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**MINUTES
 Regular Meeting
 Public Hearing
 September 14, 2017**

(Action by the SCWMC appears in blue, by the WMWMC in green and shared information in black.
 *indicates items included in the meeting packet.)

I. A joint meeting of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission was called to order by Shingle Creek Chairman Andy Polzin at 12:47 p.m. on Thursday, September 14, 2017, at the Clubhouse at Edinburgh, USA, 8700 Edinbrook Crossing, Brooklyn Park, MN.

Present for Shingle Creek were: David Mulla, Brooklyn Center; John Roach, Brooklyn Park; Burton Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Gary Anderson, Minneapolis; Bob Grant, New Hope; Harold E. Johnson, Osseo; Andy Polzin, Plymouth; Wayne Sicora, Robbinsdale; Troy Gilchrist, Kennedy & Graven; Diane Spector, Wenck Associates, Inc.; and Judie Anderson, JASS.

Present for West Mississippi were: David Mulla, Brooklyn Center; John Roach, Brooklyn Park; Gerry Butcher, Champlin; Karen Jaeger, Maple Grove; Harold E. Johnson, Osseo; Troy Gilchrist, Kennedy & Graven; Diane Spector, Wenck Associates, Inc.; and Judie Anderson, JASS.

Also present were: David Vlasin and Andrew Hogg, Brooklyn Center; Jesse Struve and Steve Chesney, Brooklyn Park; Todd Tuominen, Champlin; Mark Ray, Crystal; Rick Lestina, Maple Grove; Megan Albert, New Hope; Leah Gifford, Plymouth; Richard McCoy and Marta Roser, Robbinsdale; and Mike Brandt, Kimley-Horn, for Project SC2017-007.

Also present for the public hearing was: James Knuekey, Brooklyn Park.

II. **Agendas and Minutes.**

Motion by Jaeger, second by Johnson to approve the **Shingle Creek agenda**.* *Motion carried unanimously.*

Motion by Roach, second by Mulla to approve the **West Mississippi agenda**.* *Motion carried unanimously.*

Motion by G. Anderson, second by Jaeger to approve the **minutes of the August regular meeting**.* *Motion carried unanimously.*

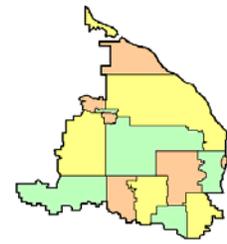
Motion by Butcher, second by Roach to approve the **minutes of the August regular meeting**.* *Motion carried unanimously.*

III. **Finances and Reports.**

A. Motion by Jaeger, second by Johnson to approve the **Shingle Creek Treasurer's Report**.* *Motion carried unanimously.*

Motion by Jaeger, second by G. Anderson to approve the **Shingle Creek September claims**.* Claims totaling \$56,542.55 were *approved by roll call vote: ayes – Mulla, Roach, Orred, Jaeger, G. Anderson, Wills, Johnson, Polzin and Sicora; nays – none.*

B. Motion by Butcher, second by Johnson to approve the **West Mississippi Treasurer's Report**.* *Motion carried unanimously.*



Motion by Butcher, second by Johnson to approve the **West Mississippi September claims.*** Claims totaling \$10,427.10 were approved by roll call vote: ayes – Mulla, Roach, Butcher, Jaeger, and Johnson; nays – none.

[The meeting was suspended at 12:51 p.m.]

IV. Public Hearing for 2017 Capital Improvement Projects.

A. On August 10, 2017 the Shingle Creek Commission received a feasibility report on Project 2017-02 Shingle Creek DO Art Aeration Project Phase 2 and the West Mississippi Commission received a report on proposed Project 2017-05 Mississippi Crossings Rain Garden. After discussion Shingle Creek Commissioners chose to discontinue proceeding with the aeration project and the West Mississippi Commissioners chose to proceed with the Mississippi Crossings Rain Garden Project. The Commissions also chose to proceed with the annual cost-share projects 2017-01 Shingle Creek Retrofit Projects, 2017-03 Shingle Creek Priority BMP Retrofit Projects, and 2017-04 West Mississippi Retrofit Projects. At that August meeting the Commissions called for a public hearing on September 14, 2017 to consider the projects. The purpose of the public hearing is to present the proposed projects and proposed financing and to take comment from the member cities and the public. Member cities and the county have been notified and notice has been duly published.

B. Staff's September 8, 2017 memo* describes the proposed projects.

1. Project: 2017-01, Shingle Creek Retrofit Projects.

Location: Within the Shingle Creek watershed.

Description: Small BMPs such as iron-enhanced pond filter benches; bioinfiltration basins; native buffers; and tree trenches that can be retrofit in existing areas to provide additional infiltration and water quality treatment.

Cost: The estimated project(s) cost is \$200,000, with \$100,000 borne by the city(ies) in which the project(s) are located. The Shingle Creek Commission proposes to fund a matching \$100,000 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

TAC/Staff Recommendation: Recommends that the Shingle Creek Commission order the project and that cost-share projects be solicited and selected based on the Cost-Share Program Guidelines.

2. Project: 2017-02 Shingle Creek DO Art Aeration Phase 2.

Location: In three locations on Shingle Creek in Brooklyn Park and Brooklyn Center.

Description: The proposed project would add solar and grid power to the art structure.

Cost: The estimated project cost is \$145,000 to be funded by certifying this cost to Hennepin County for collection with the county as valorem tax levy. Quotes received significantly exceeded the budget, making the project infeasible.

TAC/Staff Recommendation: That the Shingle Creek Commission *discontinue* further consideration of the project, to which the Commission agreed on August 10, 2017.

3. Project 2017-03 Shingle Creek Priority BMP Retrofit Projects

Location: Within the Shingle Creek watershed.

Description: Provide cost-share incentives to public and private property owners for BMP retrofit projects.

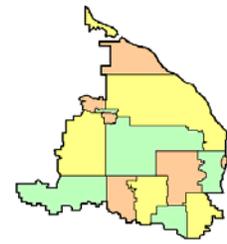
Cost: The estimated project(s) cost is \$100,000, with \$50,000 borne by city(ies) in which project(s) are located. The Shingle Creek Commission proposes to fund a matching \$50,000 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

TAC/Staff Recommendation: That the Shingle Creek Commission order the project and that cost-share projects be solicited and selected based on the Cost-Share Partnership Program Guidelines.

4. Project: 2017-04 Mississippi Crossings Rain Garden.

Location: Champlin

Description: Construction of two large bioinfiltration basins to treat runoff in the old town center area near TH 169 and West River Road.



Cost. The estimated project(s) cost is \$219,000, with \$164,200 borne by the City of Champlin. The West Mississippi Commission proposes to fund a matching \$54,800 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

TAC/Staff Recommendation: That the West Mississippi Commission order the project.

5. Project: 2017-05, West Mississippi Retrofit Projects

Location: Within the West Mississippi watershed.

Description: Replicates Project 2017-01.

Cost: Replicates Project 2017-03.

TAC Recommendation: That the West Mississippi Commission order the project and that cost-share projects be solicited and selected based on the Cost-Share Program Guidelines.

C. The public meeting was convened at 12:59 p.m.

No comments were received from the reviewing agencies. No comments were received from the member cities.

Mr. James Knuekey, Brooklyn Park, inquired as to what the Commission is doing with Shingle Creek. Spector responded, naming activities the Commission is doing to reduce chloride, sediment, phosphorus and vegetation impairments to the stream. Knuekey noted that, when the pond was constructed at Broadway, water was held back to the detriment of the depth of the creek. He commended the Commission on the job the organization does.

[The public meeting was closed at 1:10 p.m.]

The Commissioners held brief discussion following the hearing.

D. Motion by G. Anderson, second by Grant to approve **Resolution 2017-02** Ordering the 2017 Improvements ... Pursuant to Minnesota Statutes, Section 103B.251.* *The motion was approved unanimously.*

Motion by Butcher, second by Jaeger to approve **Resolution 2017-02** Ordering the 2017 Improvements ... Pursuant to Minnesota Statutes, Section 103B.251.* *The motion was approved unanimously.*

[The regular meeting resumed at 1:13 p.m.]

V. Open Forum.

No one wished to speak to items not on the agenda.

VI. Project Review.

2017-007 Arbor Lakes Business Park Building A, Maple Grove. Construction of a 222,444 SF office building/warehouse and associated parking (Building A), and grading for an additional 220,668 SF building (Building B) on a 23.08 acre site located on the southeast corner of Zachary Lane and Elm Creek Boulevard. The lot for Building A is 9.49 acres and the lot for Building B is 9.51 acres. Following this phase of the project (future phases will include Buildings C and D), there will be 10.68 acres of impervious surface. Therefore, following this phase of development, lots for Buildings A and B combined will be 56 percent impervious. A complete project review application was received on August 12, 2017.

To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 80-85% TSS removal and 50-60% TP removal. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

This project is located within the Gravel Mining Area at Arbor Lakes and all water leaving the site has been accounted for by the regional ponds under city ownership. In addition, runoff from the site is proposed to first be routed to existing ponds on-site. The applicant meets Commission water quality treatment requirements.

Commission rules require that site runoff be limited to predevelopment rates for the 2-, 10-, and 100-year storm events. This project is located within the Gravel Mining Area at Arbor Lakes. Runoff is proposed to be routed to



on-site and regional ponds. The applicant meets the Commission's rate control requirements.

Commission rules require the site to infiltrate 1.0" of runoff from new impervious area within 48 hours. The new impervious area on this site is 10.68 acres. This project falls within The Gravel Mining Area at Arbor Lakes, and the applicant proposes to use the city infiltration credit that has the capacity to infiltrate the required volume within 48 hours. The applicant meets Commission infiltration requirements.

The National Wetlands Inventory shows several small wetlands located within the property boundaries. However, these wetlands were located in an area that was historically mined for gravel. Maple Grove is LGU for WCA administration and determined that these wetlands were incidentally created and are not regulated under WCA. The applicant meets Commission wetland requirements.

There are no Public Waters or floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the basins to the east.

An erosion control plan was submitted with the project review, and includes inlet protection, perimeter silt fence and rock construction entrance(s). The erosion control plan meets Commission requirements.

A public hearing on the project was conducted on August 28, 2017 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

Motion by Jaeger, second by Johnson to advise the City of Maple Grove that Project Review 2017-007 is hereby approved with no conditions. *Motion carried unanimously.*

VII. Watershed Management Plan.

VIII. Water Quality.

A. Fish Surveys. As part of the routine, in-depth lake monitoring completed in advance of conducting TMDL Five Year Reviews, Wenck is performing fish surveys in addition to aquatic vegetation surveys and water quality sampling. This year fish surveys were completed on Lake Magda in Brooklyn Park and Meadow Lake in New Hope. Results of the surveys are outlined in their memo* dated September 8, 2017.

Spector also presented a more detailed summary of the results which showed that Meadow Lake is dominated by fathead minnows which consume zooplankton and detritus, resuspend and relocate nutrients in the water column, are very tolerant of low Dissolved Oxygen, and can survive winter kills.

There are no historic fish survey data for Lake Magda. Magda is populated by black bullhead that feed on organisms in the sediment, black crappies that consume zooplankton and invertebrates, and smallmouth buffalo that feed on detritus and organisms in the sediment. All of these fish resuspend and relocate nutrients in the water column.

Motion by Sicora, second by Jaeger to accept the report. *Motion carried unanimously.*

B. Included in the meeting packet was a copy of Metropolitan Council Environmental Services' **2016 Year in Review**.* It is also available at <https://metro council.org/Wastewater-Water/Publications-And-Resources/WATER-QUALITY-MONITOR-ASSESS/2016-Year-in-Review-Water-Resources-Group.aspx>

IX. Education.

A. Native Plant Sales/Pledge to Plant. The pledge to plant campaign has received 541 pledges to date. Area pledged to plant in natives is 37.7 acres. WMWA members discussed adding to the metrics native buffer areas planted as wetland buffers as part of development projects.

B. Watershed PREP. The educators are teaching and scheduling classes. Some recent or upcoming schools include Weaver Lake, SEED, Basswood, Palmer Lake, Oxbow Creek, and Sacred Heart. The educators are working with Sonnesyn to go on a walking tour of Northwoods Lake. On October 11 they will be doing a 6th grade program at Jackson Middle School.

C. Website/Social Media. The website Google Analytics for August 2017 are included in Staff's memo,*



as are the Facebook insights for the last 28 days for both the Shingle Creek and WMWA Facebook pages. Reach is the number of times a post was viewed in a Facebook feed, Engagement is an action- a click, comment, share, or reaction. The Shingle Creek post with the most reach and engagement was one with photos showing the installation of underground storage chambers on Noble Avenue in Robbinsdale.

Shingle Creek Facebook Metrics. Last 28 days: 93 total Likes, 206 Reaches, 46 Engagements. Most effective post: 1,847 people reached, 304 post clicks, 85 photo views. Spector is challenging the Commissioners to reach a goal of over 100 total likes in September.

D. The **next WMWA meeting** is scheduled for 8:30 a.m., Tuesday, October 10, 2017, at Plymouth City Hall. Commissioners are encouraged to attend.

E. Freshwater Society. At the August meeting the Commissioners received a flyer listing a number of sponsorship opportunities to support the Freshwater Society. Among them are the Road Salt Symposium, the MOOS Lecture Series, and the State of Water Conference.

Motion by G. Anderson, second by Roach to support the Society with contributions of \$250 each for the above-mentioned three activities. Motion carried unanimously.

Motion by Jaeger, second by Johnson to support the Society with contributions of \$250 each for the above-mentioned three activities. Motion carried unanimously.

X. Grant Opportunities.

A. Construction is complete on the three **iron- and biochar-enhanced sand filter projects**. Staff's September 8, 2017 memo shows the cost and revenues for the three projects. In all cases the final cost was less than the cost estimated when the projects were let. The final construction cost for the Champlin City Hall pond exceeded the amount of levy; however, funds are available from the 319 grant to make up the difference. Staff recommends that each Commission accept the final costs and close the projects.

Motion by G. Anderson, second by Jaeger to accept the final costs and close the Humboldt Avenue Pond and North Lions Park Pond projects. Motion carried unanimously.

Motion by Butcher, second by Roach to accept the final costs and close the Champlin City Hall Pond project. Motion carried unanimously.

B. At the June meeting the Commissions discussed adding some **supplemental monitoring to the biochar project** to better characterize what was happening in the pond filter itself. Staff worked with Dr. Beth Fisher at the University of Minnesota and Dr. Bill James at the University of Wisconsin-Stout to put together a proposal to the MPCA and EPA to add additional monitoring tasks to the work plan to expand and refine understanding of the effectiveness of biochar- and iron-enhanced sand filters. Staff propose to explore factors that may influence their effectiveness, including the binding capacity and mineral makeup of the medium, pond drawdown time, redox potential, and real-time water chemistry and physical conditions.

The ultimate goal is to not only document effectiveness but to establish and publish best management practices for selecting iron minerals for future installations of similar filter systems. Monitoring over several seasons will reveal the chemical environments that promote filter effectiveness and will indicate the chemical conditions when effectiveness wanes or terminates. This monitoring effort will reveal geochemical information about the formation conditions of iron-phosphorous compounds within the filter systems, and the response of iron-phosphorous filters to water surges such as storm events. It will also help to characterize how the minerals change with depth, and whether the filter is active and effective over all depths.

The following monitoring/research tasks would be added:

1. Characterize initial binding capacity of filter media. Evaluate core samples of the media at four locations along each filter bench to establish baseline conditions.
2. Characterize pond water quality performance for two years.



3. Characterize iron mineral makeup within the core samples taken in task 1 to determine which iron minerals are bonding with phosphorous.

Staff would subcontract with Dr. James to undertake new monitoring task #1 and with Dr. Fisher, working through the U's Institute for Rock Magnetism, to undertake new monitoring task #3. The Commission would partner with Dr. Fisher to expand existing task #2 to add real-time monitoring to three ponds.

The work plan would further be modified to reduce the number of ponds retrofitted with filters from four to three. Furthermore, to test a wider variety of conditions, during the life of the research program, one of the filter benches would be installed with iron-enhanced sand only, one of the benches would be biochar- and iron-enhanced sand, and a third would be biochar- and iron-enhanced sand for half its width and iron-enhanced sand only for the other half. In this way Staff can compare and contrast an iron-enhanced filter with a biochar- and iron-enhanced sand filter, as well as each type of filter in the same pond exposed to the same water quality and other conditions. Following the monitoring program, assuming the project demonstrates that adding biochar to the filter medium significantly increased effectiveness, the Commission would add biochar to the iron-only filters. A portion of the approved work plan grant funds would be reallocated for a portion of the lab costs for monitoring Dissolved Organic Carbon and a portion of the grant match funds would be set aside for constructing the fourth pond filter.

The Shingle Creek Commission has received approval from the MPCA and EPA which have approved a revised work plan and budget. The text and revised work plan are attached to Staff's September 8 memo.* When the project concludes these will be available to use elsewhere in the watersheds. The proposal to the MPCA/EPA included reallocating \$20,800 from the lab analysis budget by significantly reducing sampling for Dissolved Organic Carbon, as well as providing an additional \$28,878 of cash match from excess levy funds. Since the pond projects came in below budget and the fourth pond was not constructed, these funds are available. Staff recommends that the Commission authorize this reallocation for supplemental monitoring.

Motion by Sicora, second by Mulla to approve Staff's recommendation. *Motion carried unanimously.*

C. Crystal Becker Park Infiltration Project. Metropolitan Council has notified the Commission that the Crystal Becker Park Infiltration Project has made the short list of candidates to receive funding from their Green Infrastructure Grant program. Thirty applications totaling \$7.2 million were received (\$1 million is available). \$400,000 was requested for the Becker Park project. Five projects were recommended for approval. The full Metropolitan Council will make the awards at their September 27th meeting.

XI. Communications.

A. August Communications Log.* No action required.

B. Mark Ray, PE, Director of Public Works for the City of Crystal, is the recipient of the American Public Works Association's (APWA) Myron Calkins Young Leader Award for 2017. He was cited for developing and implementing an internal program called Public Works 2.0. More information is available in the August 2017 issue of the *APWA Reporter* or at www.apwa.net.

XII. Adjournment.

There being no further business before the Commissions, the meetings were adjourned at 2:08 p.m.

Respectfully submitted,


Judie A. Anderson
Recording Secretary
JAA:tim

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