

HAMLTON TOWNSHIP WATER POLLUTION CONTROL



**ANNUAL REPORT
2022**

HAMILTON TOWNSHIP
DEPARTMENT OF WATER POLLUTION CONTROL
2022 Annual Report

January 2023

Contents

Mission	1
Facilities Overview	1
Overall Progress	2
Fast Facts	5
Wastewater Treatment Plant – Major Projects for 2022	6
Pump Stations and Collection System – Major Projects for 2022	7
Collection System Piping Projects Summary Since 1997	10
Emergency Underground Infrastructure Repair Projects Completed in 2022	11
Sanitary Sewer Connection Permits	13
Wastewater Treatment Plant – Work Proposed for 2023	14
Pump Stations and Collection System – Work Proposed for 2023	15
Regulatory Agency Review	16
Workplace Safety	17
Technical Training	18
Educational Outreach	19
Photographs	20

Hamilton Township

Department of Water Pollution Control

2022 Annual Report

“I like knowing that my time devoted is helping the greater good of public health.” - Rachel Cooper

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 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 2022 actual average daily flow of 7.2 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 27 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. Refer to the Fast Facts on page 5.

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 Assunpink, Crosswicks and Doctors Creek Watershed. Wastewater cleaned by the treatment plant, also known as effluent, is discharged to the Crosswicks Creek. The plant produces secondary effluent using both trickling filter and rotating biological contactor 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. Hamilton does not have a combined sewer system (CSS) in its collection system. A CSS occurs when stormwater and wastewater combine in the collection system before reaching the treatment plant.

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

Overall Progress

In 2022, the coronavirus had less of an effect on how WPC employees worked and interacted. The wastewater industry is an essential service where employees are required to be on-site around the clock to operate and maintain the treatment plant and collection system.

A sewer rate study began later in 2020 to confirm whether or not a sewer rate increase was needed, and if so, what it would look like. The study concluded in February 2022 with a public presentation. WPC infrastructure, operation and maintenance are funded almost entirely by sewer taxes plus a small amount received from connection fees. Before 2020, Hamilton's sewer service rate had not increased since 2008, yet still remains among the lowest in the region. The resolution of issues with Robbinsville Township was also important and which seemed to be centered around payments and the updating of the contract.

In 2022, WPC continued its efforts toward optimizing plant operations, performing capital improvements and fortifying asset management. WPC followed the recommendations established by the New Jersey Clean Water Council, which included a mandate for sustainable asset management by using the United States Environmental Protection Agency (USEPA) Capacity Assurance, Management, Operations and Maintenance (CMOM) approach to achieve this mandate. WPC continued to comply with the requirements of a large list of local, county, state and federal regulations; refer to page 16.

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 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. The Township works toward a diversified and inclusive workforce, with training to end harassment and discrimination in the work place.

Also like the rest of the United States, WPC faces aging 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 and less expensive alternative. 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 January 2023 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, including the evaluation of alternatives.

TRAISR is one of the digitized tools WPC used 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.

WPC continued efforts to reduce spending where possible. 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 at the treatment plant continued to go down but the cost did not due to the increased electricity rates.

Using the extensive data submitted to the Delaware River Basin Commission (DRBC) over the past few years, the DRBC continued to refine their modeling analyses of the Delaware River and subsequent reports of findings and recommendations. 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 capital improvements and wastewater utility operations and maintenance. This, while discussions about PFAS (per- and polyfluoroalkyl substances) regulations and associated treatment crisscross the country.

In order to comply with environmental regulations, all aspects of WPC plant operations must be continuously monitored. One aspect of this monitoring includes taking wastewater and sludge samples from critical locations throughout the treatment plant and analyzing them in-house. WPC continued to perform the required analyses to determine compliance with permit requirements in addition to the daily process bench tests performed 365 days per year. Except for wastewater bioassays, metals, oil and grease, and sludge analyses, all other wastewater sampling and conventional pollutant analyses are completed at WPC in our State certified laboratory.

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. This year, over 110 projects were reviewed for pump station and collection system capacity, estimated wastewater flow and their technical specifications, and if needed, NJDEP Treatment Works Approval submissions.

WPC received and responded to over 300 Hamilton Township HamStat Q-Alerts and direct phone calls in 2022. This work included residential and main line sanitary sewer blockages, storm drainage issues, and a few odor concerns.

The Department of WPC is budgeted for 70 employees who are unionized and follow civil service requirements. 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 and maintenance of the collection system (jetting, vacuuming and televising). Due to Covid, "Stop – up" service to residential properties for blockages in their house laterals has continued to be suspended.

Safety continued to be a primary goal throughout the entire WPC Department. Safety meetings with supervisors were held regularly and periodically with individual groups in order to focus attention on the varying safety issues. 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 for 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 recent years, Rutgers Cooperative Extension - Water Resources Program has made tremendous strides in developing and implementing solutions to flooding and storm water issues facing Hamilton Township.

FAST FACTS for 2022	
Hamilton Households & Commercial Users	30,639 (2022)
Robbinsville Households & Commercial Users	5,097 (2022)
Total Households & Commercial Users	35,736
Hamilton Permitted Industries	5
NJPDES Permitted Plant Capacity	16,000,000 gallons per day
Total Plant Average Daily Flow	7,200,000 gallons per day
Robbinsville: Average Daily Flow	1,468,590 gallons per day
Total Cumulative Flow Treated per Year	2,628,000,000 gallons
Hamilton: Collection System	350 miles of sewer pipe
Hamilton: Pump Stations	27
Hamilton: Manholes	8060
Robbinsville: Collection System	73 miles of sewer pipe
Robbinsville: Pump Stations	10
Robbinsville: Manholes	1,512
For Hamilton WPC:	
WPC Plant Electric Consumption	3,960,810 kilowatts
Pump Stations Electric Consumption	1,399,180 kilowatts
Sludge Cake Disposed	5034 tons
Grit & Screenings Disposed	117 tons
Approved Operating Budget – CY2022	\$19,723,550
Approved Capital Budget – CY2022	\$10,522,000
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 2022

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 2022:

Gravity Thickener and 1954 Digester Rehabilitation

The gravity thickener has been online for approximately one year. While equipment shortages delayed final completion, the 1954 digester was brought online at the end of 2022 and project closeout documents are being prepared.

Plant Wide Fiber Optic Network Backbone

WPC has retained a consultant to prepare design and bid documents for the installation of a new fiber optic loop throughout the plant to support additional communication and data carrying needs and to separate business and operational networks. Design and bid documents are nearly complete.

Grit Chamber Outlet Structure Rehabilitation

The construction contract for the rehabilitation of the deteriorated grit removal chamber outlet structure and isolation sluice gates was bid and was awarded in late 2022.

Replacement of Five Rotating Biological Contactors (RBC's)

The heart of the biological treatment employed at WPC are 48 Rotating Biological Contactors (RBC's). This is a fixed film biological process that employs 100,000 to 150,000 square feet of corrugated plastic, per contactor, mounted to a shaft that rotates within the wastewater stream. The plastic media acts as a surface for the growth of the biological film that treats the wastewater as it flows over the rotating contactors. Currently, five of the forty-eight contactors are failed and in need of replacement to restore the treatment plant to design capacity. Design is approximately nearly complete.

Sludge Dewatering Improvements

WPC worked with a screw press manufacturer in November to pilot the equipment to determine performance characteristics of this proposed alternative to the belt filter presses currently used for sludge dewatering. The pilot was a success, with the screw press providing higher solids content sludge cake and higher quality filtrate return stream.

Fuel Depot Replacement Project

The three 2,500-gallon underground storage tanks, which were approaching their useful life, were removed during the summer of 2022. They were replaced with one above ground storage tank having two internal compartments, one for diesel and one for unleaded fuel. In addition,

the fuel management system and dispenser units were replaced with an upgraded and user-friendly system.

Master Plan

The development of a Master Plan, or long range capital plan, is part of best management practices for all critical infrastructure. Additionally, when prepared accordingly, it will satisfy the NJDEP requirement for a Fiscal Sustainability Plan (FSP), which has recently become a requirement to obtain low interest loans through the New Jersey Environmental Infrastructure Trust Program. A large part of Master Plan development consists of the generation of a Capital Improvement Plan (CIP) that prioritizes capital improvements over the planning horizon of twenty years, directs prudent use of capital funds, and provides capital cost estimates for planned (time driven) and regulatory preparedness (event driven) improvements including potentially changing permit limits for existing, and new and emerging contaminants. After obtaining quotes, the work was awarded later in 2022.

Pump Stations and Collection System – Major Projects for 2022

Efforts this year 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 2022:

Deutzville Pump Station Force Main Installation

The majority of the engineering design to replace the 1,950 linear feet of the Deutzville pump station force main that was not replaced in 2012 was completed in 2021. The location of the new force main crosses Green Acres property and other residential properties which required additional engineering design considerations and proposed property easements. The force main path had a minor modification in 2022. Securing easements for the new force main path also continued in 2022.

NJDOT Pump Station Replacement

The existing NJDOT Pump Station on Kuser Road was installed originally to serve the low volume of wastewater flow from the NJDOT facility near Route 130. This pump station is at capacity. In order to serve new development in the area, the pump station and force main need to be replaced with ones that have more capacity. The engineering design for a new station continued in 2022.

Yardville-Groveville Pump Station Improvements

Final engineering and design were completed for the Yardville-Groveville Pump Station in 2021. The primary improvements included 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. The project was successfully bid, with construction beginning early 2022. Equipment delays have extended the project duration, with final completion anticipated in spring, 2023.

Melody Estates and Middleton Drive Pump Station Replacements

Engineering design and contract document preparation services were awarded in 2021 for replacement of the Melody Estates and Middleton Drive Pump Stations. A portion of the project scope changed in 2022 from partial to full Melody and Middleton Pump Station wet well replacements. Design work for the project will be complete in 2023.

Pump Station Emergency Generators

Engineering design and contract document preparation were initiated in 2022 to replace one existing emergency generator and install three new ones at pump stations. Power loss at pump stations has increased in recent years along with the severity of storms. These emergency generators will provide more reliable sewer service.

Sanitary Sewer Rehabilitation

A summary of collection system piping projects since 1997 is shown on Page 10.

Asset Management

The TRAISR system, used for asset management and Geographic Information System (GIS) information, service requests, and work orders, continued to be enhanced each year with more data. These data include 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.

Routine Maintenance of Sanitary Sewer Lines

Routine maintenance of sanitary sewer lines continued in 2022. This included both the cleaning of sewer pipe with high velocity water jetting.

Inspection and Cleaning of Sanitary Sewer Lines

In-house sewer cleaning and televising inspections (closed circuit TV/CCTV) were conducted on 777 pipe segments totaling over 156,000 linear feet or 29 miles of gravity pipe in 2022. Several

Hamilton Township owned jet-vac trucks, jet trucks and a CCTV truck were used for this purpose.

Underground Infrastructure Repair Projects

WPC was required to make numerous repairs to underground sewer piping and manholes in need of repair. The projects completed in 2022 are shown on page 11.

Sanitary Sewer Connection Permits

A summary of the total number of sanitary sewer connection permits and fees since 2008 is shown on page 12.

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 Dr 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	78-66	
Yardville-Groveville Force Main Lining	2010	4,000	18	
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	42-36	
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
Park Ave Force Main Replacement	2014	2,000	6	
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 Pipe Lining	2018	25,000	6-15	
Various Pipe Lining	2019	30,000	6-15	
Crestwood Force Main Replacement	2019	600	18	
Yardville-Groveville Force Main Replacement	2020	1,900	6	
Various Pipe Lining	2020	3,250	8-10	
Total		169,425		

EMERGENCY UNDERGROUND PROJECTS COMPLETED IN 2022

Date	Location	Repair Activity
1/6/2022	60 Locust Ave(Yardville)	Lateral Repair
1/12/2022	Englewood Blvd	Kuser Hollow Pump Station Demo
1/19/2022	35 Miry Brook Rd	Lateral Repair
1/25/2022	4 Jamaica Way	Lateral Repair
2/24/2022	126 Elmore Ave	Lateral Repair
3/1/2022	13 Cannon Dr	Lateral Repair
3/2/2022	15 Brandywine Way	Lateral Repair
3/10/2022	123 Concord Ave	Lateral Repair
3/21-3/23/22	S. Clinton Ave/E. Park	Main Line Repair
3/30/2022	93 Gary Dr.	Lateral Repair
4/8/2022	Hobson Ave	Manhole Castings Replaced
4/11-13/22	Dover Rd-Englewood Blvd-35 Miry Brook Dr	Concrete Restoration
4/19/2022	114 Arlington Ave	Lateral Repair
4/19/2022	117 Arlington Ave	Lateral Repair
4/20/2022	31 Arlington Ave	Lateral Repair
4/21/2022	17 Arlington Ave	Lateral Repair
4/21/2022	24 Arlington Ave	Lateral Repair
4/21/2022-4/25/22	2168 S. Olden Ave	Lateral Repair
4/27/2022	13 Fleetwood Dr	Lateral Repair
4/27/2022	15 Fleetwood Dr	Lateral Repair
5/6/2022	16 Tekening Way	Force Main Repair
5/11/2022	197 Highland Ave	Lateral Repair
5/13/2022	1326 Chambers St	Wye Connection Repair
5/17/2022	87 Rutgers Ave	Lateral Repair
5/18/2022	746 Johnston Ave	Lateral Repair
5/24/2022	734 Estates Blvd	Wye Repair
6/1/2022	122 Joan Terrace	Lateral Repair
6/2/2022	38 Jamaica Way	Lateral Repair
6/3/2022	273 North Burtis Ave	Lateral Repair
6/3/2022	16 Tekening Way	Force Main Repair
6/6/2022	21,23 Maitland Rd	Force Main Repair
6/13/2022	243 North Burtis Ave	Lateral Repair
6/15/2022	315 North Burtis Ave	Lateral Repair
6/21/2022	316 Evelyn Ave	Lateral Repair
6/28/2022	41 Clarendon Ave	Lateral Repair
6/29-6/30/22	137 Clarendon Ave	Lateral Repair
6/30/2022	27 Elton Ave	Manhole Castings Replaced
7/6/2022	118 Reed Ave	Lateral Repair

7/13/2022	340 North Burtis Ave	Lateral Repair
7/27/2022	52 Partridge Ave	Lateral Repair
7/28/2022	Mae Dr	Main Line Repair
8/9/2022	PSEG Easement Clearing	Brush Clearing Around Manholes
8/15/2022	309 Edward Ave	Lateral Repair
8/24-25/22	Montana Ave	Doghouse Install-Pipe Repair
8/31/2022	1734 Bell Ave	Lateral Repair-Wye Replacement
9/1/2022	1723 Bell Ave	Lateral Repair-Wye Replacement
9/15/2022	171 Fenwood Ave	Lateral Relocation
9/26/2022	159 Eaton Ave	Lateral Repair
9/27/2022	318 North Burtis Ave	Lateral Replacement
10/5/2022	330 Montana Ave	Lateral Reinstatement
10/20/2022	165 Sherwood Ave	Lateral Repair
10/26/2022	403 Samuel St	Lateral Repair
11/22-11/28/22	Whatley Rd	Trench Repair
12/19/2022	109 Bentley Ave	Lateral Repair
12/20-21/22	1624 Genesee St	Lateral Repair
12/29/2022	209 Eleanor Ave	Wye/Lat Replacement

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
2020	21	\$540,525	70	\$191,875
2021	38	\$475,279	74	\$240,303
2022	26	\$269,347	12	\$58,325

Wastewater Treatment Plant – Work Proposed for 2023

Gravity Thickener and 1954 Digester Rehabilitation

The project is anticipated to be complete and closed out by spring, 2023.

Grit Chamber Outlet Structure Rehabilitation

The construction contract was awarded at the end of 2022. Due to temperature requirements for the concrete and coating work, plant flow bypass and construction is anticipated to begin in spring 2023.

Replacement of Five Rotating Biological Contactors

WPC has planned for the replacement of five Rotating Biological Contactor's (RBC's), which are at the core of the biological treatment utilized at the treatment plant. Engineering design and contract document preparation is nearly complete and is anticipated to be ready to submit to the New Jersey Infrastructure Bank for review early in 2023. Once I-Bank comments are incorporated, it is anticipated that the project will be advertised for bid in early summer, 2023.

Plant Wide Fiber Optic Network Backbone

Request For Proposals were solicited from a consultant on the General Engineering Contract to provide design through construction services to install a new fiber optic network loop within the treatment plant, fully separate the business and operational networks, and provide redundant pathways if fibers are damaged. The design documents are nearly complete and it is anticipated that the project will be advertised for bid in early spring, 2023.

Sludge Dewatering Improvements

The pilot testing of screw press dewatering equipment at the end of 2022 proved successful. WPC will be working with a consultant to prepare design and bid documents for the replacement of the existing belt filter presses and associated piping, sludge pumps, and cake conveyance systems.

Master Plan

Preparation of the Master Plan will begin at the start of 2023, with a physical condition assessment, followed by an assessment of plant unit processes and operational procedures. The consultant will use the gathered information to generate a twenty year horizon Capital Improvement Plan (CIP) broken into near term (0-10 years), long term (11-20 years), and event driven capital project prioritization. Budgetary cost estimates will be generated and projects will be logically grouped for construction phasing.

Pump Stations and Collection System – Work Proposed for 2023

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, including the new pipe sound testing equipment. This information is linked to the Trairsr GIS system, and used to document maintenance activities and prioritize capital projects.

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 then 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.

Yardville-Groveville Pump Station Improvements

Construction is anticipated to be complete by summer 2023.

Melody Estates and Middleton Drive Pump Station Replacements

It is anticipated that the engineering design and initial contract document preparation will be completed in 2023.

NJDOT Pump Station Replacement

It is anticipated that engineering design, permitting, and bid award will be completed in early 2023. Construction of the new pump station and larger force main are anticipated to be completed in 2023.

Deutzville Pump Station Force Main Installation

The engineering design and bid document preparation will be completed in 2023. Obtaining easements will continue in 2023. Due to a limited construction window on the Green Acres property that the force main crosses, the construction work may be completed in 2023 or 2024.

Pump Station Emergency Generators

It is anticipated in 2023 that the engineering design will be completed and the contract to replace one existing emergency generator and install two new ones at pump stations will be awarded.

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 the 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 resolution 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 requires being continuously updated in the knowledge of biology, chemistry, mechanics, computers, regulatory issues, health/safety and human resource issues. Training staff in proper operation and maintenance procedures, as well as compliance with our operating permit, is important to our success in a dynamic environment. Many employees in the department hold wastewater operating and collection system licenses which require that 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 online 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 open positions and temporary work assignments.

WPC also continued to promote training for employees that work within the electrical trade. 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 2022, the utility resumed hosting training sessions on safety issues at the plant. WPC also provided individual training sessions via internet webinars which allowed employees to learn without the travel and registration expenses. In addition, WPC continued to reduce costs by using in-house employees and vendors with specific expertise to provide cross-training to employees. The following is a list of training offered during the year:

Training/Seminars in 2022

<u>Month</u>	<u>Course Title</u>	<u>Trainer</u>	<u>Location</u>
March	Technical Transfer	NJWEA	Eatontown
March	Supervisor Reasonable Suspicion	JIF	Call Center
May	Annual Conference	NJWEA	Atlantic City
May	Jet Vac Training	Doheney	WPC Plant
June	Respiratory Fit and Bloodborne	Certified Health	WPC Plant
September	Technical Transfer	NJWEA	Eatontown
October	Confined Space & Lockout/Tagout	Certified Health	WPC Plant
October	Lab Bench Testing Procedures	In-house	WPC Plant
November	Respiratory Medical Testing	PHS	WPC Plant
November	Annual Conference	AEA	Atlantic City

Educational Outreach

In 2022 and because the schools resumed in-person classes, WPC was able to present its award-winning Educational Outreach Program in which environmental scientists from WPC present 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 formed 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 the recent past, 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
- TCNJ Environmental Biology Students
- Hamilton Township Employees from Different Departments
- Local Fire Departments



Removal of three Underground Storage Tanks (photo above) and replaced with an Above Ground Storage Tank (below) at fuel depot.





Photo credit Dennis Symons 2022

Photographs above and below show the rescue that occurred in June of an individual who was entrapped in a trench. The Department of Water Pollution Control's Jet/Vac truck was used to suck soil from the hole to aid in the removal of the trapped individual.

