

CHAPTER 10 COMMUNITY UTILITIES

Introduction

The Village of North Hudson, with the help of the City of Hudson, provides utilities to Village residents, businesses, and industries. Being able to provide clean water, proper wastewater treatment, and stormwater runoff control helps create a desirable community to live in and also helps the environment.

Wastewater Treatment Plant / Sanitary System

The sanitary system in the Village of North Hudson consists of sanitary sewer mains, lift stations, forcemains, and a wastewater treatment plant (WWTP) located in the City of Hudson (see *Map 10-1*). The sanitary sewer system collects wastewater from homes, businesses, and industries and uses gravity mains and lift stations to convey it to the WWTP where it is treated. Sanitary sewer mains within the Village are maintained by the Village.

There are five lift stations in the Village of North Hudson. The Village maintains four while the City of Hudson maintains the fifth which is located near Lake Mallalieu and Sally's Alley North. Lift stations are used when the topography does not allow for gravity mains. The wastewater is pumped to a chamber so it can then either use gravity mains or be pumped to the WWTP.

The City of Hudson provides wastewater treatment to the Village. Enough capacity is allotted to the Village to accommodate all platted, potential, and infill development. This capacity is reserved but would not be enough to meet the increased demand caused by annexation and new development.

After the 1980 expansion of the WWTP, the Village was allotted 330,000 gallons per day in WWTP capacity. Currently, the Village is using approximately 250,000 gallons per day of that capacity. At this time, the City of Hudson does not have specific plans to expand the WWTP.

There are also some Private Onsite Wastewater Treatment Systems (POWTS) in the Village of North Hudson. These are primarily located in the St. Croix Station Subdivision in the northwestern portion of the Village. POWTS are commonly referred to as septic systems and are permitted and monitored by St. Croix County.

Adopted 12.05.2006

Reserved for Map 10-1

Water System

The water system of a community is made up of wells, water towers, hydrants, and watermains that help draw, store, maintain pressure, and distribute water to homes, businesses, and industries in the Village (see map 10-2).

The Village of North Hudson is served by two wells. Well #5 is located at 600 Lemon St. North and has a depth of 795'. The static water level is at 504' down from the surface. It has a pumping capacity of 500 gallons per minute. In 2005, the well was video inspected, had a new pump installed, and had the motor rebuilt. Only typical maintenance is planned at this time.

Well #7 is located at 719 4th St. North and has a depth of 780'. The static water level is at 522' down from the surface. It has a pumping capacity of 700 gallons per minute. In 2003, the well was also video inspected and had its pump and motor rebuilt. Only typical maintenance is planned at this time. Both wells treat water for iron and manganese and have more than enough capacity to meet the water needs of the Village.

The Village has two water towers. The first water tower is located at 600 Lemon St. North and has a capacity of 150,000 gallons. The tower was built in 1961. The tower was inspected by a diver and had debris vacuumed in 2000. In 2005, the tower was inspected but not vacuumed. The next inspection is scheduled in 2010.

The second water tower is located at 750 Summit Ln. North and has a capacity of 200,000 gallons. The tower was built in 1987. The tower was also inspected by a diver and had debris vacuumed in 2000 and 2005. The next inspection is scheduled in 2009.

Both water towers are used for water storage and to pressurize the water system. The towers adequately meet the needs of the Village.

The Village is responsible for the maintenance of the watermains and hydrants while the City of Hudson maintains the wells and booster stations within the Village of North Hudson.

The Village also has a number of private wells in the St. Croix Station Subdivision. Private wells must comply with all statutes, ordinances, regulations, and rules of the State and St. Croix County.

The Village water supply is tested daily for fluoride residuals, twice a week for chlorine residuals, and three to four times a month for bacteria. The Village's water supply has to meet all specifications set by the Safe Drinking Water Act established by the Environmental Protection Agency in 1974. Copies of the City's testing results are mailed to Village residents each year.

Adopted 12.05.2006

Reserved for Map 10-2

Stormwater

The Village's stormwater system is made up of outfalls, inlets, storm sewer pipe, ditches/swales, and retention/detention ponds (*see map 10-3*). The stormwater system is designed to collect stormwater and snowmelt runoff and move it away from existing development. Today, an emphasis is put on stormwater quantity, quality, and infiltration in an effort to protect the natural resources within watersheds and basins.

The Village contracted to have a Comprehensive Surface Water Management Plan done in 1986. The Plan identified five main ponding areas to be preserved for infiltration of surface water runoff and the recharging of the underlying aquifer. All five areas are currently being used for stormwater runoff (*see map 10-4*) though location five has a large amount of sediment deposited between the outfall and existing pond. A pond maintenance schedule for all stormwater ponds should be considered.

There are several challenges to stormwater management in the Village of North Hudson. First, the topography makes some areas susceptible to erosion due to steep slopes and unstable ground cover. Second, sand washing off the streets can clog outfalls. Finally, sediment and contaminants do not have far to travel before entering the St. Croix River and Lake Mallalieu.

Today, holding ponds are commonly used to catch sediment and allow it to settle before the water passes through or infiltrates. Since many holding ponds are relatively new, the Village will have to consider maintenance issues such as dredging them in the future.

Map 10-3 shows four areas that improvements could have the biggest impact on sediment entering the St. Croix River and Lake Mallalieu. They are:

- Location 1: Paving access to the St. Croix River to stop the washout of gravel.
- Location 2: Clean out sediment and explore bank stabilization methods.
- Location 3: Add pretreatment sedimentation box to trap sediment.
- Location 4: Add pretreatment sedimentation box to trap sediment.

Before the Village considers stormwater improvements, the causes of existing problems should be identified and the best long-term solutions considered.

Other methods the Village can use to reduce sediment and related contaminants are to reduce the amount of sand used on streets in the winter and to encourage rain gardens to capture runoff in resident's yards.

Adopted 12.05.2006

Reserved for Map 10-3

Adopted 12.05.2006

Reserved for Map 10-4

Future Utility Projects

The Village of North Hudson Public Works Committee maintains a Capital Improvements Plan (CIP) to identify future utility and facility projects and provide projected costs over the next five years. The Committee also has a 5-15 year CIP that identifies long term needs and scopes of all potential projects. The Village of North Hudson Public Works Committee is continually revising and updating these plans.

Community Utilities Goals, Objectives and Implementation Options

Goal 1: Maintain and continue to provide adequate public utilities for Village residents at a reasonable cost.

Objectives

1. Preserve the quality of life enjoyed by residents.
2. Minimize the costs of repairing and replacing utilities.
3. Reduce the amount of sediment and contaminants that go into Lake Mallalieu and the St. Croix River.
4. Reduce erosion in the Village of North Hudson.

Potential Options for Achieving Goal 1

1. Continue to coordinate with the City of Hudson for sanitary and water needs.
2. Support the Village of North Hudson Public Works Committee and their continued efforts to identify and prioritize future utility improvements and associated costs through the Capital Improvement Plans.
3. Explore grants such as Community Development Block Grants or DOT Transportation Economic Assistance, DNR Stewardship or create a TIF District to help offset utility improvements.
4. Revisit the Village's remaining WWTP capacity to estimate the number of homes and businesses that can be built.
5. Update the 1986 Comprehensive Surface Water Management Plan to identify erosion, contaminants, and sedimentation problem areas within the Village and at outfall locations on the St. Croix River and Lake Mallalieu and provide long term solutions and maintenance.
6. Reduce the amount of sand applied to streets and explore other methods to keep streets safe in the winter.
7. Distribute Capital Improvements Plan information to Plan Commission to make sure the scope of future projects matches Village of North Hudson Comprehensive Plan goals.