

Questions from October 23, 2018 Meeting:

1. How many houses in Lakewood have comingled storm and sanitary lines?

There isn't a survey of every house, but based on experience and the pilot study there is a high percentage of houses that have a downspout or other storm water drain connected to the sanitary lateral, or other pathway from the storm lateral or footer drains that gets into the sanitary sewer under the house or out to the street.

Approximately 3200 homes have combined sewers, where sanitary and storm water are conveyed to the public sewer through a single pipe. Some homes have separate storm and sanitary lines that join together as a single pipe at the property line.

Approximately 7600 parcels have two separate laterals (mostly in a single trench), one sanitary and one storm, which convey water to the public sewers. The pilot study revealed that most storm laterals have a plugged trap which can force storm water into the sanitary system.

2. Is fixing the comingled lines a homeowner's responsibility? Yes
3. Did the NEORS use integrated planning?

The NEORS's planning was done in 2011 prior to the advent of integrated planning. In addition, the NEORS is a regional sewer district. Integrated planning was really created to be used at the local collection system level. The Lick Run project in Cincinnati was one of the first integrated planning projects and allowed the federal EPA to see the value of integrated planning at the local level. Instead of a big underground tunnel, Cincinnati was able to do surface planning and revitalization at the same time they contemplated the sewer infrastructure upgrades to meet its compliance obligations. This allowed Cincinnati to access outside money from ODOT money to rebuild roads, Brownfield dollars to clean up a foundry, money to rebuild water infrastructure all of which allowed private investment into a declining area.

Integrated planning is a framework to create a plan.

4. What material are private property pipes in Lakewood typically made of?

Most Lakewood homes are older so most of the underground pipes are made out of segmented clay tiles called Vitrified Clay Pipe (VCP). There are some iron pipes and the newer pipes are made out of PVC.

5. How much I/I was removed from the Pilot Project?

Phase 2 of the pilot project is not complete yet, so full flow data is not available. Once construction is complete flow monitoring equipment will be installed and we will be able to collect flow data and analyze it to determine the full amount of reduction of storm water entering the sanitary sewers.

6. How many different watersheds are there in Lakewood and is there any storm water burden flowing into Lakewood from other cities or regions?

Lakewood is in the Lake Erie and the Rocky River watersheds. However there are 15+ sewer sheds within Lakewood as shown on this map. (LINK TO THE SEWER SHED MAP) Generally we do not have southern storm or sanitary pipes coming into Lakewood sharing Lakewood's sewer pipes.

We do take some sewer flow from one city of Rocky River neighborhood; the sewage flow is small in nature and we charge the city of Rocky River for this service. Also, Cleveland's western interceptor may interact with Lakewood sewers. Gathering information and modeling that interaction is ongoing.

7. Can we shut off the valve to the NEORS at 117th street?

There is a western Cleveland interceptor that runs down 117th Street. In dry weather Lakewood may get some of that water, in wet weather Cleveland/NEORS gets some Lakewood water. While we have considered overflow options such as working with NEORS, we are focusing on the options the city has full control over. Cleveland and NEORS would both have to be in agreement with Lakewood to utilize any pipes or systems belonging to them.

8. Fixing the current infrastructure (\$150 million) also has some compliance factor in it, correct? (In response to the spreadsheet in the affordability section)

Yes, there is overlap between maintaining/fixing current infrastructure and compliance.

9. Why does the 2% reduction in water consumption keep happening?

We are seeing a 2% per year reduction in water consumption across the industry, not just in Lakewood. Why this is happening relates to: higher efficiency appliances, individual understanding of water conservancy, and lower density households (smaller families).

10. Will the affordability review encompass all costs/expenses of living in Lakewood not just the water and sewer bills? (i.e. real estate taxes, income taxes, school levies etc.)

Yes. This presentation is focused on water and sewer billing/affordability, but the affordability study will encompass all costs of living in Lakewood such as schools, taxes and other utilities.

11. Is there a certain number of years within which we must have these upgrades/changes/increase in % of water treated?

Yes, 15 – 100 years. As a city the more time we have the more affordable any solutions become. The city and the EPA will have differing opinions on what is the appropriate amount of time to effectuate change.

- What about issuing Bonds? What about revolving loans from the state?

Absolutely, we are considering all options and welcome creative thinking and options from the community as well. For example, the new HRT Plant is almost fully funded by Ohio Public Works (OPW) loans at 0% and Division of Environmental and Financial Assistance (DEFA) loans at 0-1%. But - we still have to pay it back.

12. When you looked at the median income numbers how did you handle all of the rental properties? Did you consider the Landlord's income or the tenants' income?

The information was based on census data – whoever completed the census data at that address – typically that is the tenant. It is not a perfect science but it is in the information we have available to us.

13. As we review engineering options will there be a chart that includes the benefits and benefits v. costs of each option?

The engineering model is able to provide the benefits of a solution in terms of water captured/treated or pollutants removed or frequency of overflows. But it is important to get feedback from the community to understand what options they feel are important and rerun the model based on that feedback. The community may change its opinions or choose various options based on the cost, the inconvenience, the time involved, the interruption involved. The EPA and the community will have differing views with regard to all of these factors so as a city we need to determine what the most appropriate solutions are for our community and advocate for that plan with the EPA. As a community we want to propose the solution, we do not want the EPA to decide, but ultimately we both need to agree on a solution.

14. There are so many moving parts to this project. Do we know where we are going and where we want to be in 5, 10, 15 and 20 years? Do we know when we are done?

We want to continue to demonstrate our progress towards compliance. With the installation of the HRT system we will be at 88% capture and treatment of our water. We have worked hard to get there. Let's say we are thinking we want to get to 93% -- how do we get there? We are seeking time and flexibility to make these changes. Even if we have \$300 M right now, we aren't confident that the engineering is that perfect or that there won't be engineering advancements and changes or new ideas and inventions in the future that would provide alternate or more efficient solutions. We want the flexibility and the time so we are executing the most affordable solutions with the highest effectiveness.

15. Have we taken a look at the cost of every percentage point of treated water gained and how much it will cost to gain every percent of treated water in the future?

Yes. There is definitely a point of diminishing returns where investing more money fails to advance the collection of more water to any great percent. For example for some of these options we could spend \$70M and gain 3% more in collection and treatment of water. Later in the process we can spend \$70M and gain only 0.5% in additional water collected and treated.

We have been meeting with the staffs of Senator Portman, Brown and Kaptur about this issue. They understand the important fact that Lakewood could spend \$270M and we won't solve the biggest problem which is the runoff from the Maumee Valley. Even if Lakewood becomes pure we are not going to clean up the western basin of Lake Erie which is the big problem. For example if we would divert \$100M from us to them it probably would have more impact, but we do not have that luxury.

16. Are we comparing ourselves with other communities?

Yes. The reason we are addressing this now is that it is our turn. We are not unique with having to deal with this EPA compliance issue. We need to think through this really well: cost efficiencies/affordability and effectiveness.

Milwaukee has completed their compliance plan and they are in the process of monitoring it and it is working well. Compliance planning is possible to be contemplated, created and constructed in a way a city wants, that is effective and supports EPA compliance at the state and federal level.

Seattle is a city that has done integrated planning. Seattle wanted to know what is the best investment for them – was it storm water control or CSO Control? The state wanted Seattle to focus on CSO controls. Seattle was however able to come to an agreement with the Federal and Washington State EPA to focus on projects with the greatest environmental benefit first, thereby making storm water projects a high

priority. They did not get rid of any obligations, but they were able to negotiate and prioritize the projects. They were able to spend the upfront money on the projects that mattered most to its community – to reduce the suspended solids and other contaminants being released into the local waterways. That is the way Lakewood wants to structure the plan for Lakewood – come up with the plan that prioritizes getting the biggest bang for the buck and focusing on the projects that mean the most to the community.

The financial burden is a big part of this. We need to take measured bites at this apple – it should be measured over an appropriate period of time. Looking at percent gain for specific improvements is a good way of looking at it. Need affordable levels of control.

We only want to make the next best investment for the foreseeable future. Need to negotiate a phased approach over ten year time. What is the priority we want to focus on in the next 10 years: frequency of flow; pounds of pollutants going into the water way – what is the best bang for the buck?

17. How do we become or beat Milwaukee?

Well the Milwaukee community is not done. The government may not push them much further but the community wants to start incorporating a large green infrastructure plan to capture even more water to prevent overflows in the future.

18. In the Pilot Project, what % of storm water is coming off of private property (homes) v. what is coming from the streets?

The average imperviousness of Lakewood's surface is about 60-70% in the city. The portion of roadways versus rooftops and driveways contributing to storm water run-off is: about equal, with 30% rooftop and driveway runoff and 30% runoff from streets.

19. Will there be financial models, spreadsheets and data we can review? Are there engineering models and data we can review?

Raftelis, a financial consultant for the city, has created a financial modeling tool which can take the financial costs/payments out 100 years on a project basis. You will have the opportunity to look at this model. We have serious affordability challenges. As a city we are working hard with our U.S. Senators to be an ally in this – do not ruin a city like Lakewood by making the community deal with onerous obligations based on affordability. What is common sense and what is impossible?

There will be engineering data available reflecting the engineering data the model produces.

20. Has there been an analysis of the current infrastructure's useful life so that projects can be identified to match that useful life so as not to waste opportunity?

Yes, but it can be improved. Part of our obligation is identification of and understanding of our assets. For asset identification and understanding we are talking about more than just our pipes, we are talking about all of our city assets: heavy equipment, buildings, parks and all city assets as a part of this.

Raftelis and Brown & Caldwell have been reviewing all of the water and sewer assets and coming up with a plan for maintenance and replacement based on useful life. We will be able to pair this information with potential projects for timing.

21. Are the sewer or water systems ever depreciated for accounting purposes?

From a financial standpoint when the city does its audit, all of the water and sewer system assets are depreciated and when improvements are made we make financial adjustments. We try to track our municipal financial reporting like a business.