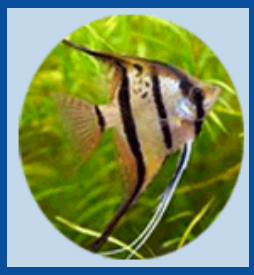

Matt's NewsFLOW
2024: May

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MATTABASSETT DISTRICT

Matt's NewsFLOW

2024: May

Preserving the environment for future generations to enjoy.

Mattabassett District
245 Main Street
Cromwell, CT 06416
(860) 635-5550

Leadership

John S. Dunham, P.E.
District Chairman

Arthur G. Simonian, P.E.
Executive Director

Member Towns & Representation

Berlin
John S. Dunham, P.E.
James Fallon, P.E.
Liam Mitchell

Cromwell
Bonnie Anderson
Joe Corlis
Doug Sienna

Middletown
David Bauer
Gerald Daley
Carl Erlacher
Joseph Samolis

New Britain
Tonilynn Collins
Richard Healey
Mary Marrocco
Don Naples
Daniel Salerno

All newsletters will be posted on our site: http://www.mattabassettdistrict.org/ and our Facebook Page: The Mattabassett District.

John S. Dunham, P.E.

A Message From the Chairman

Welcome to the latest edition of our newsletter! Whether you're a long-time supporter or new to our community, we're delighted to have you aboard. In this issue, we'll discuss key initiatives the District is focusing on and some of the issues challenging our industry.

Although our plant reconstruction was completed in 2015, we are constantly planning and strategizing to keep our plant in a state of good repair and a true asset to the communities we serve. The District has brought on outside assistance to help with this initiative to be sure we keep the District in top quality condition. The current list of completed projects is detailed in this edition of our newsletter.

The District is also planning for our future workforce and who will be our future leaders and operators of the facility in the future. In recent years, staffing has become a critical resource constraint and, in order to ensure our continuity of staff, the District is working with various trade organizations to assist the District in identifying future wastewater professionals.

About the District

The Mattabassett District's Water Pollution Control Facility, one of Connecticut's most efficient Publicly Owned Treatment Works (POTW), processes wastewater from New Britain, Berlin, Cromwell, Middletown, Newington, Rocky Hill and Farmington. Once treatment is provided, clean water is discharged into the nearby Connecticut River. The District began operation in 1968, as a physical / chemical treatment facility; then in 1987, the facility was upgraded to provide secondary treatment; and recently has completed a second upgrade to provide Nitrogen Treatment that will meet the new State and Federal Standards. Our wastewater capture rate is over 99.8%, significantly above industry standards. Our plant is State of the Art and first of its kind to navigate through new federal emission regulations. Other plants, in the future, will be guided by Mattabassett's innovative direction.

MATTABASSETT DISTRICT

Social Media

The Mattabassett District has both a website http://www.mattabassettdistrict.org/ and a Facebook page – The Mattabassett District.

Social Media sites will be used to communicate information on a regular basis along with technical descriptions of each portion of the Plant.

Employee Highlights

Recipients of Spotter Awards

New Hires

Concepcion Roman III, Operator

Kyle Murphy, Electrician / Mechanic

Safety

We are happy to report that it has been 913 days since the last OSHA reportable accident (as of 02/29/24).

MATTABASSETT DISTRICT

New Britain Flush Program

The City of New Britain has embarked on a new program of capital improvement projects geared towards reducing their Infiltration-Inflow in their sanitary sewer system. One of New Britain's goals is to reduce the wet-weather flow to Mattabassett District to less than 22.5 MGD.

NB FLUSH
Fresh Line Upgrades for Sanitary Health
(860) 826-3350

The New Britain Flush Program includes sewer system rehabilitation, storm water sewer improvements and drinking water lead pipe elimination projects.

Temporary Flow Meters

In 2023, the District secured the services of ADS Environmental, of Huntsville, Alabama, to perform temporary flow monitoring in various locations along the District's Trunk Sewer in order to confirm flows from member towns and confirm that the flow data with existing District meters.

The District is confirming flows from the New Britain Meter, the Berlin Interceptor Pump Station, the Berlin Deming Road Meter and the District's influent meter to the plant.

The District is currently working with CDM Smith to review the ADS temporary flow data to confirm the back flow the trunk sewer experiences during wet-weather events due to the Berlin Interceptor Pump Station.

The work is ongoing and the flow verification is expected to be completed by the end of this year.

Berlin Pump Station & New Meter

The Town of Berlin WPCA is working with a consultant to design upgrades to the Berlin Pump Station located on the Berlin Turnpike in Newington. The District will work with Berlin WPCA to ensure any increased pump capacity is within the member's town flow allocation.

Capital Improvement Projects completed in the last 2 years

The District invested significant capital funds into the following projects to further preserve and maintain this vital asset to our communities served.

Project Name & Description	Budget	Fiscal Year
Centrifuge Rebuild	$150,000.00	2024
Classifiers Main Gear Drives	$220,759.89	2024
Primary Tank No. 1 & 2 Auto Skimmers	$1,500,000.00	2024
Trunk Sewer Rehabilitation Project	$100,000.00	2024
Trunk Sewer Temporary Flow Metering	$50,000.00	2024
Chiller Replacement -Admin Bldg	$95,000.00	2024
Headworks Rags Grinder Project	$100,000.00	2024
Compressor System Upgrades	$142,734.31	2024
RSP Cone Valves	$75,000.00	2023
Watermain Replacement - Plant North Side	$215,000.00	2023
Watermain Replacement - Plant West Side		2023
Roof Replacement - Dewatering Bldg	$567,000.00	2023
Primary Tank No. 1 Auto Skimmers		2023
Generator Breakers & Controls Upgrade	$379,565.00	2023
Primary Tank Tunnel Structural Improvements	$499,722.00	2023

Detritors

Continuing on from our July 2021 newsletter, we outlined the influent bar screens and raw sewage pumps. The raw sewage pumps lift the wastewater approximately 32 feet up into the Detritors. At this elevation, the wastewater flows through all plant processes and discharged into the Connecticut River by gravity alone.

The Detritors are the first process in the plant and extremely important for protecting downstream equipment as they are designed to remove grit. Grit includes sand, gravel, cinder, or other solid materials that are "heavier" (higher specific gravity) than the organic biodegradable solids in the wastewater. Grit also includes eggshells, bone chips, seeds, coffee grounds and large organic particles, such as food waste. Removal of grit prevents unnecessary abrasion and wear of mechanical equipment, grit deposition in pipelines/channels and accumulation in aeration basins.

When we slow down the velocity of the plant flow to approximately 1 foot per second, the sand and grit drops out, while the organics are able to remain in suspension and on to the next process. Once the grit settles out in the Detritors, large plows on the bottom of the tanks push the grit slurry into rubber lined centrifugal pumps. These grit pumps push the grit slurry into grit classifiers, which wash and dry the material. Once the grit and sand is clean and dry, it is mixed with sludge cake and incinerated.

Parshall Flumes

After grit removal, the wastewater flows through two Parshall Flumes. The Parshall flume is an open channel flow metering device that was developed to measure the flow of surface water. It is a fixed hydraulic structure shaped like a horizontal hour glass.

The flow of water accelerates through a contraction of both the parallel sidewalls and a drop in the floor at the flume throat. Under free-flow conditions, the depth of water at a sensor upstream of the flume throat is converted to a rate of flow. We are required by permit to calibrate the Parshall Flumes annually.

Primary Clarifiers

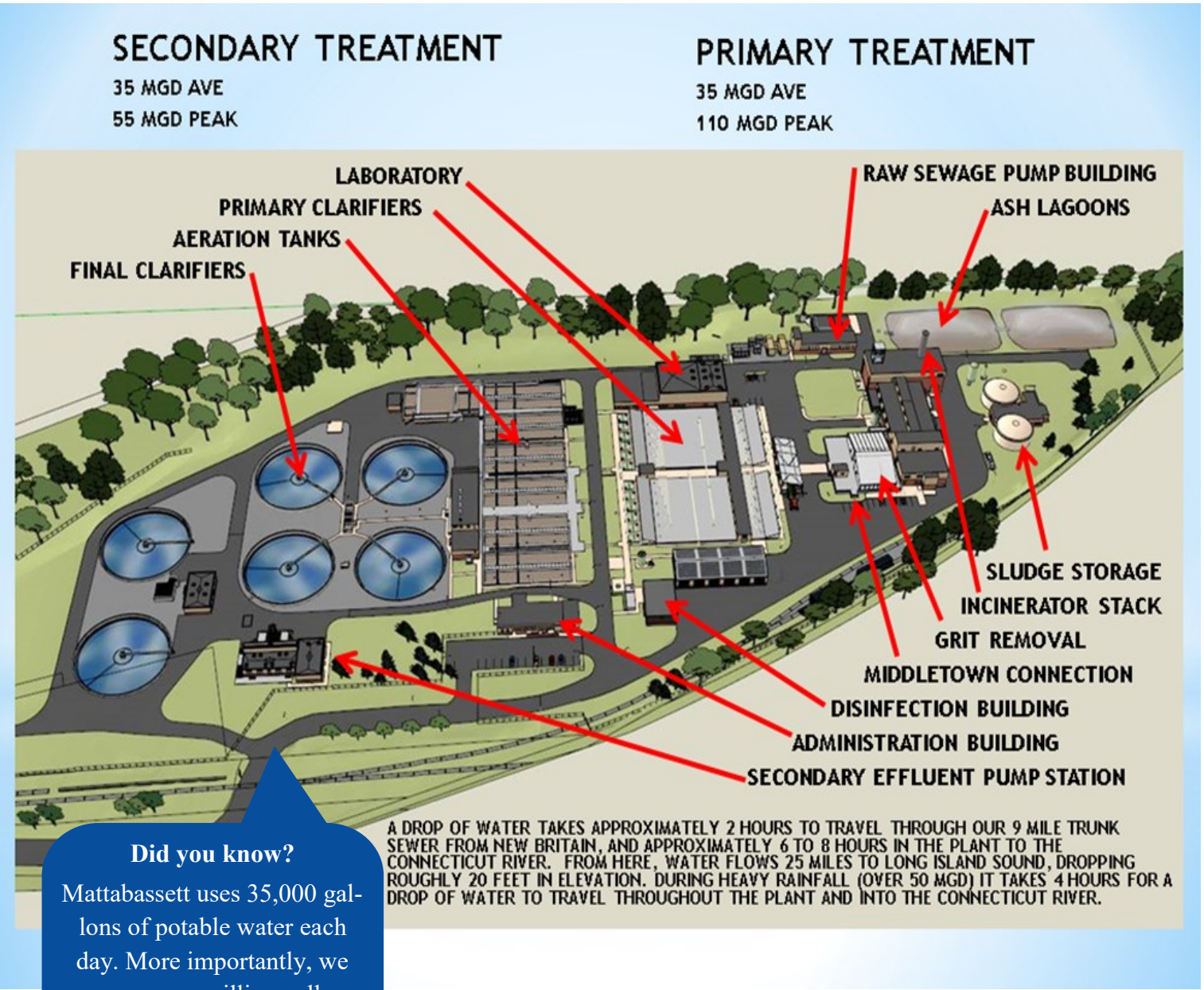
We have four rectangular Primary Clarifiers and each tank holds 1 million gallons. Primary Clarifiers are strictly a physical separation process where the flow is slowed to approximately 2 feet per second. At this velocity, most of the settable solids sink to the bottom, while the fats, oils, and grease rise to the top.

A series of flights, gears, and chains move the sludge from the bottom to a pump. The sludge is pumped to Sludge Storage before being dewatered and incinerated. Scum and grease is skimmed off the top and also dewatered and incinerated. During wet weather events, we are able to add polymer to settle the solids at a faster rate than normal. We also have the ability to disinfect the primary effluent before mixing with the plant influent during high flows.

Reliability & Dependability

The Mattabassett District has never had to contact our constituent communities for interrupted service to our customers / users. That is over 50 years of uninterrupted service!

Mattabassett Process



Did you know?

Mattabassett uses 35,000 gallons of potable water each day. More importantly, we use over one million gallons of our own treated water saving more than $125,000 each month.

MATTABASSETT DISTRICT

Matt's NewsFLOW!

You may wonder why we selected this as the name of our newsletter.

MATT is short for Mattabassett and it's the name of the fish on our website, http://www.mattabassettdistrict.org/. It's also the name of the real fish that swims in an aquarium in the lobby of the wastewater treatment facility in Cromwell. The water in the aquarium is actually effluent – water taken from the facility after it has been cleaned and treated. The effluent is so clean that the fish can survive for many years without extra treatment.

Matt is an Angelfish and they are referred to as Pterophyllum. Angelfish make a wonderful addition to our passive community aquarium, adding brilliant color and diversity. Angelfish species are very graceful swimmers that have unique coloration and color patterns.

Hi, I'm Matt!

MATTABASSETT DISTRICT