Local Water Supply Plan Approval Checklist
2016-2018

Formerly called Water Emergency & Water Conservation Plan

All sections of the plan must be completed in order for the plan to be approved.

Name of Water Supplier Click here to enter text.

Date Plan Received by DNR	July 16, 2018
Date of Review	April 16, 2019
Name of Reviewer	Joe Richter
Plan Due Date	October 15, 2017
Date of Met Council Review	N.A.
Name of Met Council Reviewer	N.A.

Is this plan approved? Yes X **No**

Part 1. Water Supply System Description and Evaluation

Red = Items that must be changed for an approvable water supply plan.

Blue = DNR Comments

Prelim ✓ List = for a quick initial review to make sure the plan has all the necessary sections complete

Prelim. ✓ list	Compliant/ Acceptable	Changes Needed	Met Council Concern	Section	Description	Comments/**Important Comments are in Bold**
	Analysis of Water Demand					
☒	☒	☐		Intro	Table 1 General Information	
☒	☒	☐		1.A.	Table 2 Historic Water Demand	
☒	☒	☐		1.A.	Table 3 Large Volume Users	
	Treatment and Storage Capacity					
☒	☒	☐		1.B.	Table 4 Water Treatment Capacity & Process	
☒	☒	☐		1.B.	Table 5. Storage capacity	It is unusual to see so many storage structures. This must be due to the large difference in elevation between different sections of the City (pressure zones).
☒	☒	☐		1.B.	Discuss current capacity vs. project 10 yr. demand	Is there enough capacity of all of the zones in the city?
	Water Sources					

☒	☒	☐		1.C.	Table 6. Water sources and status	
☒	☒	☐		1.C.	Discuss limitation on emergency water source	
	Future Demand Projections					
☒	☒	☐	☐	1.D.	Discuss Water Use trends	It is also interesting to note that the number of connections has increase at a rate that is three times larger than the increase in population. It is disturbing to note the increase in the unaccounted-for water.
☒	☒	☐	☐	1.D.	Table 7. Projected annual water demand	It is interesting to note that the City of Red Wing will not exceed the authorized volume of DNR Water Appropriation Permit 1976-5086 by 2040.
☒	☒	☐	☐	1.D.	Describe method to project water demand	While the population projected seems large, the table is acceptable.
	Resource Sustainability					
☒	☒	☐		1.E.	Table 8. Information about source water quality monitoring	**We prefer that the City of Red Wing sample its water more than once a month.**
☒	☒	☐		1.E.	Table 9. Water level data	
☒	☒	☐	☐	1.E.	Table 10. Natural resource impacts	**In future editions of the City of Red Wing Water Supply Plan, the lakes, stream, wetlands, and rivers in the City of Red Wing should be listed in Table 10. The explanation as to why the surface waters will not be impacted by the City of Red Wing water supply wells is good. A list of the technical documents (like the DNR Technical Review) that support the City of Red Wings' conclusions must also be typed into Table 10. It is good to see that the City of Red Wing is installing pressure transducers into its wells.**
☒	☒	☐		1.E.	Table 11. Status of Wellhead Protection	

					and Source Water Protection Plans	
☒	☒	☐	☐	1.F.	Table 12. Adequacy of Water Supply System	It is good to see that the water mains are being replaced on a regular basis. This will help to control he unaccounted for water volumes for the system.
☒	☒	☐		1.F.	Table 13. Proposed future installations/sources	
☒	☒	☐		1.F.	Anticipated need for alternative water source Y/N	
☒	☒	☐	☐	1.F.	If yes above, complete Table 14. Alternative Water Sources	

Part 2. Emergency Planning & Response Procedures

	Emergency Response Plan					
☒	☒	☐		2.A.	Federal Emergency Plan Y/N	
☒	☒	☐		2.A.	Table 15. Emergency Preparedness Plan contact information	
☒	☒	☐		2.B.	Operational Contingency Plan Y/N	
☒	☒	☐		2.C.	Do emergency records & maps exist & staff knowledge Y/N	
☒	☐	☒		2.C.	Table 16. Interconnections with other water supply systems in an emergency	The City of Red Wing should explore the possibility of an emergency interconnection with the Minnesota Department of Corrections Facility water system. If this is not possible, then there should be an explanation as to why.
☒	☒	☐		2.C.	Table 17. Utilizing surface water as an alternative source	
☒	☒	☐		2.C.	Describe additional emergency measures	The emergency measures that are described in the City of Red Wing Wellhead Protection Plan should also be listed here.

	Allocation & Demand Reduction Procedures					
☒	☒	☐		2.C.	Table 18. Water use priorities	
☒	☒	☐		2.C.	Table 19. Emergency demand reduction conditions, triggers and actions	
☒	☒	☐		2.C.	Table 20. Plan to inform customers regarding conservation requests & water use restrictions	
	Enforcement					
☒	☐	☒		2.C.	Critical water deficiency restriction/official control in place Y/N	**Red Wing is required to adopt a Critical Water Deficiency Ordinance (see attached model ordinance) within six months of the approval of the water supply plan.**
☒	☐	☒		2.C.	Does the public water supply utility, city manager, mayor, or emergency manager have standing authority to implement water restrictions Y/N	**The city should be able to act quickly if there is an emergency.**

Part 3. Water Conservation Plan

	Progress since 2006					
☒	☒	☐		3.A.	First WSP Y/N	
☒	☒	☐		3.A.	If yes, describe conservation practices that you are already implementing OR If no, complete Table 21 on Implementation	
☒	☒	☐		3.A.	What are the results from the actions in Table 21-how were results measured?	
	Triggers for Allocation and Demand Reduction Actions					
☒	☒	☐		3.A.	Table 22. Short and	The triggers and the actions

					long-term demand reduction conditions, triggers and actions	described in Table 22 should reflect the measures described in Table 19.
	Conservation Objectives and Strategies					
☒	☐	☒	☐	3.B.	Is your ten-year average (2005-2014) unaccounted Water Use in Table 2 higher than 10% Y/N	**Red Wing Listed high unaccounted for water volumes in Table 2 that average 12.7% during the last five years.** **The DNR is very interested in discovering the results of the continued work on reducing the unaccounted-for water volumes.**
☒	☒	☐	☐	3.B.	Leak detection monitoring schedule	**The DNR is interested in the results of the last leak detection survey.**
☒	☒	☐	☐	3.B.	Date of most recent water audit & frequency	**The City of Red Wing should use the AWWA software for water audits to ensure that the unaccounted-for water is not a result of an accounting error.**
☒	☒	☐	☐	3.B.	If Table 2 shows annual water losses over 10% or an increasing trend over time, describe what actions will be taken to reach the <10% loss objective and within what timeframe	The DNR encourages the City of Red Wing to continue to work to reduce the unaccounted-for water volume.
☒	☐	☒		3.B.	Table 23. Information about customer meters	**The AWWA – recommends that residential meters be checked every 10 years. Meters drift slowly out of accuracy – Prior Lake discovered that 15% of their water was lost due to old water meters. Large commercial meters should be checked every five years. Meters over 5 inches in diameter should be checked annually.**
☒	☐	☒		3.B.	Table 24. Water source meters	**The AWWA recommends that source meters should be calibrated or replaced every 1-5**

						years
☒	☒	☐		3.B.	Is your average 2010-2015 residential per capita water demand in Table 2 more than 75 GPD Y/N	
☒	☒	☐		3.B.	Ave. residential per capita demand data	
☒	☒	☐			Describe the water use trend	
☒	☒	☐		3.B.	Table 25. Strategies & timeframe to reduce residential per capita demand	
☒	☒	☐		3.B.	Table 26. Strategies & timeframe to reduce institutional, commercial industrial, & agricultural & non-revenue use demand	Red Wing should adopt additional strategies from Table 26.
☒	☐	☒		3.B.	Describe the trend for each customer category; explain the reason(s) for the trends, and where trends are increasing.	Red Wing should explain the perceived reasons for the water use trends.
☒	☒	☐		3.B.	Peak Day Demand Ratio & Calculate a ten year average (2005 – 2014) of the ratio of maximum day demand to average day demand	
☒	☒	☐		3.B.	Current water rate data	
☒	☒	☐		3.B.	Table 27. Rate structures for each customer category	
☒	☒	☐		3.B.	Justification for neutral or non-conserving rates	
☒	☒	☐		3.B.	Table 28. Additional strategies to Reduce Water Use & Support Wellhead Protection	We encourage the City of Red Wing to implement the proposed actions as soon as possible.
☒	☒	☐		3.B.	Measures of success	

☒	☐	☒		3.B.	Table 29. Regulations for short-term reductions in demand and long-term improvements in water efficiencies	Red Wing should adopt additional strategies from Table 29.
☒	☐	☒		3.B.	Table 30. Retrofitting programs	The City of Red Wing should indicate which measures the Gas Company and Electric Company are partnering with the City of Red Wing to implement.
☒	☒	☐		3.B.	Conservation Program success	The DNR looks forward to hearing of the success of the water use targets.
☒	☒	☐		3.C.	Table 31. Current and Proposed Education Programs	
☒	☒	☐		3.C.	Future education and information activities	
☐	☐	☐		4.D. Metro Only	Table 32. Local controls and schedule to protect Drinking Water Supply Management Areas	N.A.
☒	☒	☐		Appendix 1	Well records and maintenance summaries	It is good to see that Red wing is maintaining its wells. The DNR looks forward to the installation of the transducer and SCADA connections to Red wings wells.
☒	☐	☒		Appendix 2	Water level monitoring plan	**It is good to see that the City of Red Wing is installing pressure transducers and SCADA connections to its production wells. The City of Red Wing Water Level Monitoring Plan should be amended to reflect the recommendations in the Technical Review (see attached). The review recommends that: a Mount Simon Aquifer observation well be installed ½ miles from a Red Wing well Field; seal well #5 in accordance with the Minnesota Department of Health (MDH)**

						Guidelines; and, conduct an aquifer test in accordance with the MDH recommendations.
☒	☒	☐		Appendix 3	Water level graphs for each water supply well	Wells 7-1, 7-2, and 7-3 all show a jump in elevation in 2012. Was there a change in the way the wells were measured at that time?
☒	☒	☐		Appendix 4	Capital Improvement Plan	The DNR is happy to see the number of water mains that are being replaced in the future. This may help to reduce the amount of unaccounted-for water that is lost by the system.
☒	☒	☐		Appendix 5	Emergency Telephone List	
☒	☒	☐		Appendix 6	Cooperative Agreements for Emergency Services	The City of Red Wing should explore the possibility of an emergency interconnection with the Minnesota Department of Correction Facility water system.
☒	☒	☐		Appendix 7	Municipal Critical Water Deficiency Ordinance	**The City of Red Wing is required to adopt a Critical Water Deficiency Ordinance within 6 months of the approval of the Red Wing Water Supply Plan. The DNR looks forward to receiving a copy of the ordinance.**
☒	☒	☐		Appendix 8	Graph showing annual per capita water demand for each customer category during the last ten-years	
☒	☒	☐		Appendix 9	Water Rate Structure	The DNR commends the City of Red Wing for billing for water on a monthly basis and for charging approximately $4.50/1000 gallons. Both of these actions encourage water conservation.
☒	☐	☒		Appendix 10	Adopted or proposed regulations to reduce demand or improve water efficiency	The City of Red Wing should review the water conservation regulations that are on the MRWA webpage or the League of MN Cities webpage.
☒	☒	☐		Appen	Implementation	

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Plan Approved ☐ Plan NOT Approved ☒ Date: April 16, 2019