



ANNUAL REPORT 2016



ALLEGHENY COUNTY SANITARY AUTHORITY ANNUAL REPORT

AS OF DECEMBER 31, 2016



CONTENTS

A MESSAGE FROM THE EXECUTIVE DIRECTOR	2
BOARD OF DIRECTORS	3
FINANCE AND ADMINISTRATION	4
ENVIRONMENTAL COMPLIANCE	6
ENGINEERING AND CONSTRUCTION	8
OPERATIONS AND MAINTENANCE	10
REGIONAL CONVEYANCE	12
COMMUNICATIONS	14
SERVICE AREA	16
FINANCIAL STATEMENTS	17
ALCOSAN AT A GLANCE	20

ALCOSAN is one of the region's premier environmental and public health organizations, treating wastewater for 83 Allegheny County communities, including the City of Pittsburgh. The authority, which is Green by Mission and Green by Choice, enhances the community's quality of life and safety. ALCOSAN's 59-acre treatment plant processes up to 250 million gallons of wastewater daily and is one of the largest such facilities in the Ohio River Valley.

This report was prepared by ALCOSAN staff and produced by the authority's Public Relations Department.

Editor: Susan Mannella
Designer: Michael Anthony

A MESSAGE FROM THE EXECUTIVE DIRECTOR



Arletta Scott Williams
Executive Director
ALCOSAN

ALCOSAN built a solid foundation for the future during 2016. Although much of the work was invisible to the public, getting it right is the key to success.

The authority made significant progress in negotiations for important revisions to ALCOSAN's Clean Water Plan. I expect us to move forward during 2017 on mandated changes because of the extensive discussions that we conducted in 2016 involving key authority personnel, our member municipalities and our federal, state and county regulators.

Preparations for the planned expansion of the treatment facility, which is a key component of the Clean Water Plan, took two forms during 2016. The \$29 million upgrade of the main pump station, which increases the plant's treatment capacity, was completed, and construction of a new vehicle maintenance facility was almost ready for occupancy.

ALCOSAN prepared two major initiatives for launch in 2017, one geared toward our municipalities and the other intended for residential ratepayers. The Green Revitalization of Our Waterways program provides grants so municipalities can afford projects that will reduce flow into the collection system. The Clean Water Assistance Fund provides help for families who need it to pay their wastewater treatment bills.

This 2016 annual report gives a synopsis of that work and other highlights of 2016. In addition, it includes a letter and financial statements prepared by our auditors, attesting to ALCOSAN's sound fiscal practices.

I am very proud of the service that ALCOSAN provides every day, 24 hours a day. I hope you'll enjoy reading about it and that you'll remember to join me at our annual Open House on September 16, 2017.

BOARD OF DIRECTORS



Chairman John K. Weinstein with mascot Frankie the Fish at ALCOSAN's 2016 Open House event

Incorporated under the Pennsylvania Municipal Authorities Act in 1946, ALCOSAN is governed by a seven-member board of directors - three appointed by the mayor of Pittsburgh, three appointed by the Allegheny County executive, and one joint city-county appointee - with each serving a five-year term.

2016 BOARD OF DIRECTORS

- **Chairman: John K. Weinstein**
*Treasurer
Allegheny County*
- **Vice-Chair: Sylvia C. Wilson**
*1st Vice President
Pittsburgh Board of Education*
- **Secretary: Harry A. Readshaw**
*Pennsylvania House of Representatives
District 36*
- **Treasurer: Jack Shea**
*President
Allegheny-Fayette Labor Council*
- **Corey O'Connor**
*Council Member
City of Pittsburgh*
- **Gregory Jones**
*Executive Director
Economic Development South*
- **Brenda Smith**
*Executive Director
Nine Mile Run Watershed Association*





FINANCE AND ADMINISTRATION



Director of Finance and Administration William Inks reviews expenditures with Karen McCarthy, Manager of Accounting

The mission of the Finance and Administration Division is the implementation and maintenance of sound fiscal policies, excellent customer service and safeguarding of the assets of the authority including funds, personnel and the physical plant. This division includes responsibility for management information systems, customer service and billing, purchasing, accounting, human resources, safety and security.

All of those departments were engaged in preparing for expanding needs for the future.

During 2016, ALCOSAN's Finance and Accounting departments solidified the

authority's fiscal picture with a sound investment for the future by refinancing the authority's Series 2007 bonds of \$112 million. The refinancing resulted in total gross savings of more than \$33 million for the authority. After consultation and study, BNY Mellon Capital Markets concluded that the authority avoided significant interest rate risk in a refinancing that it concluded was a "highly successful transaction."

Like most businesses, ALCOSAN is concerned about security – at its plant, in its vehicles and through its computer information systems. In 2016, ALCOSAN divided the department that previously handled safety and security into two sections, so that one manager could focus exclusively on safety – no small matter at a facility that utilizes complex processes to treat millions of gallons of wastewater each day – and another manager could be devoted to making sure that the most up-to-date measures are in place to protect employees and equipment.

Under the direction of the Board of Directors, the Customer Service and Billing Department created a program to help residential users pay their wastewater treatment bill. In October, the board hired Dollar Energy Fund Inc. to administer ALCOSAN's Clean Water Assistance Fund. Dollar uses the best practices employed by other utility customer assistance programs here and across the nation. This cost-efficient service was designed to make the program as easy as possible for billing agencies and municipalities.

The fund provides a credit of \$30 per quarter to qualifying families and individuals.

Dozens of social service agencies that partner with Dollar Energy have been trained to handle applications from homeowners, and tenants who have water/sewer bills in their own names, in the ALCOSAN service area. They must provide a copy of a bill, the Social Security numbers for all members of the household and monthly or annual income that is 150 percent or less than the poverty guidelines set the by federal government. For example, \$36,900 per year for a family of four.

CLEAN WATER ASSISTANCE FUND BY THE NUMBERS

ELIGIBILITY LIMITS BY HOUSEHOLD SIZE

MONTHLY INCOME	ANNUAL INCOME
\$1,508	\$18,090
\$2,030	\$24,360
\$2,553	\$30,630
\$3,075	\$36,900
\$3,598	\$43,170
\$4,120	\$49,440
\$4,643	\$55,710
\$5,165	\$61,980

For households with more than eight members, add \$522.50 per month or \$6,270 per year for each additional person

37

SOCIAL SERVICE AGENCIES
ACCEPTING CLEAN WATER ASSISTANCE
FUND APPLICATIONS

83

MUNICIPALITIES SERVED BY
ALCOSAN'S CLEAN WATER
ASSISTANCE FUND

\$30

AMOUNT CREDITED TO ELIGIBLE
RESIDENTIAL HOMEOWNERS
EVERY THREE MONTHS

alcosan green



ENVIRONMENTAL COMPLIANCE



ALCOSOIL, a lime-treated soil amendment produced from biosolids, is applied at land reclamation sites and farms, like this location in Belmont County, Ohio

ALCOSAN operates under federal, state and local regulations, and it is the responsibility of the Environmental Compliance Division to ensure that permit requirements are met, the byproducts of wastewater treatment are either reused or disposed of properly, and industries under its jurisdiction are inspected.

Because it is the primary contact point for regulators, the division was actively involved during 2016 in ongoing talks in the development of an updated Clean Water Plan for the region.

In addition, its mission is to see that ALCOSAN meets its requirements to regulate

both what leaves the plant in the form of treated wastewater and air emissions and what enters the treatment plant from its municipal and industrial customers.

An efficient operation is in place in the division for monitoring ALCOSAN facilities as well as overseeing some businesses and facilities – manufacturers and hospitals, for example - that discharge certain industrial pollutants or large volumes of wastewater. ALCOSAN can issue fines for violations and assesses surcharges based on usage. It also inspects, on a temporary basis, groundwater remediation projects such as those at construction sites.

To accomplish all of this, ALCOSAN's Laboratory Department conducted 30,000 tests during 2016 and outsourced several hundred more that could not be performed on site. A successful audit of the lab's operations was completed in April.

A major innovation in 2016 was changing to a cleaner-burning fuel to power ALCOSAN's incinerator. As a result, air emissions dropped dramatically. Of the 23 pollutants that ALCOSAN reports, all but four showed significant declines from 2015 to 2016. In the case of most

airborne releases, the drop was 7.6 percent, but the improvements were most profound for carbon monoxide and nitrogen dioxide.

Carbon monoxide emissions fell by 3.7 tons, or 73 percent, and nitrogen dioxide fell by 76 tons, or 93 percent.

**CLEANER-BURNING
INCINERATOR FUEL
RESULTED IN A**

**73% DECREASE IN CARBON
MONOXIDE EMISSIONS**

**AND A 93% DECREASE IN NITROGEN
DIOXIDE EMISSIONS
FROM 2015 TO 2016**



That step is one of many taken that brought environmental benefits including energy savings and reuse, extensive recycling and the production of ALCOSOIL, a soil amendment developed by ALCOSAN that is used in mine reclamation projects and on crop farms.

The division's Residuals Department continued to demonstrate leadership. In 2016, it was honored by the Pennsylvania Resources Council with a "Zero Waste" award for efforts to divert waste during the annual Open House. During the September 17, 2016, environmental festival, ALCOSAN diverted 98 percent of the waste generated, an impressive feat particularly because 2,328 people attended.



**MIXED RECYCLING: 75.5 LBS.
CARDBOARD: 220 LBS.
PLASTIC FILM: 82.5 LBS.
NITRILE GLOVES: 14 LBS.
COMPOSTABLES: 6,240 LBS.
TRASH: 96 LBS.**

Also in 2016, the Industrial Waste Department continued working to electronically connect the department so that employees can use laptops to send photographs and data back to the plant in real time. Eventually, employees who collect samples will also be able to share that information among themselves and access live data from sampling locations throughout the service area.



Industrial Waste samplers use new technology to monitor and record sampling data at an industrial site in McKees Rocks



ENGINEERING AND CONSTRUCTION



Upgrades to the main pump station included installation of six new pumps, replaced one at a time to maintain operations

The Engineering and Construction division is responsible for engineering planning, design and project management, administering public bidding procedures, maintaining all engineering and construction-related records and providing technical assistance for compliance with local regulations. The work of the division involves the use of consulting engineering firms for projects within the ALCOSAN plant.

During 2016, Engineering established an organizational structure for the changes that will be required under ALCOSAN's Clean Water Plan in order to efficiently solicit and award contracts going forward. It was developed after ALEM, the Fox Chapel consulting firm, was hired in 2015 as ALCOSAN's owner representative. In 2016,

the Board of Directors hired CDM Smith of the North Side as program director and approved a three-year contract with ARCADIS of Pine Township, which will serve as program manager for the planned \$300 million plant expansion.

The two largest projects of 2016 were the renovation and upgrades to the main pump station at ALCOSAN and construction of a new vehicle maintenance facility.

Engineering on the main pump station began in 2010, and the construction project started in 2012. This fundamental and complex \$29 million project expanded the capacity of the pump station from 250 million gallons per day to 480 million gallons per day.

In order to replace the six inlet valves, divers had to descend into the wet well to install stop logs and cofferdams so work could proceed. Each of the valves, weighing 21,000 pounds apiece, was replaced one at a time using a crane to hoist them out through the roof and then put the new ones in place. Likewise, each of the six pumps and motors also were replaced one at a time so operations could be maintained. New power feeds, controls and air handling and chillers also were installed.

The second major project of 2016 was the new maintenance facility, which moved from the drawing board to its home just outside the plant gate, opposite ALCOSAN's Customer Service and Training building. What had been a nearly clear site in the beginning of 2016 was nearing completion by the end of the year.

The facility includes three buildings. The two-story maintenance garage will house 11 working bays, including five with vehicle lifts that have a capacity of 10,000 to 60,000 pounds. The building also will contain offices, storage areas, restrooms and an employee break room. Solar panels on the roof will partially power the facility, another feature of ALCOSAN's green-first, environmentally sound approach.

A second building will be able to house 14 Regional Conveyance utility trucks, and it has a vegetated roof. The third will have parking capacity for six vacuum and water trucks used to maintain ALCOSAN's facilities.



EXISTING PLANT PROJECTS	2016 EXPENDITURES	TOTAL ESTIMATED PROJECT COST
Main Pump Station Upgrade	\$2,246,834	\$29,800,000
Biosolids Strategic Plan	\$0	\$1,525,600
Laboratory Facilities Improvements	\$0	\$4,500,000
Return Activated Sludge Pump Replacement	\$78,425	\$382,100
Plant Energy Efficient Upgrades	\$67,846	\$2,319,000
Demineralization System Replacement	\$144,267	\$2,000,000
Energy Recovery Facility Improvements (2016-2017)	\$58,904	\$1,000,000
Plant Facilities and Safety Upgrades (2016-2017)	\$1,751,640	\$2,400,000
Subtotal Existing Plant Projects	\$4,347,916	\$43,926,700
EXISTING INTERCEPTOR SYSTEM PROJECTS	2016	TOTAL
Grit Chambers	\$10,890	\$764,100
PennDOT Bridge and Highway Improvements	\$891,749	\$2,191,000
Sewer Improvement Contract	\$132,168	\$790,000
Squaw Run FM Replacement	\$37,813	\$1,696,800
Sewer Rehabilitation (Library Road and Verona PS)	\$233,968	\$6,857,000
New ALCOSAN Push Boat, Barge and Crane	\$1,763,527	\$4,250,000
Flap Gate Improvements at Various Locations	\$198,198	\$2,765,000
Conveyance Rehab and Enhancements (2016-2017)	\$271,230	\$3,330,000
Subtotal Existing Interceptor System Projects	\$3,539,541	\$22,643,900
GREEN INFRASTRUCTURE PROJECTS	2016	TOTAL
Sheraden Park WRDA Sec. 206	\$382,613	\$892,500
Ravine St. Stream Removal and Sewer Separation	\$13,606	\$3,089,000
Four Mile Run DSI Removal and System Improvements	\$92,128	\$3,573,000
Source Control - Municipal Green Infrastructure Projects	\$185,674	\$44,021,000
Subtotal Green Infrastructure Projects	\$674,020	\$51,575,500
MUNICIPAL I&I REDUCTION PROJECTS	2016	TOTAL
Source Control-Municipal Infiltration & Inflow Reduction	\$64,599	\$44,021,000
Municipal Source Control Evaluation Program	\$62,700	\$11,637,000
Subtotal I&I Reduction Projects	\$127,299	\$55,658,000
WET WEATHER - PLANT EXPANSION PROJECTS	2016	TOTAL
New Vehicle Maintenance Garage	\$6,859,232	\$11,000,000
Wet Weather Plant Expansion Program	\$359,607	\$11,637,000
Subtotal Wet Weather Plant Expansion Projects	\$7,218,839	\$25,000,000
WET WEATHER PLAN - REGIONAL PROJECTS	2016	TOTAL
Wet Weather Advance Facilities Plan & Program Support	\$243,319	\$12,500,000
Regionalization	\$6,552,758	\$17,155,000
Interim Wet Weather Planning Compliance	\$1,723,525	\$9,500,000
Subtotal Interim Wet Weather Plan Regional Projects	\$8,519,601	\$39,155,000
OTHER CAPITAL PROJECTS	2016	TOTAL
Mobile Equipment (2016)	\$935,915	\$1,008,000
2016 Low Cost Capital Improvements	\$1,295,870	\$1,943,900
Subtotal Other Capital Projects	\$2,249,785	\$2,951,900
TOTAL 2016 CAPITAL PROGRAM	\$26,677,002	\$240,911,000

OPERATIONS AND MAINTENANCE



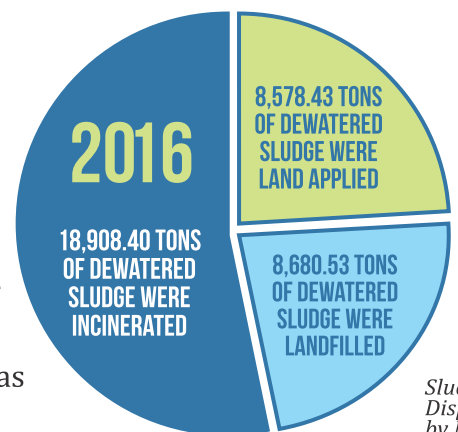
ALCOSAN operators use a distributed control system to monitor treatment processes and maintain an average daily flow of 195 million gallons

The work of ALCOSAN's Operations and Maintenance Division is a 24/7 responsibility. The employees of the division assure continuous, cost-effective operation and maintenance of all treatment plant equipment and facilities and its collection system in order to meet permit requirements and environmental standards.

The best way to sum up the ongoing work of the division is in the numbers, and the most encouraging one in 2016 was the number zero. Not only is zero the number of violations of environmental air, water and solid waste permit limits, but it is also the number of complaints ALCOSAN received about odors emanating from the plant. That's an extraordinary change since new controls

were put into place in the early 2000s. Before those improvements were made, ALCOSAN typically received several dozen complaints annually. Like 2016, years 2013 and 2014 also went without a complaint, and only one was received in 2015.

Most of the other significant numbers for Operations and Maintenance are big ones. More than 71 billion gallons of wastewater were collected, treated and discharged back into the Ohio River in 2016, with an average daily flow of 195 million gallons per day. Approximately 66 million pounds of solid waste pollution was removed from wastewater during the treatment process. Approximately 38 million pounds of that solid waste was



Sludge Disposal by Method

used as a fuel source for a process that includes heat recovery and supplying various internal heating needs. The remaining material was processed separately to be landfilled or applied as a soil amendment for agricultural purposes and mine reclamation.

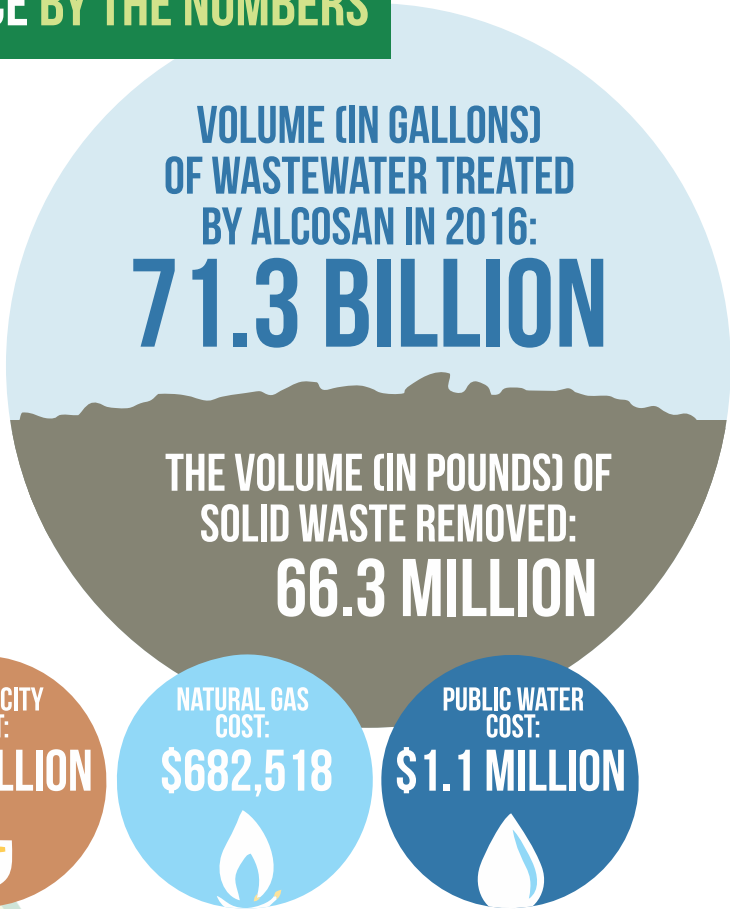
With all of the equipment necessary to provide the required treatment comes a maintenance component that is just as critical. In 2016, there were almost 4,000 equipment work orders generated for the more than 8,000 pieces of equipment tracked in the maintenance software system. Several completed and ongoing initiatives that directly involved plant personnel were upgrades to the entire return activated sludge pumping system, retrofitting all 72 primary basin gate operators and switching much of the plant lighting systems to an efficient LED type.

The division is also responsible for providing formal wastewater education and training to various plant personnel for general wastewater education, operator qualification and continuing education. In 2016, more than 1,000 employee-hours of education were provided. Annually the treatment plant also opens its doors to a variety of visitors interested in ALCOSAN and touring the wastewater treatment process. More than 60 groups and 1,100 individuals visited the plant for tours, in addition to more than 1,000 people who toured the plant during the annual Open House on September 17.

PLANT OPERATIONS & MAINTENANCE BY THE NUMBERS

CHEMICAL USAGE

- LIME: 3,578 TONS
- POLYMER: 920,680 LBS.
- SODIUM HYPOCHLORITE: 1,308,465 GAL.
- CAUSTIC SODA: 451,260 LBS.
- HYDROCHLORIC ACID: 33,600 LBS.
- SULFURIC ACID: 33,600 LBS.
- SODIUM BISULFITE: 1,042,473 LBS.
- DIESEL FUEL: 27,342 GAL.
- #2 HEATING OIL: 16,898 GAL.



REGIONAL CONVEYANCE



A Regional Conveyance employee inspects flow monitoring equipment

The fundamental mission of ALCOSAN's Regional Conveyance Division is the management, operation and maintenance of the interceptor systems and sewer service provided to its 83 municipal customers and development of plans and policies for compliance with regulations related to combined sewer overflows and sanitary sewer overflows.

ALCOSAN has more than 300 diversion structures, including weirs, tipping gates and flap gates. They are checked to be sure they are clear of debris three times a week or within 48 hours of a rain event. The division has ongoing responsibility for repairs and replacements as well as sewer cleaning. In addition, the Interceptor Department is

responsible for display of flags notifying river users of a combined sewer overflow in spring and summer.

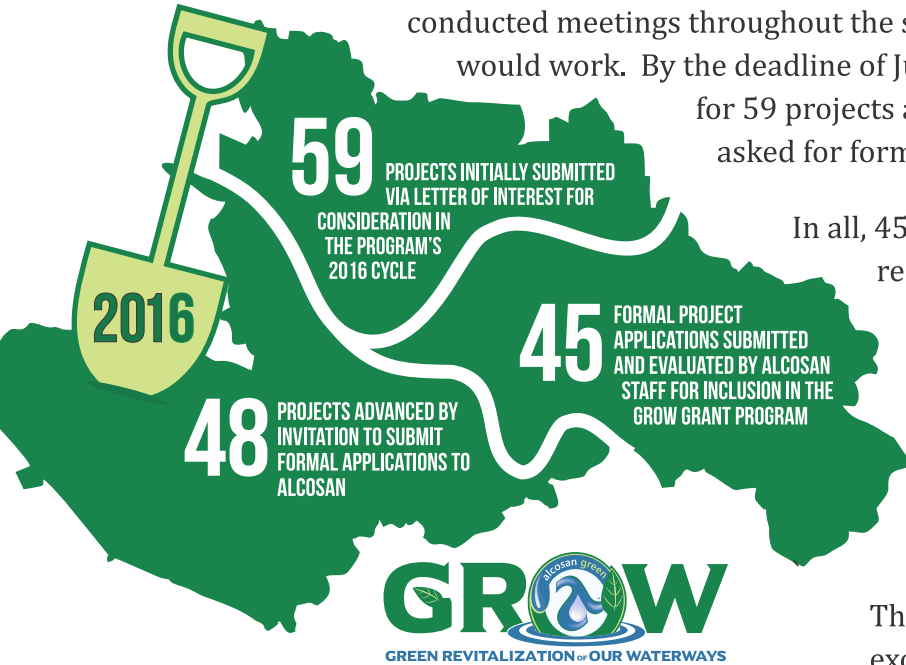
The Planning Department has been focused on negotiations that precede a revised Consent Decree and preliminary planning for deep tunnels it may require.

Two major initiatives were ongoing during 2016, the development of the Green Revitalization of Our Waterways (GROW) grant program for member municipalities and authorities and ALCOSAN's ongoing regionalization effort.

Early in 2016, in order to advance its green-first approach for dealing with overflows, the ALCOSAN Board of Directors created GROW, which provides financial and technical assistance to customer

municipalities and sewer authorities for stormwater and groundwater reduction projects that will stop excess water from entering the sewer collection system. These actions will lead to lower flows into the ALCOSAN system and help comply with federal, state and county regulations.

Source control projects may consist of green stormwater, stream removal, inflow and infiltration reduction and sewer separation. In June, the rollout to municipalities and authorities began, and staff conducted meetings throughout the service area to explain how the program would work. By the deadline of July 31, letters of interest had been submitted for 59 projects across the service area. From those, ALCOSAN asked for formal applications for 48 projects.



In all, 45 applications were filed, and the staff spent the remainder of 2016 evaluating them based on criteria that included the number of gallons of flow removed from the system, the cost per gallon and other associated benefits. Awards were scheduled for early 2017, and a second funding cycle would begin on February 1, 2017.

The Regionalization Department also made excellent progress during 2016 on its comprehensive closed circuit television

examination of the condition of municipal sewers, along with their associated manholes, that are being considered for transfer to ALCOSAN.

Seventy-five of ALCOSAN's 83 municipalities have facilities that could be transferred. As of August 2016, 318 miles of sewers had been identified – 196 miles initially estimated by ALCOSAN, 67 more miles considered eligible based on information received from municipalities, and 55 additional miles that have been requested by the municipalities.

The CCTV inspection was divided into sectors – a pilot area in eastern Allegheny County communities, Phase 1 in the Chartiers Creek area, Phase 2 in the Ohio/North Allegheny region, Phase 3 in the Saw Mill Run area and other parts of the City of Pittsburgh, and Phase 4 in eastern municipalities not included in the pilot.

By year's end, the pilot area has been completed, 71 percent of Phase 1 was completed and 24 percent of Phase 2. Work in Phases 3 and 4 was expected to begin in early 2017, and additional phases may be necessary going forward. The work is an essential component in creating a comprehensive data management system, which will be used to prioritize both short-and long-term repairs based on defects, locations and the impact on the overall system.





COMMUNICATIONS



Open House visitors experience a guided tour of the treatment plant, a popular staple of ALCOSAN's signature annual event

The mission of the Communications Division is to educate and inform the public, elected officials and administrators about the work that ALCOSAN performs in its 83 member municipalities. This work takes three forms – public relations, municipal relations and scholastic outreach and education – and all three departments extended their reach during 2016.

The largest public event each year is ALCOSAN's Open House, which requires contributions from all departments at the authority, as well as its vendors, consultants and supporters. Attendance of 2,328 on September 17, 2016, set a record.

A new event in the ALCOSAN lineup for 2016 was participation in the Three Rivers Regatta and sponsorship of its Lighted Boat Parade. Frankie the Fish was in the bow, waving to spectators on the shore in a tug that was decked out in sparkle lights for the occasion.

Because a goal in communicating with the public is to highlight programs and people that make ALCOSAN a success, two notable accolades were particularly gratifying. In November, Executive Director Arletta Scott Williams received the Greater Pittsburgh YWCA's Racial Justice Award for business and professional service, and Harry Readshaw, a member of ALCOSAN's board for 20 years and its former chair, received the Sahli Service Award from the Pennsylvania Municipal Authorities Association.

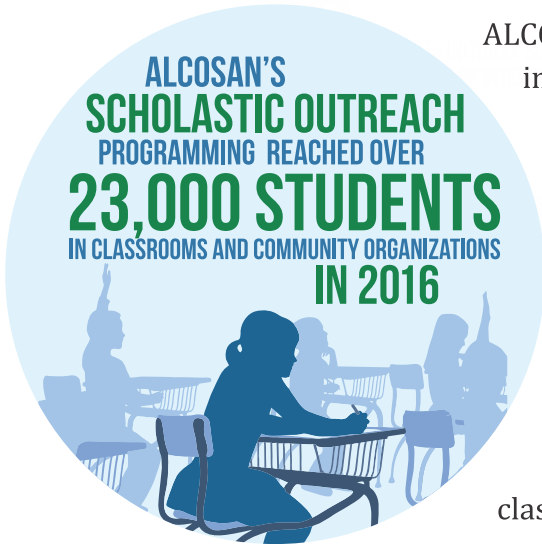
Much of the work in communications was laying the groundwork for a major public campaign, which is set to launch in 2017.

The 2016 work of the Municipal Relations and Outreach Department likewise established a solid base, one of cooperation between ALCOSAN and the 83 municipalities that it serves. The Municipal Relations team significantly increased its outreach by meeting regularly with elected and administrative municipal officials, and that effort will continue in 2017. The team's work as a conduit for information both to and from the communities served by ALCOSAN is an essential component of the authority's development of a Clean Water Plan for the region.

Both Municipal Outreach and Public Relations participated in the rollout of the Green Revitalization of Our Waterways grant program and the Clean Water Assistance Fund.

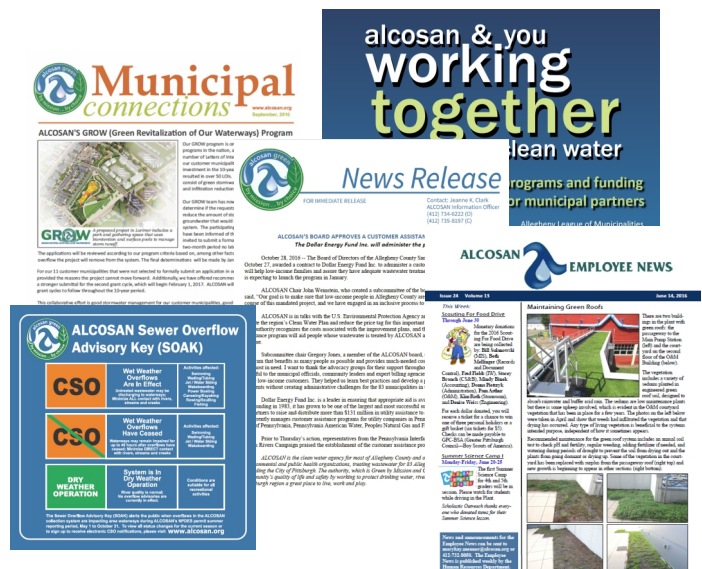
ALCOSAN's Scholastic Outreach and Education Department provides an important function: Its staff of professional educators teaches young people the importance of clean water for the health of the region. Two innovations during 2016 extended the program's reach, to preschoolers and to high school students through a new summer program.

2016 was the first full calendar year when staff gave classroom presentations at preschools. A Frankie the Fish hand puppet was added to the tools used to teach preschoolers important lessons about the environment. In all, educators from ALCOSAN visited classrooms, from preschool through grade 12, in 28 school districts.



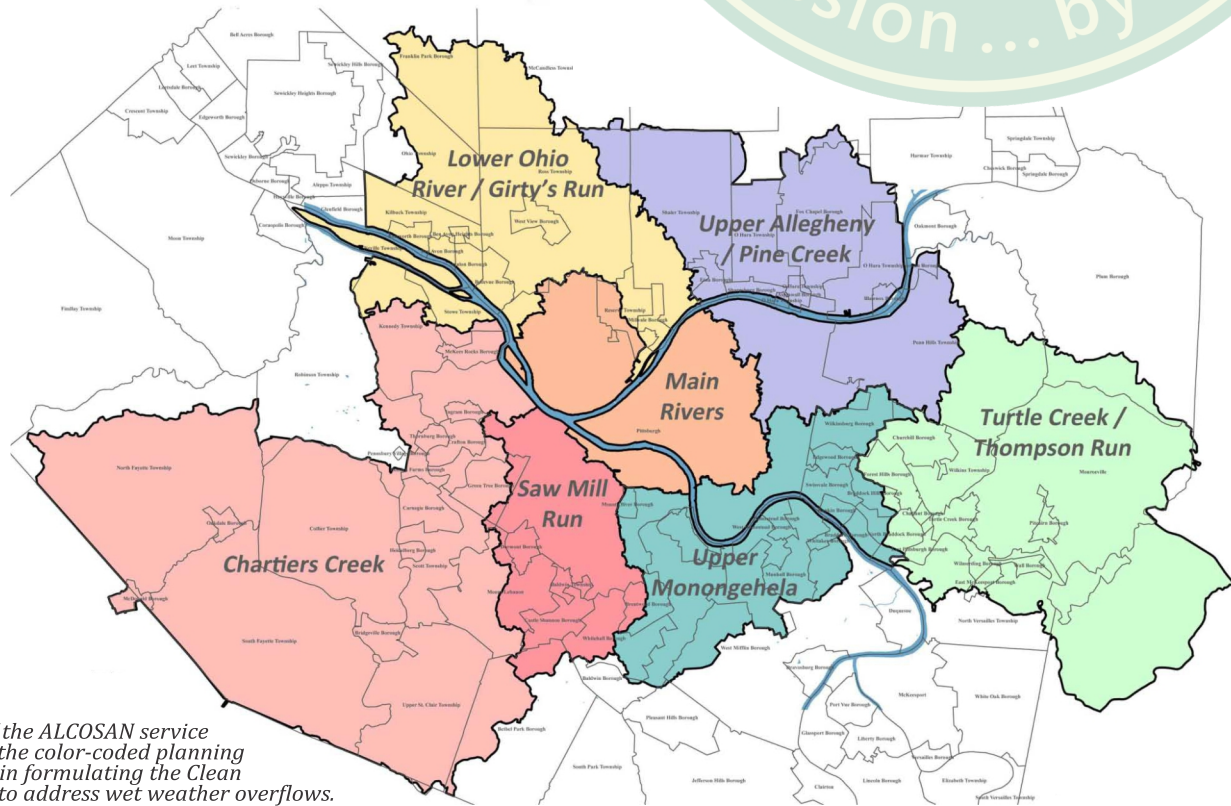
The popular Summer Science day camps continued for students in grades four through eight, and in 2016, the Clean Water Academy was introduced for high school students. During the free, weeklong program, students toured ALCOSAN's plant and its onsite laboratory, focused on microbiology, engineering and chemistry, and conducted experiments in a university laboratory.

In addition, ALCOSAN staff exposed high school students to STEM and skilled trade careers through the Workforce and Vocational Exploration program. Staff members led activities at five high schools after the school day, and students participated in hands-on workshops on Saturdays during the school year.



Ramped-up outreach efforts continued through 2016, including increased use of electronic communications and robust interaction with communities and municipal partners

ALCOSAN SERVICE AREA



This map of the ALCOSAN service area shows the color-coded planning basins used in formulating the Clean Water Plan to address wet weather overflows.

Customer Municipalities

Aspinwall Borough
 Avalon Borough
 Baldwin Borough*
 Baldwin Township
 Bellevue Borough
 Ben Avon Borough
 Ben Avon Heights Borough
 Bethel Park*
 Blawnox Borough
 Braddock Borough
 Braddock Hills Borough
 Brentwood Borough
 Bridgeville Borough
 Carnegie Borough
 Castle Shannon Borough
 Chalfant Borough
 Churchill Borough
 Collier Township*
 Crafton Borough
 Dormont Borough
 East McKeesport Borough*
 East Pittsburgh Borough

Edgewood Borough
 Emsworth Borough
 Etna Borough
 Forest Hills Borough
 Fox Chapel Borough*
 Franklin Park Borough*
 Green Tree Borough
 Heidelberg Borough
 Homestead Borough
 Indiana Township*
 Ingram Borough
 Kennedy Township
 Kilbuck Township
 McCandless Township*
 McDonald Borough
 McKees Rocks Borough
 Millvale Borough
 Monroeville
 Mt. Lebanon
 Mt. Oliver Borough
 Munhall Borough
 Neville Township

Munhall Borough
 Neville Township
 North Braddock Borough
 North Fayette Township*
 North Huntingdon Twp.*
 North Versailles Township
 O' Hara Township
 Oakdale Borough
 Ohio Township*
 Penn Hills*
 Penn Township*
 Peters Township*
 Pitcairn Borough
 Pittsburgh, City of
 Pleasant Hills Borough*
 Plum Borough*
 Rankin Borough
 Reserve Township
 Robinson Township*
 Ross Township
 Rosslyn Farms Borough
 Scott Township

Shaler Township
 Sharpsburg Borough
 South Fayette Township
 Stowe Township
 Swissvale Borough
 Thornburg Borough
 Trafford Borough
 Turtle Creek Borough
 Upper St. Clair Township
 Verona Borough*
 Wall Borough
 West Homestead Borough
 West Mifflin Borough*
 West View Borough
 Western Westmoreland
 Municipal Authority*
 Whitaker Borough
 Whitehall Borough
 Wilkins Township
 Wilkinsburg Borough
 Wilmerding Borough

*Communities not served in their entirety



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Independent Auditor's Report

Board of Directors
Allegheny County Sanitary Authority

The accompanying summary financial statements of the Allegheny County Sanitary Authority (Authority), Pennsylvania, as of and for the years ended December 31, 2016 and 2015, and the related notes, as listed in the table of contents are derived from the audited financial statements of the Authority, as of and for the years ended December 31, 2016 and 2015, and the related notes. We expressed an unmodified audit opinion on those audited financial statements in our report dated March 21, 2017.

The summary financial statements do not contain all the disclosures required by accounting principles generally accepted in the United States of America. Reading the summary financial statements, therefore, is not a substitute for reading the audited financial statements of the Authority.

Management's Responsibility for the Summary Financial Statements

Management is responsible for the preparation of the summary financial statements on the accrual basis of accounting.

Auditor's Responsibility

Our responsibility is to express an opinion about whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which were conducted in accordance with auditing standards generally accepted in the United States of America. The procedures consisted principally of comparing the summary financial statements with the related information in the audited financial statements from which the summary financial statements have been derived, and evaluating whether the summary financial statements are prepared in accordance with the accrual basis of accounting.

Opinion

In our opinion, the summary financial statements of the Authority as of and for the years ended December 31, 2016 and 2015 referred to above are consistent, in all material respects, with the audited financial statements from which they have been derived, on the accrual basis of accounting.

Maher Duessel

Pittsburgh, Pennsylvania
March 21, 2017

FINANCIAL STATEMENT

CONDENSED STATEMENTS OF NET POSITION DECEMBER 31, 2016 AND 2015

Cash and Cash Equivalents

These balances represent unrestricted assets that the Allegheny County Sanitary Authority (Authority) can use at its discretion.

Accounts Receivable

Accounts receivable represent funds owed to the Authority for fees billed and unbilled to users that have not yet been paid.

Restricted/Designated Cash and Investments

Restricted cash and investments are primarily comprised of funds provided by bond issuances that are unspent and are to be used by the Authority to implement its capital improvement plan. Designated cash and investments are to be used for specific purposes specified by management.

Property, Plant, & Equipment, Net

Property, plant, and equipment, net, such as incinerators, administrative buildings, and land are items used to provide the Authority's services.

Sewer Revenue Bonds

Sewer revenue bonds represent amounts that will be paid over future years. The proceeds of these bonds were/will be used to fund capital improvements.

Deferred Outflows of Resources

Deferred inflows of resources are comprised of the refunding adjustment on bonds issued in prior years and changes in the pension funds.

Deferred Inflows of Resources

Deferred inflows of resources are comprised of changes in the pension funds.

	<u>2016</u>	<u>2015</u>
Assets		
Cash and cash equivalents	\$ 91,684,772	\$ 72,901,655
Accounts receivable	50,027,856	48,745,726
Restricted/designated cash and investments	123,874,561	140,668,483
Property, plant, and equipment, net	595,367,416	586,253,037
Other	13,335,703	18,748,603
Total Assets	<u>874,290,308</u>	<u>867,317,504</u>
Deferred Outflows of Resources		
Related to pensions	19,454,240	8,803,215
Refunding adjustment	9,259,327	7,712,231
Total Deferred Outflows of Resources	<u>28,713,567</u>	<u>16,515,446</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 903,003,875</u>	<u>\$ 883,832,950</u>
Liabilities		
Accounts payable and accrued expenses	\$ 23,657,698	\$ 21,626,327
Net pension liability	10,265,284	2,866,938
Sewer revenue bonds	651,449,841	675,623,092
Total Liabilities	685,372,823	700,116,357
Deferred Inflows of Resources		
Related to pensions	4,102,436	5,424,961
Net Position	<u>213,528,616</u>	<u>178,291,632</u>
Total Liabilities, Deferred Inflows of Resources, and Net Position	<u>\$ 903,003,875</u>	<u>\$ 883,832,950</u>



CONDENSED STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2016 AND 2015

	<u>2016</u>	<u>2015</u>
<u>Operating Revenues</u>	\$ 151,390,618	\$ 142,826,497
<u>Operating Expenses:</u>		
Sewer treatment operations	51,303,695	48,120,193
Administrative and other	<u>19,287,066</u>	<u>15,439,433</u>
Total operating expenses before depreciation	70,590,761	63,559,626
Depreciation	<u>21,271,326</u>	<u>20,127,859</u>
Operating Income	<u>59,528,531</u>	<u>59,139,012</u>
<u>Non-Operating Revenues</u>	310,794	2,419,230
<u>Non-Operating Expenses</u>	<u>(24,602,341)</u>	<u>(26,620,214)</u>
Change in Net Position	35,236,984	34,938,028
<u>Net Position:</u>		
Beginning of year	<u>178,291,632</u>	<u>143,353,604</u>
End of year	<u>\$ 213,528,616</u>	<u>\$ 178,291,632</u>

Operating Revenues and Expenses

Operating revenues are primarily fees received from users to cover the total operating expenses associated with the services provided by the Authority

Non-Operating Revenues and Expenses

Non-operating revenues are primarily received from interest earned on restricted cash and investments, as well as pension adjustments. Non-operating expenses are primarily interest paid on bonds.

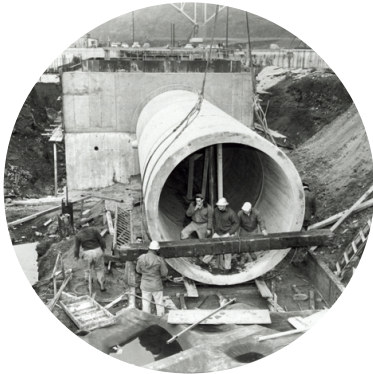
Independent Audit

Section 8 of the Municipality Authority Act of 1945 requires an annual audit by independent certified public accountants. The accounting firm of Maher Duessel, Certified Public Accountants, was selected by the Authority's Board of Directors. The audit was performed without any limitations as to scope and resulted in an unqualified opinion being rendered. A copy of the audit report is available for inspection at the Authority's administrative offices.

Closing Remarks

This report provides a snapshot of the financial position and activity of the Authority. Management has taken significant measures over the past several years to maintain and improve both the financial condition and operational efficiency of the Authority while maintaining competitive user rates.

ALCOSAN AT A GLANCE



HISTORY

ALCOSAN was created under the Pennsylvania Municipal Authorities Act in 1946 to design, construct and operate an interceptor system and treatment plant for residential, commercial and industrial wastewater. The plant went into service in 1959 as a primary treatment facility. As national environmental awareness grew, it became clear that primary treatment was insufficient in meeting increasing river quality standards. The design of secondary (biological) treatment processes began in the late 1960s and operation of the secondary treatment plant commenced in 1973.

SERVICE

ALCOSAN maintains approximately 90 miles of interceptor sewers that convey wastewater from municipal sewer systems to the 59-acre treatment plant on Pittsburgh's North Side. The service area extends over 310 square miles and provides wastewater treatment to approximately 314,000 people in 83 municipalities, including the City of Pittsburgh. Plant treatment capacity is 250 million gallons per day, with an average daily flow of 195 million gallons and a total processing time of nine to 12 hours.



PEOPLE

ALCOSAN employs approximately 400 people, with 113 employees designated as salaried, including directors, managers, first-line supervisors and professionals such as engineers. The rest of the workforce is made up of members of the Utility Workers Union of America Local 433 and a security staff represented by the General Teamsters, Chauffeurs and Helpers Local 249. Most ALCOSAN employees work Monday through Friday, with Operations Department personnel and security staff working a rotating shift schedule. Senior staff includes:

Arletta Scott Williams, Executive Director

Arthur Tamilia, Director of Environmental Compliance

William Inks, Director of Finance & Administration

David Borneman, P.E., Director of Engineering & Construction

Jan Oliver, Director of Regional Conveyance

Douglas Jackson, Director of Operations & Maintenance

Jeanne K. Clark, Public Information Officer

Suzanne Thomas, Procurement Officer



ALCOSAN BY THE NUMBERS

- AUTHORITY CREATED: 1946
- PLANT BEGAN SERVICE: 1959
- EMPLOYEES: 395
- CUSTOMERS: 313,928
- MUNICIPALITIES SERVED: 83
- SERVICE AREA: 310 SQUARE MILES
- MILES OF SEWERS: 90
- PHYSICAL PLANT: 59 ACRES
- PLANT CAPACITY: 250 MILLION GALLONS PER DAY
- AVERAGE DAILY FLOW: 195 MILLION GALLONS
- DISCHARGE TO OHIO RIVER: 130,000 GALLONS PER MINUTE
- PROCESSING TIME: NINE TO 12 HOURS
- WET WELL DIMENSIONS: 40 FEET DIAMETER, 11 STORIES TALL
- SMOKESTACK HEIGHT: 300 FEET
- AVERAGE MONTHLY ELECTRIC BILL: \$478,533
- STEAM GENERATED TO HEAT: 24,000 POUNDS PER HOUR
- VISITORS TO 2016 OPEN HOUSE: 2,328



ALLEGHENY COUNTY SANITARY AUTHORITY
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