,545,876	1,001,367,834	
FEBRUARY	83,066,087	1,084,433,921	
MARCH	92,000,552	1,176,434,473	260,612,515
TOTAL	1,290,731,082		



DISTRIBUTION REPORT

For the Month of March 2021

Activity	Number/Description
Water Main Breaks	3
MISS DIGS	616
Delinquent Shut Off	0 No delinquent shut off's per Governor Exeuctive Order
Hydrants (Repaired/Replaced)	4 Peace Blvd & Glenlord (RCT)-Repair top broken off
	710 Myrtle (City) Replace hydrant
	End of State St (City) Replace Hydrant
	End of Pine Court (SJCT) Replace
Valve Turning	
Valves	1 Clearwood & Cleveland (LCT) 6" main
	Repaired a valve at Kingsley and Lakeshore
Taps (1")	2355 Niles Road (SJCT) Well conversion
	1627 Prairie Dr. (RCT) New build, old development
	1830, 1832 Peachtree Path New build, old development
	140 E. John Beers Rd. (LCT) Well conversion
	2249 W. John Beers Rd. (LCT) Well conversion
	6276 and 6281 ? (LCT) New build, old development
Cross Connection Control	
Service Retirement	
Service Replacement (Lead)	2 2815 Evergreen
	718 Columbia-Moved meter inside home
Service Repair	
Frozen services	0
Repair of Curb box/Shut-Off Valves	8 Various; froze up, bent curb box, rod broken, adjust.
Replace Curb box	
Meter pit/service replacement	0
Water Quality complaints	0 Water quality/pressure
Hydrant flushing to maintain water quality	0
Service line complaints (customer side)	6 leaks, high water use, misreported stormwater, snowbirds, low pressure
Private Service break	0
Staff Education/Training	0 No training in January
Overtime-Total	86
Meter Service Report-A detailed meter report for February 2021 will be provided at a later date.	
Turn Off	Defective meter
Turn On	Sensors bad
Finals	Downsize meter
Meter Repair/Replacement	TRT missing
Meter Repair	Audit Meter
Per detail	Verify Read
Meter leaking	Move Mxu Box
Stopped Meter	New Installation
Faulty Register	
Frozen Meter	Replaced/various reasons (e.g.,downsize, defective)
Move Meter Inside	Rockwell Replacement
Hard to read	Mxu Replaced
Replace/Adding Sprinkler Meter	Sprinkler meter removed/line capped
Damage to Meter/TRT/wire damaged	Removals/demo
New Plumbing	Curb box location
New siding	Broken Remote
Lead services	Noisy Meter
	Upgrade 5/8" to 3/4" (upgrade to 1")

CITY OF ST. JOSEPH WATER MAIN BREAK REPORT-March 2021

Date	Location	Main Size	Gallons Lost	Break Type	Valves Turned	City Twp	Labor	Remarks
3/1/2021	Lakeshore Dr. & N. Sunnybank	6	21,270	Circumferential	2	City	16	Crack, 5 ft. cover, sand, cathodic
3/16/2021	618 Main St.	6	600,000	Circumferential	3	City	45	Crack, 5 ft. cover, clay, no cathodic
3/18/2021	618 Main St.	6	15,156	Circumferential	3	City	55.5	Crack, 5 ft. cover, clay, no cathodic. Six feet from 3/16 break
TOTALS			636,426				117	

MARCH 2021

CITY OF ST. JOSEPH

WSSN 6310

	TOC Compliance							
	Treated	Source	Formula		Req. TOC		Alternative Criteria	
	Tap	Tap	Ratio	Alka- linity	Removal	Actual Ratio/ Remov	Complied Y/N	Compl. Perf. Ratio/Removal
Qtr Average								
April	1.70	1.93	11.9	113	25	0.48	Yes	1.00
May	1.60	1.97	18.8	110	25	0.75	Yes	1.00
June	1.44	1.72	16.3	112	25	0.65	Yes	1.00
Qtr Average						0.63		
July	1.65	1.92	14.1	109	25	0.56	Yes	1.00
August	1.72	2.01	14.4	109	25	0.58	Yes	1.00
September	1.49	1.83	18.6	110	25	0.74	Yes	1.00
Qtr Average						0.63	Yes	
October	1.47	1.98	25.8	131	15	1.72	N(Removal)	1.72
November	1.42	1.77	19.8	112	25	0.79	Yes	1.00
December	1.57	1.98	20.7	116	25	0.83	Yes	1.00
Qtr Average						1.11		
January	1.40	1.99	29.6	110	25	1.19	N(Removal)	1.19
February	1.40	1.80	22.2	112	25	0.89	Yes	1.00
March	2.15	2.71	20.7	130	15	1.38	N(Removal)	1.38
Qtr Average						1.19		
Annual Avg.	1.58	1.97				0.89		1.11

4/15/2020

5/20/2020

6/17/2020

7/15/2020

8/6/2020

9/16/2020

10/19/2020

11/10/2020

12/8/2020

1/20/2021

2/22/2021

3/17/2021

MARCH 2021

Maximum Turbidity

D A T E	Clarifier #1	Clarifier #2	Clarifier #3	Filter #5	Filter #6	Filter #7	Filter #8	Filter #9	Filter #10	Filter #11	Filter #12
1	0.991		0.087	0.107	0.044					0.056	
2	1.072		0.087	0.183	0.085					0.051	
3	1.089		0.083	0.145	0.128	0.070	0.033			0.174	
4	1.060		0.084			0.039	0.033			0.129	0.038
5	1.883		0.081			0.034	0.033				0.033
6	2.661		0.470			0.031	0.034				0.030
7	1.042		0.081			0.034	0.032				0.031
8	1.496		0.083			0.083	0.038				0.031
9	1.099		0.082	0.048		0.336	0.037				0.036
10	0.899		0.084	0.037			0.036				0.043
11	2.213		0.085	0.035			0.036				0.040
12	2.983		0.084	0.028			0.034				0.041
13	1.162		0.084	0.021			0.035				0.066
14	1.227		0.086	0.032			0.036				0.042
15	0.856		0.089	0.035	0.103		0.034	0.094			0.072
16	1.272		0.092	0.075	0.044			0.231			
17	0.965		0.094	0.090	0.047	0.065		0.193			
18	1.020		0.095		0.047	0.052		0.135			
19	1.049		0.097		0.145	0.230		0.412			
20	0.986		0.097		0.043	0.033		0.073			
21	0.776		0.097		0.047	0.077		0.079			
22	17.032		0.097		0.069	0.038		0.045			
23	13.337		0.098		0.092	0.037		0.081			
24	0.140		0.098		0.097	0.039		0.162			
25	0.133		0.098		0.425	0.050		0.032			
26	0.147		0.098		0.113	0.048		0.029			
27	0.140		0.099		0.113	0.061	0.038	0.049	0.202		
28	0.244		0.099			0.070	0.038		0.047		
29	0.169		0.099	0.059		0.079	0.038		0.048		
30	0.152		0.099	0.033			0.033		0.047		
31	0.162		0.098	0.033			0.034		0.039		
AVG	1.918		0.103	0.064	0.103	0.075	0.035	0.124	0.077	0.103	0.042
MAX	17.032		0.470	0.183	0.425	0.336	0.038	0.412	0.202	0.174	0.072
MIN	0.133		0.081	0.021	0.043	0.031	0.032	0.029	0.039	0.051	0.030

Filter #5

Mar.1 Filter #5: Inconclusive
 Mar.2 Filter #5: Inconclusive
 Mar. 3 Filter #5: Shut down of filter

Filter #6

Mar. 3 Filter #6: Shut down of filter
 Mar. 15 Filter #6: Filter start up
 Mar.19 Filter #6: Inconclusive
 Mar. 25 Filter #6: Inconclusive
 Mar. 26 Filter #6: Inconclusive
 Mar. 27 Filter #6: Shut down of filter

Filter #7

Mar. 9 Filter #7: Shutdown of filter
 Mar. 19 Filter #7: Unstable raw water

Filter #9

Mar. 16 Filter #9: Unstable raw water
 Mar. 17 Filter #9: Unstable raw water
 Mar. 18 Filter #9: Unstable raw water
 Mar. 19 Filter #9: Unstable raw water
 Mar. 24 Filter #9: Inconclusive

Filter #10

Mar. 27 Filter #10: Filter start up

Filter #11

Mar. 3 Filter #11: Inconclusive
 Mar. 4 Filter #11: Inconclusive

STAGE 2 D/DBPR MONITORING-HALOACETIC ACIDS

MARCH 2021

WSSN 6310

SITE: DBP1

Date	06/17/20
Location	Blossomland*
Dibromoacetic acid	<1
Dichloroacetic acid	7.4
Monobromoacetic acid	<1
Monochloroacetic acid	<2
Trichloroacetic acid	6.4
<i>Total HAA5</i>	<i>13.8</i>

Date	09/16/20
Location	Blossomland*
Dibromoacetic acid	<1
Dichloroacetic acid	6.3
Monobromoacetic acid	<1
Monochloroacetic acid	<2
Trichloroacetic acid	6.9
<i>Total HAA5</i>	<i>13.2</i>

Date	12/15/20
Location	Blossomland*
Dibromoacetic acid	<1
Dichloroacetic acid	2.4
Monobromoacetic acid	<1
Monochloroacetic acid	<2
Trichloroacetic acid	4.8
<i>Total HAA5</i>	<i>7.2</i>

Date	03/17/21
Location	Blossomland*
Dibromoacetic acid	<1
Dichloroacetic acid	6.1
Monobromoacetic acid	<1
Monochloroacetic acid	<2
Trichloroacetic acid	8.2
<i>Total HAA5</i>	<i>14.3</i>

RAA

12 µg/l

*Blossomland appears as *DBP 1 Alternate* on the lab report. Sample was collected at nearby hydrant. Access was denied due to Executive Order 2020-15 regarding Covid 19.

STAGE 2 D/DBPR MONITORING-TTHM

MARCH 2021

WSSN 6310

SITE: DBP1

Date	06/17/20
Location	Blossomland*
Bromodichloromethane	9.3
Bromoform	<0.5
Chloroform	18
Dibromochloromethane	3.3
Total Trihalomethanes	30.6

Date	09/16/20
Location	Blossomland*
Bromodichloromethane	13
Bromoform	<0.5
Chloroform	24
Dibromochloromethane	5.9
Total Trihalomethanes	42.9

Date	12/15/20
Location	Blossomland*
Bromodichloromethane	11
Bromoform	<0.5
Chloroform	17
Dibromochloromethane	5.5
Total Trihalomethanes	33.5

Date	03/17/21
Location	Blossomland*
Bromodichloromethane	11
Bromoform	<0.5
Chloroform	19
Dibromochloromethane	4.5
Total Trihalomethanes	34.5

RAA

35 µg/l

*Blossomland appears as *DBP 1 Alternate* on the lab report. Sample was collected at nearby hydrant. Access was denied due to Executive Order 2020-15 regarding Covid 19.