



03

**PUBLIC  
INFRASTRUCTURE  
& SERVICES**

## A. Public Utility Goals

The purpose of the Public Infrastructure Plan element of the Comprehensive Plan is to prepare for existing system needs. Public utilities that provide water resources and sanitation collection are essential in community life and potential community development. In the City of Goodview, a small amount of potential residential growth has been identified during this planning period, but the primary focus on utility infrastructure is identifying what exists and possible deficiencies within the public utility systems.

This chapter will analyze existing conditions, existing capacity and assess future needs of the water, sewer, and storm drainage. The primary goal of this plan is to establish local policies, standards, and guidelines to guide major utility investments and policy decisions.

## B. Public Utility Objectives

Overall, this plan is intended to provide guidance on how future land use patterns and rates of development will affect the demand on utility infrastructure for the City of Goodview. Specific goals include:

Goal 1: Rehabilitate or replace aging infrastructure within the sanitary collection system, distribution system, supply system, treatment system, and storage system.

### Objectives:

- Maintain current approach to rehabilitating the sanitary sewer collection system to reduce inflow and infiltration (I&I).
- Maintain current approach to replacing undersized watermain and cast-iron pipes to reduce watermain breaks and increase fire flow capacity.
- Provide watermain looping for systems supply redundancy and a water balanced system.
- Maintain current approach for coating inspections on the City's elevated water storage tanks and reservoirs to extend life.

Goal 2: Effectively manage, maintain, and improve the existing stormwater management system to support the existing systems and any potential growth within the Community.

### Objectives:

- Identify areas prone to flooding and improve drainage systems within these areas.
- Replace existing storm water systems or incorporate storm sewer systems that can handle 10-year storm events.

## C. Wastewater Treatment

The City of Goodview discharges their wastewater to the City of Winona's system for treatment. The terms of this agreement are outlined in the Contract for the Interconnection of Sanitary Sewer Systems by and between The City of Winona and the City of Goodview with an effective date of January 1, 2015 and expiration date of December 31, 2024.

The City of Winona regularly tests and monitors flow from local business and industrial discharges for compliance.

It is the City of Goodview's intention is to continue this relationship with the City of Winona.

## D. Wastewater Collection System

The existing public sanitary collection system is comprised of 8 to 12-inch diameter pipe, six lift stations, and related force mains. Older development (in Goodview's core) consists of reinforced concrete host pipe (RCP) that has been lined (CIPP, Cured In Place Pipe liner). All RCP host pipe has been lined via an aggressive improvement schedule started in 2011. The host RCP sewer mains were damaged by hydrogen sulfide gas. Concrete manhole rehabilitation is planned for a future project. The current condition of the city's concrete manholes does not warrant an immediate repair. The "outer ring" of the core is comprised of vitrified clay pipe (VCP) which is next in-line for rehabilitation with CIPP. The outlying portions of town and newer developments consist of polyvinyl chloride pipe (PVC). It is estimated that 90% of all non-PVC sanitary sewer pipe has been rehabilitated via CIPP. There are no known issues with the wastewater collection system.

The wastewater system is adequately sized for the current population.

There are two potential annexation areas that could affect wastewater service. The first is developed land along Wenonah Road around Marval Drive currently served with septic systems. The second area is undeveloped and opposite the Gunderson Development along CSAH 23 and west of US Highway 61.

Potential residential growth opposite the Gunderson Development would be served by the lift station in the Gunderson Development. The lift station was designed to accommodate flow from this potential growth area. Information on service areas would need to be determined from engineering plans.

The City should implement a capital improvements plan (CIP) to replace the aging sanitary collection system. It is understood that a CIP is a fluid document subject to regular/annual updating. Additionally, the City should annually monitor future planning for county and state highways to ensure those plans align with existing and future land uses.



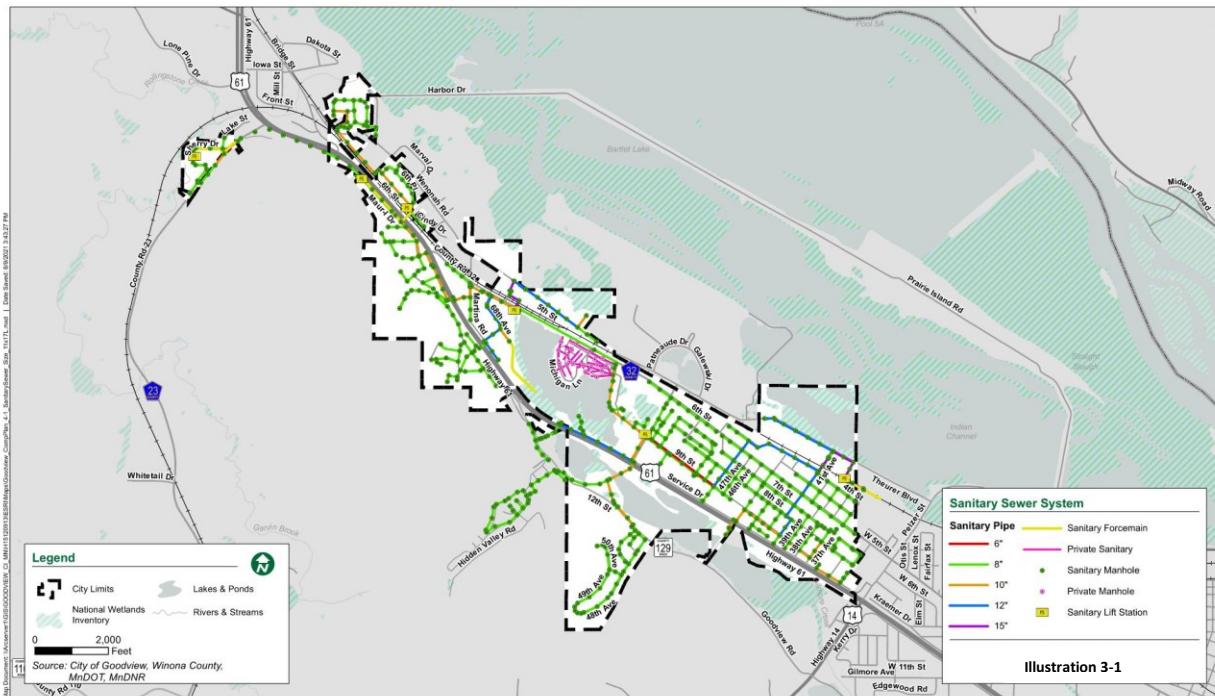


Illustration 3-1 – Map of Goodview showing the sanitary sewer system.

## E. Water System

The City of Goodview operates a water treatment, supply, storage, and distribution system which serves single family residential, multi-family residential and commercial users in two pressure zones. The system is divided into a high system and a low system.

These systems are linked and operate interconnectedly. Water supply in the system is currently provided by three groundwater wells – Well No. 1, Well No. 2, and Well No. 4. There is no documented Well #3. There are no capped or inactive wells. The following Table 3-1 summarizes the well characteristics.

Table 3-1 – Well Data			
Well Number	1	2	4
Year Constructed	1962	1975	1989
Mn Unique Well No.	219171	112210	449410
Well Depth (ft)	400	455	515
Casing Diameter (in)	16 x 10	16 x 10	24 x 16
Water Supply Source	Groundwater: Eau Claire-Mt.	Groundwater: Mt. Simon Aquifer	
Pump Type	Turbine	Turbine	Turbine
Capacity (gal/min)	450	450	900

**Low Pressure Zone**

The City of Goodview operates one water treatment plant (WTP) in the low pressure zone that was built in 2008. Well #1 and #2 pump to WTP #1. The City of Goodview's existing water treatment plants are designed to provide safe, palatable drinking water in accordance with regulations created by the Environmental Protection Agency (EPA) and enforced by the Minnesota Department of Health (MDH). The City's water supply contains elevated concentrations of radium. This pollutant is removed in the City's treatment plants using anthracite green sand filters, and chemical feed of TonkaZorb (manganese), chlorine, fluoride, and polyphosphate. The treated water is pumped to the distribution system and stored in a 100,000 gallon elevated storage tank built in 1962 for consumption by residents and businesses.

**High Pressure Zone**

The City of Goodview operates one water treatment plant (WTP) in the high pressure zone that was built in 2008. Well #4 pumps to WTP #2. The City of Goodview's existing water treatment plants are designed to provide safe, palatable drinking water in accordance with regulations created by the Environmental Protection Agency (EPA) and enforced by the Minnesota Department of Health (MDH). The City's water supply contains elevated concentrations of radium. This pollutant is removed in the City's treatment plants using anthracite green sand filters, and chemical feed of TonkaZorb (manganese), chlorine, fluoride, and polyphosphate.

The treated water is pumped to the distribution system and stored in either a 1,000,000 gallon reservoir (built in 1997) near Hidden Valley Road, the primary 30,000 gallon reservoir (built in 1988) in the WE Valley development, or the satellite 30,000 gallon reservoir (built in 1993) in the WE Valley development for consumption by residents.

The city has noticed an improvement in water quality since the filter plants were commissioned.

See Illustration 3-2 – Map of Goodview's Water System for water treatment plant, well, and storage tank locations.

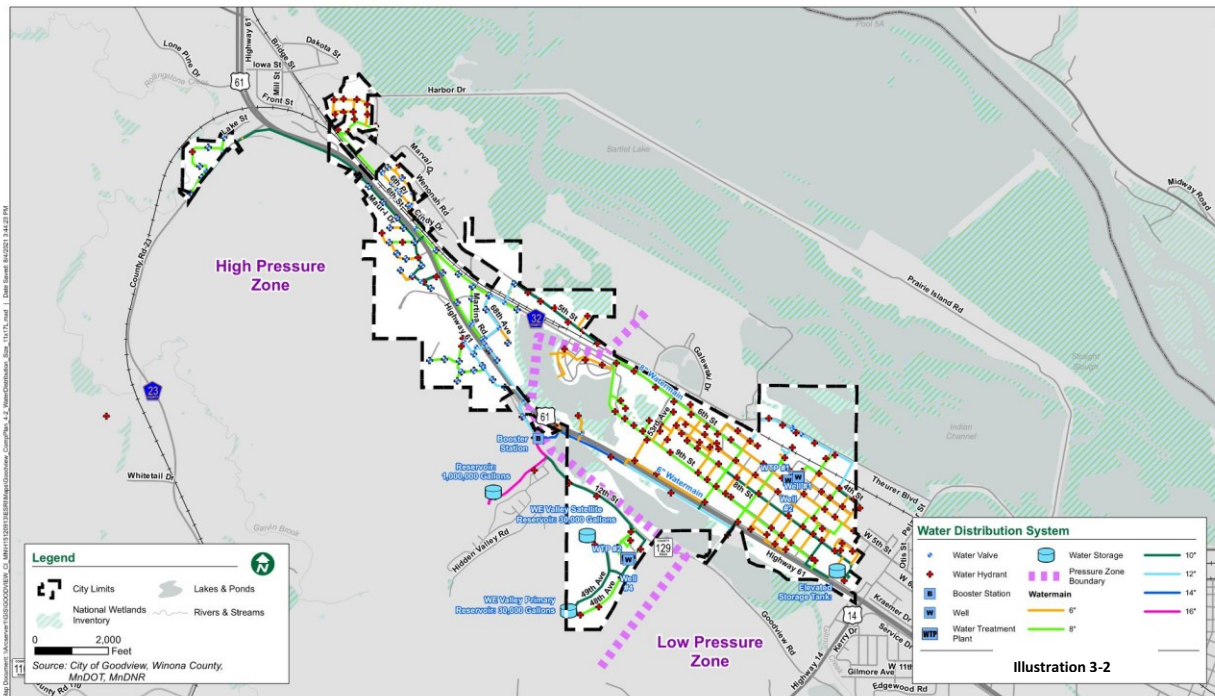


Illustration 3-2—Water Distribution System

As mentioned above, the City has two pressure zones. The system uses one booster pump to help provide water throughout the system.

Table 3-2 – Pressure Zone Data

Pressure Zone Name	
Low Zone	Served directly by the 100,000 Gallon Elevated Storage Tank and a booster station to provide water from the High Pressure Zone
High Zone	Served directly by the 1,000,000 Gallon Reservoir, the WE Valley 30,000 Gallon Primary Reservoir and 30,000 Gallon Satellite Reservoir

The distribution system consists of 6 through 16-inch diameter ductile-iron and PVC pipe. There is minimal to no cast-iron pipe left in the network. In general, older developments closer to town center consist of ductile-iron pipe. New developments generally comprise of PVC pipe. The system seems to be adequately sized, is flushed annually in the spring, and rarely experiences watermain breaks.

Table 3-3 – Water Usage

Year	Annual (Gal)	Daily (Gal)
2018	128,178,862	351,175
2019	110,644,280	303,135
2020	103,865,052	284,562