

# **AGENDA**

Unless specifically noticed otherwise, this meeting and all other meetings of this body are open to the public. Proper notice has been posted and given to the media in accordance with Wisconsin Statutes so that citizens may be aware of the time, place and purpose of the meeting.

## **MEETING NOTICE**

### **BOARD OF PUBLIC WORKS**

**Monday, June 1<sup>st</sup>, 2020**

**4:30 p.m.**

Meeting Documents

**Council Chamber, New London Municipal Building**

1. Call meeting to order, Adopt Agenda
2. Public Input
3. Wastewater Treatment Plant Updates
4. Adoption of the 2019 CMAR Resolution
5. Approval of an ordinance adding 13.14(4)(E) adding a user fee for high strength waste collection
6. Discussion and approval of survey engineering for Mill Street/Beacon Ave
7. Update on a request to create an All-Terrain Vehicle routes ordinance
8. Consider sending a letter of support to the Waupaca County Highway Commissioner requesting to reduce the speed limit on Hwy X (Wolf River Ave) to 25 MPH from the western city limits to Oshkosh Street.
9. Review bid tab and recommend to Council the award of a Brush/Tub Grinding Contract to DTA, LLC.
10. Director's Report
11. Next Month Agenda Items
12. Adjournment

**Mike Barrington, Chairman  
Board of Public Works**

*Agenda items are listed so as to accurately describe the actions or issue being considered instead of simply the document listing title or the parties to a contract. This is done as such titles or a list of parties to a contract conveys insufficient information to the public on whether a topic or project they are interested in is being considered. It is the policy of the City of New London to comply in good faith with all applicable regulations, guidelines, etc. put forth in the American with Disabilities Act (ADA). To that end, it is the City's intent to provide equal opportunity for everyone to participate in all programs and/or services offered, to attend every public meeting scheduled, and to utilize all public facilities available. Any person(s) in need of an alternative format (i.e. larger print, audio tapes, Braille, readers, interpreters, amplifiers, transcript) regarding information disseminated by the City of New London should notify the City 48 hours prior to a meeting, etc., or allow 48 hours after a request for a copy of brochures, notices, etc. for delivery of that alternative format. Contact ADA Coordinator Chad Hoerth by telephone through: (Relay Wisconsin) – or 920/982-8500 and in person/letter at 215 N. Shawano Street, New London, WI 54961.*

# Memorandum

**To:** Board of Public Works  
**From:** Chad Hoerth, Director of Public Services  
**Date:** May 28<sup>th</sup>, 2020  
**Re:** June 1<sup>st</sup>, 2020 Board of Public Works Meeting

---

Wastewater Treatment Plant Updates Ben's reports are provided in your packet. We also were asked to provide an update to some conversations we had with Tyson Foods in the past regarding the plant connecting into the city's Sanitary System.

Adoption of the 2019 CMAR Resolution Ben has completed and included a copy of the 2019 Compliance Maintenance Annual Report required by the DNR, Ben will review the report at the meeting. A resolution is required to be adopted to accept the report.

***Possible/Recommended Motion: I make a motion that council approves the proposed 2019 CMAR report resolution.***

Approval of an ordinance adding 13.14(4)(E) adding a user fee for high strength waste collection: In your packet is a proposed ordinance setting a user fee for high strength waste that we will begin collecting with our new collection system.

***Possible/Recommended Motion: I make a motion that council adopts the proposed ordinance regulating a user fee for high strength waste at the WWTP.***

Discussion and approval of survey engineering for Mill Street/Beacon Ave

Luke, Ben and I have been working with our engineer to develop a proposal for work that should be done on Mill Street before the Outagamie County Highway Department looks performing a mill and overlay on "Hwy T". Right now the initial report looks like most of the mains and manholes are in rough shape. There are not too many laterals on Mill Street as

many of the houses connect via the side streets, but there are a bunch on Beacon that will need to be considered for replacement similar to the Division Street project (potential pipe bursting or open dig replacements depending on each particular situation). We're going to have the storm sewer system televised as well to reduce the chance of future issues with a new street. Enclosed in your packet is an engineering agreement to have survey work done for this potential project as well as some scenarios for construction estimates. The estimates would be defined better once survey work is complete.

***Possible/Recommended Motion: I make a motion that council approves the included agreement with McMahon for engineering and survey.***

Update on the request to create an All-Terrain Vehicle routes ordinance- at this time I have no updates on an ATV ordinance. Mayor Herter asked for this to be on the agenda just so those who are interested in this possibility know it's still on our list to work on, however other things have taken priority in the past few months.

Consider sending a letter of support to the Waupaca County Highway Commissioner requesting to reduce the speed limit on Hwy X (Wolf River Ave) to 25 mph from the western city limits to Oshkosh Street – Bob Besaw requested for this item to be placed on the agenda. He had conversations with Casey Beyersdorf, Waupaca County Highway Commissioner, regarding a proposal to reduce the speed from 35 mph to 25 mph on Hwy X (Wolf River Ave) from the western edge of the city (basically the boat launch) to Oshkosh Street (the speed in this stretch currently is 35 mph and reduces to 25 mph just before you reach Oshkosh Street). If the Board agrees, I would draft up a letter for the council to consider requesting the Waupaca County Highway Commissioner to reduce the speed.

***Possible/Recommended Motion: I make a motion that the Director of Public Services drafts a letter for council to review requesting that the Waupaca County Highway Commissioner reduces the speed to 25 mph on Hwy X from the western city limits to Oshkosh Street.***

Review and recommend to Council the award of a Brush/Tub Grinding Contract to DTAK, LLC. - Included in your bid packet is the bid tabulation for the Brush/Tub Grinding project for our brush piles. Just a reminder that we received a DNR grant to help finance disposal of the brush collected from last year's storm, so "Pile A and B" will be reimbursed by the DNR grant while "Pile C" will be financed by the city's budget. I'm making the recommendation at this time that the city awards the contract to DTAK, LLC.

***Possible/Recommended Motion: I make a motion that the council considers awarding the Brush/Tub Grinding contract to DTAK, LLC.***

Directors Report:

- Service Anniversary Report:
  - Gerid Garvens completed 6 years of service on May 30<sup>th</sup>
- The department held our annual leaf and brush curbside pick from April 27<sup>th</sup> through May 15<sup>th</sup>.
- If you caught it in my staff notes in the past month, I reported that the DOT has moved our STP Urban reconstruction project for North Water Street to 2024. The challenge will be for New London Utilities to keep the downtown lights going that long as the wiring and bases for the poles are failing. I anticipate receiving a "SMA" (State/Municipal Agreement) in the near future which will be the official agreement to completing the project with the DOT and this grant funding.
- In the last month I participated in a DOT web meeting, between July 6 and August 11th a contractor will be resurfacing 6 bridges on the Hwy 45 bypass. The work is anticipated to take 2 days for each bridge. They will not be detouring traffic, only closing down to one lane on the bridge.
- Waupaca County Highway Department also plans on resurfacing the Shawano and Pearl Street bridges over the Wolf River this fall. When they do the work they plan on detouring traffic to the other bridge for the day.

## June 1<sup>st</sup> 2020 Board of Public Works

### Wastewater Notes:

The main rehab for the digesters is almost complete. The contractors are finishing up with painting, landscaping and other small control issues that need tweaking:

- The High Strength Waste receiving station is having issues regarding the water supply for cleaning the screen that removes rags and other debris from the waste. Apparently there was either an error by Donohue in calculating the gallons per minute from our existing W3 non-potable water supply or the manufacturer of the screen didn't disclose the amount of water needed during the engineering process. Either way the flow to the new structure is below 20 gallons per minute and 30 gallons per minute is the minimum flow required to adequately clean the drum to prevent clogging. Donohue has been working on a solution to increase the flow and to update our aging and inadequate W3 infrastructure. Next month I hope to have more information regarding this problem. By redoing the W3 system we will be able to lower the amount of water used from Utilities to fill the sewer truck and some of our internal processes by using final effluent which is free. This should save us well over \$5,000 per year in utility fees.
- The electrical upgrade for the main power coming into the plant has been re-engineered and will be completed in late June or July when the new breaker is delivered. During this time the City Utilities will be upgrading their portion as well. This will be paid for through the upgrade contingency balance.

We were able to land spread 1,468,000 gallons of sludge this spring. This is the first time in many years we were able to get this much out in one season.

I am in the process of receiving bids for 2020 sewer televising.

I have attached the CMAR report card to this write up. For 2019 we received another A. A resolution from the Council will need to be approved for the CMAR to be complete. Thank you again for providing the resources needed to maintain the facility to receive a high grade.

Seeing the High Strength Receiving Station will be operational soon I have been contacting local treatment facilities to see what they are charging for High Strength Waste. It appears \$30 per 1,000 gallons is what Waupaca is charging and everyone else is pricing it so high to prevent haulers from bringing it to them. I feel that this will be a good starting point to test our system. If conditions change we can always change how much we can charge.

If the Board Approves of the new fee the section below will need to be added to the City Ordinance:

#### **Section 13.12(4)c**

**E. Waste  $\geq$  10,000 mg/l TSS shall be processed at a charge of \$30 per 1,000 gallons.**

I have attached a report regarding the current and future status of the treatment facility and the collection system for the newer members of the Board and Council to review. Please let me know if you have any questions.

Effluent									
Month	Flow	BOD		TSS		Phos.		Fecal Coliform	
	mgd	mg/L	lbs	mg/L	lbs	mg/L	lbs		
Jan	1.5766	3	36	4	49	0.3	4.3		
Feb	1.1895	1	13	3	31	0.3	3.0		
Mar	2.2837	4	87	6	127	0.3	5.8		
April	2.0155	3	58	4	79	0.3	4.6		
May	1.4423	2	26	5	61	0.3	3.2		4.8
June									
July									
Aug									
Sept									
Oct									
Nov									
Dec									
Ave	1.7015	3	44	4	69	0.3	4.2	5	
Max	2.2837	4	87	6	127	0.3	5.8	5	
Min	1.1895	1	13	3	31	0.3	3.0	5	
	Limit:	25		30		1.0		400	

Utility								
Month	Super-natent	Methane Used	Methane Flared	Natural Gas	City Water	Ferric	Rain	Electricity
	gal	ft <sup>3</sup>	ft <sup>3</sup>	ft <sup>3</sup>	gal	gal	in	
Jan	5969			48	908	51	0.21	
Feb	0			68	1983	59	0.31	
Mar	1			45	1127	69	0.37	
April	10890			23	1455	81	0.17	
May	1			9	2936	73	0.54	
June								
July								
Aug								
Sept								
Oct								
Nov								
Dec								
Ave	3372			38	1682	66	0.32	
Max	10890	0	0	68	2936	81	0.54	0
Min	0	0	0	9	908	51	0.17	0

Wohlt Cheese							
Month	Flow	BOD		TSS		Phos.	
	gals	mg/L	lbs	mg/L	lbs	mg/L	lbs
Jan	13697	812	101	379	46	19.0	2.3
Feb	14111	664	86	324	42	18.5	2.4
Mar	15667	724	96	343	45	17.8	2.3
April	9372	453	42	159	15	13.2	1.2
May	13407	1130	130	718	80	28.6	3.2
June							
July							
Aug							
Sept							
Oct							
Nov							
Dec							
Ave	13251	757	91	384	46	19.4	2.3
Max	15667	1130	130	718	80	28.6	3.2
Min	9372	453	42	159	15	13.2	1.2

Influent							
Month	Flow	BOD		TSS		Phos.	
	mgd	mg/L	lbs	mg/L	lbs	mg/L	lbs
Jan	1.3425	191	1937	168	1793	3.9	40.8
Feb	0.8851	193	1453	182	1367	4.6	34.6
Mar	2.0727	156	2445	174	2957	3.8	65.1
April	1.7818	173	2562	181	2603	3.6	52.3
May	1.1653	242	2217	342	3209	5.5	51.5
June							
July							
Aug							
Sept							
Oct							
Nov							
Dec							
Ave	1.4495	191	2123	209	2386	4.3	48.9
Max	2.0727	242	2562	342	3209	5.5	65.1
Min	0.8851	156	1453	168	1367	3.6	34.6

Hauled Waste			
Month	Holding	Septic	HSW
	Total gals	Total gals	Total gals
Jan	1,013,450	57,300	
Feb	717,200	34,700	
Mar	980,700	89,150	
April	1,052,060	309,100	
May	764,525	245,350	5,084
June			
July			
Aug			
Sept			
Oct			
Nov			
Dec			
Total:	4,527,935	735,600	5,084
\$/gal	0.00875	0.02000	0.02000
Total:	\$39,619.43	\$14,712.00	\$101.68

Ammonia	
Month	mg/L
Jan	1.6
Feb	<0.15
Mar	0.42
April	7.3
May	0.25
June	
July	
Aug	
Sept	
Oct	
Nov	
Dec	

Mercury		
Quarterly	Inf	Eff
	ug/L	ug/L
Jan	72.90	1.03
Feb		
Mar		
April	96.70	0.60
May		
June		
July		
Aug		
Sept		
Oct		
Nov		
Dec	96.70	1.03
Max		
Min		
Limit:	72.90	0.60
	Limit:	1.30

Whole Effluent Toxicity	
Date:	<b>Pass/Fail</b>

# Compliance Maintenance Annual Report

New London Wastewater Treatment Facility

Last Updated: Reporting For:  
5/26/2020 **2019**

## Grading Summary

WPDES No: 0024929

SECTIONS	LETTER GRADE	GRADE POINTS	WEIGHTING FACTORS	SECTION POINTS
Influent	A	4	3	12
BOD/CBOD	A	4	10	40
TSS	A	4	5	20
Phosphorus	A	4	3	12
Biosolids	A	4	5	20
Staffing/PM	A	4	1	4
OpCert	A	4	1	4
Financial	A	4	1	4
Collection	A	4	3	12
<b>TOTALS</b>			<b>32</b>	<b>128</b>
<b>GRADE POINT AVERAGE (GPA) = 4.00</b>				

### Notes:

- A = Voluntary Range (Response Optional)
- B = Voluntary Range (Response Optional)
- C = Recommendation Range (Response Required)
- D = Action Range (Response Required)
- F = Action Range (Response Required)

**2020 New London**  
**Wastewater Treatment Facilities**  
**Status Report**

**Preface**

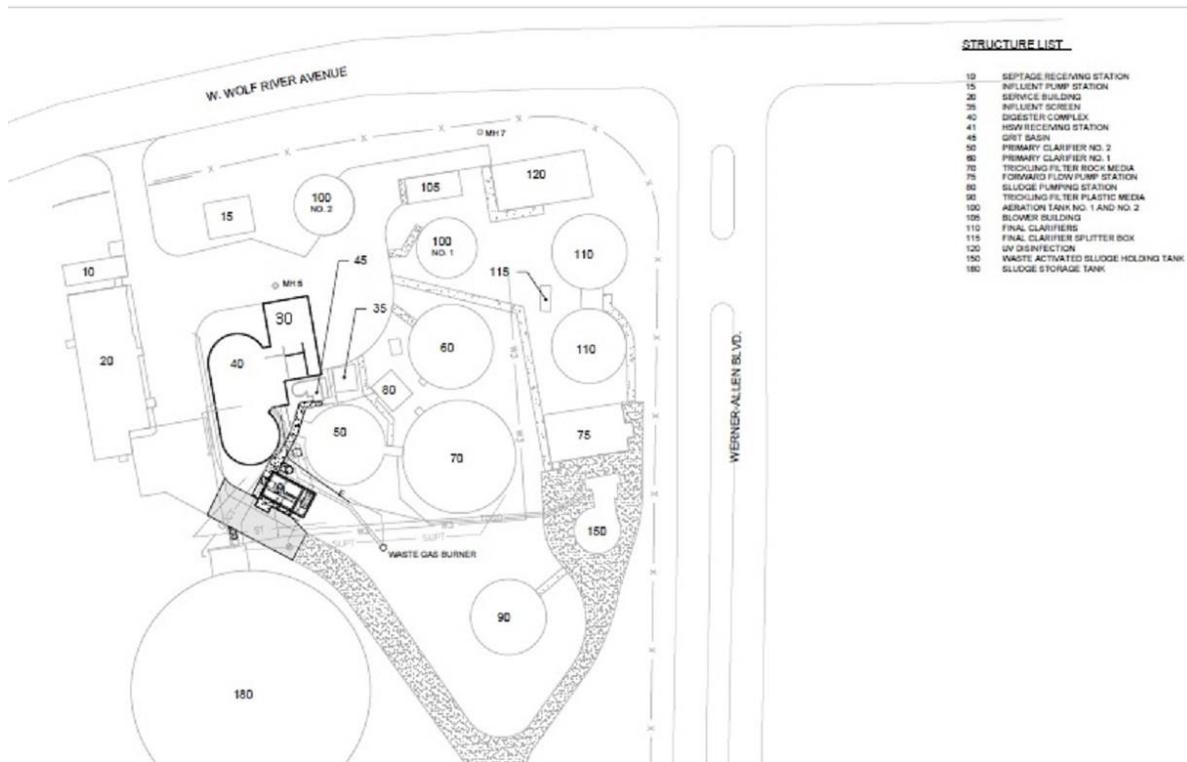
Back in 2018 I put together a status report to go over the general condition and deficiencies with the wastewater facility. Since then there have been some changes to the City Council. I hope that this report will serve as a tool to give you the information you will need to give your constituents an informed answer regarding the current status and future needs of the facility.

The New London Wastewater Treatment Facility was built in 1954 to treat the waste generated by the City's population and industrial customers. The largest customer was Borden's and throughout the years the plant's upgrades were tailored to their high strength discharge. In 1967 an aeration basin was added to the treatment process to remove more waste going to the Wolf River. By the early 1980's it was evident that the plant was not able to handle the increased loadings from the Borden's Cheese plant along with other high strength industries. In 1986 an upgrade was started to increase the amount of waste that the facility could treat and stay under the permit levels dictated by the Department of Natural Resources. In 1987 most of the upgrades were in place to start up the new plant. There were many issues that plagued the start-up such as controls that wouldn't work properly, grit removal issues and chemical treatment that wasn't working as planned to name a few. After a few years things were changed to make the plant work better however Borden's successors continued to push the discharge limits of the plant with high strength loadings and caustic chemicals. In 1999 another aeration basin was installed to double the loading capacity to lure another high strength waste producing facility to town. That business did not come to the industrial park and the wastewater facility was oversized for the amount of waste coming into it. Other upgrades have occurred between 2000 and 2020 and are highlighted in the following pages.

In 2014 the Saputo Cheese plant stopped operations reducing the loading to the plant sixty percent and cut our revenue by 25%. This put our daily loading to the facility roughly at one quarter of the total capacity.

In 2015 the City lowered septage and holding tank waste fees to attract more waste haulers to use the facility in hopes of making up some of the losses in revenue from the Saputo closure. Over the last five years revenues from waste haulers has increased from \$25,000 to \$145,000 annually. An unfortunate side effect of the increased business is an offensive odor with some of the wastes being brought in. Once the High Strength Receiving Station is fully operational we hope to significantly increase our revenue and decreasing the odor associated with these types of waste.

Some portions of the plant have gone 34 years without any upgrades. When a plant is designed, the rule of thumb is to engineer the facility to last 20 years. That number includes capacity and the infrastructure utilized for treatment. We have been fortunate to get thirty-four years from some of our equipment but things are starting to break down and the cost and man hours for repairing them is becoming a larger part of our budget. Due to the age of the equipment, parts are sparse if not totally unavailable resulting in custom fabrication to keep pumps running. The write-up provided will hopefully paint a picture of why the plant was designed the way it was, why there were changes made throughout the years and what the current deficiencies are that need to be addressed.



### Structure Number 10

**Overview** This structure is where septic and holding wastes are received. The structure was built in 1987 with the plant upgrade. Over the years the septic and corrosive environment has taken its toll on the steel valve actuator. In 2016 we replaced the 29 year old actuator and valve assembly with stainless steel components. The new valve is wired into our SCADA system where it can be controlled remotely. This gives the option to have it open after hours to dose the contents of the septage receiving station into the process train when there are lower flows and loadings coming from the sanitary system. The tank itself is in decent shape.

**Deficiencies** There can be a strong odor while the haulers are dumping or if the waste is aerated before it is introduced into the plant. A solution could be to place activated carbon filters on the vent. Another solution is to have haulers dump the stronger wastes into a High Strength Waste Receiving Station that would pump the contents directly into our digesters. The concrete and blacktop leading to the dumping area has been cracking and sinking. These areas will be replaced in July.

### Structure Number 15

**Overview** This structure was built in 2008 to house the new influent wetwell, pumps and associated controls. The original wetwell in building 30 and pumps were not big enough to handle the increased flows from the expanding city.

**Deficiencies** The pumps installed in 2008 have been discontinued. I bought wear items that can be replaced to keep the pumps running for another five to seven years however once these are used up we will need to look at other pump options. The check valves have deteriorated after being blasted with sand and grit in the pumping process and will need to be replaced soon as they are not holding back water on pump number two and three.

## Structure Number 20

**Overview** Structure 20 is the main building that houses the office, SCADA controls, laboratory, bathroom, chemical/parts storage and garage. This building was built during the 1987 plant upgrade. The roof was replaced in 2007. The original control panel has been upgraded many times in the last 34 years. In 2002 a lightning strike destroyed most of the electrical components and was repaired. Lift station monitoring was added in 2008 and finally in 2014/2015 the newest SCADA upgrade was completed.

**Deficiencies** None at this time. In 2016/2017 the structure was remodeled.

## Structure Number 30/40

**Overview** The main structure was built in 1954. It originally housed the lab, controls, influent pumps / wetwell, boiler, digesters and garage. In 1987 this building was redesigned and labeled Structure 30 and 40. Structure 30 housed the new emergency generator, communuters (shreds fibrous materials so they don't plug pumps, supposedly), new influent pumps, wetwell and controls. The wetwell was not increased in capacity. This section of building channels the main signal and control wires throughout the plant to the SCADA controls in Structure 20. Structure 40 houses the grit removal system, boiler, digesters and W2 non-potable water system. The digester mixing system was replaced with a Perth System, massive stress cracks were repaired. A new boiler was installed along with piping for building heat.

In 2004 the communuters were removed and a new building, Building 35, was constructed to house the new step screen. After the removal of the communuters there were many issues involving plugged pumps and a small wetwell to handle higher flows during thunderstorms and spring thaws. In 2008 the new Influent building was built, the original pumps, controls and wetwell were abandoned in place.

2012 saw a rate increase to the users of the sewer system and a new sewer use agreement was negotiated with Saputo Cheese. During the negotiations Saputo asked if there was capacity at the plant to handle a 15% increase in loadings. Our Digesters at that time were close to the Minimum Cell Residence Time (MCRT) that is required for the type of digesters we have. The MCRT is 15 days and we were around 20. Coupled with possible new loadings we had concerns regarding the age of the digesters and associated equipment. Leaks were forming where the 1987 patchwork took place. The boiler was having issues and the Perth mixing system was not working well. We contracted with Donohue to draw up plans to address our concerns however in late 2013 we did not qualify for any Clean Water Act monies and in early 2014 Saputo Cheese announced the closure of their New London Facility so this project was put on hold.

In 2015 we purchased a new emergency generator and had it moved to the outside of the building.

In 2016 the entire grit removal system was replaced along with new controls.

In 2019-2020 the entire digester complex was rehabbed with new energy efficient boiler, mixing and gas distribution systems. Cracks in the digester walls were repaired and all metal and concrete were coated with an epoxy coating to prevent corrosion.

**Deficiencies** None, however break in of the new equipment and associated systems is ongoing.

### **Structure Number 41**

- Overview** This structure is the new High Strength Waste Receiving Station. This will allow us the flexibility to introduce stronger wastes such as septic, cheese waste and grease traps directly into the digester and avoid running these through the rest of the treatment facility where it would take more energy and money to break them down. This will be a potential revenue generating opportunity for the City. A bonus from accepting this waste is the methane produced will help us lower the natural gas bill from Weenergies.
- Deficiencies** The screen located inside of Structure 41 has a water demand of 42 gallons per minute at 50 psi. The existing non potable water system is not capable of producing this type of flow. We are currently working with Donohue to redesign our W3 non-potable water system.

### **Structure Number 35**

- Overview** Built in 2004, this structure houses the step screen which takes the fibrous materials out of the waste stream instead of using comminutors to chop the rags into smaller pieces. At sixteen years old the screen is in decent shape and is showing some wear. The gaps to allow the water through are a little too wide and the “flushable” wipes and other thinner fibrous material is allowed to get through.
- Deficiencies** The air exchanger is starting to show some corrosion. When the building was built in 2004 the engineer didn't take into account that there are two important pipes where the building would go. One is for the sludge pipe going from the primary clarifiers to the digesters and the second is for the inlet to the intermediate clarifier. For whatever reason, it was decided to put the building on top of the pipes instead of moving them. With the settling of the building it looks like the sludge line is starting to dip where the building sits on top of it.

### **Structure Number 50**

- Overview** Structure 50 is the smaller of the two primary clarifiers. It was the original primary clarifier built in 1954. In 1976 the weir section was repaired by chipping out the loose concrete and pouring new concrete over it. During the 1987 upgrade a new concrete cover was poured over the old valve pit and small structural cracks were patched. New I beams and collector mechanism were installed. In 2010 the structural steel below the water line was sandblasted and recoated with coal tar. In 2017 the entire top portion of the concrete was removed and replaced. The steel superstructure and mechanism were replaced and painted.
- Deficiencies** None

### **Structure Number 60**

- Overview** Structure 60 is the larger of the two primary clarifiers. It was originally built in 1954 as the final clarifier. During the 1987 upgrade it was converted to an intermediate clarifier/primary clarifier. The structural I beams and clarifier drive were replaced at this time. The intermediate clarifier was used to settle out sloughings from the high rate filter. This caused massive odor issues and has been used as a primary clarifier ever since. In 2009 the structural steel below the water line was sandblasted and recoated with coal tar. In 2018 the structural steel above the water line was sandblasted and repainted along with a

drive overhaul. The mechanism was replaced with a SEW drive as the Windsmith drive system is no longer supported.

Deficiencies None

### **Structure Number 70**

**Overview** This structure known as the roughing filter was original with the 1954 plant construction. In 1987 during construction a washout under the tank collapsed half the structure and the rock into the void. The repair involved rebuilding the collapsed half, keeping the other half intact and refilling with rock. A new rotary arm assembly was installed as well. In 1999 two new 40 horsepower pumps were installed for recirculation to the filter. In 2009 the rotating assembly and feed arms were replaced with new ones.

**Deficiencies** In the mid 2000's we attempted to paint the fiberglass dome as the sun was starting to break down the fiberglass structure. After a couple winters most of the paint peeled off as the dome wasn't properly prepped. The dome was again painted by a professional painting company. This coat is also starting to peel. From what I have been told, the individual fibers are degraded enough where paint will never hold without major patching of the deteriorated spots. The door going into the filter is part of the fiberglass dome. The wood the door hinges attach to have rotted and there is very little holding the door on to the frame. The concrete structure that wasn't rebuilt is starting to crumble. One of the 1999 upgrade pumps was rebuilt in 2014 and the mechanical seal housing was quite deteriorated needing to be rebuilt with a stainless steel housing.

**Future** This filter is highly inefficient. The stone media plugs easily resulting in chlorinating and re-seeding of the media, both of which are expensive and time consuming. The filter is easily overloaded and causes odor issues. For these reasons this filter has not been run since November 2011. In 2010 AECOM did a study recommending the removal of this filter and adding either another high rate filter or an aeration basin.

### **Structure Number 75**

**Overview** This building was built in 1987 and houses the pumps for the following processes: roughing filter, forward flow, high rate filter and two spring pumps for the thickened sludge. In 1999 a new motor control center and control screen was installed for the new potential high strength waste industry that never came to the City. Also during that upgrade larger 40 horsepower pumps were installed for the roughing filter. An air assist pump replaced one of the spring pumps as well. All three high rate motors were rewound in the mid 2000's. In 2016 the three High Rate pumps were rebuilt with new rotating elements that utilize a flushless seal that doesn't require seal water from an external source. In 2018 a new rotary lobe pump was installed to replace one of the air assist sludge pumps. This new pump is much more efficient for the pumping needs. This is the proposed location for the new non-potable water source.

**Deficiencies** Over the years the mechanical seals on the larger pumps have failed and were replaced. The mechanical seals on these pumps rely on water to flush debris and cool them when they are running. Initially the plant used drinking water supplied by the water department but using almost 12,000 gallons per day became quite costly. A booster pump using plant effluent was used instead as there was just the cost of running the motor. After the plant switched from alum to ferric chloride to remove the phosphorus in the water there were problems showing up as seals started to fail. The effluent has ferric chloride residual which will attack steel and iron which line the cavity the seals rest in.

## Structure Number 80

- Overview** This building was built during the 1987 upgrade and houses two 20 horsepower air compressors used to power the sludge pumps for the primary clarifiers and the sludge thickener. There are also two air assist piston pumps. In 2012 the roof was replaced and in 2014 an air dryer system was installed to eliminate moisture in the pipes. The solenoid valves used to run the air assist pumps have been replaced in the last couple years. In 2020 the valves for the compressors have been replaced to add additional life.
- Deficiencies** Due to the age of the air compressors and the amount of work they do, the possibility of them failing is getting higher as their work life increases. We hope to get another 10 to 15 years out of them when a new plant upgrade will most likely happen and may render them surplus. As of now there are parts available to keep these units running.

## Structure Number 90

- Overview** This structure, known as the high rate filter, was constructed during the 1987 plant upgrade. In 2009 the rotary distributor was replaced.
- Deficiencies** In the mid 2000's we attempted to paint the fiberglass dome as the sun was starting to break down the fiberglass structure. After a couple winters most of the paint peeled off as the dome wasn't properly prepped. The dome was again painted by a professional painting company. This coat is also starting to peel. From what I have been told, the individual fibers are degraded enough where paint will never hold without major patching of the deteriorated spots. The door going into the filter is part of the fiberglass dome. The wood the door hinges attach to have rotted and there is very little holding the door on to the frame. When the new high strength receiving station is in full operation we hope to mothball this unit reducing energy costs.

## Structures Number 100

- Overview** In 1967 there was an upgrade to the plant to add an aeration basin to the process to lower the discharge of BOD into the Wolf River. In 1987 the coarse bubble diffuser air delivery system was replaced and the sidewall was extended four feet for increased capacity and to allow for gravity flow to the final clarifiers. In 2001 a second aeration basin was constructed. Fine bubble diffusers were added to the existing tank and the new tank. The rubber sleeves on the diffusers have a five year life expectancy and are replaced.
- Deficiencies** When the extension to the original aeration basin was done in 1987 no rubber "gasket" was inserted between the old layer and the new layer. This wasn't typical back then so no fault to the construction crew however there is an area for water to seep between the layers and between the form lines of the 1987 extension. In 2001 a polyurethane patch was injected into these cracks to seal them but they failed within weeks of the aeration basin going back on line. Another problem with these tanks is they are round. Not many plants use a round aeration basin as there is no control over this process other than the amount of air you add to it.
- Future** The city could benefit greatly from an aeration system which employs an anoxic and anaerobic zone to remove phosphorus using biology instead of chemicals like ferric chloride. The question is do we build an entirely new aeration basin where the roughing filter currently sits or do we try and retrofit our existing basins? With the round sidewalls and relatively small footprint of the existing basins it may be impractical to use them. With the addition of the high strength receiving station the waste loadings will be minimized to the rest of the treatment facility resulting in less air demand in the aeration basins. The system could be redesigned with smaller blowers which use considerably less electricity than the current

blowers. The blowers use the most electricity out of all the motors and pumps at the plant. In 2014 we lowered the blower speed down to 10% above the minimum speed recommended by the manufacturer. This saved roughly \$900 per month on our electric bill however the size of the blowers is still too large for the loadings coming into the treatment facility.

### **Structure Number 105**

**Overview** This building was built in 1967 to house the blowers for the aeration basin and chlorine cylinders. The building was modified in 1987 to replace the 60's era chlorine system, add new blowers and added a sulfur dioxide room. In 2001 new blowers replaced the blowers from the 1987 upgrade. In 2003 an ultraviolet light system was installed and the use of chlorine for disinfection ended. Sulfur dioxide equipment was removed and new ultraviolet disinfection controls and step down transformer were installed. The chlorination equipment lasted until 2007 for the use of chlorinating the roughing filter. The non-potable water system is located in this building and was cobbled using the old chlorine and sulfur dioxide lines. In 2017 the east section of the building was sinking and was lifted into place with helical pilings.

**Deficiencies** The non-potable water supply has many flaws and is starting to deteriorate. The main flaw of the system is it has been cobbled together utilizing existing infrastructure from the abandoned chlorine and sulfur dioxide lines. These sources are too small to provide adequate flows for the new high strength waste screen and to fill the sewer jetting truck with water. A proposed new system relocated in Building 75 will be able to provide the water demands from the upgraded facility and reduce dependence on water provided by the Utilities saving money in the future.

### **Structures Number 110**

**Overview** These are the final clarifiers that were built during the 1987 plant upgrade. In 1999 the return activated sludge (RAS) pumps were increased in size to accommodate the loadings from a new potential high strength waste industry that never came to the City. At the same time the waste activated sludge (WAS) line was refurbished for automatic controlled wasting. Because the industry never built in New London the RAS pumps were too big and the impellers cavitated. Cavitation is small explosions that occur at the tips of the impeller removing the metal until it becomes imbalanced. In 2015 the RAS pumps were replaced with smaller 300 gallon per minute pumps. In 2015 the Waste Activated Sludge valve was replaced. The clarifier drives were rebuilt and the above water steel superstructures were sandblasted and painted in 2015 and 2016.

**Deficiencies** None

### **Structure Number 120**

**Overview** Known as the chlorine contact basin this tank was built during the 1987 plant upgrade. The chlorine contact basin is essentially a long narrow serpentine tank that enables the chlorine to be in contact with viruses and other bacterium that may cause waterborne diseases resulting in their destruction. The sulfur dioxide is injected at the end of the process to neutralize the chlorine before it went into the river. Because both the chlorine and sulfur dioxide are extremely dangerous chemicals the plant switched over to ultraviolet disinfection (UV) in 2003. Half of the tank was modified from a serpentine to a single channel to place racks of UV light bulbs into the flow. In 2012 the controller interface was replaced.

Deficiencies The wiping system of the UV racks is getting to the point where it will need replacement. I will have a new wiping system in the 2021 budget.

### **Structure Number 150**

Overview This structure was built in 1987 and is known as the sludge thickener. Its purpose is to use gravity to increase the thickness of the waste activated sludge before being pumped to the digesters. The reason we want thicker sludge is to use less gas in the boiler for heating the digesters. By removing a percentage of the water we are concentrating the heat for destroying the volatile solids in the sludge and not on heating clear water. In 2008 the structural steel below the water line was sandblasted and recoated with coal tar. In 2017 the drive mechanism was replaced and the steel superstructure was sandblasted and repainted.

Deficiencies None.

### **Structure Number 180**

Overview The sludge storage tank in the early phase of the 1987 upgrade was supposed to be built on House Road in the Town of Liberty where most of the available fields for disposal were located. Eventually it was decided to build the structure at the plant. Because the tank was built with a flat floor there has been a problem with removing solids since its start-up. The original mixing system used forced air to mix the contents of the tank. The sludge proved to be too dense and in 1994 large 50 horsepower mixers were installed and the air pipes removed. In 2005 a nozzle system was added to help re-suspend the solids into the sludge slurry as the tank was being emptied. In 2014 the winches for removing the mixers were replaced with newer models and had bags to protect the motors and mechanisms from the elements.

Deficiencies When the air pipe for the original mixing system was removed the concrete bases were left in place. These hamper the mixing on the north side of the tank. In 2007 when we had over 2 million gallons in the tank a leak started on the northwest side where a construction joint is located. The sludge pump is wearing out and is plugging with flushable wipes. I am looking into costs to have a bigger pump with cutting blades installed to reduce down time for sludge transfer and when sludge is pumped to trucks for field application.

### **Plant Yard Piping**

Overview There is a network of conduits, pipes, water lines and various other plant infrastructure buried beneath the ground which supports the plant processes. Most were put in during the 1987 plant upgrade. Over the years pipes deteriorate and valves stop working. There are a handful of valves that need repairs, some of which are either too deep for a conventional backhoe or in very narrow confines making it very difficult to repair.

Deficiencies There are four valves that haven't worked in over 20 years that should be repaired to drain a clarifier and divert flows to other processes.

## Lift Stations

### Lift Station #1

**Overview** This station is located on the Southwest corner of the intersection of High St. and Industrial Loop Road. It was built in 1972 and the motors, pumps and some valves were replaced in 2005. In 2015 an emergency generator transfer switch was added.

**Deficiencies** Currently the station is operating well but the concrete and metal are almost 50 years old.

### Lift Station #2

**Overview** This station is located on the north side of the intersection of Montgomery and Beacon St. This station was built in 1974 and the motors, pumps and some valves were replaced in 2005. In 2015 an emergency generator transfer switch was added. In 2018 this station was demolished and a new station was built in its place.

**Deficiencies** None

### Lift Station #3

**Overview** This station is located on the north side of Mill St. and Wolf River Avenue. It was built in 1954. In 1993 the pumps were replaced. In 2015 the controls were replaced and also that year a generator transfer switch was installed.

**Deficiencies** The concrete wetwell is pitted and the joints are leaking. New pumps are on order and should be installed fall of 2020

### Lift Station #4

**Overview** This station is located on Shawano St. by the railroad tracks. It was built in 1968. The pumps were replaced in the 1990's. In 2013 the station was painted with an epoxy paint and leaks were repaired. In 2014 a new control system replaced the old model and in 2015 a generator transfer switch was installed.

**Deficiencies** The concrete wetwell is getting pitted but there doesn't appear to be any sign of leaking.

### Lift Station #5

**Overview** This station is located on the corner of Surprise Ending and North Water Street. This was constructed in 1995 utilizing an older pump station from the industrial park off of North Street. In 1999 the old pumps were replaced with submersibles and the wetwell had a rail system installed with a bubble tube and float system. In 2014 a new control system replaced the old one and in 2015 a generator transfer switch was installed. The pumps and corroded guides and wiring were replaced in 2018.

**Deficiencies** None.

### Lift Station #6

**Overview** This station is located by the gas station on the corner of Pearl St. and North Water St. It was constructed in 1990. In 2016 a new control system replaced the old one and in 2015 a generator transfer switch was installed.

Deficiencies There is some sort of scaffolding inside the wet well and is rusting along with the safety chains for the submersible pumps. The cables for the pumps are getting checked and will need replacement soon. The concrete floor is pitted and very porous. New pumps will be installed in 2020

### **Lift Station #7**

Overview This station is on Spurr Road and was constructed in 1999 for the Northeast Industrial Park. A generator transfer switch was installed in 2015. In 2016 new controls were installed.

Deficiencies Pump replacement will occur in 2020.

### **Lift Station #8**

Overview This station is located off of North Street where the pickle factory once stood. In 1995 it replaced the old above ground station that was moved to the Surprise Ending location.

Deficiencies None.

### **Summary**

This year we completed the digester upgrade and in doing so eliminated a lot of maintenance headaches and made that portion of the facility energy efficient. The City borrowed 4.7 million dollars to fund the project and it will be paid off in 20 years. There is potential to pay the loan off a little quicker with energy savings and utilizing the high strength waste station to it's highest potential.

We have been updating some of the older equipment through annual capital equipment projects to hopefully get another 15 years of service from them before they need to be totally replaced. That will hopefully buy us enough time to get the current bond paid off before another massive project needs to be funded.

The DNR has finished working on a Total Maximum Daily Limit (TMDL) for phosphorus discharged into the Wolf River and the EPA has recently given their approval to the new TMDL. It sounds like it will be based on pounds per day sent to the river as opposed to milligrams per liter which our current permit dictates. A preliminary discharge of 2.1 pounds per day of phosphorus was proposed for New London's TMDL. The problem with a pounds per day discharge limit, as opposed to the current milligrams per liter limit, is clear water infiltration (I&I) to the treatment facility. During normal conditions where our flows are one million gallons per day we would not be in violation of the proposed phosphorus limit. However if we receive a half inch or more of rain or a spring thaw the flows can double and sometimes quadruple putting us in violation of our proposed permit.

The next ten to fifteen years is going to take high priority in finding these sources of I&I. In the last couple years we have had low lying areas by the rivers televised during spring thaws and rain events to see the condition of the sewer mains. Fortunately most of our mains are in decent shape and are not letting much clear water intrusion (I&I) in. Unfortunately the largest source of I&I seems to be coming from leaking laterals in the Fifth Ward and illegally connected sump pumps in the lower portions of the City. If we want to reduce the cost of rebuilding the treatment plant in the future we will need to have property owners fix their laterals and illegal sump pump connections which will probably not go over very well.

On top of the phosphorus limit the EPA and DNR are working on proposed limits for PFAS that will require the treatment plant to do an upgrade to remove them. The facility's current configuration does

not remove these substances and new technology will need to be added. This new technology is usually based on flows to be treated so reducing I&I will pay off to make this equipment more affordable.

I hope this sheds light on the issues that are affecting the treatment plant and will assist you in answering the tough questions you will potentially receive from your constituents. Unfortunately the longer we put off removing the clear water from the sanitary sewers the more it is going to cost everyone thus creating more stress on our rate payers.

# **Tyson Foods Anticipated Loading Analysis**

## **Overview:**

On August 28<sup>th</sup> 2018 officials from Tyson Foods met with Kent Hager, Chad Hoerth and Ben Greuel to discuss the possibility of getting permission to place a sewer line from the Tyson Wastewater Treatment Facility through the Southeast portion of the City to a location on the Wolf River. The purpose of this pipe is to eliminate discharge of their effluent to Mud Lake where the discharge limits are very low and restrictive.

It was also brought up to possibly connect to the City's sanitary sewer and discharge their waste to the City's wastewater treatment facility. Chad and Ben met with Tyson Foods again on October 23, 2018 at their facility to further discuss the potential loadings to the City's wastewater facility. Despite several emails to Tyson Foods inquiring about their plans we have received no communications from them since the October 23<sup>rd</sup> meeting.

## **Pumping and Flow Monitoring Station:**

Flow from the Tyson facility would be introduced to the New London sewer system somewhere on Beckert Road. Tyson would need to install a pumping facility to get the flow from their plant to the New London sanitary sewer system. Before the flow discharges into the sanitary the City will require a monitoring station to monitor flow and sampling of the waste generated. The initial discussion regarding the pH of the waste water was to be within 5 and 9 pH standard units however the station should also be capable of monitoring pH of the flow on a continuous basis if the characteristics of the waste were to change outside of the acceptable pH range.

Once the flow reaches Beckert Road there are two paths that would be available to get the flow to the City's treatment facility. The first would be to route the flow to the East down Beckert Road and then down Industrial Loop Road. This route has two lift stations on it which would need to be upgraded to handle the increased flow. Lift Station Number One would need to be completely rebuilt at a

cost of \$570,000. Lift Station Number Two would need to have larger pumps installed to handle the increased capacity as well. This would cost roughly \$20,000. Annual cost of maintaining the station and electricity to run the pumps would be in the neighborhood of \$20,000 per year assuming 700 gallons per minute of flow and 15 horsepower pumps.

The second option would be to introduce the flow to the manhole at the intersection of Division and Beckert. This is a 12 inch sewer main and if my calculations are correct should be able to handle an additional 700 gallons per minute of flow. The pipe diameter increases further down Division Street to handle higher flows. An engineer would have to confirm the flow capacity of the 12 inch pipe. This scenario would eliminate the need for lift stations in the City's sanitary saving money in infrastructure and operating costs.

### **Waste Loading Calculations:**

Fees for wastes stronger than domestic wastewater are outlined in the Municipal Ordinance Sections 13.11(8)c and 13.12(4)b and were adopted from rate study recommendations.

Also in the Ordinance is Section 13.12(2)f that states:

*Free Service. No user shall receive free service or pay a sewer use charge less than the user's proportional share of operation, maintenance and replacement costs.*

### **Flow:**

The anticipated flow from the Tyson facility is 600 to 700 gallons per minute 5 to 6 days of the week, possibly 7 depending on process configuration. These flows will result in daily flows between 864,000 to 1,008,000 gallons per day to the New London Treatment Facility. Charges for flow are \$9.34 per 1,000. This is the normal domestic rate to cover the costs of collection system infrastructure, electrical, facility infrastructure; personnel etc. needed to treat normal domestic waste water. This would equal \$8,069.76 to \$9,414.72 daily for fees.

Tyson's flows would double the flow to the treatment facility and potentially double the plants electrical use. Currently the wastewater treatment facility averages 720,000 KW of electricity per year. The facility gets charged off peak and high peak rates for an average of \$150,000 annually for electrical fees. The additional flows from Tyson may increase this to \$300,000 annually.

### **Waste Loading Calculations:**

To calculate the loadings in pounds to the plant we use the following formula:

$$\text{Flow MGD} \times 8.34 \times \text{mg/l}$$

**Where:**     **Flow** - The measurement of gallons per day divided by 1,000,000.  
              **Constant** – 8.34 is the weight in pounds that a gallon of water weighs  
              **mg/l** – Milligrams per liter is the concentration of waste measured in  
                                  a 24 hour composite sample.

### **Biochemical Oxygen Demand (BOD) Loadings:**

Tyson feels they will be able to keep the BOD loadings to the facility between 300 and 500mg/l which equates to 4,203 pounds of BOD to the plant per day using the highest numbers Tyson has given us. The increase in BOD loading would more than double the loading to the treatment facility. The City's wastewater facility is designed for 5,800 pounds of BOD per day and averages 2,500 pounds daily. This is not taking into consideration the high flow days from spring thaws or rain events which can push our flows to over four million gallons per day. The City's domestic threshold for BOD is 275mg/l. The cost to treat the BOD is \$0.88 per pound. This cost is a lump sum of the electrical, infrastructure, personnel etc. needed to run the plant. The cost to treat the proposed BOD loadings would be between \$1,902.32 and \$3,698.95 per day. The fees New London would charge to treat this loading on a daily basis would be between \$158.50 and \$1,664.52 due to the threshold of 275mg/l being subtracted from the 300 and 500mg/l range given to us by Tyson Foods.

### **Total Suspended Solids (TSS) Loadings:**

Tyson feels they will be able to keep the TSS loadings to the facility around 300mg/l. The increase in TSS would double the loading to the treatment facility. The City's domestic threshold for TSS is 300mg/l. The cost to treat the TSS is \$0.70 per pound. This cost is a lump sum of the electrical, infrastructure, personnel etc. needed to run the plant. The cost to treat this flow on a daily basis would be between \$1,513.21 and \$1,765.41. The City would charge \$0.00 due to the threshold of 300mg/l being subtracted from the 300mg/l based on the flows and loadings given to us by Tyson Foods.

### **Total Phosphorus (TP) Loadings:**

Tyson feels they will be able to keep the TP loadings to the facility around 10mg/l. The increase in TP would be 1.5 times the current loading to the treatment facility. The City's domestic threshold for TP is 12mg/l. The cost to treat the TP is \$3.90 per pound. This cost is a lump sum of the electrical, infrastructure, personnel etc. needed to run the plant. The cost to treat this flow on a daily basis would be between \$275.17 and \$327.86. The City would charge \$0.00 due to the threshold of 12mg/l being subtracted from the 10mg/l based on the flows and loadings given to us by Tyson Foods.

Currently the only way the treatment facility can treat phosphorus is the addition of ferric chloride to precipitate the phosphorus into the sludge. Our current rate for ferric chloride is \$1.99 per gallon. The additional costs for treating the proposed phosphorus loading from Tyson Foods would be \$223.90 per day. The cost for Ferric Chloride has increased annually by roughly 15 percent since the DNR has been implementing new phosphorus regulations throughout the State.

### **Laboratory costs:**

Due to the nature and volume of the proposed discharge daily monitoring will need to take place. This will increase the work load of the laboratory personnel. Currently we do the majority of our testing procedures on Monday, Wednesday and Friday. To accomplish this schedule we hold samples collected on Tuesdays,

Thursdays and the weekends then run them on Mondays, Wednesdays and Fridays. With the additional samples we will not have the capacities in our testing appliances to do double batches including Wohlt and the City's mandatory DNR tests. We may have to go back to running tests every day except Saturday and Sunday. The flexibility of having an additional employee do other maintenance in the plant on Tuesday and Thursday due to the lighter work load in the lab those days is one of the reasons we are able to maintain a three man crew. Additional chemicals for the extra testing will increase the operating costs as well.

### **Plant Operations:**

The proposed loadings from Tyson can be handled by the New London Wastewater Treatment Facility in its current configuration only if there is no clear water infiltration (I&I). The facility averages 1.1 million gallons per day when the river and water table are low. Rainfall occurrences over half an inch or anytime the Wolf River is over 7 feet the flows to the plant can double to more than 2 million gallons per day, which is the design flow for the treatment facility. There are times in spring or during heavy rain events when the flow can go over 4 million gallons. During these times we do not violate our permit because the clear water is adding no nutrients or loadings. If we couple potential high I&I flows with a steady 1 million gallons per day from Tyson with high BOD and Total Phosphorus loadings the City would violate their permit roughly one quarter to half of the year depending on how much precipitation we receive.

The limits in our permit are determined by the Department of Natural Resources which is renewed every five years. Our current limits do not include the probability that the City's phosphorus discharge will be significantly lower and impact our ability to maintain levels below the proposed permit level. The additional phosphorus loadings from Tyson with or without I&I will most likely trigger an action plan to increase the capacity of the treatment facility.

In 2015 the City did a study to see how much it would cost to update the plant including the digesters. That cost was \$10,000,000.00. The digester reconstruction that was just completed cost roughly \$4,700,000.00. To pay for this upgrade the City needed to increase the sewer user's rates from \$5.84 to

\$9.34 per 1,000 gallons. Now that the digester complex is completed my plan is to have fifteen years of relatively low capitol expenditures to keep the treatment facility operating as is. The City can concentrate on eliminating most of the clear water infiltration in the sanitary system. This way when we need to address the rest of the treatment facility deficiencies we can reduce the size of the plant because we shouldn't see high spikes in flow from rain events and spring thaws. The additional \$6,000,000+ needed to fix the remaining portion of the plant will be covered by smaller rate increases to supplement the current rate when the bond debt is retired. This plan will hopefully have the smallest impact on the rate payers.

If Tyson does come into the City and utilize the treatment facility, the infrastructure at the plant will need to be increased according to the Department of Natural Resources because we will be well over 90% of the plant design. One question the Tyson representatives asked is if the rates will be able to come down lower than in the City's Sewer Ordinance. With the additional flow and loading the need to rebuild the treatment plant well before the digester rehab bond debt is retired would be high. For this situation I am assuming the cost of improving the rest of the plant would be another \$6,000,000+.

RESOLUTION TO APPROVE THE 2019 COMPLIANCE  
MAINTENANCE ANNUAL REPORT FOR WWTP

RESOLUTION NO. \_\_\_\_\_

BE IT RESOLVED, that the City of New London, Outagamie and Waupaca Counties, Wisconsin, informed by the Department of Natural Resources that the following actions were taken by the Common Council.

1. Reviewed the 2019 Compliance Maintenance Annual Report, which is attached to this Resolution.
2. Set forth the following actions necessary to maintain the effluent requirements contained in the WPDES Permit.
  - a) Support the Director of Public Services and the Wastewater Treatment Plant Superintendent to meet its WPDES Discharge Permit and to maintain the Wastewater Treatment Plant Facilities in the highest possible condition.

Adopted this 9<sup>th</sup> day of June, 2020

BY: \_\_\_\_\_  
Mark Herter, Mayor

ATTEST: \_\_\_\_\_  
Jackie Beyer, City Clerk

AN ORDINANCE ADJUSTING SEWER USER CHARGE RATES

Ordinance No. \_\_\_\_\_

The Common Council of the City of New London, Outagamie and Waupaca Counties, Wisconsin do ordain as follows:

Section 1: That §13.12(4)(E) shall be added to read as follows:

(E) Waste  $\geq$  10,000 mg/l TSS shall be processed at a charge of \$30 per 1,000 gallons.

Section 2. This ordinance takes effect following passage and publication on \_\_\_\_\_, 2020.

By: \_\_\_\_\_  
Mark Herter, Mayor

Attest: \_\_\_\_\_  
Jackie Beyer, Clerk

First Reading: \_\_\_\_\_, 2020

Second Reading: \_\_\_\_\_, 2020

Published: \_\_\_\_\_, 2020

## AGREEMENT For PROFESSIONAL SERVICES

City of New London  
Attn: Chad Hoerth  
215 N. Shawano Street  
New London, WI 54961

Date: May 29, 2020

McM. No. M0032-9-20-00002.00

### PROJECT DESCRIPTION:

#### Mill Street Sanitary Sewer and Storm Reconstruction

The City of New London is requesting Engineering and Survey Services for anticipated sanitary sewer and storm sewer replacements. Services are being requested for a topographic survey and base drawing preparation. Engineering evaluation assistance is required to determine the extent of sanitary sewer and storm sewer replacement. These services are being requested to allow for project scoping and budgeting for a 2021 design and construction project in advance of a 2022 repaving project by Outagamie County. Project limits are E. Beacon Avenue (Division Street to Mill Street) and Mill Street (E. Beacon Ave to Grove Street).

### SCOPE OF SERVICES:

McMahon Associates, Inc. agrees to provide the following Scope Of Services for this project:

- Topographic Survey and Base Sheets
  - ▽ Perform a site survey of the existing sewers to include data gathering as follows:
    - ◇ Collect X, Y, Z data on the Outagamie County Coordinate System for use in engineering evaluations and future design.
    - ◇ Locate underground facilities as located by Diggers Hotline and/or the City of New London. McMahon Associates, Inc. will contact Diggers Hotline and request locates.
    - ◇ Locate existing City utility surface structures for sanitary sewer, water main and storm sewer. Depth existing storm sewer and sanitary sewer structures to identify invert elevations.
    - ◇ Existing face of homes/garages are proposed to be located on the base street drawings from existing aerial mapping from Outagamie County. Information will be on the Outagamie County Coordinate System.
  - ▽ Base Sheet Preparation
    - ◇ Provide base sheets for use in the evaluation and future design of underground sanitary sewer and storm sewer utility replacements.
    - ◇ Prepare plan views showing existing streets including aboveground features as field located. Home locations will be shown by outlining from Outagamie County aerial photography.
    - ◇ Overlay existing Outagamie County parcel mapping showing existing right-of-way, lot lines, property addresses and tax identification numbers.
    - ◇ Show existing sanitary sewer, storm sewer, water main and street centerline as field located on both plan views and profile views.
    - ◇ Show existing gas, electric, phone, cable television, etc. as field located from Diggers Hotline locates.

Page 1

### SCOPE OF SERVICES:

Engineering Evaluation, Project Scoping, Probable Costs for Construction

- ▽ Evaluate the data consisting of project televising videos and reports, field survey information, condition assessments of the existing sanitary sewer and storm sewer in the Outagamie County Project footprint.
- ▽ Assist the City in developing a project scope of work to be constructed in 2021.

- ▼ Develop Estimates of Probable cost to be used by the City for budgeting engineering and construction costs anticipated for completion as a 2021 capital improvement project.

**Items Not Included In The Scope Of Services:**

The following is not intended to be a comprehensive list. It is intended to highlight general areas not included in the Scope of Services.

- ▼ Design, bidding and construction related services.
- ▼ Following completion of this Professional Services Agreement a scope and cost for these services will be provided for review and approval by the City of New London

**SPECIAL TERMS:** (Refer Also To General Terms & Conditions - Attached)

The City of New London agrees that the Project Description, Scope Of Services and Compensation sections contained in this Agreement, pertaining to this project or any addendum thereto, are considered confidential and proprietary, and shall not be released or otherwise made available to any third party, prior to the execution of this Agreement, without the expressed written consent of McMahon Associates, Inc.

**COMPENSATION:** (Does Not Include Permit Or Approval Fees)

McMahon Associates, Inc. agrees to provide the Scope Of Services described above for the following compensation. The following is a breakdown of the estimated fee for completion of the services outlined. Rates per attached Fee Schedule (Fee Schedule is updated annually).

- Topographic Survey and Base Sheets Preparation ..... \$11,000
- Engineering Evaluation, Project Scoping, Probable Costs for Construction ..... \$4,000

**COMPLETION SCHEDULE:**

McMahon Associates, Inc. agrees to complete this project as follows:

- Survey work and base sheets completed by July 4, 2020.
- Engineering Evaluation Scoping and probable costs for budgeting by August 1, 2020.

**ACCEPTANCE:**

The General Terms & Conditions And The Scope Of Services (Defined In The Above Agreement) Are Accepted, and McMahon Associates, Inc. Is Hereby Authorized To Proceed With The Services.

*The Agreement Fee Is Firm For Acceptance Within Sixty (60) Days From Date Of This Agreement.*

**CITY OF NEW LONDON**  
Wisconsin

By: \_\_\_\_\_  
(Authorized Signature)  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**McMAHON ASSOCIATES, INC.**  
Neenah, Wisconsin

By:   
Title: Brad D. Werner, P.E.  
Vice President / Sr. Municipal Engineer  
Date: May 29, 2020

Please Return One Copy For Our Records  
Street Address: 1445 McMAHON DRIVE - NEENAH, WI 54956  
Mailing Address: P.O. Box 1025 - NEENAH, WI 54957-1025  
PH 920-751-4200 ▪ FX 920-751-4284 ▪ WWW.MCMGRP.COM



# McMAHON ASSOCIATES, INC.

## GENERAL TERMS & CONDITIONS

1. McMAHON ASSOCIATES, INC. (hereinafter referred to as 'McMAHON') will bill the Owner monthly with net payment due in 30-days. Past due balances shall be subject to a service charge at a rate of 1.0% per month. In addition, McMAHON may, after giving 48-hours notice, suspend service under any Agreement until the Owner has paid in full all amounts due for services rendered and expenses incurred. These expenses include service charges on past due invoices, collection agency fees and attorney fees incurred by McMAHON to collect all monies due McMAHON. McMAHON and Owner hereby acknowledge that McMAHON has and may exercise lien rights on subject property.
  2. The stated fees and Scope of Services constitute our best estimate of the fees and tasks required to perform the services as defined. This Agreement, upon execution by both parties hereto, can be amended only by written instrument signed by both parties. For those projects involving conceptual or process development services, activities often cannot be fully defined during initial planning. As the project progresses, facts uncovered may reveal a change in direction, which may alter the Scope. McMAHON will promptly inform the Owner in writing of such situations so changes in this Agreement can be negotiated, as required.
  3. The stipulated fee is firm for acceptance by the Owner for 60-days from date of Agreement publication.
  4. Costs and schedule commitments shall be subject to re-negotiation for delays caused by the Owner's failure to provide specified facilities or information, or for delays caused by unpredictable occurrences, including without limitation, fires, floods, riots, strikes, unavailability of labor or materials, delays or defaults by suppliers of materials or services, process shutdowns, pandemics, acts of God or the public enemy, or acts or regulations of any governmental agency. Temporary delay of services caused by any of the above, which results in additional costs beyond those outlined, may require re-negotiation of this Agreement.
  5. Reimbursable expenses incurred by McMAHON in the interest of the project including, but not limited to, equipment rental will be billed to the Owner at cost plus 10% and sub-consultants at cost plus 12%. When McMAHON, subsequent to execution of an Agreement, finds that specialized equipment must be purchased to provide special services, the cost of such equipment will be added to the agreed fee for professional services only after the Owner has been notified and agrees to these costs.
  6. McMAHON will maintain insurance coverage in the following amounts:
 

Worker's Compensation .....	Statutory
General Liability	
Bodily Injury - Per Incident / Annual Aggregate.....	\$1,000,000 / \$2,000,000
Automobile Liability	
Bodily Injury.....	\$1,000,000
Property Damage .....	\$1,000,000
Professional Liability Coverage .....	\$2,000,000
- If the Owner requires coverage or limits in addition to the above stated amounts, premiums for additional insurance shall be paid by the Owner. McMAHON's liability to Owner for any indemnity commitments, reimbursement of legal fees, or for any damages arising in any way out of performance of our contract is limited to ten (10) times McMAHON's fee not to exceed to \$500,000.
7. The Owner agrees to provide such legal, accounting and insurance counseling services as may be required for the project for the Owner's purpose. All unresolved claims, disputes and other matters in question between the Owner and McMAHON shall be submitted to mediation, if an agreement cannot be reached by Owner and McMAHON.
  8. Termination of this Agreement by the Owner or McMAHON shall be effective upon 7-days written notice to the other party. The written notice shall include the reasons and details for termination; payment is due as stated in paragraph 1. If the Owner defaults in any of the Agreements entered into between McMAHON and the Owner, or if the Owner fails to carry out any of the duties contained in these terms and conditions, McMAHON may, upon 7-days written notice, suspend its services without further obligation or liability to the Owner unless, within such 7-day period, the Owner remedies such violation to the reasonable satisfaction of McMAHON.
  9. Re-use of any documents or AutoCAD representations pertaining to this project by the Owner for extensions of this project or on any other project shall be at the Owner's risk and the Owner agrees to defend, indemnify and hold harmless McMAHON from all claims, damages and expenses, including attorneys' fees arising out of such re-use of the documents or AutoCAD representations by the Owner or by others acting through the Owner.
  10. Purchase Orders - In the event the Owner issues a purchase order or other instrument related to the Engineer's services, it is understood and agreed that such document is for Owner's internal accounting purposes only and shall in no way modify, add to or delete any of the terms and conditions of this Agreement. If the Owner does issue a purchase order, or other similar instrument, it is understood and agreed that the Engineer shall indicate the purchase order number on the invoice(s) sent to the Owner.
  11. McMAHON will provide all services in accordance with generally accepted professional practices. McMAHON will not provide or offer to provide services inconsistent with or contrary to such practices nor make any other warranty or guarantee, expressed or implied, nor to have any Agreement or contract for services subject to the provisions of any uniform commercial code. Similarly, McMAHON will not accept those terms and conditions offered by the Owner in its purchase order, requisition or notice of authorization to proceed, except as set forth herein or expressly accepted in writing. Written acknowledgment of receipt, or the actual performance of services subsequent to receipt, of any such purchase order, requisition or notice of authorization to proceed is specifically deemed not to constitute acceptance of any terms or conditions contrary to those set forth herein.
  12. McMAHON intends to serve as the Owner's professional representative for those services, as defined in this Agreement, and to provide advice and consultation to the Owner as a professional. Any opinions of probable project costs, approvals and other decisions made by McMAHON for the Owner are rendered on the basis of experience and qualifications and represent our professional judgment. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action, in favor of a third party against either the Architect or McMAHON.
  13. This Agreement shall not be construed as giving McMAHON the responsibility or authority to direct or supervise construction means, methods, techniques, sequence or procedures of construction selected by Contractors or Subcontractors, or the safety precautions and programs incident to the work of the Contractors or Subcontractors.
  14. The Owner shall be responsible for maintenance of the structure, or portions of the structure, which have been completed and have been accepted for its intended use by the Owner. All structures are subject to wear and tear, and environmental and man-made exposures. As a result, all structures require regular and frequent monitoring and maintenance to prevent damage and deterioration. Such monitoring and maintenance is the sole responsibility of the Owner. McMAHON shall have no responsibility for such issues or resulting damages.

## E. Beacon Ave and Mill Street (Division St to Grove St) Sanitary Sewer Replacement

### Conventional Reconstruction

#### E. Beacon St (Division St to Mill St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
1	850	L.F.	10 Inch Sanitary Sewer	\$80.00	\$68,000.00
2	60	L.F.	8 Inch Sanitary Sewer	\$76.00	\$4,560.00
3	910	L.F.	Clean and Televisé Completed Mainline	\$2.50	\$2,275.00
4	7	Ea.	Televisé Completed Lateral to the Home Connection	\$250.00	\$1,750.00
5	1	Ea.	6 Inch Lateral Service to Home	\$5,000.00	\$5,000.00
6	6	Ea.	4 Inch Lateral Service to Home	\$4,500.00	\$27,000.00
7	2	Ea.	Sanitary Manhole with adjustment and chimney seal	\$4,500.00	\$9,000.00
8	845	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$21,125.00
<b>SUB-TOTAL</b>				<b>\$138,710.00</b>	

#### Mill St (E. Beacon Ave to Bruce St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
9	606	L.F.	15 Inch Sanitary Sewer	\$90.00	\$54,540.00
10	604	L.F.	12 Inch Sanitary Sewer	\$85.00	\$51,340.00
11	600	L.F.	10 Inch Sanitary Sewer	\$80.00	\$48,000.00
12	360	L.F.	8 Inch Sanitary Sewer	\$76.00	\$27,360.00
13	2,180	L.F.	Clean and Televisé Completed Mainline	\$2.50	\$5,450.00
14	11	Ea.	Televisé Completed Lateral to the Home Connection	\$250.00	\$2,750.00
15	1	Ea.	6 Inch Lateral Service to Home	\$5,000.00	\$5,000.00
16	10	L.F.	4 Inch Lateral Service to Home	\$4,500.00	\$45,000.00
17	7	Ea.	Sanitary Manhole with adjustment and chimney seal	\$4,500.00	\$31,500.00
18	2,200	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$55,000.00
<b>SUB-TOTAL</b>				<b>\$325,940.00</b>	

#### Mill St (Bruce St to High St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
19	850	L.F.	10 Inch Sanitary Sewer	\$80.00	\$68,000.00
20	60	L.F.	8 Inch Sanitary Sewer	\$76.00	\$4,560.00
21	910	L.F.	Clean and Televisé Completed Mainline	\$2.50	\$2,275.00
22	9	Ea.	Televisé Completed Lateral to the Home Connection	\$250.00	\$2,250.00
23	5	Ea.	6 Inch Lateral Service to Home	\$5,000.00	\$25,000.00
24.	4	L.F.	4 Inch Lateral Service to Home	\$4,500.00	\$18,000.00
25.	5	Ea.	Sanitary Manhole with adjustment and chimney seal	\$4,500.00	\$22,500.00
26.	910	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$22,750.00
<b>SUB-TOTAL</b>				<b>\$165,335.00</b>	

#### Mill St (High St to Grove st)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
27	3	L.F.	Manhole Rim Adjustments and chmney seal	\$600.00	\$1,800.00
<b>SUB-TOTAL</b>				<b>\$1,800.00</b>	

**Total (Items 1 through 69, Inclusive)**

**10% Construction Contingency**

**15% Engineering**

**Total Estimated Project Cost**

<b>\$631,785.00</b>
<b>\$63,178.50</b>
<b>\$94,767.75</b>
<b>\$789,731.25</b>

## E. Beacon Ave and Mill Street (Division St to Grove St) Sanitary Sewer Replacement

### Conventional Reconstruction

### Pipe Liner and Conventional Reconstruction

#### E. Beacon St (Division St to Mill St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
1	850	L.F.	10 Inch Sanitary Sewer	\$80.00	\$68,000.00
2	60	L.F.	8 Inch Sanitary Sewer	\$76.00	\$4,560.00
3	910	L.F.	Clean and Televiser Completed Mainline	\$2.50	\$2,275.00
4	7	Ea.	Televiser Completed Lateral to the Home Connection	\$250.00	\$1,750.00
5	1	Ea.	6 Inch Lateral Service to Home	\$5,000.00	\$5,000.00
6	6	Ea.	4 Inch Lateral Service to Home	\$4,500.00	\$27,000.00
7	2	Ea.	Sanitary Manhole with adjustment and chimney seal	\$4,500.00	\$9,000.00
8	845	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$21,125.00
<b>SUB-TOTAL</b>				<b>\$138,710.00</b>	

#### Mill St (E. Beacon Ave to Bruce St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
9	606	L.F.	Line 15 Inch Sanitary Sewer	\$55.00	\$33,330.00
10	604	L.F.	Line 12 Inch Sanitary Sewer	\$50.00	\$30,200.00
11	600	L.F.	Line 10 Inch Sanitary Sewer	\$48.00	\$28,800.00
12	360	L.F.	8 Inch Sanitary Sewer	\$76.00	\$27,360.00
13	2,180	L.F.	Clean and Televiser Completed Mainline	\$2.50	\$5,450.00
14	11	Ea.	Televiser Completed Lateral to the Home Connection	\$250.00	\$2,750.00
15	1	Ea.	6 Inch Lateral Service to Home	\$6,000.00	\$6,000.00
16	10	L.F.	4 Inch Lateral Service to Home	\$5,500.00	\$55,000.00
17	7	Ea.	Sanitary Manhole with adjustment and chimney seal	\$6,000.00	\$42,000.00
18	660	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$16,500.00
<b>SUB-TOTAL</b>				<b>\$183,860.00</b>	

#### Mill St (Bruce St to High St)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
19	850	L.F.	Line 10 Inch Sanitary Sewer	\$48.00	\$40,800.00
20	60	L.F.	8 Inch Sanitary Sewer	\$76.00	\$4,560.00
21	910	L.F.	Clean and Televiser Completed Mainline	\$2.50	\$2,275.00
22	9	Ea.	Televiser Completed Lateral to the Home Connection	\$250.00	\$2,250.00
23	5	Ea.	6 Inch Lateral Service to Home	\$6,000.00	\$30,000.00
24	4	L.F.	4 Inch Lateral Service to Home	\$5,500.00	\$22,000.00
25	5	Ea.	Sanitary Manhole with adjustment and chimney seal	\$6,000.00	\$30,000.00
26	300	S.Y.	4" Asphalt Pavement Restoration	\$25.00	\$7,500.00
<b>SUB-TOTAL</b>				<b>\$139,385.00</b>	

#### Mill St (High St to Grove st)

Item	Qty	Unit	Description	PROBABLE COST	
				Unit Price	Total
27	3	L.F.	Manhole Rim Adjustments and chimney seal	\$600.00	\$1,800.00
<b>SUB-TOTAL</b>				<b>\$1,800.00</b>	

<b>Total (Items 1 through 69, Inclusive)</b>	<b>\$463,755.00</b>
<b>10% Construction Contingency</b>	<b>\$46,375.50</b>
<b>15% Engineering</b>	<b>\$69,563.25</b>
<b>Total Estimated Project Cost</b>	<b>\$579,693.75</b>



## CITY OF NEW LONDON- PROPOSAL TABULATION

215 N. Shawano Street New London, WI 54961

**2020 Brush Tub Grinding/Wood Chips Disposal  
Proposals Close Tuesday May 26, 2020 at 11:00 a.m.**

Bidder	DTAK	TLB Wood Products	Bucklin Tree Services
<b>Bidder Contact</b>	PO Box 195 New London, WI 54961	N5624 County Rd L Seymour WI 54165	936 Appleton Rd Menasha WI 54952
Mobilization	\$ 4,000.00	\$ 1,650.00	\$ 500.00
Pile A: Floral Hill Brush/Wood Grinding	\$ 7,500.00	\$ 13,462.00	\$ 9,200.00
Pile A: Floral Hill Chip Removal/Disposal	\$ 2,500.00	\$ 7,500.00	\$ 2,200.00
Pile B: Hatten Park Brush/Wood Grinding	\$ 7,500.00	\$ 13,438.00	\$ 7,400.00
Pile B: Hatten Park: Chip Removal/Disposal	\$ 2,500.00	\$ 7,500.00	\$ 1,800.00
Pile C: Hatten Park Additional Grinding	6000 \$1.50 cu yd x 4,000 cu yards	7,720 \$ 1.93 cu yd x 4,000 cu yards	14,720 \$3.68 cu yd x 4,000 cu yards
Pile C: Hatten Park Additional Chip Removal/Disposal	1000 \$0.25 cu yd x 4000 cu yards	4,500 \$1.125 cu yd x 4,000 cu yards	5,000 \$ 1.25 cu yd x 4,000 cu yards
<b>TOTAL BID</b>	<b>\$ 31,000.00</b>	<b>\$ 55,770.00</b>	<b>\$ 40,820.00</b>