SANDUSKY COUNTY FACILITY PLANNING AREAS

BELLEVUE FACILITY PLANNING AREA

~~The Bellevue Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the city of Bellevue (Figure 6-22). The Bellevue FPA is managed by various Designated Management Agencies from City of Bellevue, Sandusky County, Erie County, Seneca County, and Huron County. The responsibilities of these agencies are outlined below:~~

The Bellevue Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the City of Bellevue (Figure 6-22). The Bellevue FPA is managed by various Designated Management Agencies representing the City of Bellevue and Sandusky, Erie, Seneca, and Huron Counties. Responsibility for wastewater planning and management is shared among these agencies; however, the Ohio EPA serves as the designated Section 208 planning authority for the portions of the FPA located in Seneca, Huron, and Erie Counties, which encompass all areas of the FPA outside Sandusky County. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **City of Bellevue**: Owns and operates wastewater treatment facilities, and collection system within the corporate limits.
- **Sandusky County:** Will own and operate the collection system, if and when built, in Sandusky County unincorporated areas, connecting to City system for treatment services.
- **Erie County:** ~~Owns and operates the collection system in Erie County unincorporated areas, connecting to City system for treatment services.~~ Will own and operate the collection system, if and when built, in Erie County unincorporated areas, connecting to City system for treatment services.
- **Seneca County:** ~~Owns and operates the collection system in Seneca County unincorporated areas, connecting to City system for treatment services.~~ Will own and operate the collection system, if and when built, in Seneca County unincorporated areas, connecting to City system for treatment services.
- **Huron County:** ~~Owns and operates the collection system in Huron County unincorporated areas, connecting to City system for treatment services.~~W-ill own and operate the collection system, if and when built, in Huron County unincorporated areas, connecting to City system for treatment services.

FPA Policies

New Subdivisions

It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Bellevue wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases. All new home construction is required to complete a service connection application (water and sewer) with the City to begin construction.

Wastewater Effluent Discharges

Bellevue lies in the heart of a karst limestone geologic formation that stretches from Seneca County to Lake Erie at Sandusky. Karst bedrock is porous, with sinkholes that allow surface runoff to drain directly into groundwater. Because karst limestone is porous, water flows through it much more quickly. Drinking water sources that draw their supply from the karst aquifer are very vulnerable to contamination. Contaminated water may also reach Lake Erie through karst formations. Discharges of wastewater effluent from public or private treatment plants, or drain septic tanks into sinkholes should not be permitted.

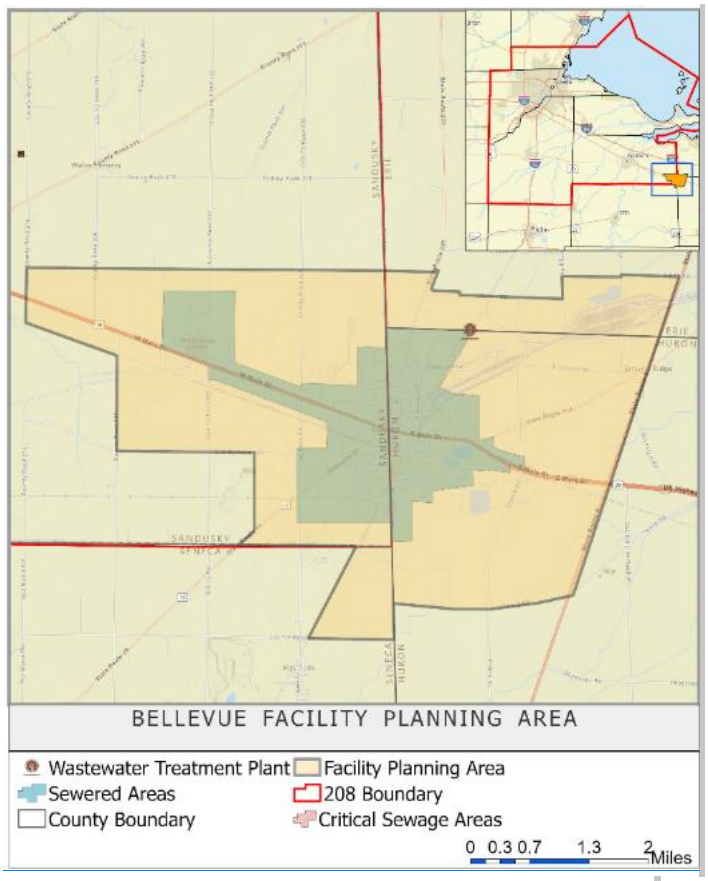


Figure 56-22: Bellevue Facility Planning Area

Table 5-57: Bellevue Area Population

Area	Population
Bellevue, entire jurisdiction *	8,249
Groton Township, entire jurisdiction (Erie County)*	1,379
York Township, entire jurisdiction (Sandusky County)*	2,479

Thompson Township, entire jurisdiction (Seneca County)*	1,370
Lyme Township, entire jurisdiction (Huron County)*	873
~~Estimates within the FPA boundary~~Total	14,350

*only part of this jurisdiction is within the FPA boundary.
Source: the U.S. Census 2020 decennial census

Present Facilities

The Bellevue WWTP was originally built in 1969. With upgrades in 1988, 1993 and 2004, its capacity is 2.4 mgd, last expanded in 1993~~7~~. ~~Ohio EPA data shows an average flow of 1.19 mgd during the period of 2009-2018, and a peak flow of 5.03 mgd, which occurred in 2009.~~ As of~~ln~~ ~~2020~~2020, the average daily flow is~~was~~ 1.13 mgd. It is a plug flow plant with nitrification towers, aerobic sludge digestion, and ultraviolet disinfection. Sludge is aerobically digested ~~and applied to land in thickened liquid form or~~ and dewatered by belt filter press and disposed of in a landfill or composted. ~~Bellevue currently in-ves sel composts one-quarter of its biosolids.~~ Bellevue has a pretreatment program to accept industrial wastewater. Bellevue's septage receiving station is not currently accepting septage as of 05/2020.
~~Sseptage receiving station is not currently accepting septage as of 05/2020.~~

Recent projects

- ~~In 2012, extended sewers along U.S. Route 20 to the east to Prairie Road, total cost was $200,000.~~
- ~~In 2013, installed new ultraviolet disinfection system with an enclosed building over the system to eliminate sun exposure, total cost was $386,000.~~
- ~~The center hatches for both nitrification towers were removed for natural ventilation in 2014.~~
- ~~312 manhole cover inserts were installed throughout the collection system based on flooding areas of streets. As of 2016, five lift stations have been upgraded to a SCADA system, costs were $25,000 per lift station.~~
- ~~Based on the NPDES permit, the City of Bellevue developed a Pollutant Minimization Program Schedule for total dissolved solids and bis (2-ethylhexyl) phthalate (BEHP) in 2013.~~
- ~~Based on the NPDES permit, the City of Bellevue developed a Toxicity Reduction Evaluation Schedule and continues to monitor toxicity in the effluent monthly in 2013.~~
- ~~In 2013, the WWTP purchased new trucks for the operations, maintenance, collection system, and Superintendent. Each truck is outfitted for the respective area. The collection truck is outfitted with a crane for removal of pumps in the collection system.~~
- ~~November 2015, the City of Bellevue purchased a sewer jet and has been utilizing the truck within all City departments. Total costs were $526,000 as part of a 5-year lease. The City purchased a mapping system to monitor and capture points of activities throughout the collection system, along with water main breaks, cleaning of catch basins, and lift stations. The Mobile 311 mapping system cost $5,200.~~
- ~~August 2016, the WWTP purchased and installed dissolved oxygen probes for the aeration tanks along with VFDs on the blowers. This works with dissolved oxygen set points in the~~

~~aeration tanks that read back to the main screen and will increase or decrease blower speed to meet the desired set point. This was done to decrease energy consumption and to keep a constant DO throughout the aeration tanks. Total cost was $110,000.~~

- ~~In 2016, the Redwood lift station was upgraded to include new pumps, pump rails, SCADA system, and new drywell valve pit.~~
- ~~In 2017, the Hospital and Trilogy lift stations were upgraded to include new pumps, pump rails, SCADA system, and drywall valve pit. Total cost was $50,000.~~
- ~~In 2019 2 new VFD drives for nitrification towers $8,000 a piece, GPS locater for assest management program $11,000, new drive and rehab # 1 intermediate clarifier $40,000, 6 new LED pole lights around intermediate clarifiers $ 3,000.~~
    - ~~In 2020, 14 new LED light poles throughout plant grounds $ 15,000, upgrade Brandon and Flatrock Trailer park lift station panels $25,000 per station, install new MLSS probe in aeration tank $ 4,000, install new bypass valve Attwood lift station $15,000, study on preliminary section of plant $ 50,000, upgrade preliminary section of plant to include new barscreen and grit chambers.~~
- H~~h~~eadworks study ~~to be completed by~~was completed in ~~12/~~2021 to determine cost, install new VFD panels for return pumps ~~$ 15,000 total.~~
- In 2024~~2~~ the Bellevue Wastewater Treatment Plant ~~will be~~ upgrade~~d~~~~ing~~ ~~our~~ their headworks to include new grit chamber, grit pump, grit pump building, and new barscreen at main lift station. ~~Project was completed in 2024.~~
- A 20-year long term control plan is being conducted in 2026-2027 to plan future capital expenditures and improvements.
- The facility completed a trial run of a rare-earth chemical for phosphorous removal in 2025, completely switching over to this chemical in 2026.
- Improvements around the plant include new metal roofing, fencing and entry access gates, additional security cameras, and paving of old asphalt.
- Countryview and Flat Rock Road lift stations have upgraded panels and SCADA software looking to be completed in 2027.

Package plants located in the FPA are listed in Table 5-58.

Table 6~~5~~-58: Package Plants in the Bellevue Facility Planning Area

Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	Capacity, gpd
Norfolk and Western Railroad[A]	ER-11	Private	1967, 1971	2IT00010	2,500

[A]Status is ~~active~~ inactive beginning 1/1/2027.

Note~~s~~: Data is~~are~~ based on current available data as of April 2019. Norfolk and Southern Railroad is tying into the City's collection system by the end of 2026, therfore ~~thier~~their package plant will no longer be in operation.

~~Norfolk and Southern Railroad is tying into the City's collection system by the end of 2026. Their package plant will be abandoned following completion of their sewer tie-in.~~

Issues

Ohio EPA has raised concerns about Flat Rock, an unincorporated town of about 80 houses plus a ~~Children's Home~~residential facility~~ies~~ in Thompson Township of Seneca County. It is unsewered and septic systems in the area are believed to be discharging to sinkholes in the karst bedrock. The ~~Children's~~ residential facility~~ties Home is~~~~are~~ is served by a package plant.

- ~~F~~Flat Rock is about one and one-half mile south of the Bellevue FPA boundary. Since it is in Seneca County, it is not in Lake Erie West Regional Council's designated planning area. Including Flat Rock in the Bellevue Planning Area would be contingent upon an agreement between Seneca County and the City of Bellevue. FPA boundary changes in Seneca County would need to be approved by Ohio EPA.

The Bellevue plant currently is under no orders to upgrade. Bellevue's *Long-Term Biosolids Processing Plan* has been followed to make upgrades to sludge stabilization, an increase in aerobic digestion capacity, and other equipment upgrades/replacements.

~~New Subdivisions~~

~~It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Bellevue wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases.~~

~~Karst Bedrock Formations~~

~~Bellevue lies in the heart of a karst limestone geologic formation that stretches from Seneca County to Lake Erie at Sandusky. Karst bedrock is porous, with sinkholes that allow surface runoff to drain directly into groundwater. Because karst limestone is porous, water flows through it much more quickly. Drinking water sources that draw their supply from the karst aquifer are very vulnerable to contamination. Contaminated water may also reach Lake Erie through karst formations. Discharges of wastewater effluent from public or private treatment plants, or drain septic tanks into sinkholes should not be permitted.~~

Future Needs

- ~~Replace nitrification tower media, including removal and/or repair of covers. Replacement of media is set for 2019.~~
- ~~Flat Rock is about one and one-half mile south of the Bellevue FPA boundary. Since it is in Seneca County, it is not in TMACOG's Lake Erie West Regional Council's designated planning area. Including Flat Rock in the Bellevue Planning Area would be contingent upon an agreement between Seneca County and the City of Bellevue. FPA boundary changes in Seneca County would need to be approved by Ohio EPA.~~
- The City of Bellevue will continue to address inflow and infiltration. ~~We will begin C~~camera inspections of the collection system will begin in 2027. We will begin to replace sewer main that is in need of repair.
- ~~The City of Bellevue is looking at piloting a process that uses a resin plate to remove phosphorus in June 2017. This process would eliminate the need for any chemicals for phosphorus removal and lower the TDS throughout the plant.~~

- The City of Bellevue's NPDES permit issued in 2017 calls for meeting the final effluent limit of 0.5 mg/L for phosphorus by 2020. As of May 2017, the effluent has been at or below 0.5 mg/L.
- ~~The NPDES permit calls for Bellevue to implement/construct treatment process changes and/or pretreatment changes to achieve WET limits of 1.0 TUa and TUc by 2021.~~
- ~~In 2018, the City of Bellevue will be replacing two of the intermediate clarifier drives and rehabilitating the clarifiers at the WWTP . (Complete 9/2018)~~

The capital improvement plan for the Bellevue FPA is shown in Table ~~65~~-59.

Table 6-59: Bellevue FPA Capital Improvement Schedule

Project	DMA	Total Cost			Annual Capital Improvement Needs				
			2026	2027	2028	2029	2030	2031	Future
Address I & I	Bellevue	**$~~5~~00,000**	$100,000	$100,000	$100,000	$100,000			
~~WWTP Improvement Projects (Complete)~~	~~Bellevue~~								
~~WWTP Headworks Improvement (Complete)~~	~~Bellevue~~	~~$2,612,000~~	~~X~~	~~X~~					
~~Gardner Rd. West Sewer Extension~~	~~Bellevue~~								
Camera Inspection System	Bellevue	$250,000		$250,000~~*~~					
		$3,112,000							

BURGOON FACILITY PLANNING AREA

The Burgoon Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. This FPA boundary defines the areas where the Village of Burgoon will provide collection services and the Bettsville water reclamation facility in Seneca County will provide treatment services (Figure 6-23). the Ohio EPA serves as the designated Section 208 planning authority for Seneca County, which encompass all areas of the FPA outside Sandusky County. The responsibilities of these agencies are outlined below:

The Burgoon FPA is managed by Designated Management Agencies from Sandusky and Seneca Counties.

Designated Management Agency Responsibilities:

- **Village of Burgoon**: Responsible for planning, building, and operating the wastewater collection system within the Burgoon FPA
- **Village of Bettsville –** The Bettsville WWTP is responsible for treatment of wastewater collected from the Burgoon FPA. The Bettsville WWTP is in Seneca County, outside of the Lake Erie West 208 Planning Area. Planning for the Bettsville FPA is coordinated through Ohio EPA.
- **Sandusky County –** Will own and operate the collection system, if and when built, in Sandusky County unincorporated areas, connecting to the Village for treatment services.
- **Seneca County -** Will own and operate the collection system, if and when built, in Seneca County unincorporated areas, connecting to the Village for treatment services.

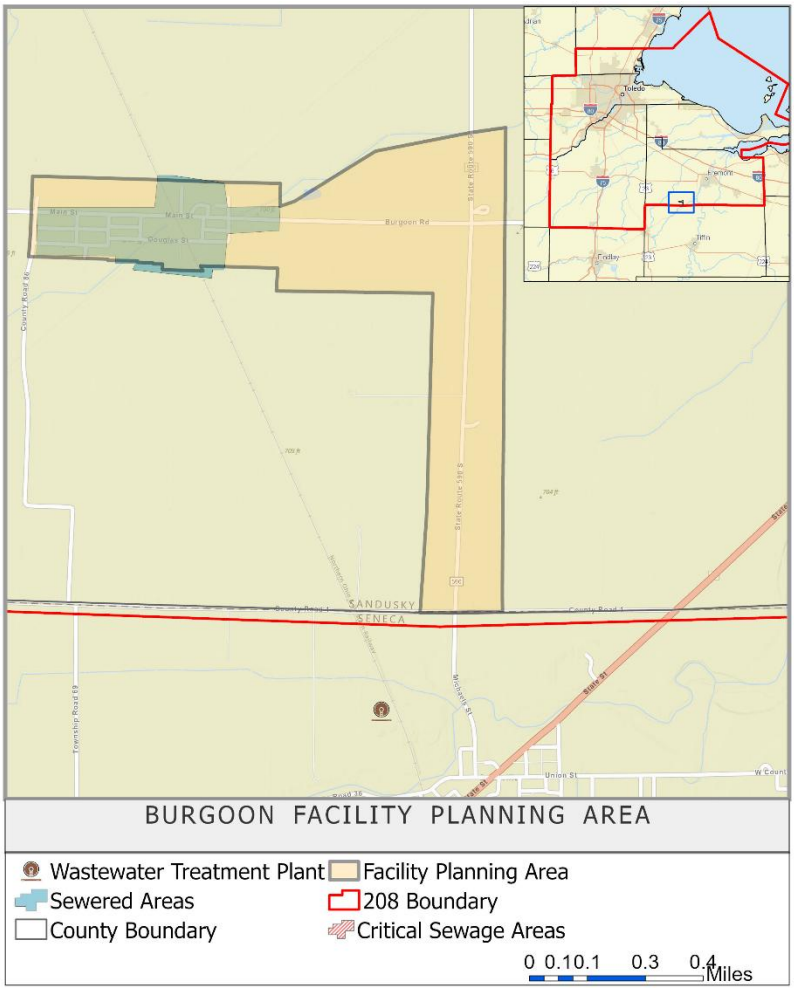


Figure 6-23: Burgoon Facility Planning Area

Table 6-60: Burgoon Area Population

Area	Population
Burgoon, entire jurisdiction	183
Total	**183**

Source: the U.S. Census 2020 decennial census

Present Facilities

Burgoon completed its sanitary sewerage system in 2006 and connects via force main to the Bettsville WWTP for treatment services, which is located 1.5 miles southeast. The entire project for both communities, including sewer systems and a WWTP cost approximately $6.7 million: cost for the WWTP was $4.9 million, and Burgoon's sewer system was $1.8 million.

CLYDE FACILITY PLANNING AREA

The Clyde Facility Planning Area (FPA) is a designated region in Sandusky County where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the City of Clyde (Figure 6-24). The Clyde FPA is managed by various Designated Management Agencies from City of Clyde, Sandusky County, Seneca County, and Ohio Turnpike Commission. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **City of Clyde**: Owns and operates wastewater treatment facilities, and the collection system within the corporate limits.
- **Village of Green Springs**: Owns and operates the wastewater collection system within its corporate limits, up to the lift station that connects to the Clyde system.
- **Sandusky County:** Will own and operate collection system, if and when built, in Sandusky County unincorporated areas, connecting to City system for treatment services.
- **Seneca County**: Will own and operate collection system, if and when built, in Seneca County unincorporated areas, connecting to Village system for treatment services.
- **Ohio Turnpike Commission:** Owns and operates the wastewater collection and pumping system at the Commodore Perry and Erie Island Plazas, up to the Commission's right of way.

FPA Policies

New Subdivisions

It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Clyde wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases. All new home construction is required to complete a service connection application (water and sewer) with the city to begin construction.

Force Main Availability

The Clyde FPA consists of two non-contiguous service areas: that of Clyde and surrounding areas, and that of Green Springs and its surrounding areas. Green Springs connects to Clyde via a force main along Shaw, Riehl, Spayd, and Dewey Roads.

City of Clyde is the Designated Management Agency and may determine the availability of the sewer line for additional connections along the route between Green Springs and Clyde. Connections may be established on a case-by-case basis. The City of Clyde and the Sandusky County Health

Department (SCHD) have established criteria for when connections will be allowed and when connections may be required as follows:

1. New construction of dwellings will be required to connect. SCHD will not issue permits for new septic systems.
2. Construction of new businesses will be required to work with Ohio EPA and the City of Clyde.

~~a.~~3. If a homeowner wishes to add on to a home thereby increasing the design flow, it will be required that they connect to the sanitary sewer rather than increasing the size of the septic system.

~~3.~~4. Septic systems are not expected to be permanent and therefore, it is expected that as time goes on, all septic systems will fail and as this happens, homeowners should contact SCHD and Clyde for permission to connect to the sanitary sewer. As these connections are made, property owners will be required to properly abandon septic tanks and should contact SCHD for specific information.

~~4.~~5. Upon receipt of a complaint regarding a failed septic system, if SCHD determines that the system has failed and/or is creating a public health nuisance, connection to the sanitary sewer will be required.

6. If a property owner has a desire to connect to the sanitary sewer for any other reason, they may make a request to the City of Clyde which will make the final determination if the connection is allowed.

~~5.~~

Wastewater Discharge Effluent

Clyde lies along the west edge of a karst limestone geologic formation that stretches from Seneca County to Lake Erie at Sandusky. Karst bedrock is porous, with sinkholes that allow surface runoff to drain directly into groundwater. Because karst limestone is porous, water flows through it much more quickly. Drinking water sources that draw their supply from the karst aquifer are very vulnerable to contamination. Contaminated water may also reach Lake Erie through karst formations. Discharges of wastewater effluent from public or private treatment plants, or drain septic tanks into sinkholes should not be permitted.

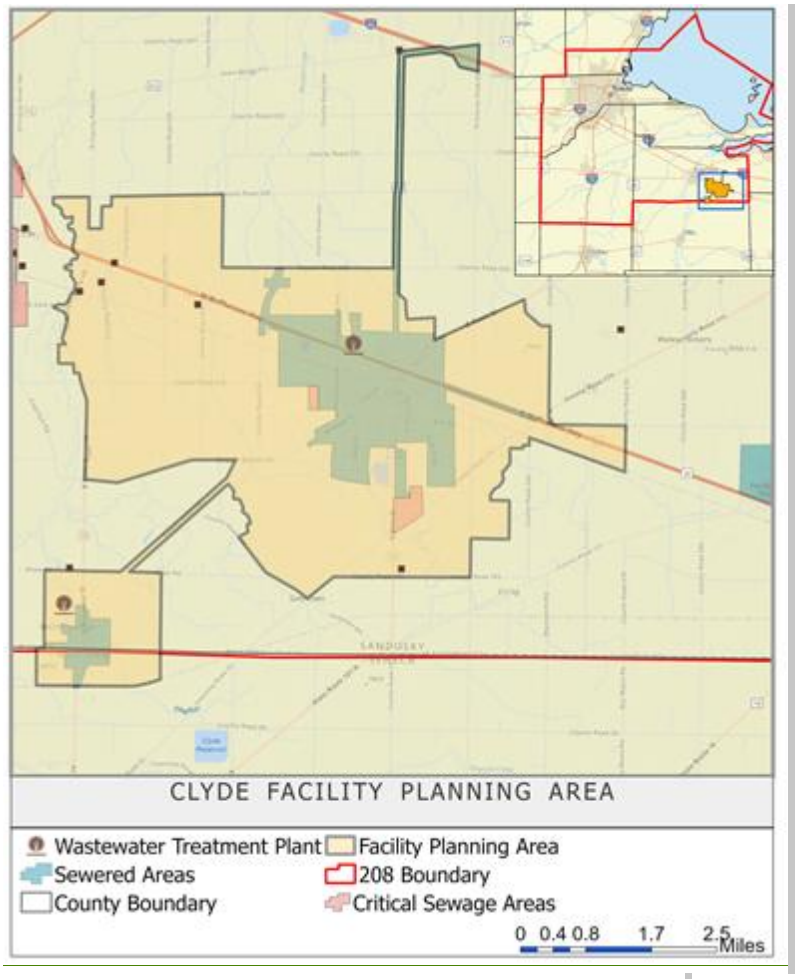


Figure 6-24: Clyde Facility Planning Area

Table 5-61: Clyde Area Population

Area	Population
Clyde, entire jurisdiction	6,294
Green Springs, entire jurisdiction	1,233
Green Creek Township, entire jurisdiction (Sandusky County)*	3,389
York Township, entire jurisdiction (Sandusky County)*	2,479
Adams Township, entire jurisdiction (Seneca County)*	1,247
Total	**14,642**

*only part of this jurisdiction is within the FPA boundary.
Source: the U.S. Census 2020 decennial census

Present Facilities

The Clyde WWTP is an oxidation ditch plant, with aerobic digesters, sludge thickeners, and ultraviolet disinfection. A bio-solids centrifuge was installed in 2006.

The treatment process is followed by a pair of tertiary lagoons before discharging to Raccoon Creek. The City of Clyde operates an industrial wastewater pretreatment program. The plant has a short-term duration capacity of 7.5 mgd for a 2.0 – 3.0 hour event. The facility begins to flood at

9.0 mgd. Ohio EPA data shows an average flow of 1.877 mgd, and a peak flow of 7.230 mgd during the period of 2004-2009, before flow from Green Springs was added to the system. Before Green Springs tapped into the Clyde system in 2008, its average daily flows in 2005-2006 were 0.203 mgd at the WWTP, or 0.22 mgd of total flow including the WWTP and estimated combined sewer overflow (CSO) bypass. Now, daily flows from Green Springs average 0.18 MGD.

A Wet Weather Stress Test in July 2004 showed the Clyde WWTP can handle 5.0 mgd of wet weather flows for the duration of most storm events. The plant cannot handle that flow indefinitely, but it should allow the plant to handle 2.0-2.5 mgd on a yearly average.

The former Green Springs wastewater treatment lagoon covers 2.5 acres and has a capacity of 5.5 million gallons. It was designed with a six-inch compacted clay liner and was installed with little or no excavation over 50 to 70 feet of glacial deposits above bedrock. The lagoon's earthen wall is about seven feet high. At its base the existing grade is about 15 feet above the 100-year floodplain. The effluent discharge has been ~~eliminated~~eliminated, ~~; the~~and the lagoon has been~~is~~ used for stormwater equalization since the lagoon was decommissioned in 2006~~XX~~. Wastewater from Green Springs is transported to the Clyde system for treatment.

In 2005, Green Springs developed a Long-Term Control Plan (LTCP) that recommended collection~~ing~~ system improvement to reduce extraneous flow, and sewer separation program to reduce annual average flow from 0.25 mgd to 0.175 mgd. These improvements were completed in 2012.

The Ohio Turnpike and Infrastructure Commission proposed the construction of a new sewage pump station and collections systems for the Erie Islands and Commodore Perry Service Plazas, which are located along the Ohio Turnpike at milepost 100.0 in Sandusky County, Ohio. The existing wastewater treatment package plant was~~has been~~ demolished in 2024, and the pump station remains in place to direct all sanitary flows ~~are being pumped~~ to the ~~existing~~ City of Clyde facilities~~sewage treatment plant~~.

This project was outside of the established boundaries for service of the Clyde FPA and as such required a change to include the service station and collection lines. The project was completed in ~~mid-~~2023.

Package plants located in the FPA are listed in Table 6-62.

Table 6-62: Package Plants in the Clyde Facility Planning Area

Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	Capacity, gpd
Club Rog[A]	SA-13	Private	1986	2PR00170	2,000
Emerald Estates[A]	SA-11	Private*	1969		17,000
Green Hills Inn and Golf Course[A]	SA-09	Private*	1964		13,000
Mid City Mobile Homes[A]	SA-10	Private*	1970		30,000
Wahl Refractories[A]	SA-65	Private	1990	2IN00193	3,000

[A]Status is active

*Facility type is assumed

Note: Data are based on current available data as of April 2019

Recent Projects

Issues

Clyde's system has one CSO. This CSO was upgraded ~~during~~ in 2015 ~~2004~~ by the installation of an equalization basin and ~~CSO~~ ~~sS~~creening ~~fF~~acility. Clyde operates under a federal consent decree entered into during the summer of 2004. ~~The essence of the decree is that Clyde shall operate their wastewater treatment plant within the limits of the National Pollutant Discharge Elimination System (NPDES) Permit; shall be subject to fines for violations of the permit, and shall submit a LTCP. Clyde's Long-term Control Plan LTCP was submitted and approved by Ohio EPA in 2008.~~ Clyde has been working to implement its Long Term Control Plan (LTCP) since 2008 when it was approved. As ~~or~~of 2026, all elements of the LTCP have been met. The federal consent decree is in removal stages with Federal EPA. Findings and Orders with Ohio EPA will be established to outline upcoming improvements.

The Green Springs sewer system has two inactive CSO structures, on Maple Lane and Clay Street. The last active CSO was at the ~~I~~Imhoff tank near the former wastewater treatment lagoon. In connecting to Clyde, it was eliminated, leaving the Clyde Screening Facility as the one remaining CSO.

Combined sewer and I/I problems account for a significant portion of Green Springs' flow. During wet weather, excess flows overflow and discharge to Flag Run Creek. Between 1996 and 2002, Green Springs completed several sewer separation projects ~~along Catherine, South Leonard, Euclid, and West Adams Streets; between Euclid and West Adams; and for Kansas Street south of Adams. The Green Springs LTCP indicates that~~resulting in about 60% of the sanitary sewers in the village are to some degree separated from storm sewers.

In 2004, Clyde designed a sanitary sewer system to serve Frank's Subdivision, aka Woodland Heights, west of Clyde. The Sandusky County Health Department (SCHD) has identified the subdivision as a *Critical Sewage Area*.

In 2022, t~~T~~he County i~~s currently finishing up~~completed a study via ~~MS~~ms ~~C~~consultants, ~~INC~~inc. evaluating the area west of Clyde between State Route 20 and the airport. This includes Emerald Estates and Mid City Mobile Home package plants.

The SCHD has identified the area of Erlin Rd, CR 232 from US 20 to Bockmeyer Road as a *Critical Sewage Area*.

~~New Subdivisions~~

~~It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Clyde wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases.~~

~~Force Main Availability~~

~~The Clyde FPA consists of two non-contiguous service areas: that of Clyde and surrounding areas, and that of Green Springs and its surrounding areas. Green Springs connects to Clyde via a force main along Shaw, Riehl, Spayd, and Dewey Roads.~~

~~City of Clyde is the Designated Management Agency and may determine the availability of the sewer line for additional connections along the route between Green Springs and Clyde. Connections may be established on a case-by-case basis. The City of Clyde and the SCHD have established criteria for when connections will be allowed and when connections may be required as follows:~~

- ~~New construction of dwellings will be required to connect. SCHD will not issue permits for new septic systems.~~
    1. ~~Construction of new businesses will be required to work with Ohio EPA and the City of Clyde.~~
        a. ~~If a homeowner wishes to add on to a home thereby increasing the design flow, it will be required that they connect to the sanitary sewer rather than increasing the size of the septic system.~~
    1. ~~Septic systems are not expected to be permanent and therefore, it is expected that as time goes on, all septic systems will fail and as this happens, homeowners should contact SCHD and Clyde for permission to connect to the sanitary sewer. As these connections are made, property owners will be required to properly abandon septic tanks and should contact SCHD for specific information.~~
    1. ~~Upon receipt of a complaint regarding a failed septic system, if SCHD determines that the system has failed and/or is creating a public health nuisance, connection to the sanitary sewer will be required.~~
    1. ~~If a property owner has a desire to connect to the sanitary sewer for any other reason, they may make a request to the City of Clyde which will make the final determination if the connection is allowed.~~

~~Karst Bedrock Formations~~

~~Clyde lies along the west edge of a karst limestone geologic formation that stretches from Seneca County to Lake Erie at Sandusky. Karst bedrock is porous, with sinkholes that allow surface runoff to drain directly into groundwater. Because karst limestone is porous, water flows through it much more quickly. Drinking water sources that draw their supply from the karst aquifer are very vulnerable to contamination. Contaminated water may also reach Lake Erie through karst formations. Discharges of wastewater effluent from public or private treatment plants, or drain septic tanks into sinkholes should not be permitted.~~

Future Needs

- Wastewater treatment plant plans call for ~~the following improvements, included in the capital improvements table, shown below~~ i:
- ~~I~~nstallation of an "Actiflo" ballasted flocculation system or chlorination/de-chlorination at the CSO Screening Facility for wet weather overflows. This has n~~N~~ot been completed as if 2026.
- An addendum to Clyde's LTCP recommends an implementation schedule to reduce extraneous flows into the sanitary sewer system. ~~After completion of sewer separation projects, a system evaluation is planned to determine whether an equalization basin is needed to meet CSO reduction goals. The implementation schedule is included in the capital improvement table, shown below.~~ EQ basin completed in 2016.
- Clyde plans to provide service to developing areas through sewer extensions. The schedule will depend on demand and development. The areas include:
    - Main Street north of present service area. Force Main from Turnpike runs north to south on SR 510. No other extensions planned.
    - Woodland Avenue north of present service area. Nothing planned

- Service to the Sandusky County Airport; Clyde will be the provider of sanitary sewerage facility to the Airport and the proposed industrial park. No plans to service airport.
- Woodland Heights (Franks, Coe, and Woodland Court). With extension of sewer on Woodland, this could be annexed in the future. No current plans.
- Maple-Woodland-Limerick area southwest of current service area. Maple has been extended to Limerick. Wood Haven Cresent is sewered No other plans.
- Main Street south of Fox, Limerick, and South Ridge, south of present service area. Extension has been discussed but no plans.
- East of present service area, bounded by Durnwald and South Ridge, and along the north side of US 20. No plans.

~~The Village of Green Springs has an individual NPDES permit for its collection system. The permit requires several projects to address infiltration and inflow problems.~~

- ~~Complete and implement an infiltration and inflow study to identify and eliminate sources of excessive I/I by 2018.~~
- ~~Enforce the village ordinance prohibiting the connection of downspouts and sump pumps from the sanitary sewer system.~~
- ~~Complete construction and attain operational level of sewer separation improvements by 2019.~~

Project	DMA	Total Cost	Annual Capital Improvement Needs						
PHASE 1: GRIT COLLECTION , SLUDGE DEWATERING, RAW FLOW METER, UPPER SCREW PUMP REPLACEMENT	CLYDE	4M~~-~~	2026~~GRIT COLLECTION , SLUDGE DEWATERING, RAW FLOW METER, UPPER SCREW PUMP REPLACEMENT~~	2027	2028	2029	2030	2031	Future

~~PHASE 2~~	~~CLYDE~~	~~25M~~	-	-					
PHASE 2: INCREASE CAPACITY TO 3MGD DESIGN AVERAGE, 15 MGD WET WEATHER- OXIDATION DITCH UPGRADES, UV DISINFECTION, ELECTRICAL UPGRADES INCLUDING GENERATORS, CLARIFIERS.	CLYDE								

FREMONT FACILITY PLANNING AREA

The Fremont Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the city of Fremont (Figure 6-25). It is currently being proposed for a portion of the Wightman's Grove FPA to be absorbed by the Wightman's Grove FPA to better align with sewer services. The Fremont FPA is managed by various Designated Management Agencies from Fremont, Sandusky County, and Sandusky Township Sewer District. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Fremont:** Owns and operates the wastewater treatment plant, and sanitary sewers within its corporate limits.
- **Sandusky Township Sewer District:** Owns and operates local collector sanitary sewers within its boundaries.
- **Sandusky County:** Owns and operates sanitary sewers in unincorporated areas outside the Sandusky Township Sewer District. In addition, Sandusky County operates and maintains an interceptor sewer and pump stations within the Sandusky Township Sewer District. The District's local collector sewers discharge to the interceptor sewer, which conveys wastewater to Fremont.

FPA Policies

New Subdivisions

It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Fremont wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases.

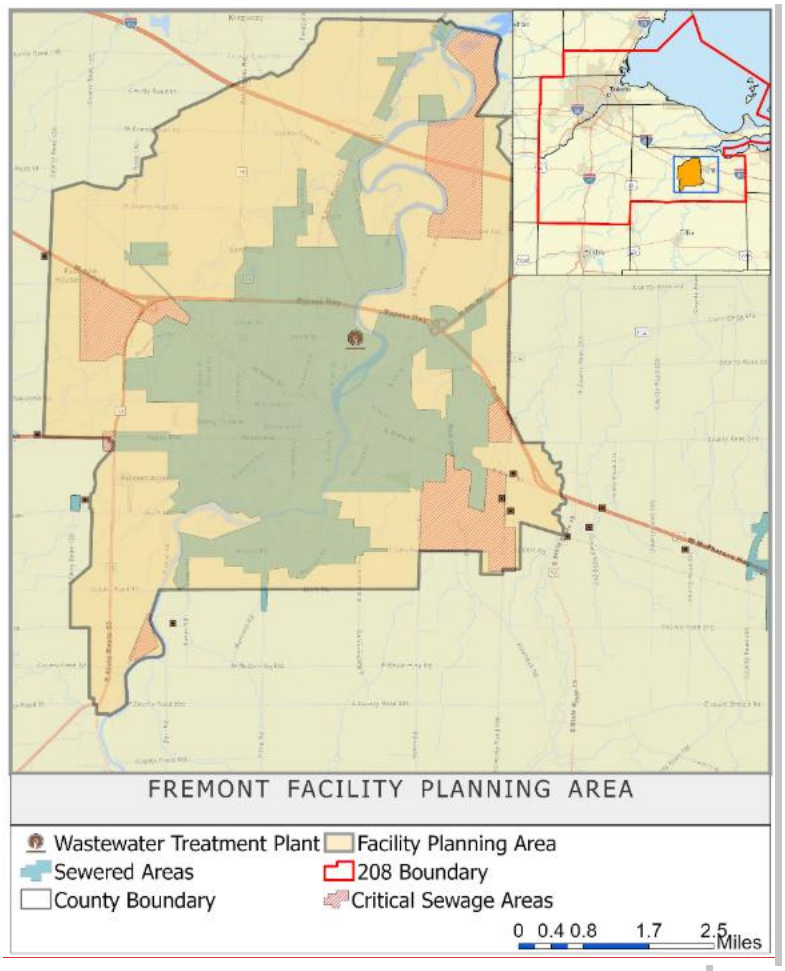


Figure 65-25: Fremont Facility Planning Area

Table 65-64: Fremont Area Population

Area	Population
Fremont, entire jurisdiction	15,930
Ballville Township, entire jurisdiction*	6,042
Green Creek Township, entire jurisdiction*	3,389
Rice Township, entire jurisdiction*	1,143
Riley Township, entire jurisdiction*	2,242
Sandusky Township, entire jurisdiction*	3,551
Total	32,297

*only part of this jurisdiction is within the FPA boundary.

Source: the U.S. Census 2020 decennial census

Present Facilities

Fremont's **Water Reclamation Center** ~~WWTP~~ is an A2O Biological Nutrient Removal (BNR) activated sludge plant designed for 7.6 mgd daily average flow and 24 mgd peak flow. Its

facilities include mechanical bar screens, grit removal, A2O activated sludge, secondary clarifiers, tertiary cloth disc filters, UV disinfection, Autothermal Thermophillic Aerobic Digestion (ATAD) of biosolids, and centrifuge dewatering. Sludge is currently being dewatered and taken to a landfill. The new treatment facility came on-line in March 2016 and the average flow for 2019 was 8.691 mgd with a peak daily flow of 25.199 mgd. The new facility was constructed at~~with~~ a cost of $63.3 million. The City of Fremont operates an industrial wastewater pretreatment program.

Package plants located in the Fremont FPA are listed in Table 5-65.

Table 5-65: Package Plants in the Fremont Facility Planning Area

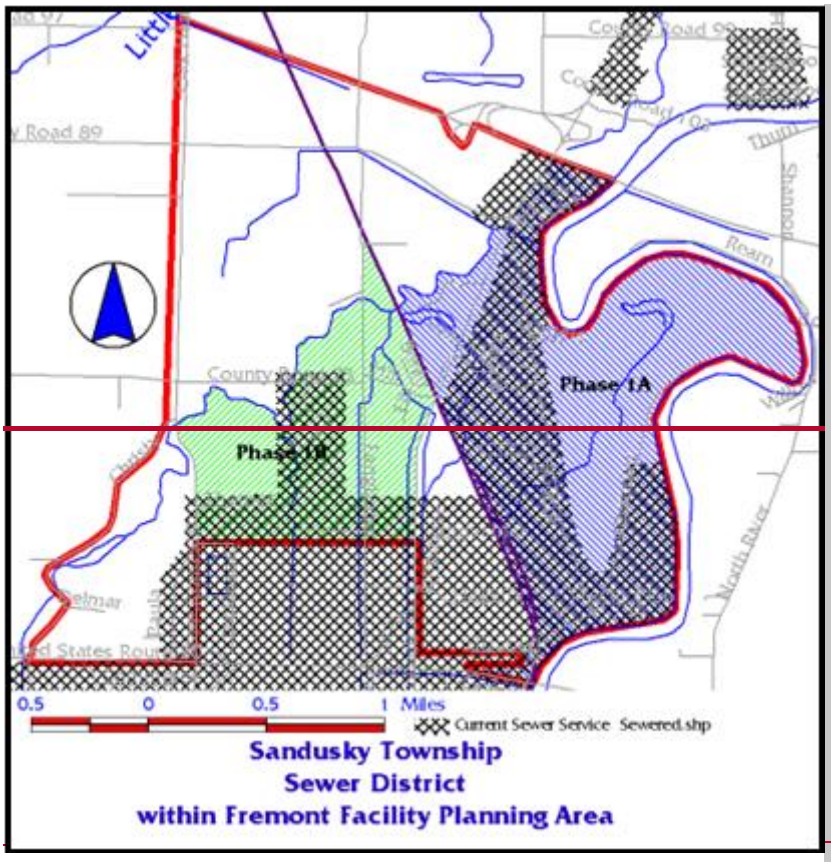
Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	Capacity, gpd
Fremont Baptist Temple & Christian Academy[A]	SA-01	Private	1973	2PR00206	8,000
~~Misty Meadows Camp[A]~~	~~SA-03~~	~~Private*~~	~~1982~~	~~2PR00296~~	~~6,300~~
Golden Chance Apartments[A]	SA-08	Private*	1971		2,500
Plaza Lanes[A]	SA-12	Private	1984	2PR00204	5,000

[A]Status is active

*Facility type is assumed

Note: Data are based on current available data as of April 2019

~~Figure 5-26: Sandusky Township Sewer District in the Fremont FPA~~



~~Figure 6-26: Sandusky Township Sewer District in the Fremont FPA~~

Issues

The Sandusky County Health Department has identified several unsewered portions of the Fremont FPA as *Critical Sewage Areas*. These include; Country Club Estates, Four Mile House Road, Hayes/53, Twp Line / Cole, West State Street, Areas along the east bank of the Sandusky River in Sandusky and Riley Townships, especially Muncie Hollow and the areas between Kelly and Scranton Roads, Rambo Lane and South River Road, south of Fremont in Ballville Township along the river between Roth and Havens Station Road.

~~The Sandusky County Health Department identifies the following Critical Sewage Areas where public sewers are needed:~~

- ~~Christina Drive~~
- ~~Country Club Estates~~
- ~~Four Mile House Road~~
- ~~Hayes/53~~
- ~~Muncie Hollow~~
- ~~Rambo Rd~~
- ~~Twp Line / Cole~~
- ~~West State Street~~

~~New Subdivisions~~

~~It is the policy of the Plan that all new residential subdivisions that are required to be platted under Sandusky County subdivision regulations within the FPA boundary shall connect to public sewers and be served by the Fremont wastewater treatment plant. Neither package plants nor septic systems for each individual lot shall be permitted in these cases.~~

~~Combined Sewers~~

Like many municipalities, Fremont's sewer system includes combined sanitary and storm sewers. After rain storms, sewage may overflow into the Sandusky River at fourteen combined sewer overflows (CSOs). Of these, five are active. The others are blocked off and used only in emergency situations.

In 1991, Fremont began a multi-phase sewer separation program. By 1999, seven phases were complete, with #8 scheduled for 2000. In addition, Fremont has separated sewers in the following areas: East State Street, West State Street, Castalia Road, Walnut Street, and Morrison Road. In all, combined sewer overflow volumes have been reduced by approximately 89%.

In 2007, Fremont evaluated its CSO options. Complete separation was estimated at $106 million; this option was not found to be cost effective. The Long-Term Control Plan (LTCP) was completed in 2007, and the final No Feasible Alternative Analysis (NFA) in January of 2012. Overall, it calls for a series of improvements from 2008-2028, and includes the following major elements:

- New headworks facilities.

- A new secondary treatment process with an average design flow of about 7.6 mgd and a peak flow of 24 mgd.
- A high-rate treatment system, if determined necessary by an evaluation process, for storm-related flows.
- Several collection system improvements to reduce extraneous flows.

The improvements are designed to reduce the CSOs to four (4) or less per year at a new wastewater treatment facility. The City will investigate all sources of funding including grants, and loans, and rate increases to finance the improvements.

~~**Unsewered Areas**~~

~~The Sandusky County Health Department has identified several unsewered portions of the Fremont FPA as *Critical Sewage Areas*. These include:~~

- ~~Areas along the east bank of the Sandusky River in Sandusky and Riley Townships, especially Muncie Hollow and the areas between Kelly and Scranton Roads.~~
- ~~Rambo Lane and South River Road, south of Fremont in Ballville Township along the river between Roth and Havens Station Road.~~

Future Needs

- Extend sanitary sewers to developed unsewered areas throughout the Facility Planning Area. The top priorities should be the Critical Sewage Areas.
- Eliminate package plants by connecting them to the public system when proximity of sewers makes this financially feasible.
- As package plants and septic systems are eliminated additional WWTP capacity should be considered. The Fremont WWTP provides substantially better treatment than package plants and septic systems; therefore its expansion will reduce pollutant loading to the Sandusky River.
- Continue financing and constructing the LTCP to reduce the CSOs to four (4) or less per year. The milestones of the LTCP under the city's NPDES permit are:
    - A high flow rate treatment facility by 2025.
    - Eliminate Fulton Street (Bull Run Interconnection) CSO by 2022.
    - West Side CSO conveyance completion by 2024.
    - Pine Street separation construction completion and operational by 2028.
    - Complete "Common Projects" (Walnut Street storm outfall, Sand Road Pond Stormwater Pumping Station and Outfall) by 2028.
    - LTCP Common Projects construction completion and operational by 2028.

  This plan supports state and federal financial assistance to implement these facility improvements. The capital improvement plan for the Fremont FPA is shown in Table ~~5~~6-66.

Table 65-66: Fremont FPA Capital Improvement Schedule

Project	DMA	Total Cost	Annual Capital Improvement Needs						
			20222026	20232027	20242028	20252029	20262030	20272031	Future
High Rate Clarification	Fremont	$5,900,000	5,900,000						
Fulton Street CSO	Fremont		*						
Pine Street CSO	Fremont	$7,200,000			7,200,000				
Common Projects - Walnut Street, Sand Rd	Fremont	$4,400,000			4,400,000				
Sand Road Pond Overflow/Equalization	Fremont	$1,000,000							
Upgrade Lift Stations	Sandusky County	$500,000		500,000					
Rice Twp Sewers (Phase 4)	Sandusky County	$600,000							600,000
		$19,400,000							

GIBSONBURG FACILITY PLANNING AREA

The ~~Gibdonburg~~Gibsonburg Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the village of Gibsonburg (Figure 6-27). The Gibsonburg FPA is managed by various Designated Management Agencies from the village of Gibsonburg, and Sandusky County. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Village of Gibsonburg**: Owns and operates wastewater treatment facilities, and the collection system within the corporate limits.
- **Sandusky County:** Owns and operates a collection system for White Star Park for the Sandusky County Park District in Sandusky County unincorporated areas, connecting to Village system for treatment services.

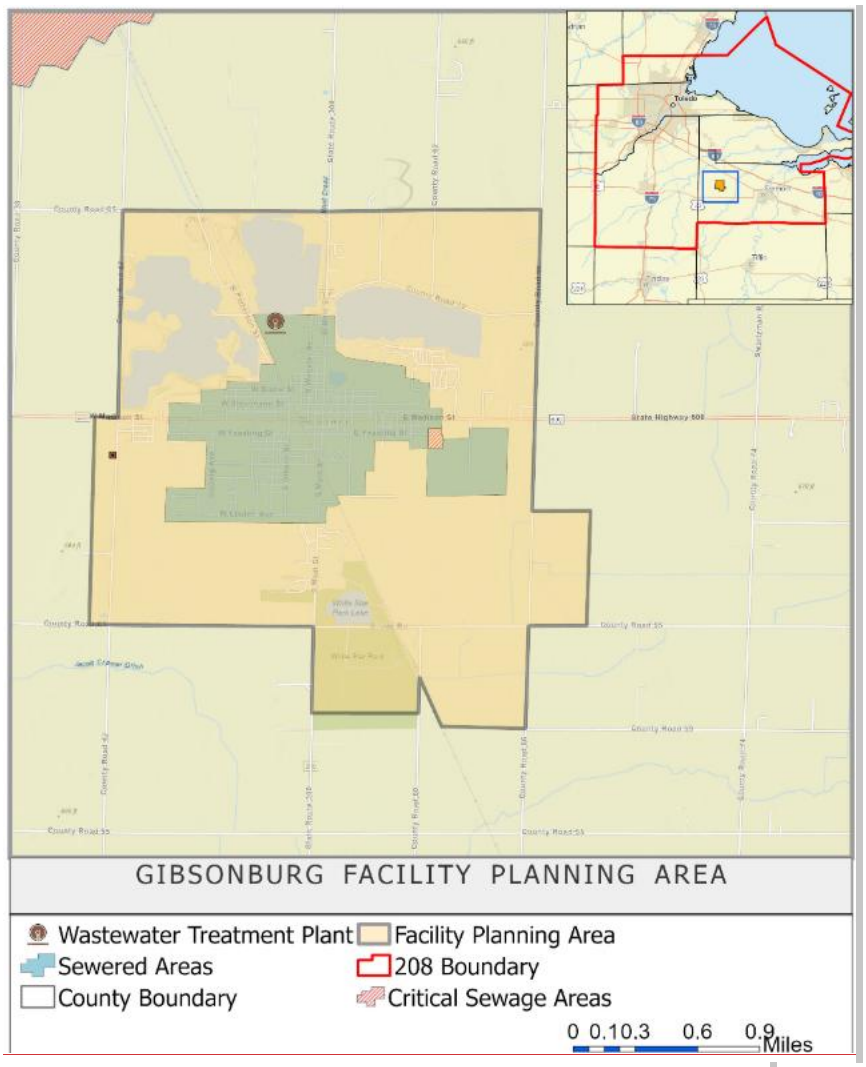


Figure 65-27: Gibsonburg Facility Planning Area

Table 65-67: Gibsonburg Area Population

Area	Population
Gibsonburg, entire jurisdiction*	2,452
Madison Township, entire jurisdiction*	3,887
Total	**6,339**

*only part of this jurisdiction is within the FPA boundary.
Source: the U.S. Census 2020 decennial census

Present Facilities

The Gibsonburg WWTP is an oxidation ditch facility with aerobic digestion, chlorination/dechlorination, and sludge drying beds. The facility's rated capacity is 0.5 mgd

average daily and 1.23 mgd peak daily. In 2009, the average daily flow was .379 mgd as compared to the average daily flow of .471 mgd in 2007, which was before the Hurlbut Ditch Relocation project.

The sewers were designed as a combined system, using existing storm sewers and septic tanks. The septic tank effluent discharges to the combined sewer system; the village is responsible for the handling of septage. The septic tanks reduce the strength of raw sewage by settling out solids; BOD_5 is about 125 ppm. Effluent discharges to Hurlbut Ditch and Dromm Ditch/Wolf Creek, both Portage River tributaries. The sewer system has two CSOs and a 1.748 million gallon overflow retention basin. The basin is aerated for a design storm of 0.25 inches per hour.

The package plant located in the FPA is listed in Table 65-68.

Table 65-68: Package Plants in the Gibsonburg Facility Planning Area

Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	Capacity, gpd
Atlas Engine Works[A]	SA-17	Private	1975	2IS00003	8,000

[A]Status is active

Note: Data are based on current available data as of April 2019

Issues

The Sandusky County Health Department has identified Rodriguez Street area in Madison Township as a Critical Sewage Area. This area is on the south side of SR 600 just east of the Village limits. A Planning study was prepared for road, storm sewer, sanitary sewer, and water line improvements in 2013.

Gibsonburg prepared a combined sewer overflow (CSO) abatement study. A phased village-wide sewer separation was estimated to cost $7.7 million. The first phase, a $45,000 project along Linden Avenue for the Quarry Village Apartments area, was constructed in 1998.

In 2007, Ohio EPA approved the Village's Combined Sewer System Long-Term Control Plan (LTCP). The study found that the majority of combined sewerage overflows came from the West Branch CSO. A large part of the extraneous flow comes from 584 acres of agricultural land south of the Village. This area drains to Hurlbut Ditch; and the flow from the ditch enters the combined sewer system, overloading the West branch CSO area. Hurlbut Ditch was re-routed around the village so that these flows do not enter the sewer will greatly reduce extraneous flows.

The first project to implement the Combined Sewer System LTCP was completed in 2008. This first phase was to re-route Hurlbut Ditch around the west side of the village, eliminating its flows from the combined sewer system. The project cost was $1.68 million.

Before completion of the Hurlbut Ditch Relocation which was identified as Phase 1 of the Village's CSO LTCP, the wastewater treatment facility did not have additional capacity. The average daily flow upon completion of Phase 1 (2009) is 0.379 mgd which equals approximately 0.100 mgd of available capacity.

The second phase, completed in 2010, included new storm sewers on Yeasting and Madison Streets (west side) and on Madison, Main, Ohio, and Wilson Streets and Windsor Lane at a cost of $1,815,000.
In 2015, the Equalization Basin improvements were complete.
Between 2016-2017, the LTCP was altered and approved by Ohio EPA. The approved change was for a more cost-effective design that had been developed to eliminate the original design, which included grinder pumps. The original design also included 675 lineal feet of 2" force main on W. Stone Street, 290 lineal feet of 8" diameter gravity sewer on W. Yeasting Street, and 380 lineal feet of 10" diameter storm sewer on W. Stevenson Street. The new design included a 8" storm sewer for the project area. This allows the existing sewers to remain in service and act as ~~s~~ a sanitary sewer only. The new storm sewer collects all surface drainage and other clean water connections and discharges to a nearby stream.
In 2017, replaced the screw pumps at the WWTP. The two screw pumps were original to the plant.
In 2018, Sandusky County in conjunction with the Sandusky County Park District, extended both sanitary sewer and water systems from the Village of Gibsonburg for $804,000. The sewer system consists of five duplex grinder systems for the various facilities within the White Star Park.
In 2022 , the Village of Gibsonburg will clean and rip rap the section of the Hurlbut Ditch which runs along TR 42 as well as clean and rip rap where needed the Linden Avenue Ditch

Future Needs

- The Village of Gibsonburg's LTCP was approved last in August 2016. It includes:
    - Installation of storm/sanitary sewer separation in five phases.
        - Separate storm sewers have been installed on Main Street between Cedar Street and Lime Street. This project was completed by the December 31, 2021 deadline
        - Completed construction of separate storm sewers in alley between Main St. and Webster St. south to Stevenson St. have been completed by the Ohio EPA revised December 31, 2022 deadline.
        - Complete construction of separate storm sewers from Gibson and alley north of Smith St. by December 31, 2023.
        - Complete construction of CIPP liner in existing combined sewer on East Yeasting St. near Main St., and in the alley between Madison and Stevenson St. by December 31, 2025.
- In 2019, the Village of Gibsonburg completed a septic system project with Buckeye Sanitation.
- In 2019, the Village of Gibsonburg replaced the current Linden Avenue pump station.
- The Village of Gibsonburg continues to work with the Sandusky County Commissioners and Sandusky County Health Department to find an adequate sewer and water solution to those Madison Township residents living just outside of the corporation limits of the Village in the Rodriguez Street area. The Village of

Gibsonburg resurfaced Rodriguez Street in 2021. The area is currently looking into annexation with the village to address the sanitary sewer, storm sewer, water, and road issues.

- The Village of Gibsonburg completed the annexation of the @ 16 homes in the Rodriguez Street area in early 2022. With the allocation of American Rescue Plan Funds from the Sandusky County Commissioners, the Village of Gibsonburg will be addressing the deficient water and sewer issues that have long been an issue for the specific area. Currently, through the RFP process, Poggemeyer/Kleinfelder has been selected as the engineering design firm to assist with the project and the overall design for the water and sewer upgrades has begun. The complete project will be done by the December 31, 2024 deadline.

The capital improvement plan for the Gibsonburg FPA is shown in Table 65~~56~~-69.

Table 65~~56~~-69: Gibsonburg FPA Capital Improvement Schedule

Project	DMA	Total Cost	Annual Capital Improvement Needs						
			2025~~26~~	2026~~37~~	2028~~84~~	2029~~95~~	2030~~26~~	2031~~27~~	Future
Linden Avenue Pump Station	Village of Gibsonburg								
Rodriguez Street Sanitary Sewer	Sandusky County/Village of Gibsonburg				~~X~~				~~x~~

HELENA FACILITY PLANNING AREA

The Helena Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the village of Helena (Figure 6-28). The Helena FPA is managed by Designated Management Agencies from the village of Helena. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Village of Helena**: Owns and operates the public sewerage system.

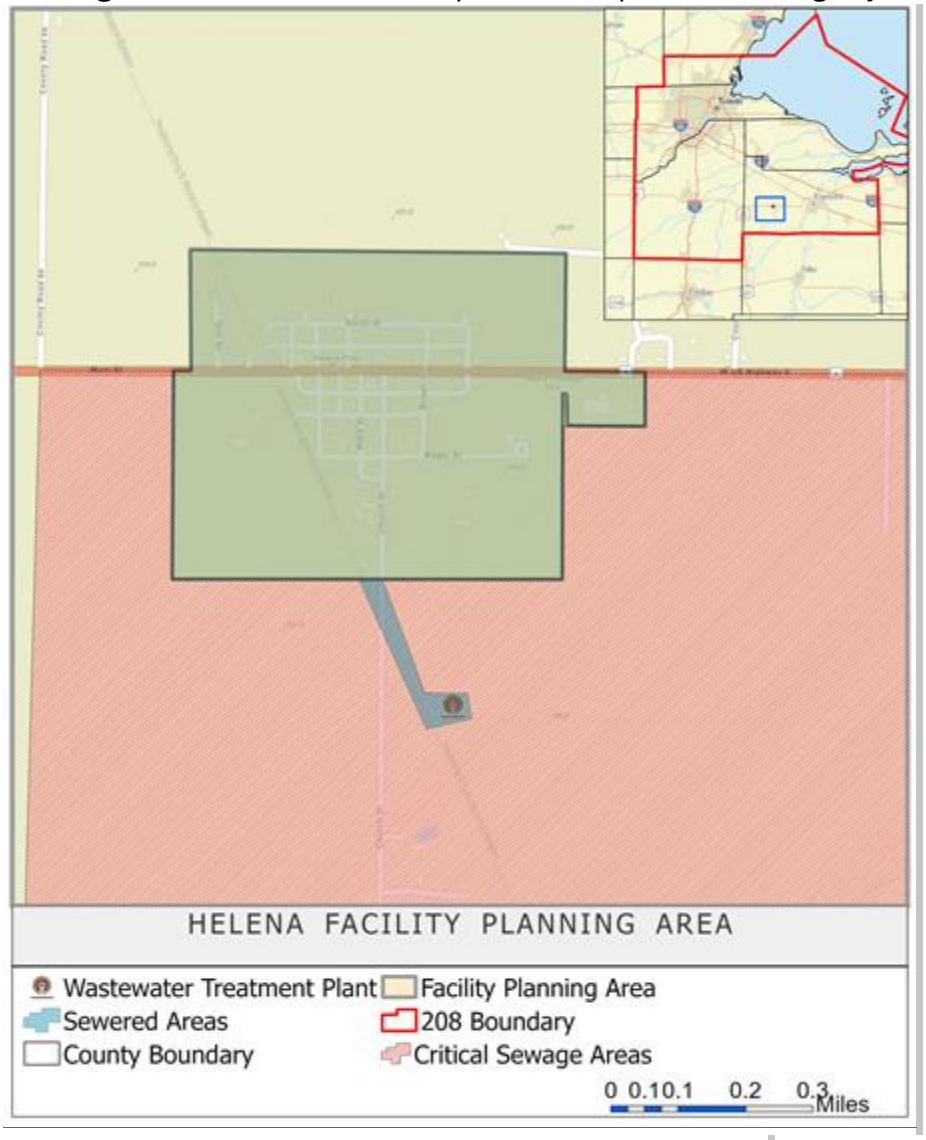


Figure 65-28: Helena Facility Planning Area

Table ~~56~~-70: Helena Area Population

Area	Population
Helena, entire jurisdiction	211
Total	**211**

Source: the U.S. Census 2020 decennial census

Present Facilities

Helena constructed a new wastewater treatment plant in 2010. The system consists of conventional gravity sewers and an extended aeration wastewater plant with a capacity of 40,000 gpd. The plant discharges to an unnamed tributary of Muddy Creek; its Class B sludge is disposed by discharge to a larger wastewater plant with sludge handling facilities. Sanitary sewers are available and accessible throughout the Helena FPA.

Future Needs

With completion of the wastewater treatment plant, the community's wastewater needs are fulfilled. Enforcement of sewer tap requirements should continue to make sure all houses and businesses are connected. There are no planned projects for the Helena FPA at the present.

~~Project~~	~~DMA~~	~~Total Cost~~	~~Annual Capital Improvement Needs~~						
			~~2026~~	~~2027~~	~~2028~~	~~2029~~	~~2030~~	~~2031~~	~~Future~~

LINDSEY FACILITY PLANNING AREA

The Lindsey Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the village of Lindsey (Figure 6-29). The Lindsey FPA is managed by various Designated Management Agencies from village of Lindsey, and Sandusky County. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Village of Lindsey:** Owns the wastewater treatment facilities, and collection system within the corporate limits. Since February of 1992, the Village has a Technical Service Agreement with Sandusky County for assistance of their operations for the water and wastewater plants. This agreement was updated in January 2019.
- **Sandusky County:** Will own and operate the collection system, if and when built, in Sandusky County unincorporated areas, connecting to the Village system for treatment services.



Figure 6-29: Lindsey Facility Planning Area

Table 6-71: Lindsey Area Population

Area	Total Population
Lindsey, entire jurisdiction	457
Washington Township, entire jurisdiction*	2,315
Total	**2,772**

*only part of this jurisdiction is within the FPA boundary.

Source: the U.S. Census 2020 decennial census

Present Facilities

The Lindsey treatment plant is an extended aeration facility with an average daily capacity of 0.215 mgd and a peak hydraulic capacity of 835,000 gpd; the plant uses tertiary sand filters. In 2003, chlorine disinfection of final effluent was replaced by an ultraviolet system. The plant receives about 20,000 gpd average during very dry weather, but has spiked as high as 874,000 gpd, a flow rate that occurred on April 25, 2011 following a 1.3 inch rainfall during a period of wet weather. Wet weather surges far exceed the capacity of the plant's 100,000

gallon surge tank capacity.

Package plants located in the FPA are listed in Table 5-72.

Table 6-72: Package Plants in the Lindsey Facility Planning Area

Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	Capacity, gpd
Toledo Edison Headquarters Bldg.[A]	SA-50	Private*	1973	NA: Leaching field	2,000

[A]Status is active
*Facility type is assumed
Note: Data are based on current available data as of April 2019

Issues

Lindsey's NPDES permit cites poor plant performance due to excessive I/I; it is believed that the collection system is susceptible to infiltration because of a high groundwater table. The permit compliance schedule cites collection system surcharges and overflows, hydraulic overloading of the lift stations, and hydraulic overloadings of the wastewater treatment plant.

In early 2008, supervision and licensing sign-off responsibility for the Lindsey WWTP was transferred to a licensed WWTP operator from the Sandusky County Sanitary Engineering Department. Lindsey's WWTP operating results have improved since the transfer. In 2019, sign off responsibility was transferred back to the village.

Smoke testing was conducted in November 2007 and identified an I/I source. A program of storm sewer replacement to eliminate the I/I source was developed, consisting of four annual phases starting in 2009 with a total project cost of $38,290. The four phases include replacement of 923' of storm sewer to eliminate leaks into the sanitary sewer and reduce I/I. The first phase was completed in 2009, the second; which included 350 feet of storm sewer and two catch basins was completed in 2010.

In 2012, the Village took preparatory actions for I/I control. Council selected a consultant to prepare an I/I report. Areas where residential sewers should be televised to locate infiltration have been identified. In September 2012, an inflow source due to a sinkhole was eliminated.

In 2013, Ohio EPA issued findings and orders for the Village to address I/I problems, starting with preparation of a General Plan. In March 2015, the General Plan was in the review/response process of Ohio EPA and the Village's consultant.

~~Hessville~~

Hessville is an unincorporated, unsewered town near Lindsey. Houses are served by septic systems, many of which do not have functioning leaching fields. As a result, local streams

are polluted by septic tank effluent. Hessville is considered a *Critical Sewage Area* by the Sandusky County Health Department.

The *Lindsey Facilities Plan* cites water quality samples that supported including Hessville in the Lindsey FPA. Samples were collected in September 1980: there was one sample from Fred Paul Ditch showing 2 ppm BOD and >500,000 fecal coliform; and one from Muddy Creek with a 3 ppm BOD and 129,000 fecal coliform. Five additional samples were taken from local tiles, all showing at least 500,000 fecal coliform. These data are too old to be legally enforceable today, but they indicate a pollution problem that is unlikely to have improved since 1980.

The *Lindsey Facilities Plan* recommended sewering Hessville and building an interceptor to Lindsey for treatment. This portion of the project was not built because it would have resulted in user rates that were too high, even with a 75% grant. Substantial financial assistance and/or a lower-cost treatment facility will be necessary to serve Hessville. Lindsey's extraneous flow issues would need to be resolved before accepting the additional flow from Hessville. Ohio EPA has not issued orders to Sandusky County to install sewers for Hessville. Until the I/I problem with the Lindsey collection system is solved, the plant may not have capacity available to serve Hessville.

Future Needs

- The Sandusky County Health Department has recommended that a sanitary sewerage system to serve Hessville be built. The Lindsey WWTP was designed with capacity to serve the town, but may be unable to accept the additional flows until the Village's I/I issues are solved. For Hessville sewers, financial assistance will be required. Sandusky County should prepare a General Plan to evaluate options and lay out a financing plan.
- The entire collection system was grouted in 1995 to reduce extraneous flows, but the system continues to have problems with extraneous flows, as noted in the NPDES permit compliance schedule. The schedule calls for an I/I reduction plan, which was submitted to Ohio EPA in 2013 and revised in 2014. Among the actions called for:
    - Enact ordinances to require all new sewer construction to meet Ohio EPA standards.
    - A plan for determining extraneous flow and illegal connections, and flow/velocity monitoring at strategic points in the sewer system.
    - Schedule for I/I reductions projects, including televising sewer lines, dye/smoke testing, and/or home inspections for sump pump connections to the sanitary sewer.
    - Completion of I/I reduction work to reduce peak wet weather flows to wastewater treatment plant within 5 years of the effective date of the NPDES permit.

- The Village conducted sewer system investigations in 2013-14 to determine I/I sources and plan improvements to exclude extraneous flows. Investigations included sewer surveys, smoke testing, and manhole evaluation. Smoke testing in 2013 found 10 properties with I/I sources compared with 25 in 2006 testing. A survey found widespread use of sump pumps. Where the pumps discharged was usually noted clear, but it was found that the number of existing pumps, if going to the sanitary sewers, would overwhelm the pump station and WWTP capacities. As of 2020 all know sump pumps have been removed.
- A remediation plan has been submitted to Ohio EPA. It includes rehabilitation of manholes, slip lining of sanitary sewers, service laterals, tiles and other issues, and removal of sump pumps from the sanitary system. The first phase of the Village's I/I project is slated to start in spring 2018, and the Village has received funding for the second phase that is slated for 2018. The Village has confirmed that all (182) sump pumps do not enter the sewer system.
    - Phase I to start in March 2018.
    - Phase 2 to be bid in July 2018 and to be completed by end of 2018.
    - Phase 1 completed 2018
    - Phase 2 completed 2019
- Upgrades to the WWTP are expected to begin in 2018 if funding is still available.
    - 2 of 4 WTP clarifiers to be replaced in 2018. This will provide additional storage capacity.
    - 2 Clarifiers replaced in 2020
    - 2 Clarifiers to be replaced in the possible near future

This plan supports financial assistance for the Village of Lindsey to assist with its I/I reduction measures.

The capital improvement plan for the Lindsey FPA is shown in Table 6-73.

Table 6-73: Lindsey FPA Capital Improvement Schedule

Project	DMA	Total Cost	Annual Capital Improvement Needs						
			2026	2027	2028	2029	2030	2031	Future

WWTP Clarifier (2)	Lindsey~~Village~~	**$300,000**							
		$300,000							

VICKERY FACILITY PLANNING AREA

Vickery Facility Planning Area (FPA) is a designated region within the Sandusky County area where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the

water reclamation facilities in the Vickery (Figure 6-30). The FPA is managed by various Designated Management Agencies from Sandusky County. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Sandusky County**: Responsible for planning public sewerage system; and will own and operate it, if and when built.

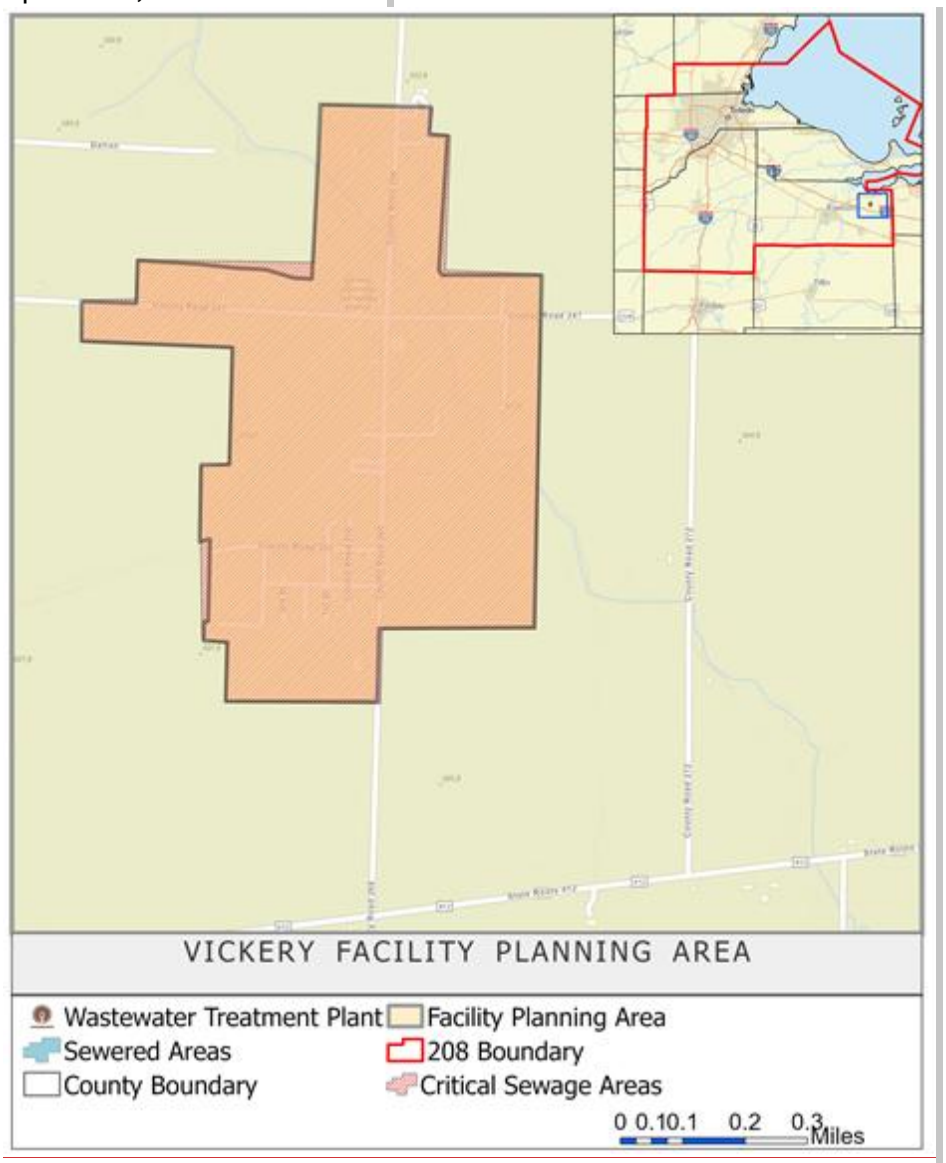


Figure 56-30: Vickery Facility Planning Area

Table 65-74: Vickery Area Population

Area	Total Population
Townsend Township, entire jurisdiction*	1,523

*only part of this jurisdiction is within the FPA boundary.

Source: the U.S. Census 2020 decennial census

Present Facilities

Vickery is an unincorporated community of about 85 houses in Townsend Township. There is no public sewerage system; sewage treatment is provided by individual septic systems. Soils in this area belong to the Toledo-Fulton Association, which are mostly level, very poorly to somewhat poorly drained clays. Suitability for sewage disposal is poor. Vickery is considered a *Critical Sewage Area* by the Sandusky County Health Department.

Issues

The concentration of homes using septic systems on small lots and in soils poorly suited for leaching fields, makes Vickery likely to need a public sewerage system. Ohio EPA conducted sampling in 2000 which indicated failed septic systems.

Future Needs

A sewerage system will be needed in Vickery eventually. There are several communities in Sandusky County that involve larger populations and bigger problems, and they should receive higher priority. There are no projects planned at the present.

~~Project~~	~~DMA~~	~~Total Cost~~	~~Annual Capital Improvement Needs~~						
-	-	-	~~2026~~	~~2027~~	~~2028~~	~~2029~~	~~2030~~	~~2031~~	~~Future~~
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-

WIGHTMAN'S GROVE FACILITY PLANNING AREA

The Wightman's Grove Facility Planning Area (FPA) is a designated region in Sandusky County where wastewater management, including sewage treatment and disposal, is

planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the village of Wightman's Grove (Figure 6-31). There are plans for Wightman's Grove FPA to expand to take over a portion of the Fremont FPA up to the Sandusky River to better align with sewer services. The FPA is managed by Designated Management Agencies from Sandusky County. The responsibilities of these agencies are outlined below:

DESIGNATED MANAGEMENT AGENCY RESPONSIBILITIES:

- **Sandusky County**: Owns and operates the Wightman's Grove WWTP and the sanitary sewers ~~and facilities~~ within the unincorporated areas of this planning area.



Figure 6-31: Wightman's Grove Facility Planning Area

Table 6-75: Wightman's Grove Area Population

Area	Population
Riley Township, entire jurisdiction*	1,214
Sandusky Township, entire jurisdiction*	3,551
Total	**4,765**

*only part of this jurisdiction is within the FPA boundary.

Source: the U.S. Census 2020 decennial census

Present Facilities

The county completed construction of wastewater facilities and collection system in 2022 and is in the process of connecting structures in the Wightman's Grove area. It is estimated that of the original 93 residences identified in 1986, only 54 residences remain unsewered.

Issues

The Wightman's Grove ~~In addition to Wightman's Grove area, the~~ FPA includes areas near Memory Marina that are still in the Wightman's Grove Critical Sewage Area. This area is considered Phase 2 by the county and will be served with wastewater facilities completed in 2022. The Barkshire Hill subdivision in Riley Township, which is also designated as a Critical Sewage Area is considered Phase 3 by the county.

Future Needs

~~Previous future needs are being resolved as work is currently ongoing to remediate the issues.~~

The capital improvement plan for the Wightman's Grove FPA is shown in Table 6-76.

Table 6-76: Wightman's Grove Capital Improvement Schedule

Project	DMA	Total Cost	Annual Capital Improvement Needs						
			2026	2027	2028	2029	2030	2031	Future
Wightman's Grove Ph. 2 (Memory Marina)	Sandusky County	$1,~~.~~750,000~~.00~~ ~~$1,000,000~~	~~0~~				X		
Wightman's Grove Ph. 3 (Barkshire Subdivision)	Sandusky County	$3,000,000 ~~$2,500,000~~							X
		$4,750,000 ~~$3,500,000~~							

Woodville Facility Planning Area

The Woodville Facility Planning Area (FPA) is a designated region in Sandusky County where wastewater management, including sewage treatment and disposal, is planned and coordinated. The FPA boundaries define the areas that are expected to be serviced by the water reclamation facilities in the village of Woodville (Figure 6-32). The Woodville FPA is managed by Designated Management Agencies from Village of Woodville and Sandusky County. The responsibilities of these agencies are outlined below:

Designated Management Agency Responsibilities:

- **Village of Woodville**: Owns and operates the wastewater treatment plant and collection system within the corporate limits.
- **Sandusky County:** Will own and operate collection system, if and when built, in Sandusky County unincorporated areas, connecting to the Village system for treatment services.

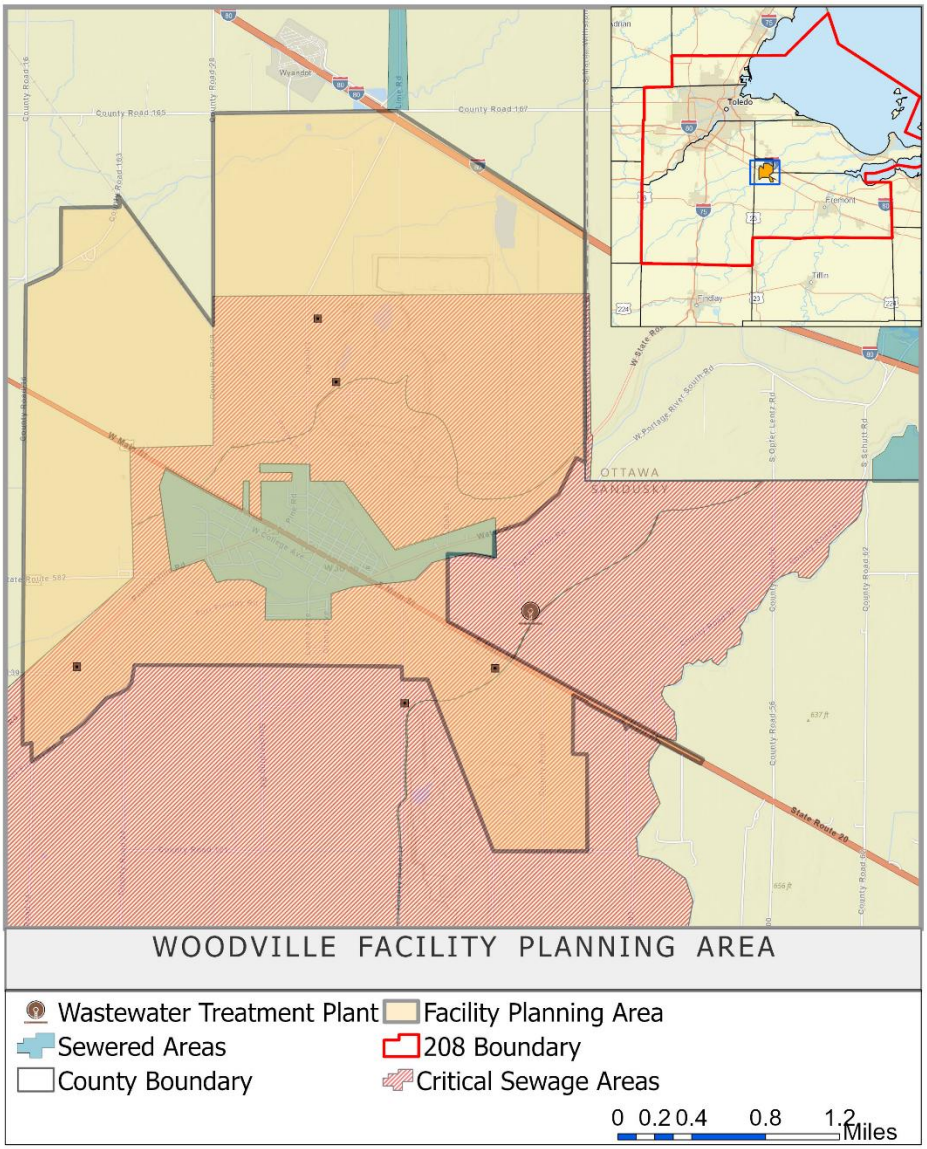


Figure 6-32: Woodville Facility Planning Area

Table 6-77: Woodville Area Population

Area	Population
Woodville, entire jurisdiction	2,006
Woodville Township, entire jurisdiction*	3,303
Total	5,309

*only part of this jurisdiction is within the FPA boundary.

Source: the U.S. Census 2020 decennial census

Present Facilities

The Village of Woodville owns and operates an aerated lagoon WWTP that has an average daily capacity of 0.3 mgd and peak capacity of 1.0 mgd. Ohio EPA data shows an average flow of 0.454 mgd during the period of 2004-2009, and a peak flow of 1.45 mgd during the period of 2016-2017. The aerated lagoon was constructed in 2001 and stores stormwater for treatment.

In 2011 and 2012, a three-phase project to separate the combined sewer system was constructed. New sanitary sewers were installed. In addition, a lift station was replaced to improve reliability and alleviate confined space entry safety issues. The original combined sewers were converted to a separate storm drainage system by eliminating cross-connections with the sanitary. In 2014, the Village's main lift station was replaced as part of the sewer separation project. This lift station directs all Village sanitary flows to the WWTP. The total sewer separation project cost, including the lift station replacements, was estimated at approximately $10.87 million.

Package plants located in the Woodville FPA are listed in Table 6-78.

Table 6-78: Package Plants in the Woodville Facility Planning Area

Package Plant	Map ID	Type	Install or Upgrade Date	NPDES Permit	**Capacity, gpd**
Area Aggregates / Olen[A]	SA-54	Private	1974	2IJ00097	1,500
Graymont Dolime[A]	SA-57S	Private*	1975	2IJ00040	2,000
Martin Marietta[A]	SA-57N	Private	1975	2IJ00040	5,000
Predator Trucking[A]	SA-63	Private	1992	2PR00149	2,000

[A]Status is active

*Facility type is assumed

Note: Data are based on current available data as of April 2019

Issues

- Before separation of the Village's combined sewers, the Woodville WWTP experienced permit violations on suspended solids and fecal coliform levels due to wet weather flow surges with monthly flows as high as 0.645 mgd. Construction of separate sanitary sewers was completed in 2012, and ~~will lead to~~ eliminat<u>ed</u>~~ing~~ all 17 CSO~~'s~~<u>'s</u>~~regulators once all properties are tapped to the new system and post-construction monitoring is performed. In March 2013, approximately 50% of services had been connected.~~

- The Village of Woodville has experienced upsets with the WWTP in the past years through current daily operations. They have entered into an Administrative Order of Consent with the EPA to determine the extent of I & I in the collection system. During rain events, the flows to the sewer plant rated at 0.3 MGD can increase to over 1.3 MGD surcharging the plant and allowing the process to be upset. They are in the process of an I & I study with the assistance of Ohio Rural Water Association monitoring flows at various locations within the Village to determine illegal or cross-connections into the sanitary sewer. Many violations were found, and all were remediated. This 2022 study indicated that storm sewers may be connected as well as possible sump pumps for individual properties.
- In addition to the I & I study, the Village is required to install a filtering unit at the end of the treatment works prior to discharging. This plan is required to be implemented and operational by 5/1/2027~~the end of 2026~~.

Future Needs

- According to Woodville's Long-Term Control Plan (LTCP) approved by Ohio EPA in May 2019, separation of the Village's combined sewers has been completed. The f~~F~~ive remaining outfalls that had~~have~~ sanitary discharges in 2022 have since been closed.~~yet to be~~ removed and/or need further evaluation to confirm closure. ~~These locations are now considered sanitary sewer overflows (SSOs).~~
- The Village will conduct post-construction compliance monitoring to determine whether the outfalls can be eliminated.

This Plan supports financial assistance for the Village of Woodville to implement its LTCP. The capital improvement plan for the Woodville FPA is shown in Table 6-79.

Table 6-79: Woodville FPA Capital Improvement Schedule

Project	DMA	Total Cost	~~Total Cost~~ Annual Capital Improvement Needs					
			2026	2027	2028	2029	2030	2031
Filtering Unit	Woodville	$8,793,000						
I&I Remediation	Woodville	$150,000						
		$8,943,000						