



**STRATEGIC PLANNING COMMITTEE  
SPECIAL MEETING  
TUESDAY, MARCH 21, 2023  
4:00 PM**

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**Location**

Board Room  
District Headquarters  
555 Main Street, Hartford

Dial In #: (415)-655-0001  
Access Code: 43808661#  
[Meeting Video Link](#)

**Commissioners:**

Adil	Healy
Anderson	Hoffman
Avedisian (C)	Lester
Bazzano	Mandyck
Bush	Pane
Currey	Petoskey
Desai	Salemi
DiBella (Ex-Officio)	Taylor
Gale	Torres
Gentile	Woulfe

**Quorum: 10**

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- 1. CALL TO ORDER**
- 2. PUBLIC COMMENTS RELATIVE TO AGENDA ITEMS**
- 3. APPROVAL OF MEETING MINUTES OF MARCH 8, 2023**
- 4. REPORT RE: 2003 BARRINGTON WELLES MANAGEMENT STUDY UPDATE - WATER SUPPLY, LABORATORY SERVICES AND PATROL**
- 5. OPPORTUNITY FOR GENERAL PUBLIC COMMENTS**
- 6. ADJOURNMENT**

**STRATEGIC PLANNING COMMITTEE**  
**SPECIAL MEETING**  
**The Metropolitan District**  
March 8, 2023

**PRESENT:** Commissioners Kyle Anderson, John Avedisian, John Bazzano, Donald Currey, John Gale, Allen Hoffman, Jacqueline Mandyck, Alvin Taylor, Calixto Torres, and District Chairman William A. DiBella (10)

**REMOTE ATTENDANCE:** Commissioners Andrew Adil, Richard Bush, Joan Gentile, Byron Lester, Dominic M. Pane (5)

**ABSENT:** Commissioners Dimple Desai, James Healy, Jon Petoskey, Pasquale Salemi and James Woulfe (5)

**ALSO PRESENT:** Scott W. Jellison, Chief Executive Officer  
John S. Mirtle, District Clerk  
Christopher Levesque, Chief Operating Officer  
Kelly Shane, Chief Administrative Officer (Remote Attendance)  
Susan Negrelli, Director of Engineering  
Robert Schwarm, Director of Information Technology (Remote Attendance)  
David Rutty, Director of Operations  
Tom Tyler, Director of Facilities  
Jamie Harlow, Director of Human Resources  
Lisa Madison, Manager of Procurement  
Jeff Bowers, Manager of Water Pollution Control  
Tom Mathiau, Facilities Maintenance Superintendent  
Mike Fusick, Facilities Maintenance Supervisor  
Dave Hartley, Fleet Superintendent  
Dave Egloff, Assistant Fleet Superintendent  
Carl Veilleux, Water Pollution Control Supervisor  
Bruce Lundie, Water Pollution Control Supervisor  
Bob Lugli, Assistant Water Pollution Control Supervisor  
Scott LaRose, Senior Electronics Technician  
Craig Scott, Manager of Environment, Health and Safety  
Diana Phay, Manager of Treasury  
Olga Cordova, Manager of Human Resources (Remote Attendance)  
Nick Salemi, Communications Administrator  
Carrie Blardo, Assistant to Chief Executive Officer  
Victoria S. Escoriza, Executive Assistant  
David Baker, IT Consultant (Remote Attendance)

**CALL TO ORDER**

Chairperson Avedisian called the meeting to order at 4:03 PM

**PUBLIC COMMENTS RELATIVE TO AGENDA ITEMS**

No one from the public appeared to be heard.

**APPROVAL OF MINUTES**

*On motion made by Commissioner Hoffman and duly seconded, the meeting minutes of the Strategic Planning Committee meeting of February 21, 2023 were approved. Commissioner Mandyck abstained.*

*Commissioner Gale entered the meeting at 4:12 PM*

**2003 BARRINGTON WELLES MANAGEMENT STUDY UPDATE  
WASTEWATER AND MAINTENANCE  
AND ENVIRONMENT, HEALTH & SAFETY**

*Tom Tyler, Director of Facilities, and Jeff Bowers, Manager of Water Pollution Control, provided a presentation on Wastewater, followed by a presentation on Maintenance. Scott LaRose presented the SCADA System. Tom Mathieu provided an overview of a laser alignment tool.*

**METROPOLITAN DISTRICT COMMISSION**  
2003 MANAGEMENT STUDY ANALYSIS

Strategic Planning Committee  
March 8, 2023

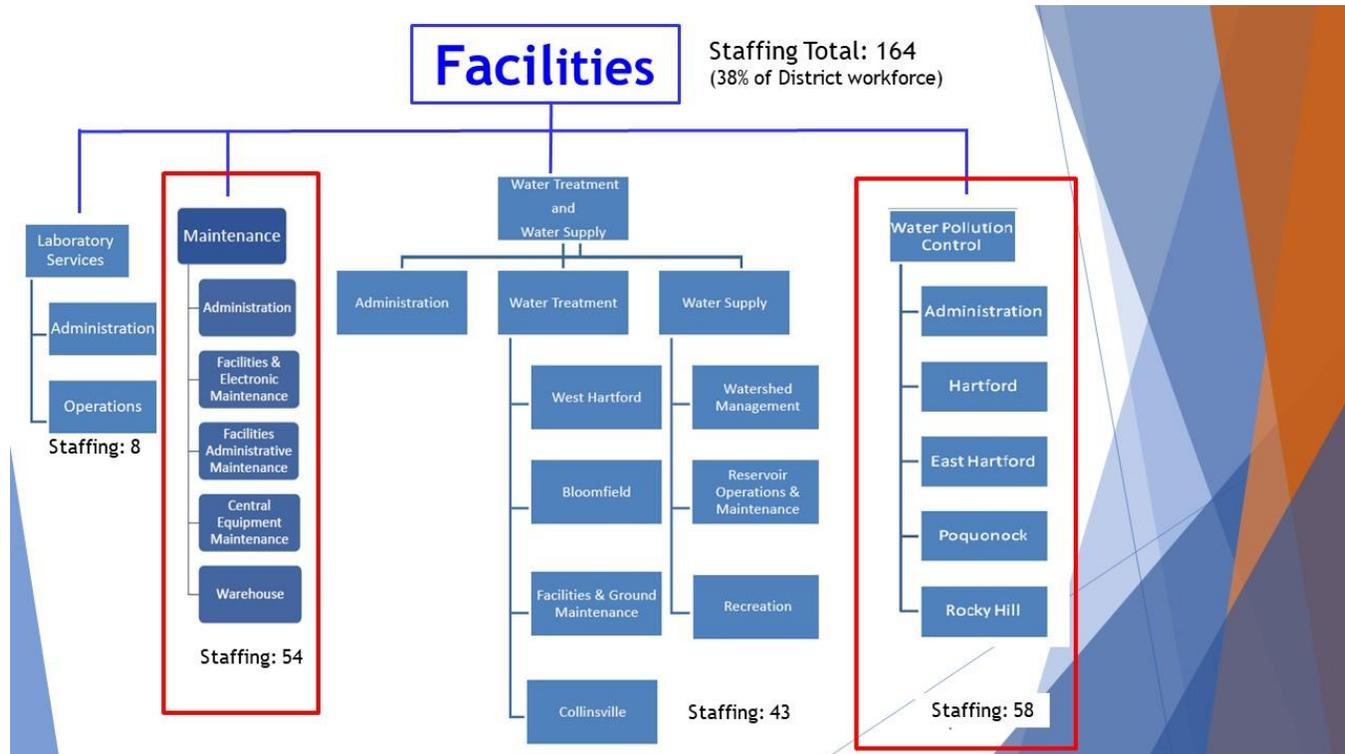
## AGENDA

1. Facilities Overview
2. Water Pollution Control (WPC)
3. Maintenance
  - Central Equipment Maintenance (CEM)
  - Warehouse
  - Facilities & Electronic Maintenance

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## Facilities Roles in District's Mission

- ▶ Water Supply - watershed protection
- ▶ Water Treatment - produces drinking water
- ▶ **Water Pollution Control - treats wastewater**
- ▶ Water Quality - analysis of drinking water & wastewater
- ▶ **Maintenance - operates pump stations; maintains all buildings, equipment and vehicles; warehouse**



### 3-PERFORMANCE MEASUREMENT PLAN

#### FACILITIES

- Budget adherence is a District wide measure that deserves significant attention. In functions where payroll is the overwhelming cost driver, cost monitoring is simplistic. In functions that have to deal with significant variables such as weather, commodities, supply chain limitations, market diversity or lack of, changing regulations, energy uncertainty, etc., make operating within budgets defined a year+ in advance of actual needs becomes a complex balancing act and mandates staff attention and flexibility.
  - In the past decade, no Facility department has required any special budget transfers to meet fiscal needs. This is a testimony to management and supervision that continually find innovative ways to maintain positive cost controls.
  - For 2023, Facilities operating budget is approximately 22% of the District operating budget

2023 Facilities Operating Budget		
Function	Budget, \$M	Budget %
Water Quality	\$ 1.6	4%
Maintenance	\$ 12.7	28%
Water Pollution Control	\$ 21.5	48%
Water Treatment & Supply	\$ 9.3	21%
<b>Total</b>	<b>\$ 45.1</b>	

## 13-SUCCESSION PLAN

### FULL RECOMMENDATION TEXT

- A. Develop a formal succession planning process that is consistent with labor agreements and affirmative action goals and supports the new organizational culture of rewarding and supporting merit within the workforce.
- This process should include the CAO and COO levels and all directors and managers, and their direct reports. All employees in these levels should be included in the program.
  - The process should consider how to encourage use of flexibility provided by the upcoming job classification project. There should be an ability to transfer employees within classifications without requiring certification or posing of bid notices, and the process should be consistent with the recommended core and continuing management training and development programs.
  - The succession planning process should assure that each employee in the program is offered the types of job experiences, position rotations, and executive exchanges, and development opportunities that will prepare the employee for higher level responsibilities in the future.
  - Create a rotation program for engineers to provide a greater base of experience as well as strengthening the interface between Headquarters engineering and field engineers.
  - To identify and develop a broader field of qualified internal promotional candidates, eliminate one-on-one reporting relationships.

#### Facilities Post COVID Succession

- Hired 15 from outside
- Promoted 25 internally
- 2 new hires were promoted

## 13-SUCCESSION PLAN

- Established a training program in lieu of the former spare program. The training program has provided training opportunities to staff that are interested in furthering their career through development of skill and knowledge. Following the program, additional staff are now qualified to perform the work and promotions within the labor union are made based on truly qualified and most senior.
- Other labor agreements have allowed Management to reorganize as needed to adapt to arising business needs which include customer requirements, regulator requirements and infrastructure needs.
- Engineers are being provided opportunities through centralized engineering across all business lines.
- Business Support Departments (Finance, Procurement, Customer Service, IT) continue to promote from within to management level positions whenever possible
- District began hiring Professional Level Trainees (PLTs) for recent college graduates for training opportunities in the organization to develop staff for future leadership roles
- The District has been successful in negotiating more flexible language into the contracts which provides more opportunity for the District to train, promote and hire qualified and experienced successors.
- In years past, Managers/Directors/Chiefs were all hired from the outside. Today they are mostly promoted from within due to the hiring of more qualified people. This creates movement for succession planning
- Hiring less people, but more qualified people.
- Multi-tasking jobs help to prepare workforce for higher level jobs

#### Facilities Succession

- Significant staff reduction
- Significant increase in operational, maintenance and compliance complexity
- Massive training effort including process, equipment, safety, etc.

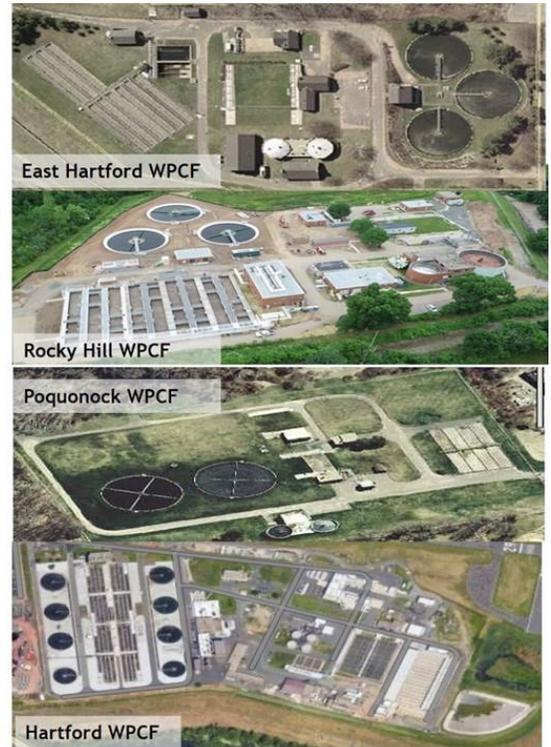
## Water Pollution Control (WPC)

### ▶ Operates 4 treatment facilities

- ▶ East Hartford - 12.5 MGD
- ▶ Rocky Hill - 7.5 MGD (peak of 27 MGD wet weather)
- ▶ Poquonock - 5.0 MGD
- ▶ Hartford - 90 MGD secondary & 110 MGD wet weather - **TOTAL 200 MGD**
  - ▶ Largest wastewater treatment plant in CT
  - ▶ HWPCF average daily flow is about 60 Million gallons per day ≈ 42,000 gpm
    - ❖ In one hour of average flows, the Hartford plant will treat about 2,500,000 gallons of used water!
    - ❖ EACH DAY would fill a line of milk jugs about 5,200 miles long - like going from Hartford to Los Angeles and back!

### ▶ We make clean water!!

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## Water Pollution Control

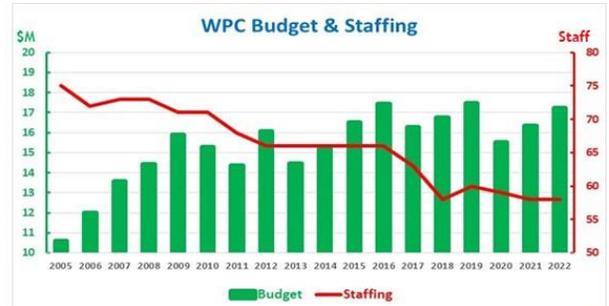
- ▶ Staff of approximately 57, most at Hartford
- ▶ 2023 operating budget is \$21.5M
  - ▶ Largest portion of operations budget within MDC
- ▶ All WPC facilities operate continuously, 24/7
  - ▶ Hartford WPCF is staffed 24/7
  - ▶ Satellite plants only staffed M-F, 7:30 - 4:00
  - ▶ Thousands of pieces of equipment
  - ▶ Computerized controls - high tech
- ▶ Excellent permit compliance performance
  - ▶ Since 1997, WPC earned nearly 100 awards for permit compliance, achieving multiple NACWA Platinum, Gold, Silver and Bronze certifications.

✓ **5,917 water quality tests were conducted in 2022.**  
 ✓ **Only 2 did not achieve standards.**  
 ✓ **This is a success rate of 99.97%!**

Facility	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
East Hartford	G	S	G	G	G	S	G	S	G	S	S	G	G	G	G	P	P	P	P	P	P	P	P	P	S	G
Hartford	S		S	S	S		S	G	S	G	S	G	S	S	S	S	S	S			S	S	S	G	S	S
Poquonock	G	S	S	G	G	S	G	S		S	S	G	G	G	S	G	S	G	S	S	S	S	S	S	S	S
Rocky Hill	G	S			S	S	G	G	G	S		S	S	G	S	S	G	G	S	G	S	G	S	G	G	G

### 1-REORGANIZE DISTRICT WATER POLLUTION CONTROL

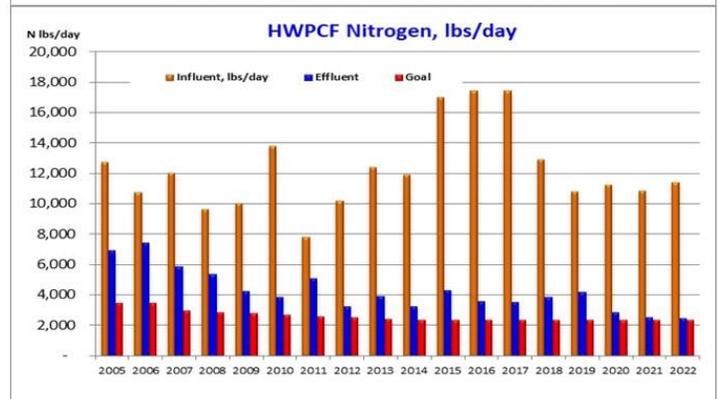
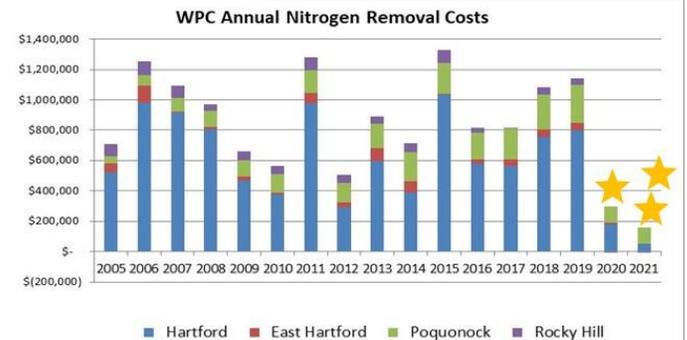
- The District operates four wastewater treatment plants. CT DEEP permits for water and air quality provide operations parameters. The total treatment capacity for the four facilities is approximately 245 million gallons per day. All facilities have a high level of automation monitoring and/or controlling thousands of pieces of equipment. The wastewater treatment plants, especially the Hartford facility, are by far the most complex infrastructure the District owns and operates.
- WPC lead the District charge to eliminate siloed positions. Working with Local 184, a plan was developed and implemented to streamline job descriptions and create a flexible operator that is no longer just trained in one specific plant or process area. WPC operators are now able to be used across the four WPC treatment facilities. This has created significant efficiencies, provided tremendous career possibilities and allowed all staff to gain a better 'big picture' understanding of how the facilities in their entirety operate.
- WPC, working in collaboration with Local 1026, implemented a similar plan with all supervisors, similarly creating flexible positions that can go from plant to plant, as needs dictate. This also offers a terrific career development pipeline.
- While the treatment plants have been increased in capacity and complexity, through better training, staff development and process efficiencies, WPC staffing has been reduced over the last decade from 77 in 2010 to 58 in 2022.
- WPC has been able to reduce overtime over the past decade, even with the reduction in staffing and the increased number of unit processes that have been brought on-line with increased complexity.
- The District is continuously looking to improve automation at all core facilities. The system is referred to as SCADA (Supervisory Control And Data Acquisition). This highly complex network allows for the majority of our equipment to be operated in an automatic manner and/or be monitored remotely. This provides significant cost saving as it facilitates process optimization and minimizes costs for energy, chemicals, etc.
- Hartford is meeting challenging new EPA Incinerator regulations and complying with all elements of the Consent Decree.
- In recognition of critical importance of preventative maintenance, WPC trained staff to safely and competently perform maintenance. In 2022 WPC staff completed more than 4,000 PM work orders per year, improving equipment reliability and facilitating maintenance staff to focus on higher level tasks.



Facility	2022 Preventative Maintenance Work Orders
Hartford	2,748
East Hartford	611
Rocky Hill	293
Poquonock	505
<b>Total</b>	<b>4,157</b>

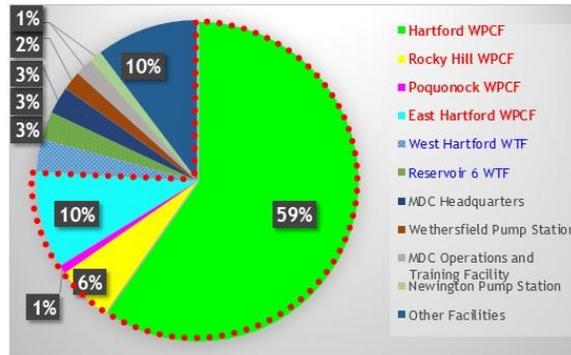
### 1-REORGANIZE DISTRICT WATER POLLUTION CONTROL, CONTINUED

- Over the last decade WPC has completed start-ups for a significant number of unit processes, including Ultraviolet Disinfection, Biological Nutrient Removal, Heat Recovery, Dry Ash Removal, Wet Weather Expansion Project; Preliminary and Dual Use Primary Clarification for the treatment of 200 MGD. Rocky Hill WPCF upgrade start-up. All these new unit processes have a significant level of complexity to operate.
- WPC lead District efforts on negotiating two rounds of 5-year NPDES permit renewals with CT DEEP. Our diligent efforts have made the District operating parameters better suited to our facilities, further supporting compliance.
- WPC has shown continuous nitrogen removal improvement. 2021 was the first year that two of WPC's treatment facilities; Rocky Hill and East Hartford received a pay back from DEEP for nitrogen credits. Hartford WPCF continues to show a downward improvement trend for nitrogen removal. Since 2012, the HWPCF has eliminated more than 3,500,000 pounds (1,750 tons) of nitrogen per year from the Connecticut River



### 4-INTEGRATED PLANNING PROCESS ENERGY MANAGEMENT

- Delivering District core business services requires a large amount of energy. Combining electricity, natural gas and fuel costs, makes energy one of the largest expenses for the District.
- Electricity is the largest component of energy use and energy expenses. The District operates thousands of pieces of electrical equipment, ranging from large pumps to automated instruments the control processes and equipment. The graph below shows a typical year (2014) for electrical usage. Wastewater treatment is 76% of utility electricity usage, while water treatment is 6%. It is obvious that focus on wastewater treatment electricity use is prudent, and in fact that is what the District has successfully done and continues to do.



### 4-INTEGRATED PLANNING PROCESS ENERGY MANAGEMENT, CONTINUED

- For many years the District has participated in numerous demand response programs. These programs provide financial incentives for reducing grid demand by temporary reductions in power use - i.e. turning off equipment when grid demand is highest.
- In 2018 the District engaged with C-Power (all demand response participants are required to have a licensed enrolling agent) to participate in demand response programs. The District has earned more than \$500,000 in performance-based incentives since 2018.
- Facility Specific Improvements and capitalizing on Energize CT grant programs. Over the past few years the District has been able to upgrade existing facilities with electrical (lighting) and mechanical (HVAC and Controls) improvements. Below are the improvements to date, the financial incentives received, annual cost savings and environmental impact.

Project	Project Cost	Incentive Amount	Incentive %	Annual kWh Savings	Annual Savings	Simple Payback (Years)
HWPCF Lighting	\$ 598,980.00	\$ 269,541.00	45%	748,309	\$ 127,212.53	2.59
Rossi Building Lighting	\$ 161,954.06	\$ 97,172.44	60%	185,664	\$ 31,562.88	2.05
Barkhamsted Lighting	\$ 49,223.52	\$ 22,150.58	45%	64,884	\$ 11,030.28	2.45
Reservoir No. 6 Lighting	\$ 128,174.39	\$ 76,904.65	60%	188,452	\$ 32,036.84	1.60
Collinsville Lighting	\$ 63,132.14	\$ 36,451.25	58%	66,275	\$ 11,266.75	2.37
West Hartford Filter Lighting	\$ 100,403.29	\$ 45,181.48	45%	129,372	\$ 21,993.24	2.51
West Branch Lighting	\$ 47,842.43	\$ 23,041.25	48%	46,856	\$ 7,965.52	3.11
Headquarters Lighting and HVAC	\$ 437,187.18	\$ 166,462.40	38%	256,096	\$ 43,536.32	6.22
CEM Lighting	\$ 88,670.00	\$ 35,294.21	40%	83,428	\$ 14,182.76	3.76
125 Maxim Road Lighting	\$ 105,316.78	\$ 31,339.93	30%	137,509	\$ 23,376.53	3.16
<b>Totals</b>	<b>\$ 1,780,883.79</b>	<b>\$ 803,539.19</b>	<b>45%</b>	<b>1,906,845</b>	<b>\$ 324,163.65</b>	<b>3.01</b>

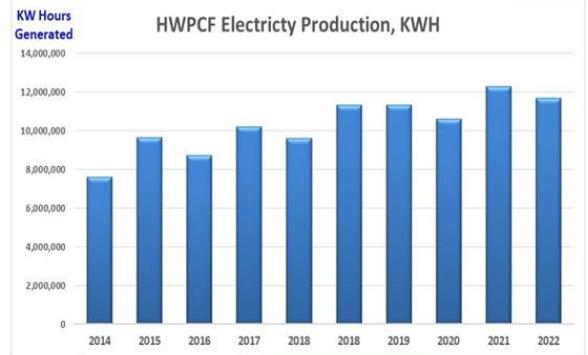
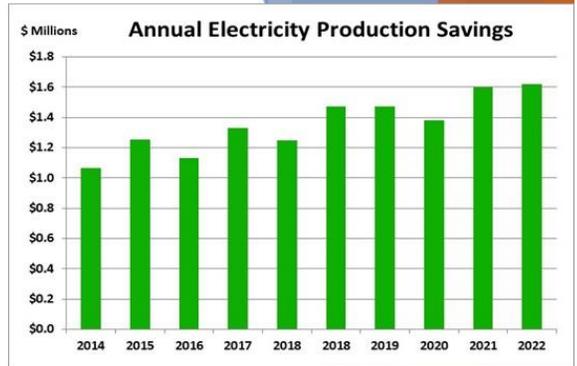
**Notes**  
Savings do not account for reduction in O&M costs to maintain lighting (>15 Year Life of each fixture)  
Lighting improvements provided improved workspace lighting which contributes to a safer workplace

Reduction in Air Pollution (Over 10 Year Period)		
CO2	17,648,992.36	lbs
Nox	5,764.28	lbs
SOx	6,796.96	lbs

### 4-INTEGRATED PLANNING PROCESS ENERGY MANAGEMENT, CONTINUED

- ▶ The Hartford WPCF has operated an electrical production facility since 2014 with great success, **producing over 130 million kilowatts-hours of power, saving the District more than \$13 million dollars - this exceeds the capital cost of the facility!** It's important to note that 60% of the solids incinerated that create the heat used to produce the electricity are the same solids that other towns pay the District to process, so in essence they pay us to take the fuel that we turn into electricity!
- ▶ Since 2005 WPCF has collaborated with Eversource on many energy efficiency projects, incorporating ultra-high efficiency motors, computerized controls, HVAC and lighting into every project. The District has received **\$2.5 M in incentive bonuses from Eversource for these efforts.** The HWPCF aeration blowers & control energy efficiency incentive was \$1.5 M, the single largest energy efficiency incentive Eversource had ever awarded.
- ▶ The District has also incorporated a high level of technology in energy efficiency, from installing large capacitors to computer automated controls driven by data received from instruments embedded in wastewater.
- ▶ The District is continuously looking into technologies that might be a viable component of our energy management strategy.
  - ▶ Currently exploring installation of a battery storage facility at HWPCF
  - ▶ Most recently looked into a direct connection to the Eversource high voltage grid. This was deemed not viable.
  - ▶ Previously looked at solar, wind. These were deemed not viable for our facilities.

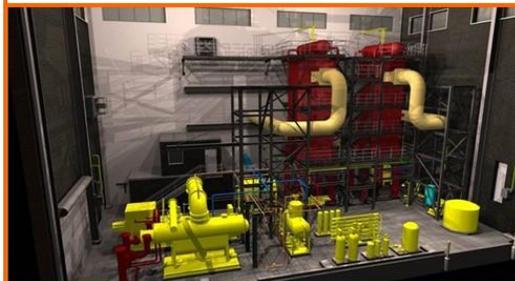
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## High Tech Solutions at HWPCF

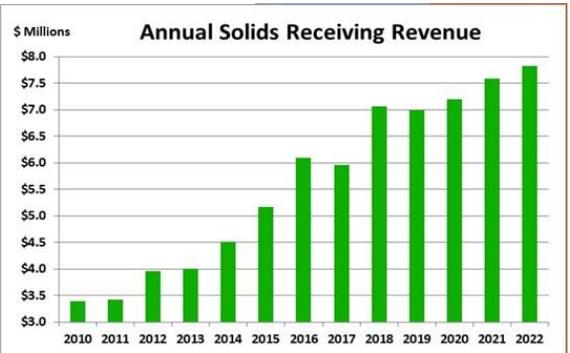
▶ Disinfect secondary effluent with ultraviolet light - no chemicals

▶ Generate 30%+ of our own electricity  
 ▶ Save ratepayers more than \$1 million each year  
 ▶ Produce about 1.5 MW per day

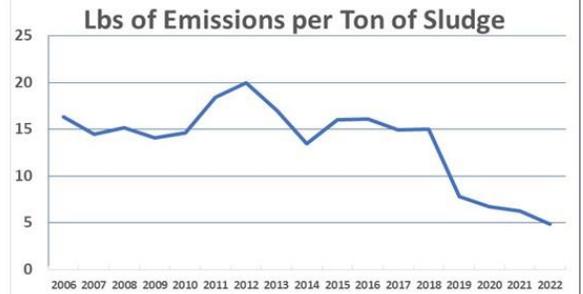


## 5-BUSINESS AND PRODUCT COST ACCOUNTING SLUDGE AND SEPTAGE BILLING DAY-TO-DAY RATE REVIEWS

- ▶ Operation of the Regional Solids Receiving Facility (RSRF) provides a steady source of revenue for the District, while providing a critical service to many regional utilities. Like any business, close attention needs to be given to market conditions, equipment availability, regulations (especially mercury content in sludge), and other factors. Close communication between WPC, Lab and Finance makes this happen.
- ▶ To maintain compliance and minimize costs associated with operating solids treatment, WPC has continually evolved the operating strategy for RSRF. Factors recently used to drive change include limiting digested sludge and phosphorus sludge due to low BTU content. Low BTU content sludge requires using additional natural gas to maintain temperatures necessary for air permit compliance with the incineration process.
- ▶ WPC also has regular outside reviews conducted, via a cost modeling effort, of the disposal fees to ensure that District member towns are not subsidizing non-member town sludge disposal.
- ▶ WPC has had an upward trend in Solids Receiving revenue since 2007 that totals \$77 million dollars. This entrepreneurial effort is significant as a stand-alone accomplishment, but when considering the increase in the HWPCF size and complexity, combined with staff reduction, it is an accomplishment not equaled by any other New England utility.
- ▶ Annual fee paid to CT DEEP for emissions greatly reduced due to lowered emissions and elimination diesel driven pumps.



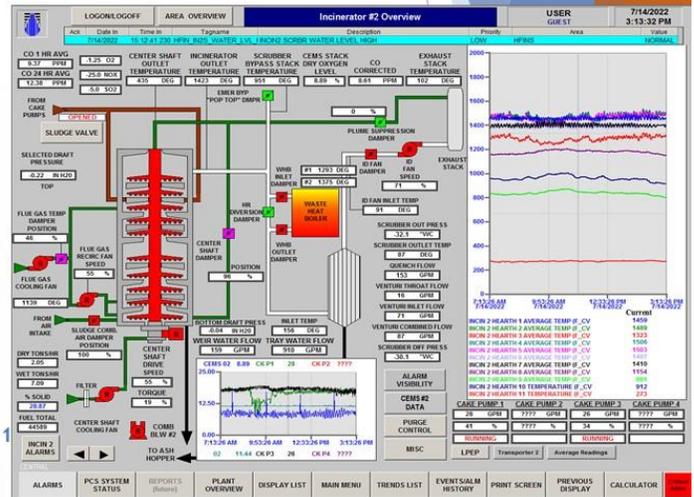
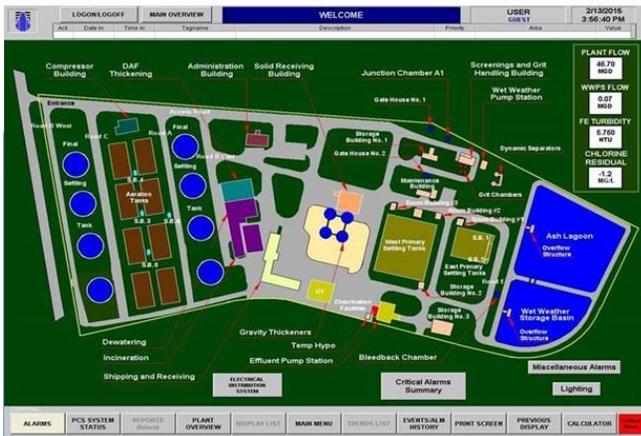
- Increased RSRF Revenue more than 100%
- Decreased emissions more than 70%



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## 12-WORKFORCE PLAN SCADA

- ▶ The District uses a highly complex, secure control system, called SCADA, Supervisory Control and Data Acquisition.
- ▶ High level of automation, facilitates human focus on higher level thinking, versus repetitive manual manipulation of equipment.
- ▶ Powerful computer system monitors thousands of pieces of equipment, sensors and instruments, drives process optimization.
- ▶ Security, fire alarms & HVAC also included.



## SCADA DEMO

### 12-WORKFORCE PLAN

#### eOM

- ▶ **PROBLEM:** Where is the info I need?
  - ▶ Data sources are isolated, under-utilized, and hard to find
  - ▶ Missing documents
  - ▶ Difficult to know if the most updated information is available
  - ▶ Knowledge is retiring and walking out the door
  - ▶ New workers are seeking 'everything digital or online'
  
- ▶ **SOLUTION:** electronic Operations Manual (eOM)
  - ▶ All sources of info captured in one place, single point of info access
  - ▶ Expandable, easy to update, accurate and always available
  - ▶ Equal access information by every employee
  - ▶ Faster access to information - no need to 'look' for a paper document
  - ▶ Better organization, consistent level of detail & arrangement
  - ▶ Improves workforce knowledge and efficiency of operations & maintenance
  - ▶ Searchable electronic operator logs - 1<sup>st</sup> WPCF in CT to get DEEP approval

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#### Old Way of Information Management



#### New Way of Information Management



## Training & Technology - Powerful Tools

- 200+ training classes
- 100+ SCADA workshops
- Updated CMMS - PM procedures
- On-line Information - eO&M - a portal to content
  - ▶ O&M Manuals - 1,400
  - ▶ SOPs & Control Strategies - 130
  - ▶ Process-based O&M Chapter pages - 3,200
  - ▶ Operator Log Entries - 120,000+
  - ▶ Troubleshooting support
  - ▶ Training Documents & Videos - 450
  - ▶ Photographs - 8,100
  - ▶ Record Drawings 1,800
  - ▶ Lock Out / Tag Out procedures - 200
- Must gather employee process intelligence and provide 'next gen' digital tools 20

*Tablet & Phone Accessible*



eOM demo

## Hartford WPCF Staff



## East Hartford WPCF Staff



## Poquonock WPCF Staff



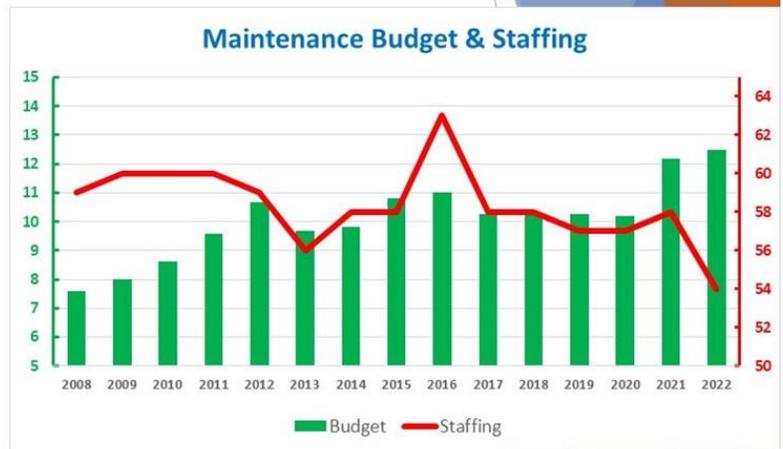
## Rocky Hill WPCF Staff



# MAINTENANCE

## Maintenance

- ▶ Staff of approximately 54
  - ▶ CEM - 14
  - ▶ Warehouse - 7
  - ▶ Facilities Maintenance 33
- ▶ 2023 Operating budget is \$12.5M
- ▶ Outstanding safety record - work in many challenging locations



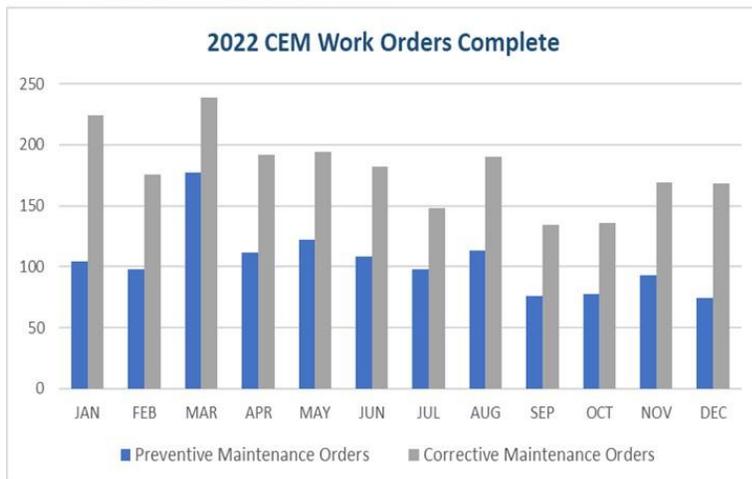
## Maintenance - 3 Integral Components

- ▶ Central Equipment Management (CEM)
  - ▶ Maintains & repairs District Fleet & Generators
  - ▶ Two locations, Murphy Road and Barkhamsted
- ▶ Warehouse
  - ▶ Maintains inventory, multiple locations
- ▶ Facilities Maintenance
  - ▶ Operates & maintains sewer and water pump stations
  - ▶ Maintains all plant equipment & facilities
  - ▶ Electrical, mechanical & instrumentation

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## Central Equipment Maintenance

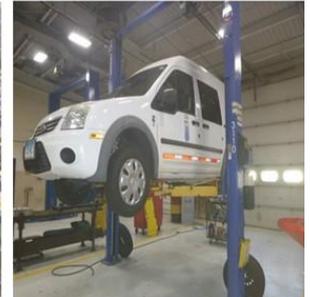
- ▶ Care for nearly 1,300 pieces of equipment
- ▶ In 2022, approx. 4,200 total work orders created
- ▶ Completed over 80%



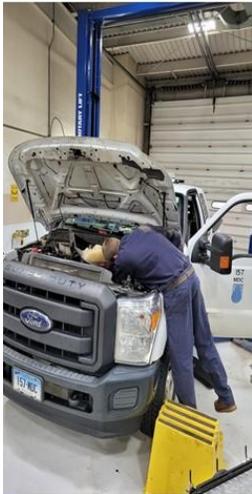
Class	Equipment Type	Count
Class 1	Small SUVs, Pickups and Vans	92
Class 2	Full Size SUVs Pickups and Vans	70
Class 3	Dual Rear Wheel Vans	9
Class 4	F-450 Trucks and Vans	7
Class 5	F-550 Trucks	29
Class 6	Light weight compressor Trucks	3
Class 7	Heavy weight compressor trucks	12
Class 8	Six and 12 Wheel dump trucks and sewer equipment	30
Class 9	Backhoes, loaders - off road equipment, electric carts	99
Class 10	Trailers and trailer mounted equipment	57
Class 11	Generators, stationary and trailers	133
Class 12	Power equipment, pumps, saw ect.	726
Class 13	Boats and outboard motors	20
Total		1287

## 1-REORGANIZE DISTRICT VEHICLE MAINTENANCE MANAGEMENT

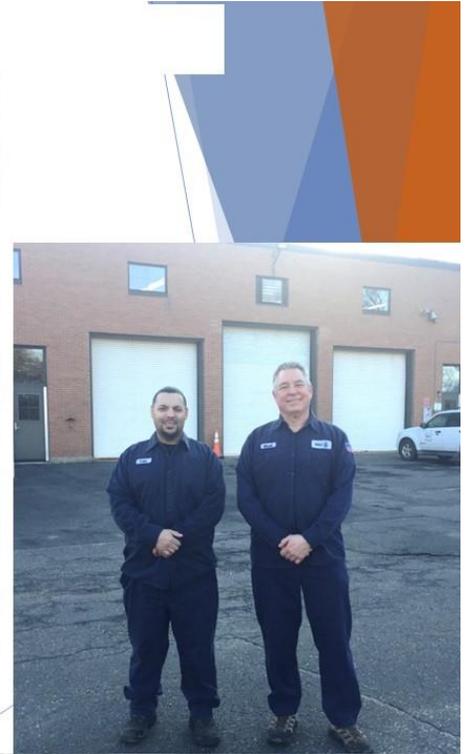
- Central Equipment Maintenance (CEM) is responsible for maintaining all of the District's vehicles, generators and powered equipment.
- There are currently approximately 1,300 vehicle and pieces of equipment in the CEM fleet.
- CEM collects input from end users regarding the purchase of new equipment and vehicles for said departments.
- In 2017 the CEM satellite facility located at West Hartford Filters was closed and work load was split between Barkhamsted and Hartford CEM facilities.
- Since 2017 the CEM fleet was reduced by approximately 30 pieces of equipment including over the road vehicles, tools and work equipment.
- In 2019 CEM began to outsource all body and paint repairs which are now performed by outside entities, producing significant savings for the District.
- CEM deployed high technology GPS monitoring in many vehicles, allowing locations to be tracked for increased response time to emergencies, as well as safety metrics monitoring.
- CEM also deployed high technology for vehicle monitoring using fuel consumption data. This also supports fuel inventory monitoring and ordering, along with creating work orders based on miles driven.
- MDC implemented using an outside auction company as a means of selling off replaced and outdated vehicles and equipment. This action generates approximately \$200,000 annually. MDC used vehicles garner high market values as purchasing entities know the vehicles received regular maintenance.
- Implemented Fuel Master upgrades that facilitate reading on-board vehicle diagnostics and triggering maintenance.
- CEM uses 'big data' analytics to closely monitor vehicle condition to base repair or replace decisions on.



## CEM Staff - working hard to keep things running

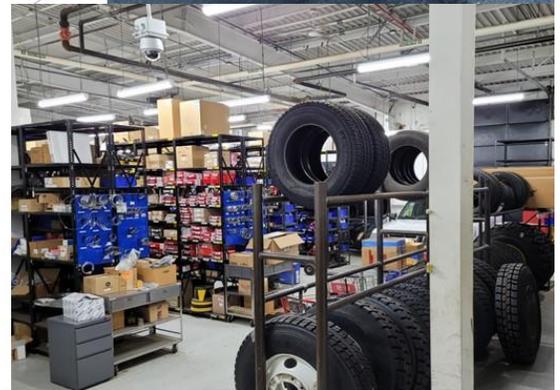


## CEM Staff - Hartford & Barkhamsted



### Warehouse

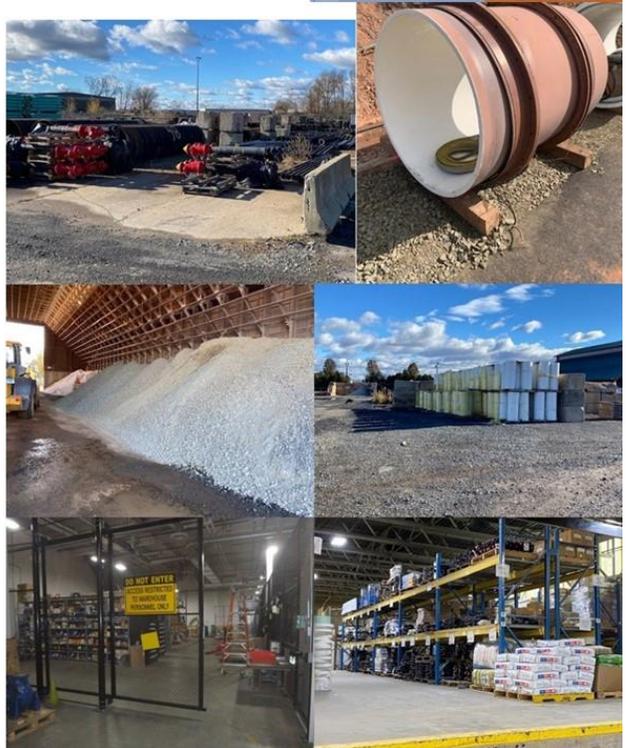
- ▶ Provide inventory & warehousing functions for Operations, WPC and CEM
- ▶ Ensure availability of needed parts when needed
- ▶ Typically over 100,000 parts in inventory
- ▶ Ongoing post-COVID supply chain issues remain incredibly challenging - example - water meters ordered in October 2022 are scheduled for delivery in November 2023



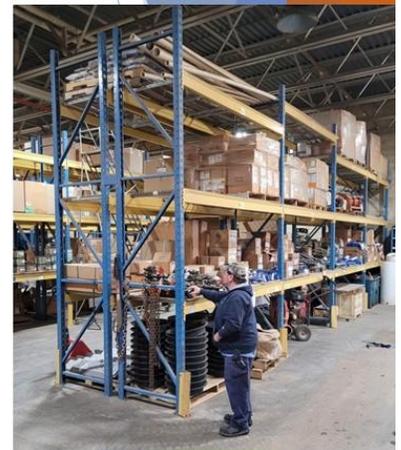
	2022 Warehouse	
	Transactions	Value
CEM	1,375	\$ 264,867
Operations	1,563	\$ 3,777,430
WPC	691	\$ 1,829,543
<b>Total</b>	<b>3,629</b>	<b>\$ 5,871,840</b>

## 1-REORGANIZE DISTRICT INVENTORY

- The warehouse function controls all of the spare part inventory
  - These high value components are needed to maintain core business functionality when critical infrastructure needs repair. The main 'customers' are operations and maintenance.
  - Many parts also have very long lead times between order placement and part receipt, so having certain parts in stock is vital
- Historically the District operated one main warehouse and several decentralized warehouse areas
  - All smaller warehouse areas were eliminated and the main warehouse became 'parts central' for the District
  - Overall inventory quantities were reduced
  - Better organizational control was established
  - Staffing was reduced
- In 2016 The warehouse implemented using lock boxes for Operations repair department covering the most common size pipe repairs for weekend and after hour repairs reducing overtime. In 2020 the third shift at the warehouse was eliminated reducing the overall staff.
- In 2020, based upon a continuous improvement review, a select subset of inventory was moved to 231 Brainard to eliminate the need for overtime call-ins related to Maintenance needs and ultimately reduce downtime costs.



## Warehouse



## Types of Maintenance

- ▶ Preventative
  - ▶ Triggered by time, consumption, hours, flow, etc. (i.e. oil change every 3,000 miles)
- ▶ Predictive “just in time”
  - ▶ Triggered by condition (i.e. oil analysis - only change when needed)
- ▶ Corrective
  - ▶ Triggered by loss of capacity, malfunction, breakdown

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## Water & Sewer Pump Stations

- ▶ 21 Water Pump Stations, range from 1 gpm (Kenmore, Bloomfield) to 1,200 gpm (Newington)
- ▶ 76 Sewer Pump Stations, range from 75 gpm (Prasser Drive, East Hartford) to 3,650 gpm (Wethersfield Trunk, Rocky Hill)
- ▶ 10 water tanks & water basins

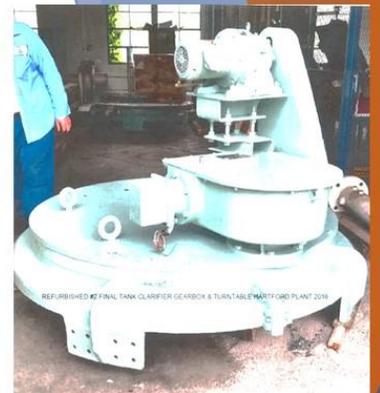
	Water PS	Sewer PS	Water Tanks & Basins
Bloomfield	4	9	0
East Hartford	1	10	1
Hartford	0	6	1
Newington	2	9	1
Rocky Hill	0	11	2
West Hartford	4	13	2
Wethersfield	1	3	0
Windsor	1	15	1
Glastonbury	7	0	2
Farmington	1	0	0
<b>Total</b>	<b>21</b>	<b>76</b>	<b>10</b>

2022 PUMP STATION EMERGENCY ALARMS	
Alarm Type	TOTAL
Pump Failure	202
High Well	17
Low Well	4
Generator Failure	12
Station Entry	1
Communication Failure	16
Control Power Failure	1
Phase Loss	6
Miscellaneous Alarms	38
<b>Total Responses</b>	<b>297</b>

## Pump Station SCADA demo

### 1-REORGANIZE DISTRICT MAINTENANCE

- The Facilities/Plants and Pump Stations Maintenance Department is tasked with ensuring mechanical, electrical and automation reliability of thousands of pieces of process and ancillary equipment cross all of the District treatment plants, maintaining all buildings (such HQ, Customer Service, etc.) and, operating & maintaining 100 water & sewer pump stations and drinking water storage tanks. Also included is upkeep of the District's complex automation systems, security and camera networks.
- Adopted a wide-angle perspective of risk management, understanding that disruptive events can and will occur in different ways.
  - *Regular assessments and mitigation planning for all major risk sources.*
  - *Developing a Sewer Pump Station Overflow and Bypass Emergency Procedures Manual, Emergency Procedure Maintenance Activity Manual.*
  - *The District has 17 written emergency procedures for the Maintenance Department along with Operations Flood Control Procedures. These are regularly reviewed and updated to maintain currency with evolving infrastructure.*
  - *Migrated from the crisis management by implementing and upgrading the predictive and preventative maintenance philosophies, including technologies such as vibration analysis, lube oil analysis and thermography. By using technology as a tool, the maintenance department is able to increase value and productivity of our staff through new skills and technology, while maintaining and operating pump stations to minimize power use and optimizing work schedules and routes to minimize service vehicle travel miles.*
- Maintenance reduced staffing from 37 employees in 2011 to 30 employees in 2022 by hiring highly skilled tradesmen, electricians, technicians, mechanics and supervision, despite an significantly increased workload and increased complexity of work as a result of new facilities.
- Maintenance adoption of purchasing cards use eliminated generating approximately 500 requisitions per year, improving repair time and eliminating finance staff time spent issuing POs.
- Continuing to improve on multiple water and waste water pumping station mechanical equipment & components along with electrical and controls upgrades. Typically upgrade 4 to 6 Sewer Pumping Stations annually.

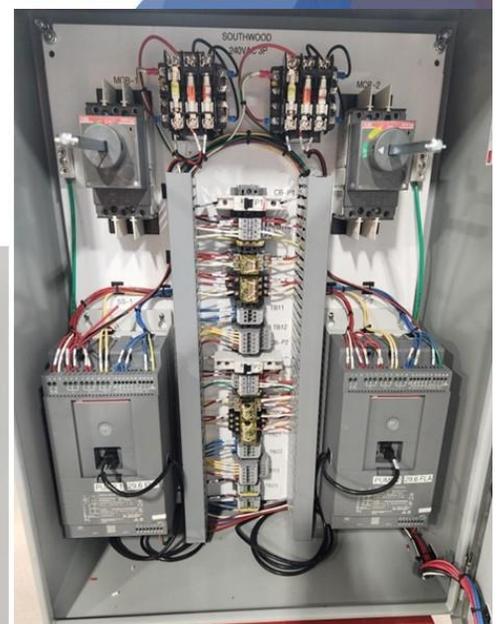
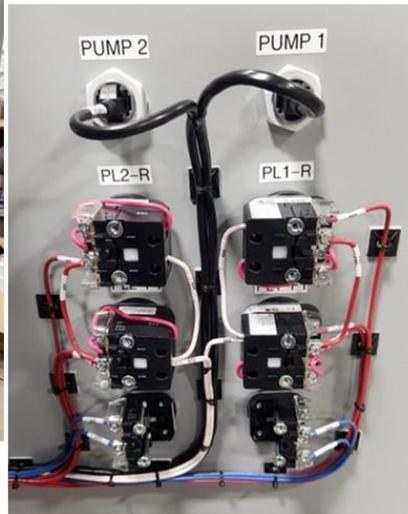


### 1-REORGANIZE DISTRICT MAINTENANCE, CONTINUED

- Implementing our entire infrastructure in upgrading Supervisory Control and Data Acquisition (SCADA) and instrumentation.
- Security Camera upgrades throughout the District facilities for monitoring & security.
- Constructing more than 100 CSO panels in-house to convert from leased telephone lines to cell modems
- Collinsville Water Treatment Facility control panel upgrades
- Rocky Hill Water Pollution Control sludge control upgrades
- Server upgrades throughout the District
- Utilize GPS Verizon Connect application to direct the closest vehicle to any given emergency which increases our response times
- Developed a pre-employment multiple choice written test for our Electronic Technician, Electrician and Machinist/Mechanic positions to obtain the best candidates. This is done in conjunction with developing a hands-on practical test for each trade along with an expectation list for those chosen while on probation.
- Continue to provide training in-house, hands-on, and through online Skillsoft-Percipio, safety, laser alignment, Loctite applications, pressure reducing valves, centrifugal pumps, rigging, confined space, lockout/tag out, cyber security & resilience, continuing education, training, and license renewals for electricians etc. (due to the pandemic this type of training suffered for two years with the exception of the Skillsoft-Percipio and virtual online classroom courses).
- New equipment training for newly constructed process upgrades. Staff are thoroughly trained prior to accepting new equipment.



## Control panels



## Laser Alignment demo

### 1-REORGANIZE DISTRICT MAINTENANCE, CONTINUED

- Updated Maintenance Emergency Action Plan
- Developed a Maintenance Incident Action Plan Composition for Coronavirus
- Reverse engineered as many equipment components in pump stations and treatment facilities to curb time and cost for our stakeholders
- Work with IT department supporting Cyber Security & Resilience - CISA Guidance on Critical Vulnerabilities
- Decommissioning of the Colebrook Hydroelectric Generators
- Replacing permanent/portable emergency generators at all Facilities, Pump Stations as needed
- Commissioned four Emergency Trailers which house 2", 3", & 4" Godwin pumps (sewage) with hoses and hardware components also two 6", 8" portable Godwin Pumps
- Moved the Maintenance Department into 231 Brainard Road and set up all the tradesmen's shops, Carpentry, Electrical, Electronics & Machine along with additional electrical, pneumatic, hydraulic and wash areas as needed
- Outfitted the Machine Shop with new/used machinery to fabricate parts inhouse to curb cost and increase quick turnaround, especially in relation to emergency repair work
- Developed a detailed Pump Station Alarm Response Matrix to allow Command Center staff to understand the alarms and make informed decisions about whether maintenance staff needs to be called-in to respond.



**THE METROPOLITAN DISTRICT**  
HARTFORD COUNTY, CONNECTICUT

**EMERGENCY PROCEDURE**  
MAINTENANCE ACTIVITY



## 9-DECENTRALIZE PLANT MAINTENANCE

### **FULL RECOMMENDATION TEXT**

- A. Decentralize Plant Maintenance and deploy the maintenance resources to the Water, Wastewater, Solid Waste and Operations departments. The electricians, mechanics and instrument technicians would be divided among Water, Wastewater and Solid Waste. Pump station, machine shop, vehicle maintenance and stationary engine personnel would be deployed to Operations. Maintenance personnel from all lines of business would continue to support work and provide expertise to other facilities on a cross-charged basis.

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## 9-DECENTRALIZE PLANT MAINTENANCE

- This was not adopted for a number of reasons. Specifically the decentralization would result in less efficient resources, less standardization of equipment and technology across business lines and inability to staff with adequate resources in areas such as control system technicians, mechanics and electricians. Reduced opportunities for cross training as well as flexibility in work performance.
- To further improve the efficiency of the Plant Maintenance Department, the SAP system was equipped to manage all preventive maintenance activities at prescribed intervals which has led to improved performance of the assets as well as reduction of unplanned corrective work. Expansion of the PM program has continued as new facilities and process areas are constructed and new equipment are commissioned
- Mechanics and Technicians are familiar with equipment across all facilities (water & sewer) due to standardization. To further improve the execution of maintenance following construction of new assets, reliability centered design workshops are routinely conducted by maintenance, design and operating staff. This ensures that what is being built will be able to be maintained and operated safely and efficiently

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## 12-WORKFORCE PLAN

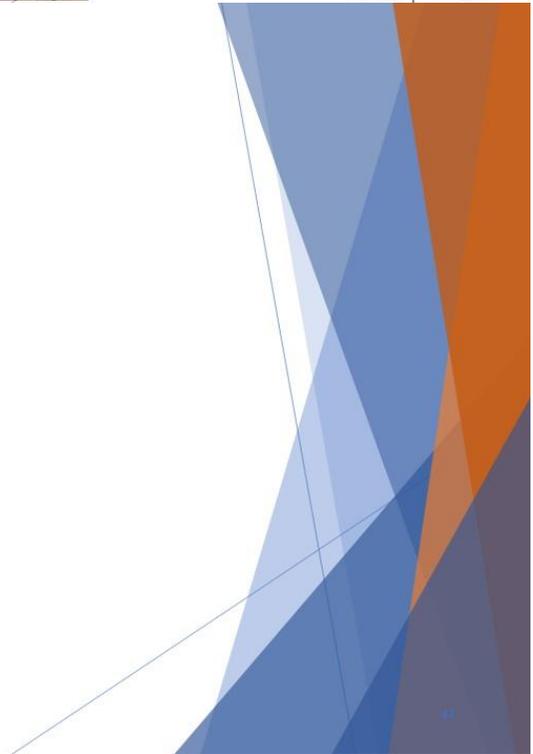
### CAMERA SYSTEM

- ▶ The District operates and maintains a robust camera system - nearly 300 deployed throughout many locations.
- ▶ Easily accessible via a secure portal.
- ▶ Every major construction program at a facility has expanded camera system.
- ▶ Two primary uses of camera system:
  - ▶ Security - "eyes" on many areas at once
  - ▶ Process Control - operators can watch process areas without having to drive to, or walk to, a location just to look at something
- ▶ IT and Electrical/Instrumentation Maintenance groups collaborate on system development and implementation.
- ▶ Expansion of system will continue with new projects and evolving needs.

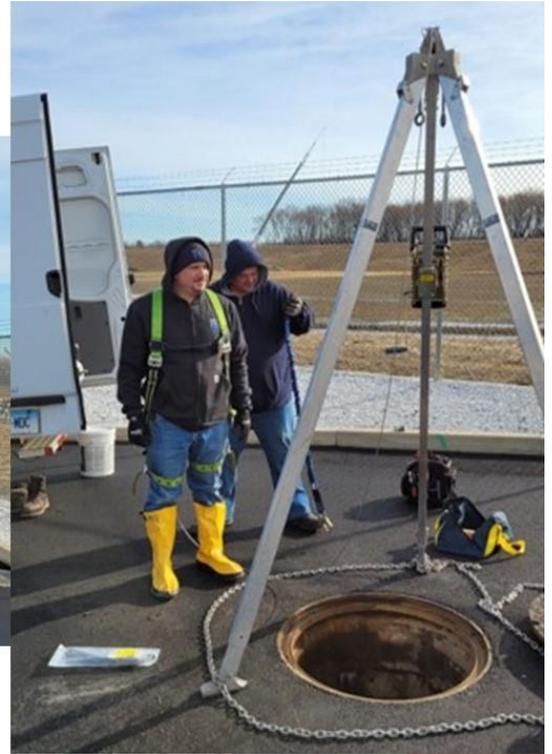


Facility	Number of Cameras
231 Brainard, 50 & 60 Murphy Operations	46
Headquarters	45
Hartford WPCF Including TPS	36
East Hartford WPCF	72
Poquonock WPCF	13
Rocky Hill WPCF	2
Water Supply	8
Reservoir 6 WTP	58
West Hartford Filters WTP	7
	11
<b>TOTAL</b>	<b>298</b>

## Camera system demo



## Maintenance Staff - pulling cable



## Maintenance Staff



Pressure Reducing Valve -  
Farmsted SPS



HWPCF Influent Pump - Being  
removed for rehabilitation

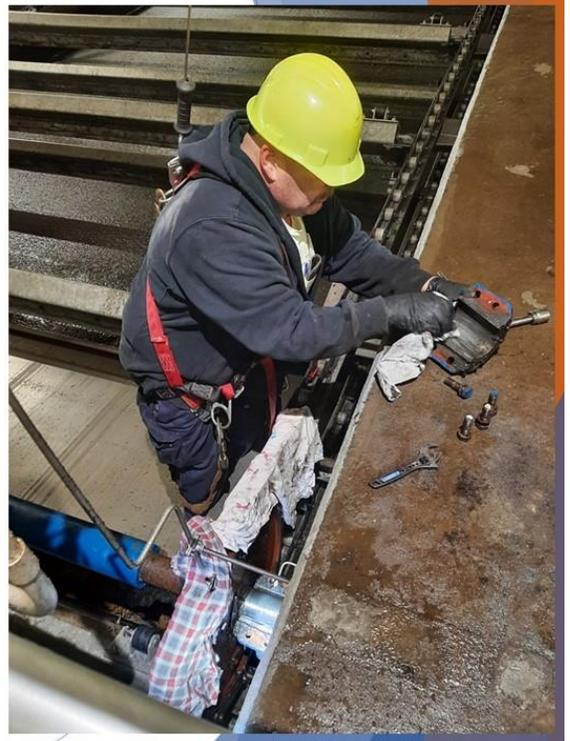


HWPCF RAS Pump - Aligning pump  
and motor

## Maintenance Staff - In Action at Fish Fry Sewer Pump Station

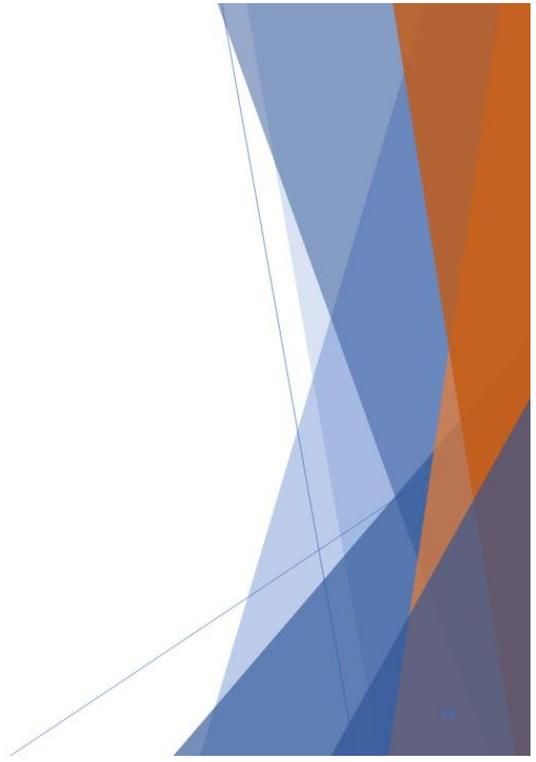


## Maintenance Staff - HWPCF DAFT



## Wrap-up

- ▶ Impressive infrastructure
- ▶ Tremendous technology
- ▶ Outstanding results
- ▶ NONE possible without excellent staff!



*Craig Scott, Manager of Environment, Health and Safety, provided a presentation regarding the Environment, Health and Safety Department.*



# The Metropolitan District Environment, Health & Safety Department

Presented by:  
Craig Scott, P.E. - Manager of EH&S



## Mission Statement

The EH&S Department is committed to ensuring the health & safety of MDC staff and customers, and protecting the environment through compliance with Conn OSHA, DEEP and EPA regulations and by providing effective guidance and training.



## 2003 MANAGEMENT STUDY-REORGANIZE DISTRICT

### *ENVIRONMENT HEALTH & SAFETY*

- EH&S was transferred to Operations with guidance:
  - Develop SOP's for departments and be utilized as a support department for all departments in the organization.
  - Address environmental compliance objectives and maintain worker safety.
  - Develop standard procedures for worker safety and new environmental challenges from the CWP and additional safety staff were extended through the use of consultant services.
  - EH&S to evolve to address new permitting requirements for air, soil management permitting related to contaminated and polluted soils being excavated on construction projects and operational work activities, and address industrial user discharges with the inheritance of DEEP functions as well as stormwater management for MDC facilities.

3

## EH&S Department

- EH&S established in 2001
- EH&S has 1 manager, 1 environmental specialist,
- 2 safety specialists and HHW assistance from COO clerk

### EH&S Manages:

- Air permits, Water permits
- Wastewater permits
- Facility SPCC and SWPPP
- Facility waste disposal and USTs
- Safety Training and Reporting
- Household Hazardous Waste (HHW) Program



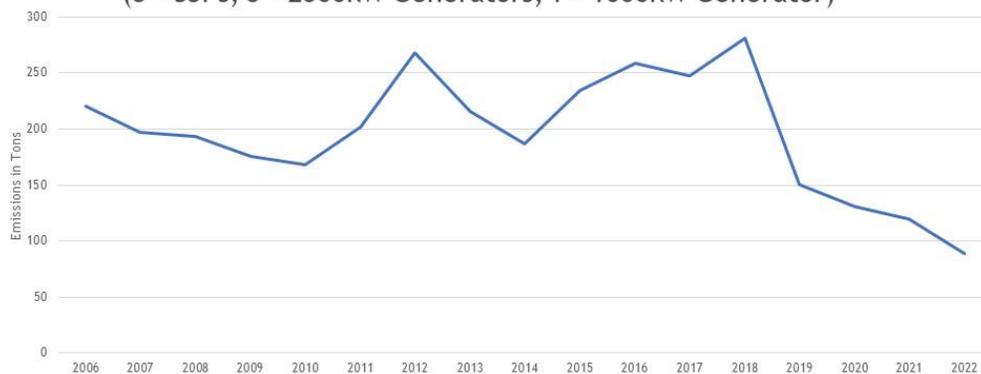
## Air Compliance

- Hartford WPCF
  - (3) NSR Permits - one for each sewage sludge incinerator (Over 80 regulatory requirements for each permit)
  - (3) 2500kW Emergency Generators
  - (1) 1000kW Emergency Generator for UV
  - Title V Permit (Over 700 regulatory requirements)
  - Annual Emission Statement
  - Semi-Annual Reports for DEEP and EPA
  - Annual Title V Compliance Report for DEEP
  - Emissions Stack Testing
  - Continuous Emission Monitoring (CEMs) Reporting Requirements for CO and O<sub>2</sub>
  - DEEP Biennial Air Inspection (5-7 days)



## Air Compliance

- Hartford WPCF Emissions Summary - (3 - SSI's, 3 - 2500kW Generators, 1 - 1000kW Generator)



- Emissions Reduction due to:
  - Improved incinerator controls
  - Installation of incinerator CO CEMS monitoring system
  - Decommissioned 5 diesel effluent pump engines

## Wastewater Compliance

### MDC Facilities - EH&S Prepares Permit Applications for:

- 4 National Pollutant Discharge Elimination System (NPDES) Discharge Permits for WPCFs (5-years)
- 3 Comprehensive Wastewater General Permit for: Reservoir 6 WTP, Collinsville WTP and Goodwin Hydro (discharge to surface water)
- SIU Wastewater Permit for Reservoir 6 (discharge to sewer)
- Submitted an Individual Wastewater Permit for WHF

### Industrial Wastewater Discharges - EH&S Reviews and Approves:

- Over 700 industrial facilities discharge to MDC sewer
- DEEP MIU Wastewater General Permits (<25,000 gpd)
- DEEP SIU Wastewater General Permits (>25,000 gpd + Metal Finishing)
- Individual Industrial Sewer Discharge Permits (i.e. Saputo Dairy Foods)
- Groundwater Remediation Wastewater General Permit

## Spill Prevention, Control and Countermeasure Plans (SPCC)

### Storm Water Pollution Prevention Plans (SWPPP)

- ▶ Required for facilities with certain amounts of on-site fuel/oil storage
- ▶ EH&S updates SPCC and SWPP plans per DEEP requirements
- ▶ Coordinate stormwater monitoring and sampling for facilities
- ▶ Stormceptor controls installed at Operations as a BMP
- ▶ Facility inspection reports are submitted to EH&S for review
- ▶ Annual Training for Staff

- Barkhamsted HQ
- East Hartford WPCF
- Hartford WPCF
- Rocky Hill WPCF
- Poquonnock WPCF
- Vehicle Maintenance
- WH Filters
- Goodwin Hydro
- Operations



## Underground Storage Tanks (USTs)

- ▶ UST Closures (removal or abandonment)
  - ▶ Replaced with aboveground tanks.
  - ▶ Reduces regulatory burden and liability.
  - ▶ Eventually replace all USTs with aboveground storage tanks or alternative energy sources.

Facility	# Tanks Closed
WPCFs	19
Water Treatment & Supply	10
Operations	10
Vehicle Maintenance	2
Pump Stations	12
<b>TOTAL</b>	<b>53</b>

- ▶ (3) remaining USTs - (2) at PWPCF and (1) at EHWPCF



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## MDC Soil Management

- ▶ Capital Sewer and Water Pipe Projects
  - ▶ Past Practice
    - ▶ Contractors were responsible for polluted soils, which included, finding a soil disposal site and for finding clean backfill providers.
    - ▶ This resulted in differing site conditions and unanticipated change orders and scheduling delays.
  - ▶ Current Program
    - ▶ EH&S collaborating with Technical Services & Engineering
    - ▶ Excavated soil is taken to Soil Management Facility and sampled for lab analysis.
    - ▶ Classify soil as Clean, Polluted or Contaminated according to DEEP regulations.
    - ▶ Recycle clean and polluted soil per DEEP reuse regulations creates lower design and disposal costs.
    - ▶ Buy back recycled soil material to use as backfill at a fraction of the price.
    - ▶ Savings of approximately \$800,000 per year. Since 2018 - \$4M Savings

10 10

## Waste Aerosol Mark-Out Paint Management

- ▶ EH&S developed operator “Can Crushing” procedure and staff training
- ▶ Proper disposal of used paint cans
- ▶ There are approximately 2,500 used paint cans per year
- ▶ Used paint cans are crushed and the metal is recycled
- ▶ Waste paint is disposed of as regulated waste
- ▶ Annual savings of approximately \$24,000/yr



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## Facility Waste Management

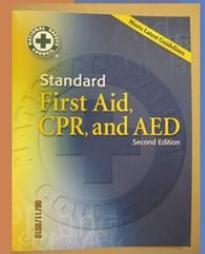
- ▶ EH&S assists with proper disposal of facility waste.
- ▶ Used florescent bulbs, electronics, batteries
- ▶ Used paint, oil, solvents
- ▶ Stormwater catch basin grit (Annual Savings = \$200,000)
  - ▶ Operations designed drying area to reduce cost of disposal of grit to Manchester Landfill.



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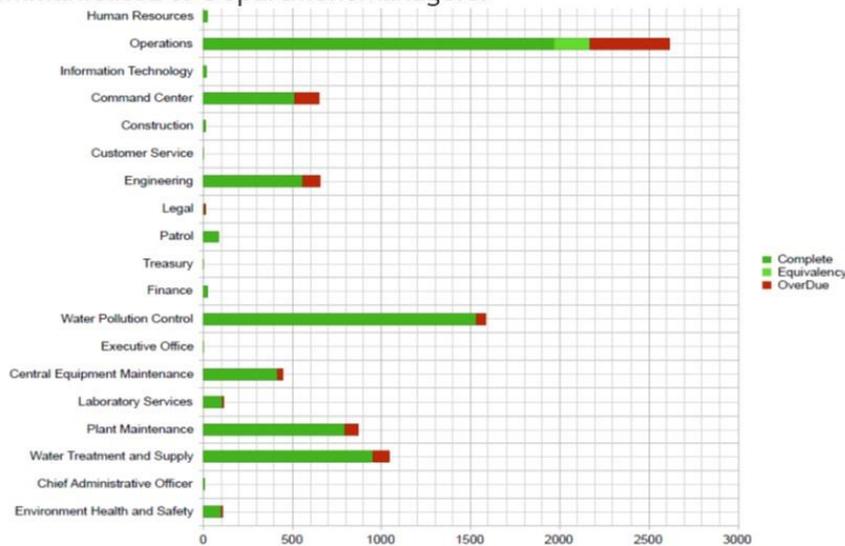
## Safety Training

- ▶ EH&S provides specific safety training to staff depending on their field of work and hazards they may encounter.
- ▶ 2017 EH&S moved to online training tool to address safety and legal compliance training requirements.
- ▶ 2022 EH&S assigned approximately 7,500 online training classes.
- ▶ 2022 EH&S coordinated 33 in person training classes for approximately 500 staff. These included:
  - First-Aid/CPR/AED
  - Confined Space Entry
  - Excavation & Trenching
  - Lockout/Tagout
  - Forklift Operator Evaluations
  - Work Zone Design
  - Short Duration Work Zone
  - RCRA/DOT Waste shipping paperwork
  - Electrical Safety

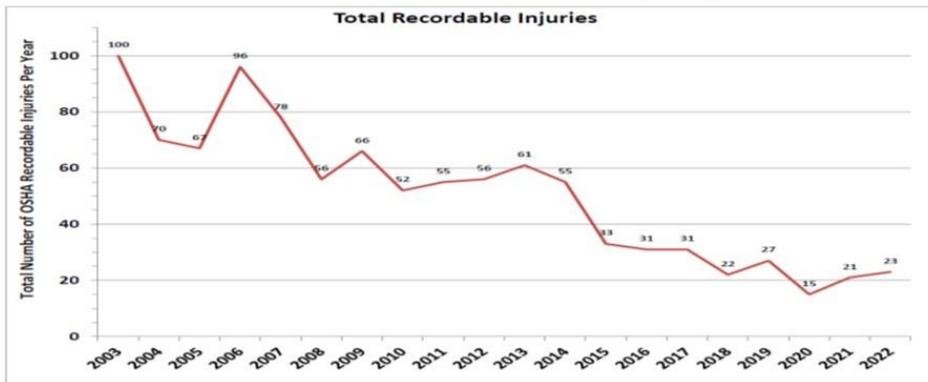


## Safety Training Compliance

- Online safety training compliance is tracked monthly and requirements are communicated to Department Managers.



## 20-Year OSHA Recordable Injury Trend



This chart shows the total number of OSHA recordable injuries over the previous twenty years. This includes all lost time, restricted duty, and "other" OSHA recordable injuries in each calendar year.

- ▶ Incidents and accidents are recorded and OSHA logs are maintained to track reoccurring safety issues and address accordingly.
- ▶ Improved worker safety, reduced lost time
- ▶ Improved money savings from decreased worker's comp claims
- ▶ Less likely to receive CT OSHA complaints, inspections and fines

## Injury Prevention

- ▶ PPE evaluation
- ▶ Boot grips during winter months
- ▶ Driver Safety Training
- ▶ Computer based Percipio classes for District drivers
- ▶ Enhanced in-person classes for CDL truck drivers
- ▶ Monthly Facility Safety Inspections and Reporting




## Injury Prevention

- ▶ Quarterly Safety Committee Meetings
- ▶ Updating of safety programs, procedures and SOPs
- ▶ Ergonomic evaluations for office staff
- ▶ Annual meeting with the Workers' Compensation Trust to identify injury trends and recommendations

OVERVIEW
<b>SAFETY COMMITTEE DUTIES &amp; RESPONSIBILITIES</b>
Meet quarterly
Elect Committee Chairperson
Discuss safety recommendations and concerns that employees have brought to the committee's attention*
Review any recent near misses, injuries, or incidents which have occurred
Keep minutes of meetings including attendance
Make recommendations regarding District health & safety programs
Make recommendations regarding any other safety matters



## Slips, Trips and Falls

EH&S continues emphasis on slip, trip, and fall prevention:

- ▶ Appropriate snow & ice supplies at each building
  - ▶ Winter footwear traction aids
  - ▶ Several styles provided suit various work tasks
- ▶ Boot allowance was increased for staff
  - ▶ Encourage employees to purchase quality boots
  - ▶ Require employees to replace worn out footwear





**SLIPS, TRIPS & FALLS:**  
**15%** of all accidents\*

SLIPS, TRIPS & FALLS on the same level are the **2<sup>nd</sup>** LEADING CAUSE OF INJURY\*\*

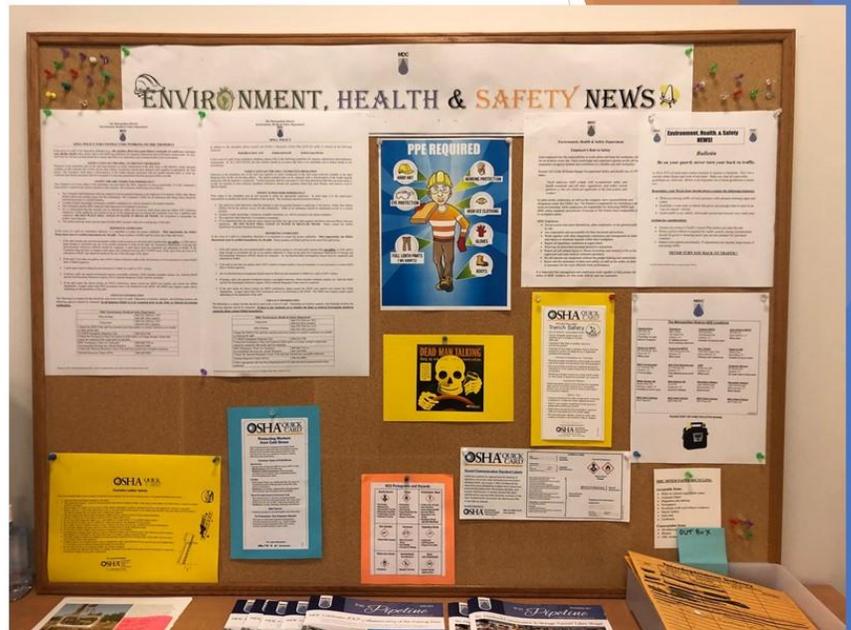
**25,000** SLIP, TRIP & FALL ACCIDENTS occur **DAILY** in the US\*

\* National Safety Council \*\* Bureau of Labor Statistics



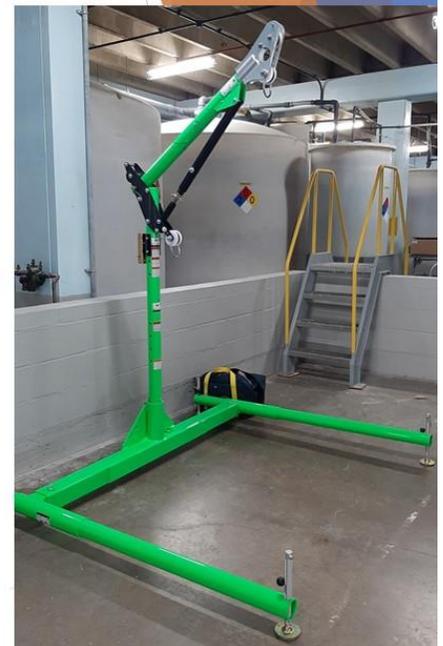
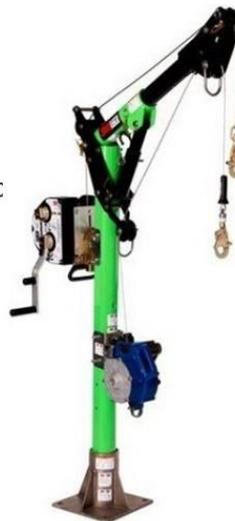
## Safety & Environmental Communications

- ▶ Bulletin boards at each facility
- ▶ E-mail notifications of severe weather
- ▶ Wet Weather Protocols include safety information
- ▶ Haz Comm - SDS



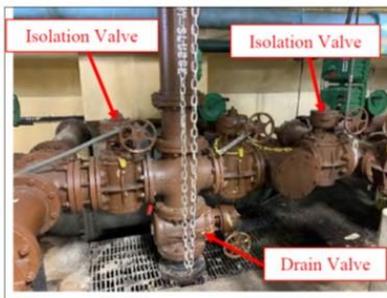
## New Confined Space Entry and Rescue Gear

- ▶ The 5 piece design sets up quickly and easily over hatches and manholes at District facilities.
- ▶ Permanent mounts can be installed around open tanks and basins so the mast and davit arm can be easily set up.
- ▶ A trailer hitch mounted base was purchased for Operations for entries into sewer manholes.
- ▶ Most pieces are made of lightweight aluminum to avoid lifting injuries.



# Lockout Tagout (LOTO) Procedures

- ▶ EH&S working with facilities and consultant to create new equipment specific lockout procedures.
- ▶ These LOTO procedures include reference pictures to assist staff.
- ▶ Available electronically for Plant Operators and Maintenance staff for accessibility.
- ▶ This creates valuable reference documents to help train future staff.



THE METROPOLITAN DISTRICT LOCKOUT TAGOUT PROCEDURES

Facility Name: HWPCF Building/Area Name: Screening Container Area  
 Equipment Name: Grinder/Washer/Compactor No. 1 Tag Number: SCC-GWC-2610  
 SAP ID Number: 100003769

Listed below are the electrical disconnects, valves, and any other energy control devices or additional equipment that "NORMALLY" needs to be locked out to safely work on this equipment. Additional equipment may also need to be locked out depending on the tasks you are performing. The District's Lockout Tagout Program will be followed for all lockouts. This includes the completion of a Lockout Tagout Permit. See your Supervisor if you have any questions.

Shutdown Procedure: Notify the Shift Supervisor or Crew Leader. If necessary, shut down the equipment following the normal shut down process. Isolate all energy sources listed below.

Energy Source	Location of Lockout	Comments
1. Grinder/Washer/Compactor 1 Electricity	Local Control Station (Screening Washer Compactor No. 1)	Turn the isolator switch in the OFF position. Lock Local Disconnect in the OFF position.
2. Grinder 1 Electricity	Local Disconnect	Lock Local Disconnect in the OFF position.
3. Washer Compactor 1 Electricity	Local Disconnect	Lock Local Disconnect in the OFF position.
4. Grinder/Washer/Compactor 1 Electricity	*Main Control Panel located in the Main Electrical Room (MCC-GWC-CP-2010)	Lock Disconnect in the OFF position. *Note: Control Panel has dual power source (MCC-SERVEY and LP-OPS-CP)
5. Grinder/Washer/Compactor 1 Electricity	*MCC (MCC-Systems) located in the Main Electrical Room	Lock lockout in the OFF position of the MCC.
6a. Kauls Gate Valve 1A Screenings	Kauls Gate Valve 1A (KG-14-11-02-R-2010)	Place Valve in the CLOSED position, switch Actuator in the STOP position, and Lock Manual Operator of Actuator
6b. Kauls Gate Valve 1A Electricity	Kauls Gate Valve 1A Local Disconnect (KG-14-11-02-R-2010)	Lock Local Disconnect in the OFF position.
7a. Kauls Gate Valve 1B Screenings	Kauls Gate Valve 1B (KG-14-11-01-R-2015)	Place Valve in the CLOSED position, switch Actuator in the STOP position, and Lock Manual Operator of Actuator
7b. Kauls Gate Valve 1B Electricity	Kauls Gate Valve 1B Local Disconnect (KG-14-11-01-R-2015)	Lock Local Disconnect in the OFF position.
8. Hot Service Water	Hot Service Water Valve (DA-11-11-12)	Lock 1" Manual Ball Valve on the Hot Service Water Line in the CLOSED position.
9. Effluent Flushing Water	Effluent Flushing Water 1" Manual Ball Valve (BA-11-11-11)	Lock 1" Manual Ball Valve on the Effluent Flushing Water Line in the CLOSED position.

Electricity Water/Wastewater Natural Gas/Propane Compressed Air Hydraulic Other

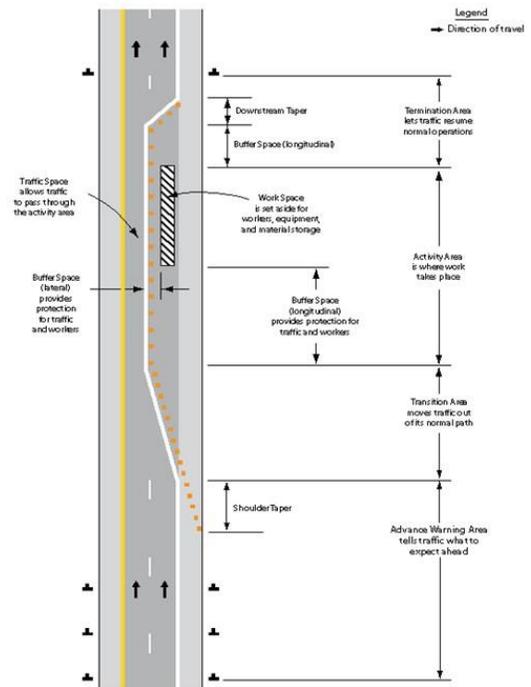
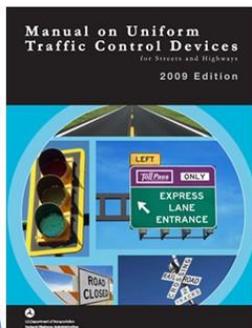
\*"Test start" equipment after you lock it out. Return the controls to off position before starting work.

Machine Specific Lockout Tagout Requirements

## Work Zone Safety

### Traffic Control Planning & Set Up

- In person training necessary for the safety of our staff
- Provide clear direction to motorists
- Provide a safe pathway for pedestrians
- Distracted driving is an ongoing problem for road workers and emergency responders



## EH&S Worksite Inspections

- ▶ Operations staff are repairing and maintaining sewer and water pipes.
- ▶ Repairs may require excavations that have a high injury rate when accidents occur.
- ▶ Precautions must be in place including:
  - Use of a trench box
  - Trench dewatering
  - Use of a ladder
  - General PPE -hardhats, steel-toed boots, safety vests
  - Task specific PPE - eye, face, hand, & hearing protection
  - Proper set up of the work zone
  - Other safety and health compliance actions



## EH&S Facility Snapshots

- ▶ EH&S Snapshots are a proactive way to conduct routine facility safety and environmental inspections.
- ▶ Assist facilities by identifying existing or potential hazards by doing a walk-around of the facility.
- ▶ They are a good opportunity for EH&S interns to see what each facility does.
- ▶ Hazards and opportunities to reduce risk are identified and communicated to management.
- ▶ Take advantage of “Leading Indicators” to:
  - ▶ Prevent injuries and spills
  - ▶ Reduce costs associated with incidents
  - ▶ Improve organizational performance
  - ▶ Implement best management practices

Using **Leading Indicators**  
to Improve Safety and Health Outcomes



## Contractor Safety Program

- Implemented in 2005, the Contractor Safety Program provides contractors with a clear and concise understanding of the safety requirements and responsibilities needed while working on MDC projects.
- EH&S reviews health & safety program submittals from the low bidder to determine if they comply with MDC requirements.
- Overall this program has provided the MDC with a better quality of contractor in both safety and productivity.



## Health & Safety Services

- Emergency Action Plan updates
- Mercury, Lead Paint & Asbestos Management
- Eye Protection, including prescription safety glasses
- First Aid and AED Supply Distribution
- Respirator Physicals & Fit Testing
- Air Monitoring
- Hearing Testing



## EH&S COVID RESPONSE

### MDC Business Continuity Plan

- EH&S assisted HR in developing a process and procedure for the extended FMLA (Families First Coronavirus Response Act).
- EH&S continually monitored CDC/State guidance and established internal processes for reporting, quarantining for staff absences.
- EH&S focused on the health and safety of staff:
  - Utilized cleaning contractor to hypo-sanitize work areas and vehicles
  - Workspace alterations, distributed face masks, gloves to staff
  - All staff were required to wear protective gear
- EH&S assisted with the Return to Work Plan.

**MDC**

Pandemic Business Continuity Plan

Version as of March 23, 2020

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## Household Hazardous Waste Program

- MDC hosts 10 HHW collections every year to member towns, East Granby and Windsor Locks.
- These collections help keep harmful chemicals out of our environment and drinking water.

In 2022, approximately 3,000 customers participated and disposed of:

- 22,840 gallons & 318 cubic yards of hazardous waste
- 13,235 linear feet of florescent light bulbs
- 3,070 pounds of propane tanks
- 210 old fire extinguishers



## EH&S Summary

- ▶ EH&S has the responsibility for the workplace safety of all MDC staff.
- ▶ Through safety programs, training, audits and inspections it has been our goal to see that all staff go home to their families at the end of the work day, the same way they came into work.
- ▶ Additionally, with responsible environmental compliance with regulations, MDC will continue to improve the environment that will be handed to the next generation.

## **OPPORTUNITY FOR GENERAL PUBLIC COMMENTS**

Judy Allen of West Hartford emphasized the wonderful things Commissioners said about Staff. She stated that the UN convened a convention on water, and stated how water and sanitation are human rights.

## **ADJOURNMENT**

The meeting was adjourned at 6:45 PM

ATTEST:

John S. Mirtle, Esq.  
District Clerk

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Date of Approval