Meeting Title: Master Water Supply Plan Community Technical Work Group Meeting #2

Date: March 24, 2015 Time: 1-3 p.m. Location: 390 Robert St., St. Paul - Room LLA

Members in Attendance:
Michael Thompson, Maplewood
Klay Eckles, Woodbury
Bob Cockriel, Bloomington
Dale Folen, Minneapolis
Jim Graupmann, St. Paul
Brian Olson, Edina
Bert Tracy, Golden Valley
Steve Albrecht, Burnsville
Russ Matthys, Eagan
Jennifer Levitt, Cottage Grove

Members Absent:
Mark Maloney, Shoreview
Steve Lillehaug, Brooklyn Center

Met Council Staff in Attendance:
Leisa Thompson
Keith Buttleman
Jeannine Clancy
Bryce Pickart
Sam Paske
Ali Elhassan
Lanya Ross
Brian Davis
Anneka Munsell
Deb Manning
John Chlebeck
Angela Mazur

Other Attendees:
Barb Huberty, Legislative Water Commission
Ray Wuolo, Barr Engineering
Todd Olson, Metro Cities
Jason Moeckel, DNR

Meeting Notes:

Welcome & Introductions
Jeannine Clancy began the meeting by asking members to introduce themselves, and then discussed the meeting's purpose: to present information on Metro Model 3, additional information used to develop

the Master Water Supply Plan, and to gather comments and identify additional opportunities for input. Six specific objectives were identified:

Gain an understanding of:
• Metro Model 3 inputs, its inputs, calibration and application,
• the process of gathering population and water demands for each community,
• how model forecasts relate to local pumping data, observation wells, or other local observations
• how communities can submit information that would add validity to the model,
• other tools used in development of the Master Water Supply Plan
• the process for adoption of Master Water Supply Plan and key dates/avenues for input.

Leisa Thompson briefly revisited the topics of perception and intention, and reiterated Met Council staff's desire to clear up misperceptions and be clear about what our intentions are. She emphasized how important feedback was so we could continue to improve the process. Leisa discussed what is needed for collaboration:

• Creating an environment where everyone feels like they have the full opportunity to say what's on their mind and be heard and considered
• Seeing very clearly our common ground, and spending time together exploring everyone's perspective
• Agreeing that working together is purposeful and has more value than if we did not
• Emphasizing the intention of our role

Leisa explained that we're not a regulator and aren't trying to be, but that we are trying to be a good water supply planning partner by helping communities determine what kinds of strategies they should consider for the future to keep the area as good as it is now, and meet all of our needs in the future.

Jeannine updated the group on the list of concerns collected at Meeting #1 and said that MCES staff would respond to those concerns at the next meeting. Additional feedback and concerns would also be collected at Meeting #2.

Group members did not have additional items to add to the agenda, nor comments or questions on the minutes for Meeting #1.

Metro Model 3
Ray Wuolo introduced his presentation on Metro Model 3 (MM3) and explained that the intent at this meeting was not to get overly technical, but rather to generally talk about what the model is, how it was developed, what data were used, and what data could be used in the future.

Ray described Metro Model 3 as a description of groundwater flow in the 11-county metropolitan area, and explained that while a model doesn't represent the full complexity of the system in reality, it is meant to give us a comprehensive description of regional water balance. It is a tool to understand the observations we already have, and whether they have meaning that signifies trends. The model gives us the ability to test hypotheses we cannot test in nature, and can be used to predict future events.

Ray gave an overview of how the model was calibrated and explained that the time period used was chosen because of the very reliable data available from it. He mentioned that there were some areas with more unknowns, such as NW Hennepin County, and that there is some uncertainty in general associated with any abstract representation of reality, but that this model does represent the consensus

of the scientific community at this time. Ray cautioned that the model should not be used as packaged for site, municipal, or local assessments; there is potential for it to be used that way in the future, but only with significant refinements.

Addressing some questions he had received prior to this meeting, Ray said that domestic wells were not included because their influence is negligible. He also explained why using the model is preferable to just a monitor and respond approach: the model helps interpretation of whether changes noticed in monitoring are short term fluctuations or long term trends, and also gives us a tool to predict the future.

A member asked about the capability of the model to predict groundwater contamination in some areas of the metro, and whether it can account for the way groundwater flows vary dramatically based on different pumping scenarios. Ray said that while they do have some data associated with specific contamination sites, this model was not designed to address something that site-specific.

Another member asked about the length of the data set being used for the model, and if there was a reason to use eight years rather than eighty when some data goes back that far. Ray explained that monthly data for pumping becomes less reliable farther back in time, and that it's difficult to calibrate data going back that far without accurate monthly information.

Water Demand

Lanya Ross began by discussing the issue of uncertainty, and how the largest impact on the model and its results is water demand – the stress we are applying to the model. She explained that this is an important question we are grappling with in regional planning, determining what the implications of future population growth and development needs are.

Emphasizing the iterative nature of the process, Lanya explained the steps taken to develop and refine the demand projection, including incorporating community feedback and adjusting population forecasts that had declined due to the recession. She said that this was not a final number, as they are continuing to revise as they receive input, but that there will be draft numbers to put into the draft Master Water Supply Plan (MWSP). She also wanted to be clear about the expectations for the numbers; they're not a forecast local comprehensive plans are expected to match.

Barb Huberty asked whether the population projections are for the 7- or 11-county area; Lanya confirmed it was the latter and said the detailed information was in the second appendix of the MWSP draft.

A group member asked whether MCES staff would provide a graphic overlaying the Met Council's predictions of future density and growth on the model's water supply predictions to identify areas where there are potential conflicts between growth plans and future water supply issues. Lanya said that this graphic hasn't been developed yet, but is something we could work on. Bryce Pickart commented that based on current forecasts, water supply is not considered a constraint for growth in the metro area, in part because the presumption is that water supply issues can be worked through.

Lanya then discussed the various demand scenarios, explaining that we wanted to take the uncertainty into consideration rather than just showing one possible future. The scenarios showed potential increased or decreased demand based on factors such as warmer summers, higher population growth, advances in technology, and cultural embrace of conservation.

A group member pointed out that at least one of the areas called out as a potential issue on the map was an area that currently has no wells, and asked why this would be. Anneka Munsell referred him to the "Available Head" handout and explained that some of those areas don't have much head to begin with as a consequence of local geology. She explained that they also sought feedback from communities about where they were planning to develop in the future. Another member asked for guidance on how they might present this information to elected officials, for areas in which the model forecasts a future unsafe yield condition.

Lanya reiterated that the Met Council is not a regulator of water supply, and that the intent of the MWSP is to identify potential water supply issues that could happen under the expected range of 2040 conditions if current sources continue to be used. It is intended as an informational tool to show where there may be value in investing resources in exploring alternatives, or in promoting conservation. She emphasized that the MWSP is not intended to say whether or not a city is going to get a permit, but rather to say that if a community is seeking a permit, these are the water supply considerations they should keep in mind, as they will likely be asked those questions by the regulatory agencies.

Ray commented that he didn't think anyone is going to come to a decision about whether a community can get a permit based on a regional model. A group member agreed that the attendees of the meeting probably all agreed about that, but was concerned that not all parties might see it that way. Lanya added that this is an area where deciding how to communicate this is significant, and Leisa agreed that this was an issue we should spend more time on, and also consider the first interpretations likely to be made when a person is looking at some of the maps from the model.

Steve Albrecht, a member of the Southeast Work Group, suggested that that group's experience could be a good model of how MCES staff could approach this communication with other work groups. He explained that there were initial misgivings when members of that group first saw the models, but that incorporation of the communities' comments have helped make sure that they are all on the same page. They have since used the model to test what the results might look like using various scenarios of conservation, reuse, alternate sources, etc.

Steve commented that he felt like that group had taken great steps forward in collaborative planning, and that incorporating local knowledge had given them a spectrum of tools they can now use for planning. Russ Matthys agreed that this approach and the model have been helpful, and that the group's discussions have been more productive and less concerning to the communities than they were two years ago. Jeannine suggested that we revisit the SE Group process at a future meeting, and Steve thought this could be helpful.

Another member asked whether there were any thoughts on when it would be time to start allowing use of the Mt. Simon-Hinckley Aquifer, given population predictions. Jason Moeckel said that while there are positive trends, the aquifer is not recovered; however, he said that it was a reasonable question to ask, and he could see if the DNR has more recent analysis available to help answer that question. Ray showed the group an animation he had of the aquifer's condition from 1995-2015, which showed increased seasonal drawdown in fringe areas that was starting to linger from year to year. Lanya added that while there was some rebound, pumping in the recharge area is slowing this process.

A group member asked Lanya why only one year, 2010, was used in determining the base head for the bulleted areas on her map, rather than using the same eight–year period as the model. Lanya explained that they wanted to use a single pumping scenario rather than a model-dependent one, and that 2010 is

a good representative year of the long-term average in terms of pumping. It was also representative of the current conditions in the year the original water supply plan was developed. Anneka commented that there was also more data available that year in general due to the Census.

Lanya then described to the group some of the additional sources of information used to understand water supply in the metro area. She said that in addition to the MM3, they also looked at real monitoring and mapped data, and trends from DNR observation wells. They also considered areas with vulnerable drinking water supplies. The MWSP also includes information about the "unknown unknowns," places where we are aware that our understanding is limited or where we lack up-to-date data. This is intended to tell communities where there are gaps that could be filled.

A map was presented showing the distribution of vertical recharge; Lanya explained that this was designed to evaluate groundwater/surface water interaction to help the region determine which surface water features are most likely to be impacted, and where we might want to direct resources.

Lanya wrapped up her presentation with a reminder that if communities would like to make their local studies available for future analysis, they can submit them to the MN Digital Water Resources Library. She gave a timeline of the development of the MWSP, with a goal of finalizing the draft for public review in the next four to six weeks, and approval by the end of August. This timeline would allow communities to have water supply planning information at the same time they work on other community planning in September.

Jeannine clarified that there is a difference between the Water Resource Policy Plan and the Master Water Supply Plan; the former is in its public review phase and will potentially be approved in April, while the latter is what we are working on now.

Draft Master Water Supply Plan
Jeannine asked whether anyone had questions or feedback about the adoption of the MWSP.

A member asked whether there would be an opportunity to update the appendices, and how the ongoing update process would work. A specific example was given of a potential water supply issue being identified for a community in an area where it had no municipal wells, but where other users had DNR-permitted wells. How would communities get the appendices updated to reflect situations like this?

Lanya explained that this was in reference to an appendix to the plan with water supply profiles for each community, giving a snapshot of current demand, use, and potential issues. This template has been revised before, but potential other revisions include adding information based on historic water use in communities, and differentiating between municipal water use and other users, such as large industry.

This raised the question of whether these other users are aware that there's an expectation that they also do water supply planning, and Lanya said she felt this should be discussed further at future meetings. Another member added that if this water supply planning resulted in non-municipal users needing to make changes such as hooking up to the municipal supply, this would affect the communities' planning, so it's important that all water users of significance in an area are included in local data, rather than just cities, so we can see connections we may not have noticed otherwise.

Ali agreed that these questions were important and added that he felt that because systems are always dynamic, the regional plan should be a living document that's updated when new local information is available, rather than on a five- or ten-year cycle. Leisa added that this would require determining what types of changes would be significant enough to trigger an update.

Another member asked whether the DNR had considered the impact of climate change, as our current regulatory and management systems are set up with the assumption things will be the same. Jason Moeckel confirmed that the DNR has thought about this. He explained that decades of good local monitoring data are needed to understand what's changing, and that they must also determine what the role of use is in impacting an aquifer. They haven't been able to forecast far enough ahead to have definitive answers on how they will manage this yet. He emphasized the importance of good data in answering these questions, and also mentioned that he thought it was interesting that the potential future water supply issue areas on the map presented earlier in the meeting were not areas where the DNR had observation wells. Jason said he would take that back to the DNR for discussion and hoped to provide an update on that at a future meeting.

Ali commented that the model currently uses average climate from 2003-2011; he wondered what the impact of five dry or five wet years due to climate change would be on the model. He added that if we try to do model runs to predict this, this would need to be well thought through first, but that there is the potential to look at it for future model runs if people are interested in it.

Jason said that the DNR's approach is that dry and wet cycles are normal, but the question about climate change is more fundamental: does long-term recharge shift consistently so there is less recharge over decades, rather than just a few years? He said that the longer-term shifts are the type we don't have a good handle on, nor how those shifts might affect the Mississippi and water supplies for Minneapolis and St. Paul.

A member requested confirmation that water availability is not currently considered a limiting factor in land use development in the area, and asked whether this is likely to still be true in the future. Bryce Pickart confirmed that it's currently not a limiting factor, and Leisa said that whether it will continue to be true has not yet been discussed. She added that we're trying to understand the problem and what factors are shaping it before solutions are applied, and that we should look at the most readily available solutions and start there, since there is more than one possible approach that could be considered.

Conclusion

Jeannine revisited the objectives from the beginning of the meeting and asked the group whether we had accomplished them. Members agreed that objectives had been met, and commented that Ray's presentation was particularly helpful.

A member asked what was on the next agenda, and what was wanted from the group members with regards to the draft MWSP that had been distributed. Jeannine responded that the next agenda will focus on the MWSP and key questions we'd like to discuss on policy and technical questions. Other potential future topics included conservation, questions of cost and funding,.

Lanya suggested that members review the plan keeping a few questions in mind:

- What, from your perspective, is most important to be thinking about as a region?
- What would it be important to highlight, or to say or not say?
- Do the recommendations make sense?

• What other key questions do you have?

A concern was raised over the sensitivity of information, and what will be available on the website. Lanya said that while we would like the plan to be as public as possible, she understands the concern, and asked that members flag potential issues as they read through the draft plan.

Ali mentioned that he had often received questions about the sustainable limits of aquifers, and that he would like to discuss ways to determine this with the group at a future meeting.

Members conveyed concerns they had about MWSP being used as a tool to deny permits or grade cities' performance on water supply planning and potentially penalize them. They requested additional clarification and future discussion on this point. A member added that it will be important for the DNR to be actively involved in this discussion. Jeannine mentioned that a visual of how the permitting process works is being developed.

Another member asked how communities fit into that conversation if they're not in need of well permits, and pointed out that there is a need to help convince leadership in communities that this is a regional issue rather than just a local one, since cities have limited control over their destinies if neighboring communities don't work together.

The next meeting will be Tuesday, April 7, from 9-11 a.m. at 390 Robert Street in St. Paul, in Room LLA.

Adjournment
3:00 p.m.