



Town of Litchfield
Water Pollution Control Authority
Annual Report
Calendar Year 2025

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Overview

Calendar Year 2025 was a year of many positive changes for the Litchfield Water Pollution Control Authority (WPCA). The year began with the appointment of Chris Levesque, P.E. as WPCA Chairman and Ken Merz as Vice Chair. Mr. Levesque brings enormous professional wastewater experience to the Board, as he currently serves as Chief Operations Officer for the Metropolitan District, MDC, which serves seven communities including the capital city of Hartford.

Mrs. Kate Honan was appointed as a new board member, and Keith Shortsleeve, who works in industrial wastewater treatment, was appointed as an alternate to the WPCA Commission.

Litchfield’s wastewater treatment systems consist of a collection system and a treatment plant at which wastewater is fully treated before being discharged into the Bantam River. The collection system consists of 27 miles of sanitary sewer lines and 652 manholes. Treatment at the plant involves biological nutrient and solids removal, as well as UV disinfection during the summer months. The Connecticut Department of Energy and Environmental Protection (CT DEEP) regulates nutrient removal limits and other treatment parameters.

Operation of the wastewater treatment system is self-funded through usage fees, while most major upgrades are bonded by the Town of Litchfield with costs passed through to our sewer users. Grants and other subsidized funding sources, such as Connecticut Clean Water Fund or USDA funding are sought to achieve lower funding costs.

A new rate structure and updated regulations were adopted on July 10, 2025 at a public meeting. The annual sewer user fee increased \$16 to \$24 for one Equivalent Dwelling Units (EDU). Non-residential commercial sewer users, such as restaurants, hotels, and other high-volume users are now billed based on actual water usage with one EDU equaling 35,000 gallons of metered water flow. This was the first-rate adjustment since 2017.

Growth of the System

Over the last four fiscal years, the plant has experienced modest growth in new connections to the overall collection system. This growth predominantly occurred at the residential complexes of Hunter's Chase and Gagarin Place. New residential connection fees to the system now stand at \$4,500. Commercial properties pay based on the actual square footage of the new building, and the funds raised will be used to finance a new construction account.

Fiscal Year	New Connections	Cumulative EDUs Billed
FY 2021	2	
FY 2022	11	2,336
FY 2023	7	2,336
FY 2024	3	2,406
FY 2025	2	2,473

In FY2022 & FY2023, a total of 2,336 EDUs was billed. The number of EDUs increased to 2,406 in FY2024 (\$28,560 increase in revenue). In FY2025, 2,473 EDUs were billed, generating \$1,048,552 in revenue.

Inter-Municipal Agreements

The Litchfield WPCA has inter-municipal agreements (IMAs) with the towns of Torrington, Morris, and Thomaston.

Through the Torrington IMA, the City of Torrington WPCA plant accepts sewage from the Town of Litchfield. This portion of the collection system includes Torrington Road (Route 202) north of Bertoli Drive, Hart Drive, and Hunter's Chase residential development. These sections serve 203 customers with an average flow of 25,000 gallons per day (GPD). We implemented a new IMA, which went into effect on 7/1/25, lowering our reserved capacity to 40,000 gpd, down from 150,000 gpd in the previous IMA.

Similarly, the Thomaston WPCA accepts sewage from our Northfield area, which serves 81 customers averaging 3,300 GPD. This sewage is pumped through a pressure line from the plant's pump station, located on Knife Shop Road.

Through the Morris IMA, the Litchfield WPCA processes sewage from a section of Morris, which includes Deer Island and a portion of Bantam Lake Road (Route 209), averaging 25,000 GPD.

Engineering Evaluation

In November 2023, the engineering firm of Woodard & Curran began conducting engineering services to evaluate the existing treatment plant's equipment and processes to increase plant efficiency and effectiveness, and ensure reliability for the new two decades. A component to study the option of accepting Woodridge Lake Sewer District (WLS D) sewage, was removed and will be considered sometime in the future. The total cost of the phased study totals \$424,270. As of the end of February 2026, \$297,543.07 has been paid.

Phase 1 — Technical Memo was completed and presented in January 2025. Technical Memo 3 & 4 were submitted in June of 2025, and the study is now nearly completed. Currently the WPCA is reviewing Tech Memo 3 & 4.

Sanitary Sewer Collection System

The Capacity Management Operation & Maintenance (CMOM) plan, which is required by both the EPA and CTDEEEP, consists of emergency protocols, standard operation procedures for preventative maintenance work, such as jetting to clean sewer lines, manhole inspections, CCTV pipe inspection, and repair and replacement work performed on the sewer collection system.

An important focus of the plan is to help identify excessive inflow and infiltration (I&I) of clean water that enters the sewer collection system. This can be attributed to deteriorating pipe joints, aging sewer pipes, leaking manholes, illicit connections (like a sump pump), and groundwater that seeps into the sewer collection system. To date, the plant staff has identified many issues due to extensive manhole inspections and has remedied many of the problems.

Excessive I&I must be identified to preserve the plant's design capacity (800,000 GPD), and to minimize high volume plant upsets that could potentially violate the NPDES permit. The plant's design capacity can be further stressed during prolonged wet periods after significant weather events and from seasonal winter/spring melt runoff.

2025 Collection System Accomplishments:

- Jetted 13,711 feet of collection system (part of P&M)
- Inspected 368 manholes and entered them into our GIS system
- Repaired 56 manholes, helping to reduce I&I
- CCTV inspected 500 feet of collection system

In 2025 these are the stats the treatment plan staff accomplished.

Water Pollution Control Facility

The plant's performance for the 2025 calendar year was overall good, but recommendations driven by our consulting engineers showed less nitrate removal than we have previously accomplished. The average daily flow was 402,000 GPD, an 8.3% decrease from 2024. Biochemical oxygen demand (BOD) removal rates averaged 98% and Total Suspended Solids (TSS) removal rates averaged 98%. The plant permit requires a minimum removal rate of 85%.

Monthly discharges of Total Nitrogen (lbs./day) were 21 lbs./day, just below the 24 lbs./day limit set by the NPDES Permit. The seasonal loading of Total Phosphorus was 10.1lbs./day, which was slightly above our permitted discharge level of 9.97 lbs./day.

<p>21 lbs./day vs. 24 lbs./day limit Avg. Total Nitrogen (Monthly)</p>	<p>10.1 lbs./day Avg. Total Phosphorus (Monthly)</p>	<p>98% avg. BOD Removal Rate</p>	<p>98% avg. TSS Removal Rate</p>
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Plant Investments

Continuous upgrades and replacements to plant operations, structures, and equipment are made each year. These investments are necessary to help improve plant performance and efficiency and to extend the life of the aging infrastructure. This work in FY 2025 included the following:

- Replacement parts on two secondary clarifiers (\$25,179)
- Engineering Study by Woodard & Curran (\$121,168)
- Six plug valves for primary sludge pumping (\$10,055)
- Five jetting nozzles (\$4,582)

All these projects were funded through our capital non-recurring fund account (funded by sewer user fees).

Sewage Bypass Events

A sewage bypass event is one where raw untreated or partially treated sewage enters a receiving water, wetlands, public or private property, or a catch basin. Often the cause can be attributed to equipment failure, a bypass of one or more parts of the treatment process at the plant, a sewage blockage in the collection system, or at a private residence or business.

In 2025, no bypass event was reported.

Effluent Non-Compliance Events

An effluent non-compliance event is one where the daily maximum limit for one or more parameters — such as biochemical oxygen demand (BOD), total suspended solids (TSS), or E. coli — exceeds our NPDES permit requirements. These events are referred to as plant upsets and are typically the result of an extreme weather event and excessive inflow and infiltration (I&I) of water entering the collection system.

In 2024, three effluent non-compliance events were recorded. In 2025, the following occurred:

- May 6, 2025 — non-compliance event for exceeding the plant's daily maximum of both TSS and E-Coli (Escherichia). This was due to a high flow event in which the day's previous flow was 0.905 MGD and after a high intensity rainfall event plant flow increased to 1,300 GPM.
- May 9, 2025 — non-compliance event for exceeding the plant's daily maximum for both TSS and BOD. This was due to the plant alarming, when the flow reached 1,500 GPM.
- June 17, 2025 — non-compliance event for exceeding the plant's daily maximum for E-Coli (Esteria) on 6/16/25. This was due to an unknown slug load, possibly a surfactant that increased the turbidity of the effluent and reduced the UV transmittance.
- July 3, 2025 — non-compliance event due to a slug load of diesel heating oil that entered the collection system, due to the failure of an above ground storage tank and human error. The ATC switch failed to transfer and our UV system was off for one hour, before the Plant Superintendent manually transferred the ATS switch and restoring electrical power to the treatment plant.
- July 8, 2025 — non-compliance event due to a lightning strike that knocked out electrical power. The ATC switch failed to transfer and our UV system was off for one hour before the Plant Superintendent manually transferred the ATS switch and restoring electrical power to the treatment plant.

In 2025, one Loss of WWTP Equipment/Tankage was reported. On May 6, 2025, during our annual inspection of the ATS switch for the plant generator, it was determined that the ATS would not transfer automatically. Spare parts for our 25-year-old Zenith ATS were obsolete, and our vendor had to poach replaced parts from an abandoned ATS in New Hampshire, which occurred about 2 weeks from this date. There were no violations to our NPDES permit and plant performance was not impacted.

Projects for 2026

- Finalize work with Woodard & Curran on the engineering evaluation of the treatment plant
- In January of 2026, our vendor Spectrum Environmental dislodged and lifted the 35-foot diameter cover on the tank that suffered an explosion back in October of 2024. We have a little more work to get it back into service — expected late April
- Startup of our new Glasco UV system in April
- Collect proposals for new instrumentation for our DO control in the treatment basins
- Explore options for a new aeration blower(s) in our biological zones
- Replace 7 manholes on RT 63, due to a CT DOT paving project in the spring

Summary

The WPCA Commission will continue to focus on progress in addressing the needs of the treatment plant and the collection system in the most constructive and fiscally responsible manner. This includes working in conjunction with the Town Public Works Director Raz Alexe, P.E. and Plant Superintendent Ted Donoghue. We are all focused on a very productive 2026 and continuing to deliver exceptional service and value to our customers and the Town of Litchfield.

It is our honor to serve you.

Town of Litchfield — Water Pollution Control Authority

Appendix A — Calendar Year 2025 | Monthly Plant Data Summary

Month	Avg Daily Flow (MGD)	Monthly Septage Total (gals)	Influent		Effluent		Nitrogen Loading		Phosphorus Loading		E. coli Colonies (/100 ml)	Rainfall (in)	Snowfall (in)
			BOD (mg/l)	TSS (mg/l)	BOD (mg/l)	TSS (mg/l)	Avg (mg/l)	Avg (lbs./day)	Avg (mg/l)	Seasonal (lbs./day)			
Jan	0.392	0	226.0	157.0	3.0	3.0	8.3	25.0	1.9			0.76	4.60
Feb	0.370	0	197.0	153.0	2.0	2.0	8.4	27.0	1.2			0.52	11.29
Mar	0.574		277.0	202.0	2.0	3.0	5.2	26.0	1.6	11.9		5.30	
Apr	0.527	7,500	278.0	213.0	5.0	4.0	4.5	18.0	1.4	5.5		3.84	
May	0.704	0	312.0	250.0	4.0	2.0	5.2	31.0	1.5	7.7	474.00	9.30	
Jun	0.340	0	239.0	171.0	2.0	2.0	6.4	17.0	2.5	6.6	4.89	3.15	
Jul	0.293	15,000	264.0	212.0	6.3	7.8	6.8	17.0	2.8	6.7	6.00	5.45	
Aug	0.277	7,550	268.0	231.0	7.0	4.0	3.6	9.0	2.8	7.7	3.00	4.25	
Sep	0.267	0	331.0	275.0	4.0	4.0	6.6	8.0	3.8	11.9	8.70	4.10	
Oct	0.311	0	303.0	233.0	4.0	3.0	6.8	23.0	3.7	14.1		6.05	
Nov	0.368	6,000	233.0	199.0	4.0	4.0	5.9	15.0	3.0			3.21	
Dec	0.406	1,000	188.0	197.0	3.0	2.0	8.5	35.0	0.8			1.10	10.30
YTD Aver	0.402	3,368	259.7	207.8	3.9	3.4	6.4	20.9	2.3	9.0	99.30	47.03	26.19
Highest:	0.704	15,000	331.0	275.0	7.0	7.8	8.5	35.0	3.8	14.1	474.00	9.30	11.29
YTD Total	4.829	37,050											

NPDES PERMIT LIMITS

Design Capacity	Avg Daily Flow	Monthly flow exceeding 0.8 MGD design capacity — Months over limit: 0
Effluent BOD & TSS	Monthly Max	Monthly maximum: 30 mg/l (BOD & TSS)
Nitrogen	Avg Loading	Monthly limit: 24 lbs./day
Phosphorus	Seasonal	Average cannot exceed 3.7 mg/l Max: 7.43 mg/l Seasonal limit: 9.97 lbs./day (Apr–Oct)
E. coli	Seasonal	Daily instantaneous avg limit: 126 col/100 ml (May–Sep) Daily instantaneous max: 410 col/100 ml (May–Sep)

Annual Totals	
Rainfall (in)	47.03
Snowfall (in)	26.19