



Stark County Sewer Technical Advisory Committee

Committee Members:

- James Troike, Stark County Sanitary Engineer
- Scott Ellsworth, Technical Support Manager, Stark County Sanitary Engineering Department
- Paul DePasquale, Director of Environmental Health, Stark County Health Department
- Todd Paulus, Unit Manager Environmental Health Services, Stark County Health Department

Background

In 2014, this Committee was formed to research and review neighborhoods within Stark County that rely on private home sewage treatment systems (HSTS) and have a high failure rate. According to the Ohio Department of Health (ODH, 2013), the average failure rate of septic systems in Ohio is 31 percent. When HSTS's fail, they can cause a variety of problems and possible illness. The most severe problem is wastewater seeping into lakes, reservoirs, and streams some of which are used for recreational purposes. Exposure to untreated wastewater can cause a variety of health problems in humans and animals, along with adding nutrients to the water, which may cause harmful algal blooms. In the study, some areas were found to be impacting the reservoirs used for raw water by the City of Alliance's municipal water supply. In these cases, algal blooms caused by the additional nutrients, significantly add to water treatment costs. Other unwanted symptoms of failing septic systems include, but are not limited to: strong odor, backup of sewage into the house, ponding of wastewater, and degradation of the environment (USEPA, 1999). Case law in Ohio has repeatedly supported sanitary sewer as being of greater public interest and protection than individual sewage systems, however, the process for designing and installing sewer systems is lengthy and costly.

Sewer System Installation in Stark County

Sewer utility extensions are usually installed and financed by either a developer extension or a public sewer project. For a developer extension, the developer directly finances the initial cost and installs the utilities needed to serve a development. There is a process available for the developer to obtain reimbursement from the properties that connect to the utility extension in the future.

A public sewer project, as authorized by state law, is the method of choice where numerous property owners in an area want the same improvements and all properties benefitting by the facilities share in the initial cost. Also, payment of the cost of the project is spread over time. If there is sufficient support demonstrated by the property owners and the County approves the public sewer project, the County will design the project, advertise for bids and award a contract for the construction of the project. The County arranges interim financing to fund the project during construction and then assess the properties involved.



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In either case, the extension of sewers into aging, problem neighborhoods with high HSTS failure rate is an expensive proposition to the homeowners. These areas typically have older housing stock occupied by low to moderate income families. Sometimes sewer petitions circulated in these areas have lacked sufficient support to proceed with a project because of the projected expense. These areas are often more remote and less dense than projects constructed in urban and suburban areas making project costs more expensive per housing unit. Due to these facts, even though high failure rates and associated public health concerns exist, these areas are often overlooked for the extension of sanitary sewer.

Committee's Recommended Plan to Address Aging Neighborhoods

The Committee recognizes the best solution to correct these problem areas is a sanitary sewer system. Initially, the Committee selected areas only using certain criteria such as a high failure rate of HSTSs and, as research expanded, we soon realized we would benefit if an independent study could be performed. The Committee requested that the Northeast Four County Regional Planning and Development Organization (NEFCO) assist us in creating a study project to determine a priority for extending sewers to areas the Health Department determined to have above average failure rates for HSTSs. NEFCO worked closely with the Committee to conduct this study and prepare a report as a tool to help Stark County prioritize which areas should be serviced with sewers. The criteria included HSTS age weighted risks, housing density risks, soil suitability, surface water potential pollution, drinking water supply source, and E. coli bacteria qualifier levels. Other qualifiers, though not included in the overall index score, were: percent E. coli, odor scores, estimated flow of sewage, and groundwater pollution potential. NEFCO suggested the following priority of extending sewers to these areas with the highest priority given to the top of the list:

- Limaville Village
- Harmon
- States
- Moreland
- East Tuscarawas
- Justus
- East Greenville
- North Lawrence
- Nellabrook
- Lynnette
- Uniontown (see report appendix A)

The study attempted to prioritize the problem areas based on environmental related scores. Many of the final scores were very close to each other; any given parameter, if given a different scoring range, could have yielded a different order. All areas but Uniontown had odor, visual, and bacteriological manifestations of untreated sewage. The report also recognized that there are logistical considerations



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that were not included in the ranking, but should be considered during actual decision making. These logistical factors include:

- Grant money a political subdivision can obtain for the sewer project.
- The current availability of sewer lines in proximity to any of these areas.
- Total cost for the sewer projects (see appendix B).
- Cost for individual connection.
- Proportion of septic systems already replaced within these project areas in the last ten (10) years.
- Number of open raw sewage pools – increasing the public health risk.

After careful consideration of the above factors the new ranking is as follows:

1. Moreland
2. East Tuscarawas
3. North Lawrence
4. East Greenville
5. States
6. Nellabrook
7. Justus
8. Harmon
9. Lynnette
10. Uniontown

Limaville Village was taken off the list because the Village obtained a \$1,000,000 grant from the U.S. Army Corps of Engineers, another possible \$750,000 grant from the Ohio Water Development Authority and was accepted into the Stark County Metropolitan Sewer District. The project to extend sewers to the area is scheduled to start in 2017.

According to the Stark County Metropolitan Sewer District, it could be 18 to 20 years before sewer is available to the bottom third of the list.

Committee Decisions:

- Moreland Hills was raised from number four on the NEFCO list to the top of the list because the storm sewers, which receive untreated sewage, have backed-up many times into homes, the sewage odors in the area and the availability of grant monies for sewer design work.
- East Tuscarawas was raised from number five on the list to number two due to severe odor issues and the direct discharge from failing septic systems into the storm sewer system along Lincoln Street, then into a local creek.
- North Lawrence was raised from number eight on the list to number three due to the direct discharge from culverts of septic effluent to the local creek. Sewage odors and visual signs are present



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throughout culverts, manholes, and ditches in the community. Additionally, detailed plans for the construction of sewer and a wastewater treatment plant are complete and ready for bidding.

- East Greenville was raised from number eight to number four due to the soil severity in the area and direct discharge to a large culvert draining to a local creek. Sewage odors are noticeable at manholes along the route of the culvert.
- States Streets was lowered on the list from number two to number five as a large portion of the problem has been due to poor maintenance of the existing discharging aeration systems. The Health Department will increase its oversight of this area to ensure systems are properly maintained.
- Nellabrook, Justus, and Harmon were repositioned to number six, seven and eight on the list as the Health Department feels repairs to the septic systems in these areas could be made to minimize their impact until sewers could be designed and constructed under the revised priority listing.
- Lynette and Uniontown maintained their positions at the end of the list. The Health Department feels that mandated repairs to the septic systems, particularly the existing aeration systems, in the Lynette area will significantly improve health and environmental conditions there. The soil conditions in the Uniontown area have generally allowed for longer system life, and the area did not show the magnitude of surface water impact, odor, or visual sewage problems as the other areas.