Questions and Answers about Minnesota Local Water Supply Plans 2016 - 2018

BACKGROUND INFORMATION

Who needs to complete a local water supply plan and when is it due?

- Water suppliers serving over 1,000 people and all seven-county metropolitan area communities (even those with less than 1,000 people).
- The next round of Local Water Supply Plans will be due 2016-2018.
- With nearly 360 water suppliers required to submit plans in Minnesota, approximately 120 plans will be due each year.
- Deadlines:
    - Year 1 - December 31,2016
    - Year 2 - October 15, 2017
    - Year 3 - October 15, 2018
- Each city should have received a DNR e-mail notification on Oct. 1, 2015
- These plans are completed every 10 years. The last ones were submitted 2006-2008.
- The required plan elements are covered in the plan template.
- The template has four parts – inventory, emergency planning, water conservation and, when relevant, metropolitan area.

We serve less than 1,000 people do we have to complete the water supply plan?

Because of projected population growth in the seven-county metropolitan area, the Metropolitan Council is requiring metropolitan area communities with a water supply system, regardless of size, to complete a water supply plan as part of the community's local comprehensive plan. These include all water suppliers in: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties.

Completing the DNR Water Supply Plan template fulfills the Met Council requirements. In Greater Minnesota, even if a water supplier isn't quite at 1,000 people we encourage communities to complete parts of the plan. The emergency preparedness section (Part 2) is very good to have on hand and the water conservation section (Part 3) makes good economic and environmental sense.

How will we know when our city should attend a workshop?

The DNR will send invitations to workshops approximately 15 - 18 months before the Water Supply Plan due date. There will be workshops in the fall of 2015, spring of 2016 and spring of 2017.

What if our community just completed a water supply plan in the last few years?

These communities will need to submit a new 2016-2018 plan; however, it should take very little time. They may be able to reuse most of their emergency procedures and data reporting details, but will need to update the water conservation (Part 3) since this section has changed

significantly. One exception: cities with Water Supply Plans due Dec. 31, 2016 and have an approved Water Supply Plan from *after* Oct. 1, 2014 may complete just Part 3 Water Conservation (and Part 4 in Metro) and reuse their Part 1 and Part 2.

If a community gets their water from another water supplier, who needs to submit a Water Supply Plan?

- If a city/water supplier serving over 1,000 people buys water in bulk from another water supplier and then bills its customers, that city will need to complete a water supply plan.
- If residents of City #1 get their water from City #2, and City #2 handles all the billing, metering etc.; then City #1 does not need to complete a water supply plan; however City #2 will need to account for these customers in their water supply plan.
- If City #1 runs their own water supply system serving over 1,000 people, but some portion of the City #1 is served by a City #2, then each city should include only the portions that they service.
- If you are unsure, contact Joe Richter in the metro area at Joe.Richter@state.mn.us or your area hydrologist[1] in all other parts of Minnesota.

Why should a water supplier complete a water supply plan template?

- Water Supply Plans are required by law (M.S. 103G.291) every ten years.
- Filling in the template is great way for city staff to gather information that is useful for their work and for city council discussions—they will have pertinent information at fingertips.
- A current Water Supply Plan is required to be eligible for funding from the Minnesota Department of Health Drinking Water Revolving Funds.
- Demand reduction law went into effect Jan. 15, 2015—by completing a new Water Supply Plan template, you will be in compliance (the DNR is not policing compliance with this provision, but will not approve their Water Supply Plan and any permit amendments unless they meet this requirement.)
- The Water Supply Plan will help water suppliers prepare for droughts and water emergencies.
- The DNR has more water appropriation staff to help local governments with this effort than we had last time. The Minnesota Rural Water Association and Met Council are also available to provide technical assistance.
- Working with local governments is an opportunity for governments to develop relationships and exchange ideas with each other.
- Publishing Water Supply Plans is a helpful service to residents. It shows that their city is keeping up-to-date on water related issues and their water supply is being carefully managed.
- Having a current Water Supply Plan enhances grant opportunities for cities.
- Approximately 52% of the groundwater used in Minnesota is for water supply systems. Communities need to be leaders in promoting quality drinking water conservation and sustainability.

What's New with Water Supply Plans?

- Easier to complete.
- Stronger conservation measures.

[1] http://files.dnr.state.mn.us/waters/area_hydros.pdf

- Plans should be submitted through the DNR Minnesota Permitting and Reporting System (MPARS)[2].
- The DNR will meet with communities to discuss local water supply issues and conservation ideas.
- Part 4 – reflects the Met Council Master Water Supply Plan

COMPLETING THE TEMPLATE

Can we download the Water Supply Plan template and start working on it a little at a time?

Yes. There is a fillable PDF or a Word Document available. Either format may be submitted. If your water supply includes more than five individual wells, the Word Document will work better for adding additional lines to tables.

Table 10 - Is there a list of wetlands that the city should include? What is the city's responsibility with identifying potential wetland impacts?

The DNR is at the early stage of developing and implementing groundwater/surface water thresholds due to groundwater appropriation. This information can be found at: http://www.dnr.state.mn.us/gwmp/gw_thresholds/index.html. However, resource sustainability is a high priority with the state. Minnesota Statutes § 103G.287, Subd. 2, states that "Groundwater appropriations that will have negative impacts to surface waters are subject to applicable provisions in § 103G.285."

We are looking for partners to help collect data to set acceptable ranges of impact for different wetland types. We encourage the city to take the following steps as part of their Water Supply Planning process:

1) The city should calculate and map a zone (area) of influence for each of the city's wells. The Wellhead Protection Plan may already identify these zones.
2) Identify which wetlands are in the Wellhead Protection Areas (zone of influence identified above). This may be in the Wellhead Protection Plan or alternately, the city may identify the wetlands within the zone of influence. Although the city may have hundreds of wetlands, the water bodies that are located within the community's Wellhead Protection Areas/calculated zone of influence are the most likely to be impacted by the use of the city wells.
3) Identify the various types of wetlands that have been identified (such as emergent vegetation or open water). The city should consult the National Wetlands Inventory which has recently been updated http://www.dnr.state.mn.us/eco/wetlands/map.html
4) Other important resources the city will want to consult for wetland significance include: the Conservation District or your local Watershed District. They may have additional concerns that they would like to partner with the city on monitoring.
5) Also consider if there are known wetlands with Blanding's turtle populations or other species of concern; your DNR nongame wildlife biologist can provide this information. The city should also determine which water bodies are important to the community (within parks, adjacent to schools, used for environmental education…etc.)

This is as far as the city needs to go in the Water Supply Plan.

[2] http://www.dnr.state.mn.us/mpars/index.html

Future Steps:

6) After identifying the wetlands at highest risk/priority and identifying what type of wetland they are, ideally the city can work with the DNR to develop a monitoring strategy. At a minimum, the water bodies should be visited on a regular basis (perhaps annually during July or August) to determine if there seems to be impacts to the water bodies from the community wells. Such impacts may become apparent only during periods of drought.
7) Ideally, the city would put monitoring wells into wetlands and the surficial aquifers near to the waterbodies to get a good data sample for possible impacts to water bodies in the city. The city may even partner with the adjacent communities, the local SWCD, Conservation District and/or Watershed District to assess and monitor important wetlands in the area.
8) Unfortunately, the DNR does not yet have a standardized system to collect and store wetland monitoring data submitted by communities. If there does seem to be impacts to the water body then the community should consider monitoring the water levels of the water body to compare with the pumping records of the nearby city wells. This information can help the community to determine how best to use the city well while minimizing impacts to the surface water body.

Table 10 – do we want their monitoring records? Ob well SKADA Data or graphs?

Make a list of the observation wells and note that the files are available. In most areas we will not need the monitoring records.

Where do I find Appendix materials?

You may use your city records in any format and attach them to the back of the template. Please label each appendix with the appropriate name and number. The water supply plan webpage has a template for the emergency contact appendix and several well record templates. You may use these documents, but it is not necessary.

How should the Water Supply Plans be submitted?

All plans are submitted electronically through the DNR Minnesota Permitting and Reporting System (MPARS). There is no need to produce paper copies. The DNR will share the draft plans with Metropolitan Council for their review. See “Water Supply Plan Instructions and Checklist” for details at www.mndnr.gov/watersupplyplans.

Why is the peak ratio of 2.6 important?

The peak rate to average demand ratio of 2.6 was calculated in 2003 from the average peak day use of the communities in the metro area compared to the average daily use of the communities in the metro area. In the metro area nearly all of the peak days occurred in the summer and were due to high water use on hot summer days – presumably for lawn watering.

The position of the DNR has been that use resulting in a peak day/average day ratio that is above 2.6 for days that are in summer indicates that the water being used for irrigation by the residents in a community is too large and that efforts should be made to reduce the peak day use by the community.

It should be noted that by reducing the peak day use, communities can also reduce the amount of infrastructure that is required to meet the peak day use. This infrastructure includes new wells and new water towers which are costly items.

Since 2003, many communities have adopted odd/even sprinkling restrictions which have reduced the peak day use in those communities. At this time, few areas in the metro have a summer peak day use/average day use ratio that exceeds 2.6. In these communities, if they employ odd/even sprinkling regulations, then the volume of water used for lawn irrigation must be very large.

How to calculate Peak Day Demand Ratio and calculate 10-year average?

It is okay for the cities to throw out outlier days for city practices such as hydrant flushing or water system flushing or main breaks. Ideally this should be based on 10 year averages. If water suppliers do not have the data, use best available data.

Formula: For a given year it would be: largest single day's use divided by total water pumped divided by 365. This should be done for as many years as possible and then averaged.

Why should communities have conservation rate structures (tiered rates)?

The DNR and communities are responsible for implementing demand reduction/water conservation measures. Tiered rate structures meet the intent of the demand reduction law. Uniform or Tier rates can promote conservation. Tier rates are reasonable because the lower tiers can be set to be affordable for the elderly and/or poor. The DNR are not the rate experts. Each community has to be their own expert – they know how much it costs to operate their system. They need to set rates that cover the costs, plan for the future, and develop rates that are not unreasonably excessive. The Minnesota Rural Waters Association and various companies will help cities to conduct water rate reviews and audits.

Can we incorporate the Wellhead Protection Plan with the Water Supply Plan?

Yes, some items may be cross-referenced. Attach your completed Wellhead Protection Plan and with each specific Water Supply Plan question, record the relevant page number in the Wellhead Plan

If there is a large water user in the city, can they be included in credit for water reductions?

Yes, if they are on city water. Otherwise, if they have a separate water supply, highlight the success in the discussion in Table 26.

Will SWUDS data be updated?

Yes, Sean Hunt with the DNR will be updating the chart with large volume permits on the DNR website.

How do cities account for private residential and industrial wells in the city?

While all of these private wells impact groundwater supply, cities do not need to account for their water use. However, it is recommended that cities should implement an ordinance or other measure, so that in the case of drought or other water deficiency, these private wells within the city limits will need to comply with city water conservation measures (sprinkling bans, timing restrictions, etc.)

If a city sells bulk to another city, then who does the conservation education?

The city that sends out the water bill is generally responsible for water conservation education.

When looking at the top 10 industrial users, which year do you look at? Just one year? Five year average?

Generally the top users in the past two to three years will be sufficient.

What if 70% of the city water is used for agricultural production (feed lots)? Are there any BMPs or guidance for livestock producers for conserving water?

Not specifically BMPs, but there are some technologies that help conserve water. Dairy farming is probably the most water-intensive. Water is used to clean pipeline, chill the milk, wash the parlor, etc. With some newer installations there is a process that the used cooling water can be used as wash water.

Water conservation practices for feed lots would be primarily to prevent and repair leaky pipes, water tanks and other water infrastructure. Livestock need more drinking water in hot weather and need unlimited cool, fresh water. Animals should have shade or shelter during the hottest weather and fans in barns.

Some livestock producers use a commercially available fan/misting systems to cool livestock on hot days; however this practice is not very common in Minnesota at this time. Hogs are especially sensitive to heat and sun since they cannot sweat. Detecting leaks and making immediate repairs will help conserve water. Erecting shade over water tanks or moving watering sources to shady areas will also help.

What about cities that have already done a lot of conservation work? Do they get credit?

Yes, please do record your recent accomplishments and note how you plan to continue or improve these efforts.

When considering surface water as an alternative to groundwater how can we get rid of the barriers to reuse?

The high demand for water in Minnesota means we are draining our aquifers faster than they are refilling. Using storm water and rainwater for non-drinking water purposes means that we can relieve some of the pressure on our aquifers. Staff from the Minnesota Department of Health (MDH), Minnesota Pollution Control Agency, the Minnesota Department of Labor and Industry, the Minnesota Department of Natural Resources and the Metropolitan Council joined to form a water reuse group that investigates the benefits and potential problems of water reuse. One safety concern is pathogens, which are disease-causing bacteria, viruses, or other microorganisms. MDH staff partnered with researchers at the University of Minnesota-Twin Cities to study pathogens in two water reuse systems. The results of this study could be applied to other water reuse systems and might also be used to create treatment recommendations to ensure human health is protected. The Department of Labor and Industry will be working to modify water reuse guidelines and regulations.

What constitutes an approvable plan?

- Each plan will initially be reviewed for completeness, using a standardized check list.
- At the statewide workshops, we walk through the template, point out key benchmarks and recommend typing N/A if a question does not apply.
- Each water supply system is unique. For example a prison water supply plan will not need to complete the conservation rate structure that a city would need to consider. A college will need to do more education and outreach to students, but they would not need to offer appliance rebate programs. A city that uses surface water will have different issues than a city that uses well water exclusively.

- All water suppliers will need to complete Part 1 - water supply system description and evaluation and Part 2 - the emergency preparedness procedures. These are straight forward facts and similar to the previous templates.
- Part 3 on water conservation measures, will be variable depending on the community. We encourage them to work with their city council, planning commission, water board, or others, to assist with completing Part 3.
- Metropolitan Council will be responsible for approving Part 4 and several other tables in Part 1.

MISCELLANEOUS QUESTIONS

Can MDH Certified Water Operators Get credit for attending these workshops? Maybe Class C Indirect?
Yes, certified staff will get 2 hours of indirect credit, simply sign into the workshop attendance sheet and Carmelita will forward it to MDH. When you submit your annual hours, list which workshop you attended and the date.

Do cities have to report static water levels to the DNR?
We encourage you to check the levels but you do not need to report them to the DNR unless there is a concern.

Do cities have to do monthly drawdowns?
When cities do water drawdown, do they need to report? Unless it is a condition of the permit they are not required to report. But the information is helpful to the groundwater specialists. The DNR can put the data together in a graph for the water suppliers and provide interpretation. Some permits do require reporting every two weeks, others must be submitted quarterly. The DNR is trying to get some consistency with the reporting.

In the permitting process, would it be possible to require a 30 day pump test before irrigating to see if there is an impact to city drinking water?
The county conditional use permit for high capacity water users requires cities to do a 30-day pump test, but agriculture only needs to do 3 days. The DNR will be looking at this matter.

How much do on-demand water softeners save in gallons or by percent?

- The EPA WaterSense program[3] started working on a specification for Water-Sense-labeled water softeners a few years ago but stopped.
- The Alliance for Water Efficiency[4] has information on water softeners and other home treatment systems.
- Generally the demand-based systems should be more efficient than timer-based systems simply because they are performing when needed as opposed to on a set schedule which may waste more water than necessary.
- Water softener rebate programs are available, typically in the western United States. They are geared for the water quality ramifications of softener discharge. You might investigate these further to see what models they are allowing for rebates:

[3] http://www3.epa.gov/watersense/products/watersofteners.html
[4] http://www.allianceforwaterefficiency.org/Home_Water_Treatment_Introduction.aspx

- Automatic Water Softeners in the Santa Clarity Valley[5]
- Inland Empire Utilities Agency Water Softener Rebate Program[6]
- City of Scottsdale Rebates[7]
- Pflugerville, Texas Water Softener Replacement Rebate Program[8]

Do permits for farmers have water appropriation limits? What is being done to regulate agricultural irrigators? Do they have thresholds?
Typically they ask for as much water as possible. Often 10" per acre/year and they usually get what they ask for.

Are there tools or funding to pay for leak detection and repair? Or water loss audits?
Yes, contact Minnesota Rural Water Association. There are private companies that have new technology as well.

Who will enforce what with water reuse? Department of Health? Reuse is also an issue for revenue.
There is an interagency task force that is working on reuse implementation. New information will be coming out in the fall of 2016.

How can you tell if a well goes through multiple aquifers?
The Department of Health can tell from water characteristics.

APPROVAL OF WATER SUPPLY PLAN

What is the process for review and approval?

- After submitting your water supply plan through MPARS, your area hydrologist will receive an automated notification of your new posting.
- The hydrologist will review the plan for initial completeness. If the plan is in the metro area they will then forward the water supply plan to the Metropolitan Council.
- Due to the easier template, we are hopeful that water supply plans can be approved with minimal corrections. The area hydrologist will contact the water supplier with any areas of concern or with a letter of approval.
- Once the DNR has approved a Water Supply Plan, cities are requested to adopt the plan with the simple Certification of Plan Adoption template (found on the water supply plan webpage) and post this certificate to MPARS.

How long will the plan take to get approved?

- If the templates are filled out completely this will speed the approval process significantly.
- In the metro area, the DNR hydrologist will review the plan for completeness and forward the plan to Metropolitan Council
- The DNR will attempt to approve Water Supply Plan within a year. This may vary depending on workload and complexity of plans.

[5] http://www.lacsd.org/wastewater/automatic_water_softeners/default.asp
[6] http://www.ieua.org/use-water-wisely/rebates/water-softener-rebate-program/
[7] http://www.scottsdaleaz.gov/water/rebates
[8] http://www.pflugervilletx.gov/index.aspx?NID=904

- Cities should attempt to have plans adopted within six months of receiving DNR approval.

If a city needs an approved Water Supply Plan for a current MDH funding request, is the old plan okay?
Yes, if it was approved.

Can a Utility Commission approve/certify a Water Supply Plan instead of a city council?
Yes

Where can I get additional information?

Minnesota Department of Natural Resources

- Water Supply Plans[9]
- Area Hydrologists[10]

Metropolitan Council

- Water Supply Planning[11]
- Water Supply Planning Workshops[12]

Minnesota Rural Waters Association

- Minnesota Rural Waters Association[13]

Minnesota Department of Natural Resources
Questions and Answers about Minnesota Local Water Supply Plans 2016-2018
October 26, 2015; updated July 8, 2016

This information can be made available in alternative formats such as large print, braille or audio tape by emailing info.dnr@state.mn.us or by calling 651-259-5016.

[9] http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/eandc_plan.html
[10] http://files.dnr.state.mn.us/waters/area_hydros.pdf
[11] http://metrocouncil.org/Wastewater-Water/Planning/Water-Supply-Planning/Master-Water-Supply-Plan.aspx
[12] http://metrocouncil.org/Handbook/Training/Other-Workshops.aspx
[13] http://www.mrwa.com/