Woodridge Lake Sewer District
113 Brush Hill Road
PO Box 258
Goshen, CT 06756

August 18, 2020

Dear WLSD Taxpayer,

It has been several months since we have communicated with you, and we wanted to give you some highlights of what we have been working on recently.

For those who are new to Woodridge Lake, a little history. This Board has been working for the last ten years to satisfy a consent order the Connecticut Department of Energy and Environmental Protection (DEEP) imposed on us to correct the original "ridge and furrow" groundwater disposal system they approved in 1972. Their concern was the effectiveness of our groundwater disposal system to protect the downstream Class AA watershed in Litchfield. DEEP's guidance to us has been to regionalize our wastewater flows by connecting with an adjacent system rather than to develop a solution at our current plant location

Our sewer plant is now forty-six years old and is connected to our collection system through an iron pipe that runs under the West Branch of the Bantam River. If that pipe were to fail, untreated wastewater would spill into this tributary flowing into the Aquarion Aquifer Protection area, past the Litchfield Country Club, into Little Pond in White Memorial and then into Bantam Lake. While we have no data on the condition of this pipe, the recent equipment failures leading up to and resulting from the tropical storm Isaias reminded the Board that it is crucial to move to a permanent solution.

In our May budget letter to you, we anticipated that we would be able to put in place the necessary funding and gain the required approvals to complete the design phase of a pipeline to the Litchfield wastewater treatment facility. Based on our professional engineer's analysis, our study indicates that Litchfield sewer users would benefit economically from this joint project. We also believe that this solution is the only option available to us that DEEP would approve.

We have been working with the Litchfield Water Pollution Authority for over a year to see if a joint project would be beneficial to both of our towns' sewer users. In April, we and the Litchfield WPCA were submitting documents to our funder, the United States Department of Agriculture (USDA), to see if affordable funding was available. At that point, the First Selectman of Litchfield requested that the process be put on hold to give the Town of Litchfield more time to review our suggested proposal and their other options. Since then, we have been working to support their review process.

We have developed several summary documents to help communicate the issues and the benefits of this joint project to the Litchfield WPCA and the Litchfield Selectmen. As we listened to the questions being asked, we felt that a comprehensive set of Questions & Answers would be helpful to provide a complete picture of how we got to this point and our thoughts on a way forward. As Litchfield goes through their review process, we will update you along the way.

If you have questions about the project that are not covered by this document, please email us at Litchfield.Project@wlsd-goshen.org . We would have preferred to have a community meeting to brief you, but in these challenging times, that is not a viable option. We hope that you find this document informative.

Sincerely,

The Board

Litchfield WPCA/Woodridge Lake Sewer District Proposed Project
Questions & Answers by the Woodridge Lake Sewer District

1. Who is Woodridge Lake Sewer District?

The Woodridge Lake Sewer District (WLSD) serves a residential development around the 385-acre Woodridge Lake in Goshen, Connecticut. Central sewer service to each property was constructed when the development was built in 1972. As of the end of 2019/2020 fiscal year, there were 698 residences connected to the WLSD sanitary sewer system. On average there have been 3 new sewer connections added per year in the last decade. WLSD includes the potential for 817 total connections, all of which were originally approved as part of the sewer service area. Many WLSD homes are used seasonally which contributes to lower wastewater generation patterns.

The WLSD collection system includes 16.2 miles of gravity sewer, 1.9 miles of force main piping, and eight wastewater pump stations. The majority of the gravity sewer mains are double-walled plastic truss pipe, with a limited amount of cast iron pipe. The existing WLSD Water Pollution Control Facility (WPCF) and effluent disposal system are located to the east of the WLSD sewer service area. Treated effluent from the WPCF is discharged into the ground via infiltration beds. Since the WPCF is located in a GAA groundwater supply area, maintaining the groundwater quality within WLSD is a key goal of WLSD. The WLSD plant discharges treated wastewater to a groundwater disposal system consisting of 90 beds over roughly 90 acres via a series of pipelines and valves.

WLSD is a quasi-municipality established under Chapter 105 of the General Statutes and levies a tax on real property under Conn. Gen. Stat. § 7-328, Chapter 105, to cover the cost of sewer system operation and maintenance. Thus, WLSD does not use a sewer user fee system based on a fixed fee basis as a Water Pollution Control Authority organized under Chapter 103 of the General Statutes would. Given the limited number of parcels served by the WLSD sewer system, unit annual costs to taxpayers are high. The average annual sewer charge per WLSD property is $1,767 compared to the estimated 2016 Connecticut statewide average of $472 or nearly four times the state average. As sewer charges are based on assessed property values, all properties, even those not currently connected to the system, are taxed. As a result, there is a wide range of tax values around the $1,767 average. There are 675 taxpayers paying below the average, 1 paying the average, and 157 paying above the average. Of those 157 paying above average: 107 are paying more than $3,000 per year, 49 are paying more than $4,000, and 26 are paying more than $5,000 per year. Because of this disparity, a group of Woodridge Lake homeowners are currently suing WLSD, challenging the ad valorem methodology and requesting a flat charge for all residences.

2. What is WLSD's Experience as a Water Pollution Control Facility (WPCF) Operator?

In the 20 years following the construction of WLSD's WPCF in 1972, the system's design (called "ridge and furrow") fell out of favor with Connecticut's Department of Energy and Environmental Protection (DEEP). DEEP issued a Consent Order (CO) in 1989 requiring WLSD to address certain sewer collection and wastewater treatment and disposal issues associated with the ridge and furrow system. In response, WLSD conducted several planning studies, but a plan to resolve the issues could not be permitted with the state.

Under new leadership in 2010, WLSD initiated a Facilities Plan Update Project. This project included an evaluation of existing facilities, a wastewater treatment and disposal assessment, and an analysis of alternatives to address the requirements of the CO. As part of the updated plan, WLSD implemented a number of upgrades and proactive maintenance measures over the next ten years. In 2013, open cut sewer repairs were performed to mitigate excessive inflow and infiltration (I/I) into the collection system. In 2015, 2017 and 2019, further I/I removal projects were performed to grout and line sewer mains and manholes. These projects significantly reduced extraneous flows into the collection system. Also in 2015, a pump station upgrade project was implemented to improve emergency readiness, flow data and remote monitoring capabilities by adding supervisory control and data acquisition (SCADA) systems at WLSD's eight remote pump stations.

WLSD was established to collect and process wastewater in its lake community and to protect the lake which flows directly into the Shepaug Reservoir's Class AA public water supply watershed that supplies the City of Waterbury. WLSD has operated its system for more than 45 years without any incidents or problems reported by the Waterbury Water Department. There has been only one DEEP violation which was in May, 2009 when DEEP notified the district that it was operating without a Class III Operator required in a Class III Facility which violation was promptly cured.

3. Why doesn't WLSD continue to process its effluent in Goshen?

WLSD utilizes groundwater disposal for its treated effluent which is regulated by DEEP through a 1977 groundwater discharge permit and the 1989 CO. DEEP's concerns with our existing operation primarily relate to the treated effluent disposal system. Although the permitted capacity of the disposal system is 100,000 gallons per day, soil permeability and seasonal limitations impact the performance of the system. The requirements of the CO are centered on the surrounding Class GAA groundwater supply, separation to groundwater, and travel time.

Significant time, resources and more than $1 million were dedicated to testing the existing disposal system as part of a Wastewater Facilities Plan project in an effort to resolve the issues of the CO. This testing, approved by DEEP in advance, used a number of measures from DEEP guidelines including separation distance under seasonal high groundwater conditions, unit flow rate and in ground travel time. A series of tests were successfully run from 2010 to 2014 but

DEEP disagreed with the results of the testing and contended the existing effluent disposal system did not have sufficient capacity for the current or proposed system flows. Based on the testing and the State's treated wastewater effluent disposal guidelines, addressing these concerns with an on-site re-use quality treatment system and an enhanced disposal system on the existing site yielded no clear path to regulatory/permitting approval.

WLSD's consultants, DPC Engineering (DPC), recently reviewed this work and updated the cost estimates. Even with favorable United States Department of Agriculture Rural Development (USDA) financing and grants, the average tax per property would rise from today's $1,767 to about $2,765 in the 2023/2024 fiscal year when the project would likely be completed. (See Table #1 for details)

4. If WLSD couldn't remain in Goshen with your own facility, what were your options?

It became clear by the Fall of 2014 that DEEP was not prepared to lift the consent order and issue a new permit for a local option and that DEEP's goal was to have our wastewater processed by a regional facility. At that point we had completed our Facilities Plan which included an analysis of both Torrington and Litchfield as regional treatment options. It should be noted that due to proximity, environmental and economic considerations, Torrington and Litchfield are the only two permittable solutions.

5. Why did you choose Torrington WPCA as your Regional Alternative?

During 2015 a Facility Plan was developed by our engineering consultants. Three separate routes were examined and costed for the Regional Alternative, two to Torrington and one to Litchfield. Each of the alternative routes was evaluated by the consultants against a set of design conditions including average annual flows, peak hourly flows, number of pump stations and pumping rate. Also, soil, groundwater, ledge/rock and environmental conditions along the pipe corridor were considered. Against the design conditions, the consultants calculated a probable project cost for each alternative. The Torrington routes were costed at $15.5 million and $18.3 million while the Litchfield route costed at $27.7 million. The major difference was due to the Torrington facility having more than 2 million gallons per day (gpd) excess capacity to handle WLSD's maximum 150,000 gpd flow while Litchfield's facility was permitted to 800,000 gpd and only had about 300,000 gpd of available capacity.

Based on existing plant capacity, DEEP's preferences and financial scoring of these two options, Torrington was selected. In the spring of 2015, we began discussions with Torrington and with USDA as our preferred funder.

6. Why didn't the Torrington regional solution work out for WLSD?

WLSD's engineering consultants began the design work for the pipeline to the Torrington WPCF in 2015. The approval process for the project required consulting with a number of agencies as the design work progressed including DEEP, other state offices for environmental resources, USDA, the Town of Goshen (First Selectman, Goshen WPCA, Inland Wetlands and Planning & Zoning), and the City of Torrington (WPCA, Inland Wetlands, Planning & Zoning, Department Heads, City Council, and the Mayor's Office).

By 2016 WLSD received a commitment from USDA to finance the $15.5 million project with $2.8 million in grants and the balance in a 40-year loan at a 2.25% interest rate. WLSD taxpayers approved the appropriation. WLSD began the permitting process in Goshen and Torrington as the design work continued. In June, 2016, the Torrington Water Company (TWC) raised concerns regarding our route passing through a portion of their watershed and announced they would intervene in the permitting process. In September, 2016, TWC requested the CT Department of Public Health (DPH) to intervene in the process to stop the project. It took nearly three years for the concerns expressed by TWC to be dealt with to the satisfaction of Torrington Inland Wetlands, Planning and Zoning, WPCA, City Council and the DPH. It was not until April, 2019 that USDA allowed the bid process to proceed. Bids came in at more than $22 million, $7 million over the appropriated amount and USDA declined to increase their funding allocation. TWC's actions alone resulted in more than $2,000,000 of the $7,000,000 additional costs to WLSD due to construction inflation costs, engineering fees directly related to the required design changes, and direct legal fees. Nearly $3,000,000 of the overage was due to Torrington's added requirement for a new gravity line from Lover's Lane to Riverside Avenue and CT DOT's added requirement to run this line down the center of Route 4, versus in the shoulder where the current line is placed, which causes significantly more costs in traffic control, more complicated excavation, and increased construction time. Ultimately USDA withdrew their funding commitment for the Torrington project because the change in administration in 2016 caused USDA to alter its financing criteria to no longer include financing for projects that included cities, like Torrington.

USDA grants and low interest 40-year financing were crucial to the economic viability of the Torrington alternative. Even with USDA as a funder, the average cost to the WLSD taxpayer would rise to $2,903 per annum. Reverting to Connecticut Clean Water Fund financing would have raised the cost to the average WLSD taxpayer to $3,805 per annum (See Table #1 for details).

7. Why is WLSD approaching Litchfield with this project?

WLSD's 2015 Facilities Plan included an analysis of both Torrington and Litchfield as regional treatment options. With the increase in costs of the Torrington project combined with the withdrawal of USDA grants and 40-year financing, our focus shifted to Litchfield as our only remaining option.

Litchfield's WPCF permitted capacity is 800,000 gpd and total current average flow is about 500,000 gpd. WLSD's total capacity request was 150,000 gpd. This would result in a usage of 650,000 gpd, well within the 800,000 gpd permitted capacity. From an existing capacity utilization standpoint, a joint project seemed beneficial to both communities.

From the USDA's perspective this project is very attractive because three rural areas (Litchfield, Morris, and Goshen) benefit from the project. From DEEP's perspective a regional WPCF, with many mechanical items nearing the end of their useful life, will be significantly upgraded and the facility's fixed costs will be supported in a significant way by three communities.

8. Tell us about the WLSD meetings with Litchfield.

Our initial contact was with the Litchfield WPCA in Spring, 2015 when we were completing a Wastewater Facilities Plan for DEEP. Five options were investigated at that time including a connection to the Litchfield system. The loss of USDA financing for Torrington brought us to a meeting in June, 2019 with the WPCA Board to determine if there was interest in working together. There was agreement that working together could be beneficial for both communities because WLSD would offset a significant portion of the operating costs of the WPCF by utilizing excess capacity and help cover the capital costs of any future capital improvement projects. In October, 2019, the Litchfield WPCA and WLSD met with DEEP technical staff to review our intentions to work together, the estimated facility capacity, and the possible need to re-permit the facility. DEEP was supportive of this planning activity. From November through March 2020, WLSD and WPCA worked together to complete in-depth engineering studies of loads and flows. A Preliminary Engineering Report to apply for USDA funding was begun in January, 2020 and joint work by Litchfield and WLSD on the application continued through April when it was paused by USDA at the request of Litchfield. Litchfield's application to USDA was not submitted. Communications between the parties have continued on a number of matters including Litchfield's hiring of an expert to review the engineering work performed by DPC on the project.

9. Briefly describe the proposed project.

The proposed project involves pumping flows that would normally be treated at the WLSD WPCF to Litchfield's existing sanitary sewer collection system via a reconstructed pump station at WLSD's plant pump station site, with a force main route along Beach Street, Milton Road, and Constitution Way, with interconnection to the Litchfield interceptor sewer system along the easement on Whites Wood Road. No expansion of the existing Litchfield sanitary sewer system are proposed via the new force main. The existing WLSD Plant Pump Station will be replaced with a new pump station with an odor control system and a one-million-gallon wastewater storage tank; all will remain on current WLSD property in Goshen. The storage tank will allow WLSD to pump to the Litchfield interceptor and WPCF at times when Litchfield's flows are lowest.

10. Who is Litchfield WPCA?

Litchfield WPCA owns and operates a wastewater collection system and WPCF that processes wastewater from the sewer service area. The Litchfield WPCF was constructed in 1970 and upgraded in 2001.The Litchfield collection system is comprised of approximately 27 miles of sanitary sewer lines and 600 manholes. The WPCF has an annual average surface water discharge permit capacity of 800,000 gpd. Effluent is discharged to the Bantam River. The current average annual flow for the Litchfield WPCF is 503,700 gpd. The flow results from the more than 1,300 connections to the system which includes the many restaurants, businesses, and buildings in the town's center and along Route 202, the school and residences along route 63, the I/I associated with Litchfield's system, and Morris' wastewater. Septage from Litchfield and surrounding areas is also treated.

The WPCA is a self-supporting entity and charges sewer users for the operation and maintenance of the sewer system. Litchfield sewer users are charged by the Equivalent Dwelling Unit (EDU), with residential sewer users equaling 1 EDU. Commercial and public sewer users are also charged per EDU, based on water consumption. The current annual sewer rate (FY2020) in Litchfield is $408 per EDU.

11. What is the current condition/capacity of the Litchfield WPCF?

WLSD contracted with DPC to explore aspects of a possible connection of the WLSD wastewater system to the Litchfield wastewater system. The project (at a cost of more than $140,000 paid by WLSD) commenced in the Summer of 2019 and included the preparation of a funding application to USDA. DPC was asked to assess the needs of the Litchfield WPCF, with and without a potential connection from WLSD. An assessment of the WPCF is complicated as key design and operational parameters related to the WPCF are not only the flows but also the concentration and loads of the pollutants. WLSD requested DPC to summarize their assessment of flows and loads, key upgrade needs to meet permit conditions, probable costs, and funding options.

The permitted capacity of the WPCF is 800,000 gpd, but due to changes in the composition of the influent (in particular a few Litchfield businesses with high strength wastewater) over the last 20 years, DPC estimated the current capacity of the Litchfield WPCF at approximately 600,000 gpd. Litchfield's current operating permit from DEEP expires in June, 2021 and DPC's estimate of upgrades needed to properly treat the 600,000 gpd total $5.0 million (this did not include components that Litchfield may also choose to replace because the components have exceeded their estimated useful life). DPC estimated that the total cost to treat 800,000 gpd (i.e. compliance with their current permit) is $16.5 million. Litchfield WPCA reviewed DPC's estimates and is working to prepare an independent review to confirm current and future needs, with and without WLSD. Separately, the WPCA has already identified an additional $1 million in maintenance and equipment replacement that would be required in any event.

12. What improvements will be required of the Litchfield WPCF to accept WLSD flows?

As part of its study, DPC examined five different planning thresholds ranging from two options of 500,000 gpd and 600,000 gpd standalone permitted plants and three upgraded plant options ranging from 750,000 gpd to 950,000 gpd to accept WLSD flows.

DPC recommends the 950,000 gpd option which includes a higher percentage of upgrades and an additional 150,000 gpd over the currently permitted capacity of 800,000 gpd to cover WLSD's capacity request without impacting the capacity allocated for current and future Litchfield and Morris requirements. This upgrade provides increased operational flexibility and opportunities for reduced annual O&M costs for relatively little cost (i.e. 9% increase in cost over the 800,000 gpd option yields 19% increase in capacity to 950,000 gpd). The option will minimize potential non-compliant effluent reports and optimize the ability of the facility to handle extreme weather events while being more tolerant of swings in concentration and loads. This was the preferred option presented to USDA in the funding application this spring.

The 950,000 gpd option would provide Litchfield, Morris, and WLSD the greatest long-term flexibility in terms of managing future flows and loads together with the most favorable discharge permit conditions. DPC and WLSD believe this represents a unique opportunity for Litchfield to address existing WPCF upgrade needs, WLSD to address its existing wastewater management needs, and for both communities to obtain superior grant and finance terms.

13. How does the cost of the WLSD/WPCA project compare to the Litchfield standalone option?

The joint project includes decommissioning the existing WLSD plant, construction of a regional pump station, storage tank, and force main from WLSD to the Litchfield collection system, and upgrades to the Litchfield WPCF. The total estimated cost of the project is $38,800,000 with upgrades and improvements to the Litchfield WPCF totaling $18,000,000 and WLSD infrastructure and pipeline costs totaling $20,800,000. The total costs of the project are apportioned $28,800,000 to WLSD and $10,000,000 to Litchfield WPCA. Although WLSD represents only 16% of the proposed capacity under future conditions, its $8,000,000 contribution to the Litchfield WPCF represents a 45% capital contribution by WLSD.

Preliminary discussions with USDA indicate the project would be eligible for a 35% grant and preferential interest rate of 1.375% on a 40-year term loan. The large grant amount and low interest rate are due to WLSD's high tax assessment (user charge equivalent) relative to its median household income and its continued operation under the DEEP Consent Order.

Based on Litchfield's $10,000,000 capital contribution and a 35% grant from USDA, the total capital requirement for Litchfield WPCA would be $6,500,000. Using the preferential interest rate of 1.375% and a 40-year term loan, the projected annual debt service for Litchfield is $212,351 per year. This annual payment would be partially offset by a net (of expenses) O&M payment of approximately $103,329 (based on about 15% of annual actual WPCF flow attributed to WLSD) and capital payment of approximately $22,263 from WLSD (based on about 16% of WPCF capacity allocated to WLSD). In the first year of joint operation WPCA would have a net payment estimated at $86,758 which would decrease over time as inflation increases the payments from WLSD. In addition, the upgraded facility would generate excess nitrogen credits which could be sold for an estimated $23,267 per year further reducing the net payment to $63,491 in the first year of operation. (See Table #2 for details)

Thus, with the joint project, the Litchfield WPCA would own and operate an updated 950,000 gpd permitted facility costing $18,000,000 at a capital investment cost of $6,500,000. The investment would be financed by USDA with a 40-year loan at the low interest rate of 1.375%. The WPCA would receive approximately $126,000 per year of net O&M and capital payments from WLSD plus the sale of valuable nitrogen credits against an annual debt payment of $212,351. Using a discount rate of 2%, the net present value of the joint project's cash flow would be a negative $0.3 million. (See Table #2 for details)

The WPCA haven't developed the planning requirements and estimated costs of a WPCA standalone option that ensures the plant is maintained in excellent operating condition and continues to meet permit requirements when its permit expires in June, 2021. WPCA plans to develop a detailed asset management plan as well as have an expert review DPC's financial estimates from its engineering report. Therefore, at present we only have DPC's $5 million estimate for a standalone facility upgraded to handle projected flows and loads at 600,000 gpd. A standalone project would receive a USDA loan at the less favorable interest rate of 2.375% and would not be eligible for a grant due to Litchfield's lower than average user fees relative to median household income. A standalone WPCA would not have WLSD as a partner for operating cost sharing and future capital sharing.

Thus, in the DPC estimated standalone option, the WPCA would have a $5 million plant permitted at 600,000 gpd (200,000 gpd below current permitted capacity) at a capital investment cost of $5 million. It would have annual debt payments of $194,231 with no O&M and capital payments from WLSD to offset the debt payments. This option generates a negative annual cash flow of ($194,231) with a net present value of a negative $5.3 million. (See Table #2 for details)

Based on these two planning scenarios, Litchfield WPCA user fees would be about 13% lower under the joint WPCA/WLSD operation compared to the standalone option. Meanwhile the average WLSD taxpayer would experience a nearly 45% increase from $1,767 in 2020 to $2,560 in 2024. The top 107 taxpayers currently paying more than $3,000 in 2020 will be paying more than $4,300 in 2024. (See Table #1 for details)

14. What pipeline routes did you consider and why did you choose Beach St/Milton Road?

Five different alternative routes were considered in connecting the WLSD system to the Litchfield WPCF. Two of the routes were from the Plant Pump Station: #1 was down Beach Street, Milton Road and Constitution Way; and #2 was down Beach Street, Milton Road and US Highway 202. Three of the routes were from the Clubhouse pump station: #3 was down Crossman Road, Hemlock Hill, and Maple Street; #4 was down Crossman Road, Newcomb Road to Beach Street/Milton Road/Constitution Way; and #5 was down Crossman Road, Goodhouse Road, Milton Road, Schaeffer Road, Duck Pond Road, and US Highway 202.

Alternate 1 was selected because it was the shortest distance and was on all town roads. Alternative 2 was a greater distance and required construction on state road 202. Alternatives 3, 4, and 5 all were within the Waterbury drinking watershed which would require approvals and construction improvements as dictated by the CT Department of Public Health. These routes were also over longer distances than alternative 1.

15. Tell us about the construction of the pipeline down Beach Street/Milton Road.

Construction of the force main will run from the WLSD plant pump station site, south along Beach Street, Milton Road, across Route 202, along Constitution Way with interconnection to the Litchfield interceptor sewer system along the easement on Whites Wood Road. There will be underground cleanouts and air release structures as needed at high points and low points with maximum intervals of no more than 1,500 feet. There are no changes to the Litchfield or Goshen sewer service areas contemplated with this project and, as the proposed sewer pipeline will traverse areas outside the sewer service areas, no connections will be allowed.

The 8-inch main will be constructed of DR18 PVC pipe, commonly referred to as “Blue Brute”. The minimum burst pressure is 755 pounds per square inch. The anticipated operating pressure within the pipe will be less than 50 psi; it will be pressure rated for 235 psi. The pipe is laid in a 4 to 5 feet wide trench with crushed stone bedding one foot above, below, and on each side of the pipe.

The pipe will be placed in the road or along the shoulders of the road to protect existing trees, well within the town’s existing rights-of-way. It will be buried below the frost line, typically 4 feet or more below the surface. Excavation work will include erosion control and dewatering methods to prevent sedimentation of nearby water bodies and/or wetlands. Controlling potential runoff will help maintain water quality adjacent to the construction work.

On the Litchfield and Goshen town roads the rate of construction will average about 100 feet of pipe per day. Paving repair will be done weekly on the town roads and daily on the state road and all final repairs will be completed after wintering over. Driveways will be repaired to the satisfaction of property owners. Work will be done Monday through Friday from 7:00am to 5:00pm. It is estimated if the design phase is started next year, the construction could begin in the spring of 2022 and be completed in fall 2023. This includes construction on both facilities and the connecting pipeline.

16. Tell us about the operation of the pipeline.

The 8-inch pipeline will connect the existing 698 homes in the WLSD system and carry an average of about 90,000 gallons per day. The pipe will only have contents when the WLSD pump is running, estimated at 12 minutes each hour on average. When running, the pipeline pressure will always be below 50 psi in a system rated for 235 psi. The WLSD system will include a one million gallon storage/buffer tank (nearly 12 days of average total flow) to retain flow at WLSD in the event the WLSD pipeline or Litchfield's pipeline or plant is unable to accept flow for any reason, e.g. an extreme weather event.

Because WLSD has no industry, restaurants, or retail establishments connected to its sewer system, the effluent is residential wastewater. The "sewage" running through the line will be typical domestic wastewater which is much weaker than the "septage" that is pumped from septic tanks and processed by the Litchfield WPCF.

There will be remote monitoring and control of the WLSD pumping station, the Litchfield interceptor and the Litchfield WPCF, to determine that what gets pumped out of WLSD is received in the Litchfield system and the flow occurs at times desired by Litchfield's facility. The storage tank at WLSD's pump station will allow the flow in the pipeline to completely stop for several days if there are any issues in the pipeline or Litchfield's system.

The pipeline will be maintained and insured by WLSD and maintenance/emergency response will be carried out as agreed with Litchfield at WLSD's cost.

17. Why is there a sense of urgency on this project?

DEEP has been concerned about granting permit approval for a local plant alternative to WLSD because of environmental concerns. First is the possible impact on drinking water as our plant is adjacent to the West Branch of the Bantam River which flows into the Class AA watershed in Litchfield. Second, the plant, which was build forty-six years ago, is connected to the collection system through an iron pipe which runs under the West Branch of the Bantam River. If that pipe were to fail, untreated wastewater would spill into this tributary flowing into the Aquarion Aquifer Protection area, past the Litchfield Country Club, into Little Pond in White Memorial and then into Bantam Lake. While we have no data on the condition of this pipe, we feel it is prudent to move expeditiously to a permanent solution.

18. What approvals will be required from Litchfield for the project to proceed?

The Litchfield Planning & Zoning Commission, Inland Wetlands Commission, Water Pollution Control Authority (WPCA), and Board of Selectmen will need to approve the project. Obtaining funding for the project will require a Town Referendum. Additionally, DEEP approvals will be required for facility permitting and environmental impact mitigation.

August 14, 2020

Table #1: Impact of Funding Source and Project Option on WLSD $/EDU Taxes

	Goshen WPCF Option Q&A #3	Torrington Pipeline Option Q&A #6		Litchfield Pipeline Option Q&A #13	Current WLSD 2020/2021 Budget	Escalated WLSD 2023/2024 Budget
	USDA-RD Funding	USDA-RD Funding	CT DWSRF Funding	USDA-RD Funding	No Project 2020/2021 $'s	No Project 2023/2024 $'s
Total Project Capital Cost (2023/2024 $'s)	**$34,810,000**	**$23,440,000**	**$23,440,000**	**$28,800,000**		
Grant %	**50%**	**12%**	**0%**	**33%**		
Grant Amount	$17,405,000	$2,825,000	$0	$9,504,000		
Capital Fund Amount [1]	$380,000	$380,000	$380,000	$380,000		
Loan Amount	$17,025,000	$20,235,000	$23,060,000	$18,916,000		
Interest Rate %	**1.375%**	**2.250%**	**2.000%**	**1.375%**		
Term Years	**40**	**40**	**20**	**40**		
Annual Debt Service (2023/2024 $'s)	**$556,195**	**$772,519**	**$1,410,274**	**$617,973**	**$29,087**	**$29,087**
Annual WLSD O&M Cost [2]	$1,180,145	$823,916	$823,916	$819,545	$792,180	$865,636
Annual WLSD Capital Costs [2]	$218,545	$218,545	$218,545	$218,545	$412,253	$450,480
Total Annual WLSD Costs (2023/2024 $'s)	**$1,398,691**	**$1,042,462**	**$1,042,462**	**$1,038,091**	**$1,204,433**	**$1,316,116**
Annual Payment for Outside O&M [3]	$0	$156,513	$156,513	$131,467	$0	$0
Annual Payment for Outside Capital Costs [3]	$0	$80,842	$80,842	$22,263	$0	$0
Total Annual Payments Outside WLSD (2023/2024 $'s)	**$0**	**$237,355**	**$237,355**	**$153,730**	**$0**	**$0**
Total Annual WLSD Costs (2023/2024 $'s)	**$1,954,886**	**$2,052,336**	**$2,690,091**	**$1,809,793**	**$1,233,520**	**$1,345,203**
2023/2024 Connections (EDUs) [4]	707	707	707	707	**698**	**707**
Total Cost $/EDU (2023/2024 $'s)	**$2,765**	**$2,903**	**$3,805**	**$2,560**	**$1,767**	**$1,903**
2010 Median Household Income (MHI) [5]	$76,705	$76,705	$76,705	$76,705	$76,705	$76,705
% of 2010 MHI	3.6%	3.8%	5.0%	3.3%	2.3%	2.5%

Notes:

(1) Assumes that for the next 3 years, $160k ($400k - $140k CCTV - $100k major repair) available to transfer to capital fund each year -$100k for operating cash flow.

(2) USDA PER Submission, Filename: "DPC_WLSD_PER_Regional WW Mngmt Project_2020.03.25.pdf"

(3) Reference RA1 Tor(2) and RA2 Lit (2) for details

(4) Current 698 connections + 3 new connection per year for 3 years

(5) 2010 Census - ACS Table B19013

Table #2: Financial Impact of Funding and Project Options for Litchfield WPCF Upgrade

	Threshold 600 Q&A #13 USDA No Grant 600,000 gpd Permitted Capacity	Threshold 950 Q&A #13 USDA Joint Project 950,000 gpd Permitted Capacity
Litchfield's Total Project Capital Cost (2023/2024 $'s)	**$4,980,000**	**$10,000,000**
Grant %	**0%**	**35%**
Grant Amount	$0	$3,500,000
Interest Rate %	**2.375%**	**1.375%**
Term Years	**40**	**40**
WLSD Capital Contribution for Litchfield WPCF Upgrades	$0	$8,050,000
Total Project Cost	**$4,980,000**	**$18,050,000**
WLSD % of Total Project Cost	0.0%	44.6%
Litchfield Loan $	$4,980,000	$6,500,000
Annual Debt Service Total Payment	**($194,231)**	**($212,351)**
WLSD Annual Payment Assumptions (1st Fiscal Year 2023/2024)		
2023/2024 O&M Fee (Based on 15% of Annual Actual Flow)		$131,467
2023/2024 Estimated Cost Increase Due to WLSD (Est $25k/Yr. in 2020 $s)		-$28,138
Net O&M Benefit	**$0**	**$103,329**
Inflation Rate for O&M (General Inflation Rate)		2.00%
2023/2024 Capital Fee (Based on 16% Allocation of Full Capacity)	**$0**	**$22,263**
Inflation Rate for Capital (General Inflation Rate)		2.00%
2023/2024 Nitrogen Credits	**$0**	**$23,267**
2023 Total Benefit to Litchfield	**$0**	**$148,859**
Net 2023 Debt Service Payment by Litchfield	**($194,231)**	**($63,491)**
Net Present Value (NPV) Comparison of Options (2% Discount Rate)		
Total of All Payments Over Term (NPV)	($5,313,281)	($5,808,950)
40 Years of WLSD O&M Net Payments (NPV)	$0	$4,133,162
40 Years of WLSD Capital Payments (NPV)	$0	$731,500
40 Years of WLSD Nitrogen Credits (NPV)	$0	$636,480
Litchfield's Total Cost (NPV)	**($5,313,281)**	**($307,808)**
Litchfield Total O&M + Debt Service - Nitrogen Credit (2023/2024)	$1,251,459	$1,107,797
Estimated 2023/2024 Litchfield Sewer User Fee ($/EDU)	$449	$397
Current 2020/2021 Litchfield Sewer User Fee ($/EDU)	$408	$408
% Increase/Decrease in Litchfield Sewer User Fee	10%	-3%