

**Minnesota 3M PFC Settlement**  
Agenda for Watershed/Conservation District Meeting

Wednesday, June 5, 2019

9:00 a.m.-11:00 a.m.

Cottage Grove City Hall — Training Room  
12800 Ravine Parkway South, Cottage Grove

**Meeting Purpose:** Discuss data needs for the groundwater model; determine the types of relevant data the Watershed/Conservation Districts collect; determine what data is not captured by previous data collection efforts on the city, county, and state level; and determine the best method for obtain/transferring data not previously captured.

## Agenda

1. Introduction and Meeting Objectives: Discuss Groundwater Model Data Requirements (attached table) and limitations of current datasets	Jim Feild – Wood Glen Champion – DNR	15 minutes
2. Discuss types of data each WSD or CD houses/can provide a. Middle St. Croix Watershed Management Organization b. Ramsey-Washington Metro Watershed District c. South Washington Watershed District d. Valley Branch Watershed District e. Washington Conservation District	Watershed/Conservation Districts	60 minutes
3. How to collect data?	Jim Feild – Wood	15 minutes

Groundwater Model Data Requirements	Current Sources
1) Geology and Hydrostratigraphy <ul style="list-style-type: none"> <li>a. Top and bottom of each geological layer</li> <li>b. Geological Formation description (textures, fabrics, layer behavior)</li> <li>c. Group lithologies into hydrostratigraphic layers</li> </ul>	MGS, MPCA, and DNR
2) Hydraulic parameters of lithologies <ul style="list-style-type: none"> <li>a. Hydraulic conductivity</li> <li>b. Porosity</li> <li>c. Storativity</li> <li>d. Specific yield</li> <li>e. Bulk Density</li> </ul>	MGS and DNR
3) Water table elevation data <ul style="list-style-type: none"> <li>a. Elevation of groundwater within well</li> <li>b. Well location (GPS coordinates)</li> <li>c. Survey datum for wells (ground surface and top of casing elevations)</li> <li>d. Well construction details (if known)</li> <li>e. Well screen interval (which aquifer is being measured) Example: Mt Simon, Prairie du Chien, etc.</li> <li>f. Date of data collection</li> </ul>	WSDs, LGUs, MPCA and DNR
4) River/Stream/Lake/Wetland Data <ul style="list-style-type: none"> <li>a. River/Stream elevations by month (gauging data)</li> <li>b. River/Stream flows by month</li> <li>c. Lake elevations by month</li> <li>d. Wetland elevations by month</li> <li>e. Bathymetry of river, stream, lake, or wetland</li> <li>f. River/Stream/Lake/Wetland bottom conductance values</li> </ul>	WSDs, MPCA/MNIT, Met Council, DNR, USGS, and USACE
5) Precipitation <ul style="list-style-type: none"> <li>a. Monthly precipitation from 1979 to present day               <ul style="list-style-type: none"> <li>i. Decade by decade data trends</li> </ul> </li> <li>b. Future prediction of rainfall trend to the Year 2040</li> <li>c. Precipitation for years 1925 to 1940 (severe drought conditions)</li> </ul>	DNR, MPCA
6) Recharge to groundwater <ul style="list-style-type: none"> <li>a. Total monthly precipitation minus evaporation and plant transpiration</li> </ul>	Met Council and DNR
7) Pumping wells <ul style="list-style-type: none"> <li>a. Municipal wells</li> <li>b. Private wells</li> <li>c. Remediation wells</li> <li>d. Manufacturing/Industrial wells</li> <li>e. Pumping rates – monthly rates</li> <li>f. Aquifer being affected</li> <li>g. Well construction</li> </ul>	LGUs, MPCA, DNR
8) Enhanced Recharge projects <ul style="list-style-type: none"> <li>a. Large vs small</li> </ul>	

<ul style="list-style-type: none"> <li>b. Locations</li> <li>c. Design parameters</li> <li>d. Monthly measurements of recharge volume</li> </ul>	Watershed Districts, DNR, MPCA
<ul style="list-style-type: none"> <li>9) Source Area locations <ul style="list-style-type: none"> <li>a. Source area location (GPS coordinates)</li> <li>b. Existing plume shape and location if known</li> </ul> </li> </ul>	MPCA

## Attendees

- MPCA
- DNR
- MDH
- Wood
- AECOM
- Middle St. Croix Watershed District
- Met Council
- Washington County Conservation District
- Valley Branch Watershed District
- South Washington Watershed District

## Meeting notes - Groundwater Model Data Requirements

### 3) Water table elevation data

- Mike Isensee (MSCWMO) – water measurement data is also sent to the State
- VBWD has several monitoring wells checked for water levels for at least 30 years; data is published on their website
- Dave Brown (METC) – will check on NAVD they use for their data
- Jim Westerman (Woodbury) – has dataset; Wood already has from the State; will check if the data has a NAVD associated with it.

### 4) River/Stream/Lake/Wetland Data

- Bathymetry data for small to medium streams – VBWD models with X-sections for Raleigh Creek; at Science Museum of MN
- METC has data on their IMS and website

### 5) Precipitation

- METC/HDR Study; on EIMS database/website
- WSD's have precipitation data that doesn't get reported to the State DNR; tied to gauging stations
- METC has precipitation data as well

### 6) Recharge

- 1993 – Bailey Lake formed as a result of prolonged wet period; pumps over to CDP85 (discharge) – 1500 acre/feet capacity

- SWWD: 2014 and 2019 pump run time data; can use to estimate inputs to the ground; have old infiltration reports (data curves on CDP85 regression)
- Mike Isensee (MSCWMO) – gravel pit north side of I-94 and another pit north of that; self-contained (no discharge); west side of St Croix Trail is developed as all infiltration area; will be sending a map showing significant infiltration areas.
- Lakeland – planning to install three more large infiltration basins beyond two that already may be significantly sized
- MnDOT is planning to reconstruct Hwy 95 north of I-94; could include recharge/infiltration areas as part of project

#### 7) Pumping wells

- SWWD: 2014 and 2019 pump run time data; can use to estimate inputs to the ground
- Two, 30cfs pumps and six variable flow pumps for CDP85

### Primary follow-up Tasks

1. Wood will send a comprehensive list of existing data sets going into the groundwater model to the Watershed Districts and Met Council who will review for appropriate data sets within their organization that could compliment or add value to the model. Those communication channels should happen directly between Wood staff and the Districts/Met Council.
  - a) Appropriate precipitation data
  - b) Surface water flow gauging on significant rivers/creeks/streams
  - c) Water table elevation data not already provided
2. Met Council will provide the Recharge Report to Rebecca (MPCA) for further connection to data sets that went into building the report. AECOM will get a copy of the report/data for Project 1007 area.
3. Each Watershed District should discuss internally which infiltration/recharge projects are of significant size/impact to be informative to the regional model. Please report back to Rebecca Higgins (MPCA) and Jim Field (Wood) which of these exist or are planned and identify whether each of them has or will have hydrologic data that could inform the groundwater mode