

QUESTIONS AND COMMENTS

AUGUST 27, 2021 PUBLIC PRESENTATION

Collection System

1. How was the area of service determined?

The Service Area was determined by analyzing depth to groundwater, soil types, parcel density and size, and proximity to Higgins Lake. The service area was reviewed with both townships and the Health Department in multiple workshop sessions.

2. Is there a difference between “study area” and “service area”?

No.

3. How many users?

The service area, as defined today, contains 4,180 residential connections, and 70 commercial connections for a total of 4,250 initial connections.

4. State Parks and American Legion.

- a. Why are the American Legion and South State Park not in green or included in the map?
- b. Why are the State Parks not included?
- c. Why is the South State Park and small business district not included?
- d. Same for the North State Park
- e. Are the state parks included in this?
- f. Will the state parks be tied into the system?

Camp Curnalia (American Legion) and the North State Park each have their own existing wastewater collection and treatment system. The South State Park is connected to the Markey Township Wastewater Treatment System.

5. Are lake fronts the only hook ups or are the back lotters included?

As shown in the service area maps, lots on the lake shore and lots off the lake shore are included in the service area.

6. We live in a home that is only 15 years old on a small parcel that is over an acre and not a riparian. Why are we included in the district?

The service area was determined from several factors including depth to groundwater, soil type, lot size, and proximity to Higgins Lake. The service area encompasses areas that, generally speaking, are near the lake, have high groundwater, and contain excessively drained or poorly drained soils which impede the efficiency of traditional septic systems.

7. How does the waste get pumped over the hill?

A pump station will pump waste through a pressurized sewer main.

8. Collection System Backflow Protection

- a. What protections are there for people at the bottom of hill so that they don't get flooded with waste?
- b. Hopefully each individual septic tank pump will have a backflow preventer on the line going to the sewer to prevent other poop from finding its way back into individual septic systems.
- c. If there are backflow preventers, how are they checked? Hopefully on an annual basis. With poop and toilet paper it will be pretty easy for them to get plugged when the pump shuts off.
- d. If there is a power outage, what prevents sewage from flowing back into the individual homes. The chance for this is going to be pretty great in light of item 2 above.

- e. Lakefront owners will be at the low end of the sewer system. Backlot houses are generally at a higher elevation than lakefront houses, so if there is some sort of power outage or pumping station problem (such as a pump failure), then the sewage from houses that are at a higher elevation will run down to the lakefront house's septic systems. Then the sewage will overflow the toilets and run onto the floor of the bathrooms. This would be entirely unacceptable, especially with seasonal dwellers who may be away for a good part of the year and can't catch the problem when it starts.

Multiple check valves will ensure one-way flow in the forcemain. Sewage solids are kept in the STEP tanks onsite while gray water (effluent) is pumped offsite. The STEP tank operates with a capacity buffer that allows the system to accept sewage beyond the high level. Additionally, when power outages occur, water supply is also unavailable.

9. Can the proposed system (sewer lines) be used if a system to handle both effluent and solids is implemented in the future?

No, in order to reliably accept and transmit solids, larger pipe sizes and a separate hydraulic analysis would be required to avoid clogging.

10. What kind of sewer systems & how many were installed to clean up Muskegon Lake?

The collection system around Muskegon Lake contains mostly gravity collection with pump stations and forcemain for waste transmission. The number of connections is difficult to determine because collection systems are operated by the individual municipalities. However, the Muskegon County Wastewater Treatment Facility is sized to accept 43 million gallons per day (MGD). For comparison, the GLUA treatment plant would be sized for approximately 1 MGD.

11. How many riparian owners are there in the district?

There are approximately 1200 riparian parcels in the Service Area.

12. How will trailer parks be handled?

Mobile home parks within the service area will be connected to the system and will be assessed by the REU schedule adopted by the GLUA.

13. The proposed sewer service area includes the James Square subdivision where lots average an acre in size and the homes are fairly new. There are 3 subdivisions on Maplehurst with similar type lot sizes and homes (Eastridge Court, Misty Meadow Court, and Tall Oaks Court), none of which are included in the service area. Would you consider extending sewer service from East Higgins Lake Drive east to capture those three subdivisions? Along with several homes on Maplehurst this would add approximately 50 additional customers to the service area.

Service Area expansions are certainly possible if there is desire and support for the expansion. The system will be designed to accommodate likely or potential expansions.

Proposed STEP Tank

1. What parameters will be used to site the tanks?

Lot dimensions and site-specific constraints such as well location, existing utilities, vegetation, and surface conditions will dictate the placement of the STEP tank. We will obtain health department records of existing system data where it is available. A visual inspection of each lot will be conducted with the engineering team to determine the final location.

2. Will existing tanks be removed?

Existing septic tanks will be removed or cleaned out and demolished in place depending on site-specific constraints.

3. Will tanks be sited to work with existing home sewer grades to maintain gravity feed?
STEP tanks will be placed to function with existing sewer line grades when possible. Where existing septic tanks are installed correctly there should not be conflicts related to gravity flow from the home to the tank.
4. Isn't it easier, and cheaper, to extend Lp lines to a tank near the home rather than open trench gravity sewer from house to tank?
It is the design intent to have the STEP tanks located as close the house as possible. Homes should already have a gravity sewer line to their existing septic tanks. This line will be utilized whenever possible.
5. Does this pump occupy the same space as our current septic tank?
The STEP tanks could occupy the same space as the current tank, subject to site specific conditions. The tanks will be sized based on current Health Department standards. Existing systems may or may not be of the same size.
6. Does a power outage render this system useless W/O a generator?
A power outage would result in the STEP tank being unable to pump itself unless it had a power source (generator). Additionally, a water supply well would also be unusable so water usage will drop. However, the STEP tank operates with approximately 1 day of storage volume inside the tank to accept sewage during a power outage.
7. Does the STEP tank only pump out liquids? If so, who pumps out the solids?
The STEP system pumps liquid effluent from the site. Solids remain in the tank and are pumped out using a septic hauler like a traditional septic system pump out. Solids will need to be removed every 5-10 years depending on usage. The utility authority will be responsible for removing the solids through their own staff or by contracting with local haulers.
8. If our current connection to our septic tanks – able to connect to new STEP tank – or do we have to get a new connection?
In most cases the new STEP tank will be connected to the gravity line that comes from the house. Excavation and pipe work will occur outside the home with the possibility of very few limited site-specific exceptions.
9. Guest Homes
 - a. If we have a home and a guest cottage on one lot, would we be able to use one tank to handle the septic for both dwellings? House is summer home for two people and the cottage is rarely used in summer.
 - b. If you have a small guest house, can this be accomplished with one system?
 - c. Will guest houses on the property require a second tank?One tank may be used if it is sized correctly according to the current health department regulations.
10. Why are the current septic systems not monitored for code?
New septic systems are permitted, but it is not feasible for the health department to monitor or test for illicit homeowner usage, modifications, or additions to the structure.
11. If a homeowner installs a new septic tank prior to the study, does the tank have to be raised due to the proximity to the lake?
The tank will have to be replaced if it is not compatible with the STEP system. Detailed specifications for septic tank replacements that are compatible with the STEP system have been provided to the Township offices and Health Department and are available on the Township websites to any homeowner that needs to replace their septic tank prior to the construction of the sewer system.

12. How do I know if I need to replace my tank?

Most tanks will need to be replaced. Information regarding septic tanks that are compatible with the STEP system have been provided to the Township offices and are available on the Township websites.

13. Concern with exfiltration, how is this monitored?

STEP tanks are tested for infiltration and exfiltration prior to being placed into service.

14. What happens to existing drain field?

The existing drain field will be abandoned in place.

15. Tank Sizing of the STEP System

- a. Dimensions of septic tanks? Volume and physical dimensions.
- b. If I do need a new tank-how big will it be?

Tank sizing will be determined in conjunction with the Central Michigan District Health Department Sanitary Code. The STEP tanks will be 1250-1300 gallons. The approximate physical dimensions of the tank are 8'Lx6'Wx5'D sized by manufacturers in order to fit the pump systems and adequately contain and treat solids.

16. How will residents on unmaintained roads get their septic tanks?

The contractor will be responsible for coordinating the STEP tank installation.

17. Not clear on what the visual impact or visibility of the STEP System is going to be. In one of the Engineer's presentations there is a photo showing what looks like two access covers to the tank flush with the ground. But in another illustration it appears that there will be two structures rising several feet above the underground tank. Which one is correct?

The STEP tank will have two access covers, installed flush with ground after installation is complete.

Homeowner Electrical

1. Electric Costs

- a. Will my electric bill go up?
- b. Electrical cost per household?
- c. What is the average cost for the electric pumping?

Electrical cost per household will increase depending on usage. Users with similar systems typically see an increase of a couple of dollars per month.

2. Will the homeowner be responsible for lining up a qualified electrician to install a new circuit breaker and run a power supply line underground out to the Septic Tank Effluent Pump? Or will the Utility Authority arrange to have this work performed along with installation of the controls, floats, collection tank, STEP pump, and the underground effluent line (lateral) out to the street?

The project cost will cover the installation of the STEP control Panel and all underground electrical between the Control Panel and the STEP Tank. The homeowner will be financially responsible to install a new circuit breaker and power supply wiring to the STEP control panel mounted on the outside of the house. The GLUA will provide a qualified contractor to complete the work and the bill for the work will be sent to the homeowner unless they choose to complete the work themselves.

Homeowner Plumbing

1. Is there a risk of the line between the house and pump freezing in winter?

The gravity line between the house and the STEP tank should be self-draining and should not freeze if installed properly.

2. Cost of tank piping per home?
Cost will depend on site specific conditions and length required.
3. When they put in the tank, do they put the connection to the house and bill us or do we get it done ourselves?

The GLUA will provide a qualified contractor to complete the work and the bill for the work will be sent to the homeowner.

Financial Questions

1. Is there any maintenance & additional cost required by the homeowner?
The Utility Authority will operate and maintain the STEP tank, pump, force mains, and Wastewater Treatment Plant. Homeowners will be charged a monthly fee for these services. The GLUA is currently determining what the monthly cost per homeowner and business will be.
The homeowner will also be responsible for maintaining the gravity sewer between the home and the STEP Tank, and electrical costs for the STEP Pump. These costs are anticipated to one-time set-up fees to get connected to the system, along with any future costs that may arise from problems with the gravity sewer pipe or electrical system to the STEP Control Panel.
2. Monthly cost to each homeowner?
The GLUA is currently determining what the monthly cost per homeowner will be.
3. MRWA benefits from Higgins Lake watershed. Are they contributing \$ to GLUA?
Property owners in the service area will be financially responsible for the project. GLUA is looking for partners who may be able to contribute funding. MRWA is a major influencer in support for funding efforts. The Higgins Lake Foundation that has provided financial support for some of the preliminary costs to apply for funding
4. Do you have to pay before it's installed?
Homeowners will not be charged a monthly operations and maintenance fee until they are connected to the system. Details for the debt service portion of the project are currently be discussed and will be presented at a future meeting. Homeowner's and businesses will be assessed the special assessment prior to connecting to the system. It is anticipated that the first special assessment payment will be due December 1, 2022. Most homeowners and businesses will not be connected to the system prior to this date. The special assessment is assessed around the time that construction of the project begins and helps pay for the initial construction of the system.
5. Are you a professional grant writing company? If various funding sources will pay for the project then why the special assessment?
Various funding agencies will provide loan and possible grant funding opportunities. GLUA is actively engaged in seeking grants from state and federal agencies. Special Assessment is a mechanism to raise funds over time to pay off the cost of construction that will need to be borrowed before construction begins. The Special Assessments must be levied now so that the project is set to move forward when grants are received. The special assessments may be lowered if grant funding is received in such amounts that it reduces the need for the special assessments.
6. What is the total cost?
Current Project Cost Estimate is \$130 million.
7. What are the projected costs that homeowners will pay?
Details regarding the individual homeowner costs will be presented at a future meeting.
8. Can you provide an estimated cost for a lot that is 100' wide and 400' deep?
This will depend on the location of the STEP tank and distance to the structure.

9. What is "estimated" guess as to whether this project will or will not be eligible for various Federal grants and/or assistance?
GLUA is pursuing loan funding through USDA Rural Development at this time. GLUA is also pursuing grant funding opportunities with other state and federal agencies.
10. Estimated OM&R costs?
Estimated Annual OM&R Costs for WWTP and Collection System is \$1.88 million.
11. What is the cost of the STEP pump control panel and does a special contractor have to install it?
The cost for the STEP pump control panel is included in the overall project cost and will be installed by the project contractor hired by GLUA.
12. Is the cost to the homeowner different for homestead or non-homestead?
No.
13. The Preliminary Engineering Report identifies the estimated total cost of the project at \$108 million; however, in the Utility Authority's August 16, 2021 Board meeting minutes it appears the Authority would apply for USDA Funding in the amount of \$130 million. Why the difference?
The revised cost estimate is a result of the current market conditions.
14. Could you please clarify who is going to be paying the capital costs for this public utility project?
The property owners within the service area.
15. Are all township residents going to be paying or just those within a special assessment district for the sewers?
Only the property owners within the service area will be assessed for the initial costs and be responsible for the ongoing operations and maintenance of the system.
16. Some township residents are here less than a total of a month or two a year. Does this mean that they have to pay the full freight of the sewer assessment, or is the charge going to be pro-rated?
All property owners within the service area will be assessed regardless of the time the home is occupied, since the system has to be sized to provide full service to every residence and the amount of time a residence is used will vary over the years.
17. Are vacant properties parcels also going to be assessed for the sewer fee?
Vacant parcels will be assessed a pro-rated amount of a parcel with a structure. If the vacant parcel is developed in the future, the balance of the pro-rated amount vs. the full amount is expected to be paid by the homeowner.

Legal Questions

1. Will easements along the roads and lots need to be cleared?
The use of trenchless technology will minimize the areas that need to be cleared.
2. What about road right-of-way permits? Like driveways? Who pays for the permits?
Right-of-way permits will be obtained by the contractor hired by GLUA.
3. How will assessments for each property be determined?
Details regarding the assessment will be presented at a future meeting.
4. Will assessments be added to property taxes?
The assessment is anticipated to be added to the yearly tax bills for convenience of billing and accounting. The assessment is not tax-based or related to the value of the property. Alternatively, property owners will have the option to pay the assessment in full at any time to avoid interest.
5. What if you don't want to hook-up to the system? Is there still a cost to the homeowner?
All property owners in the service area will be required to connect to the system in accordance with State Law.

6. If I live in Lyon Twp but I am not in the service area, do I have to pay for the project?
No.
7. Special assessments - spread over 30 years how is this handled?
The Utility Authority is considering a special assessment over 40 years. Details regarding the assessment will be presented at a future meeting.
8. Every Higgins Lake property owner will benefit, even those not connected to the sewer system. Will all be asked to contribute to a clean lake, meaning those not in the proposed service area?
No, only property owners in the service area will be financially responsible for the project.
9. How is assessment figured, by house, by size?
The assessment will be based on the number of Residential Equivalent Units (REUs) per parcel. All residential structures are considered to be 1 REU. Businesses will be assessed based on the type of business and expected use of the system. Details regarding the REU determination will be provided at a future public meeting.
10. Cost for homeowner - \$ based on value of property (mills), or flat rate per property?
Assessment will be based on Residential Equivalent Units(REU) per parcel. Details regarding the REU determination will be provided at a future public meeting. The value of the property will not be used in determining the assessment since the value of the property does not correlate to the use of the system.
11. Would the assessment have to be paid off before the home is sold?
GLUA will not require the assessment to be paid off upon transfer of the property. The new homeowner can assume and continue paying the assessments. If the new homeowner requires a mortgage or other type of loan to purchase the property, the lender may require payoff of the assessment. This is a private matter between buyer, seller and mortgage company.
12. In addition to special assessment for capital costs has a millage been considered for a portion.
No.
13. While it is understood that the Utility Authority is pursuing all possible means of funding, it would seem highly likely that the Authority will have to do some type of borrowing to fund this project. If that is the case, will that require approval by just those township residents in the service area or by all township residents?
The authority is pursuing funding through state and federal agencies. Only property owners in the service area would be financially responsible.
14. My house happens to be on 12 lots of the originally platted Whittington Park lots, so does that mean I will be paying \$12,000 each year? (It might be more reasonable to make the assessment based on a per dwelling or per parcel basis)

The assessment will be on per parcel basis. If you have multiple lots that are not combined into a single parcel and would like to combine them please contact the Township assessor. This should be done as soon as possible since the assessment will be based on the configuration of parcels when the special assessment process begins.

Project Vote

1. Do we get a vote on this proposal?
2. Is this something that the people will be able to vote on?
3. Will there be an opportunity for township residents, either inside or outside the service area, to vote on financing the project?
4. Do we get to vote on it?
5. Do we get to vote on this project?
6. Is this proposal to be voted on by residences affected or is it mandated by the State?
7. How about a show of hands: East side of the lake. West side of the lake. North end of the lake. Southeast of lake. Southwest of lake.
8. Has this project been approved by the voters of Gerrish and Lyon Township?
9. Will the final decision to proceed / install the sewer system be made by a public vote or by the township boards?

A public vote for the project will not be held due to the fact that the system is not Township-wide. In addition, the system is a utility system where the revenues and assessments are not based on property taxes. Only the property owners in the district are included in the special assessment process. Special Assessment Proceedings can only be initiated by the Township Boards or a public petition by 50.1% of the landowners. Special assessment proceedings will follow the regulations of Act 188 of the Public Acts of Michigan and there will be multiple opportunities throughout the special assessment process for public comment. Each Township Board adopts a resolution tentatively declaring its intent to make the sewer improvements, tentatively designating the district and setting a public hearing on the necessity of the improvement and the district. A public hearing is held where the Township Board must hear any objections to the proposed improvement and the tentative district. Property owners can give input by petitioning prior to or at the meeting. If a petition against the project is received by 20% of the effected landowners (by combined land area compared to the total land area), then a petition from 50.1% in support of the project must be received in order to proceed with the special assessment process.

Project

1. When will the contract be signed?
A contract will not be signed until project funding is secured and a project financing structure is approved by the Utility Authority and both Townships.
2. The last study was done in 2014. Where is the current study? And results?
The complete 2020 Preliminary Engineering Report is posted on the Gerrish and Lyon Township websites.
3. Is Consumers Power ready for increased load?
A minimal increase in power usage for the STEP systems is expected. Electrical requirements for the WWTP will be reviewed with Consumers Power during detailed design.

Environmental

1. Existing Septic Systems

- a. If my septic system is working fine why do I have to hook-up to the new system?
- b. My existing system is functioning & properly maintained. Why should I have to pay for another system that basically does the same thing?
- c. Make those who are not up to code fix their system.
- d. Why can't we save the lake by just inspecting wells and septic? Why do we need a sewer?
- e. Has anyone considered a required periodic pumping and / or inspection of the existing septic tanks (or individual leak proof tanks) instead of a sewer system? It would save the cost of all the infrastructure you are planning on installing. The sewer infrastructure will require continuous monitoring and inspection, which cost a lot more than a truck driving around the lake collecting sewage.

Septic tanks are not designed to remove the nutrients present in wastewater. Functioning septic systems will separate solids and drain the effluent as designed with no visible sign of the limited treatment capability of the system. The poor soil conditions and high ground water levels that surround Higgins Lake are not suitable for properly functioning septic systems.

2. Higgins Lake Water Budget

- a. Will we be lowering the lake to accommodate this system?

No.

3. What % of the lake quality issues are thought to be from septic field systems? What other factors are contributing?

Previous studies, dating back to 1969, identify septic tanks as one of the largest controllable sources of nutrients to the Lake. Estimates from 1975 and 1984 indicated that septic tanks contribute 17%-60% of the phosphorus load. Other inputs include precipitation runoff, shoreline erosion, and fertilizers. Additional studies from 1995-2014 confirm the link between septic systems and excess nutrient loading to the lake.

4. Was the well water tested to confirm nitrates and phosphorus around the septic areas?

Yes, the Townships have documentation from the Health Department on file.

WWTP

1. Where does the clean water go?

High quality treated water would be discharged to sand infiltration beds that would percolate down to the groundwater.

2. Smell/odors

- a. Would there be a smell from the plant? Wind comes from the west
- b. How is the smell from the wastewater treatment plant going to be contained?

All WWTPs have the potential for minimal periodic/seasonal odors. However, the proposed project has provisions and processes to mitigate potential odors.

3. Why not use American Legion system?

A significant expansion of the HLUA system would be required to accommodate flow from the

proposed service area. Based on the available capacity of the HLUA system it is not financially feasible to expand the existing facility.

4. Is the system being designed to allow for expansion to rest of townships at a later date?
The collection system can be expanded. The Mechanical WWTP could also be expanded by adding additional treatment trains to the process.
5. Can the discharge water be returned to Higgins Lake?
It is technically feasible to pump the water back to the Higgins Lake watershed, but the added expense to do so would be cost prohibitive.
6. The proposed wastewater treatment system would discharge treated effluent to the ground through rapid infiltration beds. A groundwater discharge permit from the State of Michigan will be required which will include monitoring requirements for the effluent and the groundwater. Has the project cost included the cost for the installation of multiple groundwater monitoring wells?
Yes, ground water monitoring wells will be installed as required by the Michigan Department of Environment, Great Lakes and Energy (EGLE) for the groundwater discharge permit application and compliance monitoring.
7. Septage Hauling
 - a. The Preliminary Engineering Report indicates that the Utility Authority would periodically pump the solids from the holding tanks and this material (septage) would be hauled to the wastewater treatment plant (WWTP) for treatment. Processing this septage will add a significant cost to the operation and maintenance of the WWTP because of its anaerobic nature (high oxygen demand) and high concentration of phosphorus and nitrogen. More ferric chloride will be needed for phosphorus removal. More oxygen will be needed to meet the high oxygen demand. It will generate more biosolids thus requiring more energy during digestion and more costs for transporting to a land application site. It can also lead to odor complaints.

Wouldn't it be better and cheaper to contract out the septage pumping and processing through the existing local licensed septic haulers? They already have:

- the licensed pumper trucks (the Utility Authority wouldn't have to spend \$100,000 or more to buy their own);
- the licensed staff to do the work;
- the land application sites approved and permitted by the State.

This would seem a win-win situation. The local septage haulers won't lose business (about 4000 customers they already serve that would be going on the sewer system) and the Utility Authority reduces its operation and maintenance costs.

- b. Where are the solids processed? New GLUA facility or offsite Houghton Lake / Roscommon?
- c. Why are you proposing to treat the solids (ie. Septage) from the holding tanks?
- d. Are you taking away significant business from the existing licensed septage haulers and significantly increasing the O&M costs of the WWTP and the cost to the homeowners/users?

To protect the watershed from the short-term and long-term impacts of septic disposal, treating the solids at the GLUA WWTP is the recommended course of action. There is a potential for GLUA to contract with existing licensed septic haulers to still pump solids from the tanks within the proposed service area.

Treasure Island

1. How do you put a sewer system in Treasure Island?
2. How will Treasure Island be handled?
3. The public should not have to pay for a force main to Treasure Island. That cost should be borne only by those homeowners on Treasure Island.
4. The Preliminary Engineering Plan shows a low pressure forcemain running from Treasure Island to the mainland. Will there also be a central collection tank and pump station located on the island? What is the estimated cost for those facilities? Whatever they are those costs should be borne only by those homeowners on the island, and not the general public. The public didn't pay for electrical or other utility service to the island and shouldn't have to pay for sewer service. Treasure Island homeowners should be required to connect to the public sewer located on the mainland.

The service to Treasure Island would consist of approximately a half-mile directional drill under the lake bottom to the island. The installation of a grinder pump system will remove the solids and the liquids from the island.

Support Comments

1. A sewer project for Higgins Lake has been talked about for over 50 years. No one has taken the ball by the horns until now. Everyone owes a lot of gratitude to Dave Udy. A lot of people are involved now but nothing would have happened if Dave wasn't leading this project. We all need to support this project.
2. Sewers are a must. Thanks for all your hard work
3. This project solves the most serious environmental problem we have at Higgins Lake.
4. The lake is deteriorating dramatically largely due to septics. We must keep the health of the lake in the forefront and have sewers.
5. The sewer system is the best thing to happen to Higgins. It has to happen sooner or later and for those who oppose it, if not now, when? The 2007 Huron Pines Higgins Lake Management plan stated that septic systems deposit 98.6% of the nitrogen and 99.5% on the phosphorus.
6. The sewer is needed.
7. Great step to protect the lake. Keep moving ahead!
8. A good plan to clean up our beautiful lake. Thank you for adopting new, good ideas as they were presented to the team!