

# Annual Report

2015 WATER SYSTEM OPERATION

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## Introduction

This report is a summary of the State College Borough Water Authority operations for 2015. The report also sets forth an estimate of 2016 revenues and expenditures and the types and limits of insurance coverage with respect to the water system.

## History

The State College water system has grown with the region's expansion and development over the last 119 years. Organized in 1896, the State College Water Company was officially chartered by the state on August 27, 1902. The company constructed an intake in Shingletown Gap and a network of pipes that distributed water to Borough customers. Later, wells were sunk near Foster Avenue and Shingletown Gap as additional supplies. This system configuration existed for 50 years.

The Borough of State College incorporated the State College Borough Water Authority on June 14, 1940 under the new Pennsylvania Municipal Authorities Act. On December 13, 1941, the Authority purchased the Water Company for \$233,000. At the time, the system served a population of 13,400 including the Penn State University campus.

However, the Shingletown Gap supplies proved to be inadequate for the growing service area. In the 1950's, the Authority developed additional wells along Slab Cabin Run on the Thomas Farm.

System growth related to the expansion of Penn State University accelerated in the 1960's and 70's. The Authority developed the Harter Farm, Chestnut Ridge and Nixon Farm well fields to address this increased demand and built several elevated storage tanks. The transmission and distribution system grew accordingly.

In later years, the Board embarked on an ambitious water supply program when the Authority developed well fields in the Grays Woods area, the Alexander farm near the airport and the Kocher farm in Ferguson Township. The Authority brought these sources on-line in the late 1990's.

The Woodside Drive water treatment plant was also constructed in 1995 and treats water from the Thomas and Harter well fields and Shingletown reservoir.

From its original charter, the service area has expanded into Ferguson, College, Halfmoon, Harris, Patton and Benner Townships. The Authority has also assumed operation of adjacent water systems.

In 1998, State College Borough Council increased Board membership from five to seven members and extended the Authority's life until 2030. A 25-year master plan was completed in 2004 and most recently updated in 2014.

## Board of Directors

### OFFICERS

Albert R. Jarrett – Chairman  
Jeffrey R. Kern – Vice Chairman  
Susan W. Runk – Secretary/Assistant Treasurer  
Brian C. Heiser – Assistant Secretary  
Dennis E. Hampton – Treasurer/Financial Consultant

### MEMBERS

Allen T. Phillips  
Gary W. Petersen  
E. Emory Enscoe  
Jason R. Grottini  
Rachel A. Brennan

## Committees

### FINANCE

Allen T. Phillips – Chairman  
Jeffrey R. Kern  
Dennis E. Hampton  
E. Emory Enscoe

### FACILITIES, OPERATING AND PLANNING

Albert R. Jarrett – Chairman  
Allen T. Phillips  
Rachel A. Brennan  
Jason R. Grottini

### SOURCE WATER PROTECTION

Jason R. Grottini - Chairman  
Rachel A. Brennan  
Gary W. Petersen  
E. Emory Enscoe

### APPEALS AND PUBLIC RELATIONS

Gary W. Peterson – Chairman  
Rachel A. Brennan  
Jeffrey R. Kern  
Susan W. Runk  
Brian C. Heiser

### HR EVALUATION

E. Emory Enscoe – Chairman  
Jeffrey R. Kern  
Jason R. Grottini  
Dennis E. Hampton  
Susan W. Runk  
John A. Lichman

## Executive Director

John A. Lichman

## Consultants

Robert Mix, Esq., Lee, Green & Reiter, Inc. – Solicitor  
Mark Glenn, P.E., Gwin Dobson & Foreman, Inc. – Engineer  
Baker Tilly Virchow Krause, LLP – Auditor  
First National Bank – Trustee, Depository & Investment Banker

## System Description

The Authority maintains an extensive water supply, treatment, transmission and distribution system which may be summarized as follows:

- Connected population of 72,237 in State College Borough and Patton, Harris, Benner, Halfmoon, Ferguson and College Townships.
- Customer base of 14,343 connections with an average daily demand of 4.93 MGD and peak day demand of 6.04 MGD.
- Surface water intake on Roaring Run and reservoir with a capacity of 460,000 gallons and a maximum daily withdrawal limit of 2 million gallons.
- Seven large capacity groundwater sources, including the Thomas, Grays Woods, Harter, Nixon, Chestnut Ridge, Alexander and Kocher well fields, with a permitted capacity of 9.1 MGD.
- Water treatment facility on Woodside Drive (6 million gallons per day capacity) treating raw water from Roaring Run and the Harter and Thomas well fields. The treatment process consists of solids contact/upflow clarification and multi-media filters.
- Four water disinfection and fluoridation treatment facilities at the Nixon, Grays Woods, Alexander and Chestnut Ridge well fields.
- Water transmission mains and water distribution lines totaling 270.9 miles.
- Thirteen water storage tanks with a combined capacity of 15.75 million gallons including eight ground level steel tanks and five elevated steel tanks.
- Six water booster pumping stations.
- Six pressure zones (or service gradients).
- Administrative office building located on West Branch Road along with a maintenance garage and materials storage area.

## Water System Improvement Projects

- The Authority completed the following projects in 2015:

– Tank 5: Painting and Installation of a TideFlex Mixing System 1MG elevated storage tank. Interior sandblast and paint; Exterior pressure wash, spot prime and paint; modifications to existing man-ways, new ladder, cages and safety climber; handrails installed around top-exterior hatch Horizon Brothers Painting, Inc., Howell Michigan	\$ 748,000
– Bellaire Ave: joint project with State College Borough 1500' of 8" DIRJ pipe Contractor: G&R Charles, Port Trevorton, PA	\$ 182,781
– Phase I of North Atherton St. Improvements: PADOT project This project was the first phase of a multi-phase project being carried out by PADOT to rehabilitate Atherton St. Subsequent phases will also necessitate the relocation of additional Water Mains. Contractor: Glenn O. Hawbaker, Inc., State College, PA	\$ 56,000

- The following waterline replacements were installed by Authority's maintenance crews in 2015:

– South Barkway Lane: 350' of 4" DIRJ Pipe	\$ 20,668
– 950-1000 W. Aaron Dr. 200' of 6" and 700' of 8" DIRJ Pipe	\$ 64,325

- Nixon - Kocher Pilot Study:

Completed water quality monitoring on all of the Authority's well fields to create a base line for EDC/ PPE contaminants. The study also involved pilot testing a Micro-Filtration plant for the Nixon - Kocher Wellfields. The study at Nixon - Kocher included extensive water quality testing of the raw and finished water.

## Water Supply

The Authority maintains a surface supply, Shingletown Reservoir, on Roaring Run and seven groundwater sources at the Thomas, Grays Woods, Harter, Nixon, Chestnut Ridge, Kocher and Alexander well fields. The physical characteristics of the well fields are tabulated on page 8. Water from Shingletown reservoir and the Thomas and Harter well fields is treated at the Woodside Drive treatment plant.



Pressure Washing Water Storage Tanks.



Tapping Sleeve and Valve Installation - Bellaire Avenue.



Water Service Installation - CATA.

# Well Field Data

2015

Well Field	Depth (Ft.)	Safe Yield* (GPD)	2015 Daily Withdrawal (GPD)	SRBC Permitted Capacity (Gallons)
Thomas No. 7	165			
Thomas No. 8	165			
Thomas No. 11	155			
Thomas No. 14	142			
<b>SUB-TOTAL - Thomas</b>		<b>18,345,600</b>	<b>1,721,529</b>	<b>3,400,000</b>
Gray's Woods No. 17	696			
Gray's Woods No. 18	581			
Gray's Woods No. 19	703			
<b>SUB-TOTAL - Gray's Woods</b>		<b>4,939,200</b>	<b>457,460</b>	<b>3,880,000</b>
Harter No. 22	275			
Harter No. 24	300			
Harter No. 25	130			
<b>SUB-TOTAL - Harter</b>		<b>8,539,200</b>	<b>1,191,214</b>	<b>4,400,000</b>
Nixon No. 41	300			
Nixon No. 43	300			
Nixon No. 53	300			
<b>SUB-TOTAL - Nixon</b>		<b>2,203,200</b>	<b>645,753</b>	<b>3,000,000</b>
Chestnut Ridge No. 55	500			
Chestnut Ridge No. 57	500			
<b>SUB-TOTAL - Chestnut</b>		<b>1,209,600</b>	<b>36,899</b>	<b>1,010,000</b>
Kocher No. 71	253			25% of Annual Withdrawal or 4,800,000 Emergency Use
Kocher No. 73	255			
Kocher No. 78	379			
Kocher No. 79	496			
<b>SUB-TOTAL - Kocher</b>		<b>1,900,800</b>	<b>270,948</b>	
Alexander No. 62	509			
Alexander No. 63	550			
Alexander No. 64	507			
Alexander No. 65	550			
<b>Sub-total, Alexander</b>		<b>10,612,800</b>	<b>498,090</b>	<b>4,700,000</b>
<b>TOTAL - All Well Fields</b>		<b>47,750,400</b>	<b>4,821,893</b>	

\*Safe Yield - See April 2002 "State College Borough Water Authority Safe Yield Evaluation" by US Filter.

**Notes:**

- Well Nos. 7, 8, 11 & 14 (Thomas well field) and 22, 24 and 25 (Harter well field) are treated at the Woodside Drive water treatment facility.
- The 2015 average production from the treatment plant was 3.003 million gallons per day.
- Under normal conditions, the Nixon and Kocher well fields operate on an alternating basis.
- Safe yield is defined as the reliable well pumping capacity (or the rate of water withdrawn equaling the rate of well recharge over the long term). The following table (well field water levels & rainfall) shows the effect of rainfall on groundwater levels.
- The Kocher well field withdrawal is limited by the Susquehanna River Basin Commission to 25% of system demand or 1,330,000 gallons per day.
- Withdrawals from the Thomas and Harter Well fields and from Shingletown Reservoir must be accounted for in the total withdrawal of 7.3 MGD permitted by the SRBC for the Slab Cabin Run basin. The total withdrawals from Thomas and Harter Well Fields for 2015 were 2.91 MGD or 39.9% of the amount permitted and 10.83% of the Long Term Safe Yield.

In 1995, the Shingletown reservoir was reconnected as a filtered supply source through the new water treatment plant. Shingletown reservoir is subject to PADEP withdrawal restrictions. A monitoring weir measures the conservation release to Roaring Run and the minimum downstream flow is 662,000 gallons per day in Roaring Run.

The reservoir is a seasonal supply, typically used 6 to 8 months per year. The 2015 daily withdrawal averaged 233,033 gallons per day. The reservoir was used for 180 days in 2015.

# Well Field Water Levels & Total Precipitation

2015

	2013					2014					2015							
	No. 7	No. 19	No. 25	No. 43	No. 62	Precip*	No. 7	No. 19	No. 25	No. 43	No. 62	Precip*	No. 7	No. 19	No. 25	No. 43	No. 62	Precip*
January	11'	342'	12'	85'	207'	+0.12	17'	353'	10'	66'	219'	-1.23	17'	348'	14'	74'	210'	-0.26
February	10'	PUMP PULLED	12'	86'	206'	-0.93	17'	354'	12'	89'	212'	+0.48	17'	356'	19'	73'	216'	-1.25
March	10'	332'	12'	87'	208'	-1.38	14'	355'	14'	88'	214'	-1.02	18'	357'	10'	70'	214'	-1.01
April	10'	348'	12'	81'	206'	+0.19	14'	344'	11'	85'	209'	-0.37	09'	348'	09'	70'	213'	+1.89
May	12'	347'	11'	83'	206'	-0.27	13'	355'	13'	89'	209'	+2.35	09'	348'	12'	79'	209'	-1.89
June	13'	348'	13'	78'	202'	+3.23	12'	348'	12'	82'	210'	+0.77	09'	361'	08'	88'	209'	+2.71
July	11'	348'	13'	76'	202'	+2.45	11'	357'	15'	78'	210'	+3.08	09'	347'	07'	79'	213'	+2.56
August	15'	348'	19'	82'	205'	-2.76	12'	357'	15'	89'	211'	+3.11	09'	348'	14'	64'	213'	-0.84
September	17'	350'	22'	88'	206'	-1.44	11'	358'	20'	87'	212'	-2.33	09'	361'	17'	61'	213'	+1.02
October	18'	351'	23'	90'	208'	-0.01	11'	360'	22'	66'	213'	+0.60	14'	349'	16'	67'	211'	+0.54
November	20'	351'	27'	91'	210'	-0.08	11'	361'	27'	86'	213'	-1.43	14'	349'	15'	69'	211'	-1.98
December	20'	352'	24'	67'	210'	+1.07	17'	360'	28'	87'	214'	-0.59	14'	348'	06'	67'	212'	+1.03
<b>Total</b>						<b>+0.19</b>						<b>+3.42</b>						<b>+2.52</b>

Water levels below ground level on the last day of the month.

\* Monthly Precipitation above (+) or below (-) average (annual average is 39.52").

- Well Field No. 1 - Thomas (Well No. 7)
- Well Field No. 2 - Gray's Woods (Well No. 19)
- Well Field No. 3 - Harter (Well No. 25)
- Well Field No. 4 - Nixon (Well No. 43)
- Well Field No. 6 - Alexander (Well No. 62)



Water Main Break Repair - Oakwood Avenue.



Service Tap Installation - Park Forest Villas.

The total 2015 water production was 1.801 billion gallons or a decrease of 19 million gallons from the previous year. The 2015 average daily demand was 4,934,984 gallons per day, or a decrease of 1.07% from 2014.

The tables shown on the following pages provide details of the water use and consumption for 2015:

- User Classification, Accounts and Consumption (2015)
- Estimated Population Served (2015)
- Number of Metered Accounts - Average/Peak Day Use
- Customer Totals by Metered Account (2011 - 2015)
- Twenty Largest Customers (2015)
- Twenty Largest Customers (2015/2014 Comparison)
- Water Pumped/Average Daily Use (1994-2015)
- Unaccounted-for-Water Percentage (2009-2015)

The maximum and minimum 2015 demands were 6,043,000 and 3,471,941 gallons per day, respectively. The 2015 maximum 30-day demand of 5.3 MGD constitutes 58% of the allowable 9.1 MGD maximum daily (30 day) withdrawal from the Authority's water supply system. The maximum daily withdrawal is governed by the Susquehanna River Basin Commission (SRBC).

The total 2015 metered consumption was 1,574,205,000 gallons which exceeded the 2014 metered consumption of 1,525,412,000 or an increase of 48,793,000 gallons. The 2015 average metered consumption was 4,312,890 gallons per day or an increase of 3.1% from 2014. In terms of number of water accounts, the total for 2015 was 14,343 which exceeded the 2014 total of 14,196 or an increase of 147 accounts (+1.02%).

The amount of unmetered, unaccounted-for-water (leaks, etc.) totaled 590,718 gallons per day or 11.97% of the total average daily demand. In comparison, unaccounted-for-water in 2014 was 623,467 gallons, or 12.5% of total average daily demand. Regulatory guidelines recommend that unaccounted-for-water (or "non-revenue" water) should not exceed 20%.

# User Classification, Accounts & Consumption

2015

Municipality	Category	Water Used (Gallons)	Percent Usage	Number Of Accounts*	Number Of Units	Usage Per Account (Gallons)	Revenue By Category	Revenue Per Account	Pct (%) Revenue
Overall	Apartment	629,868,000	40.01	695	16,470	906,285	\$ 2,602,370.24	\$ 3,744.42	39.63
Overall	Commercial	255,803,000	16.25	802	1,901	318,956	1,061,894.95	1,324.06	16.17
Overall	Fire Hydrant	1,000	0.00	22	0	45	12.60	-	0.00
Overall	Fraternity	17,059,000	1.08	45	49	379,089	70,467.50	1,565.94	1.07
Overall	Hotel Or Motel	54,167,000	3.44	25	1,135	2,166,680	224,695.65	8,987.83	3.42
Overall	Industrial	14,736,000	0.94	30	30	491,200	61,046.20	2,034.87	0.93
Overall	Miscellaneous	19,694,000	1.25	115	115	171,252	83,878.19	729.38	1.28
Overall	Public	13,027,000	0.83	90	91	144,744	55,364.29	615.16	0.84
Overall	Residential	569,850,000	36.20	12,519	13,009	45,519	2,406,632.40	192.24	36.65
<b>Totals</b>		<b>1,574,205,000</b>		<b>14,343</b>	<b>32,800</b>	<b>109,754</b>	<b>\$ 6,566,362.02</b>	<b>\$ 457.81</b>	
	Benner Township	24,806,000	1.58	12	843	2,067,167	\$ 94,146.72	\$ 8,262.23	1.51
	Borough Of State College	631,039,000	40.09	4,367	14,100	144,502	2,620,729.95	600.12	39.91
	College Township	101,278,000	6.43	586	1,185	172,829	421,541.65	719.35	6.42
	Ferguson Township	407,448,000	25.88	4,376	7,787	93,110	1,693,728.80	387.05	25.79
	Harris Township	94,856,000	6.03	1,991	2,271	47,642	400,668.15	201.24	6.10
	Patton Township	314,778,000	20.00	3,011	6,614	104,543	1,330,550.75	441.90	20.26
<b>Totals</b>		<b>1,574,205,000</b>		<b>14,343</b>	<b>32,800</b>	<b>109,754</b>	<b>\$ 6,566,362.02</b>	<b>\$ 457.81</b>	

\*Metered Accounts

# Estimated Population Served

2015

Municipality	Municipality Estimated Population	SCBWA Residential Served	SCBWA Apartments Served	Total Res./Apt. Served	SCBWA Population Served	SCBWA % Population Served	SCBWA Persons Per Household
Benner Township	6,263	-0-	833	833	1,253	20%	1.50
College Township	9,635	497	396	893	2,023	21%	2.27
Ferguson Township	17,870	4,020	3,093	7,113	16,440	92%	2.31
Harris Township	4,931	1,920	245	2,165	4,734	96%	2.19
Patton Township	15,496	2,778	3,151	5,929	15,031	97%	2.54
State College Borough	42,540	3,709	8,752	12,461	32,756	77%	2.63
<b>Total</b>	<b>96,735</b>	<b>12,924</b>	<b>16,470</b>	<b>29,394</b>	<b>72,237</b>	<b>75%</b>	<b>n/a</b>

### Census Population:

State College Borough includes off campus seasonal student population.  
Population information is based on 2010 Census data and an annual growth percentage.

### Persons/Household:

Assumes that residential and apartment units have same persons/household density for computation of total population.

## Number Of Metered Accounts, Average Day Use & Peak Day Use

1996 - 2015

Year	Metered Accounts	Average Day Use	Peak Day Use
1996	10,751	4,715,000	7,398,000
1997	10,891	5,019,000	7,611,000
1998	11,062	4,960,000	6,908,000
1999	11,300	5,071,000	7,752,000
2000	11,965*	5,382,000	7,576,000
2001	12,130	5,499,000	7,742,000
2002	12,000	5,699,000	7,408,000
2003	12,561	5,710,000	7,944,000
2004	12,810	5,317,000	6,858,000
2005	13,003	5,364,000	7,326,000
2006	13,164	5,132,000	6,737,000
2007	13,272	5,246,000	7,462,000
2008	13,437	5,055,000	6,409,000
2009	13,540	4,993,000	6,252,000
2010	13,632	4,917,000	6,338,000
2011	13,715	4,885,000	6,246,000
2012	13,827	4,856,000	6,434,000
2013	14,028	4,977,000	6,098,000
2014	14,196	4,988,000	6,166,000
2015	14,641	4,935,000	6,043,000

\*Ferguson Township Water Authority system acquired by SCBWA.

## Customer Totals By Metered Account Type

2011 – 2015

Account Type	2011	2012	2013	2014	2015
Residential	11,941	12,047	12,228	12,394	12,519
Apartment	679	682	694	695	695
Commercial	787	788	793	791	802
Fraternity	45	45	46	46	45
Hotel/Motel	25	25	25	25	25
Industrial	28	30	30	30	30
Public	113	114	115	117	90
Miscellaneous	86	85	85	86	115
Fire Hydrant	11	11	12	12	22
<b>Total</b>	<b>13,715</b>	<b>13,827</b>	<b>14,028</b>	<b>14,196</b>	<b>14,343</b>

## Twenty Largest Customers

2015

Customer	Number Of Units	Gallons Consumed	Average Gallons Per Day	Total Income
Mt. Nittany Medical Center	260	33,809,000	92,627	\$ 140,047.20
Parkway Plaza Apts.	428	19,154,000	52,477	\$ 79,218.05
The Pointe	294	17,245,000	47,247	\$ 71,374.00
Turnberry Apts.	406	15,174,000	41,573	\$ 61,412.20
Foxdale Village	205	14,062,000	38,526	\$ 58,310.90
The Retreat	138	13,985,000	38,315	\$ 57,837.50
Park Crest Terrace Apts.	241	13,342,000	36,553	\$ 55,235.70
Heritage Village	410	11,186,000	30,647	\$ 46,399.25
University Commons Apts.	205	10,935,000	29,959	\$ 45,182.00
Nittany Crossings	206	10,795,000	29,575	\$ 44,634.65
College Park Student Apts.	196	10,768,000	29,501	\$ 44,438.10
Ramada Inn	284**	10,452,000	28,636	\$ 44,630.15
Gateway Center Apts.	229	10,144,000	27,792	\$ 40,405.30
Nittany Garden Apts.	351	9,931,000	27,208	\$ 41,025.95
The Grove	216	8,710,000	23,863	\$ 36,115.75
Lions Gate Apts.	239	7,988,000	21,885	\$ 32,992.10
Park Forest Apts.	272	7,810,000	21,397	\$ 32,240.25
Turtle Creek Apts.	207	7,769,000	21,285	\$ 32,183.80
Beaver Hills Apts.	211	6,688,000	18,323	\$ 27,667.60
Days Inn Penn State	186**	6,686,000	18,318	\$ 27,708.70
<b>Totals</b>	<b>5,184</b>	<b>246,633,000</b>	<b>33,785</b>	<b>\$ 1,019,059.15</b>

\*Number of Beds

\*\*Number of Rooms

## Twenty Largest Customers

2015 / 2014 COMPARISON

Customer	Number Of Units	2015 Gallons Consumed	2014 Gallons Consumed	2015 Gallons Consumed Difference
Mt. Nittany Medical Center	260	33,809,000	29,995,000	3,814,000
Parkway Plaza Apts.	428	19,154,000	16,895,000	2,259,000
The Pointe	294	17,245,000	21,565,000	-4,320,000
Turnberry Apts.	406	15,174,000	8,654,000	6,520,000
Foxdale Village	205	14,062,000	10,393,000	3,669,000
The Retreat	138	13,985,000	13,221,000	764,000
Park Crest Terrace Apts.	241	13,342,000	12,620,000	722,000
Heritage Village	410	11,186,000	9,822,000	1,364,000
University Commons Apts.	205	10,935,000	14,000,000	-3,065,000
Nittany Crossings	206	10,795,000	10,761,000	34,000
College Park Student Apts.	196	10,768,000	12,112,000	-1,344,000
Ramada Inn	284**	10,452,000	8,806,000	1,646,000
Gateway Center Apts.	229	10,144,000	13,616,000	-3,472,000
Nittany Garden Apts.	351	9,931,000	9,647,000	284,000
The Grove	216	8,710,000	6,358,000	2,352,000
Lions Gate Apts.	239	7,988,000	8,227,000	-239,000
Park Forest Apts.	272	7,810,000	9,036,000	-1,226,000
Turtle Creek Apts.	207	7,769,000	7,148,000	621,000
Beaver Hills Apts.	211	6,688,000	6,532,000	156,000
Days Inn Penn State	186**	6,686,000	7,586,000	-900,000
<b>Totals</b>	<b>5,184</b>	<b>246,633,000</b>	<b>236,994,000</b>	<b>9,639,000</b>

\*Number of Beds

\*\*Number of Rooms

# Total Gallons Pumped & Average Daily Use

1991 - 2015

Year	Total For Year (Gallons)	Average Per Day (Gallons)
1991	1,610,447,000	4,412,000
1992	1,627,908,000	4,448,000
1993	1,845,932,000	5,057,000
1994	1,784,845,000	4,890,000
1995	1,728,426,000	4,735,000
1996	1,725,528,000	4,715,000
1997	1,831,878,000	5,019,000
1998	1,810,345,000	4,960,000
1999	1,850,905,000	5,071,000
2000	1,969,874,000	5,382,000
2001	2,007,295,000	5,499,000
2002	2,079,982,000	5,699,000
2003	2,084,304,000	5,710,000
2004	1,946,027,000	5,317,000
2005	1,957,756,000	5,364,000
2006	1,873,071,000	5,132,000
2007	1,914,817,000	5,246,000
2008	1,850,035,000	5,055,000
2009	1,822,607,000	4,993,000
2010	1,794,828,000	4,917,000
2011	1,783,064,000	4,885,000
2012	1,777,387,000	4,856,000
2013	1,816,299,000	4,976,000
2014	1,820,523,000	4,988,000
2015	1,801,269,000	4,934,984

# Unaccounted For Water

2009 - 2015

Year	Wells (Gallons)	Filter Plant (Gallons)	Total Gallons Pumped	Unaccounted For Water Percentage
2009	698,721,000	1,123,886,000	1,822,607,000	9.87%
2010	679,899,000	1,114,929,000	1,794,828,000	12.16%
2011	681,470,000	1,101,594,000	1,783,064,000	11.8%
2012	668,715,000	1,108,672,000	1,777,387,000	11.61%
2013	686,039,000	1,130,260,000	1,816,299,000	12.2%
2014	723,550,000	1,096,973,000	1,820,523,000	12.5%
2015	696,839,000	1,104,429,000	1,801,268,000	11.97%



Service Tap Installations - Park Forest Villas.



Waterline Relocation / PennDOT Cost Share -  
Calder Way and Atherton Street.

# Water Quality and Treatment

## **SOURCE WATER**

Groundwater from the Nixon/Kocher, Alexander, Chestnut Ridge and Grays Woods well fields is disinfected and fluoridated at the well sites. Raw water from the Harter well field (Nos. 22, 24 and 25), Thomas well field (Nos. 7, 8, 11 and 14) and the Shingletown reservoir is processed at the water treatment plant.

## **WOODSIDE WATER TREATMENT PLANT**

Unit operations include solids contact upflow clarification, filtration, chlorination, fluoridation, chemical addition, rapid mix, flocculation, backwash solids transfer, solids separation, solids dewatering, distribution storage and chlorine detention. The Shingletown reservoir and Thomas and Harter well fields sources comply with Safe Drinking Water Act regulatory requirements for treatment and filtration.

## **PLANT OPERATIONS**

The Authority meets all regulatory requirements for turbidity, chlorine residual, lead/copper and other contaminants. The table on page 23 shows ranges of 2015 raw and finished water analysis with a history of production and chemical use from 2013 to 2015. There were no violations of USEPA Safe Drinking Water Standards. Refer to Appendix I for a tabulation of the most recent water quality sampling.

## **CONTROL AND MONITORING**

The plant instrumentation and control system utilizes “programmable logic controls” to control and monitor treatment processes and operations. The Authority operates a system-wide “SCADA” (Supervisory Control and Data Acquisition) system to monitor system status (tank level, pressure, well pump status, etc.). This system was recently upgraded by Cambria Systems, Inc., Sidman, PA in 2012.

## **DISINFECTION AND CONTACT TIME (CT)**

In 2006, Gwin, Dobson & Foreman performed a tracer study at the Woodside Drive plant to determine the adequacy of chlorine contact time for pathogen deactivation. Specifically, the “baffling factors” of plant disinfection components were field tested by chemical tracer measurements. Since pre-chlorination occurs ahead of the filters, the plant receives “log inactivation” credits for the entire plant and distribution piping before the first customer. The Woodside Drive plant can meet the 3-log inactivation requirement with just the contact tank volume alone.

The plant has sufficient chlorine contact time to meet the 1-log and 3-log inactivation of pathogens (giardia, cryptosporidium). Baffling factors were determined for the contact tanks (0.56), Clarifier No. 1 (0.75) and Clarifier No. 2 (0.81). To meet requirements of LT2, sampling began in 2008 for 24 months of cryptosporidium testing. Testing revealed 1 oocyst placing the Authority in bin 2 classification. The Authority required an additional 1 log removal, achieved by 0.5 log combined filter effluent and 0.5 log for individual filter effluent for meeting USEPA LT II ESWTR standards.

# Typical Raw & Finished Water Analysis

2015

## WATER FILTRATION PLANT

Sources: Shingletown Reservoir, Thomas Wells Nos. 7, 8, 11, 14 and Harter Wells Nos. 22, 24, 25

Raw Water	Reservoir / Wells
pH	7.26 - 7.69
Alkalinity (mg/l)	150 - 245
Turbidity (Ntu)	0.05 - 7.28
Hardness (mg/l)	238 - 241
Hardness (grains)	13.9 - 14.1

Finished Water	Combined
Turbidity	0.011 - 0.059
Temperature	7.3° - 13.6°C / 45.1° - 56.5°F
Alkalinity (mg/l)	160 - 231
pH	7.34 - 7.76
Chlorine Residual (mg/l)	1.21 - 1.44
Fluoride (mg/l)	0.33 - 1.25

## WATER FILTRATION PLANT OPERATING DATA

	2013	2014	2015
Water Produced	1.180 BG	1.090 BG	1.096 BG
Peak Day	3.660 MG	3.653 MG	3.517 MG
Average Day	3.223 MG	2.987 MG	3.003 MG
Stern Pac Used	7,328 lbs.	7,259 lbs.	6,635 lbs.
Chlorine Used	11,819 lbs.	13,908 lbs.	14,191 lbs.
Fluoride Used	11,233 lbs.	10,972 lbs.	11,040 lbs.
Operating Days	365	365	365



Proposed Water Treatment Plant - Pilot Study Equipment.



Tank No. 5 - Manway Access.



Tank No. 5 - Painting.

# Water Storage

2015

A tabulation of distribution storage tanks is shown below.

Tank No.	Location	Pressure Zone	Tank Type	Capacity (Gallons)
1	West Aaron Drive	1	Elevated	750,000
2	Oakridge Avenue	3	Elevated	1,000,000
3	West Foster Avenue	3	Elevated	1,000,000
4	Driftwood Drive	4	Elevated	1,000,000
5	Old Gatesburg Road	5	Elevated	1,000,000
6	Curve Hill Road	5	Ground	2,000,000
7	Route 550	4	Ground	2,000,000
8	Torrey Lane	8	Ground	1,800,000
Water Treatment Plant	Woodside Drive	3	Ground	250,000
			Ground	250,000
			Ground	1,200,000
			Ground	3,000,000
9	Water Street	2	Ground	500,000
			<b>TOTAL</b>	<b>15,750,000</b>

## Water Transmission and Distribution System

The State College system is composed of six pressure zones, each served by at least one storage tank. Refer to the following maps of the service area (Figure 1, page 30) and hydraulic profile (Figure 2, page 31).

### **ZONE 1 SERVICE AREA**

Serves the Overlook Heights area of Ferguson Township, as well as that part of State College Borough to the north and west of the Pennsylvania State University. Zone 1 is bisected by North Atherton Street (Business Route 322) and bordered by Aaron Drive (to the northwest) and by the University (to the south and east). Zone 1 receives its supply from Zone 3 via the Foster Avenue pumping station.

### **ZONE 2 SERVICE AREA**

Serves the village of Pine Grove Mills and portions of Ferguson Township. Zone 2 receives its supply from Zone 5 via Pump Station No. 2 (located at the former Pine Grove Mills sewage treatment plant). Pump Station No. 6 provides service to customers located above Tank No. 9. This is a high pressure zone formerly operated by the Ferguson Township Water and Sewer Authority.

### **ZONE 3 SERVICE AREA**

Encompasses the remainder of State College Borough (east and south of Penn State), as well as parts of College Township (between the Borough and Harris Township). It is bordered to the northwest by Penn State and to the east by West Branch Road. This low pressure zone receives water from the Thomas and Harter well fields through the Woodside Drive treatment plant.

### **ZONE 4 SERVICE AREA**

Consists primarily of the Park Forest Village and Grays Woods subdivisions in Patton and Halfmoon Townships. It is a high pressure zone, receiving its supply from the Grays Woods well field.

### **ZONE 5 SERVICE AREA**

Encompasses portions of Ferguson, Patton and Benner Townships. It is bordered to the south by Whitehall Road, to the north by the Toftrees and airport areas of Patton and Benner Townships, to the east by Aaron Drive, and West College Avenue, and to the west by Zone 4. Zone 5 receives its water from the Nixon, Kocher, Chestnut Ridge and Alexander well fields. Zone 5 now feeds water to Pine Grove Mills (Zone 2).

### **ZONE 8 SERVICE AREA**

Represents the Boalsburg/Harris Township service area and is a high pressure zone. Water is supplied from Zone 3 via Pump Station No. 5 located on Woodside Drive.

### **GROUNDWATER ZONE SUPPLY**

The system has seven groundwater sources serving Zones 3, 4 and 5. Five pump stations send water from Zone 3 to Zones 1, 5 and 8 and from Zone 5 to Zones 2 and 4. In addition, Zone 3 is supplied treated water from the water treatment plant via the High Service pump station.

Zones 1 and 8 depend solely on Zone 3 for source water and have no groundwater sources of their own. Grays Woods (Well Field No. 2) serves Zone 4. Nixon Farm (Well Field No. 4), Chestnut Ridge (Well Field No. 5), Alexander Farm (Well Field No. 6) and Kocher Farm (Well Field No. 7) serve Zone 5. Well Field Nos. 2, 4, 5 and 7 (Grays Woods, Nixon Farm and Kocher Farm) serve Zones 4 and 5, while Well Field No. 6 (Alexander Farm) serves Zone 5. Zone 2 depends solely on Zone 5 for source water.

Well Field No. 6 (Alexander Farm) serves Zone 5 (Tank No. 6). Zone 4 is served by the Grays Woods well field (Well Field No. 2), located at the west end of the system. This well field pumps water to Tank No. 4 (Park Forest Village) and Tank No. 7 (Grays Woods) and replaces Circleville Pump Station No. 4. Water from Zone 4 can also be supplied to Tank No. 6 in Zone 5 through a pressure reducing connection.

<u>Zone</u>	<u>Supply</u>	<u>Interconnections</u>
Three	Thomas and Harter Well Fields	To Zones 1, 5 & 8
Four	Grays Woods Well Field	To Zone 5
Five	Nixon, Kocher and Chestnut Ridge W.F.	To Zones 1, 2, 3 & 4

## Capital Improvements

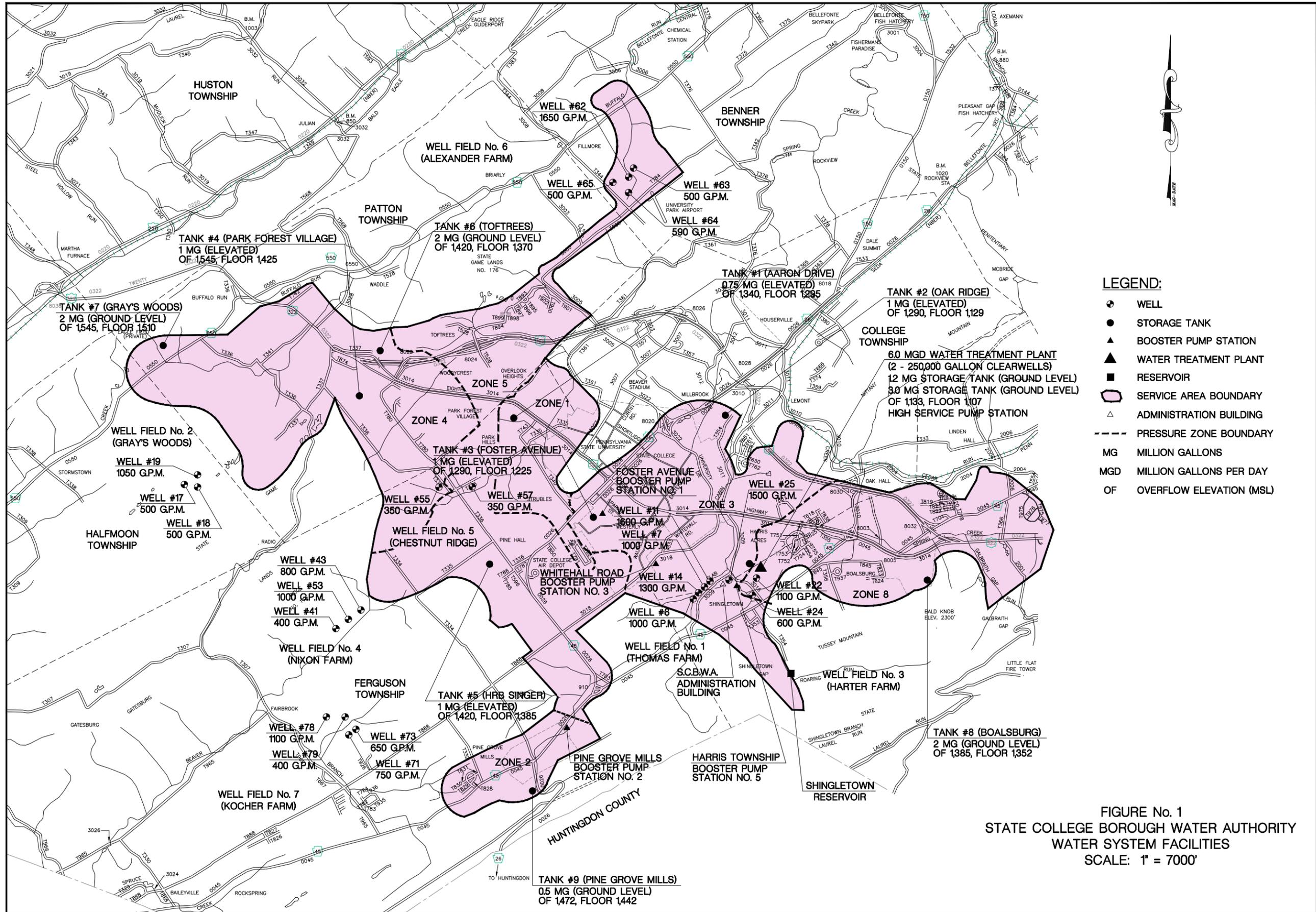
Below is a summary of major projects undertaken by the Authority over the last 20 years. Over \$40 million has been invested in water system improvements over this time.

PROJECT	COMPLETED	COST
Kocher Well Field Drilling and Testing	1995	\$ 733,206
Kocher Well Field 20" Transmission Main	1996	\$ 706,737
Grays Woods 16" Transmission Main	1996	\$ 1,755,379
Meter Replacement Phase I	1997	\$ 2,048,299
Grays Woods Well Field Development	1997	\$ 416,000
Grays Woods Well Field Construction	1997	\$ 790,027
Meter Replacement Phase II	1997	\$ 2,395,831
Grays Woods 20" Transmission Line	1998	\$ 410,513
Kocher Well Field Development	1998	\$ 224,900
Zone 5/Tank 6 Improvements	1998	\$ 383,113
Shingletown Road-Mary Elizabeth Street Waterline Replacement	1998	\$ 880,000
Alexander Farm Well Field Development	1998	\$ 1,395,370
Meter Replacement Phase III	1998	\$ 946,827
Earlstown Road Reinforcement/Loop Rt's. 322 and 45	1998	\$ 474,312
Alexander Well Field 20" Transmission Main	1999	\$ 1,347,687
College Heights (Ridge to Hartswich) Waterline Replacement	1999	\$ 549,414
West Branch Road Building Maintenance Garage	1999	\$ 220,034
South Atherton/Panorama Area Waterline Replacement	2000	\$ 393,384
Pine Grove Mills Interconnection	2000	\$ 996,414
3.0 MG Woodside WTP Tank, Thomas Well Field 20" Main (to WTP), Westerly Parkway Waterline	2001	\$ 1,643,722
Pine Grove Mills Water Tank Rehab & Transmission Main	2002	\$ 1,762,583
Pine Grove Mills Pump Station Upgrade	2002	\$ 150,000
Beaumont/Oak Hall Waterline Replacement	2002	\$ 300,000
Corl Acres Connection to West Whitehall Road Waterline	2002	\$ 155,048
Pine Grove Mills Transmission Line - Phase II	2003	\$ 494,280
Treatment Plant Groundwater Recharge Basin	2003	\$ 99,297
USEPA Vulnerability Analysis	2003	\$ 24,178
Tank No. 2 Repainting and Corrosion Control	2004	\$ 435,630
Long Range Plan (GD&F)	2004	\$ 50,404
Tank No. 1 Repainting and Corrosion Control	2005	\$ 216,420
Devonshire Drive Waterline Replacement	2006	\$ 544,936
W. Park Avenue Waterline Replacement	2006	\$ 228,280

Science Park Road Waterline Replacement	2006	\$ 575,500
Water Treatment Plant Control System Replacement	2006	\$ 208,316
Well No. 25 Upgrade	2007	\$ 60,000
Source Water Protection Plan (Veolia Water Systems)	2007	\$ 351,197
Treatment Plant Tanks Painting and Corrosion Control (3, total)	2008	\$ 591,600
Beaver Avenue Waterline Replacement - Phase I	2008	\$ 1,247,026
Beaver Avenue Waterline Replacement - Phase II	2008	\$ 2,110,260
Administration Office Building Expansion	2008	\$ 2,400,000
Tank No. 3 Repainting and Corrosion Control	2009	\$ 451,068
Tank No. 8 Repainting and Corrosion Control	2009	\$ 248,225
Park Lane (Devonshire to Park Forest Avenue) Waterline Replacement	2009	\$ 170,000
South Allen Street (Foster to Irvine) Waterline Replacement	2009	\$ 502,503
Vairo Boulevard (Berman to Oakwood) Waterline Replacement	2009	\$ 407,088
Woodycrest (Lauck, 5th, Weaver Streets) Waterline Replacement	2010	\$ 509,446
West Fairmount (South Atherton to Foster Avenue) Waterline Replacement	2011	\$ 139,096
Tank No. 4 Repainting and Corrosion Control	2011	\$ 121,450
Foster Avenue (Gill to Buckhout) Waterline Replacement	2011	\$ 384,169
Radio Read Meter Installation (14,366, total)	2012	\$ 1,723,920
SCADA System Replacement (Cambria Systems)	2012	\$ 285,960
College Avenue Waterline Replacement - Phase I	2012	\$ 1,343,000
Whitehall Road Waterline Relocation	2013	\$ 268,153
Tank No. 6 Repainting and Mixing System	2013	\$ 298,520
Meeks Lane, Heiskel Drive and Skytop Lane Waterline (Ridgemont)	2013	\$ 525,000
Ridgemont Waterline Extension - Skytop Mountain Road	2013	\$ 364,307
College Avenue Waterline Replacement - Phase II	2014	\$ 990,900
Authority Office Building - Emergency Generator	2014	\$ 90,000
Tank No. 5 Repainting, Corrosion Control and Mixing System	2015	\$ 748,000
Bellaire Avenue Waterline Replacement	2015	\$ 182,780
North Atherton Street Waterline - Phase I (PennDOT Cost Share)	2015	\$ 56,000
	<b>TOTAL</b>	<b>\$ 40,525,709</b>

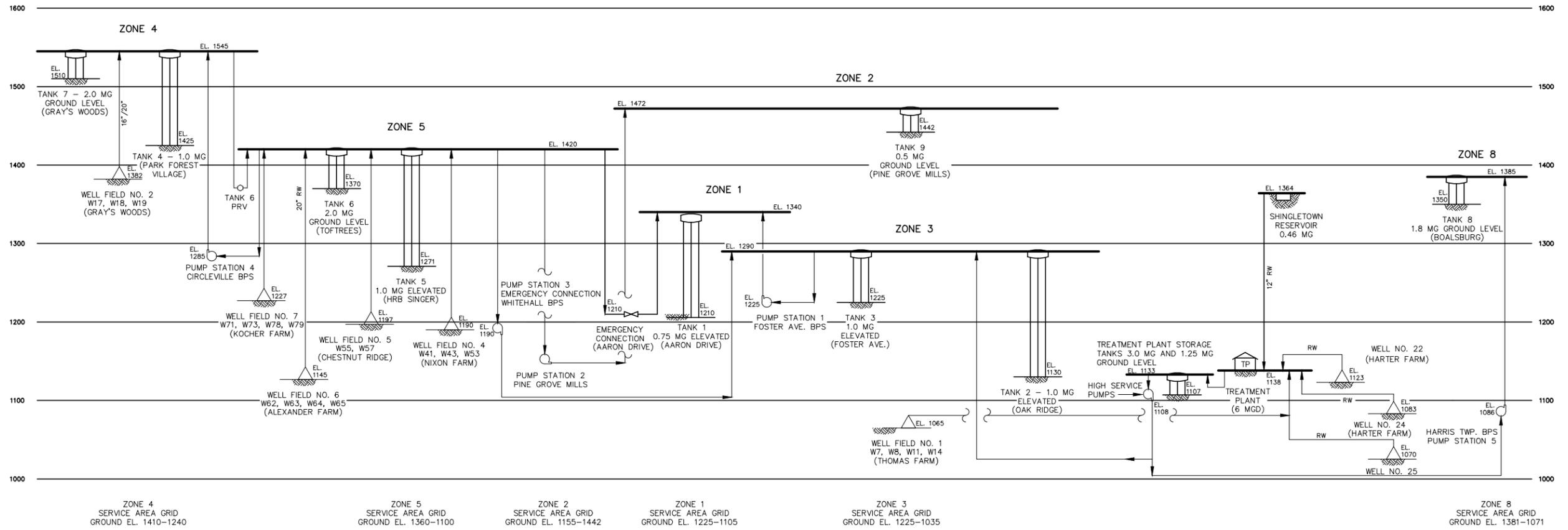
**Note:**

Does not include 1,000-2,000 ft. of waterlines installed each year by SCBWA crews (est. \$100-200,000/yr.)



- LEGEND:**
- WELL
  - STORAGE TANK
  - ▲ BOOSTER PUMP STATION
  - ▲ WATER TREATMENT PLANT
  - RESERVOIR
  - SERVICE AREA BOUNDARY
  - △ ADMINISTRATION BUILDING
  - PRESSURE ZONE BOUNDARY
  - MG MILLION GALLONS
  - MGD MILLION GALLONS PER DAY
  - OF OVERFLOW ELEVATION (MSL)

FIGURE No. 1  
 STATE COLLEGE BOROUGH WATER AUTHORITY  
 WATER SYSTEM FACILITIES  
 SCALE: 1" = 7000'



HYDRAULIC PROFILE

LEGEND

- MGD - MILLION GALLONS PER DAY
- MG - MILLION GALLONS
- BPS - BOOSTER PUMP STATION
- RW - RAW WATER LINE
- - NOT CURRENTLY CONNECTED
- W55 - WELL NUMBER
- EL. - ELEVATION (MSL)
- - ALTITUDE VALVE (PRV)

	HYDRAULIC PROFILE			<b>GD&amp;F</b> <b>GWIN DOBSON &amp; FOREMAN INC.</b> <i>Consulting Engineers</i> <small>3021 Fairway Drive          Suite B          Altoona, PA 16602</small>
	STATE COLLEGE BOROUGH WATER AUTHORITY			
SEAL	WATER STORAGE AND PUMPING SYSTEM			CENTRE COUNTY, PENNSYLVANIA
	ISSUED: 04/99	JOB: 94186	SCALE: NO SCALE	
	FILE: HYD-PROF	DRAWN BY: LMG	CHECKED BY: MYG	SHEET NO: <b>FIGURE 2</b>

G:\94186\HYD-PROF.DWG

## Distribution System Additions and Maintenance

The following tabulation shows the 2015 water main extensions:

PIPE DIAMETER (IN.)	FOOTAGE
2	0
4	350
6	295
8	2,688
10	0
12	0
16	0
20	0
	<b>Total 3,333</b>

A tabulation of water mains installed by developers (including valuation) is shown on page 34.

The tabulation of hydrants by municipality is as follows:

Benner Township	30
College Township	94
Ferguson Township	387
Harris Township	169
Patton Township	290
State College Borough	248
	<b>Total 1,218</b>

Please refer to the following page for a tabulation of public and private fire hydrants.

The water system has 14,343 metered service connections. In 2015, 147 new connections were added compared to 168 connections in 2014. Six (6) new fire hydrants were installed this year. The total length of system pipe is 270.9 miles. The average number of connections is 52.9/mile of pipeline. The system also has 1,218 fire hydrants or 4.5 hydrants/mile.

# Fire Hydrants By Municipality – Public & Private

2014 - 2015

Municipality	Number Of Public Fire Hydrants		Number Of Private Fire Hydrants		Total Number Of Fire Hydrants	
	2014	2015	2014	2015	2014	2015
Benner Township	9	9	21	21	30	30
College Township	65	65	29	29	94	94
Ferguson Township	321	323	62	64	383	387
Harris Township	154	157	12	12	169	169
Patton Township	206	207	83	83	289	290
State College Borough	243	244	4	4	247	248
<b>Total</b>	<b>1,001</b>	<b>1,005</b>	<b>211</b>	<b>213</b>	<b>1,212</b>	<b>1,218</b>

**Number of fire hydrants installed in 2015: 6**

The average age of the SCBWA water meters is eleven years, indicative of an active meter replacement program. In 2007, the Authority began installation of radio-read transmitters on all meters with a total of 14,366 installed as of 2012. These meters facilitate data acquisition and provide a more accurate and efficient customer billing system.

All water service connections are protected with backflow prevention devices which are inspected annually. Residential units are inspected during routine meter maintenance.

Operation and Maintenance - Ongoing operation and maintenance initiatives include cross-connection and backflow prevention, leak detection, valve operation, lead/copper testing, water conservation and associated public notification activities through the media, schools and mass mailings. The entire distribution system is flushed annually by the Authority.

The Authority employs 37 full-time employees. This includes managerial, technical, administration, operational and maintenance personnel. Twenty-one O&M personnel are licensed and credentialed by the Commonwealth to operate water distribution and treatment facilities.

## Water Mains Installed & Value Of Developer's Mains

2013 - 2015

Main Size	2013 Footage		2014 Footage		2015 Footage	
	Authority	Developers	Authority	Developers	Authority	Developers
2"	1,189'	—	967'	—	—	—
4"	602'	—	438'	—	350'	—
6"	246	—	—	535'	295'	508'
8"	6,721'	2,638'	—	1,165'	2,688'	1,150'
10"	—	—	—	—	—	—
12"	2,068'	4,215'	2,800'	1,980'	—	790'
16"	18'	—	—	—	—	—
20"	—	—	—	—	—	—
<b>Developers Value</b>		<b>\$ 728,541.57</b>		<b>\$ 682,103.84</b>		<b>\$ 339,140.24</b>

## Service Award Recipients



### 10 YEARS

Leonard Crestani, Cindy Meek and Rusty Shawver



### 15 YEARS

Brian C. Heiser



### 25 YEARS

Larry Holt



### 30 YEARS

James Stere and Sheryl Crafts

## Annual Operating Budget and Auditor's Report

Appendix III shows 2015 budgeted and actual operating revenues and expenditures. The recommended 2016 budgeted expenditures are also included in Appendix III.

According to Baker Tilly Virchow Krause, LLP, net 2015 operating income amounted to \$1,013,776 which is an increase of \$596,876 over the 2014 net operating income of \$416,900. Please refer to Appendix II for additional details.

According to the auditor, actual 2015 total operating revenues were \$6,872,931. This was an increase of \$417,878 from 2014 operating revenue of \$6,455,053. 2015 total income of \$7,303,010 was above the 2014 total income of \$6,880,073 by \$422,937.

Capital Improvement Fund actual expenditures retained from operating income in 2015 was \$2,005,117 compared to the 2015 budgeted amount of \$2,151,600. Refer to Appendix III, 2015 Summary of Income and Expenditures.

The 2016 budgeted expenditures for operation and maintenance are \$4,840,918. Operating revenue and other income are estimated at \$7,065,110. Total projected operating revenues to be retained in the Capital Improvement Fund are \$2,222,499. Refer to Appendix III for additional details.

## Insurance

The Selective Insurance Company was the 2015 insurance broker of record for property, inland marine, general, automotive, crime, public officials, employment practices and umbrella liability coverage. Workers compensation insurance is provided by Eastern Alliance according to state statutory requirements. The following table shows insurance coverage, types and amounts.

# Insurance Policies Summary

2015

Selective Insurance Company

Worker's Compensation - Eastern Alliance

Treasurer's Bond - The Travelers Companies, Inc.

Fiduciary Responsibility - The Travelers Companies, Inc.

Insurance Type	Coverage Amount	Term
<b>Property Coverage</b> (Blanket Value)	\$ 36,231,194.00	1 Year
<b>Inland Marine</b> - Contractor's Equipment	\$ 382,067.00	1 Year
<b>General Liability</b>		1 Year
Bodily Injury & Property Damage (Per Occurrence)	\$ 1,000,000.00	
Personal & Employee-Related Injury	1,000,000.00	
Annual Aggregate	2,000,000.00	
Employee Benefits Liability (Per Person)	1,000,000.00	
Fire Damage Liability	100,000.00	
Medical Expense Limit - Any One Person	5,000.00	
<b>Automobile</b>	\$ 1,000,000.00	1 Year
Uninsured Motorist	35,000.00	
<b>Crime</b>		1 Year
Employee Dishonesty	\$ 1,000,000.00	
Forgery Or Alteration	25,000.00	
Money & Securities	25,000.00	
Computer Fraud	1,000,000.00	
<b>Public Officials / Employment Practices</b>	\$ 1,000,000.00	1 Year
<b>Umbrella Liability Coverage</b> (Each Occurrence)	\$ 5,000,000.00	1 Year
<b>Worker's Compensation</b>		1 Year
Bodily Injury By Accident (Each Accident)	\$ 100,000.00	
Bodily Injury By Disease (Policy Limit)	500,000.00	
Bodily Injury By Disease (Each Employee)	100,000.00	
<b>Treasurer's Bond</b>	\$ 10,000.00	3 Years

# Water Rate History

1979 - 2015

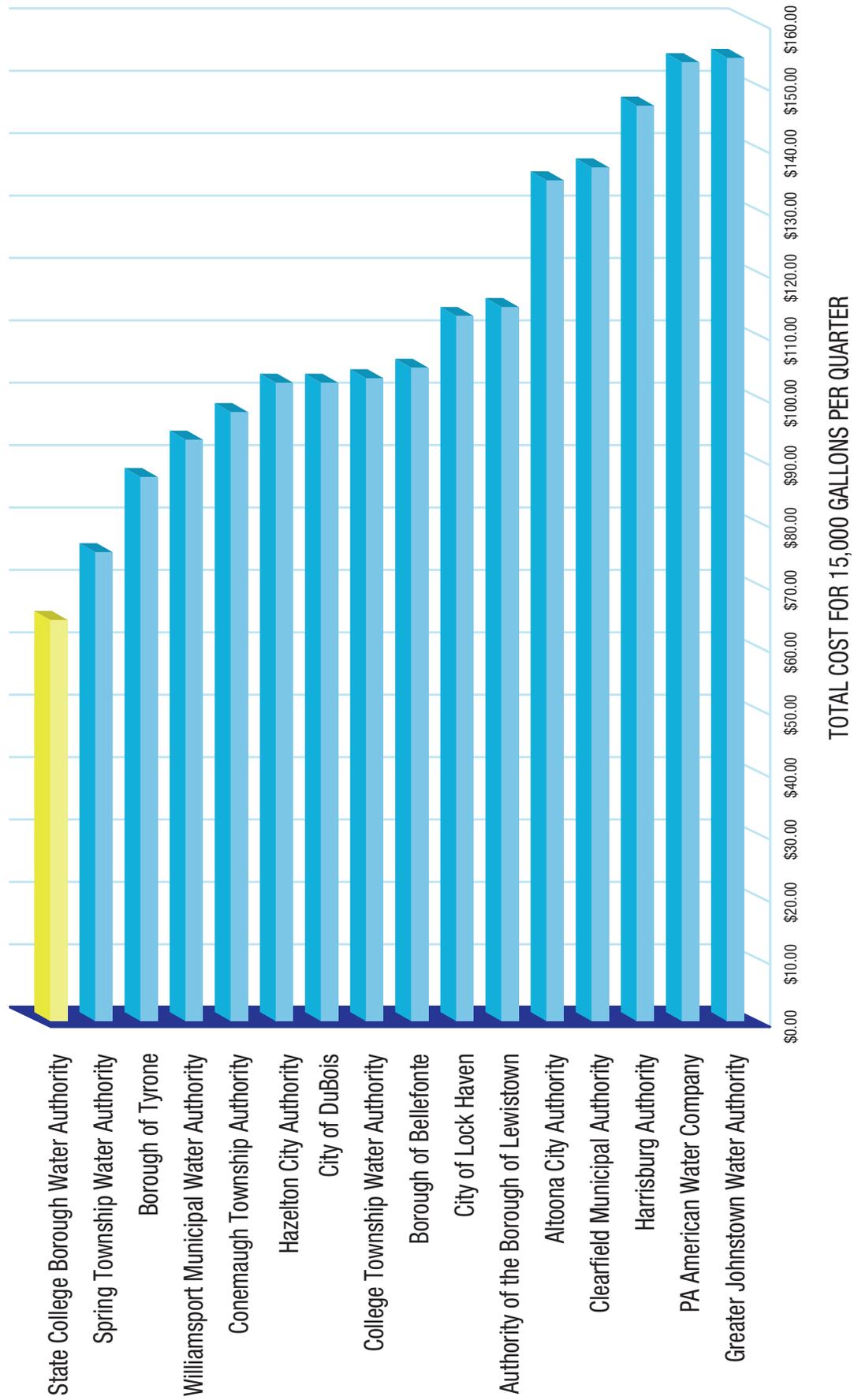
The following table is a history of Authority water rates since 1979, when an equalized water rate schedule was instituted.

Date	Rate/1,000 Gallon(s) Per Quarter Inside Borough (\$)	Minimum Charge Inside Borough (\$)	Rate/1,000 Gallon(s) Per Quarter Outside Borough (\$)	Minimum Charge Outside Borough (\$)
1-1-79	0.55	2.75	0.65	3.25
1-1-80	0.61	3.05	0.72	3.60
1-1-81	0.62	3.10	0.73	3.65
1-1-82	0.66	3.30	0.77	3.85
12-1-82	0.89	4.45	1.00	5.00
2-1-86	0.99	4.95	1.10	5.50
2-1-87	1.12	5.60	1.17	5.85
2-1-88	1.27	6.35	1.31	6.55
8-1-88	1.50	7.50	1.50	7.50
2-1-90	3.00	15.00	3.00	15.00
2-1-91	3.30	9.90	3.30	9.90
2-20-93	3.40	10.20	3.40	10.20
2-20-96	3.45	10.35	3.45	10.35
2-20-98	3.55	10.65	3.55	10.65
2-20-00	3.65	10.95	3.65	10.95
1-20-08	3.80	11.40	3.80	11.40
1-20-11	3.95	11.85	3.95	11.85
4-20-15	4.20	12.60	4.20	12.60

A comparison of regional water rates is shown on the following figure. The Authority has the lowest rates of any large, regional water supplier.

# Water Rate Comparison

2015





SCBWA Administration Building Roof Replacement.



Supernatant Tank Cleaning.



Waterline Relocation / PennDOT Cost Share - Atherton Street.

## Acknowledgements

We offer our thanks to the staff of the State College Borough Water Authority for compiling operational information and financial data for this report.

APPENDIX I

**Summary Of Water Quality Sampling  
2013 - 2015**

# Summary Of Water Quality Sampling

2013 - 2015

Water Quality Sample	Frequency of Testing	No. of Samples 2013	No. of Samples 2014	No. of Samples 2015
<b>Bacteria</b>	Monthly (80)	960	960	960
<b>Inorganic Chemicals (IOC's)</b>	3 Years (15 IOC's)	1 (Surface Water)	1 (Surface Water)	4 (Ground Water) 1 (Surface Water)
<b>Synthetic Organic Chemicals (SOC's)</b>	3 Years (18 SOC's)	3 (Ground Water)	8 (Ground Water) 2 (Surface Water)	3 (Ground Water)
<b>Atrazine (SOC)</b>	Annual	Included In Above Total	Included In Above Total	Included In Above Total
<b>Volatile Organic Chemicals (VOC's)</b>	3 Years (22 VOC's)	1 (Surface Water)	4 (Ground Water) 1 (Surface Water)	1 (Surface Water)
<b>Chlorine</b>	Monthly (80)	960	960	960
<b>Fluoride</b>	Daily	1,825	1,825	1,825
<b>Radiologicals</b>	9 Years	0	4 (Ground Water) 1 (Surface Water)	0
<b>Trihalomethanes</b>	Annual	10	16	16
<b>Haloacetic Acids</b>	Annual	10	16	16
<b>Total Organic Compounds</b>	Monthly	24 (Surface Water)	24 (Surface Water)	24 (Surface Water)

APPENDIX II

**Independent Auditors Report**

# **State College Borough Water Authority**

Financial Statements and  
Supplementary Information

December 31, 2015 and 2014



**BAKER TILLY**

Candor. Insight. Results.

# State College Borough Water Authority

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December 31, 2015 and 2014

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## **Independent Auditors' Report**

Board of Directors  
State College Borough Water Authority

### **Report on the Financial Statements**

We have audited the accompanying financial statements of State College Borough Water Authority (the "Authority"), which comprise the statement of net position as of December 31, 2015 and 2014, and the related statements of revenues, expenses, and change in net position, and cash flows for the years then ended, and the related notes to the financial statements.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of State College Borough Water Authority as of December 31, 2015 and 2014, and the changes in its net position and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Emphasis of a Matter

As discussed in Notes 1, 7, and 10 to the financial statements, the Authority adopted the provisions of Governmental Accounting Standards Board Statement No. 68, *Accounting and Financial Reporting for Pensions-an amendment of GASB Statement No. 27*, for the year ended December 31, 2015 to conform to accounting principles generally accepted in the United States of America. The Authority restated its beginning net position at January 1, 2015 for this adoption, expanded its note disclosures and included required supplementary information with respect to employees' pension benefits. Our opinion was not modified with respect to this matter.

## Other Matters

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis on pages 3 through 6, the Schedule of Funding Progress for Other Postemployment Benefits Plan on page 27, the Schedule of Changes in Net Pension Liability and Related Ratios on page 28, and the Schedule of Employer Contributions on page 29, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the *Governmental Accounting Standards Board*, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The Schedule of Water Distribution System, Land and Plant on page 30, the Schedule of Operating Expenses on page 31, and the Schedule of the Borough of State College Sewer Receipts and Remittances on page 32, are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

*Baker Tilly Viechow Krause, LLP*

State College, Pennsylvania

June 13, 2016

## **State College Borough Water Authority**

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### Management Discussion and Analysis (Unaudited)

The Management Discussion and Analysis (“MD&A”) is a reporting requirement adopted by the Governmental Accounting Standards Board (“GASB”) in their Statement No. 34, *Basic Financial Statements - Management Discussion and Analysis - for State and Local Governments*. The MD&A provides an overview of the current year's financial performance and should be read in conjunction with the financial statements. Certain comparative information between the current year and the prior year is required to be presented in the MD&A. The MD&A is designed to identify significant financial issues and any material deviations from the prior year.

#### **Financial Highlights for 2015**

- The Authority completed over \$ 1,150,000 in major system improvements and expansion. These improvements included S. Barkway Lane, W. Aaron Dr., Phase I of Atherton St., Bellaire Ave, Repainting & installation of a mixing system in Tank 5 and a Filter Plant Pilot Study at Well Field 4 & 7. Other larger system expansions were the result of new subdivision construction valued at \$339,140.
- The Authority made a contribution in the amount of \$440,462 to the pension plan for the year ended December 31, 2015.

#### **Required Financial Statements**

The basic financial statements of the Authority report revenues and expenses on the full-accrual basis of accounting. The statements conform to generally accepted accounting principles. The statement of net position is a statement of the Authority's assets and liabilities. The statement of revenues, expenses and change in net position summarizes the Authority's income and expenses, by function, and report the surplus (or deficit) from operations.

The third financial statement is the statement of cash flows. This provides information on the changes in cash and cash equivalents from operations, investments, capital expenditures and debt repayment. This statement provides a picture of the Authority's ability to pay expenses and to finance growth.

# State College Borough Water Authority

## Management Discussion and Analysis (Unaudited)

A summary of the Statements of Revenues, Expenses, and Change in Net Position is shown below:

	<u>2015</u>	<u>2014</u>
Operating revenues:		
Charges for services	\$ 6,726,622	\$ 6,305,240
Revenues other than water sales	146,309	149,813
Total operating revenues	<u>6,872,931</u>	<u>6,455,053</u>
Operating expenses:		
Treatment and pumping	809,374	826,452
Distribution	664,397	618,562
General expense	4,385,384	4,593,139
Total operating expenses	<u>5,859,155</u>	<u>6,038,153</u>
Operating income	<u>1,013,776</u>	<u>416,900</u>
Nonoperating revenues (expenses):		
New connection fees	363,036	351,863
Loss on sale of fixed assets	(35,019)	-
Investment income	102,062	73,157
Total nonoperating revenues	<u>430,079</u>	<u>425,020</u>
Capital contributions	<u>339,140</u>	<u>682,104</u>
Change in net position	<u>1,782,995</u>	<u>1,524,024</u>
Net position, beginning as previously reported	89,286,449	87,762,425
Effect of adoption of GASB No. 68	<u>638,638</u>	<u>-</u>
Net position, beginning as restated	<u>89,925,087</u>	<u>87,762,425</u>
Total net position, end of year	<u>\$ 91,708,082</u>	<u>\$ 89,286,449</u>

The increase in net position at December 31, 2015 was \$1,782,995, which was an increase from the December 31, 2014 increase in net position of \$1,524,024. The increase was primarily attributable to an increase in operating revenues and a decrease in operating expenses. The Authority experienced an improvement in financial position in both 2015 and 2014.

# State College Borough Water Authority

## Management Discussion and Analysis (Unaudited)

Significant variations in income and/or expenses from 2014 to 2015 include:

- Operating revenues increased due to a 6% increase in charges for services in 2015.
- Operating expenses decreased with office payroll and benefits with the implementation of GASB 68, *Accounting and Financial Reporting for Pensions*, along with a decrease in maintenance expense.

The following represents condensed information on the Authority's financial position:

	<u>2015</u>	<u>2014</u>
Assets:		
Current assets:		
Cash and cash equivalents	\$ 1,315,832	\$ 1,057,020
Short-term investments	4,658,771	6,542,085
Other current assets	3,494,346	3,562,299
Total current assets	<u>9,468,949</u>	<u>11,161,404</u>
Non-current assets:		
Capital assets	71,535,614	71,290,451
Investments	11,365,556	8,631,164
Total non-current assets	<u>82,901,170</u>	<u>79,921,615</u>
Deferred outflows of resources, pension	<u>1,316,740</u>	-
Total assets and deferred outflows of resources	<u>\$ 93,686,859</u>	<u>\$ 91,083,019</u>
Liabilities:		
Current liabilities	\$ 1,675,301	\$ 1,705,954
Non-current liabilities	303,476	90,616
Total liabilities	<u>1,978,777</u>	<u>1,796,570</u>
Net position:		
Net investment in capital assets	71,535,614	71,290,451
Restricted for capital projects	1,922,650	1,624,334
Unrestricted	18,249,818	16,371,664
Total net position	<u>91,708,082</u>	<u>89,286,449</u>
Total liabilities and net position	<u>\$ 93,686,859</u>	<u>\$ 91,083,019</u>

# **State College Borough Water Authority**

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## Management Discussion and Analysis (Unaudited)

### **Assessment of Financial Position**

The overall financial position of the Authority remains very strong. Thirty to forty percent of annual income from water sales is transferred to reserves. The Authority has no outstanding debt. The average number of employees is 35 to 37. The Authority maintains substantial reserve funds that are available for improvements as well as for unforeseen events. The Authority continues to make major water system improvements every year. While many communities are experiencing severe economic conditions, the negative economic impacts on the State College area have not been as significant.

### **Capital Assets**

The Authority's investment in capital assets as of December 31, 2015 amounted to approximately \$71.5 million (net of accumulated depreciation). This investment in capital assets includes land, building, water treatment plant, water distribution system, and equipment. The increase in the Authority's investment in capital assets for the current fiscal year was \$245,163 or .3%. Additional information on the Authority's capital assets can be found in Note 5 on page 15 of this report.

### **Contacting the Authority**

This financial report is designed to provide our customers, investors and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. If you have questions about this report or need additional financial information, contact the Authority's Finance Director.

# State College Borough Water Authority

Statement of Net Position

December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Assets and Deferred Outflows of Resources</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 1,315,832	\$ 1,057,020
Restricted investments	788,697	550,058
Investments	3,870,074	5,992,027
Accounts receivable - water customers	520,701	424,959
Accounts receivable - sewer customers	146,620	117,434
Unbilled revenue - water customers	1,107,312	1,141,741
Unbilled revenue - sewer customers	1,126,613	1,239,588
Other current assets	87,670	118,333
Inventories	505,430	520,244
	<u>9,468,949</u>	<u>11,161,404</u>
<b>Total current assets</b>		
<b>Non-current Assets</b>		
Capital assets, net of accumulated depreciation	69,316,046	69,075,820
Nondepreciable capital assets	2,219,568	2,214,631
Investments	10,231,603	7,556,888
Restricted investments	1,133,953	1,074,276
	<u>82,901,170</u>	<u>79,921,615</u>
<b>Total non-current assets</b>		
<b>Deferred Outflows of Resources - Pension</b>		
	<u>1,316,740</u>	<u>-</u>
<b>Total assets and deferred outflows of resources</b>		
	<u>\$ 93,686,859</u>	<u>\$ 91,083,019</u>
<b>Liabilities and Net Position</b>		
<b>Liabilities</b>		
Current liabilities:		
Accounts payable	\$ 117,754	\$ 116,241
Other accrued liabilities	10,505	10,719
Due to State College Sewer Authority	1,310,302	1,373,204
Extension agreement deposits	236,740	205,790
	<u>1,675,301</u>	<u>1,705,954</u>
<b>Total current liabilities</b>		
Non-current liabilities:		
Net pension liability	205,583	-
Accrued OPEB liability	97,893	90,616
	<u>303,476</u>	<u>90,616</u>
<b>Total non-current liabilities</b>		
<b>Total liabilities</b>		
	<u>1,978,777</u>	<u>1,796,570</u>
<b>Net Position</b>		
Net investment in capital assets	71,535,614	71,290,451
Restricted for capital projects	1,922,650	1,624,334
Unrestricted	18,249,818	16,371,664
	<u>91,708,082</u>	<u>89,286,449</u>
<b>Total net position</b>		
<b>Total liabilities and net position</b>		
	<u>\$ 93,686,859</u>	<u>\$ 91,083,019</u>

See notes to financial statements

# State College Borough Water Authority

## Statement of Revenues, Expenses, and Change in Net Position Years Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Operating Revenues</b>		
Charges for services	\$ 6,726,622	\$ 6,305,240
Revenue other than water sales	146,309	149,813
	<u>6,872,931</u>	<u>6,455,053</u>
<b>Operating Expenses</b>		
Purification	247,600	199,534
Pumping	334,402	389,949
Filtration	227,372	236,969
Distribution	664,397	618,562
General expense	4,385,384	4,593,139
	<u>5,859,155</u>	<u>6,038,153</u>
Total operating revenues	<u>6,872,931</u>	<u>6,455,053</u>
Total operating expenses	<u>5,859,155</u>	<u>6,038,153</u>
Operating income	<u>1,013,776</u>	<u>416,900</u>
<b>Nonoperating Revenues (Expenses)</b>		
New connection fees	363,036	351,863
Investment income	102,062	73,157
Loss on disposal of fixed assets	(35,019)	-
	<u>430,079</u>	<u>425,020</u>
Total nonoperating revenues, net	<u>430,079</u>	<u>425,020</u>
Income before contributions	1,443,855	841,920
<b>Capital Contributions</b>	<u>339,140</u>	<u>682,104</u>
Change in net position	<u>1,782,995</u>	<u>1,524,024</u>
<b>Net Position, Beginning</b>		
As previously reported	89,286,449	87,762,425
Effect of adoption of GASB No. 68	638,638	-
	<u>89,925,087</u>	<u>87,762,425</u>
As restated	<u>89,925,087</u>	<u>87,762,425</u>
<b>Net Position, Ending</b>	<u>\$ 91,708,082</u>	<u>\$ 89,286,449</u>

See notes to financial statements

# State College Borough Water Authority

## Statement of Cash Flows

Years Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Cash Flows from Operating Activities</b>		
Cash received from customers	\$ 6,895,407	\$ 6,337,335
Cash paid to vendors and employees	(4,681,464)	(4,274,528)
Net cash provided by operating activities	<u>2,213,943</u>	<u>2,062,807</u>
<b>Cash Flows from Investing Activities</b>		
Purchases of investments	(2,484,988)	(3,414,490)
Proceeds from sales/maturities of investments	1,601,542	2,968,440
Interest received on investments, net of fees	134,430	77,073
Net cash used in investing activities	<u>(749,016)</u>	<u>(368,977)</u>
<b>Cash Flows from Capital and Related Financing Activities</b>		
Acquisition of capital assets	(1,600,101)	(2,297,523)
Connection fee receipts	393,986	434,729
Net cash used in financing activities	<u>(1,206,115)</u>	<u>(1,862,794)</u>
Increase (decrease) in cash and cash equivalents	258,812	(168,964)
<b>Cash and Cash Equivalents, Beginning</b>	<u>1,057,020</u>	<u>1,225,984</u>
<b>Cash and Cash Equivalents, Ending</b>	<u>\$ 1,315,832</u>	<u>\$ 1,057,020</u>
<b>Reconciliation of Operating Income to Net Cash Provided by Operating Activities</b>		
Operating income	\$ 1,013,776	\$ 416,900
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	1,659,059	1,630,633
Pension changes	(472,519)	-
Changes in assets and liabilities:		
Accounts receivable	(124,928)	(62,929)
Unbilled revenue	147,404	(54,789)
Other current assets	30,663	139,895
Inventories	14,814	(82,425)
Accounts payable	1,513	19,505
Other accrued liabilities	(214)	195
Due to State College Sewer Authority	(62,902)	54,263
Accrued OPEB liability	7,277	1,559
Net cash provided by operating activities	<u>\$ 2,213,943</u>	<u>\$ 2,062,807</u>
<b>Supplementary Disclosures of Cash Flow Information</b>		
Noncash capital and related financing activities		
Contributions of developers' system	<u>\$ 339,140</u>	<u>\$ 682,104</u>
Noncash investing activities		
Decrease in fair value of investments	<u>\$ (32,368)</u>	<u>\$ (3,916)</u>

See notes to financial statements

# State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

## 1. Nature of Operations and Summary of Significant Accounting Policies

### Nature of Operations

The State College Borough Water Authority (the "Authority") was incorporated by the Borough of State College on June 14, 1940, under the Pennsylvania Act of June 28, 1935, P.L. 463. The statute was superseded by the Municipality Authorities Act of 1945. This act was superseded in 2001 by the Pennsylvania Act 22 of 2001, under which the Authority now duly exists. The Act empowers the Authority to, among other things, construct, acquire, own, operate, improve and maintain waterworks, water supply works and water distribution systems.

### Reporting Entity

The reporting entity has been defined in accordance with the criteria established by the Government Accounting Standards Board ("GASB") Statement 14, as amended by GASB Statements Nos. 39 and 61. The specific criteria used in determining whether other organizations should be included in the Authority's financial reporting entity are financial accountability, fiscal dependency and legal separation.

As defined above, there are no other related organizations that should be included in the Authority's financial statements nor is the Authority included in any other entity's financial statements. Board members have decision making authority, the authority to establish fees, the power to designate management, the ability to significantly influence operations, and primary accountability for fiscal matters.

### Basis of Presentation, Fund Accounting

#### Proprietary Fund Type

Proprietary funds are used to account for activities that are similar to those often found in the private sector. The measurement focus is upon determination of net income and capital maintenance. Proprietary funds distinguish operating revenues from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with proprietary fund's principal ongoing operations. The following is the Authority's proprietary fund:

#### Enterprise Fund

Enterprise funds are used for activities that are financed and operated in a manner similar to private business enterprise, where the intent of the governing body is that the costs of providing services to the public on a continuing basis be financed or recovered primarily through user charges. Enterprise funds are also used in situations where the governing body has determined that periodic determination of revenues earned, expenses incurred, or net income is appropriate for capital maintenance, public policy, management control, accountability and other purposes. The Authority's enterprise fund type consists of its water operations.

# State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

## **Measurement Focus/Basis of Accounting**

Measurement focus refers to what is being measured; basis of accounting refers to when revenues and expenses are recognized in the accounts and reported in the financial statements. Basis of accounting refers to the timing of the measurement made, regardless of the measurement focus being applied.

The proprietary fund type is accounted for on an economic resources management focus, using the accrual basis of accounting. Revenues are recorded when earned, including unbilled sewer services, which are accrued. Expenses are recorded at the time liabilities are incurred.

## **Cash Equivalents**

The Authority considers all highly liquid investments (including restricted assets) with an original maturity of three months or less to be cash equivalents.

## **Investments**

Investments are carried at fair value except for money market investments which include short-term, highly liquid debt instruments which are reported at cost or amortized cost. Any differences between the market values and costs of investments, other than short-term money market investments, are reflected in investment income.

## **Operating Revenues and Expenses**

Operating revenues and expenses include usage charges and normal operating expenses. Nonoperating revenues include capital contributions, connection fees and investment income. Nonoperating expenses include loss of fixed asset disposition and investment expenses.

## **Accounts Receivable**

Accounts receivable are reported at amounts management expects to collect on balances outstanding at year-end. Accounts are charged to bad debt expense when deemed uncollectible based upon a periodic review of individual accounts. Accounts receivable are considered fully collectible by management and, accordingly, no allowance for doubtful accounts is considered necessary.

## **Inventories**

Inventories of materials and supplies are stated at the lower of cost or market on a first-in, first-out basis. Cost is determined by most recent purchase prices on a specific identification basis.

## **Deferred Outflows/Inflows of Resources**

The Authority will sometimes report a separate section for deferred outflows (inflows) of resources. This separate financial statement element represents a consumption (acquisition) of net position that applies to a future period and so will not be recognized as an outflow (inflow) of resources until that time.

# State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

## Net Position

The Authority maintains the following net position classifications:

Net investment in capital assets: Capital assets, net of accumulated depreciation and outstanding debt attributable to the acquisition, construction, repair, or improvement of those assets.

Restricted: A portion of net position subject to externally imposed conditions by parties outside of the Authority (such as creditors, grantors, laws, regulations, or other governments). There was no restricted net position at December 31, 2015.

Unrestricted: All other categories of net position. These assets may be designated for specific purposes.

## Charges for Services

Customers are billed on a quarterly basis, using a twelve-month billing cycle. Unbilled revenue for the last quarter of the year is accrued based on historical information.

## Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

## Recent Accounting Standards

The Authority adopted GASB Statement No. 68, *Accounting and Financial Reporting for Pensions-an amendment of GASB Statement No. 27*, for the year ended December 31, 2015. This statement establishes accounting and financial reporting by state and local governments for pensions. It also improves information provided by state and local governmental employers about financial support for pensions that is provided by other entities. This Statement replaces the requirements of *Statement No. 27, Accounting for Pensions by State and Local Governmental Employers*, as well as the requirements of Statement No. 50, *Pension Disclosures*, as they relate to pensions that are provided through pension plans administered as trusts or equivalent arrangements (hereafter jointly referred to as trusts) that meet certain criteria. The Authority implemented the accounting and reporting requirements of GASB No. 68 as of January 1, 2015. The effect of this adoption increased the Authority's net position at January 1, 2015 by \$638,638 for the recording of the Authority's net pension asset, and expanded note disclosures and required supplementary information.

# State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

The Authority adopted GASB Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date*, for the year ended December 31, 2015. This Statement addresses an issue regarding amounts associated with contributions, if any, made by a state or local government employer or nonemployer contributing entity to a defined benefit pension plan after the measurement date of the government's beginning net pension liability. The Authority implemented the accounting and reporting requirements of GASB No. 71 as of January 1, 2015. The provisions of GASB No. 71 are to be applied simultaneously with the provisions of GASB No. 68. This implementation did not materially change the Authority's accounting and reporting policies.

## 2. Cash and Cash Equivalents

Custodial credit risk is the risk that in the event of a bank failure, the Authority will not recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The Authority's investment policy states that all investments shall be fully insured or collateralized in accordance with Pennsylvania statutes pertaining to local government funds. As of December 31, 2015 and 2014, the Authority's total bank deposits were \$1,514,875 and \$1,070,257, respectively. Of this amount, \$250,000 was insured by the FDIC. The remaining bank deposits of \$1,264,875 and \$820,257, respectively, were exposed to custodial credit risk, as these deposits were not covered by depository insurance. Rather, these deposits were collateralized with securities held by the pledging institution, but not in the Authority's name.

## 3. Investments and Restricted Investments

The investment of the Authority's funds must be consistent with those permitted by the Pennsylvania Municipal Authorities Act. The Authority utilizes a professional investment manager to manage its funds. The investment manager is limited to the following:

- US Treasury Bills;
- Short-term obligations of the United States (U.S.) Government or its agencies or instrumentalities;
- Deposits in savings accounts or time deposits or share accounts of institutions insured by the Federal Deposit Insurance Corporation, the Federal Savings and Loan Insurance Corporation or the National Credit Union Share Insurance Fund to the extent that such accounts are so insured and for any amount above the insured maximum if the approved collateral as provided by law shall be pledged by the depository;
- Obligations of the United States of America or any of its agencies or instrumentalities backed by the full faith and credit of the United States of America, the Commonwealth or of any political subdivision of the Commonwealth or any of its agencies or instrumentalities backed by the full faith and credit of the political subdivision;
- Shares of an investment company registered under the Investment Company Act of 1940 whose shares are registered under the Securities Act of 1933 if the only investments of that company are in the authorized investments for authority funds listed in the preceding bullet points.

## State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

The Composition of the Authority's investment portfolio consisted of the following at December 31, 2015 and 2014:

Type	2015	2014
Cash and cash equivalents	\$ 1,352,770	\$ 2,166,228
U.S. treasuries	8,093,638	5,347,238
Certificates of deposit	6,577,919	7,659,783
Total	\$ 16,024,327	\$ 15,173,249

The Authority is required to disclose deposit and investment risks: custodial credit risk, credit risk, concentration of credit risk, interest rate risk and foreign currency risk. The following is a description of the Authority's deposit and investments risks.

### **Custodial Credit Risk**

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the Authority will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Authority does not have a formal policy for custodial credit risk. The Authority investments are held with FNB Wealth Management in accounts separate and apart from the assets of the financial institution. Under the U.S. Securities and Exchange Commission's customer protection rule, customers' securities must be segregated from a financial institution's proprietary securities. The securities are held in central depositories with the record of ownership reflected on a book entry basis. The account is held in the name of the Authority.

### **Credit Risk**

Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a credit rating by a nationally recognized organization. U.S. government securities or obligations explicitly guaranteed by the U.S. government are not considered to have credit risk exposure. The Authority does not have a formal deposit policy for credit risk.

### **Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of the Authority's investment in a single issuer. The Authority places no limit on the amount the Authority may invest in any one issuer. As of December 31, 2015 and 2014, except for investments guaranteed by the U.S. government, no investment in one issuer exceeds 5 percent of the Authority's total investments.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a change in interest rates. The Authority does not have an investment policy that is specific to maximum maturities by instrument type.

Information about the sensitivity of the fair values of the investments to market interest rate fluctuation is provided by the following table that shows distribution of the investments by maturity as of December 31, 2015 and 2014:

<u>Maturity</u>	<u>2015</u>	<u>2014</u>
None	\$ 1,352,770	\$ 2,166,228
Less than one year	3,306,001	4,375,857
One to two years	4,698,959	3,060,582
Two to five years	6,666,597	5,570,582
Total	<u>\$ 16,024,327</u>	<u>\$ 15,173,249</u>

## Foreign Currency Risk

Foreign currency risk is the risk that changes in the foreign exchange rate will adversely affect the fair value of an investment. There are currently no investments in securities exchanged in foreign denominations. The Authority does not have a formal policy for foreign currency risk.

## 4. Restricted Investment Accounts

Certain investments are segregated from operating cash and investments due to external restrictions. Restricted accounts at December 31, 2015 and 2014 consist of externally restricted funds for capital maintenance and other expenses. When both restricted and unrestricted resources are available for use, it is the Authority's policy to use restricted resources first, then unrestricted resources as they are needed.

## 5. Capital Assets

Capital assets, which include plant, property, equipment and infrastructure assets, are defined as assets with an initial, individual cost of more than \$5,000 and an estimated useful life in excess of two years. Capital assets are stated at historical cost.

Maintenance and repairs are charged to operations, while renewals and betterments are capitalized. When property and equipment are disposed of, the cost and applicable accumulated depreciation are removed from the respective accounts and the resulting gain or loss is recorded as nonoperating revenue or expense.

# State College Borough Water Authority

Notes to Financial Statements  
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The useful lives of capital assets are as follows:

	<u>Useful Life</u>
Water treatment plant	30 years
Water distribution system	66 2/3 years
Buildings and improvements	39 years
Equipment and vehicles	5-7 years

Capital assets activity for the year ended December 31, 2015 is as follows:

	<u>January 1, 2015</u>	<u>Additions</u>	<u>Disposals/ Transfers</u>	<u>December 31, 2015</u>
Capital assets not being depreciated:				
Land	\$ 2,214,631	\$ -	\$ -	\$ 2,214,631
Construction in progress	-	4,937	-	4,937
Total capital assets not being depreciated	<u>2,214,631</u>	<u>4,937</u>	<u>-</u>	<u>2,219,568</u>
Capital assets being depreciated:				
Building	4,628,085	181,853	-	4,809,938
Water treatment plant	6,788,830	14,823	-	6,803,653
Water distribution system	80,834,153	1,628,909	-	82,463,062
Office furniture and equipment	460,366	8,653	-	469,019
Vehicles and equipment	1,895,598	100,066	(66,390)	1,929,274
Total capital assets being depreciated	<u>94,607,032</u>	<u>1,934,304</u>	<u>(66,390)</u>	<u>96,474,946</u>
Accumulated depreciation for:				
Building	(1,180,707)	(99,678)	-	(1,280,385)
Water treatment plant	(1,932,338)	(104,979)	-	(2,037,317)
Water distribution system	(20,877,452)	(1,253,910)	7,521	(22,123,841)
Office furniture and equipment	(308,509)	(20,934)	(7,521)	(336,964)
Vehicles and equipment	(1,232,206)	(179,558)	31,371	(1,380,393)
Total accumulated depreciation	<u>(25,531,212)</u>	<u>(1,659,059)</u>	<u>31,371</u>	<u>(27,158,900)</u>
Capital assets, net	<u>\$ 71,290,451</u>	<u>\$ 280,182</u>	<u>\$ (35,019)</u>	<u>\$ 71,535,614</u>

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

Capital assets activity for the year ended December 31, 2014 is as follows:

	January 1, 2014	Additions	Disposals/ Transfers	December 31, 2014
Capital assets not being depreciated:				
Land	\$ 2,214,631	\$ -	\$ -	\$ 2,214,631
Construction in progress	38,132	1,190,504	(1,228,636)	-
Total capital assets not being depreciated	<u>2,252,763</u>	<u>1,190,504</u>	<u>(1,228,636)</u>	<u>2,214,631</u>
Capital assets being depreciated:				
Building	4,629,177	-	(1,092)	4,628,085
Water treatment plant	6,788,830	-	-	6,788,830
Water distribution system	78,597,752	1,007,765	1,228,636	80,834,153
Office furniture and equipment	365,487	93,787	1,092	460,366
Vehicles and equipment	1,613,938	362,210	(80,550)	1,895,598
Total capital assets being depreciated	<u>91,995,184</u>	<u>1,463,762</u>	<u>1,148,086</u>	<u>94,607,032</u>
Accumulated depreciation for:				
Building	(1,081,029)	(99,678)	-	(1,180,707)
Water treatment plant	(1,827,434)	(104,904)	-	(1,932,338)
Water distribution system	(19,640,715)	(1,236,737)	-	(20,877,452)
Office furniture and equipment	(294,262)	(14,247)	-	(308,509)
Vehicles and equipment	(1,137,689)	(175,067)	80,550	(1,232,206)
Total accumulated depreciation	<u>(23,981,129)</u>	<u>(1,630,633)</u>	<u>80,550</u>	<u>(25,531,212)</u>
Capital assets, net	<u>\$ 70,266,818</u>	<u>\$ 1,023,633</u>	<u>\$ -</u>	<u>\$ 71,290,451</u>

## 6. Unrestricted Net Position

Unrestricted-designated net position of \$14,101,677 and \$13,548,915 at December 31, 2015 and 2014, respectively, has been designated by the Authority's Board for significant future capital improvements, major maintenance projects, and unusual or non-routine expenses.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## 7. Pension Plan

### Defined Benefit Pension Plan

#### Plan Description

The State College Borough Water Authority Pension Plan ("SCBWAPP") is a governmental single-employer defined benefit pension plan. The plan is administered by Conrad Siegel Investment Advisors, Inc. SCBWAPP provides retirement, disability retirement and death benefits to plan members and beneficiaries. The SCBWAPP issues a stand-alone financial report that includes the Plan's financial statements and required supplementary information. That report may be obtained by writing to Conrad M. Siegel, Inc., 501 Corporate Circle, PO Box 5900, Harrisburg, PA 17110-0900 or by calling 1-717-652-5633.

Employer contributions to the Plan are recognized in the period in which the contributions are due. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

At January 1, 2015, the date of the latest valuation, employees covered by the Plan consisted of the following:

Retirees and beneficiaries receiving benefits	22
Terminated employees entitled to benefits but not yet receiving them	4
Active plan participants	<u>36</u>
Total membership	<u><u>62</u></u>
Number of participating employers	<u><u>1</u></u>

#### Benefits Provided

The Plan provides retirement, disability and death benefits for normal retirement at age 62 or the completion of 35 years of vesting service based on a formula including average monthly compensation and completed years of benefit service. All eligible employees join the Plan on the date of employment, provided they have not attained age 60 on the date of employment. Early retirement is available upon attainment of age 55. The amount of monthly pension is equal to 2.0% of average monthly compensation multiplied by the number of complete years of benefit service, but not more than 70% of average monthly compensation.

#### Funding Policy and Contributions

The contribution requirements of the Authority are determined in accordance with the Commonwealth of Pennsylvania's Municipal Pension Plan Funding and Recovery Act (Act 205 of 1984) (the "Act"). The Act requires that annual contributions be made based on a minimum municipal obligation ("MMO"), as determined in connection with the Pension Plan's biennial actuarial obligation. The MMO includes the normal cost, estimated administrative expenses and an amortization of the actuarial accrued liability (if any), less member contributions (if any) and a credit equal to 10% of the actuarial present value of assets over the actuarial accrued liability. The Authority must fund any financial requirement established by the MMO that exceeds state/member contributions.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

The annual required contribution was determined based on the most recent annual actuarial valuation dated January 1, 2015. The entry age normal actuarial cost method of funding was used in the valuation, which does not identify or separately amortize unfunded actuarial liabilities. Significant actuarial assumptions used include (a) a rate of return on the investment of present and future assets of 7.0% per year compounded annually; (b) 5.0% projected salary increases; and (c) no postretirement benefit increases. The rate of return includes an inflation component of 3%. The method used to determine the actuarial value of assets is market value adjusted for unrecognized gains and losses from prior years.

## Deposits and Investments

The Plan allows funds to be invested pursuant to a strategy that reduces risk through the prudent diversification of the portfolio across a broad selection of asset classes, as approved by the Authority Board, and established the following target allocation across asset categories:

<b>Asset Class</b>	<b>Target</b>	<b>Long-Term Expected Real Rate of Return</b>
Fixed income	35 %	1-3 %
Equities	62	4.5-7.5
Real estate	3	4.5-6.5

The long-term expected rate of return of 7% on the Plan's investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) were developed for each major asset class. These ranges were combined to produce long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates or arithmetic real rates of return for each major asset class included in the Plan's target asset allocation for the 2015 measurement period are listed in the table above.

## Rate of Return

For the year ended December 31, 2015, the annual money-weighted rate of return on pension plan investments, net of Plan investment expense, was 1.00%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## Net Pension Liability

The components of the net pension liability of the Plan as of December 31, 2015 were as follows:

Total pension liability	\$ 11,081,738
Plan fiduciary net position	<u>(10,876,155)</u>
Plan net pension liability	<u>\$ 205,583</u>
Plan fiduciary net position as a percentage of total pension liability	<u>98.1%</u>

## Changes in the Net Pension Liability

The changes in the Authority's net pension liability during the year ended December 31, 2015 are as follows:

	Increases (Decreases)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balances at January 1, 2015	\$ 10,561,931	\$ 11,200,569	\$ (638,638)
Changes for the year:			
Service cost	226,652	-	226,652
Interest cost	742,809	-	742,809
Changes for experience	95,589	-	95,589
Contributions - employer	-	440,462	(440,462)
Net investment income	-	(209,133)	209,133
Benefit payments, including refunds	(545,243)	(545,243)	-
Administrative expense	-	(10,500)	10,500
Net changes	<u>519,807</u>	<u>(324,414)</u>	<u>844,221</u>
Balances at December 31, 2015	<u>\$ 11,081,738</u>	<u>\$ 10,876,155</u>	<u>\$ 205,583</u>

The schedule of changes in the employer's net pension liability and related ratios, presented as required supplementary information following the notes to the financial statements, presents multi-year trend information related to the funded status of the Plan.

No significant events or changes in assumptions occurred between the valuation date and the fiscal year end.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## Actuarial Assumptions

The total pension liability above was determined by an actuarial valuation performed as of January 1, 2015 using the following actuarial methods and assumptions:

Actuarial valuation date	January 1, 2015
Actuarial cost method	Entry-age normal
Actuarial assumptions:	
Projected salary increases	5.0 %
Inflation	3.0 %
Interest rate	7.0 %
Cost-of-living adjustments	N/A
Asset valuation method	Market

Mortality rates were based on the RP-2000 Table. The actuarial assumptions used in the January 1, 2015 valuation were based on past experience under the Plan and reasonable future expectations which represent a best estimate of anticipated experience under the Plan.

## Discount Rate

The discount rate used to measure the total pension liability for the Plan was 7.0%, the same as the prior valuation. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at the current contribution rate and that Authority contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate.

## Discount Rate Sensitivity

The following is a sensitivity analysis of the net pension liability to changes in the discount rate. The table below presents the pension liability of the Plan calculated using the discount rate of 7.0% as well as what the net pension liability would be if it were to be calculated using a discount rate that is 1 percentage point lower (6.0%) or 1 percentage point higher (8.0%) than the current rate:

	<u>1% Decrease (6.0%)</u>	<u>Current Discount Rate</u>	<u>1% Increase (8.0%)</u>
Net pension liability (asset)	\$ 1,385,511	\$ 205,583	\$ (798,082)

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources

For the year ended December 31, 2015, the Authority recognized pension expense of \$(32,057). At December 31, 2015, the Authority reported deferred outflows of resources and deferred inflows of resources related to pension from the following sources:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Differences between expected and actual experience	\$ 84,968	\$ -
Changes in assumptions	-	-
Difference between projected and actual earnings on investments	791,310	-
Authority contributions subsequent to the measurement date	440,462	-
	<u>440,462</u>	<u>-</u>
Total	<u>\$ 1,316,740</u>	<u>\$ -</u>

\$440,462 reported as deferred outflows of resources, related to pension resulting from Authority contributions subsequent to the measurement date, will be recognized as a reduction of the net pension liability in the year ended December 31, 2015.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pension will be recognized in pension expense as follows:

Year ended December 31:	
2016	\$ (208,449)
2017	(208,449)
2018	(208,449)
2019	(208,449)
2020	(10,621)
Thereafter	<u>(31,861)</u>
Total	<u>\$ (876,278)</u>

## 8. Other Postemployment Benefits

### Plan Description

The Authority administers a single-employer defined benefit healthcare plan (the "Plan"). The Plan provides medical insurance benefits for a determined time period based on employees' accumulated sick days at the date of retirement to eligible retirees, their spouses and other dependents. The Plan does not issue a publicly available financial report.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

## Funding Policy

The contribution requirements of plan members and the Authority are established and may be amended by the Authority's board of directors. Under the existing plan, the plan members are not required to make contributions to the Plan. The Authority's contributions to the Plan are financed on a pay-as-you-go basis and, therefore, no trust fund has been established to maintain plan net assets. For the years ended December 31, 2015 and 2014, the Authority contributed \$13,578 and \$16,844, respectively, to the Plan, which represented current healthcare premiums for current retirees.

## Annual OPEB Cost and Net OPEB Obligation

The Authority's annual other postemployment benefit ("OPEB") cost (expense) is calculated based on the annual required contribution of the employer ("ARC") an amount actuarially determined in accordance with the parameters of GASB guidance. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. The following show the components of the Authority's annual OPEB cost for the year, the amount actually contributed to the Plan, and changes in the Authority's net OPEB obligation:

Annual required contribution	\$	21,847
Interest on net OPEB		2,726
Adjustment to annual required contribution		<u>(3,718)</u>
Annual OPEB cost		20,855
Contributions made		<u>(13,578)</u>
Increase in net OPEB obligation		7,277
Net OPEB obligation at January 1, 2015		<u>90,616</u>
Net OPEB obligation at December 31, 2015	\$	<u><u>97,893</u></u>

The Authority's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB obligation for the years ended December 31 were as follows:

<u>Year Ended</u>	<u>Annual OPEB</u>	<u>Percentage of Annual OPEB Cost Contributed</u>	<u>Net OPEB Obligation</u>
December 31, 2015	\$ 20,855	65.1 %	\$ 97,893
December 31, 2014	18,403	91.5	90,616
December 31, 2013	18,431	46.3	89,057

# State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

## Funded Status and Funding Progress

Because the Authority's contributions to the Plan are financed on a pay-as-you-go basis, as of January 1, 2015, the most recent actuarial valuation, the Plan was zero percent funded. The actuarial accrued liability (AAL) for benefits was \$184,353, and the actuarial value of assets was \$-0-, resulting in an unfunded actuarial accrued liability (UAAL) of \$184,353. The covered payroll (annual payroll of active employees covered by the plan) was \$2,127,788, and the ratio of the UAAL to the covered payroll was 8.66%.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of the occurrence of events far into the future. Examples include assumptions about future employment, mortality and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the annual required contributions of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress for other postemployment benefits plan, presented as required supplementary information following the notes to the basic financial statements, presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

## Methods and Assumptions

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

In the January 1, 2015 actuarial valuation, the Early Age Normal cost method was used. The actuarial assumptions included: a 4.5% investment rate of return, a 5% salary increase, and an annual healthcare cost trend rate of 6.0% initially, reduced by 0.5% to 5.5% in 2016. The UAAL is being amortized under the level dollar method over 30 years.

## 9. Related Parties

The State College Sewer Authority's (the "Sewer Authority") customers who reside in the Borough of State College are billed for water and sewer on one bill. Because the sewer portion of the bills is based on water consumption, the Authority collects the total amount billed and remits the Sewer Authority's portion on a monthly basis. The amount due from sewer customers was \$146,620 and \$117,434 at December 31, 2015 and 2014, respectively, and is reflected in the accompanying financial statements as accounts receivable -sewer customers. In addition, unbilled revenue for sewer customers was \$1,126,613 and \$1,239,588 at December 31, 2015 and 2014. The amounts due to the Sewer Authority, including amounts billed and unbilled but not yet collected, was \$1,310,302 and \$1,373,204 at December 31, 2015 and 2014, respectively. The differences between the receivable and payable amounts represent collections not remitted as of December 31 and cash deposits provided by the Sewer Authority. The Authority charges the Sewer Authority collection fees for the collection and processing services. The collection fee revenue was \$17,941 and \$17,713 for the years ended December 31, 2015 and 2014, respectively.

# State College Borough Water Authority

Notes to Financial Statements  
December 31, 2015 and 2014

The Authority pays H&F Consulting an annual consulting fee for financial and investment planning. H&F Consulting is owned by the Treasurer of the Authority. The Treasurer is not an Authority board member but is appointed by the Board. The total amount paid to H&F Consulting was \$14,888 and \$10,613 for the years ended December 31, 2015 and 2014, respectively. \$3,750 and \$3,113 was due to H&F Consulting at December 31, 2015 and 2014, respectively.

## 10. Effect of Adoption of GASB No. 68

The Authority adopted GASB Statement No. 68 for its year ended December 31, 2015, which requires that the effects be applied to the earliest period practical. The changes within the Authority's January 1, 2015 net position are as follows:

Net position, as previously reported, at January 1, 2015	\$ 89,286,449
Net pension asset	<u>638,638</u>
Restated net position, at January 1, 2015	<u>\$ 89,925,087</u>

## 11. Pending Changes in Accounting Principles

In February 2015, the GASB issued Statement No. 72, *Fair Value Measurement and Application*. The objective of this Statement is to address accounting and financial reporting issues related to fair value measurements and to provide guidance for applying fair value of certain investments and disclosures related to all fair value measurements. The Authority is required to adopt Statement No. 72 for its calendar year 2016 financial statements.

In June 2015, the GASB issued Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, which replaces the requirements of GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. Statement 75 requires governments to report a liability on the face of the financial statements for the OPEB that they provide: Governments that are responsible only for OPEB liabilities related to their own employees and that provide OPEB through a defined benefit OPEB plan administered through a trust that meets specified criteria will report a net OPEB liability equal to the difference between the total OPEB liability and assets accumulated in the trust and restricted to making benefit payments. Governments that participate in a cost-sharing OPEB plan that is administered through a trust that meets the specified criteria will report a liability equal to their proportionate share of the collective OPEB liability for all entities participating in the cost-sharing plan. Governments that do not provide OPEB through a trust that meets specified criteria will report the total OPEB liability related to their employees.

Statement 75 requires governments in all types of OPEB plans to present more extensive note disclosures and required supplementary information ("RSI") about their OPEB liabilities. Among the new note disclosures is a description of the effect on the reported OPEB liability of using a discount rate and a healthcare cost trend rate that are one percentage point higher and one percentage point lower than assumed by the government. The new RSI includes a schedule showing the causes of increases and decreases in the OPEB liability and a schedule comparing a government's actual OPEB contributions to its contribution requirements. The Authority is required to adopt Statement No. 75 for its calendar year 2018 financial statements.

## State College Borough Water Authority

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Notes to Financial Statements  
December 31, 2015 and 2014

In June 2015, the GASB issued Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. The primary objective of this statement is to identify - in the context of the current governmental financial reporting environment - the hierarchy of generally accepted accounting principles ("GAAP"). This statement reduces the GAAP hierarchy to two categories of authoritative literature and addresses the use of authoritative and nonauthoritative literature in the event that the accounting treatment for a transaction or other event is not specified within a source of authoritative GAAP. The Authority is required to adopt Statement No. 76 for its calendar year 2016 financial statements.

In January 2016, the GASB issued Statement No. 80, *Blending Requirements for Certain Component Units*, an amendment of GASB Statement No. 14. Statement No. 80 amends the blending requirements related to not-for-profit corporations for which the primary government is the sole corporate member. The Authority is required to adopt Statement No. 80 for its fiscal 2017 financial statements.

Authority management is in the process of analyzing these pending changes in accounting principles and the impact they will have on the financial reporting process.

## State College Borough Water Authority

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Required Supplementary Information

Schedule of Funding Progress for Other Postemployment Benefits Plan

Information is as of the Most Recent Actuarial Valuation - January 1, 2015

(Unaudited)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)- Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
January 1, 2015	\$ -	\$ 184,353	\$ 184,353	0.00%	\$ 2,127,788	8.66%
January 1, 2012	-	173,130	173,130	0.00%	1,940,031	8.92%
January 1, 2009	-	203,131	203,131	0.00%	1,702,833	11.93%

Note: Actuarial valuation is done triennial for the other postemployment benefits plan.

## State College Borough Water Authority

Required Supplementary Information  
Schedule of Changes in Net Pension Liability and Related Ratios  
Year Ended December 31, 2015  
(Unaudited)

<b>Total Pension Liability</b>	
Service cost	\$ 226,652
Interest cost	742,809
Differences between expected and actual experience	95,589
Changes in assumptions	-
Benefit payments, including refunds of member contributions	<u>(545,243)</u>
Net change in total pension liability	519,807
<b>Total Pension Liability, Beginning</b>	<u>10,561,931</u>
<b>Total Pension Liability, Ending (a)</b>	<u>11,081,738</u>
<b>Plan Fiduciary Net Position</b>	
Employer contributions	440,462
Employee contributions	-
Other contributions	-
Net investment loss	(209,133)
Benefits payments, including refunds of member contributions	(545,243)
Administration	(10,500)
Other	<u>-</u>
Net change in plan fiduciary net position	(324,414)
<b>Plan Fiduciary Net Position, Beginning</b>	<u>11,200,569</u>
<b>Plan Fiduciary Net Position, Ending (b)</b>	<u>10,876,155</u>
Net pension liability, ending (a) - (b)	<u>\$ 205,583</u>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	<u>98.14%</u>
<b>Covered-employee Payroll</b>	<u>\$ 2,066,442</u>
Net pension liability as a percentage of covered-employee payroll	<u>9.95%</u>

The Authority implemented GASB Statement No. 68 during its calendar year ended December 31, 2015. Information prior to 2015 year is not available.

**State College Borough Water Authority**

Required Supplementary Information  
 Schedule of Employer Contributions  
 Year Ended December 31, 2015  
 (Unaudited)

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Actuarially determined contribution <sup>(1)</sup>	\$ 164,051	\$ 173,920	\$ -	\$ -	\$ 268,405	\$ 286,058	\$ 155,544	\$ 175,331	\$ 166,181	\$ 315,462
Contributions in relation to the actuarially determined contribution	<u>544,338</u>	<u>525,000</u>	<u>200,000</u>	<u>350,500</u>	<u>400,000</u>	<u>450,000</u>	<u>450,000</u>	<u>350,000</u>	<u>350,000</u>	<u>440,462</u>
Contribution deficiency (excess)	<u>\$ (380,287)</u>	<u>\$ (351,080)</u>	<u>\$ (200,000)</u>	<u>\$ (350,500)</u>	<u>\$ (131,595)</u>	<u>\$ (163,942)</u>	<u>\$ (294,456)</u>	<u>\$ (174,669)</u>	<u>\$ (183,819)</u>	<u>\$ (125,000)</u>
Covered-employee payroll <sup>(2)</sup>									\$2,127,788	\$ 2,066,442
Contributions as a percentage of covered-employee payroll									16.45%	21.31%

**Notes to Schedule:**

Valuation date: Actuarially determined contributions are calculated as of January 1, two to four years prior to the end of the year in which the contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry-age normal
Amortization method	Level dollar, closed
Remaining amortization period	14 years
Asset valuation method	Market value of assets as determined by the trustee
Inflation	3.0%
Salary increases	5.0%
Investment rate of return	7.0%
Retirement age	Normal retirement age
Mortality	RP-2000 Table

<sup>(1)</sup> - Equal to the Minimum Municipal Obligation (MMO) under Act 205 of 1984

<sup>(2)</sup> - Estimate of projected W-2 payroll for the preceding year as shown on the MMO worksheet.

The Authority implemented GASB Statement No. 68 during its year ended December 31, 2015. Certain information prior to calendar year 2014 is not available.

# State College Borough Water Authority

Schedule of Water Distribution System, Land and Plant  
December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Water Distribution System</b>		
Well fields	\$ 13,947,093	\$ 13,934,196
Pumping	<u>751,052</u>	<u>751,052</u>
Distribution:		
Transmission mains	5,716,634	5,716,634
Storage mains, tanks and standpipes	9,607,791	8,849,807
Distribution mains	26,056,215	25,689,491
Developers' systems and other	13,763,261	13,411,117
Service pipes and stops	3,128,151	3,107,862
Meters, meter boxes and vaults	4,871,712	4,788,985
Fire hydrants and sprinklers	<u>913,245</u>	<u>906,913</u>
Total distribution	<u>64,057,009</u>	<u>62,470,809</u>
Engineering costs	<u>3,707,908</u>	<u>3,678,096</u>
Total water distribution system	<u>\$ 82,463,062</u>	<u>\$ 80,834,153</u>
<b>Land</b>	<u>\$ 2,214,631</u>	<u>\$ 2,214,631</u>
<b>Water Treatment Plant</b>	<u>\$ 6,803,653</u>	<u>\$ 6,788,830</u>
Total water distribution system, land, and plant	<u>\$ 91,481,346</u>	<u>\$ 89,837,614</u>

# State College Borough Water Authority

## Schedule of Operating Expenses

Year Ended December 31, 2015 and 2014

	<u>2015</u>	<u>2014</u>
<b>Purification</b>		
Operating labor and analysis	\$ 178,688	\$ 146,799
Supplies and expense	48,415	24,522
Maintenance of property	20,497	28,213
	<u>247,600</u>	<u>199,534</u>
<b>Pumping</b>		
Power purchased	231,102	225,296
Operating labor	62,061	56,085
Maintenance of property	41,239	108,568
	<u>334,402</u>	<u>389,949</u>
<b>Filtration</b>		
Operating labor	98,665	93,545
Power purchased	89,958	75,316
Supplies and expense	22,636	36,962
Maintenance of property	16,113	31,146
	<u>227,372</u>	<u>236,969</u>
<b>Distribution</b>		
Maintenance of distribution system mains	407,335	402,645
Maintenance of meters, meter boxes and vaults	188,200	168,555
Maintenance of fire hydrants	48,765	32,857
Storage tanks	20,097	14,505
	<u>664,397</u>	<u>618,562</u>
<b>General Expense</b>		
Depreciation	1,659,059	1,630,633
Office payroll and benefits	1,141,776	1,513,492
Insurance	725,064	587,713
Maintenance	415,329	430,466
Office supplies and expense	289,864	286,175
Professional fees	88,766	73,626
General property expense	65,526	71,034
	<u>4,385,384</u>	<u>4,593,139</u>
Total general expense	<u>4,385,384</u>	<u>4,593,139</u>
Total operating expenses	<u>\$ 5,859,155</u>	<u>\$ 6,038,153</u>

## State College Borough Water Authority

Schedule of the Borough of State College Sewer Receipts and Remittances  
Year Ended December 31, 2015

	<u>Receipts*</u>	<u>Penalties</u>	<u>Interest</u>	<u>Remittance</u>
December 2014	\$667,970.76	\$1,689.46	\$3.47	
January 2015	\$116,317.72	\$1,612.27	\$3.16	(\$669,663.69)
February 2015	\$788,781.51	\$1,390.00	\$0.54	(\$117,933.15)
March 2015	\$590,740.25	\$1,328.27	\$4.00	(\$790,172.05)
April 2015	\$112,405.12	\$1,412.97	\$0.97	(\$592,072.52)
May 2015	\$691,300.82	\$763.80	\$3.30	(\$113,819.06)
June 2015	\$691,617.27	\$1,626.93	\$6.12	(\$692,067.92)
July 2015	\$191,891.75	\$1,289.42	\$0.97	(\$693,250.32)
August 2015	\$630,440.86	\$802.23	\$2.52	(\$193,182.14)
September 2015	\$481,116.95	\$1,735.09	\$8.08	(\$631,245.61)
October 2015	\$152,075.66	\$1,168.44	\$6.04	(\$482,860.12)
November 2015	\$686,898.75	\$860.30	\$2.26	(\$153,250.14)
December 2015				(\$687,761.31)

\* Amount includes receipt of previous penalties.

APPENDIX III

**2015 Budget**

**2015 Actual Budget To 12/31/15**

**2016 Approved Budget**

# 2015 Income & Expenditures

## OVERVIEW

INCOME	2015 Budget	Actual To 12/31/15	2016 Budget
Operating Income	6,560,000	6,648,008	6,865,000
Other Income	277,150	212,774	200,100
<b>TOTAL INCOME</b>	<b>\$ 6,837,150</b>	<b>\$ 6,860,783</b>	<b>\$ 7,065,110</b>

EXPENSES	2015 Budget	Actual To 12/31/15	2016 Budget
<b>Operating Expenses</b>			
Chemical Treatment (page 3*)	143,400	135,446	141,394
Pumping (page 4*)	345,900	333,649	406,272
Filtration Plant (page 5*)	245,900	219,226	263,382
Distribution (page 6*)	547,500	530,074	620,990
General Expenses (pages 7, 8 & 9*)	3,267,300	3,123,643	3,408,881
Special Projects (page 3)	0	83,832	0
<b>Total Operating Expenses</b>	<b>\$ 4,550,000</b>	<b>\$ 4,425,870</b>	<b>\$ 4,840,918</b>
<b>Income Deductions</b>			
Board Reserve Fund (page 10*)	2,051,130	1,940,436	1,936,373
Tank Painting Fund (page 10*)	100,470	64,681	96,716
Waterline Replacement Fund (page 10*)			189,410
<b>Total Income Deductions</b>	<b>\$ 2,151,600</b>	<b>\$ 2,005,117</b>	<b>\$ 2,222,499</b>
<b>TOTAL EXPENSES</b>	<b>\$ 6,701,600</b>	<b>\$ 6,430,987</b>	<b>\$ 7,063,417</b>

\*See page number for greater detail.

# 2015 Income & Expenditures

## INCOME

INCOME	2015 Budget	Actual To 12/31/15	2016 Budget
<b>Operating Income</b>			
Metered Sales	6,350,000	6,435,387	6,650,000
Fire Protection	210,000	212,621	215,000
<b>Total Operating Income</b>	<b>\$ 6,560,000</b>	<b>\$ 6,648,008</b>	<b>\$ 6,865,000</b>
<b>Other Income</b>			
Services Provided To Others	50,000	40,431	50,000
Penalties Received	40,000	51,431	40,000
Other Operating Revenue	90,000	51,318	50,000
Interest (Water Revenue)	150	310	110
Interest (Board Reserve Fund)	90,000	56,696	60,000
Interest (Tapping Fee Fund)	7,000	12,588	
<b>Total Other Income</b>	<b>\$ 277,150</b>	<b>\$ 212,774</b>	<b>\$ 200,110</b>
<b>TOTAL INCOME</b>	<b>\$ 6,837,150</b>	<b>\$ 6,860,783</b>	<b>\$ 7,065,110</b>
<b>Restricted Income</b>			
Tapping Fee Revenue			195,000
Interest (Tapping Fee Fund)			5,000
Interest (Emergency Fund)			40,000
<b>Total Restricted Revenue</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 200,110</b>

# 2015 Income & Expenditures

## EXPENDITURES

CHEMICAL TREATMENT EXPENSES	2015 Budget	Actual To 12/31/15	2016 Budget
<b>Chlorination</b>			
Labor	15,600	18,380	16,146
Equipment Maintenance	20,000	12,476	18,000
Purchased	15,000	14,103	16,000
Water Analyses	21,000	25,730	21,000
<b>Total Chlorination Expenses</b>	<b>\$ 71,600</b>	<b>\$ 70,689</b>	<b>\$ 71,146</b>
<b>Fluoridation</b>			
Labor	12,800	11,310	13,248
Equipment Maintenance	17,000	6,850	15,000
Purchased	20,000	34,312	20,000
Water Analyses	6,000	5,210	6,000
<b>Total Fluoridation Expenses</b>	<b>\$ 55,800</b>	<b>\$ 57,682</b>	<b>\$ 54,248</b>
<b>Laboratory Analyses</b>			
SDWA (Safe Drinking Water Act)	16,000	7,075	16,000
<b>Total Laboratory Analyses Expenses</b>	<b>\$ 16,000</b>	<b>\$ 7,075</b>	<b>\$ 16,000</b>
<b>TOTAL CHEMICAL TREATMENT EXPENSES</b>	<b>\$ 143,400</b>	<b>\$ 135,446</b>	<b>\$ 141,394</b>

Nixon/Kocher Pilot Study

\$ 83,832

**TOTAL Special Projects**

**\$ 83,832**

Indicates non-budgeted expense

# 2015 Income & Expenditures

## EXPENDITURES

<b>PUMPING EXPENSES</b>	<b>2015 Budget</b>	<b>Actual To 12/31/15</b>	<b>2016 Budget</b>
<b>Well Fields</b>			
Labor	28,700	28,576	29,705
Monitoring	12,000	19,123	21,800
Equipment Maintenance	26,000	30,742	26,000
Electric	220,000	204,162	264,000
<b>Total Well Field Expenses</b>	<b>\$ 286,700</b>	<b>\$ 282,603</b>	<b>\$ 341,505</b>
<b>Pump Stations</b>			
Labor	16,200	14,363	16,767
Equipment Maintenance	18,000	9,743	18,000
Electric	25,000	26,940	30,000
<b>Total Pump Station Expenses</b>	<b>\$ 59,200</b>	<b>\$ 51,046</b>	<b>\$ 64,767</b>
<b>TOTAL PUMPING EXPENSES</b>	<b>\$ 345,900</b>	<b>\$ 333,649</b>	<b>\$ 406,272</b>

# 2015 Income & Expenditures

## EXPENDITURES

<b>FILTRATION EXPENSES</b>	<b>2015 Budget</b>	<b>Actual To 12/31/14</b>	<b>2016 Budget</b>
Labor	70,900	78,830	73,382
Equipment Maintenance	25,000	16,113	25,000
Telemetry	28,000	19,835	28,000
Reservoir	2,000	677	1,500
Chemicals	9,000	7,216	9,000
Electric	85,000	82,238	102,000
Propane	20,000	12,364	17,000
Lab Expense	6,000	1,953	7,500
<b>TOTAL FILTRATION EXPENSES</b>	<b>\$ 245,900</b>	<b>\$ 219,226</b>	<b>\$ 263,382</b>

# 2015 Income & Expenditures

## EXPENDITURES

<b>DISTRIBUTION EXPENSES</b>	<b>2015 Budget</b>	<b>Actual To 12/31/15</b>	<b>2016 Budget</b>
<b>Maintenance Of Distribution Mains</b>			
Waterline Inspection	25,000	16,729	25,000
Labor	90,000	120,913	100,000
Flushing	25,000	26,796	27,000
Leak Detection Program	32,000	33,094	32,000
Underground Locates	75,000	86,169	80,000
Materials	40,000	17,742	35,000
<b>Maintenance Of Service Lines</b>			
Labor	20,000	24,923	20,700
Materials	7,500	5,701	7,500
<b>Maintenance Of Fire Hydrants</b>			
Labor	18,000	31,339	18,630
Materials	7,000	12,264	7,000
<b>Maintenance Of Meters</b>			
Labor	126,000	119,200	158,000
Backflow Prevention	17,000	11,921	15,000
Materials	45,000	7,104	75,000
<b>Maintenance Of Storage Tanks</b>			
Labor	12,000	12,299	12,360
Materials	4,000	1,203	3,000
Electric	4,000	2,677	4,800
<b>TOTAL DISTRIBUTION EXPENSES</b>	<b>\$ 547,500</b>	<b>\$ 530,074</b>	<b>\$ 620,990</b>

# 2015 Income & Expenditures

## EXPENDITURES

GENERAL EXPENSES	2015 Budget	Actual To 12/31/15	2016 Budget
<b>Service Building</b>			
Labor	12,500	10,526	12,500
Electric	25,000	1,496	25,795
Propane	17,000	8,022	14,000
Telephone	25,000	20,441	25,000
Cable / Internet	4,000	2,070	2,700
<b>Maintenance &amp; Repairs</b>			
Small Tools (Labor & Materials)	90,000	72,221	70,000
Building & Grounds (Labor & Materials)	221,000	200,929	221,000
<b>Vehicle</b>			
Maintenance	65,000	64,963	65,000
Radio Maintenance	2,500	489	1,500
Gas / Oil	74,000	59,579	70,000
<b>Maintenance &amp; Other</b>			
Inventory Adjustments	0	0	0
<b>Payroll</b>			
Administrative Salaries & Wages	620,000	605,666	681,700
Meter Reading Salaries & Wages	55,000	59,792	59,950
Contract Reading Salaries & Wages	2,000	1,292	2,070
<b>Subtotal General Expenses</b>	<b>\$ 1,213,000</b>	<b>\$ 1,127,486</b>	<b>\$ 1,251,215</b>

# 2015 Income & Expenditures

## EXPENDITURES

GENERAL EXPENSES	2015 Budget	Actual To 12/31/15	2016 Budget
<b>Benefits</b>			
Holiday / Personal Pay	90,000	94,248	93,150
Sick Pay	47,000	64,217	48,645
Vacation Pay	149,300	137,677	154,526
Legal Time Off	4,000	5,268	4,000
Pension	450,000	440,462	400,000
Work Uniforms	16,000	13,526	16,000
Humanitarian	22,000	20,825	22,000
Payroll Taxes	167,000	158,809	172,845
Medical	595,000	536,809	678,300
Group Life	13,000	11,280	15,000
Long Term Disability	10,000	6,400	12,000
<b>Insurance</b>			
Workman's Compensation	33,000	33,909	35,200
General Liability	97,000	100,182	100,000
<b>Services</b>			
Professional Fees	65,000	85,286	107,000
Gratuitous Service	40,000	50,429	40,000
Education	43,000	36,602	47,000
CDL Testing	5,000	5,209	5,000
<b>Subtotal General Expenses</b>	<b>\$ 1,846,300</b>	<b>\$ 1,801,103</b>	<b>\$ 1,950,666</b>

# 2015 Income & Expenditures

## EXPENDITURES

<b>GENERAL EXPENSES</b>	<b>2015 Budget</b>	<b>Actual To 12/31/15</b>	<b>2016 Budget</b>
<b>Office</b>			
Supplies	72,000	68,616	65,000
Postage & Shipping	35,000	35,581	40,000
Banking Fees	28,000	29,482	28,000
Advertising/Public Notices	10,000	3,762	7,000
<b>Collection</b>			
Delinquent Account Collection	25,000	24,119	25,000
<b>Miscellaneous</b>			
Maintenance Agreements	37,000	32,076	40,000
Contributions	1,000	1,418	2,000
<b>Subtotal General Expenses</b>	<b>\$ 208,000</b>	<b>\$ 195,054</b>	<b>\$ 207,000</b>
<b>TOTAL GENERAL EXPENSES</b>	<b>\$ 3,267,300</b>	<b>\$ 3,123,643</b>	<b>\$ 3,408,881</b>
<b>TOTAL OPERATING EXPENSES</b>	<b>\$ 4,550,000</b>	<b>\$ 4,342,038</b>	<b>\$ 4,840,918</b>

# 2015 Income & Expenditures

## EXPENDITURES

<b>INCOME DEDUCTIONS</b>	<b>2015 Budget</b>	<b>Actual To 12/31/15</b>	<b>2016 Budget</b>
Board Reserve Fund Transfer	2,051,130	1,940,436	1,936,373
Tank Painting Fund Transfer	100,470	64,681	96,716
Waterline Replacement Fund Transfer			189,410
<b>Total Board Reserve Fund Transfer</b>	<b>\$2,151,600</b>	<b>\$2,005,117</b>	<b>\$2,222,499</b>
<b>TOTAL DEDUCTIONS &amp; OPERATING EXPENSES</b>	<b>\$6,701,600</b>	<b>\$6,347,155</b>	<b>\$7,063,417</b>