2016

Water Treatment Plant and Supply Reservoir Annual Report

North Water Tower

ANNUAL REPORT FOR 2016

The annual report of operations of the Water Treatment Plant and Supply Reservoir for the year ending December 31, 2016 is respectfully submitted herewith.

The City of Findlay Water Treatment Plant is responsible to provide the citizens of Findlay and the surrounding area with an uninterruptible supply of safe, clean and pleasant tasting drinking water at a reasonable rate.

The water treatment plant is very fortunate to have an outstanding supply of raw water in both quantity and quality. We are also very blessed with a dedicated and well educated staff which helps ensure that we are delivering the highest quality of water possible.

The following is a list of the current water treatment and supply reservoir employees.

Water Treatment Plant Employees

Name	**Position**	**Year Hired**
Jeff Newcomer	Superintendent, Class IV	2012
Brett Young	Supervisor, Class III	2000
Tim Foust	Operator, Class I	2000
Tim Couch	Operator, Class III	2003
Rob Householder	Operator, Class I	2004
Jeremy Carter	Operator, Class II	2013
Dan Ward	Operator, Class II OIT	2015
Ray Stelmaszak	Operator, Class I OIT	2016

Rick Parker	Lab Tech I, Class III	2001
Dean Hoge	Assistant Operator	1989
Brian Egts	Maintenance Mechanic II	1990
Brad Eblen	Maintenance Mechanic I	1991
Randy Zacharias Sr.	Maintenance Mechanic I	2011
Marina Vielhaber Zachea	Administrative Asst.	2003

Supply Reservoir

Rich Cap	Maintenance Mechanic I	2001

2016 has been a busy year for the water treatment plant and supply reservoir. Below is a partial list of items that were accomplished in addition to the routine maintenance and lab testing that we do on a daily basis.

Lab items

- Tested 130 bacteria samples for other Public Water Systems
- Tested 44 bacteria samples for private individuals
- Tested 78 bacteria samples for new mains
- Tested 6 bacteria samples for new fire lines
- Collected and tested 55 special purpose bacteria samples
- Collected 30 samples for lead and copper compliance
- Collected LT2 sampling for compliance
- Collected microcystin samples on tap and raw water for compliance
- Collected HAB screening samples
- Answered rusty water complaints due to system flushing and construction projects, also investigated complaints regarding taste and odor

Maintenance items

- Rebuild soda ash mixer gear box
- Replaced motor mixer to #1 SCU
- Installed new air relief hatches on silo's
- Installed new air compressor
- Installed new carbon pump
- hauled 1047 loads of lime to drying beds or fields

Reservoir items

- Treated reservoir #1 with algaecide in September and October
- Treated reservoir #2 with algaecide in July, August, and September
- Monitored weekly conducting algae identification and enumeration on reservoirs 1 and 2 from May 23rd to November 8th
- Monitored weekly with data sonde from May 23rd to November 8th

Other items

- Completed resurfacing floors in chemical building at WTP
- Completed concrete work at WTP on 1965 filter building and SCU's
- Completed painting on 1965 filter building and SCU's
- Purchased pick-up truck for WTP
- Purchased larger carbon pump
- Completed work and painted inside and outside of North Water Tower
- Purchased new mower for supply reservoir
- Repaired #2 outlet sluice gate stem and guides at reservoir

Goals for 2017

- Continue/complete study on raw water line and transfer station
- Increase sewer capacity behind WTP chemical building
- Paint 60" raw water pipe at reservoir Pump Stations 2 & 3
- Concrete work at reservoir augmentation area
- Repave road leading to reservoir #1
- Design reservoir overflow
- Complete retaining wall at WTP
- Complete installation of sediment collector in river at pump station #1
- Continue water quality monitoring at reservoir

I would like to thank all of the water department employees for their dedicated service to the City of Findlay this past year. I would also like to thank City Council and the Mayor and her administration for their continued confidence and support of me and my staff throughout the year.

Sincerely,

Jeffrey I. Newcomer
Superintendent
City of Findlay
Water Treatment Plant

City of Findlay Water Department
Drinking Water Consumer Confidence Report For 2015

Superintendent	Mayor	Safety-Service Director
Jeff Newcomer	Lydia L. Mihalik	Paul E. Schmelzer, P.E., P.S.

Introduction

The following report has been prepared to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

Source water information and assessment

Our water source is surface water pumped from the Blanchard River into the Findlay Reservoir, which is located three miles southeast of the water treatment plant. For the purpose of source water assessments, in Ohio all surface waters are considered susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens, which may rapidly arrive at the public drinking water intake with little warning or time to prepare. The City of Findlay's drinking water source protection area contains potential contaminant sources such as agricultural runoff, industrial storm water, gas station runoff, home construction, animal feed lot runoff, gas lines and gas and oil wells, wastewater treatment discharges, cemeteries, airports, silage, farm machinery repair, pesticide/fertilizer/petroleum storage areas, pasture, closed and inactive landfills, roadways and railways, and one site being investigated by Ohio EPA's Division of Emergency and Remedial Response (Hobbs Dump) just outside the protection area in Seneca County.

We treat your water using lime/soda softening, coagulation, sedimentation, stabilization, fluoridation, disinfection, and filtration to remove or reduce harmful contaminants in the source water; however, no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect the Blanchard River. Information that is more detailed is in the City of Findlay's Drinking Water Source Assessment Report, which can be obtained by calling the Findlay Water Department at 419-424-7193.

Sources of contamination to drinking water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

About your drinking water

The EPA requires regular sampling to ensure drinking water safety. Our water department conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants during 2015. Samples were collected for 73 different contaminants, most of which were not detected in the City of Findlay water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The Ohio EPA also requires us to monitor for unregulated contaminants that have no current MCLs, treatment techniques or action levels. Some of our data, though accurate, are more than one year old.

Listed below is information on those contaminants that were found in the City of Findlay drinking water.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Bacteriological							
Total Coliform Bacteria (% positive)	0	5%	2.0%	0% – 2.0%	NO	2015	Naturally present In the environment
Total Organic Carbon (ppm)	NA	TT	1.7	1.1 – 3.3	NO	2015	Naturally present in the environment.
The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.							
Turbidity (NTU)	NA	TT	0.19	0.05 – 0.19	NO	2015	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	100% – 100%	NO	2015	
Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the Findlay Water Department's highest recorded turbidity result for 2015 was 0.19 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.							
Radioactive Contaminants							
Gross Alpha (pCi/L)	0	15	<3	NA	NO	2012	Erosion of natural deposits.
Radium-228	0	5	<1	NA	NO	2012	Erosion of natural deposits
Inorganic Contaminants							
Barium (ppm)	2	2	0.010	NA	NO	2015	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Copper (ppm)	1.3	AL=1.3	0.230	NA	NO	2013	Corrosion of household plumbing systems; Erosion of natural deposits.
	One out of 30 samples was found to have copper levels in excess of the Action Level of 1.3 ppm.						
Fluoride (ppm)	4	4	1.02	0.81 – 1.10	NO	2015	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Lead (ppb)	0	AL=15	6.1	NA	NO	2013	Corrosion of household plumbing systems; Erosion of natural deposits.
	One out of 30 samples was found to have lead levels in excess of the Action Level of 15 ppb.						
Nitrate (ppm)	10	10	0.42	<0.10 – 0.42	NO	2015	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Synthetic Organic Contaminants including Pesticides and Herbicides							
Atrazine (ppb)	3	3	0.26	NA	NO	2015	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	<0.051	NA	NO	2015	Runoff from herbicide used on row crops.
Disinfection By-products							
Haloacetic Acids (HAA5) (ppb)	NA	60	27.0	10.4 – 31.6	NO	2015	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (ppb)	NA	80	75.3	43.2 – 92.0	NO	2015	By-product of drinking water chlorination.
Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer.							
Residual Disinfectants							

Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.5	1.2 – 1.6	NO	2015	Water additive used to control microbes.
Unregulated Contaminant Monitoring Rule 3							
	Entry Point		Distribution				
	Level Found	Range of Detections	Level Found	Range of Detections			
Chlorate (ppb)	37.9	37.9	111	111	NO	2015	
Chromium 3 (ppb)	0.60	0.60	0.73	0.73	NO	2015	
Chromium-6 (ppb)	0.43	0.43	0.44	0.44	NO	2015	
Molybdenum (ppb)	7.8	7.8	8.3	8.3	NO	2015	
Strontium (ppb)	1200	1200	1300	1300	NO	2015	
Vanadium (ppb)	0.29	0.29	0.34	0.34	NO	2015	
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted							

Lead Educational Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Findlay Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead.

License to Operate (LTO) Information

We have a current, unconditioned license to operate our water system.

How do I participate in decisions concerning my drinking water?

If you have any questions about this report or concerning your water utility, please contact Jeff Newcomer by calling (419) 424-7193 or by writing to 110 North Blanchard Street, Findlay, OH 45840. We want our valued customers to be informed about their water utility. You can attend regular public meetings on the first and third Tuesday of each month, at 7:30 p.m., in Council Chambers in the Municipal Building, at 318 Dorney Plaza.

Definitions of some terms contained within this report

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- Parts per Billion (ppb) or Micrograms per Liter (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Picocuries per Liter (pCi/L): A measure of radioactivity.
- Nephelometric Turbidity Unit (NTU): A measure of water cloudiness.
- Not Applicable (NA)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- The "<" symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

WATER DEPARTMENT
Superintendent Jeff Newcomer

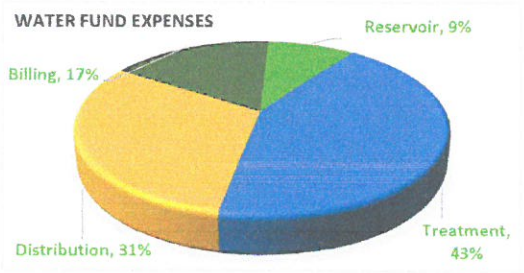
Divisions: *Reservoir*
Treatment
Distribution
Utility Billing

FINANCIAL VISION

BUDGET		2014 actual	2015 actual	2016 projection	Original 2016 request	2017 request	$ change from 2016 request to 2017 request	% change from 2016 request to 2017 request
Supply Reservoir	Personal Services	$ 73,799	$ 78,100	$ 80,246	$ 98,709	$ 106,533	$ 7,824	7.93%
	Other	$ 187,598	$ 195,403	$ 263,805	$ 329,449	$ 335,420	$ 5,971	1.81%
Water Treatment	Personal Services	$ 943,525	$ 938,305	$ 1,006,638	$ 1,079,041	$ 1,125,528	$ 46,487	4.31%
	Other	$ 914,878	$ 821,862	$ 1,013,137	$ 1,071,639	$ 1,097,759	$ 26,120	2.44%
Water Distribution	Personal Services	$ 885,207	$ 879,662	$ 917,277	$ 1,062,254	$ 1,067,043	$ 4,789	0.45%
	Other	$ 358,903	$ 421,540	$ 427,828	$ 465,186	$ 518,296	$ 53,110	11.42%
Utility Billing	Personal Services	$ 634,367	$ 631,317	$ 582,759	$ 698,291	$ 644,656	$ (53,635)	-7.68%
	Other	$ 186,216	$ 176,439	$ 175,739	$ 212,586	$ 216,740	$ 4,154	1.95%

BUDGET HIGHLIGHTS

- Purchase of hydrants - increase due to growth
- Operator's salary adjustment for new hires
- Proposed 2% wage increase
- Reservoir chemical for algae control



PEOPLE INVESTMENTS

STAFFING	2013	2014	2015	2016	2017
Reservoir	1	1	1	1	1
Water Treatment	14	13	13	14	14
Water Distribution	12	13	13	14	14
Utility Billing	10	10	10	9	9

SICK LEAVE USAGE	2013	2014	2015	2016 (YTD)
Avg. Hrs. Sick Leave/ Employee	51.2	53.5	45.0	35.5
FMLA hours used (total)	793.25	666.0	391.75	65.75
Total Cost of Leaves	$ 57,716	$ 59,622	$ 44,878	$ 31,344
OVERTIME	**2013**	**2014**	**2015**	**2016 (YTD)**
Total Cost	$ 23,935	$ 33,144	$ 24,939	$ 11,996

OPERATIONS AND SERVICES

2016 CAPITAL IMPROVEMENT HIGHLIGHTS

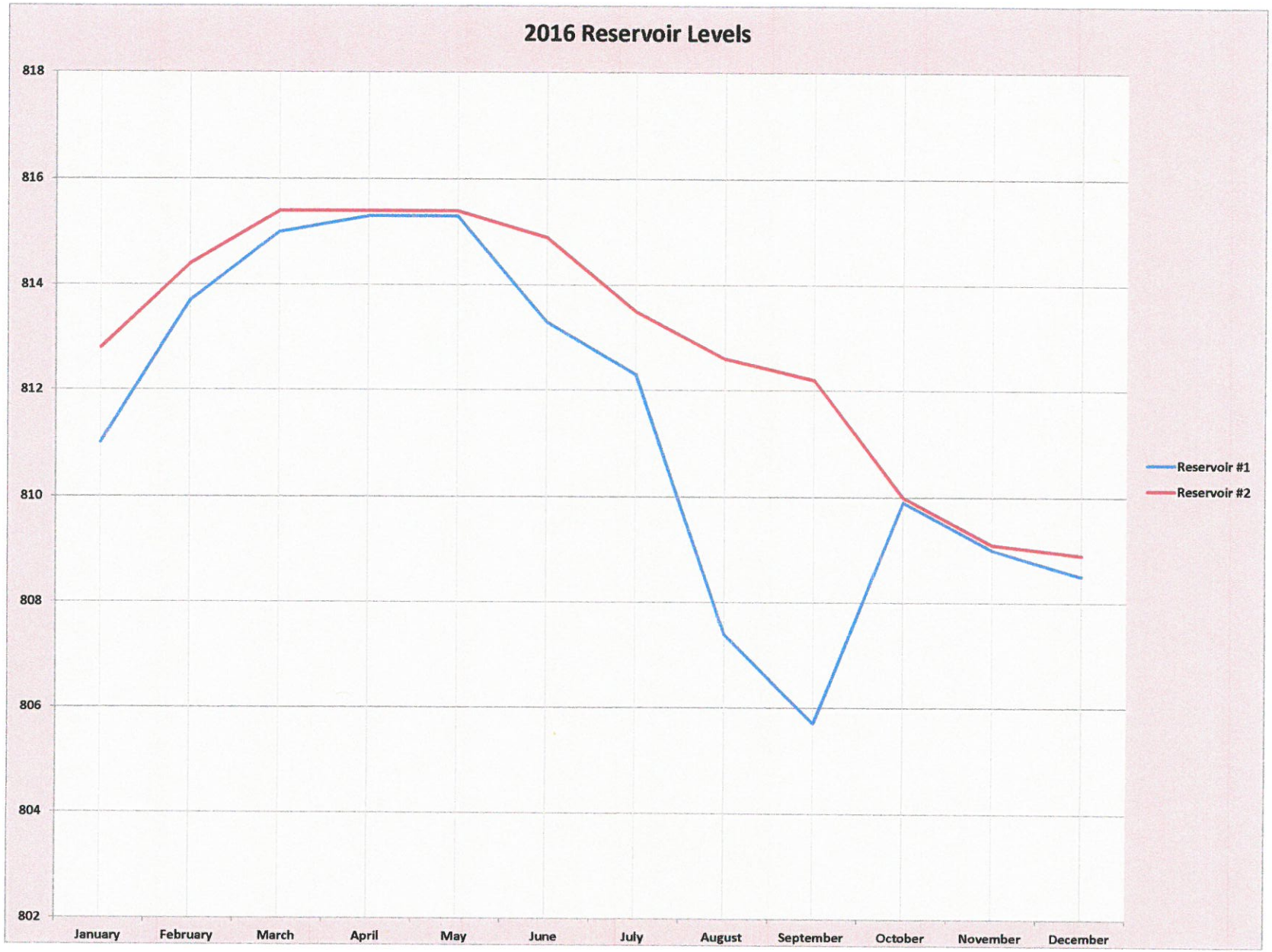
- WD - purchased backhoe, bobcat, pickup and leak detection equipment
- WTP - purchased pickup, purchased larger carbon pump, completed N. Tower Painting

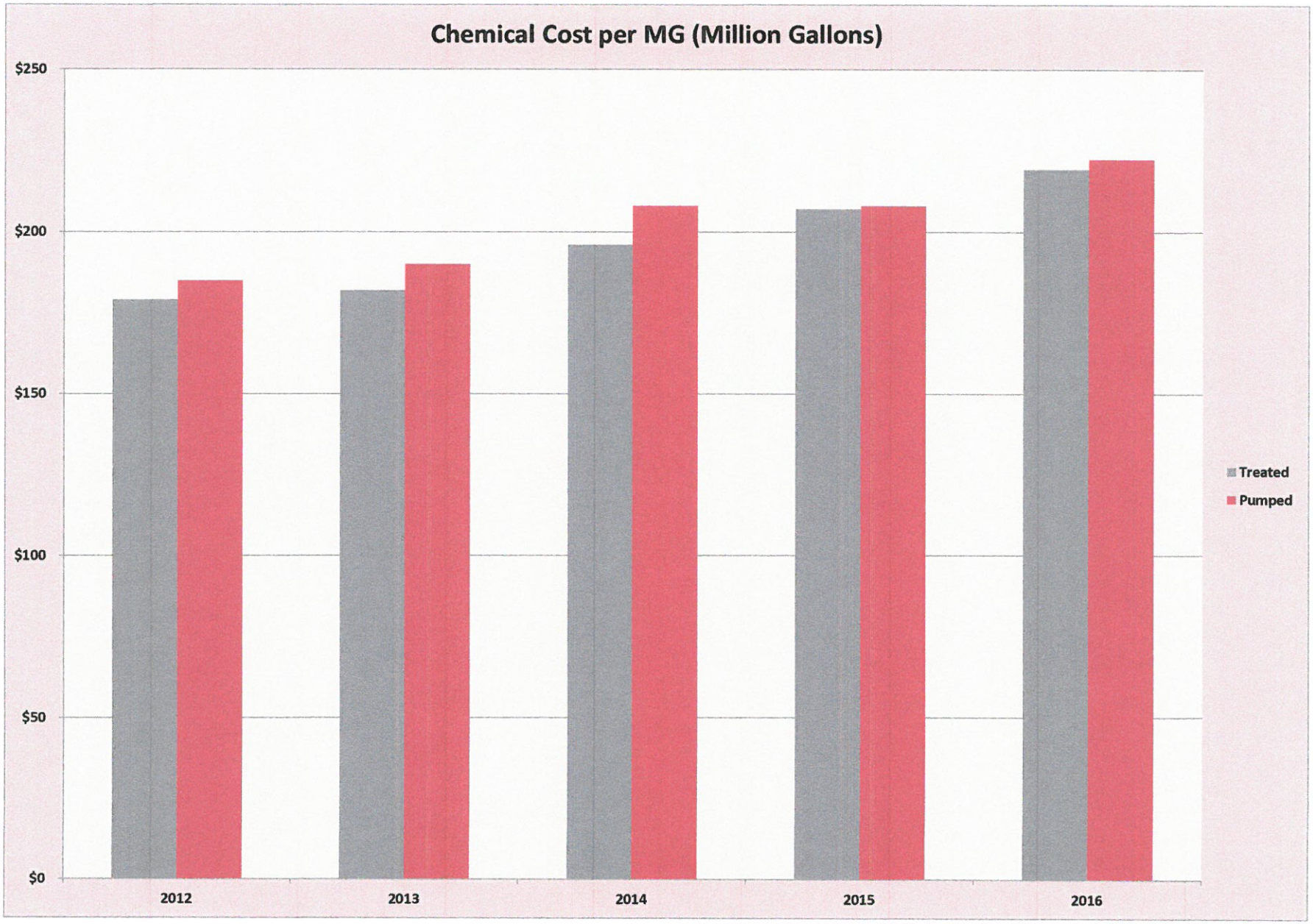
2016 ACHIEVEMENTS

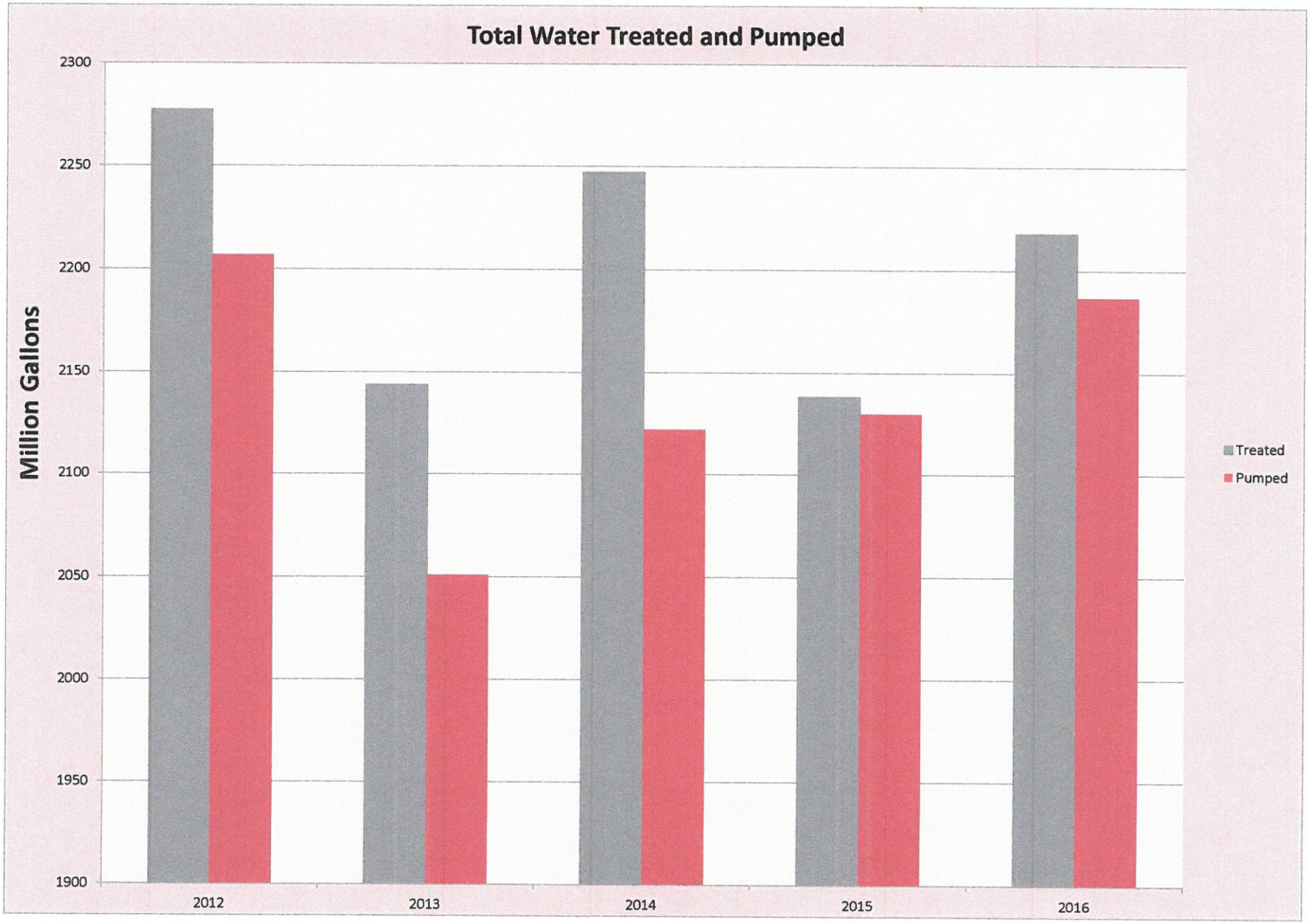
- Floors at WTP completed
- Concrete work and painting at WTP
- Replaced 2" waterlines with 6" lines with hydrants on Durrell St, Washington St, Ellis Ave, Hullick St, Delaware Ave and Northview Ave.
- Painted North Water Tower
- Updated service records in WD
- Verified and renewed 40 lead service lines
- Continued monitoring at reservoir for algae

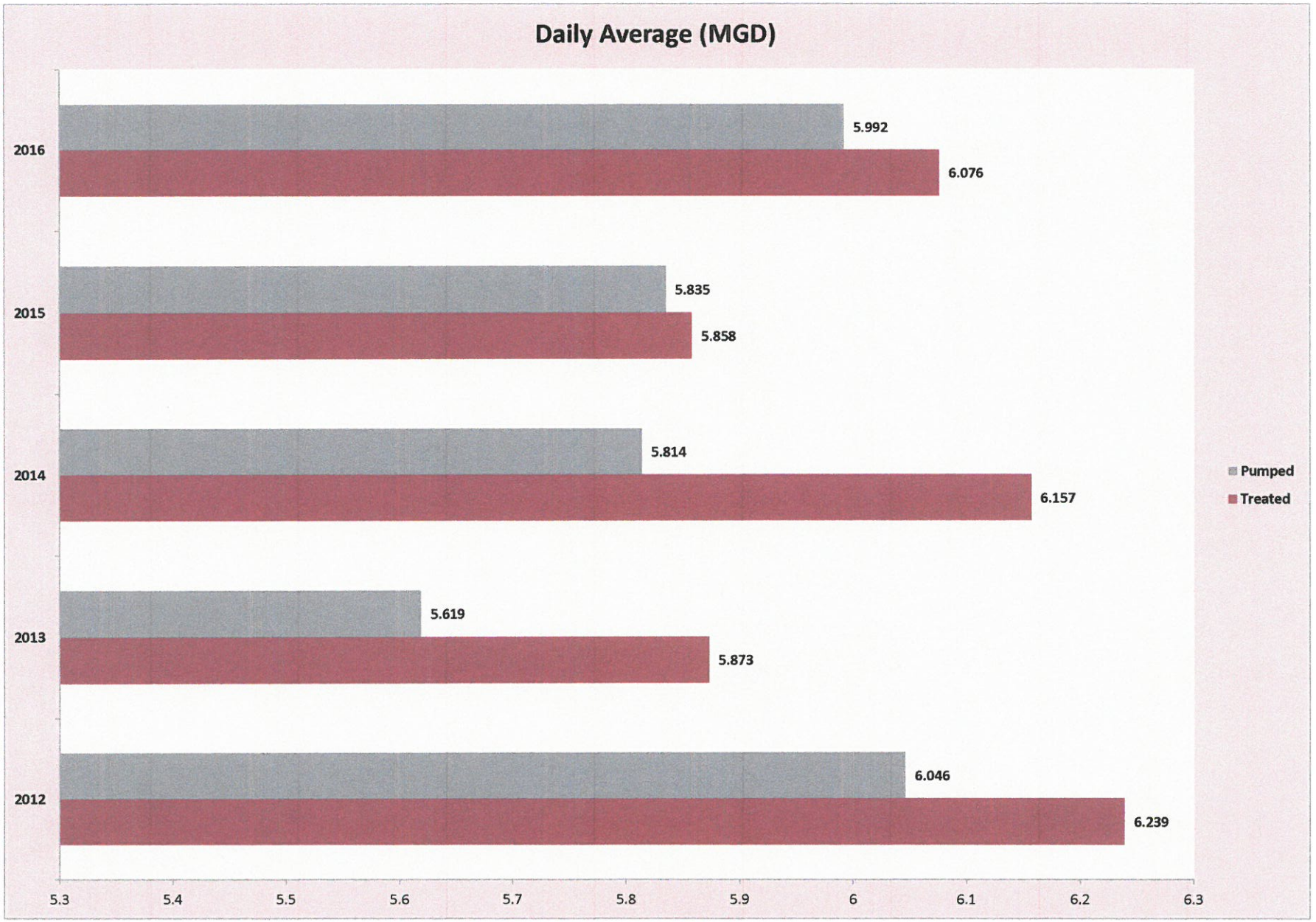
2017 OBJECTIVES

- Renewing lead service lines and updating service line information
- Continue waterline replacement
- Concrete work at reservoir
- Complete retaining wall at WTP
- Painting pipe inside PS 2 & 3
- Implement new billing software
- Complete installation of sediment collector


2016 Reservoir Levels
818
816
814
812
810
808
806
804
802
January
February
March
April
May
June
July
August
September
October
November
December
Reservoir #1
Reservoir #2


Chemical Cost per MG (Million Gallons)
$250
$200
$150
$100
$50
$0
2012
2013
2014
2015
2016
Treated
Pumped


Total Water Treated and Pumped
Million Gallons
2300
2250
2200
2150
2100
2050
2000
1950
1900
2012
2013
2014
2015
2016
Treated
Pumped


Daily Average (MGD)
2016
2015
2014
2013
2012
5.992
6.076
5.835
5.858
5.814
6.157
5.619
5.873
6.046
6.239
Pumped
Treated
5.3
5.4
5.5
5.6
5.7
5.8
5.9
6
6.1
6.2
6.3

City of Findlay Water Treatment Plant Annual Report

Month	Water Pumped MG	Water Treated MG	Pounds Lime	Gallons Ferric Chloride	Pounds Soda Ash	Pounds Fluoride	Pounds Carbon Dioxide	Gallons Sodium Hypochlorite	Gallons Sodium Permanganate	Pounds Carbon
January	177.7	174.89	146283	1448	17672	5491	45077	2850	230	4872
February	164.02	163.38	142254	1534	16356	5047	41720	2581	0	3804
March	173.67	172.12	163002	2093	17404	5463	43566	2827	753	4288
April	167.12	168.46	164539	2061	16617	5372	41196	3113	766	4838
May	179.42	181.43	172892	2256	18119	5992	44675	3493	759	5072
June	193.87	201.56	188498	2530	20906	6618	44001	4416	785	5755
July	210.27	211.96	190056	2476	22004	7117	47377	5164	1011	8661
August	217.53	214.00	188928	3189	22309	7109	46016	5686	1186	17608
September	193.29	192.64	164596	2959	19727	6589	42189	5059	1166	17106
October	178.87	187.56	169337	3530	18817	5905	42528	4820	657	12695
November	164.61	173.43	160290	3684	17091	5685	39987	3495	542	8961
December	166.56	176.26	150933	2422	17515	5832	43647	3259	633	1642
Totals	2186.93	2217.69	2001608	30182	224537	72220	521979	46763	8488	95302
Monthly Avg	182.24	184.81	166801	2515	18711	6018	43498	3897	1697.60	19060.40
Max	217.53	214.00								
Min	164.02	163.38								
cost/gallon								0.679	6.546	1.18
Cost/ton			159.22	467.00	356.74	503.15	145.00			
annual chemical cost			159348	31150	40051	18169	37843	31752	55562	112456

total chemical cost $ 486,332

6-2016 Chemical cost MG

WATER TREATMENT EXPENSES

	2012	2013	2014	2015	2016
Wages	$ 788,696	$ 717,150	$ 688,792	$ 707,021	$ 762,139
Retirement Settlements	$ 160,945				
Benefits	$ 388,463	$ 329,426	$ 253,925	$ 231,284	$ 242,246
Operating	$ 389,093	$ 351,698	$ 445,237	$ 361,512	$ 461,188
Maintenance	$ 151,475	$ 95,083	$ 151,228	$ 120,859	$ 122,317
Utilities	$ 252,719	$ 225,925	$ 282,724	$ 255,431	$ 310,500
Capital	$ 6,437		$ 50,756	$ 59,045	$ 40,127
Other	$ 95,263	$ 91,654	$ 35,689	$ 84,060	$ 59,286
TOTAL	**$ 2,233,091**	**$ 1,810,936**	**$ 1,908,351**	**$ 1,819,212**	**$ 1,997,803**

SUPPLY RESERVOIR EXPENSES

	2012	2013	2014	2015	2016
Wages	$ 47,580	$ 49,664	$ 50,056	$ 54,539	$ 57,098
Retirement Settlements					
Benefits	$ 32,227	$ 33,212	$ 23,693	$ 23,561	$ 22,451
Operating	$ 115,131	$ 130,931	$ 67,175	$ 79,228	$ 77,864
Maintenance	$ 141,596	$ 57,816	$ 28,314	$ 6,107	$ 27,543
Utilities	$ 94,624	$ 96,982	$ 90,257	$ 99,524	$ 104,233
Capital		$ 5,812			$ 51,011
Other	$ 28,539	$ 12,342	$ 21,852	$ 10,544	$ 10,118
TOTAL	**$ 459,697**	**$ 386,759**	**$ 281,347**	**$ 273,503**	**$ 350,318**