

UTILITIES

I. INTRODUCTION/PURPOSE

Public utilities include the municipal wastewater/sanitary sewer system, municipal water and storm water utilities. Private utilities include electrical, gas and telecommunications. The ability to serve the City with utilities is essential to the City's future growth. Proactively planning and budgeting for infrastructure replacement and upgrades will assist the City in providing infrastructure more cost effectively. This portion of the Comprehensive Plan will review the:

- I. Municipal Wastewater Treatment/Sanitary Sewer System;
- II. Municipal Water System;
- III. Municipal Storm Water System;
- IV. Private Utilities; Electric, gas, telecommunications and garbage/recycling;
- V. Public Input; and
- VI. Public Utilities Policies and Objectives.

II. WASTE WATER/SANITARY SEWER SYSTEM

- A. System components:** The existing sanitary sewer facilities can be divided into two distinct components: the sewage collection system and the wastewater treatment facility. The City of Lonsdale treated sewage with individual sewage treatment systems until the 1970s. The City now owns and operates its own wastewater treatment facility. A new wastewater treatment plant was placed on line in 2002. The treatment facility is located at 835 Industrial Park Drive SE. The plant removes solids, organic compounds, nutrients and pathogens that have a degrading effect on natural water systems. The City follows the regulations of the Minnesota Pollution Control Agency (MPCA).

The sanitary sewer collection system within the city was placed into service at various times. As a part of financial reporting requirements, the City is required to create an itemized inventory of the value of each individual collection main and when each main was placed into service, for the purposes of itemizing asset depreciation in conjunction with Government Accounting Standards Board (GASB) 34 directive.



Collection System - The sanitary sewer collection system includes a network of collection pipes with majority of it being PVC pipes, a small area at the southern end of Oak Ridge Park addition that have clay pipes, two permanent lift stations located near the wastewater treatment plant. Lift Station # 1 is was constructed in 1991 with a pumping capacity 1000 GPM. Lift Station # 2 was reconstructed in 2001 contains two pumps with a total combined pumping capacity of approximately 1,800 gallons. According to the Southwest Trunk Sanitary Sewer Analysis conducted by WSB Engineering, the lift station will need to modified to handle 3,000 GPM to handle the entire study area as proposed in their study.

The Pretreatment building includes a digester, blower room and two clarifiers. The City discharges its treated wastewater to Heath Creek.

WWTP Capacity. The Lonsdale wastewater sewer system features a mechanical plant with a capacity of 687,000 gallons per day (10-year average wet weather design flow). At the time of this Comprehensive Plan Update, the City estimated the plant was running at 30% to 40% of capacity or 206,100 to 274,800 gallons per day. The system was constructed to be upgraded to a design capacity of 987,000 gallons per day.

Based on a population of 3,821 this is a contribution of up to 72 gallons per person per day (gppd), not including the commercial and institutional contributions. Assuming a maximum 100 gppd, the current facility could serve the city to a population of 6,870, or between the years 2035 to 2040, based on population projections, below. This may change depending upon the type/volume of commercial/industrial users which locate within the community. An industry which discharges high levels of wastewater could consume a large portion of the city's wastewater treatment plant capacity. Industrial growth, as well as actual population growth, should be monitored and sewer capacity plans be made accordingly.

The City has a "Premature Subdivision" section in its Subdivision Ordinance, which allows for the denial of plats if the City is unable to service the area with municipal sewer, among other services. If in the future growth increased significantly and the city did not have funding to expand the WWTP, the City could implement and exercise the premature subdivision clause.

- C. **Population Projections.** As noted within Chapter 3 - Demographic Projections, the City is planning for the following household with future populations of 4,270 in 2020; 5,520 in 2030 and 7,450 in 2040.

**TABLE 10-1
POPULATION PROJECTIONS**

<u>Year</u>	<u>Projected City Population</u>	<u>Population Growth</u>	<u>Projected Households</u>	<u>Projected Average New Units/Year</u>
2014	3,821	--	1,325	--
2020	4,270	449	1,504	30
2025	4,820	594	1,721	43
2030	5,520	699	2,007	57
2035	6,320	799	2,341	67
2040	7,450	1129	2,804	93

The growth boundaries for future land use extend into Wheatland and Webster Townships to the north and west and Forest Township to the south. Orderly annexation agreements have not yet been negotiated. Based on the capacity of the wastewater treatment plant and current average and peak loads, it appears the City would be able to serve the proposed growth boundary identified to the year 2035 to 2040.

D. Connections. As of 2016, the City of Lonsdale provided service to approximately 1,345 residential, 71 commercial and one public (school) accounts.

E. Evaluation of Wastewater/Sanitary Sewer System. Infiltration/Inflow into the sanitary sewer lines can decrease the efficiency of sanitary sewer treatment and result in additional volumes to be treated, reducing design capacity and increasing costs. Infiltration may occur if there are cracks in clay sewer lines or if pipes are defective. Inflow occurs if tile, sump pumps, roof or yard drains are connected to the City's sanitary sewer lines. The City Code restricts connection of sump pumps to the sanitary sewer system, stating, "(O) Any new construction must install a sump pump or discharge by other means the drain tiles around any building or any other drains, except sanitary sewers. No drain tile or other drains, except sanitary sewers will be allowed to be connected to the sanitary sewer system."

The City as a policy should require individual septic systems to conform to Minnesota Rules Chapter 7080 and relevant Rice County ordinances. A system of inspections should be considered to enforce conformance, or develop a sewer and water hookup policy with a timetable or triggers to get all homes and businesses to hook up to municipal utilities, such as with any home improvement requiring a building permit.

There is sufficient space at the existing wastewater treatment plant on site for future expansion, if needed. There are two aeration basins. Only one is used, to save on electrical expense. The City could utilize the second basin in the future, if needed. Public Works staff has noted concerns with storage of bio-solids on site.

F. Private Sewer Treatment Plants/Cluster Systems. The City of Lonsdale regulates the development of private sewage disposal systems through City Code § 52.03 Private Sewers. Private systems are allowed only in areas which cannot be served by the municipal system.

G. Sewer Rates and Fees - Sewer rates effective in 2016 are \$20 per month as a base fee plus \$6.20 per 1,000 gallons. The user fees for sanitary sewer are based on the usage during the first quarter of the year. The basis behind this is that much of the water usage is generally accounted for wastewater treatment. However, during the summer and the growing seasons, a larger amount of the water use is for lawn sprinkling and does not need to be treated. The City also charges a Sewer Access Connection (SAC) of \$5,500 for a four inch service. In addition, the City charges \$3,615.50 per single family, \$2,711.63 per townhome unit, \$7,231.00 per adjusted acre for commercial/industrial to developers for trunk sewer and water fees. Rates are based on operational needs while trunk sewer and water fees are based on estimated costs required to support the construction of sewer and water facilities to service the new growth.

Policies for the Sanitary Sewer or Wastewater Treatment System

1. Monitor growth of the community and the remaining capacity of the treatment plant on a regular basis, and adjust the schedule for Phase 2 improvements accordingly.
2. Coordinate trunk sewer improvements with street construction or reconstruction projects to replace many of the mains that were installed in the original portions of town.
3. Review current sewer user charges and utility charges to be able to accommodate treatment capital improvements, labor, and maintenance costs for future facilities.
4. Continue to complete Infiltration/Inflow measures to maximize the facility's potential.
5. Complete a Trunk Sanitary Sewer Analysis for the remaining portions of town, in particularly looking at the northern portions of town.
6. Expansions of the sanitary sewer system should be orderly to prevent "leap frog" development. This occurs when large parcels of land are left vacant or underdeveloped between existing and new development. As a matter of policy, this should be avoided to minimize unnecessary expenditures and prevent premature development.

III. WATER

Existing Water System. The City of Lonsdale's municipal water system includes four wells, a water treatment facility, water storage facilities and the distribution system.

- A. Wells.** The City presently obtains its raw water supply primarily from 3 wells with a combined capacity 1000 gallons per minute (GPM) or 1.44 MGD. A majority of the water is pumped from the Mount Simon aquifer.

Well # 1 was an old railroad well with a submersible pump that produced approximately 125 GPM that was constructed in 1939. It was used only in emergency situations. Because of its age, low output, needed repairs, and lack of chemical treatment, the Railroad well was sealed and abandoned when Well # 4 went on-line.

Well # 2 is in better condition than the Railroad Well. The well was constructed in 1949. It is too far from the proposed water treatment plant location to be considered for being a primary, treated, well. Additionally, its output (230 GPM) is too low to be saved for emergency uses and it pumps significant sand. Plans were to seal and abandon Well # 2 when Well #4 went on-line.

Well # 3 has an output of 500 GPM and is located close in proximity to the proposed water treatment plant. This well draws from multiple aquifers, drawing water from both the Ironton-Galesville and the Mount Simon. This well is in violation of regulations governing the use of public wells. Because of this fact, the well can be maintained in its present condition, but cannot be improved for higher output. Well # 3 was constructed in 1963.

Well # 4 was placed on line in 2006. It is the main well that supplies the City with its water supply.

Discussion has occurred regarding a future Well #5. DRN regulations relating to pumping would need to be met. A site for well #5 has not been determined.

- B. **Water Treatment Facility.** The **Water Treatment Facility** is located on a 10,987 square foot site at 420 Idaho Street SW. This includes two small structures; a 391 square foot building constructed in 2007 and a 2,213 square foot building constructed in 2012. This building houses a lab, office and restroom. There is room to expand the water treatment plant to the east.



- C. **Water Storage Facilities.** The City has one elevated storage tank providing 300,000 gallons of storage capacity that was constructed in 1994. The city is currently looking for a potential site on Trondjem Hill (East side of Town) for a second water tower that would have a capacity of 500,000 gallons.
- D. **Water Distribution.** The water distribution system includes pipes ranging from four to twelve inches in diameter, with mains in newer additions being eight to twelve inches in diameter. Most of the older mains are cast iron pipe and six inches in diameter. The existing distribution system operates under two separate systems. A small portion of town located on the northwest side of town is serviced through a booster station and pressure tank facility on Arizona St. SW. This station is old and is in need of repair. The additional water tower will allow for the removal of this station allowing the system to operate under two separate pressure zones.
- E. **Water Utility Plans.** The City has plans to continue to replace water mains. A 2006 Report from WSB Associates, Inc. identifies a Utility Infrastructure CIP Reconstruction Program. Water main improvements are recommended by "Areas" within the City. Approximately \$1.3 million in improvements are recommended to be completed in Areas 3, 5, 6 and 7. A majority of these improvements are recommended within Area 7 (\$500,000) which is in the southern portion of the City near SW Second, SW Third and SW Fourth Avenues. Updating water lines in this area is proposed.
- F. **Water Rates and Fees.** *Water Rates and Fees* - Water rates effective in 2016 are \$9 per month base fee with \$2.75 per 1,000 gallons used for 0-3,000 gallons, \$2.90 per 1,000 gallons for 3,001-9,000 gallons, \$3.15 per 1,000 gallons for 6,001-9,000 gallons and \$3.40 for over 9,000 gallons. Bulk water rates are also in place. The City also charges a Water Hook-Up Fee of \$3,750 for a one inch service. In addition, the City charges \$3,615.50 per single family, \$2,711.63 per townhome unit, \$7,231.00 per adjusted acre for

commercial/industrial to developers for trunk sewer and water fees. Rates are based on operational needs while trunk sewer and water fees are based on estimated costs required to support the construction of sewer and water facilities to service the new growth.

Water Supply & Distribution Plan Policies - The following policies were identified in the Water Supply & Distribution Plan, 2004 (prepared by Bonestroo Rosense Anderlik & Associates) that are still relevant:

1. Follow the Comprehensive Water Supply and Distribution Plan as a guide to the orderly expansion of the City's water system
2. Acquire a site for wells #5 and any easements required to connect the sites. Near-term sites include the Trondjem Hill water tower.
3. Coordinate trunk watermain improvements with street construction or reconstruction projects to replace many of the mains that were installed in the original portions of town.
4. Annually review the water system Capital Improvement Program to better serve the community development needs.
5. Review current water connection fees and user rates to be able to accommodate treatment capital improvements, labor, and maintenance costs for future facilities.
6. Fund the supply, storage and distribution system through WAC charges.
7. Fund the water treatment plant through a water rate increase.
8. Review the comprehensive water plan and distribution every 5 years to account for changes in development patterns, water use, and construction costs, and to check the balances in the trunk water fund.

IV. STORM WATER UTILITY

In order to preserve natural resources, review of storm water drainage issues and education of the public on issues relative to surface water quality is important.

Storm water management is used to guide the development and expansion of the City's drainage system in a cost-effective manner that preserves existing water resources. Goals of surface water management include, but are not limited to: reduction of public expenditures necessary to control excessive volumes and rates of runoff; flood prevention especially those urban in nature; identification of current and future drainage patterns; protection and enhancement of the areas natural habitat; promotion of ground water recharge; protection of the water quantity and quality in wetlands, the Minnesota river; and reduction in erosion from surface flows.

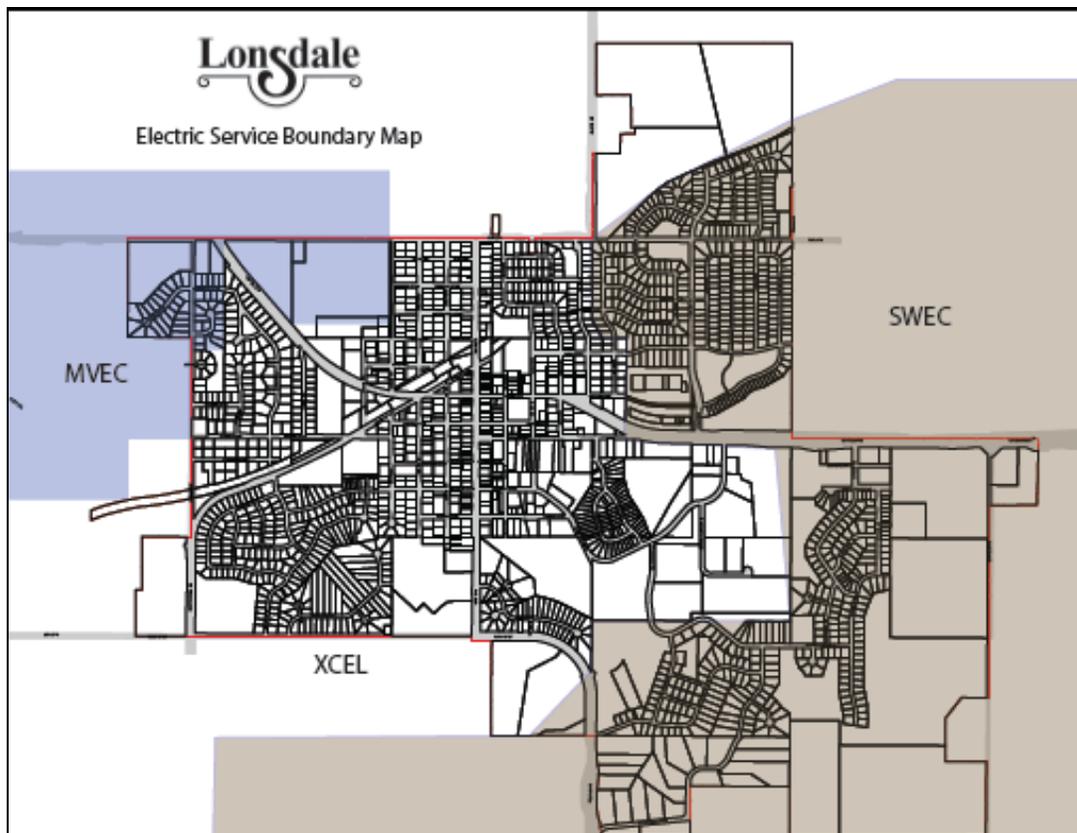
A 2006 Utility Infrastructure CIP Reconstruction Program Report was completed by WSB Associates, Inc. As a result, storm water improvements have been completed in several areas of the City including Area No. 1 (western portion of the City/NW Eighth Avenues), Area No. 2 (north central portion of the City/west of Main Street and NW Second and Third Avenues), Area No. 4

(below Area No. 1 in the western portion of the City/SW Colorado and SW Arizona Streets). Additional Storm Water improvements are proposed with Areas 5, 3 and 7. The storm sewer improvements in these areas are estimated to cost \$828,000.

Storm Water Fees. The City currently does not charge storm water fees. As the City continues to grow, development of a storm water management plan and fees may be beneficial.

V. PRIVATE UTILITY PROVIDERS

- A. **Electric.** The City of Lonsdale is served by Minnesota Valley Electric Company (MVEC) on the northwest side of the City, Xcel Energy in the central portion of the City and Steele-Waseca Coop Electric (SWEC) on the east and south sides of the City. An Electric Service Map is illustrated below.



- B. **Natural Gas.** CenterPoint Energy provide gas service to the community.
- C. **Telecommunications.** Several providers serve the City, including Lonsdale Telephone & Video Ventures, MediaCom and Exede Satellite Internet, among others.
- D. **Garbage/Recycling.** Waste Management serves as the city's garbage and recycling provider.

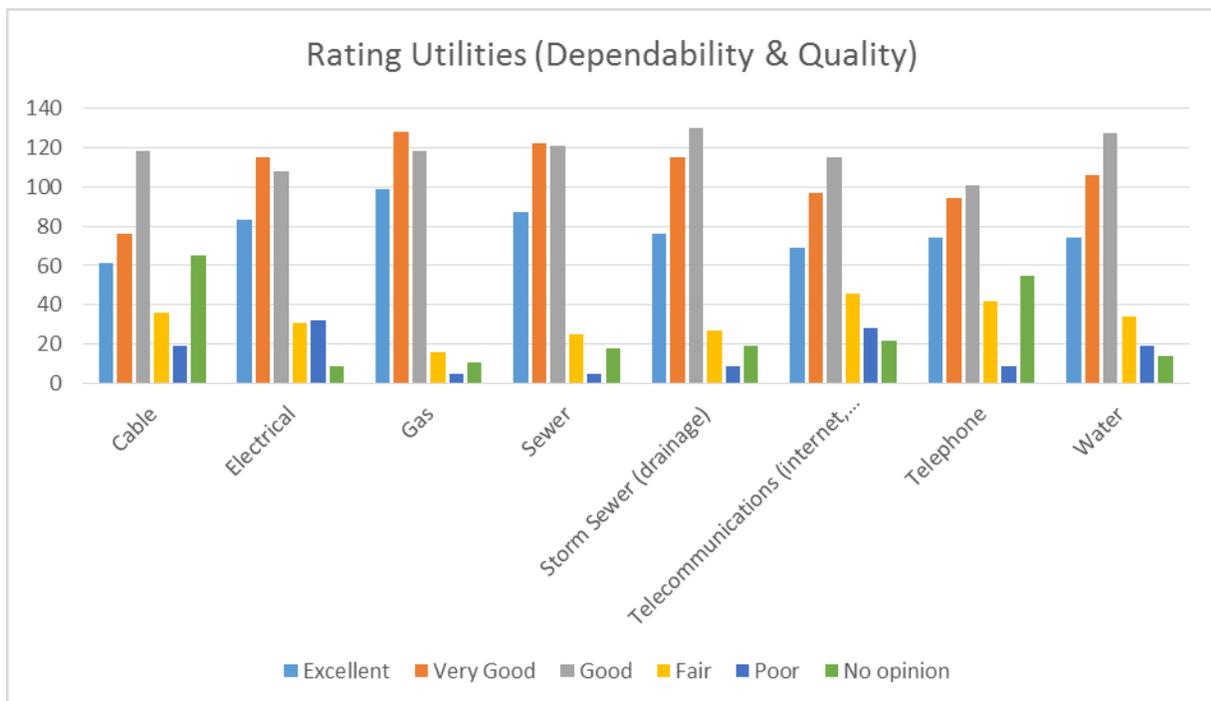
VI. COMMUNITY INPUT

As a part of a Community Survey in 2015, residents were asked to rate the quality and dependability of utilities on a scale of 1 to 5 with 5= Excellent, 4= Very Good, 3= Good, 2=Fair and 1 = Poor. Following is a weighted average of the responses.

The highest ranking utilities were natural gas and sanitary sewer. Telecommunications received the lowest average ranking Results of the survey are illustrated below:

**TABLE 10-2
RATING THE DEPENDABILITY AND QUALITY OF THE FOLLOWING UTILITIES**

Answer Options	Excellent	Very Good	Good	Fair	Poor	No opinion	Response Count
Cable	61	76	118	36	19	65	375
Electrical	83	115	108	31	32	9	378
Natural Gas	99	128	118	16	5	11	377
Sanitary Sewer	87	122	121	25	5	18	378
Storm Sewer (drainage)	76	115	130	27	9	19	376
Telecommunications (internet, etc)	69	97	115	46	28	22	377
Telephone	74	94	101	42	9	55	375
Water	74	106	127	34	19	14	374
If "Fair" or "Poor", please describe your concern in detail.							117
answered question							381
skipped question							9



VII. MUNICIPAL UTILITIES OBJECTIVES AND GOALS

MUNICIPAL UTILITY OBJECTIVES

1. Continue to provide quality utility services to Lonsdale residents and businesses at cost effective rates.
2. Plan for future utility needs and structure rates and fees to ensure future development pays for infrastructure costs needed to support the growth.
3. Continue to upgrade existing utility infrastructure as well as plan for future extensions and improvements.

MUNICIPAL UTILITY GOALS

1. The City should emphasize redevelopment/infill in existing urban areas to maximize existing municipal utilities.
2. The City should continually review the appropriateness of: utility rates, sewer and water availability and connection charges and trunk area charges to determine whether or not said fees are sufficient to provide for future reconstruction and expansion of the system.
3. To avoid duplicate costs, the City should continue to coordinate future street construction/reconstruction with needed municipal utility construction and reconstruction including coordination with other jurisdictions (county, MnDOT).
4. Utility improvements should balance environmental factors with the need to rehabilitate and expand.
5. The City should review and calculate the impact of all proposed development and land subdivision on the capacity of the existing sanitary sewer system to determine whether the City can provide services requested within a timely manner (i.e. two years).
6. The capital improvement plan should be updated annually to plan for expenditures for sanitary sewer/WWTP, water facilities, storm water facilities and any public telecommunication.