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PUBLIC INFRASTRUCTURE & UTILITIES

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INTRODUCTION

Future land use patterns and rates of development will affect the demand on infrastructure for Elkhart's utilities. As the population, industry, and commercial services develop and increase, it is important to ensure that demand for these services does not exceed the supply and that the expansion of infrastructure is sufficiently addressed to accommodate future needs.

This Comprehensive Plan includes thoughtful consideration of the utility infrastructure within the city. This includes water supply, wastewater treatment, surface water management, as well as public buildings that provide a service to the residents of the City of Elkhart.

This chapter will analyze existing capacity and assess future needs of the water, sewer, and storm drainage utilities. The community response to a survey regarding the infrastructure and utility assets of the community received a very positive response. As a result, a number of goals and policies have been developed assure the successful managed growth of the community.

Public Infrastructure Goals, Objectives & Strategies

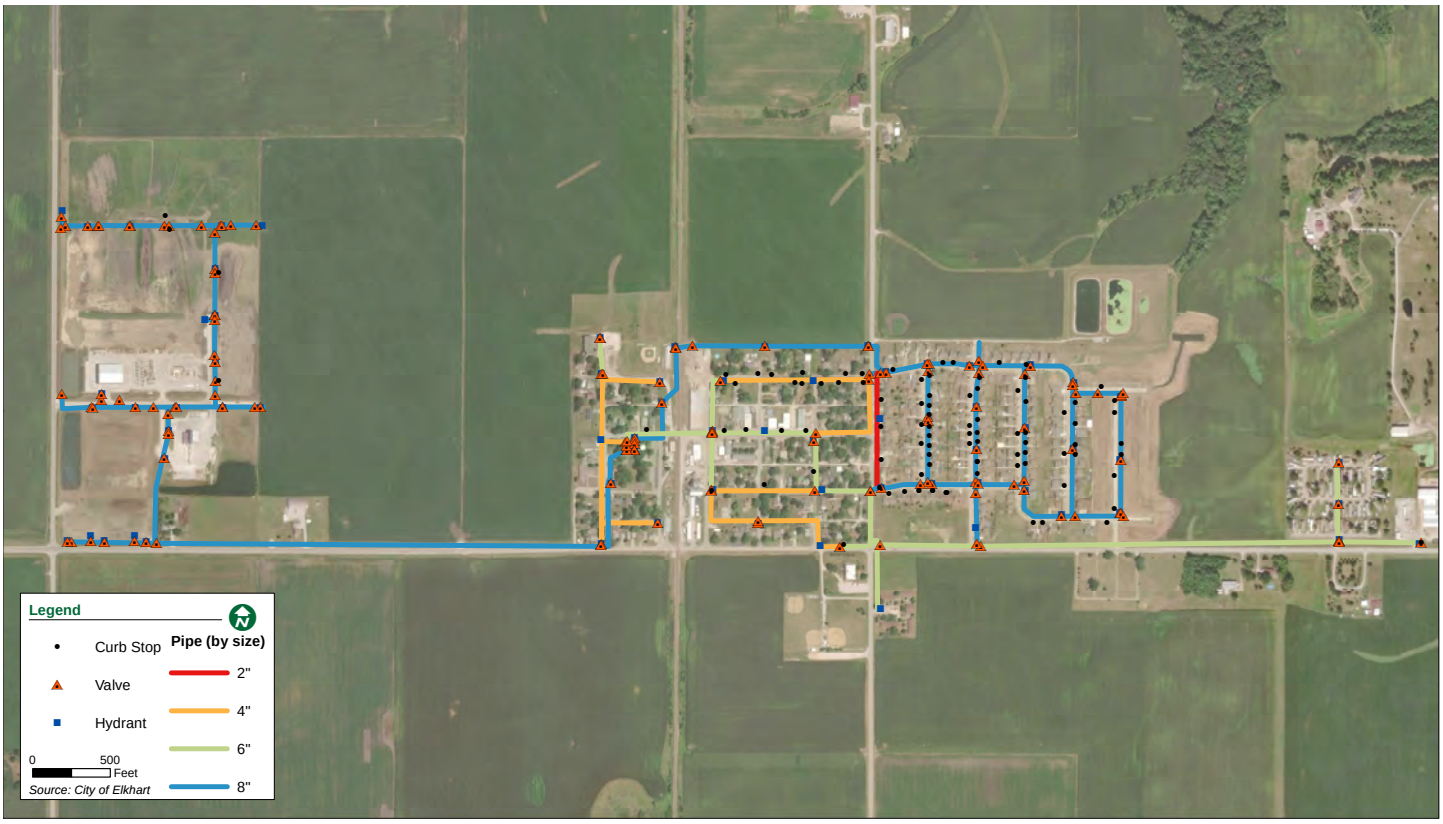
To be sure that the demand for public infrastructure services does not exceed the available supply, the following goals below have been developed.

PUBLIC INFRASTRUCTURE GOAL 1: Analyze the existing water, sanitary sewer system, storm sewer and transportation capacity and necessary future investment needs to provide for a long-term strategy for providing high quality, high functioning, un-interrupted services to the community in a cost-efficient manner.

PUBLIC INFRASTRUCTURE GOAL 2: Identify locations for future facilities while ensuring adequate infrastructure is provided to areas targeted for growth; these areas should minimize maintenance costs and not compromise the overall needs of the community.

PUBLIC INFRASTRUCTURE GOAL 3: Increase the provision of telecommunication services.

Water System



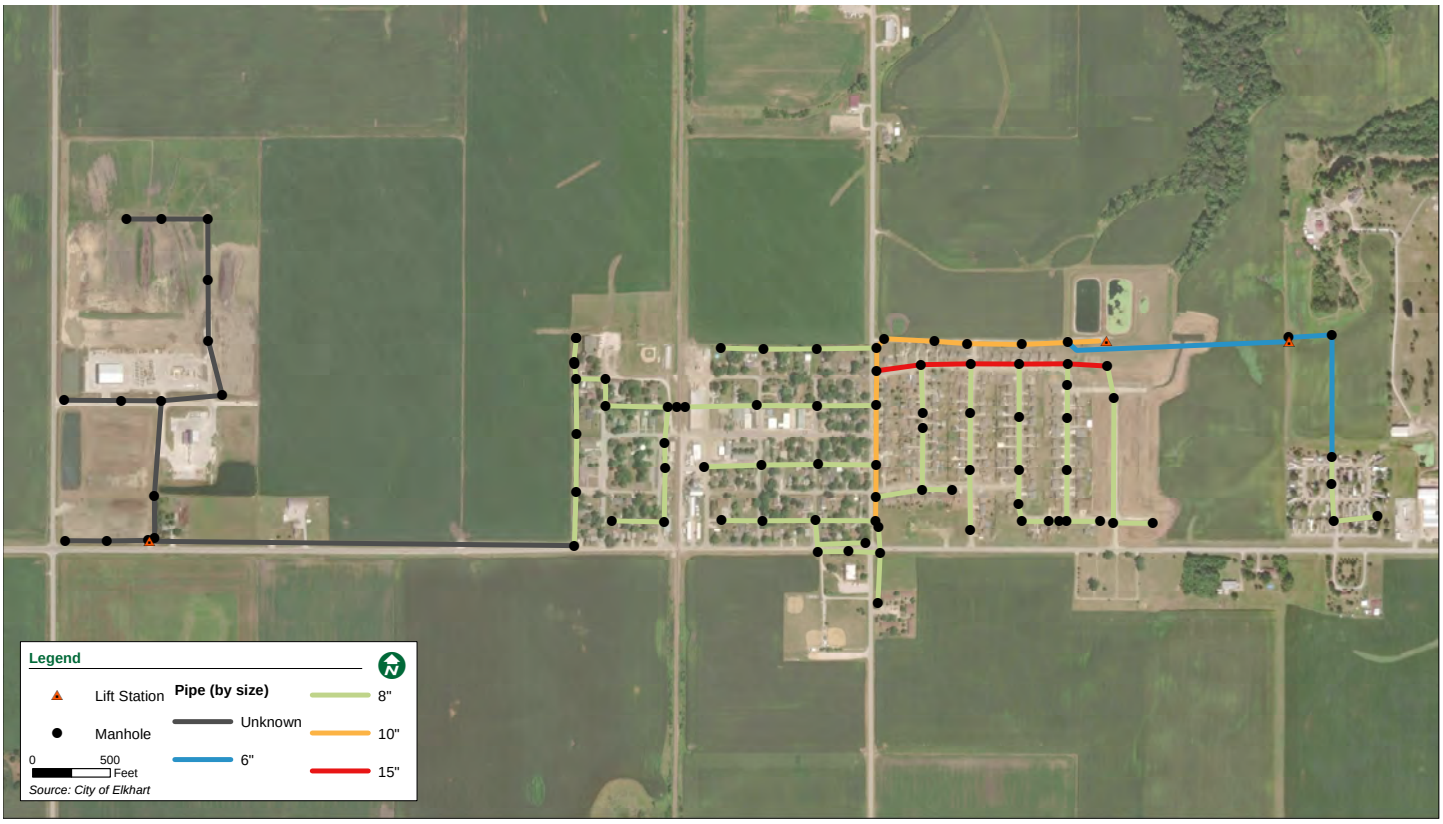
Source: City of Elkhart

The water system consists of wells, a water treatment facility, distribution and water storage operated and maintained by the City. The City's water supply is made up of two wells, both drawing from the relatively shallow buried sand and gravel aquifer. Each has a capacity of approximately 100 gallons per minute (gpm) and over 20 years old.

The water treatment facility uses pressure filtration and chemical addition to remove iron and manganese from the raw water. The facility was constructed/improved in 2000 and contains two 71-gpm pressure filters for iron removal. Potassium permanganate is added prior to filtration to assist with the removal of manganese. Chlorine and polyphosphate are added after filtration for disinfection and corrosion resistance in the distribution system. The design treatment capacity is approximately 85,000 gallons per day. The system is also served by an elevated water tower with a capacity of 150,000 gallons. Current average daily water demand is approximately 68,000 gallons.

The current system primarily serves residential and commercial users and has capacity available to accommodate future growth. A well-maintained municipal supply well, without contamination or other issues, can typically expect a useful life of over forty years. The typical design life of a water treatment facility is twenty years. As the City continues to grow, consistent water system maintenance and planned improvement projects can allow the facilities to reach their full life while supplying clean, safe drinking water for the City.

Sanitary System



Source: City of Elkhart

The sanitary sewer system consists of a collection system with two lift stations and an aerated lagoon wastewater treatment facility. The wastewater treatment facility, constructed in 2018, consists of three aerated lagoons, followed by a LEMNA Polishing reactor and ultraviolet disinfection. The treatment facility and collection system are operated and maintained by the City. Wastewater is treated in the aerated lagoons for removal of organic material and suspended solids, then flows through the polishing reactor for ammonia removal and finally through the ultraviolet disinfection system to eliminate E. coli. The treated effluent is discharged through an unnamed creek. Drainage Ditch #11, the South Skunk River and ultimately into the Mississippi River.

The new aerated lagoon system is designed to treat an average of flow 0.413 million gallons per day (MGD) and a maximum flow of 0.488 MGD

Stormwater System

Source: City of Elkhart

Stormwater systems are a critical part of a community's infrastructure. A system that controls the volume of rain water run-off while protecting from flooding and cleans rain water run-off before it enters lakes, streams, or groundwater is paramount. There are a variety of storm water management techniques that can manage stormwater volumes and flows. These tools help reduce flooding and preserve water quality by treating stormwater at its source. In addition, when sensitively designed, stormwater systems can also be a development amenity that increases the overall attractiveness of the community.

Public Infrastructure

The City of Elkhart maintains its system of public infrastructure, buildings, equipment, and open space primarily through its Public Works Department. In addition to maintaining existing elements to established standards, the City must consider what new and/or improved elements will be needed to accommodate future growth, development, and change. Steps to take include:

- Maintain and improve existing public infrastructure, buildings, equipment, and open space to established standards.
- Identify facility and infrastructure needs associated with future development, as well as changes in the population, to ensure that investments are consistent with longer term community goals.
- Make efficient use of space in the city through partnerships and co-location of public functions, where feasible.
- Collaborate with Public Schools on mutually beneficial projects and initiatives, to strengthen both institutions.

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