

CITY OF ST. JOSEPH WATER FILTRATION PLANT
OPERATIONAL REPORT
JULY 2015



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 REPORT-JULY 2015

Water demand in July was up by 19,185,724 gallons or 12% from last year. This is a reversal of a trend seen during the last several months. This year 181,689,860 gallons were delivered which compares to 162,504,136 gallons delivered in July of 2014. The July 2015 pumpage ranked 28th in the 30 year tabulation dating back to 1986.

GENERAL ACTIVITIES

Stage 2 Disinfection Byproducts Rule (DBPR)-Authority

The quarterly samples for the Authority were taken on July 17th. Disinfection byproducts are formed when free chlorine reacts with naturally occurring organic matter in the raw water. The test results are included in this report. The City as well as Authority community water supplies are in compliance with the rule and have been since its promulgation. The results for TTHM and HAA5 follow in this report.

Water Plant Security System

The last two security cameras were installed. They are West Gate and the East Pedestrian Bridge. The West Gate was part of the original contract with Simplex Grinnell. The East Pedestrian Bridge was added due to concern that the east perimeter of the plant site was not adequately covered. Of note, this camera did capture images of individuals who emptied the contents of a garbage can over the WTP security fence on August 7th. Camera playback revealed that the incident occurred at 1:05 A.M. and the subjects headed south along the railroad tracks behind the plant.

Fairplain Interconnects

The bids were opened at St. Joseph Charter Township Hall on April 30, 2015. Wightman & Associates recommended acceptance of the low bid submitted by John Boettcher Sewer & Excavating in the amount of \$76,124.00 for items 1,4,5, and 7. These items anticipated metering all locations (Woodward/Empire; Napier/Colfax; Nickerson/Colfax) and disconnecting the Elmside/Colfax interconnection. The St. Joseph Township engineer and City staff met with representatives from Benton Charter Township and the City of Benton Harbor and memoranda of understanding will be drafted. Tentative agreements are to meter the interconnect with the City of Benton Harbor and cut and cap the all connections with Benton Charter Township except for the one at Colfax and Nickerson.

Hazardous Response Training-Simulated Chemical Leak

Plant staff met with Perry Godush from the Berrien County Sheriff Department to review a hazardous materials response practice exercise which was held at the Water Plant on June 3rd. A simulated chlorine leak was conducted. Berrien County Haz Mat and the St. Joseph Public Safety Department participated. The WTP staff convened a meeting of the Process Hazard Analysis Team on June 24th to review what was learned from the exercise and to assess and discuss potential safety issues pertaining to the chlorine feed process.

Risk Management Plan/Process Safety Management Plan

The WTP Risk Management Plan and Process Safety Management Plans were updated with the assistance of HS&E Compliance. Given that chlorine which is a highly hazardous substance is stored on site the WTP is required to maintain an RMP and PSM. In addition the plans must be updated every five years by law. The following components of the plan were reviewed and revised as needed.

RMP/PSM Tasks

1. Employee Participation
2. Validation of Written Operating Procedures
3. Verify Process Safety Information
4. Validate Process Hazard Analysis
5. Review Management of Change
6. Review New Process Safety Review
7. Review Contractor Selection and Evaluation
8. Review Employee Training
9. Conduct Internal Audit
10. Review and Update Mechanical Integrity
11. Review Emergency Response Plan
12. Review Incident Investigation
13. Review Management Systems including updating all Facility and Personnel information
14. Review 5 year Accident History (No accidents ever at SJWTP)
15. Validate Off-Site Consequence Release Scenarios (Worst Case & Alternative Case)
16. Remodel OCA based on RMP Comp with Updated Census Data
17. Update Executive Summary
18. Provide Completed RMP Submit for Certification and Submittal.

The updated plan was electronically submitted to EPA by Greg Alimenti on July 22, 2015

Emergency Response Plan

The ERP for the Water Department was updated and will be submitted for review before being placed into effect. The plan was last updated in 2012. The Safe Drinking Water Act (P.A. 399 as Amended) requires that all community water supplies have an ERP.

Meetings/Training

Shawn Orlaske attended the July meeting of the West Michigan Water Plant Supervisors' Meeting held at the Wyoming Water Plant. Steve Busch and Pat Cook from MDEQ gave a presentation on blue green algae which covered the 2014 algal blooms in Lake Erie, analytical techniques and water treatment for removal. The scientific thinking continues to be that blue greens will not do well in the colder deeper Lake Michigan. This is backed up by tests for blue greens by the larger water plants and research universities. The City of St. Joseph sent out a raw water sample taken from the WTP intake to a specialized lab in August of 2014. No Mycrocystin (a toxin found in blue greens) was found

Water Plant Operator

The operator trainee hired in April submitted his resignation in June. The position was posted in the union.

New Operator

Ryan Patzer bid on and was awarded the WTP Operator position that was vacated in June. He was interviewed and passed the Basic Science/Math skills assessment test. He is doing well and is in training. He is on track to operate on his own by early September and will take the MDEQ F-4 operator certification examination in May of 2016.

Monthly Maintenance Notes

JULY 2015

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. Mow and Grounds work at Plant, Booster Stations and Water Towers
07/06/15	Installed new diaphragm in LMI dosing pump for chlorinator @ Cleveland BPS
07/09/15	Installed (2) additional security cameras, one for the west gate and one for the east side of the plant looking at the pedestrian bridge. (Waiting on Simplex Grinnell to program and set up)
7/10 to 7/14/15	Installed new hatch covers on both wet wells and sump pit in North Low Service building
07/10/15	ABCS - Reset Closed and Open Limits for Filter # 9 Effluent Valve
07/14/15	Replaced lower check valve on LMI dosing pump at Cleveland BPS
07/15/15	Repaired light fixture in Filters 5-8, new ballast and wiring
07/20/15	Clarifier # 2 - Removed (1) top roller that was seized up causing the scraper drive to shut down due to motor overload.
07/21/15	Mead & White - Installed New Heat Sink Fan in VFD # 4
07/21/15	Installed new solenoid valves for Clarifier # 2 blow offs
07/24/14	Installed New Weather Station
07/24/15	Simplex Grinnell - Programed new Security Cameras and repaired door sensor in North Low Service Building
07/27/15	Cleaned out BH/ST Interconnect vault
07/28/15	Kone Elevator - PM service and Inspection of Maintenance Elevator per contract
07/29/15	Painted walls / ceiling and installed new lights in south stairwell
07/30/15	RS Technical - Yearly PM and Service of Chlorine Vacuum Regulators, Chlorinators and Leak Detectors.

**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**

July 2015

DISTRIBUTION:	
Total Gallons	181,689,860
Average Day	5,860,963
Maximum Day	7,517,424
Minimum Day	4,557,243

TREATMENT:	
Total Low Service	185,972,360
Wash Water Gals.	2,389,456
Wash Water %	1.30%
Plant Use Gals.	1,802,023
Plant Use %	0.99%

FILTRATION:		
Ave. Filter Run	123.6	hours
Ave. Filter Rate	2.07	g/sqft/min
Filter Eff. Index	197.9	
Ave. Loss of Head	3.7	feet
Plant Sewer Usage 1,152 cu. Ft. \$ 2,545.64		

LABORATORY REPORT		
Average of	Raw	Tap
Chlorides mg/L	17.9	18.7
Fluoride mg/L	0.11	0.74
Alkalinity mg/L	110	96
Hardness mg/L	132	131
pH	8.2	7.4
Calcium mg/L	36	36
Magnesium mg/L	10	10
Turbidity NTU	4.91	0.03
Temperature °F	58	
Total Coliform		0.0
Chlorine Residual mg/L Free		
Mixing Basin		0.92
Applied		1.67
Tap		1.59
Distribution		1.05

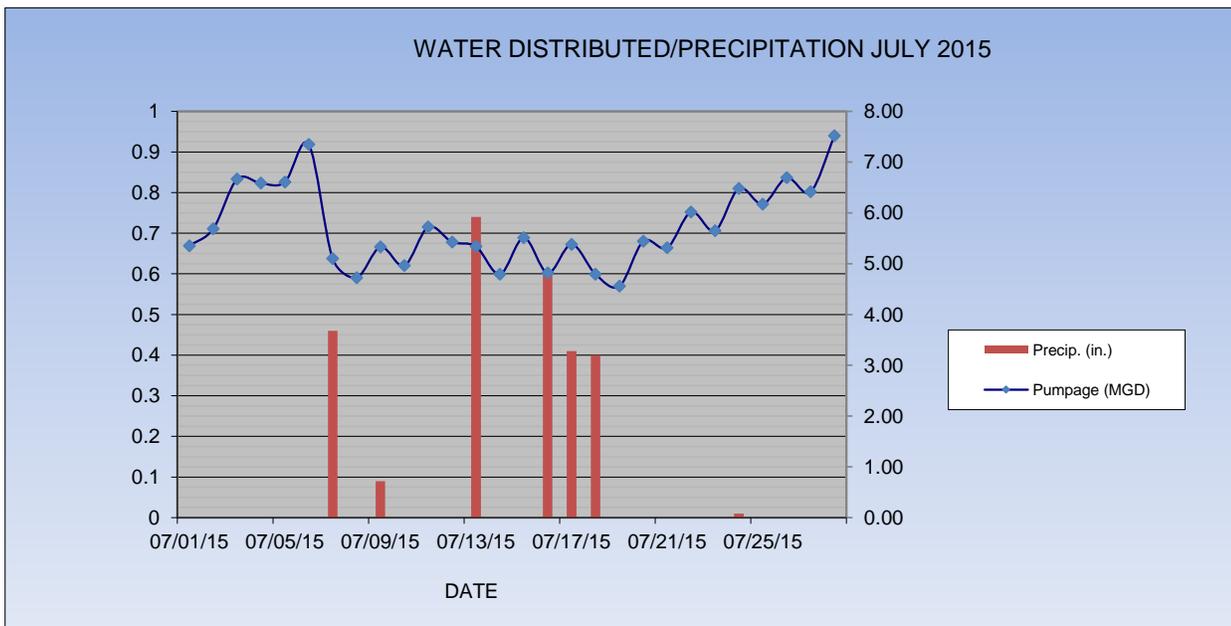
TREATMENT CHEMICAL SUMMARY:					
	Applied mg/L	Total Lbs.	Cost	Inventory lbs.	Days Supply
		CHEMICAL			
Alum (Al ⁺³)	1.70	2,629	\$7,650.73	5,761	68
Chlorine (Cl ₂)	3.19	4,940	\$1,284.40	13,065	82
Fluoride (F ₂)	0.75	1,164	\$3,492.96	4,088	109

		REMARKS:			
Total Cost all Chemicals		\$12,428.09			
Chemical Cost per Mil. Gallon Treated		\$66.83			
Chemical Cost per Mil. Gallon Delivered		\$68.40			
PLANT UTILITIES SUMMARY					
Electric:					
Total KWH		5,440	***includes measure of melted snow		
Total Power Cost		\$426.06	visit the City of Saint Joseph's Home page at www.sjcity.com		
Power Cost per Million Gallon Treated		\$125.86	e-mail comments to either: operator@sjcity.com or alimenti@sjcity.com		
Power Cost per Million Gallon Delivered		\$141.37	WEATHER CONDITIONS AT THE PLANT		
Gallons Pumped per KWH		33399	SJWW Weather Computer		Air Temp. °F
			Rain Guage, Inches	2.71	Avg. 70.8
			days it rained***	7	Max. 80.1
			Wind Speed, Avg	4.8	Min. 56.8
Natural Gas:			Wind Speed, Max	53	Lake Temp. °F
Metered Cubic Feet		7	Prevailing Wind Dir.	NNE	Avg. 58.0
Natural Gas Cost		\$6.58	Lake Level (USACE)	579.86	Max. 73.8
	N 1/2+	350			Min. 51.0
Emergency Power Diesel Fuel Inv., Gals.	S 3/4	1800			

**ST JOSEPH WATER PLANT PUMPAGE-WATER DELIVERED/RAINFALL
JULY 2015**

DATE	PUMPAGE (gallons)	PUMPAGE (MGD)	RAINFALL (in)	Day to Day Comparison 2015/2014	
				2015	2014
07/01/15	5,353,590	5.35	0	5,353,590	3,820,178
07/02/15	5,686,592	5.69	0	5,686,592	3,847,329
07/03/15	6,664,261	6.66	0	6,664,261	4,758,185
07/04/15	6,584,369	6.58	0	6,584,369	5,038,312
07/05/15	6,607,201	6.61	0	6,607,201	5,251,297
07/06/15	7,347,334	7.35	0	7,347,334	4,691,920
07/07/15	5,099,574	5.10	0.46	5,099,574	5,227,491
07/08/15	4,721,707	4.72	0	4,721,707	4,609,143
07/09/15	5,328,682	5.33	0.09	5,328,682	5,125,120
07/10/15	4,960,579	4.96	0	4,960,579	4,982,404
07/11/15	5,721,992	5.72	0	5,721,992	5,733,453
07/12/15	5,427,768	5.43	0	5,427,768	5,029,614
07/13/15	5,338,682	5.34	0.74	5,338,682	4,913,113
07/14/15	4,792,386	4.79	0	4,792,386	4,629,323
07/15/15	5,509,056	5.51	0	5,509,056	4,177,707
07/16/15	4,817,373	4.82	0.6	4,817,373	4,869,456
07/17/15	5,380,130	5.38	0.41	5,380,130	4,744,237
07/18/15	4,793,989	4.79	0.4	4,793,989	5,685,106
07/19/15	4,557,243	4.56	0	4,557,243	5,476,347
07/20/15	5,442,890	5.44	0	5,442,890	5,794,067
07/21/15	5,312,141	5.31	0	5,312,141	6,590,781
07/22/15	6,016,613	6.02	0	6,016,613	6,837,467
07/23/15	5,647,996	5.65	0	5,647,996	5,238,021
07/24/15	6,482,331	6.48	0.01	6,482,331	5,600,312
07/25/15	6,173,002	6.17	0	6,173,002	5,961,421
07/26/15	6,692,842	6.69	0	6,692,842	5,838,362
07/27/15	6,415,389	6.42	0	6,415,389	6,165,420
07/28/15	7,517,424	7.52	0	7,517,424	5,438,934
07/29/15	7,310,743	7.31	0	7,310,743	5,285,083
07/30/15	6,904,817	6.90	0	6,904,817	6,087,856
07/31/15	7,081,162	7.08	0	7,081,162	5,056,675
TOTAL	181,689,860	181.69	2.71	181,689,860	162,504,136

Average Day	5,860,963
Maximum Day	7,517,424
Minimum Day	4,557,243



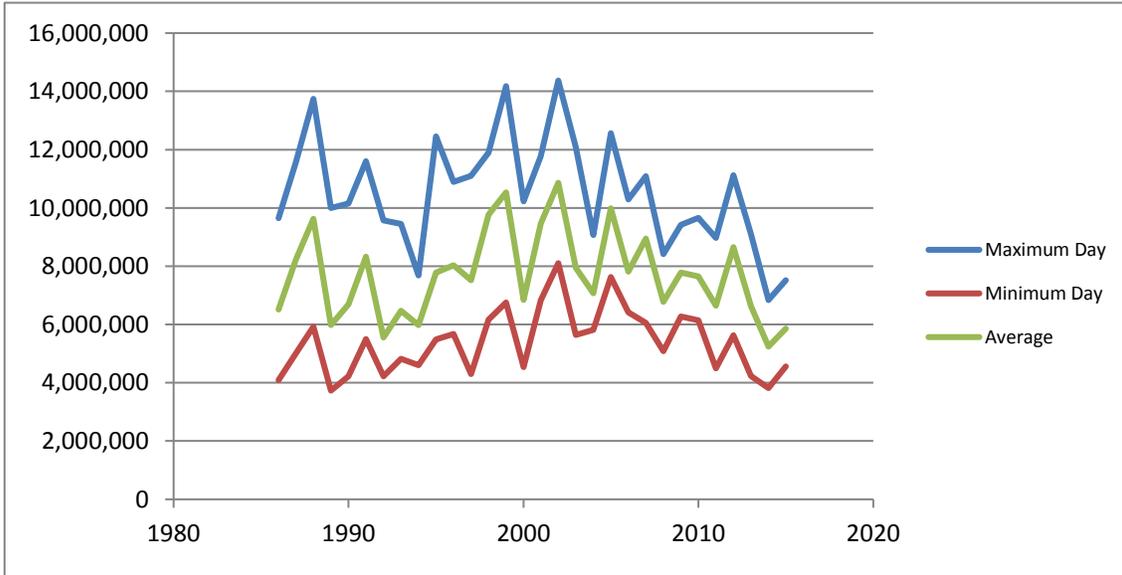
City of St. Joseph

Water Delivered July 2015

Year	Average	Maximum Day	Minimum Day	Monthly Total
1986	6,511,548	9,647,200	4,093,700	201,858,000
1987	8,224,284	11,572,500	5,010,300	254,952,800
1988	9,620,248	13,737,100	5,929,400	298,227,700
1989	5,980,219	9,999,600	3,730,800	185,386,800
1990	6,689,352	10,154,500	4,221,100	207,369,900
1991	8,321,697	11,597,100	5,494,600	257,972,600
1992	5,557,800	9,576,200	4,215,800	172,291,800
1993	6,470,832	9,449,600	4,821,100	200,595,800
1994	5,978,371	7,683,600	4,608,400	185,329,500
1995	7,776,994	12,455,700	5,483,800	241,086,800
1996	8,032,152	10,895,700	5,675,000	248,996,700
1997	7,521,474	11,098,600	4,295,500	233,165,700
1998	9,769,487	11,894,800	6,166,850	302,854,100
1999	10,527,027	14,182,550	6,753,150	326,337,850
2000	6,836,392	10,222,400	4,538,500	211,928,150
2001	9,464,765	11,781,300	6,835,250	293,407,700
2002	10,861,105	14,369,900	8,104,000	336,694,250
2003	7,944,660	12,081,270	5,645,120	246,284,450
2004	7,070,745	9,064,000	5,811,500	219,193,080
2005	9,984,444	12,561,030	7,625,810	309,517,750
2006	7,817,399	10,287,500	6,416,500	242,339,370
2007	8,949,160	11,088,240	6,060,000	277,423,970
2008	6,773,159	8,410,730	5,088,510	209,967,920
2009	7,775,545	9,418,490	6,271,750	251,041,900
2010	7,648,984	9,661,039	6,148,012	237,118,518
2011	6,648,500	8,965,640	4,490,325	206,103,485
2012	8,654,039	11,115,883	5,632,433	268,275,220
2013	6,631,766	9,103,735	4,229,465	205,584,737
2014	5,242,069	6,837,467	3,820,178	162,504,136
2015	5,860,963	7,517,424	4,557,243	181,689,860

Monthly Total Ranking-July 1986-2015

Rank	Year	Monthly Total
1	2002	336,694,250
2	1999	326,337,850
3	2005	309,517,750
4	1998	302,854,100
5	1988	298,227,700
6	2001	293,407,700
7	2007	277,423,970
8	2012	268,275,220
9	1991	257,972,600
10	1987	254,952,800
11	2009	251,041,900
12	1996	248,996,700
13	2003	246,284,450
14	2006	242,339,370
15	1995	241,086,800
16	2010	237,118,518
17	1997	233,165,700
18	2004	219,193,080
19	2000	211,928,150
20	2008	209,967,920
21	1990	207,369,900
22	2011	206,103,485
23	2013	205,584,737
24	1986	201,858,000
25	1993	200,595,800
26	1989	185,386,800
27	1994	185,329,500
28	2015	181,689,860
29	1992	172,291,800
30	2014	162,504,136



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-Jul	2.613	1	0.14	0.01	1.49	1.53	1.57	0.062	3	0.43	0.83	1.51	1.78	1.83	2.675
2-Jul	1.959	0	0.00	0.00	1.38	1.36	1.45	2.894	66	9.36	0.39	1.62	1.91	2.06	4.854
3-Jul	2.758	0	0.00	0.00				1.529	31	4.40	0.34				4.287
4-Jul	2.758	0	0.00	0.00				1.529	31	4.40	0.34				4.287
5-Jul	2.758	0	0.00	0.00				1.529	31	4.40	0.34				4.287
6-Jul	2.758	0	0.00	0.00	1.37	1.37	1.40	1.529	31	4.40	0.34	1.41	1.67	1.72	4.287
7-Jul	2.341	37	5.25	0.27	1.54	1.85	1.91	1.150	19	2.69	0.28	1.52	1.84	2.11	3.490
8-Jul	2.402	42	5.95	0.30	1.50	1.78	1.82	1.079	34	4.82	0.54	1.56	1.81	2.02	3.481
9-Jul	2.338	65	9.22	0.47	2.11	1.93	1.97	0.657	27	3.83	0.70	2.20	2.06	2.28	2.995
10-Jul	1.961	56	7.94	0.49	1.60	1.77	1.80	0.920	45	6.38	0.83	1.52	1.94	1.98	2.880
11-Jul	2.511	57	8.08	0.39				1.101	21	2.98	0.32				3.611
12-Jul	2.511	57	8.08	0.39				1.101	21	2.98	0.32				3.611
13-Jul	2.511	57	8.08	0.39	1.46	1.49	1.57	1.101	21	2.98	0.32	1.51	1.79	1.89	3.611
14-Jul	1.811	1	0.14	0.01	1.41	1.50	1.51	0.928	19	2.69	0.35	1.81	1.79	1.97	2.739
15-Jul	1.358	35	4.96	0.44	2.07	1.81	1.90	2.572	41	5.81	0.27	2.13	1.94	2.00	3.930
16-Jul	1.484	28	3.97	0.32	1.45	1.70	1.85	0.935	23	3.26	0.42	1.58	1.77	2.01	2.418
17-Jul	2.761	62	8.79	0.38	2.19	1.79	1.86	0.439	11	1.56	0.43	1.54	1.59	1.80	3.199
18-Jul	2.522	30	4.25	0.20				0.531	12	1.70	0.38				3.053
19-Jul	2.522	30	4.25	0.20				0.531	12	1.70	0.38				3.053
20-Jul	2.522	30	4.25	0.20	1.41	1.49	1.55	0.531	12	1.70	0.38	1.40	1.73	1.85	3.053
21-Jul	2.242	54	7.66	0.41	2.18	1.54	1.58	0.987	39	5.53	0.67	1.82	1.58	1.69	3.229
22-Jul	2.854	79	11.20	0.47	2.20	2.01	2.18	1.123	26	3.69	0.39	2.19	1.89	2.08	3.977
23-Jul	2.176	55	7.80	0.43	1.40	1.58	1.72	1.333	37	5.25	0.47	1.43	1.74	1.92	3.509
24-Jul	2.720	65	9.22	0.41	1.45	1.71	1.84	1.199	24	3.40	0.34	1.46	1.78	1.92	3.918
25-Jul	2.903	97	13.75	0.57				1.538	37	5.25	0.41				4.441
26-Jul	2.903	97	13.75	0.57				1.538	37	5.25	0.41				4.441
27-Jul	2.903	97	13.75	0.57	2.19	2.06	2.11	1.538	37	5.25	0.41	2.04	1.95	2.11	4.441
28-Jul	2.680	82	11.63	0.52	2.19	2.11	2.23	1.850	19	2.69	0.17	1.47	1.62	1.70	4.530
29-Jul	2.607	109	15.45	0.71	1.46	1.94	1.99	2.385	58	8.22	0.41	1.69	1.56	1.61	4.992
30-Jul	2.929	124	17.58	0.72	1.51	1.84	1.86	3.652	87	12.33	0.41	1.58	1.72	1.73	6.581
31-Jul	2.574	85	12.05	0.56	1.29	1.69	1.80	0.812	8	1.13	0.17	2.20	1.49	1.61	3.386
TOTAL	76.647	1,532	217.2					40.601	920	130.44					117.248
AVE DAY	2.472		7.0	0.33	1.7	1.7	1.8	1.3097		4.2	0.41	1.69	1.77	1.90	3.782
MAX	2.929		17.6	0.72	2.2	2.1	2.2	3.6517		12.3	0.83	2.2	2.06	2.28	6.581
MIN	1.358		0.0	0.00	1.3	1.4	1.4	0.0618		0.4	0.17	1.4	1.49	1.61	2.418
MONTHLY TOTALS:	Cleveland	Total MG Treated	76.647	SJCT EAST				Hilltop	Total MG Treated	40.601	Cleveland Pump Station:				76.647
		Untreated	0.000	Average Day	0.2627				Untreated	0.000	Hilltop Pump Station:				40.601
Total Authority Flow:	123.979			Month Total	8.144						TOTAL AUTHORITY (Trted.)				117.248

DISTRIBUTION REPORT

For the Month of July 2015

Activity	Number/Description		
Water Main Breaks	1		
MISS DIGS	406		
Delinquent Shut Off	16	Lincoln Charter Township	
Delinquent Shut Off (Broken Payment Plans)	0		
Hydrants (Repaired/Replaced)	12	Lincoln Township. Frozen caps, leak, would not open, Low water pressure. Reported by LCT Fire Dept.	
Valves	0		
Taps (1")	3	1419 Christen Path (SJCT) 4910 Scottdale Road (RCT) 1792 West Glenlord Road (LCT)	
	2	Removed meter pits 623 and 625 Lake Street (City)	
Cross Connection Control (Hydro Designs)			
Service Work (System Valves)	1	945 Wisconsin-Service leak on City side.	
Repair of Curb box/Shut-Off Valves	0		
Service Replacement			
Water Quality Complaint(s)	0		
Hydrant Flushing to maintain water quality	100,000	North dead end on M139 per WTP sample site.	
Hydrant Flushing (Stage 2 Rule)	64,146	Dane, LCT Hall	
Staff Education/Training	0	First Aid and CPR Training (all of PW)	
Overtime-Total	54	(Including Sanitary and Storm)	
Turn Off	9	(Note: For delinquent Shut off see above)	
Turn On	5		
Finals	171		
Meter Repair/Replacement		Audit Meter	
		Verify Read	
Meter Repair		Move Mxu Box	
Per detail		New Installation	16
Meter leaking	12	New Installation-Benton Harbor	
Stopped Meter	10	Replaced/various reasons	2
Faulty Register		Rockwell Replacement	
Frozen Meter	3	Mxu Replaced	5
Move Meter Inside		Sprinkler meter removed/line capped	
Hard to read	8	Removals/demo	2
Replace/Adding Sprinkler Meter		Curb box location	4
Damage to Trt		Broken Remote	
New Plumbing		Noisy Meter	
New siding		Upgrade 5/8" to 3/4"	
Meter sent out for testing	1	Meter Change/Benton Harbor	

CITY OF ST. JOSEPH WATER MAIN BREAK REPORT

For the Month/Year of: July 2015

#	Date	Location	Main Size	Gallons Lost	Break Type	Valves Turned	City Twp	Labor	Remarks
1	7/20/2015	521 Ridgeway	6	500	Circumferential	3	City	2	Crack
2									
3									
	TOTALS			500		0			

STAGE 2 D/DBPR MONITORING-HALOACETIC ACIDS

JULY 2015

WSSN 3726

Date	10/15/14	10/31/14	10/15/14
Site	Lincoln Twp Hall (DBP-1)	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1	<1
Dichloroacetic acid	43	20	4.8
Monobromoacetic acid	<1	<1	<1
Monochloroacetic acid	4.6	<2	<2
Trichloroacetic acid	57	19	17
<i>Total HAA5 (by sample)</i>	<i>104.6</i>	<i>39.0</i>	<i>21.8</i>
<i>Total HAA5 (month)</i>		<i>71.8</i>	<i>21.8</i>

Date	01/16/15	01/16/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	5.1	15
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	4.2	13
<i>Total HAA5</i>	<i>9.3</i>	<i>28.0</i>

Date	04/08/15	04/08/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	<1	<1
Dichloroacetic acid	9.3	19
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	<2
Trichloroacetic acid	9.4	21
<i>Total HAA5</i>	<i>18.7</i>	<i>40.0</i>

Date	07/17/15	07/17/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Dibromoacetic acid	1.1	1.1
Dichloroacetic acid	14	17
Monobromoacetic acid	<1	<1
Monochloroacetic acid	<2	2.5
Trichloroacetic acid	8.6	12
<i>Total HAA5</i>	<i>23.7</i>	<i>32.6</i>

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	30.9	30.6

STAGE 2 D/DBPR MONITORING-TTHM

JULY 2015

WSSN 3726

Date	10/15/14	10/31/14	10/15/14
Site	Lincoln Twp Hall (DBP-1)	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	16	11	9.6
Bromoform	<0.5	<0.5	<0.5
Chloroform	69	34	54
Dibromochloromethane	2.5	3.4	1.6
<i>Total Trihalomethanes (by sample)</i>	87.5	48.4	65.2
<i>Total Trihalomethanes (month)</i>		68.0	65.2

Date	01/16/15	01/16/16
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	5.6	10
Bromoform	<0.5	<0.5
Chloroform	6.2	24
Dibromochloromethane	3.1	3.4
<i>Total Trihalomethanes</i>	14.9	37.4

Date	04/08/15	04/08/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	6.6	8.9
Bromoform	<0.5	<0.5
Chloroform	10	23
Dibromochloromethane	2.4	2.5
<i>Total Trihalomethanes</i>	19	34.4

Date	07/17/15	07/17/15
Site	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
Bromodichloromethane	9.3	10
Bromoform	<0.5	<0.5
Chloroform	20	31
Dibromochloromethane	3.7	4
<i>Total Trihalomethanes</i>	33	45

	Lincoln Twp Hall (DBP-1)	Dane (DBP-2)
RAA (ppb)	33.7	45.5

JULY 2015

CITY OF ST. JOSEPH

WSSN 6310

	TOC Compliance							
	Treated	Source	Formula		Req. TOC	Actual	Alternative	Compl. Perf.
	Tap	Tap	Ratio	Alka- linity	Removal	Ratio/ Remov	Criteria Complied Y/N	
August	1.19	1.49	20.1	103	25	0.81	Yes	1.00
September	1.44	1.77	18.6	112	25	0.75	Yes	1.00
October	1.45	1.78	18.5	116	25	0.74	Yes	1.00
November	1.12	1.48	24.3	114	25	0.97	Yes	1.00
December	1.23	3.84	68.0	192	15	4.53	N(Removal)	4.53
January 2015	1.45	2.28	36.4	118	25	1.46	N(Removal)	1.46
February	1.27	1.61	21.1	127	15	1.41	N(Removal)	1.41
March	1.20	1.44	16.7	129	15	1.11	N(Removal)	1.11
April	1.15	1.48	22.3	118	25	0.89	Yes	1.00
May	1.33	1.71	22.2	123	15	1.48	N(Removal)	1.48
June	1.26	1.50	16.0	109	25	0.64	Yes	1.00
July	1.23	1.67	26.3	110	25	1.05	N(Removal)	1.05
Quarter Avg.								
Annual Avg.	1.28	1.84						1.42

7/14/2015

MONTHLY CLIMATOLOGICAL SUMMARY

JULY

2015

NAME: sjwwweather

St. Joseph Water Plant - 1701 Lions Park Drive - St. Joseph, MI

DAY	MEAN TEMP	NORM MEAN TEMP	HIGH TEMP	TIME	NORM HIGH TEMP	REC HIGH TEMP	YEAR	LOW TEMP	TIME	NORM LOW TEMP	REC LOW TEMP	YEAR	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	60.3	71	63.5	1:00a	82	95	1963	59.2	8:00p	59	39	1982	3.6	0	0	10.4	21	4:00a	N
2	60.5	71	64.4	4:00p	82	96	1974	56.8	6:00a	60	40	1988	4.4	0	0	4.7	20	4:00p	NNE
3	63.5	71	66.5	7:00p	82	95	1974	60.2	6:00a	60	39	1988	1.6	0	0	2.5	11	1:00p	NNE
4	66.5	71	70.9	8:00p	82	96	1990	62.1	6:00a	60	43	1996	0	1.5	0	1.1	8	1:00a	SW
5	71.1	71	75.1	6:00p	82	95	1990	66	6:00a	60	43	1996	0	5.5	0	2	9	3:00a	NNE
6	75.8	72	82.5	4:00p	82	97	1991	69.6	6:00a	60	43	1972	0	11	0	5.6	30	12:00m	SSW
7	65.3	72	75.1	1:00a	82	95	1980	60.7	12:00m	60	43	1983	0	2.9	0.46	17	41	5:00p	N
8	63.2	72	66.7	5:00p	82	95	1980	58.8	7:00a	60	39	1984	2.3	0	0	1.3	14	7:00p	E
9	63.2	72	65.3	1:00a	82	95	1988	59.9	10:00a	60	49	1963	2.4	0	0.09	2.7	18	8:00a	NNE
10	65.2	72	68.6	5:00p	82	95	1976	60.6	6:00a	60	45	1962	0.4	0	0	1.4	9	7:00a	SE
11	68.9	72	72.7	8:00p	82	93	1984	63	6:00a	60	41	1996	0	2.8	0	1.2	9	6:00a	SW
12	72.1	72	73.9	9:00p	82	95	1987	70.2	9:00a	60	48	1975	0	7	0	1.2	10	1:00p	N
13	73	72	78.3	9:00p	82	99	1995	67.8	8:00a	60	48	1990	0	8.1	0.74	5.1	40	8:00a	SSE
14	68.4	72	74	1:00a	82	100	1995	63.5	12:00m	61	46	1950	0	3.8	0	12.7	40	7:00p	N
15	65.2	72	67.5	2:00p	82	99	1995	62.8	4:00a	61	47	1960	0	0.1	0	7	23	3:00a	NNE
16	68.1	72	71.9	5:00p	82	99	1988	64.6	7:00a	61	46	1987	0	3.3	0.6	1.3	14	4:00p	S
17	75.7	72	83	6:00p	82	95	1986	68.1	2:00a	61	45	1985	0	10.5	0.41	4.9	21	9:00p	SW
18	75.9	72	85.2	4:00p	82	93	1986	71.2	10:00a	61	48	1979	0	13.2	0.4	5.6	53	6:00p	SSE
19	74.1	72	76.3	2:00a	82	95	1991	72.5	10:00a	61	47	1979	0	9.4	0	5.1	18	2:00a	SSW
20	74	72	78.6	5:00p	82	96	1980	69.8	7:00a	61	46	1951	0	9.2	0	3.4	15	3:00p	SSW
21	70.2	72	74	1:00a	82	95	1983	67.8	9:00a	61	44	1970	0	5.9	0	5.2	19	4:00a	NNE
22	71.7	72	75	6:00p	82	96	1983	68.7	3:00a	61	47	1970	0	6.8	0	1.9	13	6:00a	N
23	73.1	72	76.6	6:00p	82	96	1983	69	6:00a	60	44	1985	0	7.8	0	1.7	8	10:00a	SE
24	71.7	72	73.6	1:00a	82	94	1965	70.5	4:00a	60	42	1957	0	0	0.01	0.9	7	5:00a	NNW
25	75.7	72	86	4:30p	82	92	1964	71	4:30a	60	50	1990	0	10.7	0	7.5	20	9:30a	SSE
26	73.9	72	80.5	4:30p	82	92	1966	66.3	7:00a	60	49	1961	0	8.9	0	3	14	5:00p	NNE
27	78.4	72	91	4:30p	82	91	1949	68.6	7:00a	60	45	1991	0	13.4	0	2.9	17	6:00p	ENE
28	80.1	72	91.2	6:30p	82	99	1983	69	7:00a	60	51	1992	0	15.1	0	2	16	12:30p	E
29	78	72	82.7	5:30p	82	100	1983	74.8	7:30a	60	46	1968	0	13	0	6.9	19	10:30p	W
30	75.6	72	80.3	5:00p	82	104	1999	72.3	7:00a	60	47	1984	0	10.6	0	12.1	23	4:30a	W
31	75.9	72	81.6	5:30p	82	100	1999	73	7:30a	60	46	1993	0	10.9	0	10	22	11:30a	W
AVE	70.8	72											0.5	6.2	0.1	4.8	19.4		NNE
MAX	80.1	72	91.2			104		74.8		61	51		4.4	15.1	0.74	17.0	53.0		
MIN	60.3	71	63.5					56.8		59	39		0	0	0	0.9	7		
TOTAL															2.71				

Max Rain: 0.74 ON 07/13/15
 Days of Rain: 6 (>.01 in) 5 (>.1 in) 0 (>1 in)