

**CITY OF SHOREVIEW
AGENDA
CITY COUNCIL WORKSHOP
DECEMBER 8, 2014
7:00 P.M.**

1. ROLL CALL
2. DISCUSSION REGARDING WHITE BEAR LAKE WATER LEVEL STUDY
3. REVIEW OF 2015 UTILITY RATES
4. OTHER ISSUES
5. ADJOURNMENT

TO: MAYOR, CITY COUNCIL, AND CITY MANAGER

FROM: MARK MALONEY, PUBLIC WORKS DIRECTOR

DATE: DECEMBER 4, 2014

SUBJECT: SHOREVIEW WATER SUPPLY TOPIC

Earlier this week, the City learned that the Minnesota Department of Natural Resources (DNR) had reached a settlement in a lawsuit with private property interests concerning the water levels on White Bear Lake. The details are included in the attached 25 page settlement agreement. The DNR has also provided a Question and Answer document that more succinctly explains the proposed settlement. In general, the settlement does the following:

- Halts the litigation for up to three years to allow the DNR and the two local communities (White Bear Lake and White Bear Township) to support efforts to develop a surface water supply to serve area communities.
- The DNR has agreed to set a protective elevation of White Bear Lake by November 1, 2016.
- The parties have agreed to pursue water conservation means.

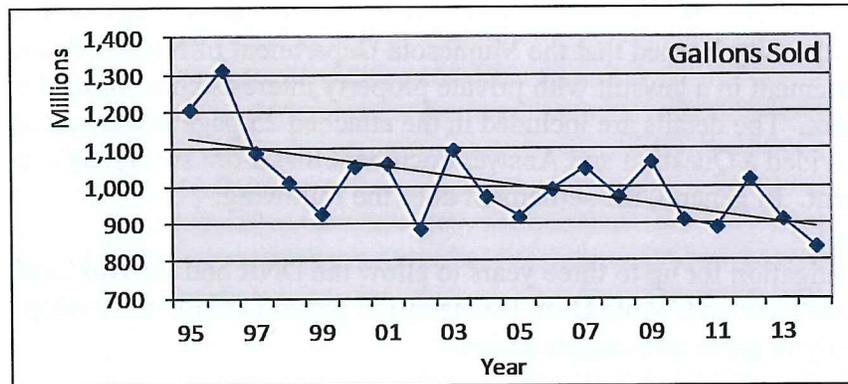
As part of their support for an alternate water supply, the DNR has agreed to support a two phase option identified in a Metropolitan Council draft feasibility report that would move 13 communities from using groundwater drinking supplies to Mississippi surface water supply. Shoreview is identified as one of the six cities that would be moved to the surface water supply in phase 1 of the Met Council study. It is important to note that this settlement does not provide the funding to make this switch or obligate any of the thirteen cities to switch to a surface water supply.

The Legislature would still need to approve and fund a very expensive project (Phase 1 estimated cost \$155-\$235 million). It is also important to note that the two parties in the litigation do not agree that groundwater use is the primary cause of the low water levels on White Bear Lake or that switching communities to a surface water source will make a significant difference in the level of the lake.

Staff wanted an opportunity to discuss this settlement with the Council since Shoreview is identified as one of the six cities that would be part of a switch to surface water; and that we are currently in the middle of designing an \$11 million water treatment plant to reduce the level of iron and manganese from our groundwater supply.

Unlike the adjacent communities of Arden Hills and Roseville, Shoreview has been an independent drinking water producer utilizing deep aquifer (groundwater) wells since the mid-1960s. The City's municipal water utility was originally implemented and has been consistently and professionally managed to provide high quality drinking water to meet the residential, commercial and institutional demands that were accurately predicted and guided by the

Shoreview's Comprehensive Plans. Shoreview's public water utility infrastructure includes both buried and elevated storage facilities, a booster pumping station, over 100 miles of distribution piping, and by extension has also facilitated the development of commercial, residential and US Armed Forces uses in North Oaks and Arden Hills. Even with the modest increase in service area over the years, Shoreview's water use is in a steady decreasing trend since 1995, due primarily to water conservation efforts, lower household sizes, and improvements in metering and leak detection.



The City Council recently authorized the design of a water treatment plant in response to increasing levels of iron/manganese in the City's source water, which is a typical requirement for ground water based utilities. At this point we estimate that the design is approximately 50% complete, and the overall project schedule anticipates the design process being completed in March with construction beginning in mid-2015.

The DNR settlement agreement references a preliminary feasibility study by the Metropolitan Council that examines the engineering concepts of augmentation for White Bear Lake and potential extension of the service area for St. Paul Regional Water Services, which provides Mississippi River/surface water based drinking water to St. Paul and some adjacent communities. This study, however, did not do any detailed engineering design on how this would be accomplished or how surface water may be "blended" with groundwater from our existing municipal wells. Further, it did not address issues such as the governance or process that would be used in converting to more of a regional water supply that is currently operated by the St. Paul Water Utility. Staff believes that it would take significantly more time, study and effort to even begin to consider movement to more of a regional water supplier than the time frame outlined in the settlement agreement.

Due to the number of uncertainties associated with this settlement agreement, staff does not believe it is prudent to stop planning for the construction of a water treatment plant at this time. Although the timing of this settlement agreement is unfortunate, staff does not believe there is a strong likelihood of Shoreview converting to a surface water system to provide water to our residents.



www.mndnr.gov



DNR Q&A

Dec. 1, 2014

Media contacts: Chris Niskanen, DNR communications director, 651-259-5023, chris.niskanen@state.mn.us.

DNR settles lawsuit over White Bear Lake water levels

The Minnesota Department of Natural Resources recently settled a lawsuit through mediation with plaintiffs over White Bear Lake water levels.

Here are some questions and answers regarding the settlement and the agency's ongoing efforts to advance long term groundwater sustainability in the northeast Twin Cities metropolitan area.

The Q&A provides background material to reporters and editors for use in preparing stories about the settlement and is issued in place of a news release.

Q: What is the background on this lawsuit?

A: In the past several years, White Bear Lake's water levels have been at the lower end of their historic range. Experts disagree about the fundamental causes of the low levels. The DNR was sued in Ramsey County District Court in 2012, with the plaintiffs claiming that, by allowing 13 local communities to use groundwater for their public water supply, the DNR has permitted too much groundwater use in the area, thus lowering White Bear Lake. The plaintiffs asked the judge to set a lake water elevation, reduce local communities' groundwater use, and require the agency to augment the lake with an additional water supply.

Q: What are the key aspects of the settlement?

A: The settlement, which is subject to court approval, halts the litigation up to three years. During this time, the DNR and the two local communities involved in the mediation have agreed to support efforts to develop a surface water supply to serve area communities. The DNR has also agreed to set a protective elevation for White Bear Lake by Nov. 1, 2016. Finally, all parties to the settlement have agreed to pursue conservation measures.

Q: What is envisioned for the alternative water supply?

A: The DNR has agreed to support a two phased option identified in the Met Council's June 2014 Draft Water Feasibility Report to move 13 communities from groundwater and to surface water from the Mississippi River for their public water supply. The first phase of the project (Phase I) would move six communities - Mahtomedi, North Saint Paul, Shoreview, Vadnais Heights, White Bear Lake, and White Bear Township – to a surface water supply system. The Phase I project would cost an estimated \$155 million to \$230 million. The DNR agreed to support a legislative proposal advanced by a public entity to fully fund the feasibility and design of Phase I by August 2016. Under the settlement agreement, the target for full construction funding is August 2017. The DNR also agreed to support Phase II and to work with seven additional communities in the northeast metro to move these communities to surface water. There are no timelines set out in the settlement agreement for this Phase II work.

Q: What does the settlement mean to lake levels?

A: White Bear Lake's levels are driven by complex and interconnected factors. The DNR cannot guarantee when and how lake levels will respond to implementation of the various settlement terms. However, we are confident that the settlement is fundamentally based on sound water resource management principles.

Q: Does the settlement commit the Met Council or the Legislature to fund or implement the water supply project?

A: No. The settlement is an agreement among the parties to the litigation and is not binding on any other party. As the lead for water supply planning in the Twin Cities, the Met Council has examined alternatives to addressing northeast metro water needs. The DNR and the other parties carefully considered the Met Council's draft June 2014 report in developing the settlement agreement, but the Council is not party to the settlement and is not committed to advancing any legislative proposal. Additionally, the DNR and the other parties to the settlement certainly cannot obligate the Legislature. Rather, the settlement agreement is an opportunity to halt the litigation for three years, allowing time for appropriate legislative consideration and debate.

Q: Does the settlement force communities to switch their water source?

A: No. In reaching the settlement, the DNR weighed long-term regional water needs, the risks of further litigation, and the need to ensure water sustainability for the region. The settlement was crafted with direct involvement from the two of the 13 local communities that elected to participate in the litigation. In order for any water supply proposal to go forward, the project would need legislative approval and an equitable funding mechanism.

Q: What are the required conservation measures under the settlement?

A: The DNR will work with groundwater permit holders within local 13 communities to adopt water conservation measures, with a goal of a 17 percent reduction in water use. This reduction would be measured against average water use over the past eight years. The plaintiffs will work with their membership and other residents who have private wells near the lake to adopt conservation measures. All parties agree to a consumption goal of 75 gallons per person per day, consistent with the Met Council's target for the Twin Cities area.

Q: Who signed the settlement and how was it settled?

A: All parties to the litigation have signed the agreement. This includes, the DNR, the two plaintiff groups (White Bear Lake Restoration Association and White Bear Lake Homeowners' Association), and the two communities that elected to intervene in the litigation (City of White Bear Lake and White Bear Township). The settlement was mediated by retired Minnesota Supreme Court associate justice James H. Gilbert and negotiations began in February 2014. The case was scheduled for trial in March 2015.

Q: Does setting a protective lake elevation impact current groundwater permit holders in the region?

A: Under state statute and rule, protective elevations are a tool available to DNR to ensure that appropriations do not unduly affect surface waters. Where a protective elevation for a surface water body is established and incorporated into a surface water permit, the surface water appropriation must cease when the water body falls below that elevation. In the case of a permitted groundwater appropriation potentially affecting a surface water with a protective elevation, the situation is more complex. DNR would first have to establish that the groundwater appropriation was *causing* the water body to fall below its protective elevation prior to ordering cessation of pumping. The complexity of surface-groundwater interactions could make such a

clear causal connection difficult to draw. In this settlement, the DNR has agreed to set a protective lake elevation that will be used to regulate new groundwater permits or amendments to existing permits. DNR would not be obligated to apply the protective elevation prior to completion of the Phase 1 water supply project. After completion of Phase 1, there is also an exemption if the DNR Commissioner determines that application would be unduly deleterious to public water supply. Moreover, the DNR has not agreed to establish a specific protective elevation for White Bear Lake. The protective elevation will be developed and applied in accordance with state statute and rule.

Q: Does the settlement mean the DNR agrees with plaintiffs over the cause of the low water levels on White Bear Lake?

A: No. The DNR does not agree the science supports the plaintiffs' theory that groundwater pumping is the primary cause of low water levels on White Bear Lake. The state's independent expert, a nationally recognized hydrogeologist, has concluded that the cause of the lake's decline in recent years is likely climate related. In addition, it is important to understand that variation in lake levels over time is important to lake health. However, the DNR does believe that groundwater resources in the north and east metro region may be oversubscribed in the future. Thus, it makes sense to act now to move communities to a more sustainable water supply system that can better accommodate future growth.

Q: Did the judge ever make a factual determination on the cause of the recent low lake levels?

A: No. Because this case did not go to trial, the judge has not heard or evaluated expert testimony and has made no factual determination regarding the cause of the low lake levels. At this point neither party has proved the cause of the low lake levels.

Q: What else is the DNR doing to ensure groundwater sustainability in the northeast metropolitan area?

A: For the past year, the agency has been working with northeast communities, businesses and other government agencies to develop a North and East Groundwater Management Area, which will result in a long-term plan for managing regional groundwater resources sustainably. That process, which is separate from the lawsuit, is ongoing and continues to be a high priority for the agency. As part of the settlement to the lawsuit, the DNR will appoint a member from each of the two plaintiffs' groups to the management area advisory team.

**FEASIBILITY ASSESSMENT OF
APPROACHES TO WATER
SUSTAINABILITY IN THE
NORTHEAST METRO –
DRAFT REPORT
*EXECUTIVE SUMMARY***



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The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low- and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

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About this Report

The 2005 Minnesota Legislature directed the Metropolitan Council to “carry out planning activities addressing the water supply needs of the metropolitan area,” including the development of a Twin Cities Metropolitan Area Master Water Supply Plan (Minn. Stat., Sec. 473.1565). After completing that plan, the Council took on many technical and outreach projects that strengthen local and regional water supply planning efforts. These projects have also elevated the importance of water supply in local comprehensive planning, which is carried out by local communities.

This study is one of several being led by the Metropolitan Council to support an update to the Master Plan and other activities identified by the 2005 Minnesota Legislature to address the water supply needs of the seven-county metropolitan area. This study is funded from the Clean Water Legacy Fund (Minn. Laws 2013 Ch. 137, Art. 2, Sec. 9).

Concurrent studies in the northeast metro area include:

- Characterizing Groundwater and Surface Water Interaction in Northeast Metro Area Lakes, MN – in conjunction with the United States Geological Survey (USGS); scheduled for completion in 2016.
- Feasibility Study of Joint Water Utility – Cities of Centerville, Circle Pines, Columbus, Hugo, Lexington, and Lino Lakes – in conjunction with Barr Engineering Company; scheduled for completion in fall 2014.

The Metropolitan Council retained Short Elliott Hendrickson Inc. (SEH) to complete this technical assessment of the capital and operational costs, as well as the potential benefits, of three approaches to the regional sustainability of water resources in the northeast metro area. This study has been carried out with input from and engagement with local stakeholders, including community public water utilities, through a water supply work group. This group continues to meet regularly to discuss the study along with other water supply topics of importance to group members.

The Council received a draft report from SEH on June 27, 2014. This executive summary was prepared to communicate the results of the draft report. The Council and its water supply work group will continue to evaluate the approaches and then make recommendations for the final report, expected to be completed in fall 2014.



Recommended Citation

Metropolitan Council. 2014. *Feasibility Assessment of Approaches to Water Sustainability in the Northeast Metro – Draft Report Executive Summary*. Prepared by Short Elliott Hendrickson Inc. Metropolitan Council: Saint Paul.

Study Objectives

This feasibility assessment evaluates three base approaches to address water sustainability in the northeast portion of the Twin Cities metropolitan area:

- Connect northeast metro communities to Saint Paul Regional Water Services to supply drinking water (Saint Paul Expansion)
- Develop a surface water connection to a new subregional surface water treatment plant (New Surface Water Treatment Plant)
- Directly augment White Bear Lake with river water (Lake Augmentation)

We selected these approaches based on their potential to achieve regional water supply reliability and sustainability goals. In particular, the approaches either produce a sustainable balance of surface water and groundwater use, or offset potential environmental impacts of current groundwater use. The base approaches are not mutually exclusive, and the best possible outcome may be a combination of them.

Key Findings

Table 1. Estimated Costs and Impacts of Alternatives for Addressing Water Sustainability in the Northwest Metro.

	Capital Cost (millions of dollars)	Annual Operational Cost (millions of dollars)	Ground-water Impact	Surface Water Impact	Reliability of Water Supply	Ease of Implementation	User Rate Impact
Alternative 1A: Saint Paul Service Expanded to North Saint Paul	\$5.2	\$1.3	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>
Alternative 1B: Saint Paul Service Expanded to Select Northeast Metro Communities	\$155.4	\$10.1	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>
Alternative 1C: Saint Paul Service Expanded to All Northeast Metro Communities	\$623.2	\$18.0	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>
Alternative 2B: New Surface Water Treatment Plant Service to Select Northeast Metro Communities	\$229.7	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>
Alternative 2C: New Surface Water Treatment Plant Service to All Northeast Metro Communities	\$609.7	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>
Directly Augment White Bear Lake with River Water	\$50.0	\$0.3	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>	<i>In Progress</i>

Water Supply

- The Saint Paul Regional Water Services (Saint Paul) system currently has excess capacity to serve an estimated 30 million gallons per day to additional neighboring communities.
- A new trunk water main from Saint Paul's McCarrons Water Treatment Plant would be necessary to bring water to the majority of the study area.
- The six communities nearest to Saint Paul's system (Shoreview, Vadnais Heights, White Bear Lake, White Bear Township, Mahtomedi, and North Saint Paul) could be served by Saint Paul without expanding its major water treatment facility or improving its raw water delivery system to the plant. To expand service beyond these six communities, additional large-scale infrastructure improvements would be needed. This would significantly increase the capital costs of the system.

Lake Augmentation

- The St. Croix River has been eliminated for further study as a water source because of distance, required pumping pressure, and regulatory complexities.
- The Mississippi River is impaired with zebra mussels, as is Vadnais Lake. Augmentation from this source will require filtration.
- With filtration, augmentation with water from Vadnais Lake is not anticipated to degrade White Bear Lake water quality.
- Saint Paul has sufficient capacity to provide an additional 2 billion gallons of water annually (2 BG/yr) for use to augment White Bear Lake. The Minnesota Department of Natural Resources (DNR) would need to approve a permit for such use.
- It is not certain if augmentation of 2 BG/yr will maintain the water level of White Bear Lake at the ordinary high water level.
- It is unlikely that augmentation of White Bear Lake will provide benefit to other lakes or to the regional groundwater aquifers.

Next Steps

In order to deliver a final report by October 2014, we will complete the following work:

- Review the draft report with the Northeast Metro Water Supply Work Group and related stakeholders.
- Evaluate the costs and impacts inherent in continuing on the current path of relying on groundwater, without change, and compare them with alternatives presented in this study.
- Complete the evaluation of all alternatives to identify those that best improve water sustainability and protect water resources in the northeast metro area.
- Evaluate ownership and cost-sharing models, along with potential funding sources, for the best alternative(s) identified.
- Assess use of both surface water and groundwater as a long-term management strategy.

Figure 1. Study Area Map.

Study Area Description

The study area contains 13 communities, shown in Figure 1, that rely on groundwater for their water supply. The Prairie du Chien–Jordan aquifer, which is the most heavily used groundwater source in the Twin Cities metropolitan area, provides most of the water to these communities.

The study area communities are within the DNR's North and East Metro Groundwater Management Area, one of three pilot groundwater management areas in the state. The purpose of the three pilot areas is to learn how to effectively establish groundwater management areas in locations that are facing groundwater management challenges.

For each community, we collected historical water use, planned growth, existing water system infrastructure, and current water rate structures. Table 2 summarizes current and projected water use for each community.

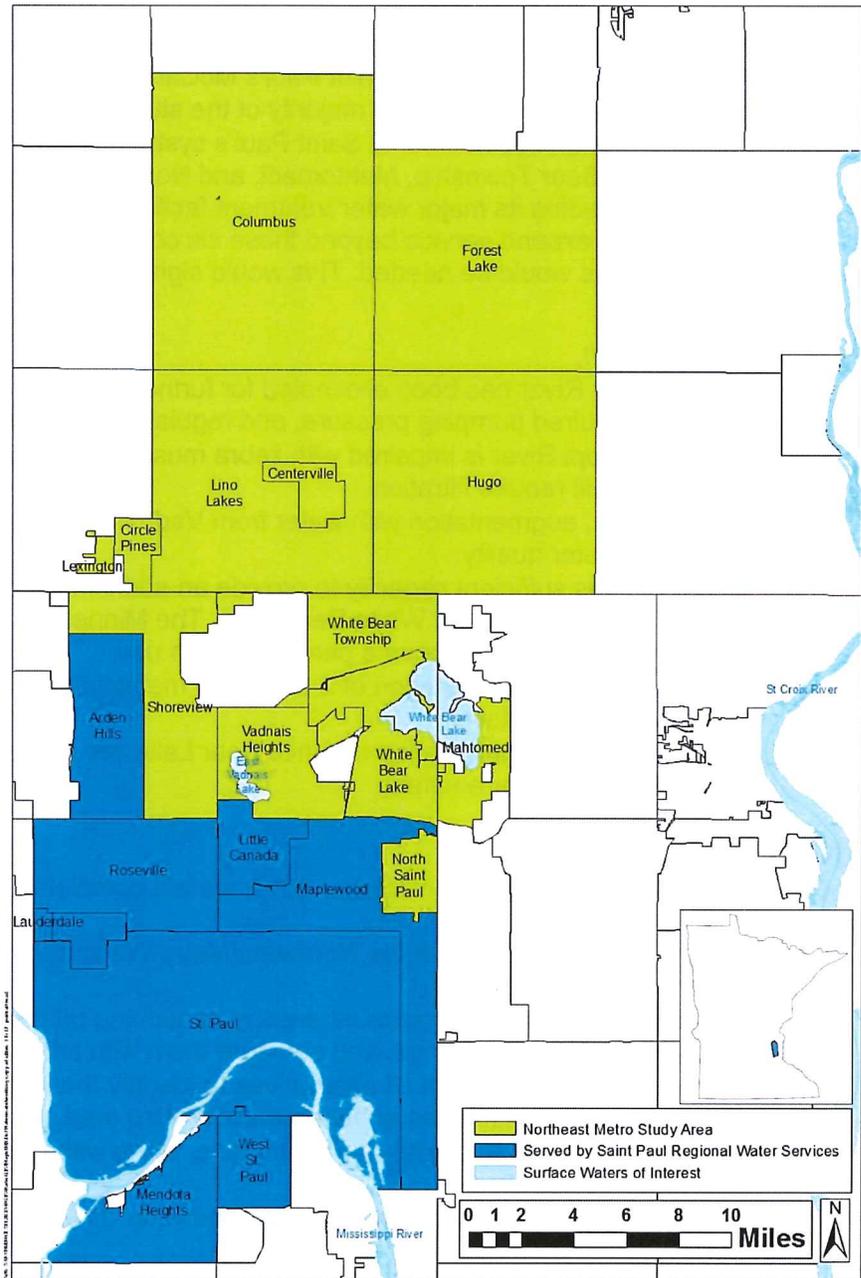


Table 2. Current and Future Community Water Use Summary. Demands are presented in millions of gallons per day (MGD).

Community	2010 Population	2010 Avg. Day Demand ¹	2010 Max Day Demand ²	2040 Population Forecast	2040 Avg. Day Demand ¹	2040 Max Day Demand ²
Centerville	3,792	0.4	1.1	4,200	0.5	1.4
Circle Pines	4,918	0.5	1.5	5,300	0.5	1.5
Columbus	3,914	0.1	0.1	5,300	0.3	0.7
Forest Lake	18,377	2.2	3.9	28,300	2.7	4.8
Hugo	13,332	1.8	6.4	32,500	2.5	8.9
Lexington	2,049	0.3	1.5	2,300	0.3	1.5
Lino Lakes	20,216	1.8	6.0	29,000	2.2	7.3
Mahtomedi	7,676	0.9	2.2	7,700	1.0	2.4
North St. Paul	11,460	1.4	4.1	13,100	1.3	3.8
Shoreview	25,043	3.3	10.6	27,500	4.0	12.8
Vadnais Heights	12,302	1.6	3.9	14,500	2.1	5.1
White Bear Lake	23,394	2.9	8.1	28,180	3.3	9.2
White Bear Twp.	10,949	1.7	4.5	12,000	1.6	4.2
Total	157,422	18.9	53.9	209,880	22.3	63.6

¹ Average day demand is defined as the total annual water use for a system divided by 365 days.

² Maximum day demand is defined as the largest daily water use over the course of a calendar year. This is an important criterion for the sizing of infrastructure systems for reliable service.

Approach 1 – Connect Northeast Metro Communities to Saint Paul Regional Water Services to Supply Drinking Water (Saint Paul Expansion)

Saint Paul operates a regional water system that borders the southern-most communities in the study area. Saint Paul obtains its water primarily from the Mississippi River via an intake and pumping station in Fridley. This water is pumped east to Charley Lake in North Oaks, from which it flows by gravity through a chain of lakes to Vadnais Lake in Vadnais Heights. Water is pumped from Vadnais Lake to the McCarrons Water Treatment Plant in Maplewood. Figure 2 shows a schematic of Saint Paul's water supply system.

Figure 2. Saint Paul Supply System Schematic



Saint Paul's Capacities

Saint Paul currently has excess capacity in its supply and treatment operations. In addition to the supply capacity from the river, the chain of lakes from which Saint Paul draws water contains 3.5 billion gallons of operating storage capacity (above the system intake at Vadnais Lake). This storage volume provides a buffer to allow water use in excess of the 80 million gallons per day (MGD) river supply rate for extended peak periods. We calculate that an average rate of withdrawal of 100 MGD could be sustained from Vadnais Lake over a 5-month period to meet peak usage of current Saint Paul customers with excess supply capacity to serve future customers, while utilizing 3 billion gallons of

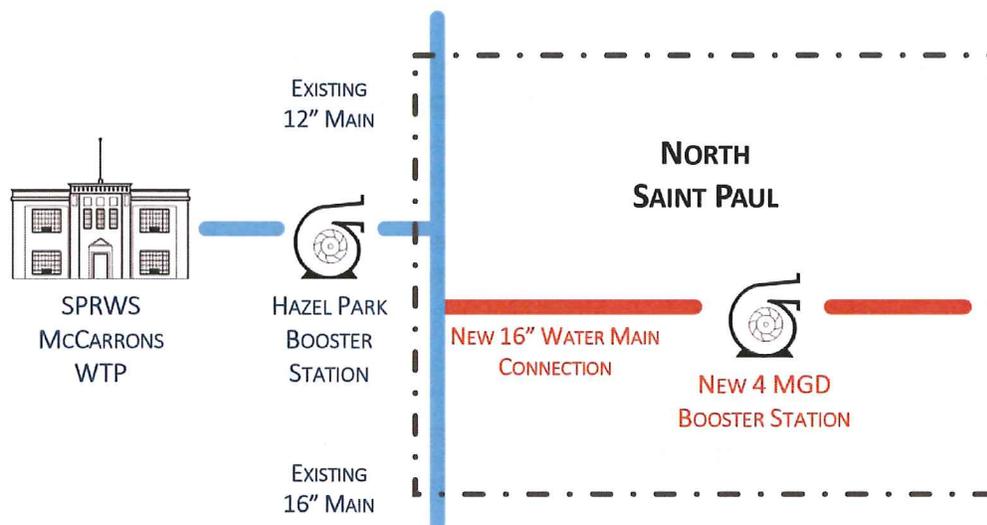
storage volume. This supply rate could meet the projected 2040 water demands of most of the communities in the study area.

Treatment plant capacity must be able to meet peak daily water use of the system. Saint Paul reports that the existing water treatment facility can meet short-term peak use of 130 MGD. The 2040 projected peak daily water use for Saint Paul and all of the communities in the study area is 153 MGD. Therefore, existing Saint Paul treatment facilities would need to be expanded to supply water to the entire study area. However, a subset of communities could be served reliably from existing treatment facilities.

Alternative 1A – Saint Paul Service Expanded to North Saint Paul

A preliminary screening process identified the Hazel Park pressure zone of the Saint Paul system as an optimum connection point for study area communities to Saint Paul’s existing distribution system. However, this connection has capacity to serve only North Saint Paul. It is more cost-effective to provide service to additional communities through a new connection at the McCarrons Water Treatment Plant. Therefore, Alternative 1A focuses only on expanding service to North Saint Paul. This project entails the least capital investment of all the alternatives. Figure 3 presents the concept system components for Alternative 1A.

Figure 3. Alternative 1A Concept – Saint Paul Service Expanded to North Saint Paul

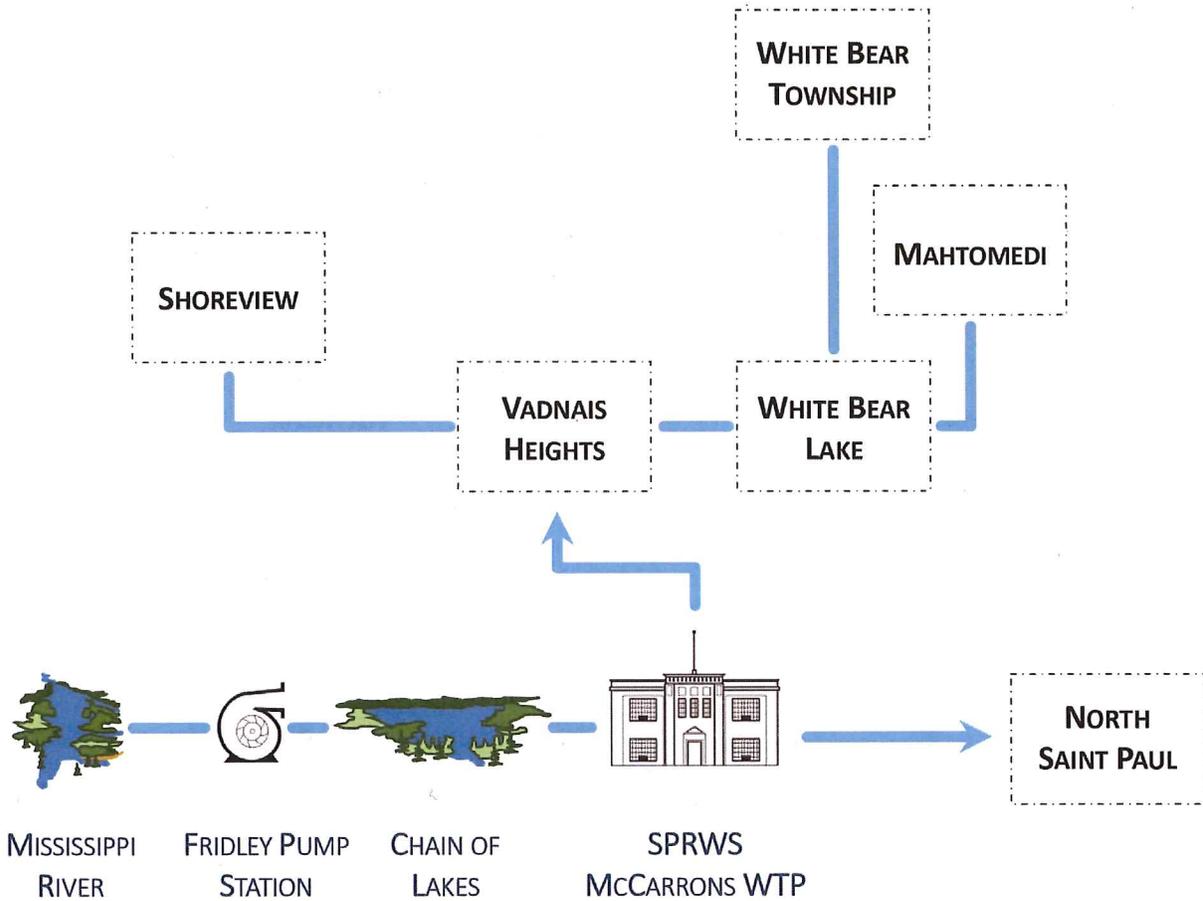


Alternative 1B – Saint Paul Service Expanded to Select Northeast Metro Communities

We identified a subset of study area communities as more feasible for service from Saint Paul, based on proximity and the limitations of critical components of Saint Paul’s current water infrastructure. The study area communities selected for Alternative 1B include Vadnais Heights, White Bear Lake, White Bear Township, Mahtomedi, and Shoreview. The water use for these communities is projected to be 4.8 billion gallons in 2040. Expanding service beyond this subset of communities would require additional large-scale improvements to Saint Paul’s infrastructure, which would result in significant capital cost increases. These five communities would be served by a new transmission line from the McCarrons Water Treatment Plant sized for only these communities. In addition, North Saint Paul

would be served as previously presented in Alternative 1A. Figure 4 presents the concept system components for Alternative 1B.

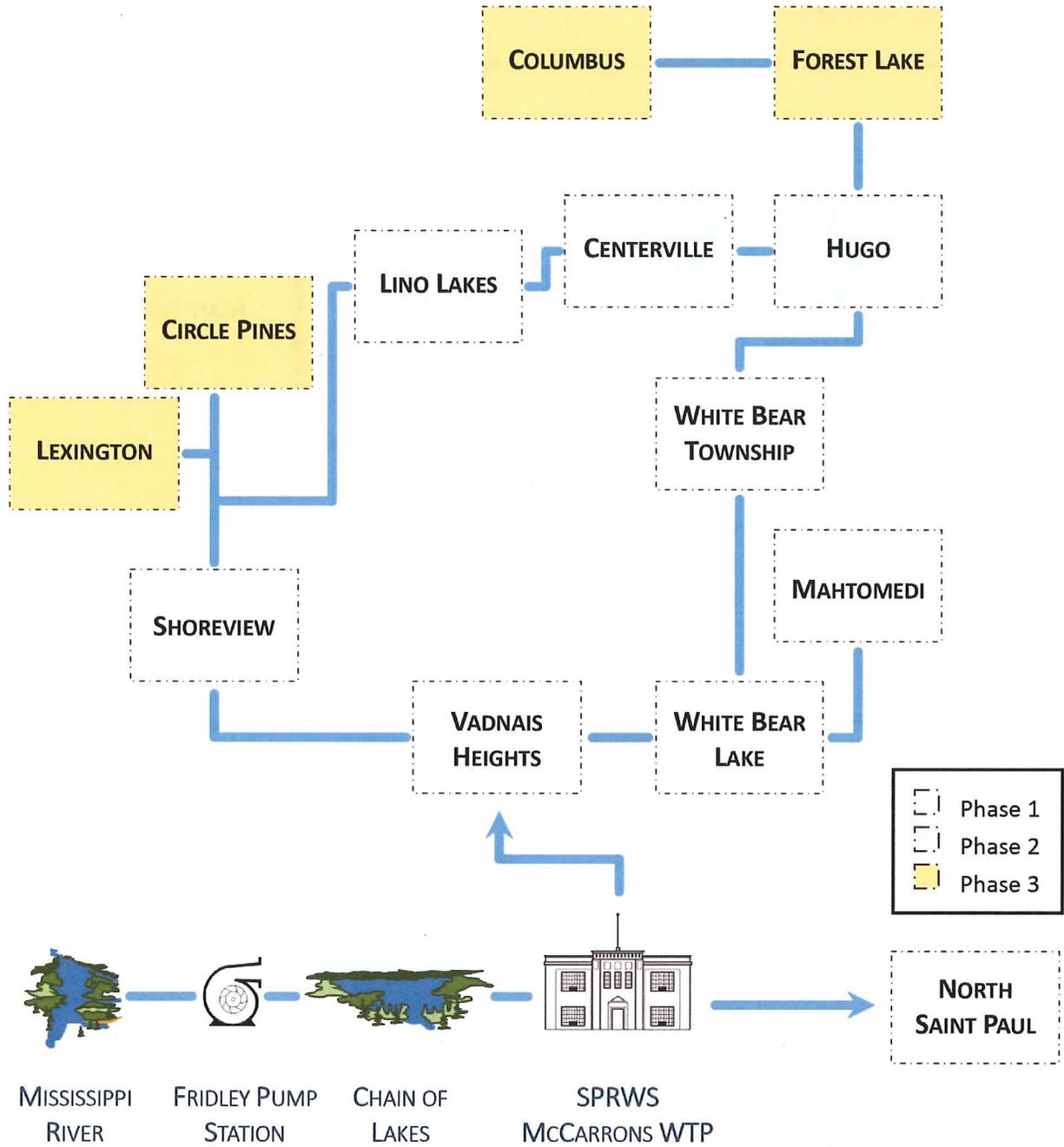
Figure 4. Alternative 1B Concept – Saint Paul Service Expanded to Select Northeast Metro Communities



Alternative 1C – Saint Paul Service Expanded to All Northeast Metro Communities

Alternative 1C represents a system serving all communities in the study area. For this alternative, the trunk water main is sized to serve these communities (excluding North Saint Paul, which would be served by the Hazel Park pressure zone, as noted in alternative 1A). In addition, capacity of Lake McCarrons Water Treatment Plant would be expanded significantly. We propose developing this alternative in phases to accommodate Saint Paul’s capacity expansion needs and the growth projections of the communities. In Phase 1, the communities identified for Alternatives 1A and 1B are served. In Phase 2, the communities of Lino Lakes, Centerville, and Hugo are added. In Phase 3, the system is expanded to serve Forest Lake, Columbus, Circle Pines and Lexington. Figure 5 presents the Alternative 1C concept system.

Figure 5. Alternative 1C Concept – Saint Paul Service Expanded to All Northeast Metro Communities



Approach 2 – Develop a Surface Water Connection to a New Subregional Surface Water Treatment Plant (New Surface Water Treatment Plant)

In Approach 2, the water supply source is obtained through Saint Paul's appropriation of Mississippi River water, with a new water treatment plant constructed at Vadnais Lake. For this approach, two base alternatives correlate to Approach 1 alternatives. Alternative 2B defines a subset of study area communities served by a new water treatment plant that is similar to Alternative 1B: serving Vadnais Heights, White Bear Lake, White Bear Lake Township, Mahtomedi, and Shoreview. North Saint Paul would be served through the Hazel Park pressure zone. Figure 6 presents the Alternative 2B concept system. Alternative 2C defines a water supply system served by a new water treatment plant for all the study area communities (again, excluding North Saint Paul) through a phased approach, similar to Alternative 1C. Figure 7 presents the Alternative 2C concept system.

Figure 6. Alternative 2B Concept – New Surface Water Treatment Plant Service to Select Northeast Metro Communities

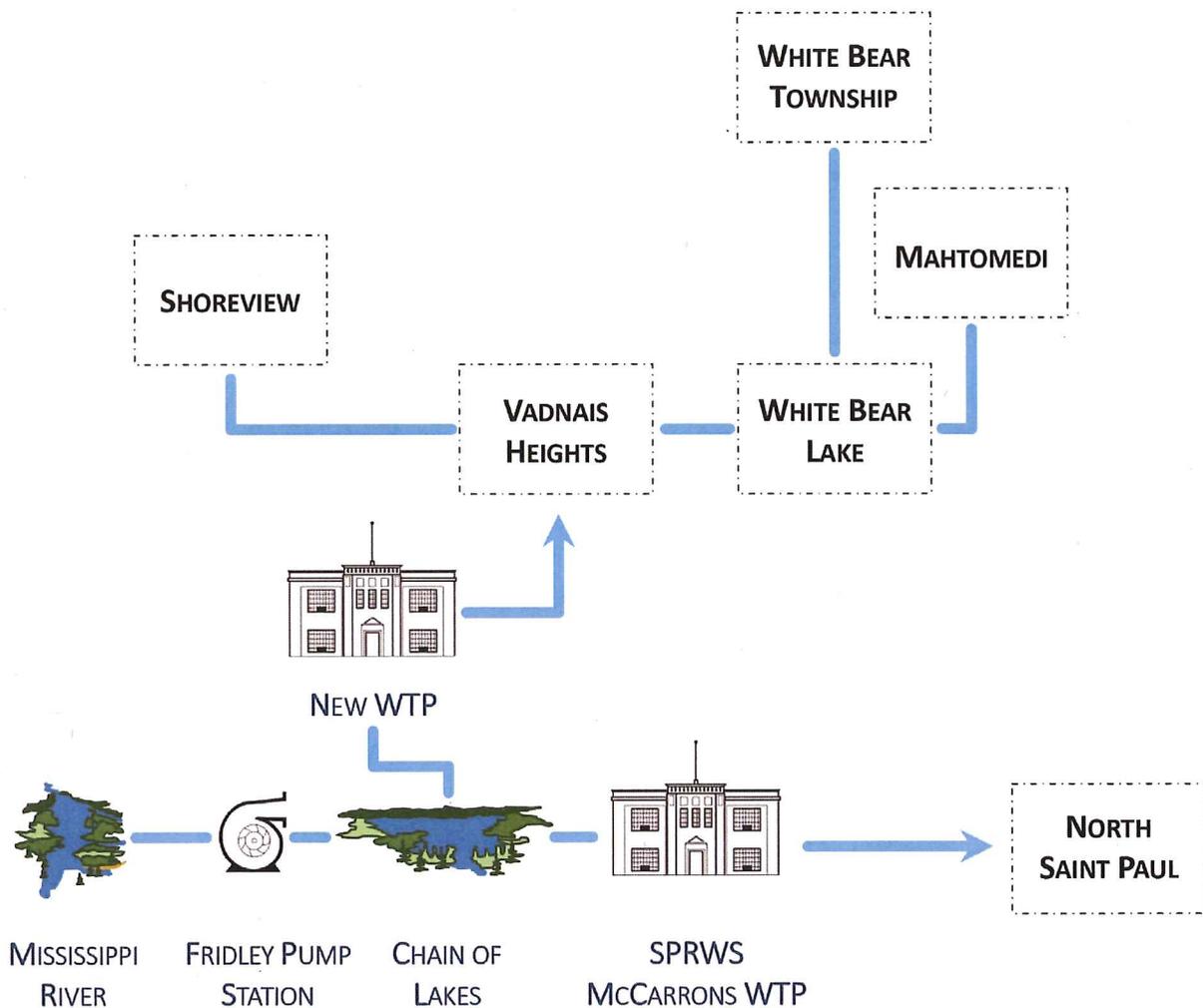
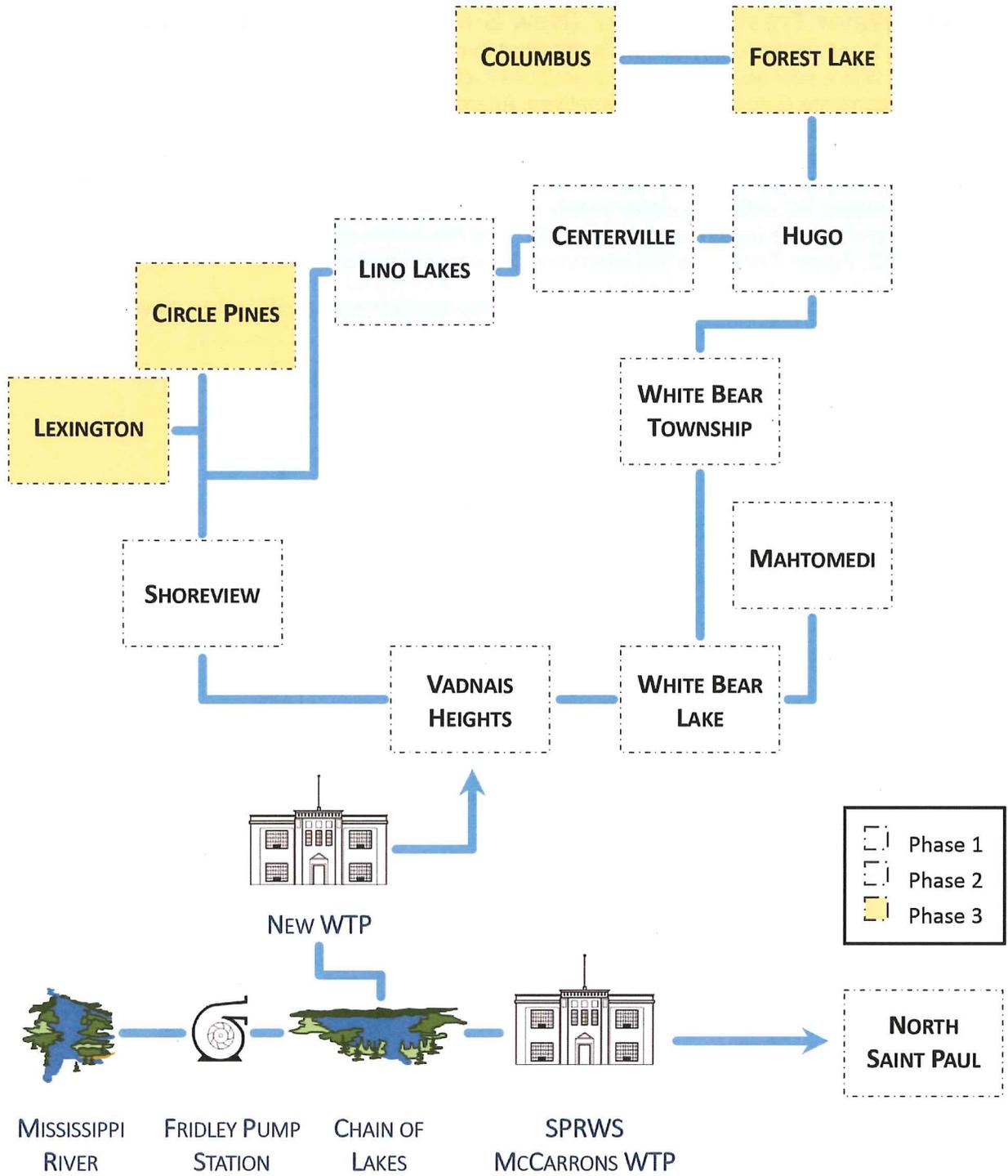


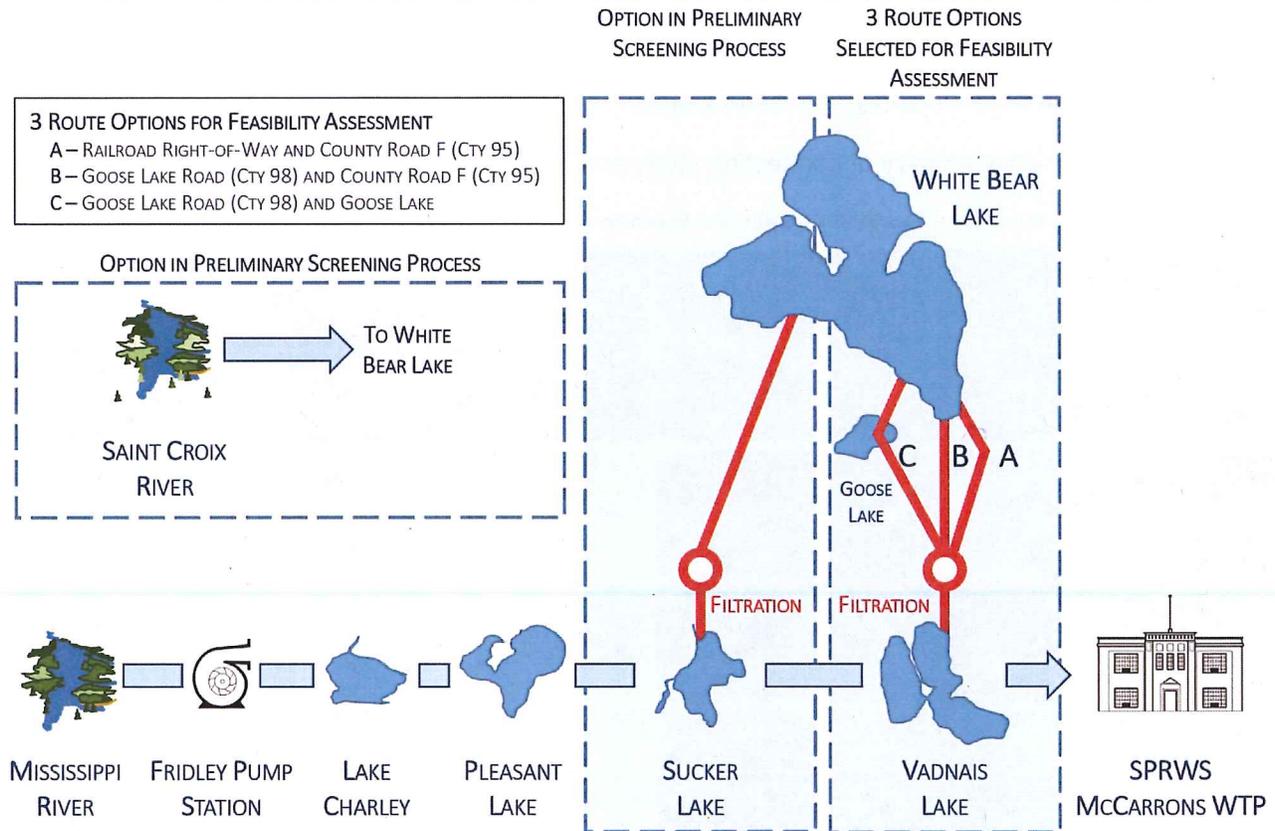
Figure 7. Alternative 2C Concept – New Surface Water Treatment Plant Service to All Northeast Metro Communities



Approach 3 – Directly Augment White Bear Lake with River Water (Lake Augmentation)

Approach 3 evaluates options for augmenting White Bear Lake with river water. To screen the options, we selected the river water source and then considered routes for conveying the water. We evaluated the Mississippi and St. Croix rivers as source waters, each with preliminary conveyance routes. Screening criteria identified the Mississippi River, with withdrawal from Vadnais Lake, as the optimum source for river water. We evaluated four options for conveyance routes to White Bear Lake; one from Sucker Lake and three from Vadnais Lake, as depicted in Figure 8. We eliminated the Sucker Lake route in the preliminary screening process.

Figure 8. Approach 3 – Lake Augmentation Schematic of Options Evaluated



Findings and Cost Estimates

Approach 1 – Saint Paul Expansion

We evaluated the feasibility of connecting study area communities to Saint Paul Regional Water Services. The preliminary findings are as follows:

- Saint Paul’s raw water main and pumping capacity are essentially at capacity with existing maximum day demand of approximately 80 MGD. However, significant storage exists in the chain of lakes (3.5 billion gallons) to provide water to meet a portion of the peak-day demand of the northeast metro communities.
- The McCarrons Water Treatment Plant currently has approximately 30 MGD of excess capacity.
- Saint Paul’s Hazel Park pressure zone, which is adjacent to North Saint Paul and White Bear Lake, has limited capacity to provide water to the study area. Only North Saint Paul can be served from the Hazel Park pressure zone without significant improvements
- A major new trunk water main that connects to the core of the Saint Paul system is necessary to bring water to the majority of the study area.

Table 3 shows a cost summary of connecting study area communities to Saint Paul.

Table 3. Cost Estimate Summary – Approach 1 – Saint Paul Expansion

	Annual Groundwater Offset (Millions of Gallons)	Capital Cost ^{1,2}	Annual Operations & Maintenance Cost for Water Service
Alternative 1A – Saint Paul Connection to North Saint Paul	500	\$5,191,000	\$1,257,800
Alternative 1B – Saint Paul Connection to Select NE Metro Communities <i>(Mahtomedi, North Saint Paul, Shoreview, Vadnais Heights, White Bear Lake, White Bear Township)</i>	4,800	\$155,363,000	\$10,088,000
Alternative 1C – Saint Paul Connection to All NE			
Phase 1		\$246,556,000	
Phase 2		\$329,416,000	
Phase 3		\$47,206,000	
Total Alternative 3	8,100	\$623,178,000	\$18,018,000

¹Based on April 2014; no escalation to date of construction.

²Capital cost estimates for Approach 1 include distribution facilities. Alternative 1C also includes improvements to the McCarrons water treatment plant and the raw water delivery system from the Mississippi River.

Approach 2 – New Surface Water Treatment Plant

We evaluated the feasibility of constructing a new water treatment plant with a surface water source. The preliminary findings are as follows:

- Saint Paul owns land on Vadnais Lake, the final lake in the water system’s chain of lakes, which could serve as a location for a new water treatment plant. The water quality in Vadnais Lake is better than the Mississippi River due to chemical treatment, added oxygen, and settling of solids.
- Based on water quality and location, Vadnais Lake is the only feasible site to emerge from preliminary screening of alternative sites.

Table 4 shows a cost summary of connecting study area communities to a new water treatment plant.

Table 4. Cost Estimate Summary – Approach 2 – New Surface Water Treatment Plant (WTP)

	Annual Groundwater Offset (Millions of Gallons)	Capital Cost ^{1,2}	Annual Operations & Maintenance Cost for Water Service
Alternative 2B – New Surface WTP for Select NE Metro Communities	4,800	\$229,739,000	<i>In Progress</i>
<i>(Mahtomedi, North Saint Paul, Shoreview, Vadnais Heights, White Bear Lake, White Bear Township)</i>			
Alternative 2C – New Surface WTP for All NE Metro			
<i>Phase 1</i>		\$291,261,000	
<i>Phase 2</i>		\$273,360,000	
<i>Phase 3</i>		\$45,080,000	
Total Alternative 2C	8,100	\$609,701,000	<i>In Progress</i>

¹Based on April 2014; no escalation to date of construction.

²Capital cost estimates for Approach 2 include distribution facilities and a new water treatment plant. Alternative 2C also includes improvements to the raw water delivery system from the Mississippi River.

Approach 3 – Lake Augmentation

We evaluated the feasibility of augmenting White Bear Lake water volume with water from the Mississippi River and St. Croix River. The preliminary findings are as follows:

- The St. Croix River is significantly further away and has significantly higher pumping pressure required than water from the Mississippi River for augmentation. In addition, the St. Croix River is a National Scenic Riverway, making construction in or near the river difficult from a regulatory standpoint.
- The Mississippi River is impaired with zebra mussels, as is Vadnais Lake. Augmentation from this source will require filtration.
- With filtration, augmentation with water from Vadnais Lake is not anticipated to degrade White Bear Lake water quality. This finding is based on modeling results given the water quality differences between Vadnais Lake and White Bear Lake.
- Saint Paul has sufficient capacity to draw and convey 2 billion gallons of water annually (2 BG/yr) for augmentation.
- It is not certain if augmentation of 2 BG/yr will maintain the water level of White Bear Lake to the ordinary high water level.

- It is unlikely that augmenting White Bear Lake will provide benefit to other lakes or to the regional groundwater aquifers.

Table 5 shows a cost summary for augmenting White Bear Lake.

Table 5. Cost Estimate Summary – Approach 3 – Lake Augmentation

	Capital Cost ¹	Annual Operations & Maintenance Cost
White Bear Lake Augmentation System (2 Billion Gallons per Year)	\$50,000,000	\$300,000

¹Based on April 2014; no escalation to date of construction.

Evaluation of Alternatives

In addition to capital and annual operation and maintenance costs, each alternative has other impacts and potential benefits. The work of evaluating these alternatives is ongoing, and will be completed for the final report.

When considering the costs presented in this draft report, keep in mind the the following key points, which will be developed more fully in the evaluation process of the final report:

- The benefits of augmenting White Bear Lake with river water are uncertain. The ongoing study of lake–groundwater interaction in the northeast metro by the USGS will provide additional information that may help to evaluate the long-term benefits to the lake and the aquifer.
- Using groundwater flow modeling, we are evaluating the benefits of eliminating some groundwater pumping by connecting some community water supplies to surface water sources. Preliminary results indicate that an increase in aquifer levels around White Bear Lake can be expected as communities in the study area reduce groundwater pumping. This analysis will be important as we evaluate the alternative approaches.
- Switching to a surface water supply for some communities in the study area will contribute to the long-term reliability of water supplies in the region by providing greater diversity of sources in the area.

The following criteria have been developed to evaluate the alternatives in this report:

- Benefit to groundwater systems
- Benefit to surface water features
- Capital cost
- Operations and maintenance costs
- Regional reliability of water supply
- Ease of implementation (including time to implement, institutional barriers, funding availability, etc.)
- Potential impact on user rates



public.info@metc.state.mn.us
metro council.org

390 Robert Street North
St Paul, MN 55101-1805

651.602.1000
TTY 651.291.0904

STATE OF MINNESOTA

COUNTY OF RAMSEY

DISTRICT COURT

SECOND JUDICIAL DISTRICT
Case Type: Civil Other/Misc.

White Bear Lake Restoration Association, *ex rel.*
State of Minnesota,

Plaintiff,

White Bear Lake Homeowners' Association, Inc., *ex rel.* State of Minnesota,

Intervenor,

Court File No. 62-CV-13-2414
Judge: Margaret M. Marrinan

SETTLEMENT AGREEMENT

vs.

Minnesota Department of Natural Resources
and Thomas J. Landwehr, in his capacity as
Commissioner of the Minnesota Department of
Natural Resources,

Defendants,

White Bear Township,

Intervenor,

City of White Bear Lake.

Intervenor.

WHEREAS, the Court retains continuing jurisdiction over this case until all claims are dismissed.

WHEREAS, the Plaintiff, White Bear Lake Restoration Association ("Lake Association"), on behalf of the State of Minnesota, by and through its Complaint, alleges that the Defendants Minnesota Department of Natural Resources and Thomas J.

Landwehr, in his capacity as Commissioner of the Minnesota Department of Natural Resources (“DNR Commissioner”) (collectively, “DNR”) have violated the Minnesota Environmental Rights Act (“MERA”), Minn. Stat. § 116B.01, *et seq.*

WHEREAS, the Plaintiff-Intervenor, White Bear Lake Homeowners’ Association (“Homeowners’ Association”), on behalf of the State of Minnesota, by and through its Complaint-in-Intervention, likewise alleges that the DNR has violated MERA, Minn. Stat. § 116B.01, *et seq.*, as well as the Public Trust Doctrine.

WHEREAS, White Bear Lake is a public water and an important natural, recreational, historical, cultural, scenic, and aesthetic resource in Minnesota. White Bear Lake is unique in its configuration, particularly in light of its watershed-to-lake area ratio, its lake bed, and that it has no major surface-water inlet or outlets during low lake levels.

WHEREAS, the Prairie du Chien-Jordan aquifers as defined in paragraph 3 of this Settlement Agreement are significant natural resources in Minnesota.

WHEREAS, the DNR denies that it has violated MERA and the Public Trust Doctrine but recognizes that the State has an interest in the sustainable management of the State’s surface and groundwater resources.

WHEREAS, the State as part of its responsibility to sustainably manage the State’s water resources has an interest in reducing the reliance on groundwater sources for cities in the north and east metropolitan area to support the long-term sustainability of water supplies in the metropolitan area.

WHEREAS, White Bear Township intervened as a defendant and joins DNR’s denials that it has violated MERA and the Public Trust Doctrine.

WHEREAS, the City of White Bear Lake intervened as a defendant and joins DNR’s denials that it has violated MERA and the Public Trust Doctrine.

WHEREAS, the DNR, at the request of constituencies across the northeast metropolitan area including the White Bear Lake Conservation District and in coordination with other government agencies, has initiated a process of designating and implementing a groundwater management area in the northeast parts of the Twin Cities metropolitan area known as the North and East Metropolitan Groundwater Management Area (North and East GWMA or North and East Metropolitan Area), as provided under Minn. Stat. § 103G.287, subd. 4.

WHEREAS, the DNR is dedicated to continuing to work to further implementation of the North and East GWMA.

WHEREAS, as part of the DNR's statutory authority under Minn. Stat. § 103G.287, subd. 4, the DNR has been and remains committed to working with the Metropolitan Council ("Met Council") to ensure more sustainable use of groundwater that protects ecosystems, water quality, and the ability of future generations to meet their own needs, across the North and East Metropolitan Area, including the area of White Bear Lake. The DNR is committed to, on its own and in working with the Met Council, encouraging water conservation, including the adoption of demand reduction measures (which means measures that reduce water demand, water losses, peak water demands, and nonessential water uses) and conservation rate structures (which means a rate structure that encourages conservation and may include block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates) in the communities in the North and East GWMA area.

WHEREAS, the DNR agrees that use of surface water, instead of groundwater, in the North and East GWMA should occur in order to provide a more sustainable approach to water supply for generations to come.

WHEREAS, DNR anticipates completing the North and East GWMA plan by spring 2015 and initiating implementation of the plan in 2015;

WHEREAS, the United States Geological Survey is completing a second study that will analyze which groundwater wells, if any, may have the greatest impact on White Bear Lake and this study will not be available until the fall of 2016;

WHEREAS, there are a number of public and both permitted and non-permitted private wells located within two miles of White Bear Lake which may have the potential to impact water levels in the Lake;

THEREFORE, the parties agree as follows:

APPLICABILITY

1. The obligations of this Settlement Agreement shall apply to and be binding upon the parties, including their agents, employees, and their successors and assigns.

DEFINITIONS

2. "Groundwater" refers to water in the saturated zone of soils or geological strata below the surface of the earth.

3. "Prairie du Chien-Jordan aquifers" refers to the groundwater contained within the geological strata referred to as Prairie du Chien Group and Jordan Sandstone Aquifers.

4. "Northeast Metro Project" means that project referred to as Alternative 1B or 2B in the Metropolitan Council's report entitled *Feasibility Assessment of Approaches to Water Sustainability in the Northeast Metro - Draft Report* (June 2014). As described in such report, Alternatives 1B and 2B involve connecting the municipalities of Vadnais Heights, White Bear Lake, White Bear Township, Mahtomedi, Shoreview and North St. Paul to either raw water or treated water purchased from St. Paul Regional Water

Service (Phase I). The Met Council's report also identifies a second phase of the "Northeast Metro Project" that consists of Alternative 1C or 2C, both of which involve switching an additional seven communities in the North and East Metropolitan Area from groundwater to surface water sources (Phase II). Phase II involves connecting the municipalities of Centerville, Circle Pines, Columbus, Forest Lake, Hugo, Lexington, and Lino Lakes to either raw water or treated water purchased from St. Paul Regional Water Services. "Northeast Metro Project" also means a suitable equivalent or similar project that switches municipalities in the North and East Metropolitan Area to surface water.

OBLIGATIONS OF THE PARTIES

5. DNR will support legislative approval of a public entity request to the Minnesota Legislature for the funding of the feasibility and design of the Northeast Metro Project, in order to make this project "shovel ready." If the Legislature fails to authorize or appropriate funds for the feasibility and design of Phase I of Northeast Metro Project by August 1, 2016, the stay imposed in this Settlement Agreement is lifted. DNR will also support legislative approval of a bonding or other funding request by other public entities to the Minnesota Legislature to fund the construction of the Northeast Metro Project. In addition, the DNR will support issuance of required state, local and federal permits. If the Legislature fails to authorize or appropriate funds for the construction of Phase I of the Northeast Metro Project by August 1, 2017, the stay is lifted. If any federal, state or local government entity fails to issue permits for or approve Phase I (by August 1, 2017) of the Northeast Metro Project, the stay is lifted. Provided that permit applications comply with applicable law and meet minimum standards, DNR will support and issue any necessary DNR permits for the Northeast Metro Project and make reasonable efforts to do so in an expedited manner.

6. Subject to approval of this Settlement Agreement by the current White Bear Lake City Council and White Bear Township Board, the City of White Bear Lake and White Bear Township support and will simultaneously issue a resolution supporting the legislative approval of the proposed Northeast Metro Project and necessary appropriation and bonding requests to the Minnesota Legislature for the total cost of feasibility, design, and construction of the Northeast Metro Project.

7. Although the DNR will support funding by the Legislature as described in paragraph 5, DNR has no obligation under this Agreement to pay the feasibility, design, construction, or operating costs for the Northeast Metro Project, unless the Minnesota Legislature determines otherwise and identifies or provides funding. DNR will not be deemed to have breached this Agreement if the parties to this Agreement and interested state and local government entities are unable to agree upon, and ultimately do not approve, financing for feasibility, design or construction costs of the Northeast Metro Project. If no agreement is reached, however, the stay will be lifted.

8. DNR will work with communities in the North and East GWMA and the Minnesota Legislature to develop a financing proposal that equitably allocates the cost of supplying and delivering treated or untreated water as part of the Northeast Metro Project across the communities in the North and East GWMA. DNR will support a cost structure that will not result in water costs or fees charged to the Phase I communities which exceed the cost of supplying and delivering treated or untreated water to the Northeast Metro Project.

9. DNR will support implementation of Phase I of the Northeast Metro Project requiring six communities (namely, Vadnais Heights, White Bear Lake, White Bear Township, Mahtomedi, Shoreview and North St. Paul ("Phase I Communities")) to be moved from groundwater to surface water sources for their water needs as part of an

overall regional water plan. DNR commits to assist the Phase I communities to move onto surface water pursuant to the Northeast Metro Project.

10. Provided that the Legislature fully funds Phase I and the operational costs of such system are equitably allocated among the communities in the North and East GWMA, the DNR will propose, and the City of White Bear Lake and White Bear Township agree, that the Phase I communities be permitted to maintain their current groundwater wells only for backup purposes (including maintenance and upkeep), or if the St. Paul Regional Water Services (or the legal entity operating the Alternative 2B water treatment system) determines that the municipal water supply provided by the Phase I project is inadequate to meet municipal supply needs. DNR will propose that use of those wells is restricted to backup purposes only (including maintenance and upkeep) once the Northeast Metro Project is operational. Provided, however, for Phase I, Alternative 1B, supplementing the Phase I water supply with groundwater for water quality purposes may be considered only if and when the St. Paul Regional Water Services determines that the raw water source so requires. If Alternative 2B is implemented, the decision on the adequacy of the water quality shall be determined by the legal entity operating the Alternative 2B water treatment and distribution system in consultation with the six Phase I communities. DNR will propose that in no event shall such supplementation be based upon economic or financial gain, nor exceed the minimum amount necessary to provide water quality equivalent to the then current output from the St. Paul Regional Water Services. DNR will support the application of the above standards to all of the Phase I communities.

11. DNR will give Plaintiff and Plaintiff-Intervenor notice of any application or request to expand groundwater appropriations by the Phase I communities and provide the opportunity to respond within the thirty day comment period. DNR will not object

to Plaintiff and Plaintiff-Intervenor's standing as parties to participate in any proceeding, contested case, or appeal involving such permit application or request for expansion. DNR's obligations under this paragraph will expire upon dismissal of this case or the lifting of the stay pursuant to the terms of this Settlement Agreement.

12. DNR will also support Phase II of the Northeast Metro Project and work with the other seven communities in the Northeast Metro (Phase II) to move these communities off of groundwater to surface water for the water needs of each community.

13. On or before November 1, 2016, DNR will set a protective elevation for White Bear Lake using the criteria set forth in Minn. Stat. § 103G.285 (as they exist at the date of this Agreement). DNR will not utilize its waiver authority in Minn. Stat. 103G.285, subd. 1 as a basis to avoid setting a protective elevation for White Bear Lake. DNR agrees to consider this protective elevation and the cumulative impact of existing wells on White Bear Lake and the aquifers in (a) evaluating new groundwater appropriation permit applications and (b) in reviewing, modifying, suspending, and/or terminating existing groundwater appropriation permits, public water supply plans, and water demand reduction measures to the extent and in the manner required by Minnesota statutes and regulations and the terms of existing permits. To ensure an adequate water supply, DNR is not obligated to enforce any protective elevation of White Bear Lake by modification, reduction or termination of groundwater appropriations until or unless the Northeast Metro Project Phase I is operational as to the six communities identified above. If, after Phase I of the Northeast Metro Project becomes operational, the Commissioner determines that application of the protective elevation would be unduly deleterious to public water supply including in the Phase II communities, then the protective elevation would not be applied until such time as the

application is no longer unduly deleterious to the public water supply. DNR will give Plaintiff and Plaintiff-Intervenor notice of any planned change to the above protective elevation. Additionally, until Phase I becomes operational, DNR will give Plaintiff and Plaintiff-Intervenor notice of any DNR proposed changes to the criteria used to set protective elevations set forth in Minn. Stat. § 103G.285, subd. 3(b) solely at the time said legislation is initially introduced in the Minnesota Legislature or of the initiation of rulemaking affecting the criteria for setting protective elevations. If there is a material change to the criteria set forth in Minn. Stat. § 103G.285, subd. 3(b), then DNR may give Plaintiff and Plaintiff-Intervenor notice that it intends to reopen its protective elevation determination. If the DNR issues such a notice, any party may ask the Court to hold a hearing to determine which statutory standard to apply in setting the protective elevation for White Bear Lake. None of the parties waives its right to appeal from such determination. If a protective elevation is not set by November 1, 2016, Plaintiff or Plaintiff-Intervenor may request the Court to order the DNR to enter a protective elevation for White Bear Lake within 60 days. This paragraph will expire ten (10) years after Phase I is operational.

14. DNR will appoint one member of Plaintiff and one member of Plaintiff-Intervenor to become a member of the North and East GWMA within ten (10) days of execution of this Agreement.

15. DNR will use its best efforts to continue to consider conservation measures as a condition of maintaining existing groundwater appropriation permit levels for the Phase I and Phase II municipalities, which can be done as part of DNR's periodic review of appropriation permits and review and approval of municipal water plans. By January 1, 2016, DNR staff will have met with the 13 communities across the North and East GWMA including the municipalities listed in the study completed by

the United States Geological Survey entitled *Groundwater and Surface-Water Interactions in White Bear Lake, Minnesota, 2011*, in order to encourage the communities and industries within those communities to implement additional conservation measures, demand reduction measures and conservation rate structures. DNR will discuss with these communities implementing these additional conservation measures as soon as possible and advocate inclusion of such measures in the next generation of water supply plans, which will be developed beginning in 2016. DNR will work with the 13 communities to achieve an aggregate goal of at least an overall seventeen percent (17%) reduction in water use net of growth as compared to the water use based upon an *eight* year average prior to the date of this Agreement. "Water use" means annual "total water pumped."

- a. The actual target reduction for each individual community may vary based on past efforts made by the individual communities to implement conservation measures, but even considering past efforts, the goal shall be new conservation measures leading to at least 10% of new water demand reduction.
- b. DNR will use its best efforts to facilitate the ability of local municipalities to obtain grants from available sources to help fund the implementation of conservation measures. Conservation measures which will be explored shall include but not be limited to the following:
 - i. Encouraging installation of water conserving technologies and equipment in private dwellings and industrial and business facilities. This includes use of low flow toilets (toilets using less than 2 gallons of water per flush);

- ii. Encouraging reduction in lawn watering and other large, discretionary water uses, including use of soil moisture sensors and rain gauges;
- iii. Work with large industrial users to cut water use by 17% through a range of approaches, including the possible creation of incentives and capture of storm water;
- iv. Encourage communities to audit, identify, and prioritize repair of leaks in their water distributions systems to achieve a leakage rate of no greater than 10%;
- v. Encourage the use of storm water to irrigate golf courses, parks, ball fields and other landscaping having irrigation needs;
- vi. Encourage the individual Phase I communities to work with DNR and other agencies to utilize wetlands to filter storm water in recharging the Prairie du-Chien – Jordan Aquifer(s).
- vii. Support efforts by the North and East Metropolitan Area municipalities to require all new and remodeled construction to use low flow toilets and soil moisture sensors and rain gauges for irrigation needs.
- viii. Encourage communities to analyze the effectiveness of current conservation pricing schemes in the North and East Metropolitan GWMA and work with communities to develop more effective conservation pricing mechanisms likely to be effective in meeting required conservation percentages.
- ix. Encourage communities to set a goal of achieving residential water use of 75 or fewer gallons per person per day.

16. DNR will support legislation for amendments to the plumbing code that give municipalities the right to enforce plumbing code violations for failure to comply with water use limitations and to implement conservation measures, *e.g.* recycling use of gray water, low flow toilets, storm water, etc.

17. With the assistance of the DNR, the Defendant-Intervenors City of White Bear Lake and White Bear Township, Plaintiff and Plaintiff-Intervenor will undertake a leadership role in communicating with lake area members who have permitted or non-permitted private wells to encourage and implement water conservation measures with the goal of achieving water use of 75 or fewer gallons per person per day. Plaintiff and Plaintiff-Intervenor will use written and oral communication (including use of a website) to encourage their respective members and municipal residents who are private well owners located within a 2 mile distance of White Bear Lake to do the following within 24 months of the date of this Agreement:

- a. install water meters on any private and commercial wells;
- b. install low flow/flush toilets; and
- c. install soil moisture sensors and rain gauges for irrigation systems.

Further, Plaintiff, Plaintiff-Intervenor, and Defendant-Intervenors will use their best efforts to encourage such private well owners to support installation of such measures as soon as practicable. Until the stay is lifted, the Plaintiff and Plaintiff-Intervenor will post on the aforementioned website a summary of their efforts to accomplish the conservation measures set forth in this paragraph on a semi-annual basis.

18. DNR agrees to initiate implementation of the North and East GWMA plan in 2015. DNR agrees to provide this plan to all parties and the Court. By agreeing to

this paragraph, the DNR does not concede jurisdiction by the Court over the North and East GWMA.

19. Subject to the conditions set forth in this Agreement, the parties agree to stipulate to a thirty-six month stay of the litigation, and will execute and file a Stipulation in the form attached as Exhibit 1 in District Court within ten (10) days of the execution and approval by all parties of this Agreement. During the stay period, the Court will retain jurisdiction of this case, and the parties encourage the Court to hold semi-annual status conferences. Written reports will be filed with the Court ten days before all such conferences. The conference and written report will address:

- (a) the most currently available information on lake water level, water clarity, and the water levels of the underlying aquifers,
- (b) use and ongoing implementation of all conservation and demand reduction measures pursuant to paragraphs 15 and 17,
- (c) progress on accomplishing Phase I in the North and East Metropolitan Area,
- (d) updates from each party on meeting its obligations under this Agreement,
- (e) the status of efforts to set the protective elevation as outlined in paragraph 13 of this Agreement, and
- (f) such other topics requested by the Court and/or raised by the parties for good cause.

Ten (10) days before a status conference, each party will file with the Court a report providing the content identified in Exhibit 2 and as identified by the Court. A proposed template for such written report filed with the Court is attached as Exhibit 2.

The parties encourage the Court to hold a status conference approximately thirty-six (36) months after the execution of this Agreement. If, despite the parties'

stipulation, the Court does not order a thirty-six (36) month stay of this action, this Agreement will be null and void.

20. Any party may provide a copy of this fully executed Settlement Agreement to the Court.

21. By executing this Settlement Agreement, White Bear Lake Restoration Association and White Bear Lake Homeowners' Association, Inc. retain, and have not released, waived, or dismissed with prejudice, (a) their legal claims and right to relief of any kind, including to seek interim augmentation, augmentation, or any other emergency relief, should Phase I not be funded, permitted, constructed, and placed in operation; or (b) their right to apply for permits pursuant to applicable standards for privately or publically funded systems to augment White Bear Lake. Except as noted in this Agreement, White Bear Lake Restoration Association and White Bear Lake Homeowners' Association, Inc. agree to dismiss all of their claims with prejudice within thirty (30) days after the Northeast Metro Project Phase I is constructed and providing surface water supply for the Phase I communities.

22. If certain claims are dismissed with prejudice pursuant to the above section, the parties agree that as of the date of such dismissal, the parties hereby release, acquit, and forever discharge each other from and for any and all manner of actions, causes of actions, suits, debts, dues, sums of money however and wherever received, deposits, accounts, bonds, bills, covenants, contracts, controversies, agreements, damages, judgments, attorneys' fees and costs, liens, executions, counterclaims, claims and demands whatsoever, whether legal or equitable, known or unknown, fixed or contingent which they now have or may have asserted in this lawsuit.

23. This Settlement Agreement in no way affects the rights of the State of Minnesota, the DNR, or other administrative agencies of the State of Minnesota, as against any person not a party to this Settlement Agreement.

24. Nothing in this Settlement Agreement shall constitute an admission of fact or law by any party. If the stay is lifted, no party to this Agreement will seek to have it admitted into Court as evidence in this case. The parties agree that if a party provides a copy of this Agreement to the Court under paragraph 20, the fact that the judge has seen this Agreement shall not be grounds for removing the judge from this case.

25. By signing this Agreement, the undersigned legal counsel for the City of White Bear Lake and the White Bear Township represent that they will recommend approval of the Agreement to their clients. If approved by their respective clients, this Agreement will be appropriately executed by City and Township officials.

ADDRESSES

26. All notices and communications required under this Settlement Agreement shall be made to the parties through each of the following persons and addressees:

- a. White Bear Lake Restoration Association, Greg McNeely (Chairman), PO Box 10682, White Bear Lake, MN 55110-0682.
- b. White Bear Lake Homeowners' Association, James A. Markoe, Jr., President and Director, P.O. Box 10662, White Bear Lake, MN 55110.
- c. Minnesota Department of Natural Resources, Sherry Enzler or successor, General Counsel, 500 Lafayette Road, St. Paul, Minnesota 55155.
- d. Town of White Bear, William Short, Town Clerk, 1281 Hammond Road, White Bear, MN 55110.

- f. City of White Bear Lake, Cliff Greene, Monte Mills, Greene Espel PLLP, 222 S. Ninth Street, Ste. 2200, Minneapolis, MN 55402.

COSTS OF SUIT

27. Each party to this Settlement Agreement shall bear its own costs and attorneys' fees in this action.

MODIFICATION

28. Any modification of this Settlement Agreement shall be in writing, and shall not take effect unless signed by all of the parties.

EXECUTION

29. This Agreement represents a single, integrated, written contract expressing the entire agreement of the parties with respect to its subject matter. No covenants, agreements, representations or warranties of any kind whatsoever had been made by any party to this Agreement except as expressly set forth herein. All prior discussions and negotiations have been and are merged and integrated into, and are superseded by, this Agreement. This Agreement may be executed and delivered in two or more counterparts, each of which, when so delivered, shall be an original, but such counterparts shall together constitute but one and the same instrument. This Agreement shall be governed by and construed in accordance with the substantive laws of Minnesota.

DATED: _____

DATED: _____

DEPARTMENT OF NATURAL
RESOURCES AND THOMAS J.
LANDWEHR, IN HIS CAPACITY AS
COMMISSIONER OF NATURAL
RESOURCES

WHITE BEAR LAKE RESTORATION
ASSOCIATION

By: _____
Its: _____

By: _____
Its: _____

500 Lafayette Road
St. Paul, MN 55155

By: _____
Michael V. Ciresi (MN #16949)
Jan M. Conlin (MN #192697)
Richard B. Allyn (MN #1338)
Katie Crosby Lehmann (MN #257357)

2800 LaSalle Plaza
800 LaSalle Avenue
Minneapolis, MN 55402-2015
612-349-8500

ATTORNEYS FOR PLAINTIFF
WHITE BEAR LAKE RESTORATION
ASSOCIATION

DATED: _____

DATED: _____

**WHITE BEAR LAKE HOMEOWNERS'
ASSOCIATION, INC.**

WHITE BEAR TOWNSHIP

By: _____
Its: _____

By: _____
Its: _____

By: _____
Byron E. Starns, Esq. (#104486)
Daniel L. Scott (#240837)
LEONARD, STREET AND DEINARD
Professional Association
150 South Fifth Street, Suite 2300
Minneapolis, MN 55402
Telephone: (612) 335-1500

By: _____
Chad D. Lemmons (#125039)
Patrick J. Kelly (#0054823)
223 Little Canada Road East, Suite 200
St. Paul, MN 55117
651-224-3781
651-223-8019 (FAX)

**ATTORNEYS FOR INTERVENOR
WHITE BEAR LAKE HOMEOWNERS'
ASSOCIATION, INC.**

**ATTORNEYS FOR INTERVENOR
WHITE BEAR TOWNSHIP**

DATED: _____

CITY OF WHITE BEAR LAKE

By: _____
Its: Mayor

By: _____
Its: Manager

By: _____
Cliff Greene
Monte Mills
Greene Espel PLLP
222 S. Ninth Street, Suite 2200
Minneapolis, MN 55402
Phone: (612) 373-0830
Fax: (612) 373-0929

AND

By: _____
Roger A. Jensen
City Attorney

**ATTORNEYS FOR INTERVENOR
CITY OF WHITE BEAR LAKE**

STATE OF MINNESOTA

DISTRICT COURT

COUNTY OF RAMSEY

SECOND JUDICIAL DISTRICT

Case Type: Civil Other/Misc.

White Bear Lake Restoration Association, *ex rel.* State of Minnesota,

Court File No. 62-CV-13-2414

Judge: Margaret M. Marrinan

Plaintiff,

White Bear Lake Homeowners' Association, Inc., *ex rel.* State of Minnesota,

STIPULATION FOR STAY

Plaintiff Intervenor,

vs.

Minnesota Department of Natural Resources, and Thomas J. Landwehr, in his capacity as Commissioner of the Minnesota Department of Natural Resources,

Defendants,

Town of White Bear and City of White Bear Lake,

Defendant Intervenor.

The parties stipulate and agree as follows:

1. The Court retains continuing jurisdiction over this case until all claims are dismissed and has the power to enter orders, as needed, during the stay. In addition, any party may seek a hearing for good cause.
2. The above case will be stayed for a period of thirty-six (36) months.

3. The Court is encouraged by the parties to schedule semi-annual status conferences during the period of the stay. Each of the parties will file, and serve on the other parties, a status report ten (10) days prior to each such status conference.
4. The Court is encouraged by the parties to schedule a status conference at the termination of the thirty-six (36) month stay.
5. DNR agrees that if it fails to set a protective elevation for White Bear Lake by November 1, 2016, the Court may order DNR to set a protective elevation within sixty (60) days using the criteria set forth in Minn. Stat. § 103G.285, subd. 3(b). The Court may also hold a hearing on the statutory standard to apply in setting the protective elevation if there is a material change to the applicable statute.

DATED: _____, 2014 DATED: _____, 2014

ROBINS, KAPLAN, MILLER & CIRESI
L.L.P.

STINSON LEONARD STREET, LLP

MICHAEL V. CIRESI (MN #16949)
KATIE CROSBY LEHMANN (#257357)

BYRON E. STARNES (#104486)
DANIEL L. SCOTT (#240837)

2800 LaSalle Plaza
800 LaSalle Avenue
Minneapolis, MN 55402-2015
(612) 349-8500

150 South Fifth Street, Suite 2300
Minneapolis, MN 55402
(612) 335-1500

ATTORNEYS FOR PLAINTIFF

ATTORNEYS FOR PLAINTIFF
INTERVENOR

DATED: _____, 2014

OFFICE OF THE ATTORNEY GENERAL
State of Minnesota

JILL SCHLICK NGUYEN (#0292874)
KIMBERLY MIDDENDORF (#0324668)
Assistants Attorney General

445 Minnesota Street, Suite 1800
St. Paul, MN 55101-2134
(651) 757-1325 (Voice)
(651) 282-2525 (TTY)

ATTORNEYS FOR DEFENDANTS

DATED: _____, 2014

GREENE ESPEL, PLLP

MONTE A. MILLS (#030458X)
CLIFFORD M. GREENE (#37436)

222 S. Ninth Street, Suite 2200
Minneapolis, MN 55402
(612) 373-0830

ATTORNEYS FOR DEFENDANT
INTERVENOR CITY OF WHITE BEAR
LAKE

DATED: _____, 2014

KELLY & LEMMONS, P.A.

CHAD D. LEMMONS (#125039)

223 Little Canada Road, Suite 200
Little Canada, MN 55117
(651) 224-3781

ATTORNEYS FOR DEFENDANT
INTERVENOR WHITE BEAR TOWNSHIP

ORDER

The foregoing Stipulation is hereby approved and IT IS ORDERED that the terms of the foregoing Stipulation are hereby adopted.

BY THE COURT:

Date: _____

The Honorable Margaret M. Marrinan
Judge of District Court

Exhibit 2
[Proposed] Status Report Template

The purpose of this status report is to provide the Court with an inventory of the conservation measures and efforts for each of the interested parties noted below pursuant to paragraph 19 of the Settlement Agreement. Each party will provide the following information from its standpoint based upon its current knowledge and knowledge it has gained through a reasonable investigation.

(1) The most currently available information on the lake water level, water clarity, and the water levels of the underlying aquifers.

(2) Use and ongoing implementation of all conservation and demand reduction measures pursuant to paragraphs 15 and 17 of this Agreement.

(3) Progress on accomplishing Phase I of the Northeast Metro Project in the North and East Metropolitan Area.

(4) Progress by the DNR on setting a protective elevation for White Bear Lake.

(5) Such other topics requested by the Court and/or raised by the parties for good cause.

(6) Currently existing conservation and demand reduction measures from the following parties for the following groups:

(a) DNR: DNR meetings with municipalities regarding conservation and demand reduction measures under paragraph 15 of this Settlement Agreement.

(b) White Bear Township: Conservation and demand reduction measures taken by Vadnais Heights, White Bear Lake, White Bear Township, Mahtomedi, Shoreview and North St. Paul. This information will be gathered

and reported on by the Township. If available, information on the following cities will also be shared: Centerville, Circle Pines, Columbus, Forest Lake, Hugo, Lexington, and Lino Lakes.

(c) White Bear Lake Restoration Association and White Bear Lake Homeowners Association: Conservation and demand reduction measures taken by their members with private wells.

(7) Update on each obligation of each party required under the terms of the Settlement Agreement.

TO: Terry Schwerm, City Manager
Mayor and City Council

FROM: Fred Espe, Finance Director

DATE: December 3, 2014

RE: Utility Rate Adjustments

INTRODUCTION

Each year a financial analysis of utility funds is conducted to consider changes in utility rates for the coming year. The analysis considers cash balances, debt levels, debt payments (current and future), operating costs, growth projections (new connections), water consumption trends, sewage flows, capital costs (additions, repairs and replacements) and maintenance strategies.

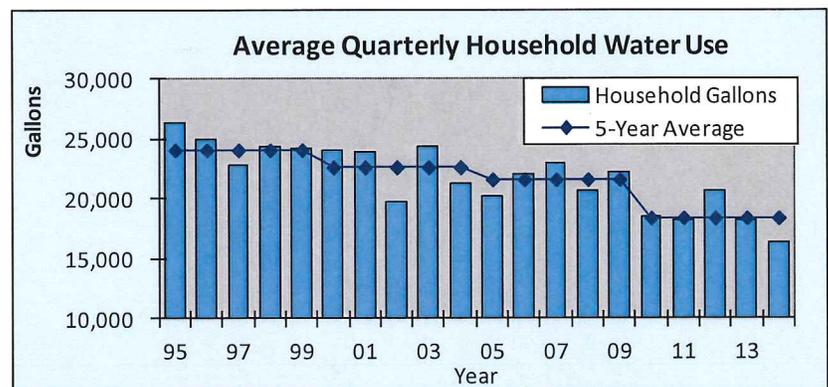
WATER OPERATIONS

In recent years it has been clear that a combination of weather (rainfall), an aging population, and changes in consumption habits have contributed to an overall decline in average water usage. Although the City expects variations in water consumption from year to year (due to rainfall fluctuations), and expects a net loss in some years and a net gain in others, the overall trend is toward reduced consumption levels. Therefore the water rate structure is designed to use periods of temporary higher profits (due to higher gallons sold) to have a modest reduction in future rates by providing funding for planned capital, operating and debt costs.

Water Use Trends - Average quarterly water consumption by residential customers has been in a downward trend since the late 1990s. Average quarterly use for the years 2000 to 2004 was 22,635 gallons, and declined 4.5% to 21,609 gallons in the years 2005 to 2009. Over the last 5 years average quarterly use declined an additional 14.8% to 18,403 gallons.

Unfortunately, fewer gallons sold has little impact on operating costs because the primary water cost related to gallons sold is for electricity, which represents only 6% of

Water Fund operating costs. This means that necessary operating income must be generated through changes to the rate structure instead of higher gallons sold.



Base Gallons - For two decades the City has used a “base year” approach for estimating the gallons of water sold. The theory behind this approach is that it enables the City to set rates at levels that support operations, without allowing temporary fluctuations in revenue to increase the gallon projections. Revenue projections for 2015 are based on the assumption that gallons sold will drop back to 2011 levels (a near record low year).

Water Rates –The Five-year Operating Plan adopted in December of 2013 recommended a 4.2% and 12.0% increase in water rates for the years 2015 and 2016 respectively. The larger increase in 2016 is related to the water treatment plant. The financial model used to calculate water utility rates includes assumptions related to operations, capital and debt. Staff recommends adopting a 7% water rate adjustment for 2015 and 2016, which will provide for gradual rate increases over the two year period and avoid rate spikes.

Residential					
2014 Rates		2015 Rates			Basis
Gallons	Rate	Gallons	Rate		
Avail chg	\$ 13.96	Avail chg	\$ 14.94		Per unit
Tier 1	5,000 \$ 1.13	Tier 1	5,000 \$ 1.21		Per thousand gallons
Tier 2	5,000 \$ 1.81	Tier 2	5,000 \$ 1.94		Per thousand gallons
Tier 3	20,000 \$ 2.51	Tier 3	20,000 \$ 2.69		Per thousand gallons
Tier 4	remainder \$ 4.13	Tier 4	remainder \$ 4.42		Per thousand gallons

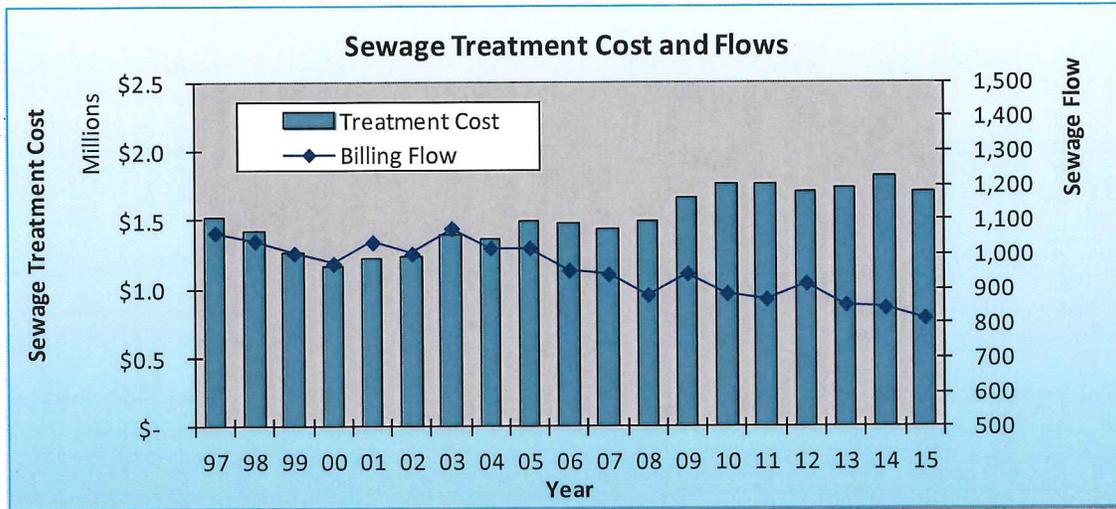
As shown in the table above, for 2015 the water availability charge will increase 98 cents per quarter, and tiered rates per thousand gallons will increase 8 cents for tier 1, 13 cents for tier 2, 18 cents for tier 3, and 29 cents for tier 4.

Water Projections - The proposed water rates outlined above are expected to generate a net profit in 2015.

SEWER OPERATIONS

Sewage Flow - Sewage flow is metered by MCES on a quarterly basis, and is used to compute the City’s sewage treatment bills in the following year. The table at right and the graph below show a history of sewage flow and treatment costs. It is important to note that sewage flow is impacted by water consumption as well as rainfall because heavy extended periods of rain can increase groundwater infiltration. For 2015, a sewage flow decrease of 3.52% and a rate decrease of 2.67%, results in a \$110,000 decrease in 2015 sewage treatment costs (roughly a 6.1% cost decrease).

Year	Billing Flow (millions)	Rate Per Million Gallons	Annual Cost (millions)
2006	955	\$ 1,543	\$ 1.472
2007	943	\$ 1,527	\$ 1.438
2008	883	\$ 1,697	\$ 1.497
2009	945	\$ 1,754	\$ 1.657
2010	888	\$ 1,981	\$ 1.758
2011	871	\$ 2,026	\$ 1.764
2012	917	\$ 1,854	\$ 1.699
2013	856	\$ 2,029	\$ 1.737
2014	846	\$ 2,142	\$ 1.812
2015	816	\$ 2,084	\$ 1.701



Sewer Rates – The previous Five-year Operating Plan provided for a 3% adjustment to 2015 sewer rates, and staff is recommending that the planned sewer rate increase for 2015 remain at 3%. A two-year comparison of residential sewer rates is provided in the table below.

Description	2014	2015	Basis
Avail chg	\$ 39.05	\$ 40.22	Per quarter
Tier 1 < 5,000 gallons	\$ 16.50	\$ 17.00	Per quarter
Tier 2 From 5,000 to 10,000 gallons	\$ 28.41	\$ 29.26	Per quarter
Tier 3 From 10,000 to 20,000 gallons	\$ 43.56	\$ 44.87	Per quarter
Tier 4 From 20,000 to 30,000 gallons	\$ 59.25	\$ 61.03	Per quarter
Tier 5 More than 30,000 gallons	\$ 76.97	\$ 79.28	Per quarter

Sewer Projections - The proposed sewer rates outlined above are expected to generate a net profit in 2015.

SURFACE WATER OPERATIONS

Surface Water Rates - Projected operating costs, debt payments, and capital costs indicate the need for a 10% adjustment to surface water rates for 2015 (largely due to storm sewer improvement costs). The single-family rate will increase \$2.13 per quarter, the multi-family rate will increase \$2.25 per quarter, and the rate for all other customers will increase \$17.78 per acre per quarter.

Description	2014	2015	Basis
Single-family	\$ 21.26	\$ 23.39	Per unit
Multi-family	\$ 22.52	\$ 24.77	Per unit
All other	\$ 177.79	\$ 195.57	Per acre

Surface Water Projections - The proposed surface water rates outlined above are expected to generate a net profit for the Surface Water Fund in 2015.

STREET LIGHTING OPERATIONS

Street Lighting Rates - Estimated operating costs and continued capital replacement costs indicates the need for a 4% adjustment to lighting rates for 2015. The residential rate will increase 39 cents per unit quarter; the condominium, apartment and mobile home rate will increase 30 cents per unit per quarter; and the rate for all other customers will increase \$1.18 per acre per quarter.

Description	2014	2015	Basis
Residential	\$ 9.85	\$ 10.24	Per unit
Condo,apartment and mobile home	\$ 7.38	\$ 7.68	Per unit
All other	\$ 29.56	\$ 30.74	Per acre

Street Lighting Projections – The proposed street lighting rates outlined above are expected to generate a profit for the Street Light Fund in 2015.

IMPACT ON RESIDENTIAL CUSTOMERS

The change in the total utility bill will vary based on the amount of water used by each customer, and by the type of customer. To put the rate change into perspective, two tables are presented to estimate the change for residential customers at various water usage levels.

For the average residential customer (using an average of 17,500 gallons of water per quarter, and 12,000 gallons in the winter) the total utility bill will increase \$8.38 per quarter. The majority of the increase is for water charges.

Average User	2014	2015	Change
Water	\$ 47.49	\$ 50.87	\$ 3.38
Sewer	82.61	85.09	2.48
Surface water	21.26	23.39	2.13
Street lighting	9.85	10.24	0.39
State fee	1.59	1.59	-
Total	\$ 162.80	\$ 171.18	\$ 8.38

The table below shows the change in the utility bill for residential customers at 6 different usage levels. The second column of the table shows the percentage of residential customers that fall within each usage level.

Use Level	% of Homes	Water Gallons	Sewer Gallons	Total Utility Bill		Change in Quarterly Bill	Percent Change
				2014	2015		
Very low	10%	5,000	4,000	\$ 107.86	\$ 113.43	\$ 5.57	5.2%
Low	22%	10,000	8,000	\$ 128.82	\$ 135.39	\$ 6.57	5.1%
Average	42%	17,500	12,000	\$ 162.80	\$ 171.18	\$ 8.38	5.1%
Above avg	19%	25,000	22,000	\$ 197.31	\$ 207.51	\$ 10.20	5.2%
High	5%	55,000	26,000	\$ 313.11	\$ 331.46	\$ 18.35	5.9%
Very high	2%	80,000	34,000	\$ 434.08	\$ 460.21	\$ 26.13	6.0%

A summary of financial activity by fund incorporating the recommended rate increases is attached.

Water Fund	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2014 Estimate	2015 Budget
Revenue						
Special Assessments	\$ 1,187	\$ 1,002	\$ 2,275	\$ -	\$ -	\$ -
Intergovernmental	13,366	13,198	11,992	12,620	11,700	975
Utility Charges	2,184,742	2,917,020	2,692,684	2,653,500	2,551,928	2,833,000
Interest Earnings	80,297	35,077	(121,490)	34,000	34,000	38,000
Other Revenues	210	-	-	-	-	-
Total Revenue	2,279,802	2,966,297	2,585,461	2,700,120	2,597,628	2,871,975
Expense						
Enterprise Operations	1,368,874	1,405,259	1,403,838	1,503,536	1,467,336	1,538,027
Miscellaneous	108,152	1,901	-	-	-	-
Debt Service	202,063	183,921	213,477	160,623	182,442	142,903
Depreciation	609,067	614,991	622,826	639,000	639,000	651,000
Total Expense	2,288,156	2,206,072	2,240,141	2,303,159	2,288,778	2,331,930
Other Sources (Uses)						
Transfers Out	(225,000)	(240,000)	(263,057)	(303,000)	(303,000)	(345,000)
Net Change	(233,354)	520,225	82,263	93,961	5,850	195,045
[excludes contributed assets]						

Sewer Fund	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2014 Estimate	2015 Budget
Revenue						
Special Assessments	\$ 1,541	\$ 1,525	\$ 3,196	\$ -	\$ -	\$ -
Intergovernmental	10,649	10,516	9,555	10,050	9,315	775
Charges for Services	3,680	1,325	703	1,000	1,000	1,000
Utility Charges	3,543,104	3,565,927	3,773,453	3,822,500	3,901,485	3,945,500
Interest Earnings	58,518	24,964	(68,517)	24,000	24,000	27,000
Total Revenue	3,617,492	3,604,257	3,718,390	3,857,550	3,935,800	3,974,275
Expense						
Enterprise Operations	2,953,041	2,893,667	3,100,871	3,219,590	3,194,611	3,299,094
Debt Service	76,061	72,489	73,840	58,177	69,502	52,857
Depreciation	295,893	317,853	326,338	330,000	330,000	348,000
Total Expense	3,324,995	3,284,009	3,501,049	3,607,767	3,594,113	3,699,951
Other Sources (Uses)						
Transfers Out	(187,000)	(188,000)	(200,567)	(181,000)	(181,000)	(181,000)
Net Change	105,497	132,248	16,774	68,783	160,687	93,324
[excludes contributed assets]						

Surface Water Fund	2011 Actual	2012 Actual	2013 Actual	2014 Budget	2014 Estimate	2015 Budget
Revenue						
Special Assessments	\$ 472	\$ 303	\$ 662	\$ -	\$ -	\$ -
Intergovernmental	3,863	3,815	3,472	3,660	3,390	280
Utility Charges	1,007,679	1,147,236	1,220,385	1,325,577	1,352,426	1,456,757
Interest Earnings	20,606	8,476	(36,414)	8,000	8,000	9,000
Total Revenue	1,032,620	1,159,830	1,188,105	1,337,237	1,363,816	1,466,037
Expense						
Enterprise Operations	669,298	710,054	621,960	826,595	837,309	853,136
Debt Service	91,277	84,797	104,508	82,116	86,004	71,747
Depreciation	214,061	221,177	228,865	248,000	248,000	266,000
Total Expense	974,636	1,016,028	955,333	1,156,711	1,171,313	1,190,883
Other Sources (Uses)						
Transfers Out	(97,000)	(107,000)	(126,900)	(147,000)	(147,000)	(152,000)
Net Change	(39,016)	36,802	105,872	33,526	45,503	123,154
[excludes contributed assets]						

Street Lighting Fund	2011 Actual	2012 Actual	2013 Actual	2014 Adopted	2014 Estimate	2015 Budget
Revenue						
Special Assessments	\$ 142	\$ 140	\$ 208	\$ -	\$ -	\$ -
Utility Charges	365,333	456,144	474,664	493,000	493,000	513,000
Interest Earnings	4,337	3,114	(8,726)	2,200	2,200	2,500
Other Revenues	-	-	-	500	500	500
Total Revenue	369,812	459,398	466,146	495,700	495,700	516,000
Expense						
Enterprise Operations	281,610	235,752	251,702	267,491	264,278	271,742
Miscellaneous	-	-	-	-	-	-
Depreciation	36,865	40,041	44,484	58,000	58,000	66,000
Total Expense	318,475	275,793	296,186	325,491	322,278	337,742
Other Sources (Uses)						
Transfers Out	(12,600)	(15,600)	(19,000)	(20,400)	(20,400)	(22,400)
Net Change	38,737	168,005	150,960	149,809	153,022	155,858
[excludes contributed assets]						



Utility Operations and
2015 Utility Rates



Water, Sewer,
Surface Water, and
Street Lighting

What is safe drinking water worth to you?

Our water towers and pipes below the street need constant attention in order to keep the drinking water that supports our daily lives flowing at the right pressure without fail. Consistent access to safe water helps:

- Keep us healthy
- Fight fires
- Support our economy
- Enhance our high quality of life

Ensuring continued access to safe water also involves the proper collection and treatment of waste water (sewage), and it doesn't stop there. In order to protect the quality of our lakes and streams it is also necessary to properly collect and direct storm water through the use of storm sewer systems and ponds, and remove debris and other contaminants from surface water runoff.

The process of protecting our varied and numerous water assets requires a coordinated effort to manage each of the resources carefully and to comply with increasing regulations that govern these activities. This document is intended to provide an overview of Shoreview's utility systems and utility rates in an effort to describe what it takes to run the City's utility operations.

The revenue generated by utility bills covers maintenance and replacement efforts, to keep the system strong and reliable.

Water Operations

Shoreview's water system provides drinking water to about 9,000 homes and businesses within City limits, and provides limited service (at higher billing rates) to neighboring communities through service agreements.

The City's water system includes:

- 1,328 fire hydrants
- 6 wells
- 2 elevated storage tanks (water towers)
- 1 underground water reservoir
- 103 miles of water lines

In recent years watering restrictions have become necessary to reduce the peak in daily demand for water, and to more evenly spread water use over different days. This enables the City to avoid the high cost of constructing additional wells and water storage capacity.

Operating and maintaining the system so that water is always available requires managing the following activities:

- Pump and store water
- Treat water (including a future water treatment facility)
- Operate distribution pumps
- Flush water mains (semi-annually)
- Repair, replace and maintain water system infrastructure
- Read meters (quarterly) and replace meters as needed
- Sample and test water per Department of Natural Resources and Minnesota Department of Health requirements

Hydrant flushing is performed by utility maintenance crews each spring and fall to remove mineral buildup in the system and to ensure the reliability of hydrants and water valves. The systematic and controlled flushing of the system improves the overall quality of water, assists in overall system maintenance, helps remove sediment and stale water, and maintains chlorine residuals.

The City is planning for the addition of a water treatment plant in 2016 to address rising levels of iron and manganese in the City's wells. The Environmental Protection Agency has established secondary drinking water standards and the City's manganese levels now exceed these standards. High iron and manganese levels can cause taste and odor problems within the water system.

Water Rates

Minnesota law requires the City to bill all water customers on a conservation-based rate structure (tiered rates). Further, the law requires billing each residential unit the same allocation of gallons per tier at the same water rates. This means that apartments and condominiums are billed the same rates and with the same allocation of gallons per unit as single-family homes.

Residential water rates are set in 2 components: a quarterly availability charge of \$14.94 (up 98 cents from 2014), and 4 tiered rates for water used in the preceding quarter. Tiered rates for 2015 are shown at right, and are described below:

Residential Water Rates (quarterly)			
Water Tiers	Cost Per	Gallons	
	Thousand	Per	
	Gallons	Penny	
Tier 1 (5,000 gal per unit)	\$ 1.21	8.26	
Tier 2 (5,000 gal per unit)	\$ 1.94	5.15	
Tier 3 (20,000 gal per unit)	\$ 2.69	3.72	
Tier 4 (remaining water)	\$ 4.42	2.26	

- The first 5 thousand gallons per unit is billed at \$1.21 per thousand gallons (about 8.26 gallons for each penny).
- The second 5 thousand gallons per unit is billed at \$1.94 per thousand gallons (5.15 gallons per penny).
- The next 20 thousand gallons per unit is billed at \$2.69 per thousand gallons (3.72 gallons per penny).
- Remaining water is billed at the highest rate of \$4.42 per thousand gallons (2.26 gallons per penny).

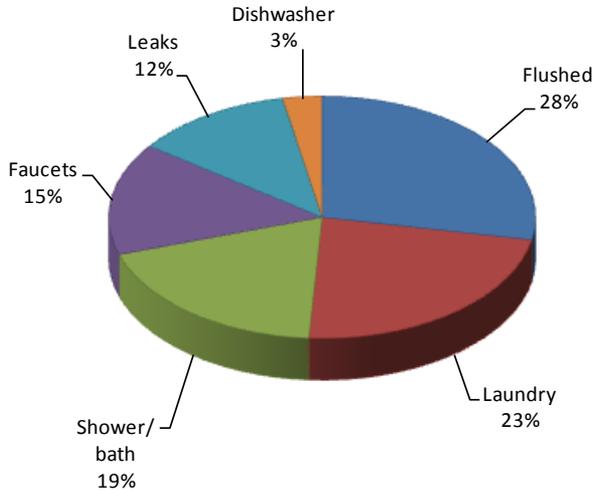
Commercial customers are billed the same tiered rates, excluding the lowest tier (which is for residential customers only).

Tap water is quite inexpensive compared to bottled water. For instance, a gallon of self-serve spring water costs about 30-cents while 30-cents buys 248 gallons of Shoreview tap water at the lowest tier, and even at the highest tier buys 68 gallons of water.

Household Water Use

According to the American Water Works Association (AWWA), about half of household water use is for flushing and laundry.

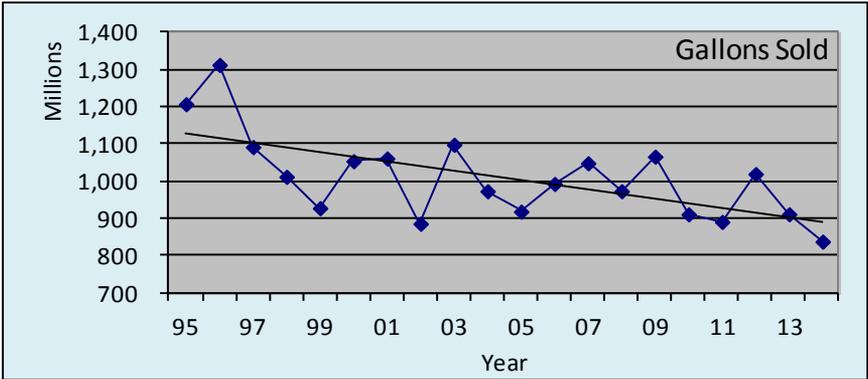
The pie chart at right illustrates average household water consumption. Some easy ways to reduce water consumption include:



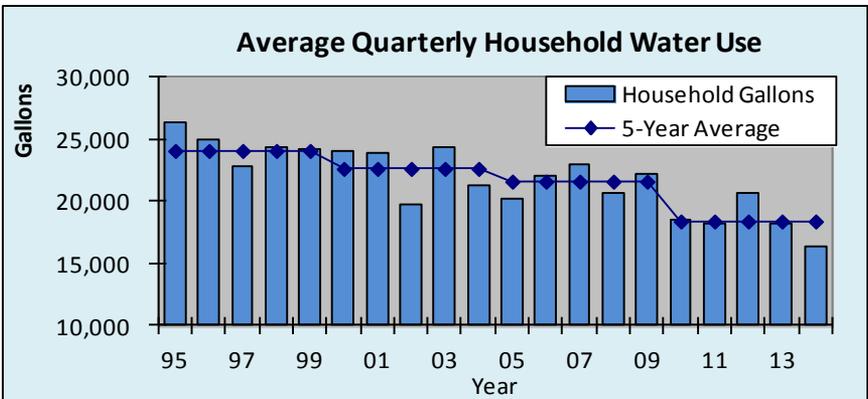
- Turn the water off while washing dishes by hand
- Run the clothes washer only when full, or upgrade to a high efficiency washing machine
- Use a water-efficient shower head (saves 750 gallons a month)
- Shorten shower time (1 to 2 minutes shorter saves 25 gallons a month)
- Upgrade older toilets with water efficient models
- Use sprinklers that deliver big drops of water close to the ground; smaller water drops and mist evaporate more quickly before reaching the ground
- Adjust sprinklers so only the lawn is watered, and not the house, sidewalk or street
- Water the lawn and garden in the morning or evening when temperatures are cooler, minimizing evaporation
- Check soil moisture to determine when to water rather than following set watering schedules
- Set a timer when watering, as a reminder to stop; a running hose can discharge up to 10 gallons a minute
- Adjust the lawn mower to a higher setting, allowing longer grass to shade the root system and hold soil moisture better

Water Use Trends

Water use fluctuates from year to year, primarily due to differences in rainfall. About 50% of the water sold is consumed during the four months of the growing season.



Other factors that reduce household water use include water conservation efforts, an aging population, new plumbing fixtures, and fewer people per household. The graph below shows average quarterly water consumption per home (estimated gallons are shown for 2014). Because this graph shows total average consumption throughout the year, both rainfall and water conservation efforts impact these results.



Examining winter water consumption is the easiest way to measure inside household water use (without the impact of summer watering). The graph below shows the decline in average quarterly winter water use over more than a decade.



Even though water conservation protects the long-term viability of the City’s water source, it also means that water revenues decline in some years despite an increase in water rates. If the downward water trend in water use continues, existing customers need to pay more for the same level of service in order to sufficiently cover ongoing operating costs.

Water System Assets

The historical cost of building the water system is amortized over the life of the system and expensed as annual depreciation (\$651,000 for 2015). In the last 5 years the water fund has spent \$4.7 million on water system repairs, replacements, improvements to system controls and water meter replacements. Over the next 5 years the City expects to spend \$2 million on water system assets, plus the addition of an \$11 million water treatment facility. Other capital costs are primarily repairs and maintenance of existing assets (wells, towers and water lines).

Water Budget

Water rates are set with the knowledge that predicting water income is far more difficult than predicting expenses and capital costs. In setting rates the City expects fluctuations in water consumption from year to year, and therefore expects a net loss in some years and a net gain in others. The rate setting process is designed to make gradual changes in rates whenever possible, focusing on a long-term strategy.

The table below provides a 4-year history of water fund activity. As shown, in 2 of the last 4 years the City's water fund ended with a net loss (excluding the value of contributed assets). This means water income was not sufficient to offset operating costs.

Operating Summary	2010 Actual	2011 Actual	2012 Actual	2013 Actual
Revenue				
Special Assessments	\$ 1,113	\$ 1,187	\$ 1,002	\$ 2,275
Intergovernmental	557	13,366	13,198	11,992
Utility Charges	1,963,342	2,184,742	2,917,020	2,692,684
Interest Earnings	32,722	80,297	35,077	(121,490)
Other Revenues	44,846	210	-	-
Total Revenue	2,042,580	2,279,802	2,966,297	2,585,461
Expense				
Enterprise Operations	1,339,306	1,368,874	1,405,259	1,403,838
Miscellaneous	-	108,152	1,901	-
Debt Service	192,894	202,063	183,921	213,477
Depreciation	543,688	609,067	614,991	622,826
Total Expense	2,075,888	2,288,156	2,206,072	2,240,141
Other Sources (Uses)				
Transfers Out	(151,037)	(225,000)	(240,000)	(263,057)
Net Change	\$(184,345)	\$(233,354)	\$ 520,225	\$ 82,263

Once lower water consumption becomes a trend rather than a temporary fluctuation, it becomes necessary to adjust rates more significantly to close the gap between income and expense.

The table below shows estimated water fund activity for the 2014-2015 biennial budget. The 2014 estimated net change is significantly less than the 2015 budgeted amount due to 2014 water consumption being lower than the budgeted base levels (880 million gallons) by 43.4 million gallons. The 2015 budget is based on the expectation that water consumption will continue at base levels.

Operating Summary	2014 Estimate	2015 Budget
Revenue		
Special Assessments	\$ -	\$ -
Intergovernmental	11,700	975
Utility Charges	2,551,928	2,833,000
Interest Earnings	34,000	38,000
Other Revenues	-	-
Total Revenue	2,597,628	2,871,975
Expense		
Enterprise Operations	1,467,336	1,538,027
Miscellaneous	-	-
Debt Service	182,442	142,903
Depreciation	639,000	651,000
Total Expense	2,288,778	2,331,930
Other Sources (Uses)		
Transfers Out	(303,000)	(345,000)
Net Change	\$ 5,850	\$ 195,045

Over the next 5 years, significant water system costs include:

- Install natural gas/alternate power backup for well #6
- Add water treatment plant to address rising levels of iron and manganese in the City's water supply
- Redevelop well #7 and remove sand
- Repair and replace water lines

Sewer Operations

Shoreview operates a sanitary sewer system that collects and directs waste water discharged from homes and businesses throughout the City. The City's sewer system includes:

- 17 lift (pumping) stations
- 108 miles of sanitary sewer lines
- 2,500 manholes

Operating and maintaining the sewer system so that it functions adequately and consistently includes:

- Operating, maintaining and inspecting lift stations daily
- Treating collected sewage (performed by Metropolitan Council Environmental Services)
- Relining sewer pipes
- Replacing, repairing and maintaining sewer system infrastructure
- Inspecting manholes
- Cleaning sewer lines

Sewer Rates

Sewer rates are set in 2 components: a quarterly sewer availability charge of \$40.22 per unit plus one of 5 tiered rates for water used in the winter quarter (because winter water use provides the best measure of water entering the sewer lines). The sewer availability charge is billed regardless of whether sewer discharge occurs because the City must maintain, repair, operate and replace the sewer system.

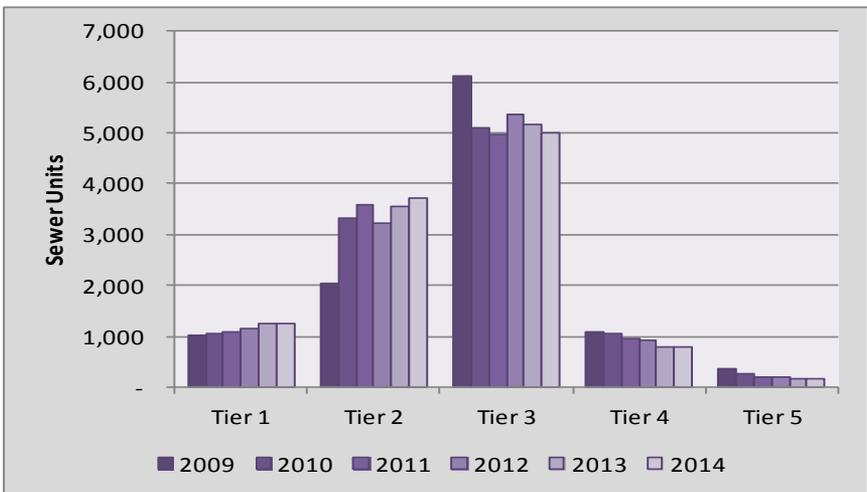
Tiered rates for 2015 are shown in the table at right, and are described at the top of the next page.

Residential Sewer Rates (quarterly)	
Sewer Tiers	Sewer Tiers
Tier 1 (up to 5,000 gal per unit)	\$ 17.00
Tier 2 (5,001-10,000 gal per unit)	\$ 29.26
Tier 3 (10,001-20,000 gal per unit)	\$ 44.87
Tier 4 (20,001-30,000 gal per unit)	\$ 61.03
Tier 5 (more than 30,000 gal per unit)	\$ 79.28

- Tier 1— homes using up to 5 thousand gallons in the winter quarter pay \$17.00 per quarter.
- Tier 2— homes using between 5 and 10 thousand gallons in the winter quarter pay \$29.26 per quarter.
- Tier 3— homes using between 10 and 20 thousand gallons in the winter quarter pay \$44.87 per quarter.
- Tier 4— homes using between 20 and 30 thousand gallons in the winter quarter pay \$61.03 per quarter.
- Tier 5— homes using more than 30 thousand gallons in the winter quarter pay \$79.28 per quarter.

Sewer rates are designed to reward low volume customers with lower fees, and to charge high volume customers more since they contribute more flow to the sewer system. Further, rates are designed to treat single-family homes and multi-family units equally by establishing the multi-family cost on a per unit basis. Sewer only customers are billed at the middle tier since actual use cannot be established.

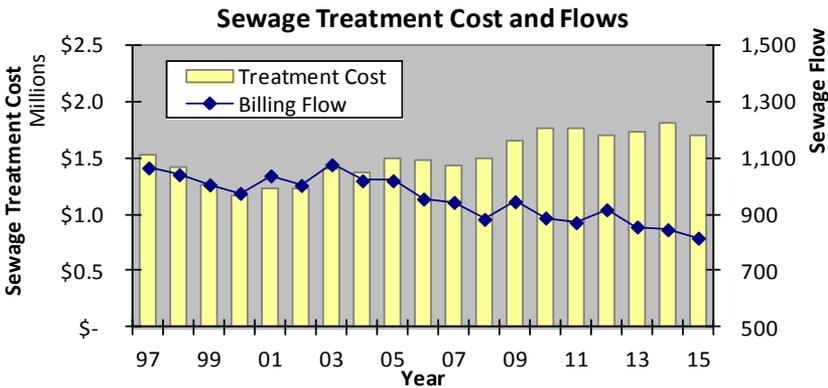
The graph below illustrates the number of residential sewer customers billed in each of the 5 sewer tiers over the last 6 years. As shown, the majority of homes are billed at tier 3, and the fewest number of homes are billed at tier 5. The number of customers in the first 2 tiers is generally rising, while the number of customers in tiers 3 through 5 is declining.



Sewage Treatment

Sewage is collected in City-owned sanitary sewer mains and is routed or pumped into facilities owned and operated by the Metropolitan Council Environmental Services Division (MCES). Sewage flows are monitored and metered by MCES for the purpose of determining the City's sewage treatment costs. These costs are dependent on the amount of flow contributed to the system, and therefore water use impacts the City's sewage treatment costs.

Unfortunately, even when sewage flow declines (as it has since 2003) sewage treatment costs don't necessarily follow because the rate charged by the MCES continues to rise. As shown in the table below, sewage flow has generally declined in recent years, while sewage treatment costs have risen in most years. Shoreview's share of treatment costs will decrease 6.1 percent for 2015.



Sewage flows can also be impacted by groundwater infiltration and storm water inflow, particularly during periods of heavy downpours. Cracks in sewer lines, openings in manholes, and illegal connections of roof drains and/or sump pumps to the sewer system allow water to flow directly into sewer pipes, which in turn drives up sewer flows and sewage treatment costs.

In an effort to reduce sewage flow, the City is actively working to evaluate and reline sewers where ground water infiltration occurs. The City also completed a commercial roof and residential sump pump inspection program to eliminate illegal discharges into the sewer system.

The table at right provides a 10-year summary of the City’s sewage treatment costs. The sewage flow estimate for the 2015 bill is 15% lower than 2006 flows. Conversely, the 2015 rate per million gallons is 35% higher than the rate charged in 2006. The net result is a sewage treatment bill that is \$1,701,020 (16% higher than 2006). If sewage flows had continued to grow, the cost would have been even higher.

Year	Billing Flow (millions)	Rate Per Million Gallons	Annual Cost (millions)
2006	955	\$ 1,543	\$ 1.472
2007	943	\$ 1,527	\$ 1.438
2008	883	\$ 1,697	\$ 1.497
2009	945	\$ 1,754	\$ 1.657
2010	888	\$ 1,981	\$ 1.758
2011	871	\$ 2,026	\$ 1.764
2012	917	\$ 1,854	\$ 1.699
2013	856	\$ 2,029	\$ 1.737
2014	846	\$ 2,142	\$ 1.812
2015	816	\$ 2,084	\$ 1.701

Since 2007 the MCES has considered charging an inflow/infiltration surcharge for the estimated increase in sewage flows generated by ground water infiltration. So far, Shoreview has avoided this cost because of the City’s efforts to reduce inflow and infiltration of ground and storm water into the system.

Sewer System Assets

The historical cost of building the sanitary sewer system is amortized over the life of the system and expensed as annual depreciation (\$348,000 for 2015). In the last 5 years the sewer fund has spent \$2.1 million on sewer system repairs, replacements, improvements to system controls and new sewer lines, and expects to spend \$3.3 million over the next 5 years.

Sewer Budget

Establishing sewer rates and predicting sewer revenue is somewhat easier than predicting water revenue, because winter water consumption is used to determine residential sewer charges. Regardless, the gradual decline in water use also impacts sewer revenue because declining winter water use shifts more customers into lower sewer tiers.

The table below provides a 4-year history of sewer fund activity. In one of the last 4 years the City's sewer fund ended with a net loss (excluding the value of contributed assets). This means that sewer income was not sufficient to offset expense.

Operating Summary	2010 Actual	2011 Actual	2012 Actual	2013 Actual
Revenue				
Special Assessments	\$ 1,092	\$ 1,541	\$ 1,525	\$ 3,196
Intergovernmental	444	10,649	10,516	9,555
Charges for Services	2,365	3,680	1,325	703
Utility Charges	3,250,742	3,543,104	3,565,927	3,773,453
Interest Earnings	19,357	58,518	24,964	(68,517)
Total Revenue	3,274,000	3,617,492	3,604,257	3,718,390
Expense				
Enterprise Operations	2,869,607	2,953,041	2,893,667	3,100,871
Debt Service	57,495	76,061	72,489	73,840
Depreciation	279,711	295,893	317,853	326,338
Total Expense	3,206,813	3,324,995	3,284,009	3,501,049
Other Sources (Uses)				
Transfers Out	(127,037)	(187,000)	(188,000)	(200,567)
Net Change	\$ (59,850)	\$ 105,497	\$ 132,248	\$ 16,774

Rates are designed to change gradually whenever possible, focusing on a long-term strategy. However, as lower consumption becomes a trend, it may become necessary to charge higher rates for the same level of service to offset operating expenses.

The table below shows estimated sewer fund activity for the 2014-2015 biennial budget. Both years are based on the expectation that winter water consumption will continue at current levels, and estimates indicate a slight net profit in each year.

Operating Summary	2014 Estimate	2015 Budget
Revenue		
Special Assessments	\$ -	\$ -
Intergovernmental	9,315	775
Charges for Services	1,000	1,000
Utility Charges	3,901,485	3,945,500
Interest Earnings	24,000	27,000
Total Revenue	3,935,800	3,974,275
Expense		
Enterprise Operations	3,194,611	3,299,094
Miscellaneous	-	-
Debt Service	69,502	52,857
Depreciation	330,000	348,000
Total Expense	3,594,113	3,699,951
Other Sources (Uses)		
Transfers Out	(181,000)	(181,000)
Net Change	\$ 160,687	\$ 93,324

- Over the next 5 years, significant sewer system costs include:
- Update SCADA system software
 - Repair and replace sewer lines
 - Sanitary sewer relining
 - Construct a lift station and forcemain on Hwy 96 east of Dale Street
 - Rehabilitate 8 lift stations

Surface Water Operations

The City of Shoreview maintains a storm water system that collects and directs storm water runoff and provides protection for surface and ground water quality. The City's surface water system includes:

- 4 storm water lift (pumping) stations
- 201 storm water ponds
- 485 storm inlets/outlets
- 35 miles of storm lines
- 50 structural pollution control devices

The purpose of the surface water management program is to preserve and use natural water storage and retention systems, as much as is practical, to reduce the amount of public capital expenditures necessary to:

- Control excessive volumes and runoff rates
- Improve water quality
- Prevent flooding and erosion from surface water flows
- Promote ground water recharge
- Protect and enhance fish and wildlife habitat and water recreational facilities (lakes, streams, etc.)

The City's surface water management program seeks to prevent flooding and improve ground water quality through the best possible utilization of wetlands and artificial detention areas. Wetland management allows the City to maintain the integrity of its wetlands, improve water quality and reduce City maintenance efforts. Emphasis is placed on both sediment removal and storm water infiltration, as the primary methods of water quality improvement.

Operating the surface water system includes these activities:

- Maintain, inspect, replace and improve storm sewer systems (including storm lines)
- Maintain storm sewer lift stations (pumping stations)
- Maintain and inspect storm water ponds
- Construct new storm water ponds
- Collect debris from City streets through street sweeping
- Provide technical support to water management organizations
- Implement Surface Water Management Plan

Surface Water Rates

Surface water charges are set by type of property, considering the amount of impervious surface typically present (in an attempt to address varying levels of rainfall runoff). The table below shows 2015 surface water rates for all classes of property. Townhomes pay a

slightly higher rate because they have more impervious surface area and therefore generate more rainfall runoff.

Surface Water Rates (quarterly)		
Property Type	Rate	Basis
Residential	\$ 23.39	per unit
Townhomes	\$ 24.77	per unit
Condo, apartment, commercial, industrial, school, church	\$ 195.57	per acre

Surface Water System Assets

The historical cost of building the storm sewer system is amortized over the life of the system and expensed as annual depreciation (\$266,000 for 2015). In the last 5 years the surface water fund has spent \$3.1 million on storm system repairs, replacements, and improvements (including pond development), and expects to spend \$2 million over the next 5 years.

Surface Water Management Budget

The table below provides a 4-year history of surface water fund activity. As shown, the surface water fund has ended 2 of the last 4 years with a net loss (excluding the value of contributed assets). This has been largely due to higher repair and maintenance costs.

Operating Summary	2010 Actual	2011 Actual	2012 Actual	2013 Actual
Revenue				
Special Assessments	\$ 534	\$ 472	\$ 303	\$ 662
Intergovernmental	161	3,863	3,815	3,472
Utility Charges	925,620	1,007,679	1,147,236	1,220,385
Interest Earnings	11,235	20,606	8,476	(36,414)
Total Revenue	937,550	1,032,620	1,159,830	1,188,105
Expense				
Enterprise Operations	656,073	669,298	710,054	621,960
Debt Service	90,408	91,277	84,797	104,508
Depreciation	192,558	214,061	221,177	228,865
Total Expense	939,039	974,636	1,016,028	955,333
Other Sources (Uses)				
Transfers Out	(40,000)	(97,000)	(107,000)	(126,900)
Net Change	\$ (41,489)	\$ (39,016)	\$ 36,802	\$ 105,872

The operating surplus generated in any given year is used to partially support anticipated storm sewer capital costs as mandated by the City's Surface Water Management Plan.

The table below shows estimated surface water fund activity for the 2014-2015 biennial budget. As shown, a net profit is anticipated for both years.

Operating Summary	2014 Estimate	2015 Budget
Revenue		
Special Assessments	\$ -	\$ -
Intergovernmental	3,390	280
Utility Charges	1,352,426	1,456,757
Interest Earnings	8,000	9,000
Total Revenue	1,363,816	1,466,037
Expense		
Enterprise Operations	837,309	853,136
Debt Service	86,004	71,747
Depreciation	248,000	266,000
Total Expense	1,171,313	1,190,883
Other Sources (Uses)		
Transfers Out	(147,000)	(152,000)
Net Change	\$ 45,503	\$ 123,154

Over the next 5 years, significant surface water system costs include:

- Repair and replace storm systems
- Improve and expand the storm system as part of street projects
- Construct 2 pretreatment structures (East shore of Shoreview Lake, and another location to be determined)

Street Lighting Operations

The City of Shoreview operates a street lighting system throughout the community in support of safe vehicle, bicycle and pedestrian traffic. The City’s street light system includes lighting owned by the City or leased from Xcel Energy.

- 717 city-owned street lights
- Leased street lights

Operation and maintenance of the City’s street light system includes:

- Periodic rewiring of existing lights
- Energy costs associated with operation of the lighting system
- Installation of new street lights
- Repair and replacement of existing poles and/or light fixtures

Street Lighting Rates

Street lighting user charges are based upon property type. The table below shows 2015 street lighting rates for all classes of property. Apartments and mobile homes pay a lower fee than homes because there are significantly more homes per acre in those developments. All properties in Shoreview, regardless of locations or types of street light fixtures, pay street light charges. All properties receive benefit from the street light system through illumination of streets, which in turn enhances safety for drivers and pedestrians.

Street Lighting Rates (quarterly)		
Property Type	Rate	Basis
Residential, townhome	\$ 10.24	per unit
Apartment, condo, mobile home	\$ 7.68	per unit
Comm, industrial, school,church	\$ 30.74	per acre

Street Lighting Assets

The historical cost of building the street lighting system is amortized over the life of the system and expensed as annual depreciation (\$66,000 for 2015, not including lights owned by Xcel Energy). Over the last 5 years the City has spent \$612,000 on lighting repairs and replacements, and expects to spend \$1.6 million over the next 5 years due to the age of many of the lights in the system.

Street Lighting Budget

The table below provides a history of street lighting fund activity for the last 4 years. As shown, the fund ended with a net gain in each year. An operating gain is necessary because the fund lacks sufficient cash balances to absorb the annual impact of street lighting replacement costs. These costs create an immediate drain on street light fund cash while impacting depreciation expense over the useful life of the assets (per governmental accounting rules).

Operating Summary	2010 Actual	2011 Actual	2012 Actual	2013 Actual
Revenue				
Special Assessments	\$ 92	\$ 142	\$ 140	\$ 208
Utility Charges	348,220	365,333	456,144	474,664
Interest Earnings	2,221	4,337	3,114	(8,726)
Other Revenues	466	-	-	-
Total Revenue	350,999	369,812	459,398	466,146
Expense				
Enterprise Operations	245,207	281,610	235,752	251,702
Miscellaneous	26	-	-	-
Depreciation	37,911	36,865	40,041	44,484
Total Expense	283,144	318,475	275,793	296,186
Other Sources (Uses)				
Transfers Out	(6,000)	(12,600)	(15,600)	(19,000)
Net Change	\$ 61,855	\$ 38,737	\$ 168,005	\$ 150,960

The table below shows estimated street lighting fund activity for the 2014-2015 biennial budget. The planned operating surplus is intended to partially offset street light replacements of \$225,000 in 2014, and \$220,000 in 2015.

In the next 5 years, energy, street light repair, and street light replacement costs will be the primary driving force when establishing street lighting charges.

Operating Summary	2014 Estimate	2015 Budget
Revenue		
Special Assessments	\$ -	\$ -
Intergovernmental	493,000	513,000
Utility Charges	2,200	2,500
Interest Earnings	500	500
Total Revenue	495,700	516,000
Expense		
Enterprise Operations	264,278	271,742
Miscellaneous	-	-
Depreciation	58,000	66,000
Total Expense	322,278	337,742
Other Sources (Uses)		
Transfers Out	(20,400)	(22,400)
Net Change	\$ 153,022	\$ 155,858

- Energy costs account for 64% of operating expense in 2014 and 2015 (the largest expense for the fund)
- Repair costs are expected to rise in the future as street lights continue to age

What Does This Mean for My Utility Bill?

The impact of the 2015 water and sewer rates on any individual customer depends on the amount of water consumed because rates are based on the philosophy that customers putting greater demands on the system should pay more than customers with lesser demand. The table below provides a breakdown of residential customers in 6

usage levels. As shown, 42% of residential customers fall into the “average” category (using an average of 17,500 gallons of water per quarter, and using about 12,000 gallons per quarter in the winter months).

Use Level	Water Gallons	(winter) Sewer Gallons	Percent of Residential Customers
Very low	5,000	4,000	10%
Low	10,000	10,000	22%
Average	17,500	12,000	42%
Above average	25,000	22,000	19%
High	55,000	26,000	5%
Very high	80,000	34,000	2%

The table at right illustrates the change in utility bills for 2015 in each of the usage levels, assuming that the same amount of water is used in each year.

Use Level	Total Quarterly Utility Bill		Quarterly Change	
	2014	2015	\$	%
Very low	\$ 107.86	\$ 113.43	\$ 5.57	5.2%
Low	\$ 128.82	\$ 135.39	\$ 6.57	5.1%
Average	\$ 162.80	\$ 171.18	\$ 8.38	5.1%
Above avg	\$ 197.31	\$ 207.51	\$ 10.20	5.2%
High	\$ 313.11	\$ 331.46	\$ 18.35	5.9%
Very high	\$ 434.08	\$ 460.21	\$ 26.13	6.0%

The cost estimates shown above include a water connection fee of \$1.59 per quarter, mandated by and paid to the State of Minnesota.

Available Payment Methods

The City of Shoreview provides a variety of payment methods for utility bills, including:

- City hall front desk during office hours (8 a.m. to 4:30 p.m.)
- Drop box near the city hall entrance
- By mail
- Credit card, by calling utility billing
- Direct debit (from your bank account)
- On line via the City’s website (look for “Online Payments”)

Contact Information

Utility billing questions information

- Phone - (651) 490-4630
- Email - utilities@shoreviewmn.gov

Utility maintenance questions

- Phone - (651) 490-4657 (public works admin coordinator)
- Phone - (651) 490-4661 (utilities supervisor)
- Email - dcurlley@shoreviewmn.gov

Water and sewer emergencies

- Mon-Fri, 7:00 a.m.-3:30 p.m. (651) 490-4661
- Evenings, weekends and holidays, call the Ramsey County Sheriff (651) 484-3366. The Sheriff’s office will contact the utility maintenance person on call.

We hope this information has been helpful
in explaining the City’s utility systems.

Shoreview Utility Department
4600 Victoria Street North
Shoreview, MN 55126
www.shoreviewmn.gov

