**Metro Stormwater Geodata Project (MSGP)**

**MSGP Steering Team Meeting 3 – Meeting Notes**

**Wednesday, November 14, 2018: 9:30 a.m. – 12:30 p.m.**

**Meeting Minutes**

*Prior to the meeting at Blaine City Hall, Rebecca Haug—City of Blaine Water Resources Manager—*

*conducted a field trip at the Blaine Wetland Sanctuary with the group; providing a history of the site, what is happening at it now and programs and plans for its future.*

**1 – Welcome and Introductions**

Project co-coordinator Maas welcomed the group to the meeting, thanked them for their continued efforts on the MSGP and have everyone introduce themselves.

**2 – Short Re-Cap, Updates and Housekeeping**

Maas gave a short recap of recent events occurring in support of the MSGP effort. Major items being that the work to date of the point, line and polygon teams will comprise the foundational elements of the forthcoming draft standard and that a grant application to the University of Minnesota Water Resources Center has been prepared (for ~$19,000) to help fund the MSGP's pilot project. Notice of award or rejection is expected in December.

**3 –** **Asset Management Team Findings;**

Asset Management team members presented their findings from their research. One of the core business needs of the MSGP standard and any data produced or translated into it will be the need for it to be easily re-translated into asset management software in use at the municipal level. Members of the MSGP Asset Management Team provided an overview of their findings and emerging needs from their work in summer/fall 2018, including:

The essential need of unique feature ID for each asset represented, ensuring there is a domain of values that correctly describes the assets life cycle delivery status (abandoned, active, etc), age (e.g. installation year), condition, and dates of inspections or dates of condition assessment. Other key attributes needed for asset management/GIS integration include feature size, invert elevation, material and so on. Domain values already in development in the point and line work will need to be edited/expanded to accommodate these needs for asset management. Other attributes identified by the Asset Management Team include risk, consequence of failure, probability of failure indicators, level of service (e.g. what does a given customer expect from the data/system) and so forth.

Other needs identified by the Asset Management group include fiscal data, such as the cost of the feature when new, some indication of its useful lifespan, its residual life, depreciation, and a means for identifying preventative maintenance needs. Asset Management team members also indicated the need to align attributes with MPCA MS4 inspection fields for permit compliance work, illicit discharge detection, and also to record basic condition(s) of the asset relative to their function. Some of these later attributes, while useful, would be challenging to maintain consistently in GIS and are driven more directly by Asset Management use cases and needs.

Group discussion (to group or separate-out the various structure): Not separating out different structure types could be an issue as the attribute data is so vastly different. For example, while both a manhole and a vault are represented as points and may share a few attributes, they will have many differing attributes and the data would contain an enormous table with a huge number of nulls.

Additional group discussion item: The potential of using this forthcoming MSGP data schema as an MS4 inspection tool. The group thought that would potentially need to be treated as a separate effort, but with some overlap as possible. Group to consider in the future out an MS4 inspection tool set might link to this data schema.

This group also agree that that a standardized glossary for the whole project would be enormously beneficial. It could incorporate photos of examples of each item in the glossary, this would help facilitate communication and clarity.

The slides from the Asset Management group presentation are published to the MSGP website on the metrogis.org site.

**4 – Routing Team Findings**

Members of the Routing Team provided an overview of their findings from their work in summer/fall 2018, including core attributes needed to facilitate routing and how the forthcoming prototype standard might need to accommodate them.Core business needs to be served by routing functionality include flow tracing, emergency response planning, operation and maintenance functions, flood risk identification, identifying conveyance system insufficiencies, estimated development impacts analysis, surface/ground water protection/restoration, capital improvement planning.

Feature data requirements identified for flow modeling and routing include both human created (*constructed)* and *natural features* that convey water into, through and out of our region. These can be point, (catch basins, manholes, BMPS, lakes, etc.), lines (pipes, channels, ditches, swales, streams, artificial paths, etc.), polygons (water bodies, various best-management-practices (rain gardens, etc.). Polygons are not required inputs for modeling stormwater flow, but ESRI’s new Utility Network allows for polygons to be used (e.g. edges of polygons can be employed for routing uses, this may eliminate the need for artificial paths to a pond or lake center point as has been common practice).

The Routing Team explored and described a number of the core geometric requirements including

connectivity at various kinds of junctions, the need for geometric snapping (topological relationships), line directionality (e.g. the segment is digitized *with* or *against* the water flow) and so on. Additionally, it put forth the needed attribute requirements such as the elevations of line endpoints – invert elevation values should be stored in fields for line endpoints and the status (e.g. active or inactive status) of the various conveyance features.

Recommendations from the group discussion: the primary focus should be on preparing the data in a way that it can be transformed into a network model for further analysis. Many members of the group perform routing and flow modeling analysis in GIS and very much desire this functionality from our MSGP standard.

The routing team also expanded on and described the new ESRI product in development, Utility Network, which is not yet released and indicated it would be helpful if our forthcoming data schema could be created to work with it. In this new tool, an extension allows junctions without lines and there is the ability to provide routing beyond just directionality. ESRI will be demonstrating this next week to our group in a webinar. There was a short group discussion around how barriers potentially impact stormwater flow – is this out of scope? Group thought that we should focus first on the data. Barriers are usually analyzed after the network is built. Additional questions arose about the ability or necessity to use CAD or Asset Management software for that instead. A second forthcoming ESRI solution is based on the ArcGIS Online platform; while not as robust as the anticipated Utility Network, it allows for and accommodates search, view, and edit functions and maintenance of assets in the network.

Group discussion: What ultimately belongs in the schema? The schema cannot be everything to everyone and accommodate all the downstream uses. Ideally, it will function as a starting point for agencies and data producers who It will be used to translate to other software and will evolve as it gets used.

The slides from the Routing group presentation are published to the MSGP website on the metrogis.org site.

**5 – Alignment with MPCA MS4 Permit Mapping/Data Requirements**

Rachel Olmanson (MPCA) gave a short overview the MS4 permit program of her findings as to how data in the forthcoming MSGP data standard might be leveraged to help MS4 permittees to satisfy their MS4 reporting requirements. She outlined the basics of the MS4 permit program in Minnesota; and highlighted how permits for the cities of Minneapolis and St. Paul are stricter than the other permittees. She indicated that our forthcoming standard would be very helpful to the MPCA. MPCA currently works with Barr Engineering to look at stormwater quality monitoring and the MSGP standard would be a welcome resource for that work. Rachel and Perry Clark (Carver County) indicated that they could connect over the winter and develop a form/template for MPCA requirement fields; a standardized template would be helpful for getting data entered consistently. Rachel further agreed to provide an update at the next meeting on alignment with the needs of MPCA for data.

**6 – Data Policy Update**

Maas provided a very basic rundown of some of the facts unearthed regarding data sharing and data policy. He indicated that the data is considered public, and that while a citizen can request the data and the data producer is required to respond to that request, the data producer is not under any obligation to publish or post the data publicly if it chooses not to. Maas is currently drafting a 'basic disclaimer' that data producers can utilize either 'stock' or as source material to work from to attach to their geospatial stormwater geodata to ensure they clearly inform the user community who might use their data, and also to protect their own interests as per Mn. Stat. 446.03, Subd. 21.

**7 –Pilot Project/Proof-of-Concept "Study Area Determination" - Initial Discussion**

The group engaged in a basic mapping exercise to determine a suitable site (or sites) for creating a study area in the metro to pull a body of initial data together for the sample dataset. General areas were identified in the metro region with potential for the pilot project site. The group will further refine their selection in the next full meeting and pin down more one or two detailed pilot project areas.

**8 – Re-Cap of Next Steps**

Olmanson (MPCA) agreed to follow up on various tasks to clarity data for permitting requirements.

Koutnik (ESRI) reminded the group of the Utility Network webinar on November 27

Maas (MetroGIS) indicated he would work with the coordination team and Heather Albrecht to pin down the next full steering team meeting, likely in February.

Note: *Email communications among the project team after the meeting indicated some potential for representatives of the various flash team sub-groups to get together and refine all the standards materials into a single draft document as the prototype of the first standard.*

**9 – Next Meeting: Proposed for February 2019 in the City of Maple Grove**

The Coordination Team (Blenkush, Houghton, Magnuson, Maas) will get this meeting arranged and send out a notice to the group as soon as possible.