PUBLIC UTILITIES, INFRASTRUCTURE, AND SERVICES

Chapter highlights

- Overview
- Public Utilities
- Public Facilities
- Public Schools
- Goals & Objectives



OVERVIEW

Albert Lea can retain effective public utilities, infrastructure, and services with specific goals for maintenance and development. The public utility system is vital for adequately serving residents and sustaining a high quality of life for the community.

The following sections provide a general description of the existing water system, wastewater system and storm drainage system within the City of Albert Lea. This Chapter is not intended to be a detailed infrastructure master plan, but rather a source of information that will assist stakeholders (citizens, City staff, and potential developers) with the information about these systems and factors that may impact decision-making regarding development strategies.

The following section outlines the primary goals for:

- Major utility systems: water, wastewater, and stormwater
- City Public Facilities
- Public Schools

Each goal is followed by a series of objectives intended to influence future development efforts that align with the community visions in this plan.

PUBLIC UTILITIES

Future land use patterns and rates of development will affect the demand on infrastructure for Albert Lea'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 requires thoughtful consideration of the utility infrastructure within the city. This includes water supply, wastewater treatment, and surface water management.

Water System

The current water treatment system consists of three water treatment facilities (WTF) and four 300-foot-deep wells. One well is located at each of the facilities that are referred to as the North, South, and West facility. The fourth well does not have a corresponding filtration treatment facility and only undergoes chlorination and fluoridation. The North and West WTFs are of similar design with capacities of 1,500-gpm. Their treatment process train includes aeration followed by filtration and chlorination. Both plants currently utilize four 16' x 12' gravity sand filters containing 24-inches of sand media. The 1,400-gpm capacity South WTF has the same process train as the North and West, but instead of gravity filters utilizes pressure filters. The South WTF's pressure filtration system is comprised of two pressure filters composed of 12-inches of anthracite on top of 18-inches of sand. All three plants currently utilize chlorine gas and disinfect with chloramines. The water distribution system has five water towers that are referred to as Central. East, West, South, and North and have a combined water storage capacity of 2,400,000 gallons. Currently, the wells and water storage systems have adequate capacity for the projected population growth and 2 MGD Significant Industrial User (SIU). Once the 2 MGD SIU is exceeded, an additional 1.1 MGD or 920 gpm of source and treatment capacity and 1 MG of storage would be needed. The Wellhead Protection Plan and Drinking Water Supply Management Area will need to be updated when a new well is drilled and connected to the distribution system and when considering land use changes. The municipally owned water distribution system provides service and fire protection to all residents and businesses in the city. The water pressures are all above the minimum of 35 psi working pressure, and most pressures are within the recommended range of 60 to 80 psi. Most locations have favorable fire flows and the areas that were subpar are areas with small diameter watermains and dead ends. The water distribution system consists of over 133 miles of watermain, 1,230 hydrants, and 7,300 water meters. System upgrades are typically completed along with street projects to replace the existing watermain and hydrants with new PVC pipes, fittings, and hydrants.



Albert Lea 2040 | Public Utilit

FIGURE 4-1 EXISTING WATERMAIN



Waste Water

The wastewater collection system and wastewater treatment facility are critical elements in the City's future development. Wastewater planning evaluates wastewater treatment needs to ensure safe and sanitary treatment standards along with enhanced protection of surface waters, and groundwater aquifers. This municipally owned sanitary sewer system provides service to all residents and businesses in the city. The sanitary sewer system consists of over 127 miles of sanitary sewer, 2,440 sanitary manholes, and 24 lift stations. System upgrades are typically completed along with street projects to replace the clay pipe and block-built manholes with PVC pipe and precast concrete manholes. The wastewater is routed to the main lift station located near Academy Park. The wastewater is screened at this location to remove trash and debris and then pumped approximately 2 miles to the Wastewater Treatment Facility located south of Albert Lea Lake. The wastewater treatment facility was originally constructed in 1981 and has had numerous minor improvements over the last 40+ years. The facility treats an average of 3.8 million gallons per day and discharges treated effluent to the Shell Rock River. The facility has new MPCA permit limits to meet and is also challenged with aging infrastructure requiring significant improvements over the next few years. These improvements totaling \$60-\$110M are described in the Wastewater Facility Plan dated February 2022 and the subsequent amendments.

FIGURE 4-1 WASTEWATER TREATMENT FACILITY INFOGRAPHIC



FIGURE 4-3 EXISTING SANITARY SYSTEM





Surface Water

The goal of the plan is to maintain and improve surface water quality and minimize the impacts of increased water quantity through appropriate planning, policy enforcement, and capital improvement projects. Stormwater systems operate to convey water from developed areas of the City into natural drainage courses, via a network of pipes and structures. The storm sewer system consists of over 57 miles of storm sewer, 1,916 storm sewer inlets, and 4 storm sewer pumping stations. It is essential to have a system that controls the volume of rain water runoff to protect from flooding and treat rain water runoff before it enters lakes and streams.

The City has been required to obtain a permit for its Minnesota Small Municipal Separate Storm Sewer Systems General Permit (MS4). The MS4 permit is renewed every 5 years and the permit rules continue to evolve. The MS4 and the Minnesota Construction Stormwater General Permit (CSW) require consideration of the impacts to downstream properties of rate and volume increases due to development as well as the water quality of stormwater runoff leaving the City.

Development and redevelopment construction projects are required to provide for to volume reduction when the amount of impervious in the project is 1.0 or more acres. Stormwater conveyance systems are recommended to be designed to handle the 10-year 24-hour storm event. Stormwater treatment facilities such as basins are recommended to be designed to handle the 100-year 24-hour storm and have engineered overflow spillway routes to prevent property damage for larger storms.

The City is also a partner in the Shell Rock and Winnebago River Watershed One Watershed, One Plan. The Shell Rock River-Winnebago River Comprehensive Watershed Management Plan is a unifying strategy for water management in the Shell Rock River and Winnebago River watersheds. It was developed by, and will be implemented by, local government units across the planning area, as well as their partners from state and federal agencies, non-profits, citizens, and other stakeholders. The Plan focuses on restoring impaired waters and habitat, reducing erosion, improving soil health, reducing impacts from flooding, protecting high quality habitat, and protecting groundwater quality through holistic management.

FIGURE 4-4 EXISTING STORM SEWER





PUBLIC FACILITIES

The following section outlines the primary goals for public buildings followed by a series of objectives and policies intended to influence future development efforts that align with the community visions in this plan. This section also includes an inventory of public schools.

In early 2015, Albert Lea completed a Facilities Master Plan which assessed public facilities and buildings across Albert Lea. The plan addressed the Municipal Airport, Fire Station, City Arena, Public Works, the Freeborn County Criminal Justice Center, the Bathhouse at the Aquatic Center, and City Hall. Details on existing buildings included compliance with code, space needs, optimization of facility resources, and a long-term implementation plan.



FIGURE 4-5 PUBLIC FACILITIES





ALBERT LEA AREA SCHOOLS

The following section outlines the primary goals the city will use in conjunction with the school system. Each goal will utilize objectives and policies to guide collaboration with the School Board and Superintendent. This section is intended to combine the plan's vision with the School District's for pursuing mutually beneficial projects and fostering an environment for learning and civic engagement.

The Mission of Albert Lea School District is: to ensure individual academic, social, and emotional growth that leads to engaged citizens and lifelong learners. In conjunction with the City's Mission statement, this plan seeks to: deliver exceptional services that enhance the quality of life for current and future generations. Additionally, the city and comprehensive plan share a vision statement: The city will create a community that we are proud to call home and others can't wait to visit!

This plan seeks to be in line with both the city and the school district. The school district has a clear graphic depicting "Pathways to Success" with school grade ranges, success milestones, and support programs and organizations.



The goals in this comprehensive plan seek to set up an environment that will allow the school district to carry out its mission of connecting students with professional learning communities and providing pathways for success. Partnering with the school district and Riverland Community College to attract and establish a "tech academy" will achieve the goals set out for grades 9-12. Students will have the ability to establish a career in a tech-related field or go to college. Riverland Community College can provide college-level and advanced placement teaching support.

Source: https://www.alschools.org/

GOALS AND OBJECTIVES

Goal 1: Expand existing utility system infrastructure to meet the demands generated by continued development.

Objective 1.1. Expand utility systems into future growth areas.

Objective 1.2. Expand the water supply, water treatment, and water storage systems as required to accommodate future development demands.

Goal 2: Monitor, evaluate and improve the condition of each utility system's infrastructure.

Objective 2.1. Proactively manage Infrastructure.

Objective 2.2. Monitor the condition of the existing water supply, water treatment, and storage infrastructure and replace them as required.

Objective 2.3. Follow goals in the Shell Rock River & Winnebago River Comprehensive Watershed Plan.

Goal 3: Maintain and operate public facilities at the highest possible level of service.

Objective 3.1. Continue to assess the condition and needs of facilities.

Objective 3.2. Improve the efficiency and climate resilience of existing and new facilities.

Goal 4: Construct and maintain a safe environment for children and district staff.

Objective 4.1. Ensure routes to schools are safe for pedestrians, cyclists, and motorists.

Goal 5: Foster an environment for lifelong learning, growth, and cooperation.

Objective 5.1. Partner on educational and workforce development opportunities.