City of Springfield
Wastewater Treatment Plant
2013 Annual Report

965 Dayton Ave.
Springfield, Ohio 45506
(937) 324-7626
www.ci.springfield.oh.us

Table of Contents

Superintendent's Note

In 2013, the Springfield Wastewater Treatment Plant averaged a daily flow of 15.8 Million Gallons per Day (MGD). The plant rain gauge recorded nearly 44 inches of rain for the year.

We entered into the second year of the plant's expansion project. This has included the near completion of the Final Settling Basin #3 and the new Excess Flow Interceptor Structure (EFIS), both expected to be online early in 2014. Additionally, the new High Rate Treatment (HRT) structure is mostly completed. Construction of the HRT facility will be completed by the end of 2014 with full treatment capability by mid-2015.

As part of the Long Term Control Plan, design of the Erie Interceptor Express Sewer continues. Design should be completed in late 2014 with construction to follow.

The plant has completed stress testing and is now treating up to 40 Million Gallons per Day (MGD) through full treatment. Previously, the maximum flow through the plant was 34 MGD. This has reduced the number of bypasses through our Combined Sewer Overflow (CSO) to Mad River during rain events by about one-third.

This year also saw the construction of three pumping stations. The Airport Treatment Plant on Blee Road was officially removed from service in 2013, as a new pumping station replaced it. The Airpark Pumping Station, also on Blee Road, was replaced due to its deteriorated condition. The Benjamin Lift Station was expanded to include a new wetwell, pumps, and controls. Although built, its completion is expected in early 2014.

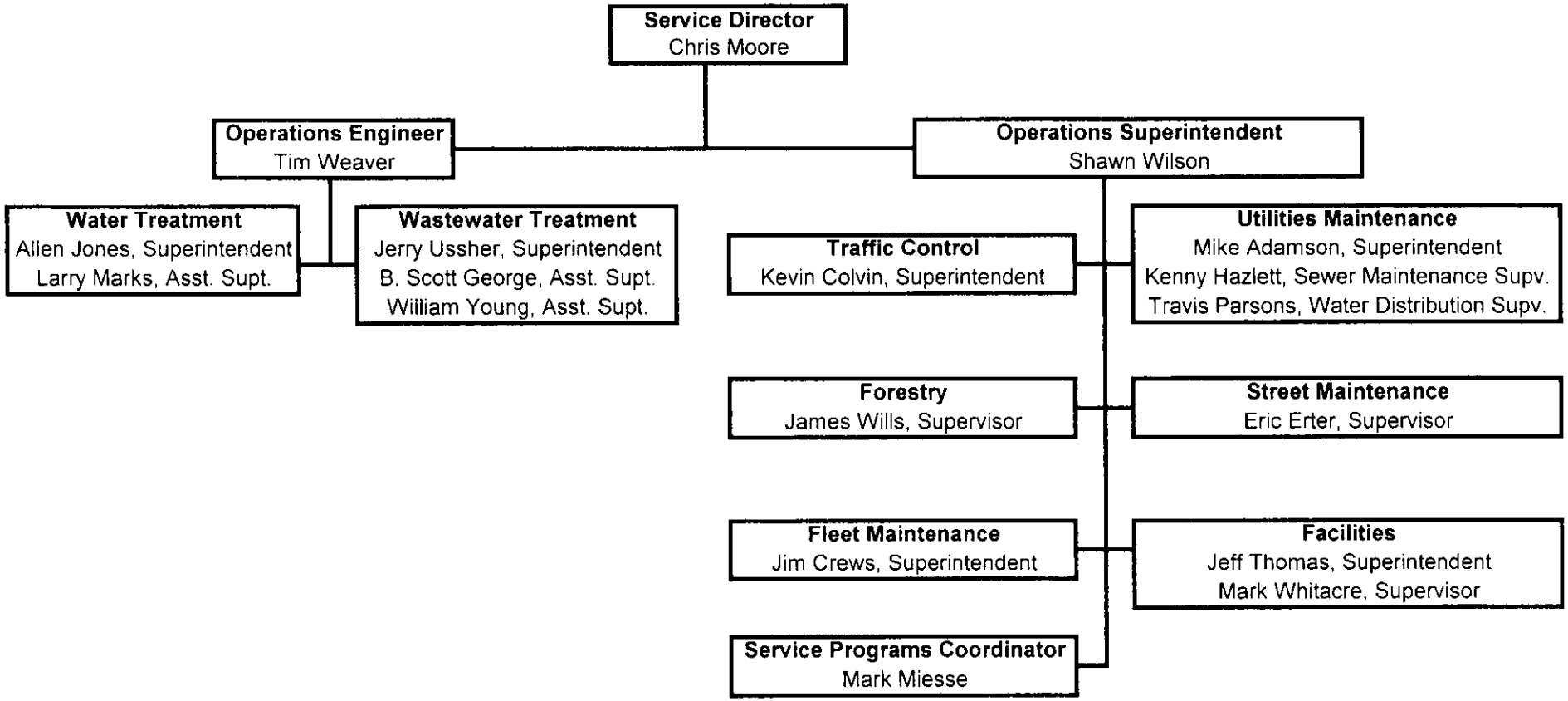
The Plant violated permit limits one time in 2013. In December, the Low Level Mercury monthly concentration was violated with a reading of 13.6 ng/L, having a limit of 12 ng/L. A study of the collection system is currently underway to determine the sources and develop strategies to limit Low Level Mercury to the Plant.

Several Suspended Solids violations also occurred early in the year at our Airport Treatment Plant. This was due to exceeding hydraulic treatment capability. This small Plant was removed from service and replaced with a lift station, eliminating any further problems.

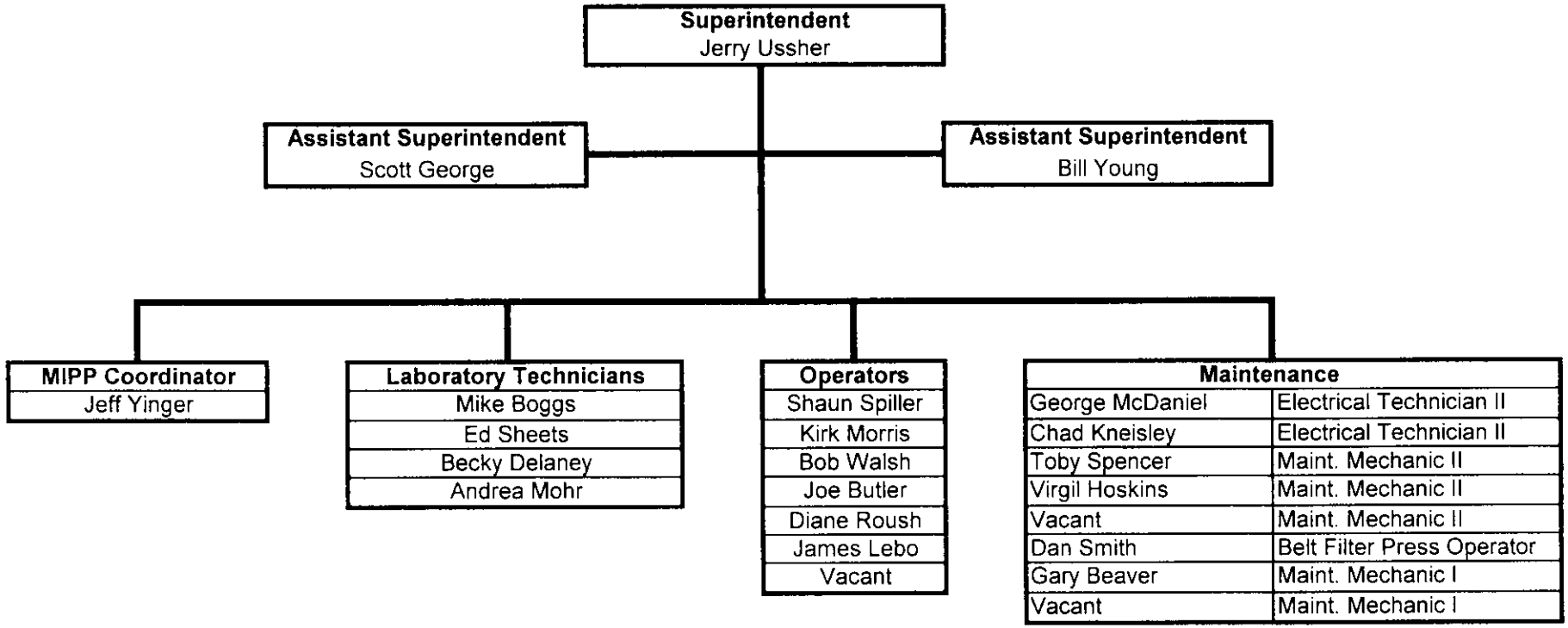
Jerry Ussher

WWTP Superintendent

City of Springfield
Service Department



City of Springfield
Wastewater Treatment Plant



2013 Personnel Roster and Hire Dates

	Name	Position	OEPA Cert #	City Hire Date	City Service Years
1	Jerry Ussher	Superintendent	WW3-1067198-09	10/1/2001	12.36
2	B. Scott George	Assistant Superintendent	WW2-1122107-13	3/14/2013	0.87
3	Bill Young	Assistant Superintendent	WW4-1010779-09	2/11/2013	32.46
4	Jeff Yinger	MIPP Coordinator	WW3-1010781-95	1/19/1992	22.06
5	Michael Boggs	Lab, Technician	WW3-1013887-92	6/12/1989	24.66
6	Ed Sheets	Lab, Technician	WW2-1107177-09	10/4/1993	20.35
7	Rebecca Delaney	Lab, Technician	WW2-1115658-10	4/28/2008	5.78
8	Andrea Mohr	Lab, Technician	WW2-1119034-13	5/4/2010	3.77
9	George McDaniel	Electrical Technician II		3/9/1981	32.92
10	Chad Kneisley	Electrical Technician II		11/8/2013	0.22
11	Shaun Spiller	Plant Operator II	WW3-1098708-12	12/15/2004	9.15
12	Kirk Morris	Plant Operator II	WW3-1056507-05	11/13/2007	6.24
13	Bob Walsh	Plant Operator II	WW2-1115768-12	1/11/2010	4.08
14	Joseph Butler	Plant Operator II	WW2-1114490-13	1/3/2011	3.10
15	Daush Roush	Plant Operator II	WW1-1117685-11	9/6/2011	2.43
16	James Lebo	Plant Operator II	WW1-1127477-13	5/10/2010	3.71
17	Toby Spencer	Plant Maintenance II		2/7/2006	8.01
18	Virgil Hoskins	Plant Maintenance II		5/31/2011	2.69
19	Dan Smith	Belt Filter Press Operator		4/22/2013	31.01
20	Gary Beaver	Plant Maintenance I		6/4/2012	1.68

Average Service	11.38

Springfield Wastewater Treatment Plant

The Wastewater Treatment Plant is an advanced secondary treatment plant located at 965 Dayton Avenue in Springfield, Ohio. The plant was originally constructed in 1935 as a primary treatment facility with major improvements in 1961, 1972, 1988, 1995, and 2000. The facility is presently designed for an average day capacity of 25 MGD (Million Gallons per Day) with an actual average flow of 15.8 MGD. During rain and storm water events the plant can treat up to a peak flow of 40 MGD.

Flow enters the plant through four large interceptor sewers. Three of these sewers combine before the automated combined sewer overflow (CSO) chamber. The fourth interceptor sewer enters the plant down stream from the bypass chamber. The influent then flows through two automated control gate valves into the bar screen channels. A new headworks structure is currently under construction.

The CSO screen is a side discharge bending weir screen operating automatically during storm events. This screen is designed with 4 mm openings and an automated cleaning rake mechanism. The bypass flow combines with the plant effluent before entering the Mad River. The current plant construction will allow for Primary Treatment and disinfection of this flow prior to discharge to Mad River.

Physical treatment starts with two parallel Hycor, one-inch bar screens that remove larger objects from the waste stream. These screenings are raked into a screw dewatering press and incinerated. The flow then proceeds to one of two parallel, aerated grit basins where the inorganic solids are removed, cleaned, and hauled to a landfill. One screen and grit basin is in operation during normal flow.

The flow is then divided into three primary clarifiers for organic solid settling and grease and oil removal. The organic solids settle to the bottom of each tank where they are pumped to the primary digesters. The grease and oil is removed also to the primary digesters.

Flow from the primary clarifiers is then pumped with fixed discharge pumps to two trickling filters, 200 feet in diameter, where biological treatment begins. The discharge from these filters is pumped into a complete mixed activated sludge (CMAS) system through a combination of 8.2-foot diameter screw pumps. The CMAS system consists of four 1.25 million gallon (MG) aeration tanks which then flow into two 1.4 MG secondary settling basins. A third settling basin is under construction. The settled material, the activated sludge, is returned to the head of the CMAS system (Return Activated Sludge - RAS) to seed the incoming trickling filter effluent. Excess sludge eventually accumulates beyond what is required for treatment and is called Waste Activated Sludge (WAS). WAS is removed from the treatment process to keep the ratio of biomass to food

supplied (wastewater) in balance. It is pumped into the primary tanks from the secondary clarifiers, acting as a flocculent for the primary sludge.

Discharge from the secondary clarifiers is then piped to a 400,000-gallon disinfection tank where, during the months of May through October, sodium hypochlorite is added for disinfection. To neutralize the remaining chlorine, flow continues to a de-chlorination/aeration tank where sodium bisulfite is added. Blowers are used to aerate the effluent when necessary to assure proper oxygen levels prior to discharge into Mad River. During the months of November through April, these tanks continue the normal course of flow but without the chemicals.

Settled solids (sludge) removed from the primary clarifiers are pumped into three 400,000-gallon digesters for treatment. A fourth primary digester will be going into service in 2014. In these primary digesters the sludge is heated, mixed, and digested under anaerobic conditions for destruction of organic matter. After the sludge is treated it flows into a 700,000-gallon secondary digestion tank for storage. The gas produced in this process (methane) is used for the heating of the primary digesters and is stored in the secondary digesters' floating dome.

The final stage of treatment is to remove as much water as possible from the digested sludge in preparation for reuse. To do this, polymer is added to the sludge, aiding in the dewatering process. It is then introduced to the belt filter press where it passes several pressure zones for water removal. This dewatered sludge is then pumped to an enclosed storage structure until hauled away for beneficial agricultural reuse.

Licensed operators oversee operation of the plant 24 hours per day, seven days a week. They are assisted with their duties by a computerized automated control system consisting of a series of 10 PLCs (Programmable Logic Controllers) with 2 PCs (Personal Computers) using WonderWare Factory Suite, an integrated component-based MMI (Manufacturing Management Information) System. Integrated in this system is the capability of automatic control, data collection, and manual overrides for most of the process areas.

Plant Improvement History

1935

The Springfield Wastewater Treatment Plant was originally constructed and placed into operation with preliminary and primary sewage treatment, and single stage anaerobic sludge digestion followed by a vacuum filter.

1961

An upgrade project was completed which provided secondary biological treatment with trickling filters. Hydraulic capacity was increased to 25 MGD (million gallons per day) daily average flow, and 37.5 MGD peak flow. The anaerobic digestion system was upgraded to two stages with the addition of a secondary digester with a floating cover for gas storage.

1972

The preliminary treatment process was expanded and upgraded to dual units for screenings and aerated grit removal. A chlorine contact basin and storage building for one-ton containers was added to improve the disinfection process.

1988

The plant was upgraded to advanced secondary treatment by adding complete mixed activated sludge in tandem with the trickling filters. Dechlorination and post aeration were added after the disinfection process. This project also included a new Operations and Laboratory building.

1995

Mechanical sludge dewatering by belt filter press and covered storage were constructed to replace earthen lagoons. Land application of sludge was transferred from in-house staff to private operators.

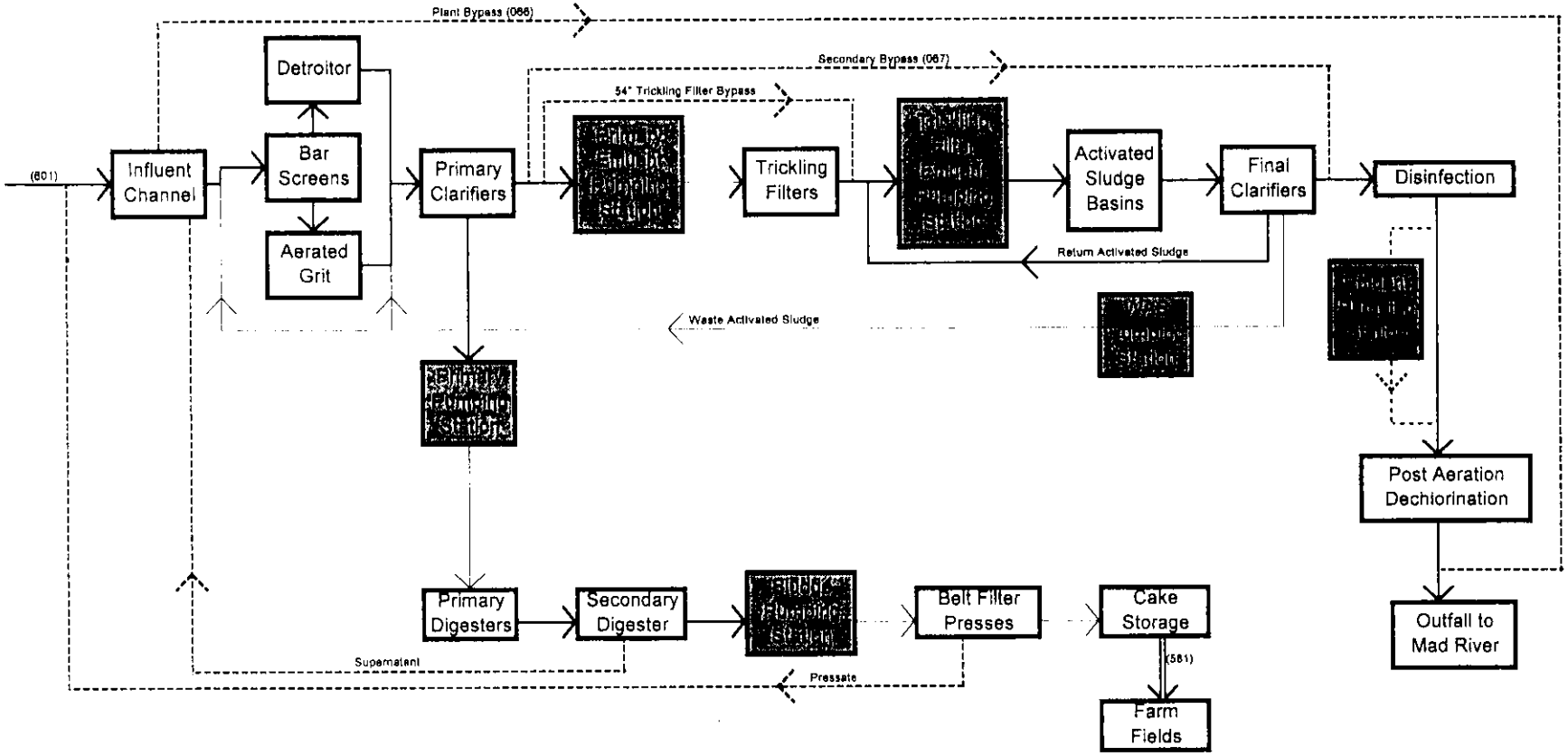
2000

At this time, the following improvements were conducted:
-Combined sewer overflow screening and other headworks improvements.
-Anaerobic digester structural renovations and new process heating system.
-Effluent sewer expansion for peak flows handling.
-Conversion from gaseous chemical disinfection to aqueous chemical disinfection.
-General repair and renovation to buildings and structures.
-Installation of mechanizations and electronics for a SCADA system for process automation.

2009

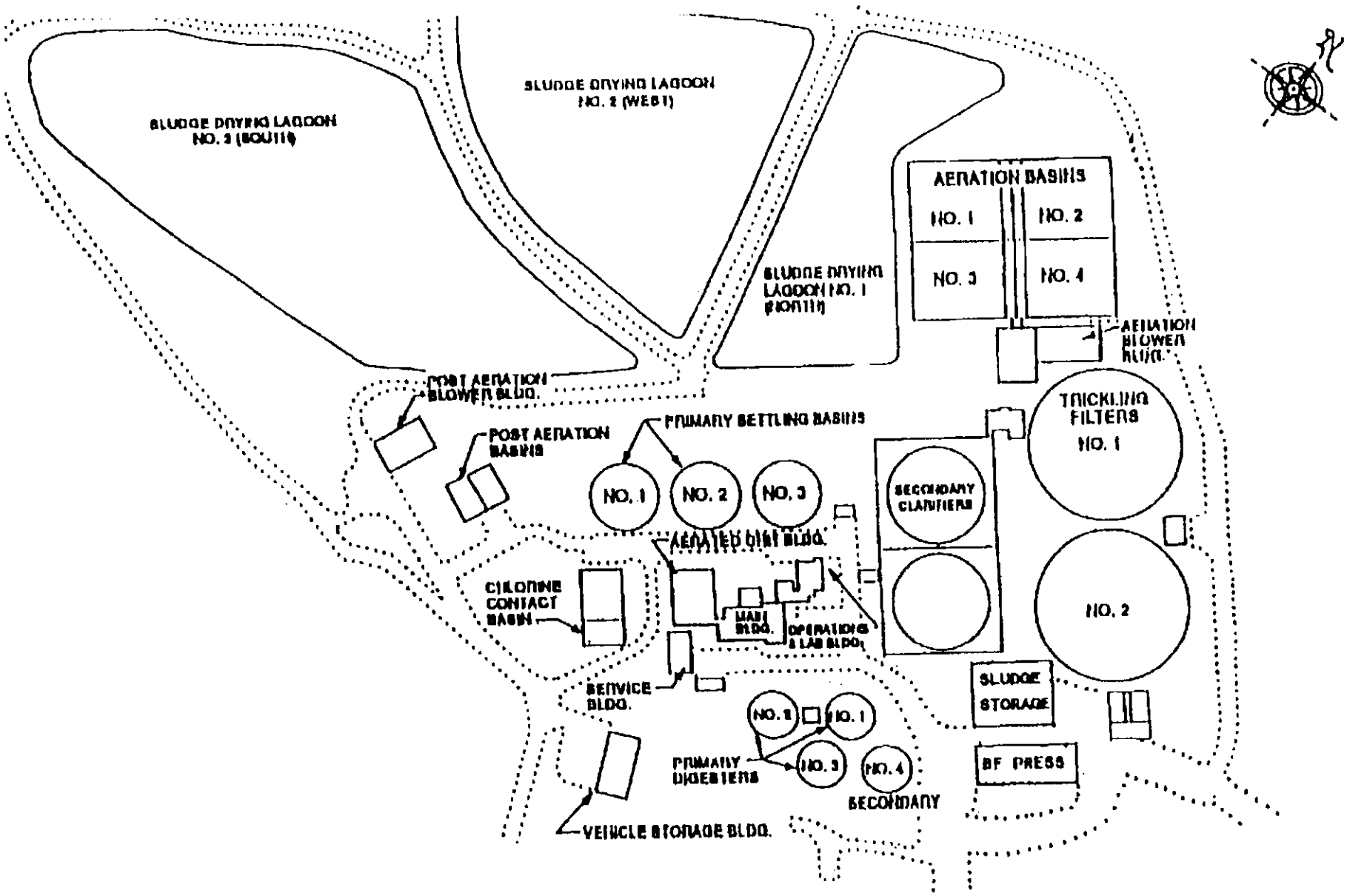
An Effluent Pump Station was added.

Springfield WWTP
Process Flow Schematic

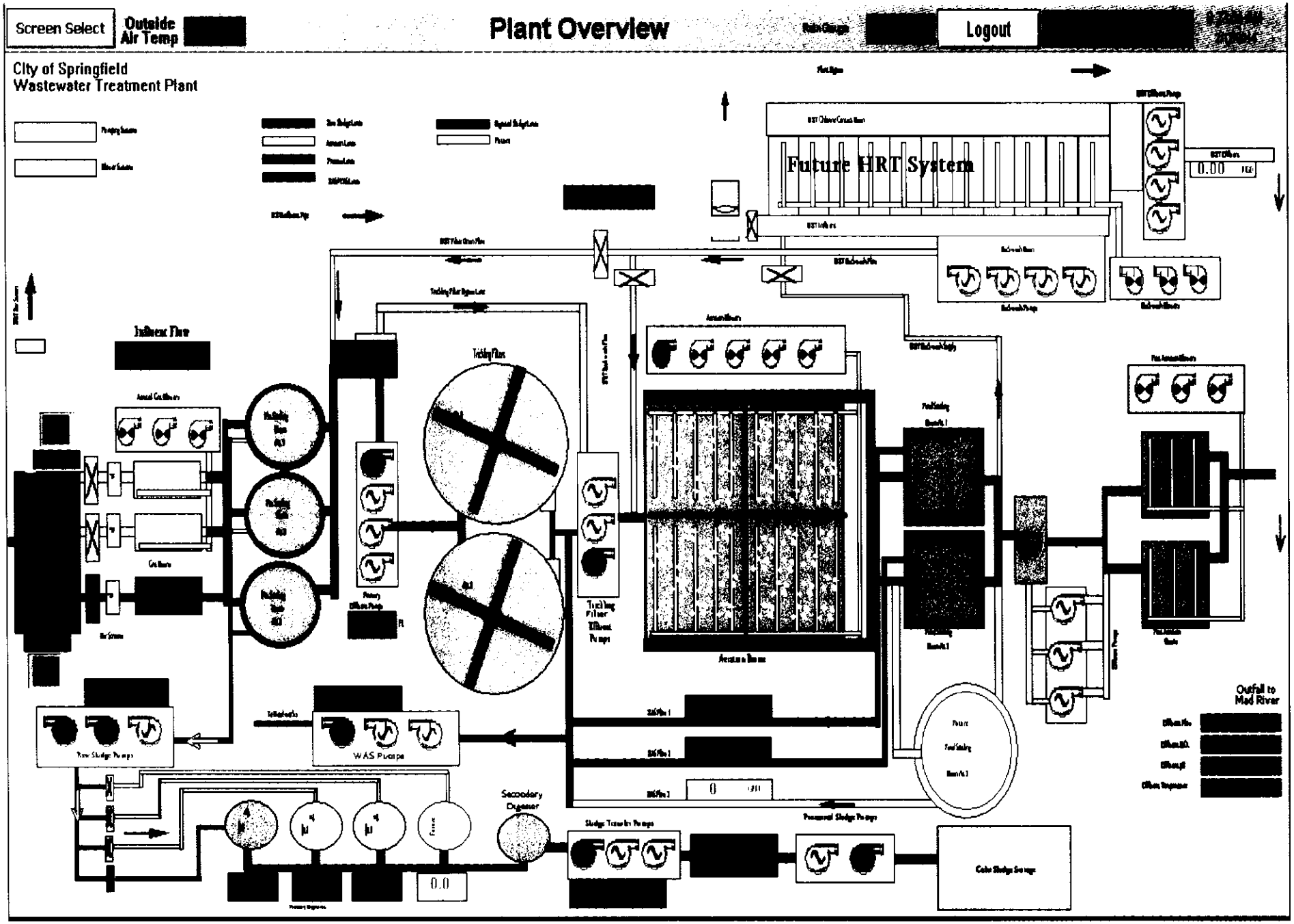


Legend:

———	Normal Process Flows
- - - - -	Optional Flow
· · · · ·	Pumped Flows



SPRINGFIELD, OHIO - WWTP SITE MAP

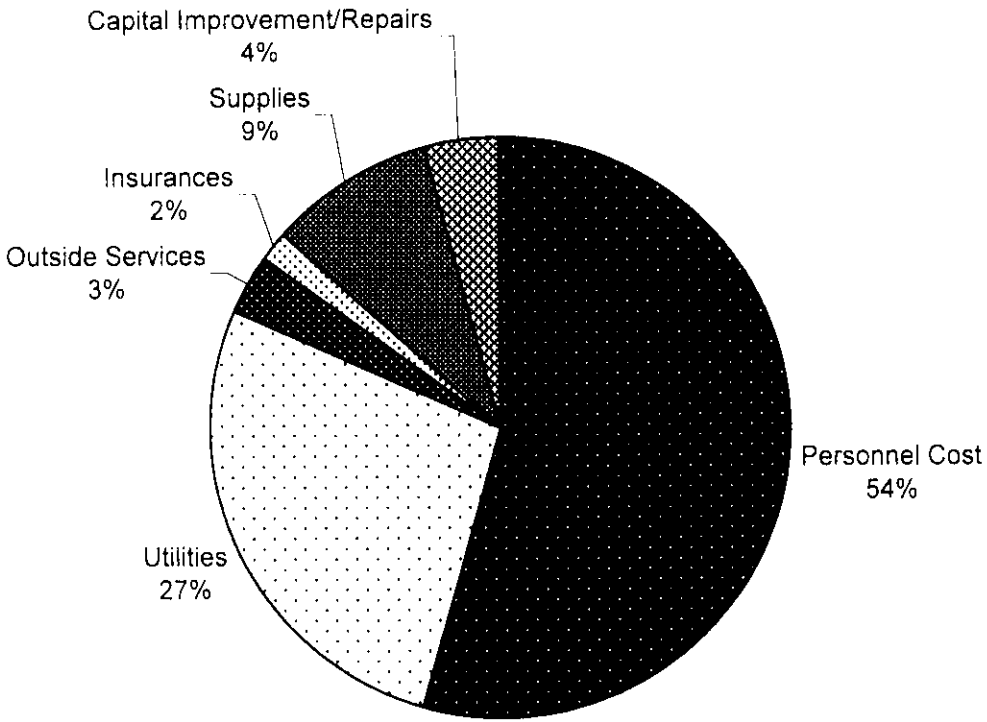

Screen Select
Outside Air Temp
Plant Overview
Logout
City of Springfield
Wastewater Treatment Plant
Future HRT System
Influent Flow
Trickling Filters
Aeration Basins
Secondary Digester
WAS Pumps
Outfall to Mad River

City of Springfield WWTP

2013 Expenditures

Personnel Cost	$1,434,797.22	Salary, Administration	$342,964.33
		Salary, AFCME 1608	$592,631.69
		Salary, Seasonal	$27,371.66
		Overtime	$10,123.96
		Longevity	$18,110.73
		Retirements	$8,541.02
		Sick Leave Payout	$1,010.88
		Comp Payout	$863.95
		Acting Pay	$189.42
		PERS	$138,035.67
		Hospital Care	$240,118.49
		Life Insurance	$749.04
		Workers Compensation	$34,600.51
		Medicare	$13,271.89
		Travel & Training	$3,643.99
		Uniform Rental	$2,569.99
Utilities (Includes Lift Stations)	$717,945.21	Natural Gas	$29,337.20
		Electric	$641,196.16
		Water	$40,614.82
		Telephone	$6,797.03
Outside Services	$87,435.03	Maintenance Contracts	$1,421.67
		Other Professional Services	$35,250.59
		Other Contract Services	$44,722.77
		Garage Labor	$6,040.00
Insurances	$44,990.67	Other Insurances	$4,946.67
		Vehicle Insurance	$2,238.00
		Property Insurance	$37,806.00
Supplies	$245,602.13	Chemicals	$63,441.04
		Expendable Supplies	$145,613.18
		Gasoline & Lubricants	$25,610.56
		Vehicle Maintenance Supplies	$3,976.95
		Minor Equipment	$6,960.40
Capital Improvement/Repairs	$106,971.55	Screw Pump Shaft Replacement	$14,259.03
		Replacement Valves	$8,000.00
		Grinder Pump Replacement	$37,401.00
		Wonderware License Upgrade	$8,954.93
		PEP Part Replacements	$12,112.31
		Admin A/C Replacement	$3,753.28
		Club Car Replacement	$10,632.00
		Laboratory Dishwasher Repl.	$11,859.00
Total Expenditures	$2,637,741.81		

City of Springfield WWTP
2013
Budget Breakdown



Springfield Wastewater Treatment Plant

2013 Electricity Summary Sheet

END OF DATE	TOTAL KWH	TOTAL COST	CENTS /KWH	Average Flow MGD	TOTAL FLOW MG	KWH/ MG*	Cost/ MG*
10-Jan	820,567	$56,162	0.06844	13.8	427.8	1,918	$131.28
8-Feb	726,017	$49,823	0.06863	16.1	450.8	1,611	$110.52
11-Mar	710,716	$48,999	0.06894	15.1	468.1	1,518	$104.68
12-Apr	743,581	$50,848	0.06838	19.9	597.0	1,246	$85.17
14-May	709,396	$48,845	0.06885	18.2	564.2	1,257	$86.57
14-Jun	642,524	$45,031	0.07008	15.3	459.0	1,400	$98.11
8-Jul	661,565	$46,721	0.07062	14.6	452.6	1,462	$103.23
13-Aug	666,820	$45,581	0.06836	17.9	554.9	1,202	$82.14
16-Sep	622,297	$43,707	0.07024	13.0	390.0	1,596	$112.07
11-Oct	611,219	$42,790	0.07001	12.5	387.5	1,577	$110.43
11-Nov	598,114	$41,306	0.06906	12.7	381.0	1,570	$108.42
12-Dec	525,411	$36,600	0.06966	15.1	468.1	1,122	$78.19
TOTAL	8,038,227	$556,414	0.83	184.20	5601.0	17,478	$1,210.80
AVG	669,852	$46,368	0.0693	15.35	466.8	1,457	$100.90
MAX	820,567	$56,162	0.07	19.90	597.0	1,918	$131.28
MIN	525,411	$36,600	0.07	12.50	381.0	1,122	$78.19

NOTES:

* MG figures are for calendar month, not billing period.

Peak usage is most affected by stormwater pumping requirements.

Onsite Construction dewatering is part of this usage.

These figures do not include Pumping Stations.

SPRINGFIELD WASTEWATER TREATMENT PLANT

WATER SUMMARY SHEET

2013

Meter # 16219

END DATE	TOTAL CCF	TOTAL COST	COST /MCF	Storm Water
01/22/09	196.00	$349.80	$1.7847	215.32
02/22/13	190.00	$340.32	$1.7912	215.32
03/22/13	214.00	$378.24	$1.7675	215.32
04/26/13	304.00	$520.44	$1.7120	215.32
05/23/09	277.00	$477.78	$1.7248	215.32
06/24/13	159.00	$291.34	$1.8323	215.32
07/25/13	333.00	$566.26	$1.7005	215.32
08/24/09	449.00	$742.19	$1.6530	215.32
09/23/09	195.00	$348.22	$1.7857	215.32
10/28/13	202.00	$359.28	$1.7786	215.32
11/23/09	198.00	$352.96	$1.7826	215.32
12/21/09	790.00	$1,229.82	$1.5567	215.32
Total	3,507.00	$5,956.65		$2,583.84
Average	292.25			

Meter # 17493

END DATE	TOTAL CCF	TOTAL COST	COST /MCF
01/22/09	1,862.00	$2,794.45	$1.5008
02/22/13	1,336.00	$2,042.27	$1.5286
03/22/13	1,232.00	$1,893.55	$1.5370
04/26/13	2,604.00	$3,789.07	$1.4551
05/23/09	2,542.00	$3,707.23	$1.4584
06/24/13	1,370.00	$2,090.89	$1.5262
07/25/13	2,287.00	$3,370.63	$1.4738
08/24/09	1,977.00	$2,958.90	$1.4967
09/23/09	1,871.00	$2,807.32	$1.5004
10/28/13	1,728.00	$2,602.83	$1.5063
11/23/09	1,021.00	$1,591.82	$1.5591
12/21/09	1,043.00	$1,623.28	$1.5564
Total	20,873.00	$31,272.24	
Average	1,739.42		

Total CCF	TOTAL COST
24,380.00	$39,812.73

SPRINGFIELD WASTEWATER TREATMENT PLANT

2013 NATURAL GAS SUMMARY SHEET

END DATE	TOTAL CCF	TOTAL COST	COST /MCF
JAN 26	7,182.00	$4,694.00	$6.54
FEB 23	8,705.00	$5,688.45	$6.53
MAR 24	8,525.00	$5,521.50	$6.48
APR 15	4,402.00	$3,155.95	$7.17
MAY 24	1,746.00	$1,391.60	$7.97
JUNE 23	800.00	$660.22	$8.25
JULY 25	391.00	$347.49	$8.89
AUG 23	423.00	$368.84	$8.72
SEPT 22	493.00	$395.27	$8.02
OCT 23	935.00	$732.00	$7.83
NOV 21	4,165.00	$3,015.09	$7.24
DEC 26	11,818.00	$8,763.65	$7.42
TOTAL	49,585.00	$34,734.06	$91.05
AVERAGE	4,132.08	$2,894.51	$7.00
MAXIMUM	11,818.00	$8,763.65	$8.89
MINIMUM	391.00	$347.49	$6.48

YEAR	TOTAL CCF	TOTAL COST	COST /MCF
2012	40,497.00	$27,591.73	$6.81
2011	42,917.00	$35,000.26	$8.15
2010	50,753.76	$48,277.75	$9.51
2009	56,607.00	$56,907.67	$10.05
2008	48,185.00	$59,658.54	$12.38

City of Springfield WWTP

NPDES Permit Summary Sheet

Parameter	Summer				Winter			
	Concentration		Loading kg/day		Concentration		Loading kg/day	
	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly	Weekly	Monthly
CB-BOD	23	15	2180	1420	33	22	3130	2090
TSS	30	20	2840	1900	45	30	4260	2840
Ammonia	4.5	3	426	284	15	10	1420	947
D.O. Min	5.0				5.0			
pH min	6.5				6.5			
pH max	9.0				9.0			
O&G Max	10.0				10.0			
E-Coli	284	126						
Chlor Res Max	0.038							

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013		Influent				Bypass					
	Dry Weather Flow	Flow	Influent CBOD	Influent Suspended Solids	Influent Ammonia	Rain	Bypass Occurrence	Bypass Time	Total Bypass Flow	CB-BOD	TSS
Month	MGD	MGD	mg/L	mg/L	mg/L	Inches		Hours	MG	mg/L	mg/L
	Average	Average	Average	Average	Average	Total	Total	Total	Total	Average	Average
Jan	14.13	16.1	139	146	12.25	2.44	5	17.2	9.9	59	264
Feb	14.11	15.1	128	177	13.63	1.44	1	3.0	0.7	76	264
Mar	16.04	19.9	117	137	9.71	3.85	3	24.8	14.6	117	178
Apr	14.93	18.2	110	172	12.04	4.22	5	18.5	12.9	65	219
May	14.53	15.3	145	162	13.44	3.14	3	5.3	1.4	217	410
Jun	13.26	14.6	122	192	14.14	5.41	5	14.0	8.8	73	240
Jul	14.85	17.9	117	144	10.97	8.44	9	37.5	23.9	53	131
Aug	12.70	13.0	166	188	16.92	0.80	1	2.2	0.8	244	22
Sep	11.75	12.5	183	218	19.62	3.00	3	16.4	10.0	109	484
Oct	12.70	14.4	174	233	16.32	4.01	4	19.7	5.9	62	154
Nov	13.71	15.1	156	190	19.70	3.34	4	12.9	0.3	111	160
Dec	14.39	17.1	182	167	17.23	3.73	2	26.4	42.2		
Total						43.82	45.0	197.9	131.4		
MIN	11.7	12.5	110	137	9.71	0.80	1.0	2.2	0.3	52.67	22.00
MAX	16.0	19.9	183	233	19.70	8.44	9.0	37.5	42.2	244.00	484.00
Avg.	13.9	15.8	145	177	14.66	3.65	3.8	16.5	10.9	107.75	229.64

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Primary Clarification								
	Tanks in Service	Detention Time	Surface Overflow Rate	Weir Overflow Rate	Primary Effluent CBOD	Primary Effluent SS	Primary Effluent Ammonia	CBOD Removal	Suspended Solids Removal
Month		Hours	gpd/ft^2	gpd/ft.				Percent	Percent
	Average	Average	Average	Average	Average	Average	Average	Average	Average
Jan	3	2.2	846	19,019	82.4	58.3	12.38	38.3%	57.2%
Feb	3	2.3	794	17,833	72.3	39.1	13.00	43.9%	77.8%
Mar	3	1.8	1,043	23,430	73.2	53.7	9.38	36.2%	55.8%
Apr	3	1.9	955	21,462	50.2	42.1	10.87	55.2%	75.5%
May	3	2.2	802	18,011	75.4	42.6	12.31	47.5%	72.8%
Jun	3	2.4	765	17,191	59.4	41.8	12.39	50.4%	77.1%
Jul	3	2.0	940	21,120	49.7	42.3	9.61	55.2%	73.4%
Aug	3	2.6	681	15,297	69.8	36.9	14.65	56.7%	79.2%
Sep	3	2.8	657	14,765	82.1	41.3	17.36	55.4%	80.8%
Oct	3	2.5	757	17,007	70.8	39.8	14.57	58.0%	81.4%
Nov	3	2.3	789	17,737	76.4	39.2	16.23	52.7%	78.6%
Dec	3	2.1	894	20,084	88.1	44.1	16.46	47.2%	64.3%
Total									
MIN	3	1.8	657	14,765	49.7	36.9	9.38	36.2%	55.8%
MAX	3	2.8	1,043	23,430	88.1	58.3	17.36	58.0%	81.4%
Avg.	3	2.3	827	18,580	70.8	43.4	13.27	49.7%	72.8%

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Trickling Filtration						
	Filters in Service	Organic Load Rate	Hydraulic Loading Rate	Trickling Filter Effluent CBOD	Trickling Filter Effluent Ammonia	CBOD Removal	Ammonia Removal
Month		Lb/sq.ft.	gal/ft^2			Percent	Percent
	Average	Average	Average	Average	Average	Average	Average
Jan	2	0.176	257	48.6	6.95	37.6%	39.1%
Feb	2	0.148	241	34.8	8.65	52.2%	32.6%
Mar	2	0.219	317	44.5	6.44	39.0%	29.1%
Apr	2	0.120	290	36.0	7.25	32.4%	32.2%
May	2	0.152	243	38.1	7.74	47.3%	36.8%
Jun	2	0.116	232	29.6	7.36	44.9%	39.8%
Jul	2	0.111	285	22.4	5.64	51.8%	37.1%
Aug	2	0.118	207	21.8	8.78	67.9%	41.0%
Sep	2	0.128	200	23.3	9.51	71.9%	45.1%
Oct	2	0.132	230	26.0	7.68	61.4%	47.2%
Nov	2	0.159	240	30.0	10.10	55.9%	36.5%
Dec	2	0.159	271	27.2	8.65	69.1%	43.3%
Total							
MIN	2	0.111	200	21.8	5.64	32.42%	29.08%
MAX	2	0.219	317	48.6	10.10	71.90%	47.24%
Avg.	2	0.145	251	31.9	7.89	52.62%	38.32%

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Activated Sludge														
	Tanks in Service	Sludge Volume Index	MLSS 1000 M Cone Test	MLSS	MLVSS	RAS Suspended Solids	F/M Ratio	Detention Time	Solids Under Aeration	MCRT	Sludge Age	CBOD Removal	Suspended Solids Removal	Ammonia Removal
Month		mL/gm		mg/L	mg/l	mg/l		Hours	Lbs	Days	Days	Percent	Percent	Percent
	Average	Average	Average	Averag	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average
Jan	4	133	99	762	571	2,923	0.33	7.8	31,537	8.8	5.9	86.3%	70.4%	96.7%
Feb	4	101	98	983	744	3,375	0.16	8.1	40,670	6.1	10.4	84.9%	67.4%	99.0%
Mar	4	87	92	1,025	737	4,237	0.39	6.2	42,391	7.9	5.8	80.1%	63.1%	94.2%
Apr	4	98	96	1,012	690	4,307	0.19	6.8	41,874	5.3	8.6	84.4%	57.0%	98.2%
May	4	80	94	1,199	869	4,207	0.14	7.9	49,600	14.6	10.1	88.2%	70.2%	98.1%
Jun	4	92	99	1,095	790	3,710	0.11	8.4	45,296	30.3	11.1	90.4%	81.8%	98.2%
Jul	4	69	83	1,195	739	4,176	0.11	7.0	49,452	24.9	10.9	84.4%	55.6%	98.8%
Aug	4	73	84	1,162	806	3,844	0.07	9.2	48,079	11.6	14.1	87.4%	66.5%	98.6%
Sep	4	100	95	998	681	2,920	0.08	9.8	41,284	6.9	11.1	90.1%	83.6%	98.7%
Oct	4	110	91	830	590	2,693	0.15	8.7	34,352	6.5	7.9	89.3%	82.4%	98.6%
Nov	4	102	87	893	672	3,155	0.17	8.2	36,954	15.0	8.7	86.7%	76.9%	97.9%
Dec	4	77	77	1,054	783	4,031	0.10	7.5	43,587	6.4	8.3	84.0%	78.3%	96.6%
Total														
MIN	4	69	77	762	571	2,693	0.07	6.2	31,537	5.3	5.8	80.1%	55.6%	94.2%
MAX	4	133	99	1,199	869	4,307	0.39	9.8	49,600	30.3	14.1	90.4%	83.6%	99.0%
Avg.	4	93	91	1,017	723	3,631	0.17	8.0	42,090	12.0	9.4	86.3%	71.1%	97.8%

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Final Clarification							Chlorination			
	Tanks in Service	Detention Time	Surface Overflow Rate	Weir Overflow Rate	WAS	WAS Suspended Solids	WAS Average	Tanks in Service	Chlorine Residual	Chlorine Feed Rate	Detention Time
Month		Hours	gpd/ft^2	gpd/ft.	MG	mg/L	Lbs/day		mg/L	mg/day	Hours
	Average	Average	Average	Average	Total	Average	Average	Average	Average	Average	Average
Jan	2	4.6	412	14,417	1.329	9,513	3,923	1			0.66
Feb	2	4.8	386	13,518	1.545	11,766	5,533	1			0.69
Mar	2	3.7	507	17,761	1.034	15,565	4,836	1			0.52
Apr	2	4.0	465	16,269	1.429	14,245	6,061	1	0.25		0.58
May	2	4.7	390	13,653	1.028	14,487	3,803	1	0.47	2.20	0.67
Jun	2	5.0	372	13,031	1.173	13,623	4,434	1	0.42	2.57	0.71
Jul	2	4.2	457	16,010	0.829	15,489	3,485	1	0.44	2.29	0.59
Aug	2	5.5	331	11,596	1.722	10,364	4,977	1	0.39	2.47	0.78
Sep	2	5.8	320	11,192	2.260	10,272	6,572	1	0.31	2.49	0.83
Oct	2	5.1	368	12,892	2.233	9,421	5,467	1	0.41	2.32	0.74
Nov	2	4.9	384	13,446	1.771	10,054	5,836	1		0.84	0.69
Dec	2	4.5	435	15,224	1.492	11,118	7,998	1			0.64
Total					17.847						
MIN	2	3.7	320	11,192	0.829	9,421	3,485	1	0.25	0.84	0.52
MAX	2	5.8	507	17,761	2.260	15,565	7,998	1	0.47	2.57	0.83
Avg.	2	4.7	402	14,084	1.487	12,160	5,244	1	0.38	2.17	0.67

Average WAS flow: 51.6397

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Effluent												
Month	E-Coli #/100 mL Average	Effluent Susp Solids mg/L Average	Effluent CBOD mg/L Average	Effluent Ammonia mg/L Average	DO Min mg/L Min	pH Min mg/L Min	pH Max mg/L Max	Water Temp C Average	Nitrogen Kjeldahl, Total mg/L Average	Total Phosphorus mg/L Average	CBOD Removal Percent Average	Suspended Solids Removal Percent Average	Ammonia Removal Percent Average
Jan		14.2	6.05	0.185	6.4	6.9	8.2	12.5	2.62	2.0	95.1%	88.4%	97.9%
Feb		11.8	4.11	0.081	6.4	6.9	8.8	11.6	1.74	2.1	96.5%	93.3%	99.3%
Mar		18.6	8.47	0.311	6.2	7.3	8.3	12.7	2.52	1.3	92.4%	85.0%	95.7%
Apr		16.1	4.68	0.126	6.2	7.0	8.6	15.4	1.95	1.0	96.0%	90.5%	98.8%
May	6	12.3	4.05	0.141	5.8	7.1	8.5	18.8	3.30	2.1	96.9%	92.2%	98.9%
Jun	124	7.1	2.30	0.132	5.0	6.7	8.1	20.4	1.42	2.1	98.0%	96.3%	99.1%
Jul	87	14.5	3.27	0.056	6.0	7.1	7.8	21.9	2.85	2.1	96.8%	87.6%	99.4%
Aug	21	10.3	2.43	0.127	6.2	7.0	7.8	22.0	1.14	2.5	98.3%	93.8%	99.2%
Sep	234	6.5	2.10	0.107	5.7	6.7	7.8	22.1	0.93	2.8	98.8%	96.9%	99.3%
Oct	174	6.8	2.35	0.082	5.9	6.9	7.9	19.3	3.42	2.4	98.6%	96.3%	99.3%
Nov		8.9	3.94	0.305	5.4	6.7	7.9	16.0	1.59	1.5	97.3%	94.8%	98.8%
Dec		10.5	4.27	0.377	7.1	7.2	8.4	14.7	1.58	1.9	97.3%	92.1%	98.0%
Total													
MIN	6	6.5	2.10	0.056	5.0	6.7	7.8	11.6	0.93	1.0	92.4%	85.0%	95.7%
MAX	234	18.6	8.47	0.377	7.1	7.3	8.8	22.1	3.42	2.8	98.8%	96.9%	99.4%
Avg.	108	11.5	4.00	0.169	6.0	7.0	8.2	17.3	2.09	2.0	96.8%	92.3%	98.7%

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Digestion											
	Primary Digesters in Service	Raw Sludge to Digesters	Raw Sludge Percent Solids	Raw Sludge Volatile Solids	Dry Solids Pumped	Volatile Solids Pumped	Digesters Organic Loading Rate	Digested Volatile Solids	Hydraulic Loading Rate	Reduction of Volatile Matter	Volatile Matter Destroyed
Month		Gallons	Percent	Percent	Lbs/day	Lbs/day	Lbs VS/day	Percent	gal/ft^3/day	Percent	Lbs/day/ ft^3
	Average	Total	Average	Average	Total	Total	Average	Average	Average	Average	Average
Jan	3	2,864,461	2.8%	78.9%	666,999	527,315	0.101	40.3%	0.55	78%	7.77
Feb	3	2,844,215	3.2%	75.9%	766,087	530,986	0.113	42.7%	0.60	76%	9.05
Mar	3	3,149,427	2.8%	77.3%	709,931	538,339	0.103	38.7%	0.60	79%	8.40
Apr	3	3,032,654	2.8%	76.3%	682,464	513,238	0.102	47.6%	0.60	67%	7.05
May	3	2,616,625	2.8%	79.0%	621,563	484,556	0.093	48.6%	0.50	77%	5.69
Jun	3	2,531,586	3.0%	70.9%	632,162	447,688	0.089	38.7%	0.50	78%	8.36
Jul	3	2,604,352	2.9%	70.2%	625,269	436,096	0.084	40.5%	0.50	63%	4.90
Aug	3	3,503,304	2.7%	77.3%	781,501	602,540	0.115	37.3%	0.67	82%	9.24
Sep	3	2,413,034	2.7%	76.2%	540,831	401,163	0.079	48.5%	0.48	73%	3.88
Oct	3	3,088,572	2.8%	75.8%	729,194	551,510	0.106	58.9%	0.59	51%	6.15
Nov	3	2,975,600	2.9%	77.6%	724,707	553,254	0.109	58.7%	0.59	64%	5.84
Dec	3	2,650,977	2.7%	78.3%	603,678	481,178	0.092	59.8%	0.51	61%	5.06
Total		34,274,807			8,084,385	6,067,862					
MIN	3	2,413,034	2.7%	70.2%	540,831	401,163	0.079	37.3%	0.48	51%	3.8781601
MAX	3	3,503,304	3.2%	79.0%	781,501	602,540	0.115	59.8%	0.67	82%	9.2383584
Avg.	3	2,856,234	2.8%	76.2%	673,699	505,655	0.099	46.7%	0.56	71%	6.7821998

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	Digestion					Methane Gas System			Belt Filter Press				
	VA/ Alkalinity Ratio Digester #1	VA/ Alkalinity Ratio Digester #2	VA/ Alkalinity Ratio Digester #3	Detention Time	DIG4 to Holding for BFP	System Gas Pressure	Digester 1, 2, 3 Gas Flow	Waste Gas Burner Flow	BFP % Feed Solids	Dig 4 Volatile Solids	Flow to BFP	Solids from Press	Volatile Solids from Press
Month				Days	Gallons	in/h^2o	CFH	CFH	Percent	Percent	Gallons	Percent	Percent
	Average	Average	Average	Average	Average	Average	Total	Total	Average	Average	Total	Average	Average
Jan	0.052	0.053	0.051	13.8	23,374	8.9	3,455,728	704,103	3.7%	59.9%	529,140	20.6%	58.0%
Feb	0.051	0.053	0.049	10.2	47,823	8.9	3,113,141	652,925	4.0%	56.1%	393,540	21.3%	56.0%
Mar	0.047	0.049	0.048	13.1	25,239	8.7	3,008,052	343,715	4.1%	55.6%	546,240	21.9%	55.2%
Apr	0.046	0.047	0.046	13.5	22,590	9.4	3,081,269	820,599	4.2%	54.7%	487,560	22.1%	54.3%
May	0.048	0.052	0.166	15.0	26,039	9.4	3,606,521	1,383,561	4.0%	53.8%	569,220	22.2%	54.1%
Jun	0.052	0.050	0.047	15.0	24,325	9.4	3,290,565	1,345,363	4.0%	53.8%	526,140	22.4%	54.4%
Jul	0.060	0.056	0.057	15.2	24,536	9.4	2,716,431	941,699	4.3%	51.5%	523,680	22.8%	51.6%
Aug	0.047	0.044	0.045	12.2	28,009	9.2	2,981,004	1,375,704	4.7%	49.6%	525,900	22.9%	49.7%
Sep	0.049	0.049	0.048	12.0	22,834	9.3	2,816,433	1,297,070	4.0%	54.0%	407,580	20.5%	53.9%
Oct	0.048	0.047	0.048	12.7	24,549	9.4	3,205,009	1,321,402	3.7%	55.5%	508,680	19.9%	55.7%
Nov	0.047	0.046	0.046	12.9	22,101	9.4	2,986,326	856,572	3.5%	56.1%	693,540	19.3%	56.5%
Dec				16.0	23,328	9.1	2,948,350	1,180,469	3.5%	58.6%	582,840	19.3%	59.1%
Total					314,747		37,208,828	12,223,182			6,294,060		
MIN	0.046	0.044	0.045	10.2	22,101	8.7	2,716,431	343,715	3.5%	49.6%	393,540	19.3%	49.7%
MAX	0.060	0.056	0.166	16.0	47,823	9.4	3,606,521	1,383,561	4.7%	59.9%	693,540	22.9%	59.1%
Avg.	0.050	0.049	0.059	13.5	26,229	9.2	3,100,736	1,018,599	4.0%	54.9%	524,505	21.3%	54.9%

City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	800 Up strean of WWTP							801 Buck Creek @ Rt 40						
	Water Temp	DO	pH	Nitrogen, Ammonia (NH3)	Nitrite Plus Nitrate, Total	Phosph, Total (P)	Fecal Coliform	Water Temp	DO	pH	Nitrogen, Ammonia (NH3)	Nitrite Plus Nitrate, Total	Phosph, Total (P)	Fecal Coliform
Month	C	mg/L	SU	mg/l	mg/l	mg/l	#/100 ml	C	mg/l	SU	mg/l	mg/l	mg/l	#/100 ml
	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab	grab
Jan	1.4	17.6	8.2	0.168	2.72	0.04		0.2	18.8	8.3	0.126	2.02	0.06	
Feb	5.6	15.3	7.9	0.120	1.98			3.6	17.9	8.0	0.078	1.33		
Mar	6.2	10.1	7.7	0.175	3.69	0.27		6.3	15.2	7.9	0.155	3.02	0.40	
Apr	7.3	11.7	8.1	0.107	2.85	0.08		6.9	11.7	8.1	0.076	2.26	0.07	
May	15.3	10.6	8.2	0.057	2.69	0.07	64	17.3	9.5	7.9	0.070	1.74	0.05	88
Jun	17.8	9.5	8.3	0.039	2.86	0.07	130	20.2	8.6	8.2	0.111	2.09	0.07	280
Jul	22.0	8.8	8.2	0.014	3.52	0.09	95	25.5	9.8	8.4	0.038	2.61	0.09	60
Aug	19.1	9.6	8.3	0.018	2.72	0.11	154	23.2	10.6	8.6	0.014	1.46	0.08	146
Sep	18.1	8.5	8.8	0.031	2.78	0.15	1,000	19.9	6.9	8.3	0.251	1.27	0.44	19,000
Oct	13.7	9.5	8.8	0.020	2.93	0.05	97	15.4	8.9	8.5	0.038	1.55	0.09	57
Nov	8.7	11.6	8.2	1.690	2.92	0.25		8.4	12.0	8.2	1.830	1.63	0.28	
Dec	5.5	13.3	8.4	0.134	2.94	0.07		4.1	13.6	8.2	1.040	1.86	0.05	
Total														
MIN	1.4	8.5	7.7	0.014	1.98	0.04	64	0.2	6.9	7.9	0.014	1.27	0.05	57
MAX	22.0	17.6	8.8	1.690	3.69	0.27	1,000	25.5	18.8	8.6	1.830	3.02	0.44	19,000
Avg.	11.7	11.3	8.3	0.214	2.88	0.11	257	12.6	12.0	8.2	0.319	1.90	0.15	3,272

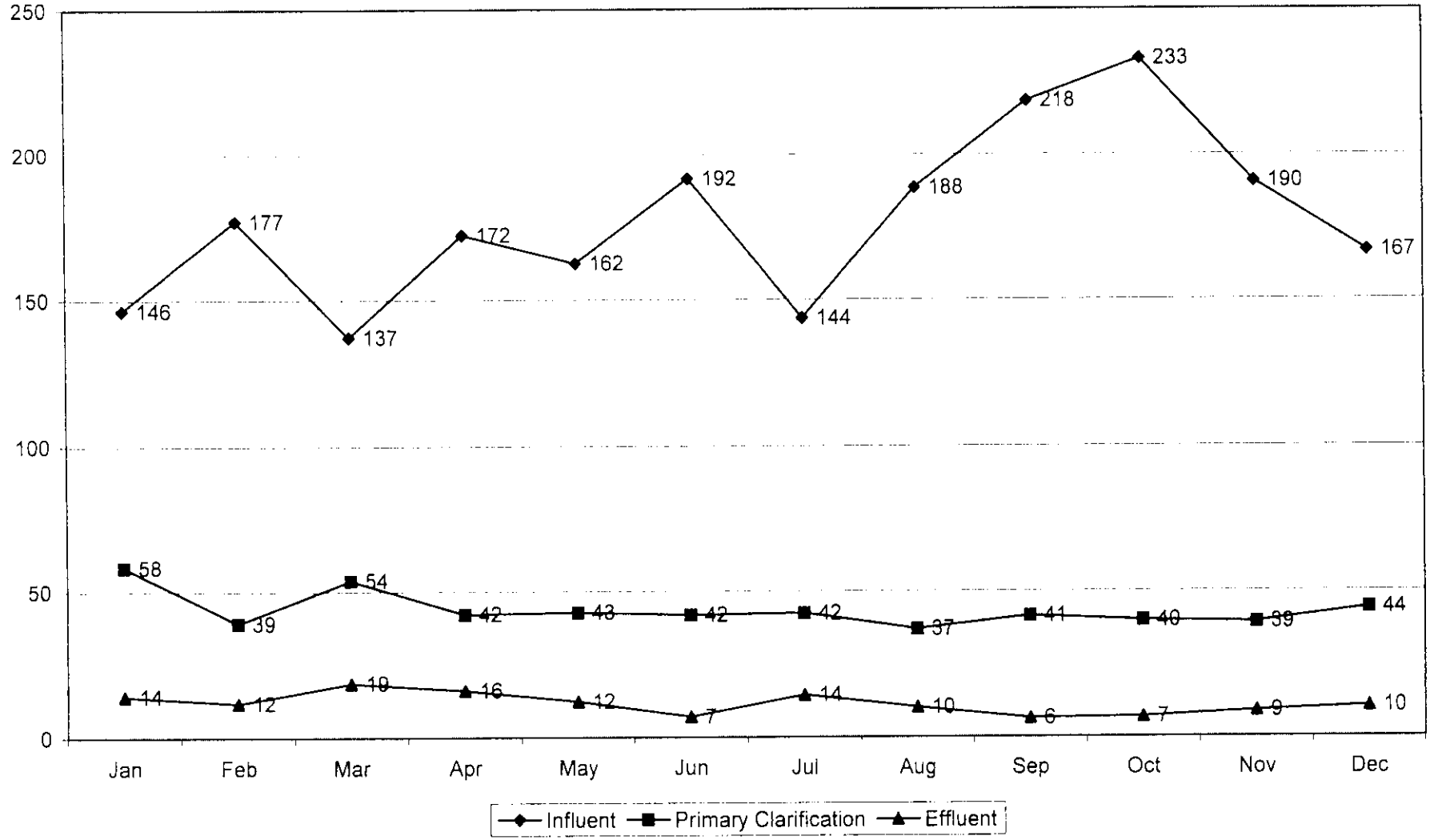
City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	900 Downstream of WWTP							
	Water Temp	DO	pH	Nitrogen, Ammonia (NH3)	Nitrite Plus Nitrate, Total	Phosphorus, Total (P)	Hardness, Total (CaCO3)	Nickel, Total Recoverable
Month	C	mg/l	SU	mg/l	mg/l	mg/l	mg/l	ug/l
	grab	grab	grab	grab	grab	grab	grab	grab
Jan	1.8	15.9	8.8	0.191	2.27	0.10	341.8	1.4
Feb	5.4	14.5	8.0	0.113	2.39	0.12	333.8	2.4
Mar	6.3	9.6	7.8	0.213	2.95	0.37	241.6	6.7
Apr	7.3	11.1	8.6	0.094	2.80	0.16	384.4	
May	15.9	9.5	8.0	0.049	5.59	0.11	362.2	
Jun	17.6	8.4	7.9	0.080	3.77	0.15	312.8	
Jul	21.1	8.0	8.1	0.036	3.02	0.23	349.6	
Aug	19.4	8.0	8.2	0.026	2.87	0.21	338.4	
Sep	19.1	7.4	8.6	0.301	2.69	0.66	308.0	2.1
Oct	14.8	8.9	8.6	0.046	4.39	0.25	359.8	
Nov	8.6	11.3	8.0	1.640	2.45	0.21	326.8	
Dec	5.3	12.8	8.3	1.580	3.62	0.14	353.6	
Total								
MIN	1.8	7.4	7.8	0.026	2.27	0.10	241.6	1.4
MAX	21.1	15.9	8.8	1.640	5.59	0.66	384.4	6.7
Avg.	11.9	10.5	8.2	0.364	3.23	0.23	334.4	3.2

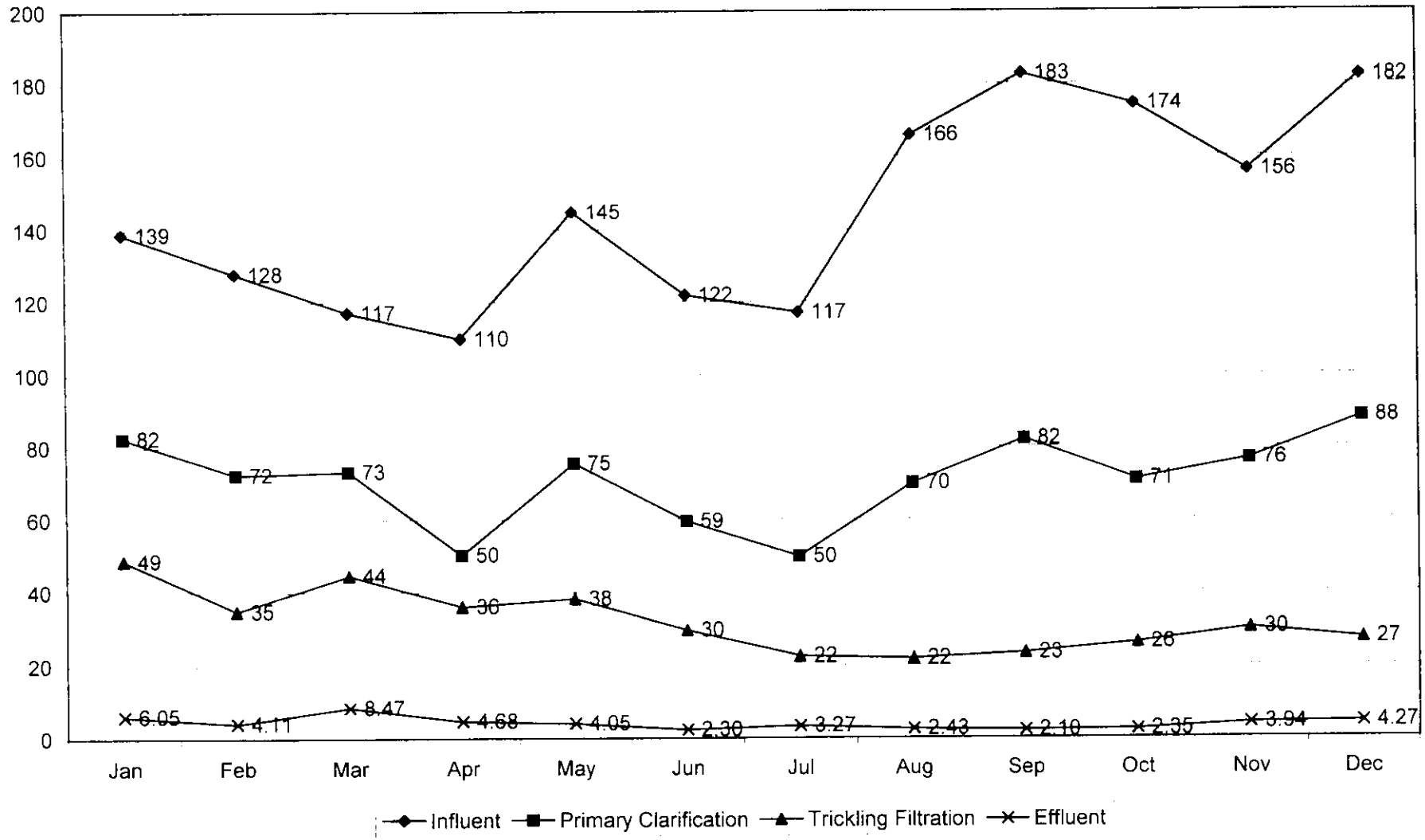
City of Springfield, Ohio
Wastewater Treatment Plant
Annual Summary

2013	900 Downstream of WWTP							
	Silver, Total Recoverable	Zinc, Total Recoverable	Cadmium, Total Recoverable	Lead, Total Recoverable	Chromium, Total Recoverable	Copper, Total Recoverable	Chromium, Dissolved Hexavalent	Fecal Coliform
Month	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	#/100 ml
	grab	grab	grab	grab	grab	grab	grab	grab
Jan		15.9	0.17	0.37	0.7	17.3	10.3	
Feb		56.8	0.16		1.7	34.3		
Mar		57.7	0.20	5.90	6.0	5.1		
Apr		19.9				38.4		
May	4.0	30.0	0.19		1.2	22.0		68
Jun	1.9	36.0	0.24	2.50	0.8			235
Jul	2.1	18.4	0.15	1.40	2.8	9.3		80
Aug	13.0	7.7		0.70	0.3	2.0		142
Sep		37.0	0.20	1.30				16,300
Oct	10.9	21.9	0.12		0.6			77
Nov	2.2	35.3				15.3	5.4	
Dec	7.1	73.4		0.80	0.2	15.3	5.4	
Total								
MIN	1.9	7.7	0.12	0.37	0.2	2.0	5.4	68
MAX	13.0	73.4	0.24	5.90	6.0	38.4	10.3	16,300
Avg.	5.9	34.2	0.18	1.85	1.6	17.7	7.0	2,817

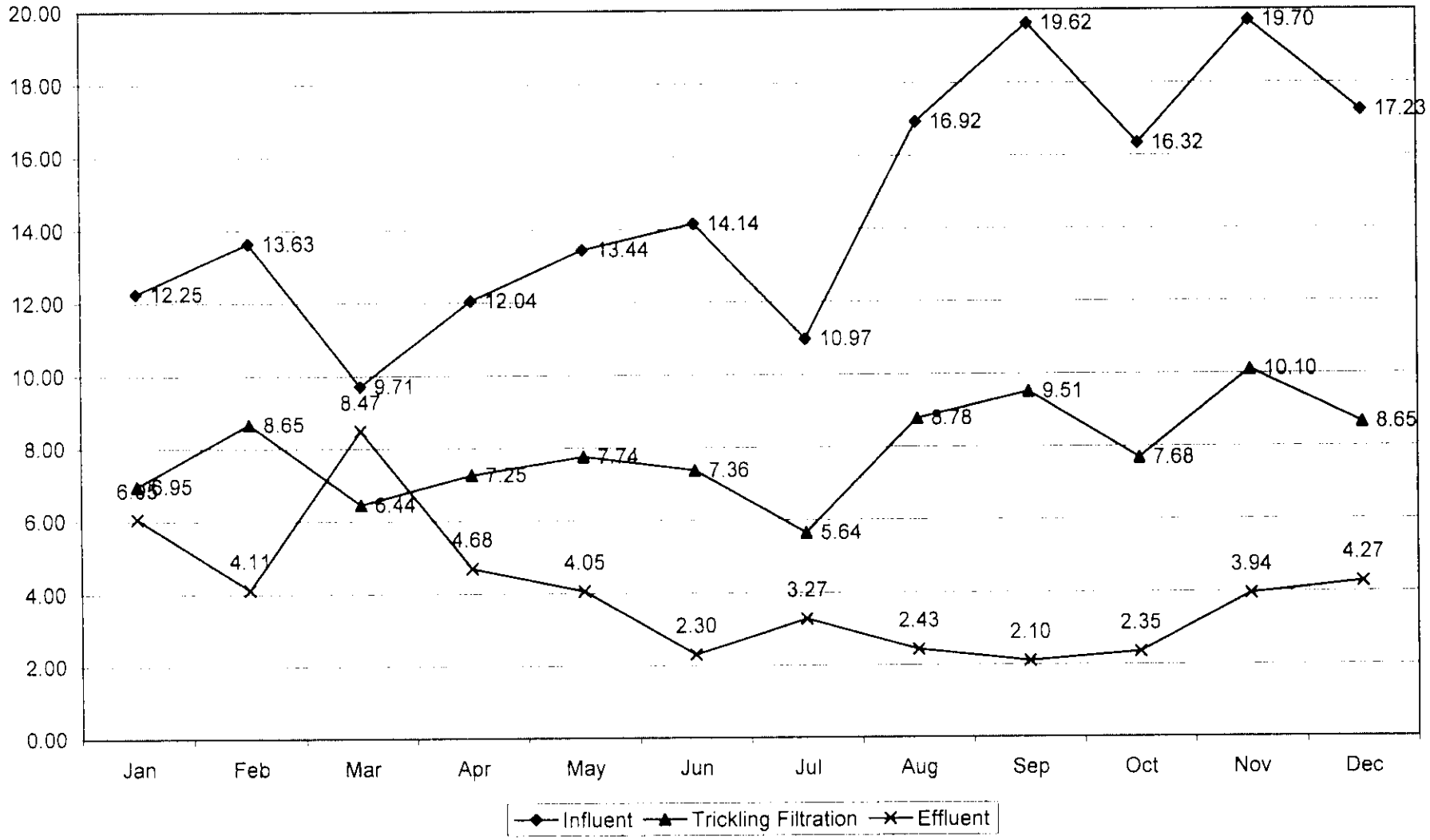
City of Springfield WWTP
2013 Total Suspended Solids Concentration mg/L



City of Springfield WWTP
2013 CBOD Concentration mg/L

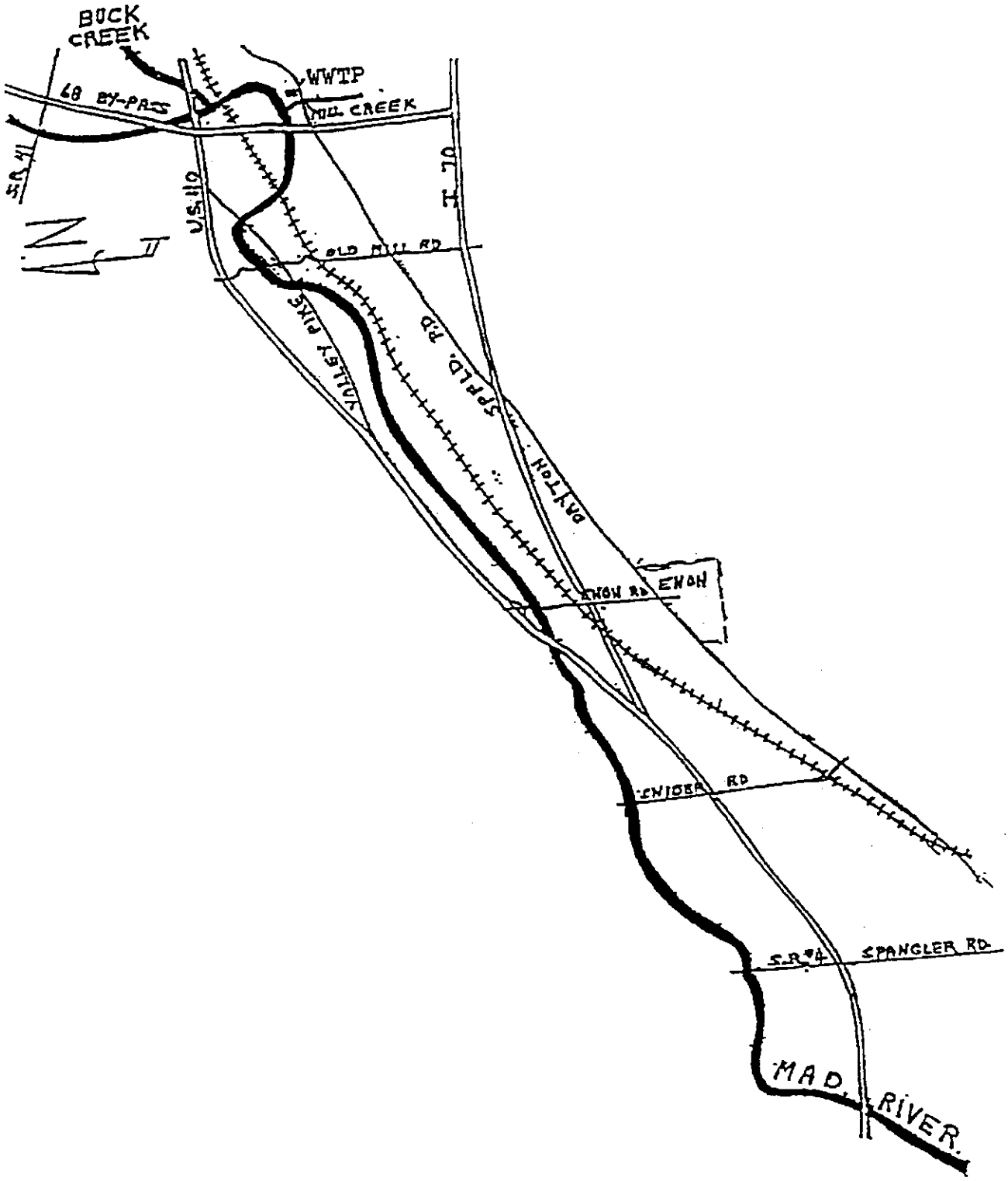


City of Springfield WWTP
2013 Ammonia Conentration mg/L



Principal Pathogens Found in Municipal Wastewater and Sludge

Organism	Disease / Symptom
Bacteria	
salmonella	salmonellosis (food poisoning), typhoid fever
shigella	bacillary dysentery
yersinia	acute gastroenteritis (including diarrhea, abdominal pain)
vibrio cholerae	cholera
campylobacter jejuni	gastroenteritis
escherichia coli	gastroenteritis
Viruses	
poliovirus	poliomyelitis
coxsackievirus	meningitis, pneumonia, encephalitis, fever, common colds, etc.
echovirus	meningitis, pneumonia, encephalitis, fever, common colds, diarrhea, etc.
hepatitis A virus	infectious hepatitis
rotavirus	acute gastroenteritis with severe diarrhea
norwalk agents	epidemic gastroenteritis with severe diarrhea
reovirus	respiratory infections, gastroenteritis
Protozoa	
cryptosporidium	gastroenteritis
entamoeba histolytic	acute enteritis
giardia lamblia	giardiasis (including diarrhea, abdominal cramps, weight loss)
balantidium coli	diarrhea and dysentery
toxoplasms gondii	toxoplasmosis
Helminth Worms	
ascaris lumbricoides	digestive and nutritional disturbances, abdominal pain, vomiting, restlessness
ascaris suum	coughing, chest pain, fever
trichuris trichiura	abdominal pain, diarrhea, anemia, weight loss
toxocara canis	fever, abdominal discomfort or pain, neurological symptoms
taenia solium	nervousness, insomnia, anorexia, abdominal pain, digestive disturbances
necator americanus	hookworm disease
hymenolepis nana	taeniasis


BUCK CREEK
68 BY-PASS
WWTP
MILL CREEK
SR 41
US 40
I 70
OLD MILL RD
SPRLD. PK
DAYTON
KNOW RD
ENON
SPANGLER RD
S.R. 4
MAD. RIVER.

Septage Receiving Station

The Wastewater Plant accepts residential septage from registered haulers in the community. Administrative Memorandum 61.4 and the Codified Ordinances regulate this process. These regulations state that only residential septage may be discharged, trucks must be 4,000 gallons or less in capacity with no side discharge, and that each user is permitted to discharge no more than 12,000 gallons per day.

The septage is discharged directly into an 84-inch sanitary sewer before entering the plant headworks. Septage is randomly sampled and analyzed for metals and other constituents that may be harmful to the Wastewater Plant. This ensures that the received septage has no adverse effects on the treatment plant processes. The Springfield Wastewater Treatment Plant is located in a valley, confining the odors to the plant's preliminary and primary treatment area.

Due to the current Plant construction, the Septage Receiving Station was closed in November 2012 and will not be reopened until late 2014. The new station will enter the flow downstream of the control gates, allowing for station use anytime during normal operating times. Previously, the station had to be closed during times of bypass flow.

2013 Maintenance Report

The Maintenance staff consists of personnel that perform a wide variety of tasks in order to maintain the operation of the main plant and pump stations. There are three Maintenance Mechanic II personnel who perform our technical mechanical maintenance tasks. They are supported by two Maintenance Mechanic I workers and three Relief Operators that provide assistance when needed and perform the minor maintenance tasks. The Relief Operators could be called to operate the plant at any time. There are two Electricians that perform electrical and PLC repairs with one also designated to perform the communications repairs throughout the City. In 2013, we experienced the following position vacancies: 2-Maintenance Mechanic II, 1-Maintenance Mechanic I, 1-Electrician and 1-Relief Operator.

During this year, the Airport Treatment plant was taken offline and replaced by a new pumping station, which discharges into the Southern Interceptor. Also as part of that project, the Airpark Pumping Station was replaced due its deteriorated state. It discharges into the new Airport Pumping Station.

Due to staff vacancies and the plant construction activities, this year consisted mainly of routine maintenance and lubrication tasks. The following is a partial list of the maintenance tasks that were performed:

Lift Stations:

- Installed a new sump pump at Sugar Grove Lift Station
- Replaced mechanical seals on Pumps #1 and #2 at Route 41 Pump Station
- Replaced the impeller on Pump #1 at Route 41 Pump Station
- Replaced the railing system for Pump #1 at Hometown Pump Station
- Replaced the float backup operation system at Skinner Lane Pump Station

Pump & Blower Repairs:

- Replaced the seal on Trickling Filter Effluent Pump #1
- Removed/Installed Circulating Sludge Pump #2 for rebuild
- Removed/Installed Circulating Sludge Pump #1 for rebuild
- Replaced Trickling Filter Effluent Pump #3 sheave
- Rebuilt Return Activated Sludge Building sump pump
- Rebuilt Waste Activate Sludge Pump #2
- Rebuilt Primary Effluent Pump #2
- Replaced Primary Effluent Pump #3 discharge valve box

Various Plant Repairs:

- Various painting, including O&L building eaves/gutters
- Painted all roll-up doors and frames throughout the plant
- Replaced Boiler #2 methane gas piping, contractor cleaned burner
- Repaired Waste Activated Sludge Building ventilation

- Replaced Laboratory dishwasher
- Rebuilt Raw Sludge Pump #1 Pipeliner
- Rebuilt Raw Sludge Pump #2 Pipeliner
- Replaced Digester Building North and South ventilator motors
- Multiple light fixture replacements
- Replaced PTO shaft on flail mower tractor
- Built storage shelves for replacement filters
- Replaced Return Activated Sludge sample lines and valves
- Performed various concrete repairs throughout the plant
- Replaced Belt Filter Press supply air lines and filters
- Replaced Post Aeration blower room heater
- Replaced Belt Filter Press #1 air compressor tank
- Replaced Grit Washer #1 Lower Seal
- Replaced Digester #3 hot water control valve
- Replaced O&L Building backflow-Preventor device

Sewage Lift/Pump Stations

There are 13 sewage lift/pump stations located throughout the City that fall under the control of the Wastewater Treatment Plant. The average daily sewage flow from these stations to the Wastewater Treatment Plant in 2013 was 2,233,517 gallons per day (gpd).

The monitoring of the lift/pump stations is done by radio communication with the plant SCADA system. Each of the stations can be individually monitored for the various data that is provided to the system. The plant SCADA system will call the operator's pager with any alarms requiring immediate attention. The newer stations can also be controlled remotely through the plant SCADA system.

As another means of verification, a biweekly inspection is performed on all of the stations. Each station is checked for its overall running condition, appearance, and odor. The plant maintenance staff utilizes a dedicated repair truck to perform any required work. This truck is equipped with a hoist, tools, welding equipment, entry equipment, and any other equipment necessary to service the stations.

To ensure that stations can operate during power outages or loss of pumping, personnel also have two 4-inch portable diesel pumps, one 6-inch portable diesel pump, and three portable backup generators available. All of the lift/pump stations have an emergency generator hookup for use during power outages and most of the stations are set up for emergency pumping. Both the Airport and Airpark pumping stations have backup generators onsite due to their remote locations.

Sewage Lift/ Pump Stations Summary 2013

Average Daily Flows: 2,233,517 gallons

Station	HOURS Unit 1	HOURS Unit 2	HOURS Unit 3	HOURS Unit 4	Percent Run Time	Pump Ratings	Average Daily Flow (GPD)
Airport PS	201	199	193		7%	960 gpm @ 85 feet	152,640
Airpark PS	734	1071			21%	500 gpm @ 135 feet	106,236
Commerce Circle PS	1746	2245			46%	175 gpm @ 30 feet	115,125
Erie PS	2057	1908	836	1011	66%	1200 gpm @ 78 feet	1,149,073
Home Town PS	152	174			4%	100 gpm @ 30 feet	5,367
Mad River LS	177	171			4%	200 gpm @ 28 feet	11,489
North Erie PS	2	2			0%	750 gpm @ 20 feet	1,482
Progress Drive LS	246	235			5%	160 gpm @ 19 feet	12,678
Route 41 PS	137	219	255		7%	1300 gpm @ 102 feet	130,736
Skinner Lane PS	1054	627			19%	250 gpm @ 65 feet	69,272
Southern PS	525	617	543		19%	2500 gpm @ 91 feet	79,500
Sugar Grove PS	138	138			3%	175 gpm @ 71 feet	7,959
Benjamin Street LS	973	1,197	1,842		46%	1520 gpm @ 26.6 feet	544,601

Municipal Industrial Pretreatment Program

The Municipal Industrial Pretreatment Program (MIPP) exists to protect the Wastewater Treatment Plant and waterways from harmful substances that could be discharged from local industrial customers. The Springfield MIPP program became effective March 1, 1985. The regulating authority for the MIPP comes from Chapter 916 of the Codified Ordinances in conjunction with the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et.seq.) and the Ohio Water Pollution Control Act (O.R.C. Section 6111). In 1990, a MIPP Coordinator position was added to execute the program. The Plant Superintendent provides program oversight while the Sewer Use Ordinance names the Service Department Director as the enforcing agent.

Through this program, industries are classified according to their ability to negatively impact the plant. Currently, the MIPP monitors 9 categorical significant industries, 7 non-categorical significant industries, and 3 non-significant industries. Automated samplers are used to collect composite samples of these industrial dischargers at various times throughout the year. The Wastewater Treatment Plant laboratory staff test these samples for various parameters, such as metals, pH, ammonia, and suspended solids. A secondary function of this program is to investigate matters related to unknown discharges or spills that could enter the collection system or area waterways.

The MIPP program is funded through the operating and capital budget of the Wastewater Treatment Plant. There are no specific funds from licenses, permits, or fines directed specifically to the operation of the MIPP. Any funds collected from the surcharge-monitoring program are placed directly in the general sewer fund for later allocation.

The City of Springfield, Ohio
Municipal Industrial Pretreatment Program
2013 Annual Report

During the 2013 calendar year, there was one categorical industry in significant non-compliance (SNC). This singular SNC finding was due to an exceedance of the Total Toxic Organics limit. Subsequent sampling has shown a return to compliance. This industry was published in the local newspaper on 15 February 2014.

All of the significant industrial users were inspected and sampled in accordance with the MIPP requirements. A domestic sewer study began this year to comply with the current plant NPDES permit, which requires justification of local limits. Sampling also began to investigate sources of Mercury and Silver, as required by the permit.

Implementation of the Flow Monitoring program also began this year. Notices have been issued to all Significant Industrial Users, who are not batch dischargers, stating that they must comply with a schedule to install and maintain flow proportional sampling equipment. This program should be completed in late 2014. As of this date, three (3) industries have completed the project.

Each of the significant non-categorical industries were sampled at least three times this year, non-significant industries at least once, and the categorical industries twice each. Sampling events typically occurred between Monday and Friday, yielding four (4) composite samples. In all, there were four hundred and six (406) sampling events and fourteen (14) inspections.

In 2013, the Springfield Wastewater Treatment Plant experienced no instances of pass through or interference. There were no direct problems in implementing the program requirements. Most industrial violations of the discharge limits were minor and resulted from operational equipment failures.

The City has submitted a Program Modification Request outlining previous changes and seeks approval for allowing for the issuance of Monitoring Waivers to those industries that demonstrate a need.

The City of Springfield, Ohio
Municipal Industrial Pretreatment Program
2013 Industrial User Profiles

CATEGORICAL SIGNIFICANT INDUSTRIES

RA00007101

Electroplating and Metal Finishing Integrated Standards. Mostly automotive parts, however, will do plating for any item. This is a job shop and classified as a metal plater. They have chrome, zinc, and copper. They have a full time pretreatment system and all drains are plumbed to the holding tank. This industry has a valid Toxic Organic Management Plan (TOMP) on file.
Classified as categorical significant.

SM00007102

Electroplating Standards. This is a small electroplating job shop that does zinc plating. One or two employees manually dip all parts in tanks. This industry has a pretreatment system and emergency holding tanks. They have walled the discharge sump pit and built a storage facility adjacent to the main building. This industry has a valid TOMP on file.
Classified as categorical significant.

CA00007103

Metal Finishing Standards. This facility is engaged in the manufacture of hydraulic cylinders and attachments for the lift truck industry. Manufacturing activities include burning, welding, sawing, general machine shop activity, assembly test, and painting. This facility has zero discharge from its regulated phosphating lines.
Classified as categorical significant.

RM00007104

Metal Finishing Standards. This industry manufactures progressing cavity pumps and accessories. Their basic work centers on metal working and finishing. Regulated processes are chrome plating and degreasing. They have chrome plating on site and have no discharge into the sewer from that system. They use organic compounds for cleaning. In the past they had a pretreatment system, which is now non-operational, and their waste is trucked from the plant as needed. They have non-contact cooling water discharge from coils that cool the chrome plating solutions and pose a possible discharge contamination point. There is a hexavalent chromium monitor on the discharge.
Classified as categorical significant.

TC00007120

Metal Finishing Standards. This plant re-plates dies with chrome for use in making parts for the automotive industry. Major processes include chrome peeling, plating, and recovery. There exists an extensive pretreatment system. They also have a heat-treating operation employing vanadium pentoxide. This industry has a valid TOMP on file.
Classified as categorical significant.

AE00007135

Metal Finishing Standards. This is a small job shop specializing in powder coating parts for a variety of clients. Some parts are pretreated prior to powder coating in a solution of iron phosphate. Rinse tanks overflow to a drain.
Classified as categorical significant.

SI00007204

Metal Finishing Standards. This industry performs sand blasting, rust removal, mineral scale removal, painting of metal products, and elimination of microporosity in metal castings (impregnation) for mostly automotive parts. They have large acid tanks, sandblasting rooms, and heating ovens. They added a phosphating line in 2011, thereby changing their status to Categorical SIU. There exists a pretreatment system for metals removal.
Classified as categorical significant.

AR00007140

Electroplating Standards. This facility is a small plating company that utilizes proprietary chrome based metal solution to increase durability of parts. Operations currently include electroplating, sanding, and some blasting. This company is a Zero Discharge Facility.
Classified as categorical significant.

BB00007150

Metal Finishing Standards. This is a small job shop utilizing iron phosphate coating prior to powder coating of parts. They also manufacture tail light housings, fans, and lenses for the school bus industry. This industry was permitted late in December 2012, but is currently trucking waste to the WWTP until the new sewer line is completed on State Route 72.
Classified as categorical significant.

NON-CATEGORICAL SIGNIFICANT INDUSTRIES

RD00007500

Local Standards. This industry is a processor of dairy products, especially the processing and bottling of milk. They pasteurize milk, bottle tap water, produce juices, and handle ice cream. They are surcharged for a high BOD/SS load and are sampled monthly to apply billing.
Classified as significant.

DO00007510

Local Standards. This industry is a vegetable processing and packaging facility. Lettuce, cabbage, and various fruits and vegetables are chopped, washed, and packaged for distribution sales. There exists chlorine on site and they are monitored for BOD and SS.
Classified as significant.

TI00007605

Local Standards. This is a heat treatment plant with a Tufftride and gas carburizing process. Manufactured parts are brought in for surface hardening and returned to customer. The industry has a very unique cyanide destruct system and pretreatment process. They are monitored monthly for ammonia surcharge.
Classified as significant.

WM000007540

Local Standards. This industry is a food condiment manufacturer, specializing in mustard, horseradish, mayonnaise, and salad dressing. Whole, raw ingredients are trucked in and processed in various formulations to produce the desired products. The only pretreatment in place at this time is a tank for pH adjustment.
Classified as significant.

SR00007204

Local Standards. This is the newly constructed local hospital. This facility has 254 beds, various care centers, and utilizes green technologies. There is room for expansion, which is currently underway. This facility uses less water than the previous two hospitals due to the lack of onsite laundry facilities.
Classified as significant.

NON-SIGNIFICANT INDUSTRIES

CC00007214

Local Standards. This industry mixes chemicals to form embalming fluids and compounds for autopsy cases and for the funeral industry. It has a special projects division that manufactures shipping containers.
Classified non-sigificant.

HT00007602

Local Standards. This industry is a commercial heat-treating service with a metallurgical thermal process applied to a metal or alloy in the solid state to change the internal atomic structure to produce desired physical and mechanical properties.
Classified as non-significant.

BE00007606

Local Standards. This is a sausage and food processing facility. There is no butchering of animals performed on site, however meat is trimmed, cooked, and packaged. Soups, eggs, and other pre-packaged food products are also packaged.
Classified as non-significant.