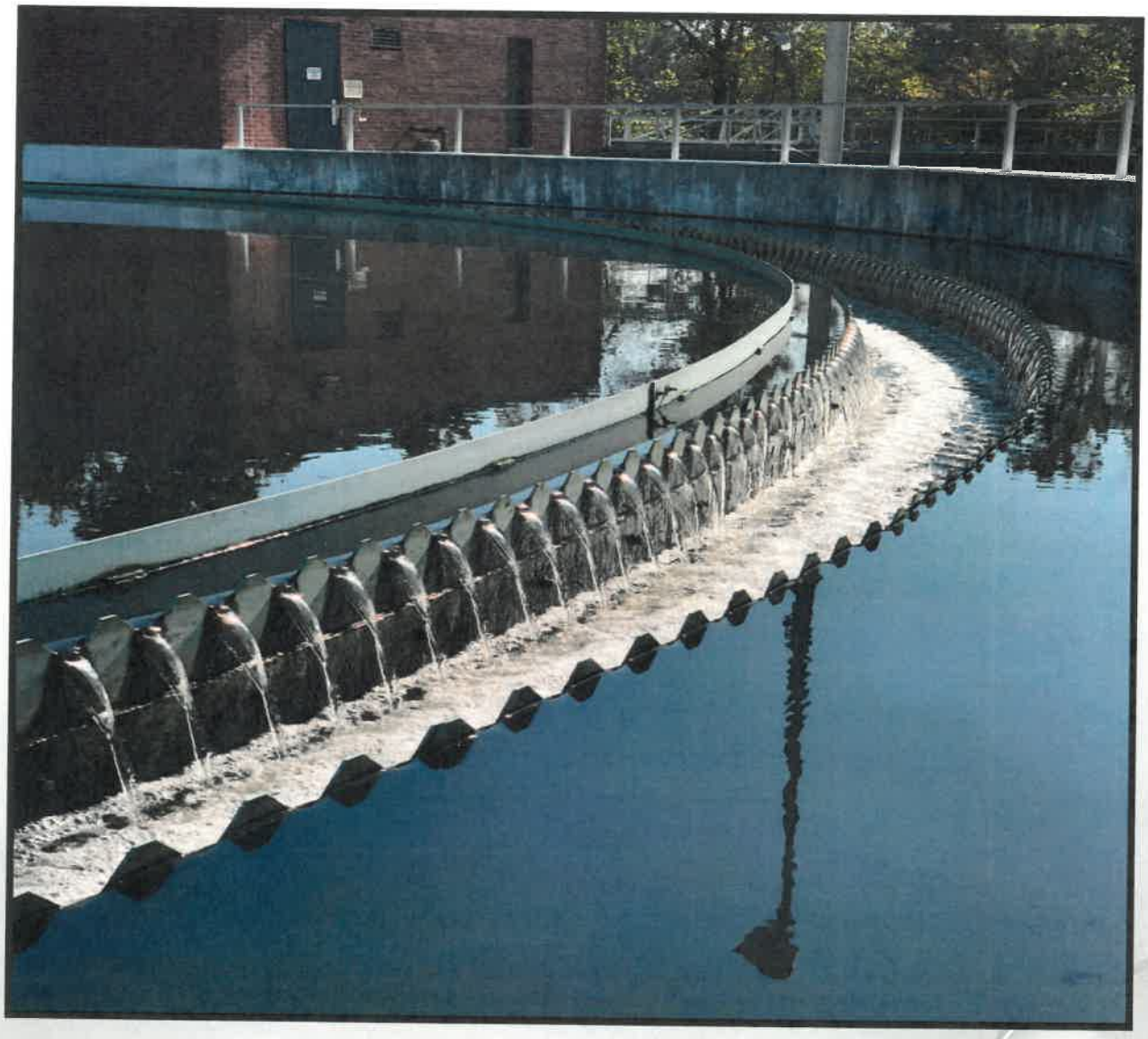
HAMILTON TOWNSHIP
WATER POLLUTION CONTROL



ANNUAL REPORT
2019

Hamilton Township
Department of Water Pollution Control
2019 Annual Report

Other industries focus on the finished product. We could call our facility a "Cleaner Water Facility" instead of dwelling on the s**t in the water.

Mission

The primary mission of the Hamilton Township Department of Water Pollution Control (WPC) is to protect the public and the environment by providing high quality wastewater utility service. WPC is dedicated to serving to serve the residents of Hamilton Township, Robbinsville Township and the commercial ratepayers of the WPC service area.

Facilities Overview

The Hamilton Township WPC was initially constructed in the late 1930's and underwent substantial upgrades in 1953, 1968, and 1975. WPC operates a regional wastewater treatment facility and collection system with an New Jersey Pollution Discharge Elimination System (NJPDES) permitted capacity of sixteen (16) million gallons per day (MGD), and a 2019 actual average daily flow of 7.8 MGD. Wastewater treatment plants are also known as water resource recovery facilities. The utility has been in operation for over 80 years and is currently serving over 100,000 residents from three municipalities; namely, Hamilton Township (Mercer County), Robbinsville Township and a few specific facilities in West Windsor Township. The facilities in West Windsor include the Mercer County Community College, the adjacent park facility and related outparcels. The Hamilton Township wastewater collection system includes 350 miles of sewer pipes and 28 pumping stations in its 40-square mile service area. Additionally, there are 23 privately owned and operated pump stations in Hamilton. WPC also provides the licensing, and operational and maintenance responsibilities for the ten (10) Robbinsville Township pump stations and receives compensation from Robbinsville for this service.

The approved Mercer County Wastewater Management Plan (WMP) includes a chapter for Hamilton Township wastewater management. In 2019, Mercer County submitted the updated draft of the WMP to the New Jersey Department of Environmental Protection (NJDEP). WPC's

facilities reside in the Assunspink, Crosswicks and Doctors Creek Watershed. Cleaned water from the plant, also known as effluent, is discharged to the Crosswicks Creek. The wastewater treatment plant produces secondary effluent using both trickling filter and rotating biological contactors processes. To reduce volume and thus save money, sludge is thickened, digested and then dewatered using belt filter presses. The sludge cake/grit/screenings are then hauled to the GROWS North Landfill located in Morrisville, Pennsylvania.

WPC is environmentally proactive by capturing methane to heat digested sludge, replacing all lighting within the plant to energy efficient lighting and converting mowed lawn to natural vegetation.

Overall Progress

In 2019, WPC continued its efforts toward optimizing plant operations, performing capital improvements and fortifying asset management. WPC continued to follow the recommendations established by the New Jersey Clean Water Council, which included a mandate for sustainable asset management. WPC followed the United States Environmental Protection Agency (USEPA) Capacity Assurance, Management, Operations and Maintenance (CMOM) approach to achieve this mandate. WPC continued to abide by the requirements of a large list of local, county, state and federal regulations; refer to page 13.

Like the rest of the United States relative to water and wastewater services, WPC faces the issue of an aging workforce and hiring personnel with suitable skills. Hamilton, however, believes strongly in investing in jobs. With this in mind, WPC continues to provide career training, foster a great-place-to-work environment, offer paid internships and examine succession planning alternatives. While protecting the public's health is WPC's first priority, the Township stands behind its employees with a generous health insurance package, an employee assistance program and the enrollment into the New Jersey pension program, among other benefits. The Township is also working toward a diversified workforce, with training to end harassment and discrimination in the work place.

Similarly, and also like the rest of the United States, WPC faces ageing infrastructure issues. With part of the plant and piping facilities still in operation since their original startup in the late 1930's, it is no wonder certain infrastructure needs to be replaced. While some have been replaced, it is time for some to be replaced again. The replacement or upgrade of aging infrastructure requires substantial money, thoughtfully planned over time, prioritizing our most critical needs first. Being proactive, is the safest, less expensive and can be planned. While emergency response is sometimes unavoidable, it is much more expensive, carries potential NJDEP fines and does not help instill public trust.

To help in evaluating infrastructure, a master plan study or long-range capital plan is slated to begin in 2019 and will take about a year to complete. It will include not only thorough inspections of our facilities, but it will also produce an estimated cost for each upgrade/replacement anticipated to be needed over the next twenty (20) years.

TRAISR is one of the computerized tools WPC uses daily to manage and map its assets, in addition to tracking work orders.

WPC infrastructure includes the piping collection system, some of it being over 80 years old. Age is only one factor used in prioritizing the need to repair, line or replace a pipe. Meanwhile, WPC continued to inspect, televise and test pipes to verify integrity. The force main break just downstream of the Yardville-Groveville Pump Station in the spring of 2019 spurred WPC to develop a more aggressive inspection schedule of its force mains.

WPC continued efforts to reduce spending where possible, especially due to the drastic cut in the 2019 approved operating budget. This included improving labor efforts, reducing energy and chemical use when possible, and evaluating methods to reduce paperwork by conducting more work electronically. For the last couple of years, electricity consumption, and therefore costs, have continued to go down. This year, it was due to two primary reasons, namely, Scrubbers #2 and #3 being offline for part of the year for construction upgrades, and Phase 2 of 3 of the plant lighting upgrades being completed. A sewer rate study is planned for 2020 to confirm whether or not a sewer rate increase is needed. WPC facilities are funded almost completely from sewer taxes plus a small amount received from connection fees. Hamilton's current sewer service rate was last increased in 2008, and is one of the lowest in the region. The resolution of issues with Robbinsville Township is also important and seem to be centered around outstanding payments and revising the contract.

In order to comply with environmental regulations, all aspects of WPC operations must be continuously monitored. One aspect of this monitoring includes taking wastewater and sludge samples from critical locations throughout the treatment plant. Daily lab analyses are performed 365 days per year on these samples to determine compliance with permit requirements. In the WPC state certified laboratory, personnel analyzed over 24,000 samples in 2019, not including more than 11,100 operational bench tests.

Although WPC received its NJPDES Permit renewal in 2015, additional sampling and analyses requirements from the Delaware River Basin Commission (DRBC) were received in October 2017. The 550 additional annual sampling requirements included mainly nutrient analyses. The costs associated with this effort will be over $20,000 per year, for two years, starting in March 2018 and ending in March 2020. The possible tightening of our NJPDES permit appears to pertain primarily to ammonia removal and is based on the on-going dissolved oxygen modeling of the Delaware River by the DRBC. If or when more stringent permit limits are required,

connection fees and user charges will be re-evaluated to confirm they include all costs related to wastewater utility operations and maintenance, and capital improvements

For projects within the 208-sewer service development areas, WPC continued to perform development reviews for new applications proposing to connect to the sewer collection system. Over 100 projects were reviewed for sewer pipe and pump station capacity, estimated wastewater flow and technical specifications, and if needed, NJDEP Treatment Works Approval submissions.

WPC received and responded to over 429 Hamilton Township HamStat Q-Alerts in 2019. This work included residential and main line sanitary sewer blockages, storm drainage issues, and a few odor concerns.

The Department of WPC included 60 employees who are unionized and follow civil service rules. Efforts continued to improve the skill level of the entire work force with a variety of technical and management training classes. WPC also continued its cross-training program to develop employees' knowledge in all work areas.

WPC efforts are divided into two (2) primary categories, "inside" and "outside" work tasks. "Inside" includes the operation and maintenance of the treatment plant. "Outside" includes the operation and maintenance of the pump stations, maintenance of the collection system (jetting, vacuuming and televising), and responding to stop-up issues. "Stop – up" issues include servicing residential properties for blockages in their house laterals.

Safety continued to be a primary goal throughout the entire WPC Department. Safety meetings with supervisors were held weekly and periodically with individual groups on specific topics in order to focus attention on the varying safety issues of each group. In addition, safety suggestions were received from employees in the "safety suggestion box".

WPC continued its award-winning Educational Outreach Program in which environmental scientists from WPC presented a program on Water Pollution and the Environment to various Township schools, and conducted numerous on-site tours to a variety of community groups.

Refer to the Hamilton Township Department of Community Planning and Compliance for stormwater and flood mitigation initiatives and accomplishments. In the past six years, Rutgers Cooperative Extension - Water Resources Program has made tremendous strides in developing and implementing solutions to the flooding and storm water quality issues facing Hamilton Township.

FAST FACTS for 2019	
Hamilton Households & Commercial Users	30,423 (2019)
Robbinsville Households & Commercial Users	5,063 (2019)
Total Households & Commercial Users	35,486
Hamilton Permitted Industries	5
NJPDES Permitted Plant Capacity	16,000,000 gallons per day
Total Plant Average Daily Flow	7,827,000 gallons per day
Robbinsville: Average Daily Flow	1,549,240 gallons per day
Total Yearly Flow Treated	2,856,855,000 gallons
Hamilton: Collection System	350 miles of sewer pipe
Hamilton: Pump Stations	28
Hamilton: Manholes	8060
Robbinsville: Collection System	72 miles of sewer pipe
Robbinsville: Pump Stations	10
Robbinsville: Manholes	1,512
For Hamilton WPC:	
WPC Plant Electric Consumption	3,754,901 kilowatts
Pump Stations Electric Consumption	1,240,825 kilowatts
Sludge Cake Disposed	5,282 tons
Screenings Disposed	66 tons
Approved Operating Budget – CY2019	$17,759,030
Approved Capital Budget – CY2019	$5,869,500
Acreage of Treatment Plant	35.9 acres
Acreage of Pumping Stations	7.9 acres
Number of Buildings	50
Number of Pumps	288
Number of Valves	974
Number of Motors	495
Number of Heating Systems	21

Wastewater Treatment Plant – Major Projects for 2019

In a continuing effort to maintain the efficiency of treatment operations and improve overall infrastructure condition, WPC has initiated and/or completed the following significant plant improvement projects during 2019:

Structural and Mechanical Repairs to Scrubbers #2 and #3
This project has been substantially completed. WPC is working with the contractor and construction services engineer to address punch list items to bring the project to final completion.

Gravity Thickener and 1954 Digester Rehabilitation Engineering
The design and contract documents were completed and the project was bid in late summer 2019. Due to a bid protest, the start of construction has been delayed. Construction is now anticipated to start in 2020.

Evaluation of Grit Removal Chamber Outlet Structure
The outlet structure of the aerated grit removal channel is significantly deteriorated. It was evaluated by a structural engineer to provide recommendations on repair urgency, alternatives, and construction cost.

Plant Wide Lighting Improvements
WPC continued replacing existing inside and outside metal halide lighting fixtures with modern, energy conserving LED lighting throughout the treatment plant. In addition to reducing energy consumption and costs, the modern fixtures offer enhanced safety through increased light output, in addition to longer bulb life and decreased maintenance.

Evaluation of RBC Building Influent Channel Grating
A consultant was tasked with evaluating the structural integrity of the inside aluminum walkway grating that spans the approximately 6-foot wide influent channel that runs the length of the 206-foot long building. The grating is used to gain access to equipment.

Pump Stations and Collection System – Major Projects for 2019

Efforts focused on pump station upgrades, piping repairs, and continued sanitary sewer gravity and force main condition inspections. In a continuing effort to maintain the efficiency of the pump stations and collection system and improve overall infrastructure condition, WPC has initiated and/or completed the following significant improvement projects during 2019:

Yardville-Groveville Pump Station Force Main Projects
Wastewater collected in the Yardville area of Hamilton is pumped through an 18-inch-diameter, 2.5-mile-long force main pipe to the Whitehorse area. This wastewater then flows by gravity to

the wastewater treatment plant. The force main pipe was installed about 40 years ago. Leaks near State Highway 130 in this force main pipe were temporarily repaired in February and March 2019. Approximately 450 feet of this force main pipe were replaced from the Yardville-Groveville Pump Station, under Highway 130, and beyond from May through July 2019.

After the force main pipe replacement was completed, the force main was inspected in September 2019. The inspection consisted of using two different instruments sent through the pipe to collect data. The data collected indicated there are no leaks and no notable gas pockets where hydrogen sulfide gas could severely damage the pipe. Some small areas of pitting on the pipe walls were detected and their locations identified. This information will be used as a baseline for comparison with data from future inspections.

Church Street-Doctors Creek Bridge Pipe Replacement

In 2018, Mercer County's bridge replacement engineer worked with WPC and our consulting engineer to develop a sanitary sewer relocation plan for the upcoming Doctors Creek Bridge replacement on Church Street in Yardville. WPC's engineer prepared bid plans and specifications for the work. Although Mercer County originally anticipated this construction to be completed in 2019, it is now anticipated to be conducted in 2020.

Sanitary Sewer Rehabilitation

A sanitary sewer rehabilitation contract was awarded in 2018 for cured-in-place pipe (CIPP) lining, manhole to manhole, of about 50,000 linear feet of sanitary sewer pipes. The pipes are located throughout the Township and range in diameter from 6 to 15 inches. About half of the manhole-to-manhole lining contract was completed in 2018. The remaining approximately 30,000 linear feet CIPP lining was completed in 2019. A summary of collection system piping projects since 1997 is shown on the next page.

Roof Replacement at Various Pump Stations

Roofs at Pond Run, Park Avenue, and East State Street Pump Stations were replaced to preserve the integrity of the building envelope and protect the pumping equipment.

Pump Station Personnel Hoist Davit Base Installation

A project to install hoist davit bases at the remaining pump station locations was designed, bid, and started construction in 2019. Installed davit bases are necessary and helpful for safe personnel entry and retrieval. This project will be completed in 2020.

Asset Management

The TRAISR system, used for service requests, work orders, Geographic Information System (GIS) information and asset management, continues to be enhanced with more data entered in 2019. These data include equipment inventory, linking scanned lateral connection information, and completed collection system repairs and rehabilitations (lining/coating). The data collected from the gravity main inspections are directly linked to the TRAISR database which streamlines review and prioritization of necessary rehabilitation and/or repairs.

Engineering Department Road Project Sanitary Sewer Repairs
WPC worked closely with the Hamilton Township Engineering Department in 2019 to inspect the sanitary sewer lines in the roads scheduled to be paved and/or reconstructed by both Public Works Department and outside contractors. Completing sanitary sewer repairs while the road is under construction can provide cost savings. In addition, by coordinating these efforts, it minimizes having to dig up a newly paved road for a repair, which can accelerate the need to repave in the future. Sanitary sewer repair work was completed in the following streets prior to paving in 2019: Magnolia Lane and Emanuel Street.

Inspection and Cleaning of Sanitary Sewer Lines
In-house sewer cleaning and televising inspections (closed circuit TV/CCTV) were conducted on 307 pipe segments totaling over 62,000 linear feet or over 11.7 miles of pipe in 2019. Several Hamilton Township owned jet-vac trucks, jet trucks and a CCTV truck were used for this purpose.

Emergency Underground Infrastructure Repair Projects
WPC was required to make numerous emergency repairs to sewer piping that had failed unexpectedly. The projects completed in 2019 are shown on the next two pages.

Sanitary Sewer Connection Permits
A summary of sanitary sewer connection permit total number and fees since 2008 is shown on page 10.

Emergency Underground Infrastructure Repair Projects Completed During 2019

Date	Location	Repair Activity
1/14/2019	7 Mill Bend Road	Lateral Repair
1/14/2019	49 Leuckel Avenue	Lateral Repair
1/14/2019	Mill Bend & Leuckel Avenue	Final Paving of Lateral Repair
1/14/2019	8 Petty Ridge Drive	Lateral Repair
2/8/2019	138 Eaton Avenue	Lateral Repair
3/5/2019	55 & 62 Leuckel Avenue	Lateral & Main Repair
3/13/2019	1550 E. State Street	Force Main Repair
5/1/2019	Sewer Plant Leachate	Leachate Line Repair
5/8/2019	138 Eaton Avenue & 6 Olszak Court	Lateral Repairs
5/8/2019	185 Highland Avneue	Apron Repair
5/8/2019	19 Terrill Avenue	Lateral Repair
5/10/2019	1467 Liberty Street	Lateral Replacement
5/20/2019	Whitehorse & McDonald's	Manhole Casting Repair
6/10/2019	20 Rock Royal Road	Lateral Repair
6/10/2019	George Dye Road	Main Repair
6/10/2019	10 Magnolia Avenue	Lateral Repair
6/10/2019	36 Magnolia Avenue	Lateral Repair
6/10/2019	313 McClellan Avenue	Lateral Repair
6/17/2019	AAA Pump Station Force Main (Robbinsville)	Force Main Repair
6/25/2019	Yardville-Groveville Force Main	Test Pit for Location of Line Stop
8/8/2019	54 Shady Lane	Lateral Replacement
8/8/2019	61 Shady Lane	Lateral Replacement
8/8/2019	Ecological Center	Leach Line Clean Out Installation
8/12/2019	313 McClellan Avenue	Sidewalk Repair
9/5/2019	1311 Liberty Street	New Manhole & Lateral Replacement
9/5/2019	Yardville-Groveville (Y-G) Force Main	Y-G Force Main Valve Installation
9/24/2019	13 Hutchinson Street	Lateral Replacement
9/27/2019	Wastewater Treatment Plant	Water Pipe Repair
9/30/2019	Ruskin Ave and Broad Street	Force Main Inspection Ports Restoration
10/8/2019	Wastewater Treatment Plant	Water Pipe Repair
10/10/2019	Wastewater Treatment Plant	Sludge Pipe Repair
11/5/2019	550 Klockner Avenue	Lateral Replacement
11/7/2019	116 Youngs Road	Lateral Connection
11/14/2019	116 Youngs Road	Lateral Replacement
11/25/2019	65 Gary Drive	Lateral Repair
11/26/2019	10 Century Way	Lateral Repair
12/2/2019	22 Emanual Street	Lateral Repair
12/2/2019	1601 Greenwood Avenue	Lateral Replacement
12/6/2019	21 Samantha Lane	Lateral Repair
12/6/2019	Edwards Avenue	Main Repair
12/9/2019	201 Saybrook Avenue	Lateral Repair
12/13/2019	Edwards Avenue & Samantha Lane	Lateral Repair
12/17/2019	E. State Street	Casting Repair
12/23/2019	9 Falmouth Road	Lateral Repair

Collection System Piping Projects Summary Since 1997

Project Name	Year	Approx. Linear Feet	Diameter of Pipe (in)	Manhole Rehab included?
E. Park Ave Replacement	1998	2,500	48	
W. Park Ave Lining	1998	500	48	
S. Broad St Lining	1999	1,800	24-27	
Route 130 Replacement	2001	800	18	New
Bowhill-Schiller Replacement/Lining	2004	3,750	15-21	
Wilson Ave Replacement	2005	2,575	8	New
Emeline Ave Replacement	2005	370	24	
Arena Drive Replacement	2006	1,930	8	New
Independence-Emeline Lining	2006	3,600	48	
W. Park-Independence Lining	2010	3,000	48	Yes
I-195 Headworks Slip-Lining	2010	350	78 to 66	
Nottingham Way-Hamilton Ave Lining	2010	6,000	24-36	
Various Lining	2010	5,000	8-24	
North Branch of Pond Run Slip-Lining	2011	5,200	42 to 36	
Wert Ave Lining	2011	7,400	48	Yes
Bowhill Ave Replacement	2012	1,500	8-12	Yes
Various-Phase I Lining	2013	2,800	8-15	
Various-Phase II Lining	2013	14,000	8-21	Yes
Various-Phase II Lining	2014	28,000	8-21	Yes (184 MHs)
Hamilton Ave Lining	2014	5,000	24-30	Yes
Newkirk Ave Lining	2014	5,000	42	Yes
Cedar Lane Lining	2014	1,000	12	
Church St Lining	2016	600	12	
Various	2018	25,000	6-15	
Various	2019	30,000	6-15	
	TOTAL	**157,675**		

SANITARY SEWER CONNECTION PERMITS				
Year	Commercial		Residential	
	Count	Fees	Count	Fees
2008	52	$660,504	11	$27,500
2009	54	$246,975	32	$80,000
2010	27	$171,350	129	$322,500
2011	85	$212,500	31	$77,500
2012	21	$137,648	78	$195,000
2013	31	$266,853	179	$418,375
2014	34	$458,184	106	$265,000
2015	32	$665,650	97	$242,500
2016	32	$393,072	124	$308,250
2017	37	$278,811	11	$51,917
2018	21	$320,525	99	$169,500
2019	21	$282,850	54	$132,500

Wastewater Treatment Plant – Work Proposed for 2020

Gravity Thickener and 1954 Digester Rehabilitation Construction

Design and contract document preparation services have been completed for construction services to rehabilitate the treatment plant's gravity thickener and 1954 Digester to restore full functionality. The project was bid in August 2018 but currently sits in court due to a litigation case between the two lowest bidders. Construction is anticipated to start in early to mid-2020.

Sludge Dewatering Alternatives Analysis

The belt filter presses that comprise the main dewatering component of the solids handling process at the treatment plant have reached their useful life and ae becoming increasingly expensive to maintain. WPC has engaged the services of a Consultant to perform an alternatives analysis, taking into consideration full rehabilitation, replacement- in-kind, and replacement with a different technology. It is anticipated that this analysis will be completed by mid-2020 and the results used to support subsequent design and bid support engineering services for the selected option.

Aerated Grit Chamber Outlet Structure Rehabilitation Engineering

The grit removal chamber outlet structure exhibits concrete and reinforcement deterioration due to hydrogen sulfide attack and microbial induced corrosion. This chamber requires structural rehabilitation that requires bypassing the entirety of plant flow for the duration of construction. Engineering design and bid document preparation services will be procured with the goal of construction bid award in the fall of 2020 and construction beginning in Spring 2021.

Replacement of RBC Building Influent Channel Grating

One of WPC's heavy mechanical contractors will be tasked with installing replacement aluminum grating over the influent channel of the RBC Building.

Pump Stations and Collection System – Work Proposed for 2020

Inspection and Cleaning of Sanitary Sewer Lines

WPC will continue its Capacity, Management, Operations and Maintenance (CMOM) efforts to accurately assess the overall condition of the collection system infrastructure through use of zoom and CCTV camera inspections, and from ongoing maintenance activities. This information is linked to the Traisr GIS system, and used to document maintenance activities and prioritize capital projects that will be performed in 2020 and beyond.

Sanitary Sewer Rehabilitation

As WPC receives data from sanitary sewer inspections that are continuously completed in-house and by contractors, defects within the system are prioritized and put on lists based on category or type of work. WPC will continue to prioritize and issue contracts as needed for the

excavation and repair of mains and laterals and the rehabilitation of manholes and sanitary sewer piping.

Klockner Pump Station Generator Replacement
The existing natural gas generator from the 1960's is obsolete and difficult to obtain parts for. Replacement of the generator is anticipated in 2020.

Yardville-Groveville Pump Station Improvements
Final engineering and design are being completed for the pump station. The primary improvements include replacing the existing two pumps with a 3-pump system with new controls and variable frequency drives, replacing the roof, and installing a station emergency bypass system. WPC anticipates bidding and awarding the construction phase of this project in 2020 with work starting in the fall and continuing into 2021.

Melody Estates and Middleton Drive Pump Stations Replacement Engineering
Design and contract document preparation services are to be awarded for replacement of the pump stations. The project scope includes replacement of the existing, below grade can ejector stations with above grade enclosures with new pumps and controls. This will improve reliability while providing safer working environments for station maintenance personnel by eliminating permit-required confined space entry.

Church Street Doctors Creek Bridge Replacement
Work to replace the sanitary sewer main attached under the bridge, and replace manholes near the bridge is scheduled for completion in 2020 in conjunction with Mercer County's bridge replacement.

Crestwood Force Main Replacement
Sanitary sewer flow from the new housing development (Vintage at Hamilton) being built on Kuser Road will flow to the Crestwood Pump Station. A portion of this pump station force main is 58 years old. To accommodate this additional flow to the pump station and through the force main pipe, the older pipe will be replaced in 2020. Replacing the pipe involves engineering design, a Treatment Works Approval permit from the NJDEP, contract document preparation and bidding, and construction.

Pump Station Force Main Inspections
The oldest force main pipes serving two pump stations, Green Village and Hamilton Square Park, will be inspected using very specialized equipment that flow through the pipes and collect data on leaks and gas pockets.

Deutzville Pump Station Force Main Replacement-Engineering
The engineering and permitting required to replace the remaining portion of the Deuztville force main (73 years old) will be conducted in 2020 for replacement work to be completed in 2021. A portion of the force main was already replaced in 2012.

Regulatory Agency Review

WPC is a highly regulated facility and is subject to oversight by the following regulatory agencies and more.

1. US Environmental Protection Agency (USEPA)
    - Capacity Assurance, Management, Operations & Maintenance (CMOM)
    - Pretreatment
    - Sludge
    - Laboratory Certification
2. NJ Department of Environmental Protection (NJDEP)
    - Water Quality/NJPDES Regulations
    - Surface Water Quality Standards
    - Secondary Treatment Standards
    - Sludge Quality
    - Hazardous Waste
    - Air Quality
    - Lab Certification
    - Bioassay
    - Treatment Works Approvals
    - Underground Storage Tanks
    - Groundwater Monitoring
    - Backflow Preventer Permits
    - Pretreatment
    - Enforcement
    - Wetlands
    - Water Allocation
    - Stormwater
    - Site Remediation and Waste Management
3. NJ Integrated Water Quality Monitoring and Assessment
4. NJ Department of Health - Right to Know
5. NJ Department of Labor- Safety
6. NJ Department of Transportation - Road Opening
7. NJ Board of Public Utilities - One Call
8. Delaware River Basin Commission (DRBC)
9. Mercer County Soil Conservation District
10. Municipal Fire Inspections
11. Statewide Water Quality Management Plan
12. Interstate Environmental Commission
13. Federal Emergency Management Agency (FEMA)
14. Federal Highway Administration - CDL Testing
15. Federal Communications Commission
16. Nuclear Regulatory Commission

Workplace Safety

Because the WPC employees work in an industrial environment, workplace safety is of utmost importance. Proper training as well as issuance of proper Personal Protection Equipment (PPE) is imperative for the safety of all workers. The operation and maintenance of wastewater treatment plants, pump stations and its associated collection system routinely include potential hazards such as pathogens, chemicals, confined spaces, hazardous atmospheric and environmental conditions, excessive heat, electrical voltage, moving parts, heavy machinery, traffic, and challenging weather.

Annual safety training, including, for example, confined space, forklift and Right-To-Know, is mandatory for all operation, maintenance and collection system personnel in order to review and simulate possible hazards. The identification of potential hazards and the review of the WPC proper safety procedures help in keeping all utility employees safe.

Management continues to regularly stress good safety practices to the plant and collection system supervisors and workers. These discussions facilitate the remediation of pending and previous safety issues and the monitoring of required training. In addition, they encourage an open dialogue between employees and management, as well as aid in lowering worker's compensation injuries. The following are types of safety training provided to WPC employees:

Types of Safety Training

- Personal Protective Equipment
- Right-To-Know
- Confined Space Training
- Lock Out/Tag Out
- Arc Flash Safety
- Forklift
- Back Safety and Proper Lifting
- Slips, Trips and Falls Avoidance
- Air Monitoring Equipment
- Self-Contained Breathing Apparatus
- Snow Removal Safety
- Supervisor Training for Commercial Driver's License Holders
- Traffic Safety
- Accident Reporting for Supervisors
- Job Safety Analysis
- Respiratory Fit Testing
- Respiratory Medical Testing
- Blood-Borne Pathogen Training
- Hepatitis Training and Vaccine

Technical Training

Operating the Hamilton Township wastewater utility involves continuously updated knowledge of biology, chemistry, mechanics, computers, regulatory issues, health/safety and human resource issues. Training staff in the proper operation and maintenance procedures as well as compliance with our operating permit is important to our success in a dynamic environment not only relating to wastewater collection and treatment but to the regulations. Many employees in the department hold wastewater operating and collection licenses which require continuing education credits be earned during a three-year cycle. The Township endorses higher training/education for all employees. WPC is committed to providing the required continuing education credits for license holders in order for them to remain current with the NJ Department of Environmental Protection.

WPC encourages employees to undertake technical training through the California State, University of Sacramento, Water Programs as an option for obtaining NJDEP operator licensing. Personnel organization continued to improve through promotions and out-of-title assignments to fill temporary work assignments and open positions.

Furthermore, WPC continued to promote training for employees that work with titles within the plumbing and electrical trades. Courses are also recommended for supervisors and professional engineers. Additionally, WPC offered training in computer software, asset management and Geographic Information System/TRAISR programs.

In 2019, the utility hosted training sessions on safety issues at the plant. WPC also provided training sessions via internet webinars which allowed employees to learn without the added travel and registration expenses. In addition, WPC continued to reduce costs by using in-house employees and vendors with specific expertise to provide training to employees. Finally, key personnel were sent for further technical training to offsite seminars and conferences during the year. The following is a list of training offered during the year:

Training/Seminars in 2019

Month	Course Title	Trainer	Location
January	Confined Space &Lockout/Tagout	Certified Health	WPC Plant
February	Collection System Workshop	NJWEA	Marlton
March	Technical Transfer	NJWEA	Eatontown
May	Annual Conference	NJWEA	Atlantic City
September	Respiratory Fit Testing/Blood Borne	Certified Health	WPC Plant
September	Technology Transfer	NJWEA	Eatontown
November	Annual Conference	AEA	Atlantic City

Educational Outreach

WPC continued strengthening public education through its award-winning Educational Outreach Program in which environmental scientists from WPC presented a program on Water Pollution and the Environment to elementary, middle and high school students. The program, which consisted of a computer-enhanced multi-media presentation and visual demonstrations, motivated students to participate. By learning how wastewater is created and treated, as well as how we can all help protect and preserve water quality, the students became an integral part of Hamilton's environmentally aware community.

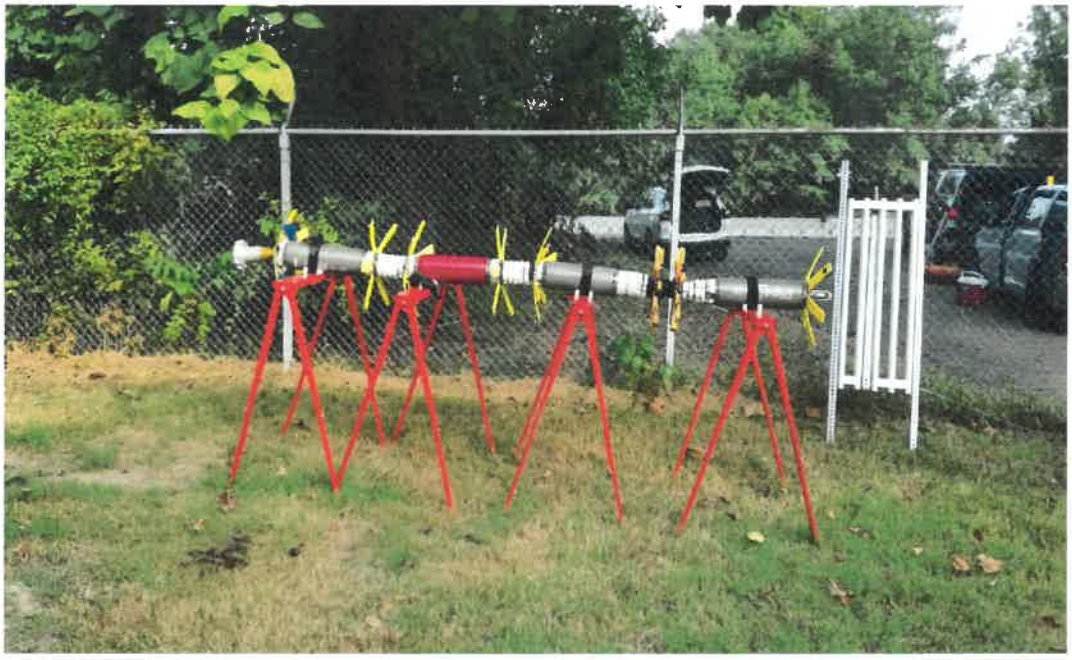
In addition, WPC conducted numerous on-site tours for a variety of students and/or interest groups including but not limited to:

- Students from the Plumber Apprentice Class at Mercer County Vocational Technical School
- Regional High School Students
- New Jersey Department of Environmental Protection
- Association of Environmental Authorities
- Rider University Hydrology Students
- Hamilton Township Employees from Different Departments
- Local Fire Departments

New 18 inch pipe with spacers to be installed in a casing under Route 130.

Trench box for the replacement of the Yardville Groveville force main.

Workers installing the new Yardville-Groveville force main.



Pipe Diver equipment used to inspect the integrity of sanitary sewer force mains.

Launch point for Pipe Diver equipment later repurposed as a pump station bypass discharge location.

Contractor installing new air scrubber at the Headworks Building at the treatment plant.

Contractors rehabilitating fiberglass duct work and air scrubber vessel equipment.