SOUTH WASHINGTON WATERSHED DISTRICT

2019 Annual Report

Contents

Board of Managers

2019

Manager	Position	Term Expires	City/County
Mr. Don Pereira 8232 River Acres Road 6859 Ideal Avenue South Cottage Grove, MN 55016 651-769-0429	President	05/01/2021	Cottage Grove/Washington
Mr. Brian Johnson, 4353 Dorchester Drive Woodbury, MN 55129 612-710-8585	Vice-President	05/01/2022	Woodbury/Washington
Mr. Kevin ChapdeLaine 601 2nd Avenue Newport, MN 55055 612-508-1284	Treasurer	05/01/2022	Newport/Washington
Mr. Mike Madigan 2366 Hidden Lake Cove Woodbury, MN 55125 651-702-0488	Secretary	05/01/2020	Woodbury/Washington
Mr. Jack Lavold 6859 Ideal Avenue South Cottage Grove, MN 55016 651-459-9981	Manager	05/01/2020	Cottage Grove/Washington

Introduction

The Cottage Grove Ravine Watershed Management Organization (WMO) was formed in 1984 to manage the resources of the watershed. This WMO was based on a joint powers agreement among the five cities in the watershed. A draft watershed management plan for the WMO was completed in April 1988; however, this plan was never approved or adopted by the WMO.

The WMO was later disbanded, and, in 1993, the Cottage Grove Ravine Watershed District was formed as the 42nd watershed district in Minnesota. The watershed district changed its name to the South Washington Watershed District (SWWD) in 1995. The SWWD was formed under, and operates in accordance with, Minnesota Statutes, Chapter 103B, "Metropolitan Surface Water Management Act", and Chapter 103D, "Watershed Districts." In 2018, the SWWD celebrated its 25th year Anniversary as the 42nd watershed district in Minnesota. SWWD partnered with Great River Greening in October to host a volunteer planting and anniversary celebration at the SWWD prairie. In December 2018, the SWWD anniversary milestone was recognized at the Minnesota Association of Watershed District Annual Meeting.

The SWWD completed development of the watershed plan in 1996, approval of the plan was granted by the State Board of Water and Soil Resources in 1997, and later amended in 2002. Since that time the SWWD has focused its efforts on determining potential flood risk and developing a comprehensive flood relief system. The proposed system is designed in two phases; 1) reduce potential flood damages for existing developed areas of the watershed; 2) develop a comprehensive solution that provides stormwater management and flood control with capacity for the planned growth included in the 2020 comprehensive land use plans.

In April 2003, the SWWD petitioned the Minnesota Board of Water and Soil Resources to enlarge the boundary and include the East Mississippi Water Management Organization. The East Mississippi Water Management Organization included all or portions of Grey Cloud Island Township, Cottage Grove, Woodbury, St. Paul Park, and Newport. The enlargement was completed as a part of recommendations from the Washington County Water Governance Study (1999). The enlargement petition was approved on May 28, 2003 by the Board of Water and Soil Resources (BWSR). SWWD again petitioned BWSR in May 2010 to enlarge the SWWD boundary and include portions of the dissolved Lower St. Croix Watershed Management Organization (LSCWMO) which included all of Denmark Township and portions of Afton, Cottage Grove and Hastings. BWSR approved the enlargement in September 2010.

SWWD updated the Watershed Management Plan (WMP) through 2007, with BWSR approval in September of 2007, and SWWD Board adoption in November 2007. The updated plan lays out guidance on the management of water and natural resources through the year 2017. The WMP plan was amended in 2010 to include the new Coordinated Capital Improvement Program and three additional capital improvement projects. Another amendment to incorporate areas in its expanded boundary and the priorities and projects identified in the LSCWMO plan was completed in 2011.

In 2016, the SWWD updated the WMP dated 2007, amended in 2010 and 2011. On October 26, 2016, BWSR approved the October 2016 WMP, and the SWWD Board adopted the WMP in November 2016.

This third generation WMP once again builds on past work in the District and is intended to serve SWWD for decades to come. It is structured in three parts.

Part I serves as a summary of various District plans and assessments and points the reader to more regularly updated District data, all of which is available on the District's website, www.swwdmn.org. The website which includes the District's water quality database and web map viewer with extensive spatial data and serves as a repository for District plans and reports. Part II includes identified issues and goals and serves as the basis for all actions that the District takes. Progress toward achieving goals will be routinely assessed and implementation actions adjusted as necessary. Should additional issues be identified by SWWD they will be incorporated through amendment. Part III serves as the District's implementation plan, establishing District programs, Long Range Workplan, and Administrative procedures. This part will be routinely updated through amendment to continue to serve the District.

The WMP complies with Minnesota Rules Chapter 8410, "Metropolitan Area Local Water Management," (July13, 2015), the Metropolitan Surface Water Management Act, and Minnesota Statute 103D.

This report has been prepared in accordance with Minnesota Rules Chapter 8410.0150, Annual Reporting Requirements. Content of this report pertain to the calendar year 2019.

2019 Financial Report

The 2019 audit report is in Appendix A. Revenue and program expenditure summaries 2019-2020 are presented below.

Revenue

Revenue Source	2019	2020*
Ad Valorem Levy	$ 1,142,061	$ 1,183,128
Stormwater Utility		
Northern Area	$ 1,459,850	$ 1,292,748
SWWD Area	$ 733,000	$ 988,038
E. Mississippi	$ 358,000	$ 362,045
Lower St. Croix	$ 100,000	$ 102,545
Total Revenue	**$ 3,792,911**	**$ 3,928,504**

*Anticipated Revenue

Program Expenditures

Program Area	2019 Budget	2019 Actual/Unaudited	2020 Budget
1.0 Planning	$ 207,540	$ 105,732	$ 226,213
2.0 Regulatory	$ 85,428	$ 32,267	$ 27,950
3.0 Implementation & Maintenance	$ 2,611,570	$ 2,121,328	$ 2,794,929
4.0 Education & Information	$ 156,440	$ 128,018	$ 157,100
5.0 Operational	$ 406,933	$ 476,784	$ 458,312
6.0 Debt Service	$ 325,000	$ 3,273,055	$ 264,000
Total Budget	**$3,792,911**	**$6,137,184**	**$3,928,504**

2019 Activity Report

Fund 1-Planning

PURPOSE: TO PROVIDE CURRENT, SOUND GUIDANCE FOR IMPLEMENTATION

Surface Water

- Climate Adaptation and Resiliency Plan. In September 2017, SWWD held a two-day climate adaptation and resiliency plan workshop. The workshops were focused on adaptation and building resiliency into infrastructure and systems. This planning effort is an opportunity for our communities to address risks due to non-climate concerns as well; including poor planning, under-design, lack of maintenance, etc. Representative from local governments, institutions, and businesses participated in the workshops. The workshops resulted in a plan that identifies vulnerabilities and prioritizes actions to address them (https://www.swwdmn.org/wp-content/uploads/2018/03/FINAL_SWWD-Climate-Resiliency-Plan-3_26_2018.pdf). That completed plan was adopted by the SWWD Board in 2018 and has been incorporated into the Watershed Management Plan as a guidance document. One of the common concerns across cities was a need to coordinate on flood response. In early 2019 SWWD worked with HDR, Inc to update SWWD's flood response and mitigation plan. In 2020, additional efforts will focus on updating operation and maintenance plans for active stormwater controls throughout the primary drainage path running north to south through SWWD including SWWD's central draw storage facility at the Woodbury/Cottage Grove border.

- Development of XPSWMM models in SWWD's East Mississippi area is included in SWWD's Watershed Management Plan. Those models were completed in 2018 and cover all of Newport, St. Paul Park, and Grey Cloud Island Township.

- In 2018, SWWD completed the Newport retrofit analysis that identifies targeted BMPs within the City to most cost effectively achieve District goals. Included in the report is an underground filtration BMP in existing City right of way at 15th and Cedar which would tie in to the City of Newport's storm sewer system. The system will primarily target sediment that would otherwise discharge directly to the Mississippi River. The project is in final design and will be constructed in 2020. Watershed based Clean Water Fund grants (Washington County) will fund a portion of the project.

- SWWD completed development of data and work products associated with PTMapp for SWWD's Lower St. Croix area in 2018. PTMapp will help staff identify and target rural BMPs to benefit Trout Brook and Lake St. Croix both at the field and watershed scale. The first of those identified projects are ready to construct in 2020, funded in part through funds from the St. Croix River Association.

Natural Resources

- Glacial Valley Interpretative Center. SWWD's Watershed Management plan, identifies the potential and need for a facility (learning center) on the CDSF Prairie site to carry out desired functions of the site. In 2017 SWWD and its partners began work on scoping and designing a future facility and evaluating the need for the facility. A completed schematic design includes parking, regional and

interior trail alignments and circulation, a shelter facility with restrooms, informational/interpretive kiosks, and gateway and wayfinding signage/structures. That schematic design has been incorporated into the SWWD Watershed Management Plan as a guidance document. SWWD and its partners will continue pursuing funding opportunities. The SWWD in partnership with Washington County and MNDNR will finish an update the management plan for the prairie to include the conceptual design in early 2020.

- Trout Brook Ravine Inventory. In 2017, the SWWD began working with the Washington Conservation District to inventory and prioritize ravines within the Trout Brook subwatershed that have the greatest potential for pollutant load reduction for Trout Brook. The completed assessment was adopted as a guidance document to the SWWD Watershed Management Plan. Staff is moving forward with plans to address priority ravines. SWWD continues to seek funding to address priority ravines.

Water Quality Assessment

- SWWD Lake Management Plans. Consistent with the SWWD Watershed Management Plan, SWWD worked with its consultants to review existing SWWD lake management plans and develop a new plan for La Lake throughout 2017 and 2018. The completed plan has been adopted as a guidance document to SWWD's Watershed Management Plan and provides updated load reductions necessary to meet SWWD goals and State water quality standards. Analysis completed as part of the review indicated that SWWD's lakes are seeing more inflow and higher internal loading than previously thought. SWWD continues to monitor and assess water quality annually.

- Regional BMP Feasibility. Concurrent with review of SWWD's lake management plans, SWWD, its consultants, and City staff evaluated feasibility of potential regional BMPs in the Armstrong, Wilmes, and Powers Lake watersheds. Several potential BMPs were identified to make large reductions in lake nutrient loading. In 2019, SWWD and the City of Woodbury completed 30% design for a regional stormwater filter that will benefit Wilmes Lake.

Fund 2-Regulatory

PURPOSE: TO LIMIT THE AFFECTS OF LAND ALTERATIONS AND PROTECT THE PUBLIC HEALTH, WELFARE, AND NATURAL RESOURCES OF THE DISTRICT

Development Reviews

- Development Reviews. SWWD ensures compliance with rate and volume requirements by coordinating development reviews with Municipalities that have adopted a local surface water management plan and updated official controls. Staff conducts full development reviews of projects in Municipalities that have yet to adopt their plan or update controls. In Municipalities with an adopted plan and updated controls, SWWD reviews projects for regional impact. SWWD staff provided development review support for several Cities throughout 2019.

- In 2014, SWWD began the process for updating the SWWD Rules and Standards. SWWD's current rules were adopted December 13, 2011. Since that time, a new MS4 general permit has been issued, the District has updated its hydrologic guidance documents to include Atlas 14 rainfall rates, and the District updated its Ravine Lake management plan. All of these changes necessitate changes to District Rules. After the public comment period, the Rules were formally adopted by the SWWD in early 2015.

- SWWD monitored potential floodplain impacts from projects as part of its development review process. Multiple projects within the floodplain were reviewed, none of which decreased floodplain storage.

- Multiple projects within the Wilmes Lake watershed were reviewed for potential downstream impact at Wilmes Lake which has exhibited past flooding. No projects reviewed in 2019 are expected to exacerbate existing flooding concerns.

- SWWD maintains extensive hydraulic and hydrologic modeling of the District. Staff continues to work with City staff to accommodate incoming development while preserving critical floodplain storage in the District as identified in District models.

Wetland Conservation Act

- Wetland Conservation Act Administration. In 2012, SWWD became the Local Governmental Unit (LGU) for wetland permits within the SWWD boundary. In 2019, SWWD reviewed 18 applications. SWWD staff conducted development reviews to ensure compliance with SWWD wetland standards and participated as part of the Technical Evaluation Panel (TEP) to evaluate wetland impacts of proposed projects.

Erosion and Sediment Control

- Erosion and Sediment Control. SWWD standards require projects to meet NPDES requirements for erosion and sediment control. SWWD's SWWP calls for SWWD to complete upto four inspectsion annually on active construction sites. Additionally, SWWD rules require Municipalities to identify an inspector and conduct regular inspections. In 2019, SWWD staff began providing those inspections for the Cities of Woodbury and Cottage Grove in addition to supporting other District Cities as needed. SWWD works with City staff to enforce compliance on issues identified in inspections.

Fund 3-Implementation and Maintenance

PURPOSE: TO PROVIDE INFORMATION NECESSARY TO ASSESS STATE OF DISTRICT RESOURCES AND IMPACT OF DISTRICT ACTIONS

Monitoring

- SWWD continued to operate an extensive stormwater monitoring network. Data collected as part of the program is used to identify trends in water quality which are largely driven by changes in stormwater runoff. Monitoring reports for 2018 were completed and added to the SWWD website. The monitoring data is available on the SWWD Web-based database that allows users to access District data and performs basic statistical and plotting functions. 2019 data is now available on the web database and reports will be uploaded to the website when complete.

Maintenance

- In 2019, Great River Greening continued contract work on the prairie restoration and maintenance at SWWD's Central Draw Storage Facility. The contract includes proposed work through June 2020 and includes prairie/savanna establishment and maintenance, development and coordination of volunteer events, development and oversight of a simulated grazing (i.e. haying) program, and development of research opportunities with the University of Minnesota. This work will partially be funded through LCCMR funds through Great River Greening. Once restored, the basins will provide regional water quality treatment and flood control while also serving as public open space and providing key connections in regional greenway and trail corridors.

- SWWD, the City of Woodbury, and Great River Greening (GRG) initiated work through GRG's Pollinator Seed Initiative to address the shortage of pollinator-friendly seed. The primary goal of the initiative is to create a sustainable future for pollinator habitat restoration and conservation by creating local sources of genetically appropriate seed which could be harvested when commercial seed suppliers lack sufficient inventory. In 2018, over 10 acres of Koch pipeline corridor and adjacent parkland from Bailey Road to Ojibway Park in Woodbury was planted in native vegetation. This corridor is a prime location not only for seeding and propagation - where the corridor is accessible by trail and the current vegetation needs improvement, but also as an ideal setting to engage the neighborhood and schools adjacent to the corridor – over 1,500 households and 3 schools within 0.5 miles of corridor. Maintenance of the corridor was ongoing throughout 2019.

Capital Improvement Plan

- Central Draw Overflow Phase V. SWWD and its consultants completed design and permitting for Phase V of the Central Draw Overflow in 2019. Acquisition was completed in early 2020. Construction started in March 2020. This final phase will consist of nearly 1 mile of 72" pipe connecting the Phase I pipe to the top of the stabilized ravine at Ravine Park. The new pipe will be aligned with future City roads as much as possible.
- Improvements to the Central Draw Storage Facility (CDSF) continued in 2019. Improvements include stabilization of the CSAH 19 embankment for future water impoundment, grading of SWWD's CDP86SN basin, and a berm separating the CDP86SN and CDP86N basins to maximize storage

capacity of the CDP86N basin. All work is being completed in cooperation with the City of Cottage Grove and as a part of the City's Ravine Parkway construction project. Work will be completed in 2020.

- Central Draw Overflow Media Production. In 2018, SWWD Contracted with North Star Aerial to produce photo, video, and aerial footage capturing the watershed overflow project. Phase III and Phase IV post-construction footage was documented along with grading of the final basin in CDSF as part of Ravine Parkway construction Cottage Grove. Construction progress flights continued through 2019 and will be completed upon completion of phase V in 2020.

- Restoration of Trout Brook was identified as a local priority by the former Lower St. Croix Watershed Management Organization which previously managed SWWD's Trout Brook watershed. SWWD and its partners developed and implemented a channel remeander and restoration project at Afton Alps Ski Area. That project relocated a ditched stream section out from the middle of the Afton Alps parking lot to the south side of the lot and recreated natural stream features. Construction was completed in 2019. Planning for additional project phases is underway with funding already secured through Lessard Sams Outdoor Heritage Fund.

Incentives

- In 2019 SWWD continued its performance-based cost-share program. Instead of reimbursing land owners for a specific percentage of total project cost, SWWD reimburses land owners based on the amount of phosphorus that their project is expected to retain. SWWD's 2019 reimbursement rate was $5,000.00 per pound of phosphorus retained with reimbursement capped at total project cost. SWWD allocated $70,000 to 23 projects in 2019. Together, the projects are expected to capture 20 lbs of phosphorus. 6 of the projects were completed in 2019 along with 6 cost share projects funded through past years' programs. The remaining projects are pending. Projects with higher funding levels typically treated runoff from several properties.

- In 2019 the SWWD implemented a BMP Maintenance Program. The SWWD has recently installed several stormwater BMPs in conjunction with road improvements projects with Cities where vegetation maintenance is the responsibility of the SWWD. Other older stormwater BMPs installed were also in need of maintenance. Maintenance was performed through contract by Washington Conservation District staff.

- SWWD used Lower St. Croix Stormwater Utility Fees (SUFs) to secure match funding to install several grade rural BMPs in Denmark Township. That work includes grade stabilization, grassed waterways, ravine stabilization, and stormwater filters.

- The SWWD Board of Managers awarded $492,431 through its Coordinated Capital Improvement Program (CCIP) in 2019. $86,250 was awarded to the City of Cottage Grove for pond maintenance of six stormwater ponds in the City of Cottage Grove. $15,000 was awarded to the City of Cottage Grove to evaluate the current level of sedimentation in approximately 23 to 30 stormwater ponds in a high priority subwatershed. $272,125 was awarded to the City of Woodbury stormwater BMPs at the City of Woodbury Public Works building. $200,000 was awarded to the City of Woodbury for

pond maintenance. $5,306 was awarded to City of Lake Elmo for de-icing equipment to improve operations on one vehicle.

- SWWD staff worked with Washington Conservation District and the Minnesota Pollution Control Agency to continue development and operation of a groundwater quality regional assessment program. The program consists of collecting seasonal water quality samples from wells existing around the CD-P85 and CD-P86 regional infiltration basins and Bailey Lake. Collected data are included in the SWWD monitoring report and will be used to monitor groundwater quality and serve as an indicator of potential impacts resulting from use of regional infiltration facilities. This effort is part of a larger initiative by State agencies to evaluate potential effects of large scale infiltration.

- SWWD continued its collaboration with the Minnesota Department of Natural Resources with monitoring wells on SWWD property as part of an effort to expand the State's groundwater monitoring network. Information on these wells located on SWWD property can be found at http://www.dnr.state.mn.us/waters/cgm/index.html.

- The SWWD maintains communications with Municipal water suppliers to understand the implications of the North and East Metro Groundwater Management area draft plan. A major effort of the draft plan is promoting water conservation. The SWWD partners with Municipal water suppliers to promote water conservation through residential irrigation retro-fits, education, smart technology and stormwater reuse.

- In 2019, the SWWD partnered with the Cities of Woodbury and Cottage Grove to address water conservation through smart irrigation, a City wide Residential Irrigation Controller program.

Fund 4-Education and Information

PURPOSE: TO EFFICIENTLY INFORM AND EDUCATE DISTRICT RESIDENTS AND STAKEHOLDERS

- SWWD participated and continued support of the East Metro Water Resource Education Program (EMWREP). The EMWREP annual activities report is in Appendix B.

- SWWD partnered with Refuge Friends in 2019 formally known as Kids4Conservation to provide education activities and workshops with 5th graders from Grey Cloud Elementary and Middleton Elementary schools. Refuge Friends activities include a 6-week, in-class program focused on water quality and watershed science. The program culminates with a daylong field trip to Minnesota Valley National Wildlife Refuge.

- In 2019 SWWD was a Road Salt Symposium Sponsor. The symposium was presented by the Freshwater Society, and it encourages smart salt use which protects the environment, reduces expense, and ensures safe roads.

- SWWD continued using social media as well as the Districts website as a communication platform. A Facebook and Twitter account were created in 2017.

- In 2019, SWWD contracted with North Star Aerial to produce photo, video, and aerial footage capturing the watershed overflow project. This will continue in 2020 as Phase V of the overflow project is completed. In 2019, SWWD contracted with the South Washington County Telecommunication Commission to produce, video and aerial footage of the Living Fence project in the City of Woodbury. The footage has been shared on the Districts website and social media accounts.

- SWWD staff continues to collect and organize all SWWD monitoring data from the Washington Conservation District. SWWD maintains an online database for accessing monitoring data through the SWWD website.

- South Washington County School District Campus Greening. In 2017, SWWD began working with facilities staff of South Washington County Schools to create an open space plan at the Lake Middle School and Middleton Elementary School (93 acre site - Woodbury) that not only supports active recreation, but provides both water quality and habitat goals. These schools are located within the SWWD greenway corridor. Partners with the 'greening' of the school sites are SWWD, the City of Woodbury, and District 833. 15 acres of turf to prairie conversion and 200 trees were planted in 2018. SWWD worked with Tree Trust, a local nonprofit to engage students and staff to plant nearly half of the trees. In 2019, two outdoor classrooms were constructed at Middleton Elementary and Lake Middle school as part of the campus greening project. Vegetation maintenance for those two sites will continue in 2020. SWWD will continue to work with the South Washington County School District 833 on campus greening projects at Crestview Elementary and Valley Crossing in 2020.

- In 2019, the SWWD continued to provide funds to the MN Stormwater Research Council (MSRC). The MSRC is an independent organization of stormwater professionals, practitioners, managers, engineers, and researchers working cooperatively to facilitate applied stormwater research in MN. Identified research priorities for 2019 include stormwater reuse, chloride effectiveness and deicing alternatives, and development or evaluation of stormwater practices and technologies.

- Restoration of Trout Brook was identified as a local priority by the former Lower St. Croix Watershed Management Organization which previously managed SWWD's Trout Brook watershed. Throughout 2019, SWWD worked with Great River Greening to construct a restoration project for Trout Brook at Afton Alps. SWWD contracted with DogTooth Design and Gopher Sign to create interpretative signs and kiosk for the project.

Fund 5-Operational

- The SWWD District Board annually prioritizes work activities from the long range work plan constituting targeted efforts for the coming year. These work activities translate into the annual

work plan and budget for the SWWD. The annual work plan allows the District Board to establish a short term operating budget while maintaining connection to the overall long term management goals of the District. Six Management areas have been defined through which the SWWD will work to execute the annual work plan. The areas are: (1) Planning, (2) Regulatory, (3) Implementation & Maintenance, (4) Education & information, (5) Operational, and (6) Debt Service Fund. According to Minnesota Statute 103D.911 the SWWD must hold a hearing and adopt a preliminary budget on or before September 15th of each year. The Final budget certification is due to Washington County by December 31st of each year.

- In 2019, SWWD continued collecting stormwater utility fees in the South Washington Watershed, East Mississippi, and Lower St. Croix management units. Revenue will be used to fund water quality projects only within each of the management units.
- The SWWD maintains an operational general fund for daily operations of the district. In 2019, the SWWD office space located within the City of Woodbury's Public Works building was remodeled. SWWD budgeted operational funds to pay for the office remodel. Operational general funds include, staff, managers, office expenses, insurance, audit and legal services.

Fund 6-Debt Service

- In 2011, the SWWD issued general obligation bonds for the construction of three projects within the East Mississippi management area. In 2016, SWWD refinanced the 2011 general obligation bonds. In March 2019, the 2011 general obligation bonds crossed over to general obligation refunding bonds resulting in a principal payment made by SWWD in the amount of $3,145,000.

2020 Workplan

As part of its annual reporting, the District evaluates performance of programs and progress toward meeting goals through implementation indicators established in this Plan and adopted guidance documents. SWWD has developed a workplan layout matching issues and program categories and subcategories outlined in the Watershed Management Plan:

Progress Evaluation for the Issue: FLOODING

Subcategories: FLOOD DAMAGE REDUCTION AND MITIGATION

Issue Goal:

Minimize existing and complete establishment of a controlled overflow from SWWD's Northern Watershed to the Mississippi River resources due to flood events.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Prevent increases in runoff from development activity through development and enforcement of District Rules;	Ongoing.	-	Enforce SWWD rules.
2	Prevent increases in flooding risk due to development (e.g. Wilmes, Ravine, and O'Conner's Lakes);	Ongoing.	-	Enforce SWWD rules.
3	Achieve no net loss in inventoried key flood storage areas;	Ongoing.	-	Enforce SWWD rules.
4	Achieve progress towards identified inter-community flow limits as development occurs;	Ongoing.	-	Enforce SWWD rules. Review inter community flow limits from Woodbury into Cottage Grove as part of model update process.
5	Maintain implementation flexibility (program framework and funding) to respond to identified flood damage reduction/mitigation needs that may arise.	Limited funds budgeted to begin building a reserve balance. Engaged Woodbury and Cottage Grove to begin review and update of flood response and mitigation plan.	-	Continue to budget for unexpected flooding issues. Update SWWD flood response and mitigation plan and expand to East Mississippi and Lower St. Croix.

Progress Evaluation for the Issue: FLOODING

Subcategories: CENTRAL DRAW STORAGE FACILITY AND OVERFLOW

Issue Goal:

Complete establishment of a controlled overflow from SWWD's Northern Watershed to the Mississippi River.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Phase III, modification of the Ravine Lake outlet by 2017;	Complete	-	None
2	Phase IV, stabilization of Ravine Park by 2018	Complete	-	Monitor vegetation establishment, Continue to manage invasive species
3	Phase V, construction of remaining pipe sections by 2019;	Final Design and permitting was completed in 2019	Anticipated date changed to end of 2020.	Complete easement acquisition and construction by end of 2020.
4	Completion of functioning overflow system by January 1, 2020 as specified in SWWD/Lower St. Croix WMO consolidation agreement, unless otherwise agreed to by Cottage Grove, Woodbury, and SWWD.	Anticipated completion date of Phase V set for the end of 2020, last remaining regional basin grading planned for 2020	Anticipated date changed to end of 2020.	Complete Phase V and finish final regional basin grading near Ravine Parkway by end of 2020.

Progress Evaluation for the Issue: WATERSHED ALTERATIONS

Subcategories: SURFACE WATER DEGRADATION AND IMPAIRMENT

Issue Goal:

Protection and restoration of District resources to meet local resource goals and State standards.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Adoption of completed TMDLs for Statewide and Regional resources for which implementation actions are identified for SWWD;	N/A	-	Review TMDLs as they are finalized.
2	Colby Lake: Restore Colby Lake to state eutrophication standards by reducing the annual total phosphorus load by 1,303 lbs/yr.	SWWD estimates that the annual TP load has been reduced by 220 lbs.	Analyze subwatershed for regional BMP opportunities	Prioritize potential BMPs from completed feasibility study, monitor potential locations, and develop budget strategy
3	Wilmes Lake: Restore North and South Wilmes Lake to state eutrophication goals by reducing the annual total phosphorus load by 265 and 108 lbs, respectively.	SWWD estimates that the annual TP load to Wilmes Lake has been reduced by 99 lbs.	Analyze subwatershed for regional BMP opportunities	Prioritize potential BMPs from completed feasibility study, monitor potential locations, and develop budget strategy; Advance regional stromwater filter to final design; evaluate feasibility of alum treatment facility
4	Powers Lake: Protect Powers Lake from exceeding state eutrophication standards by maintaining existing watershed phosphorus load.	Powers Lake continues to meet State standards.	Analyze subwatershed for regional BMP opportunities	Prioritize potential BMPs from completed feasibility study, monitor potential locations, and develop budget strategy
5	Armstrong Lake: Protect Armstrong Lake from exceeding state eutrophication standards by reducing the annual total phosphorus load by 89 lbs	~~2019~~ 2020 construction 15th and Hilo IESF will reduce annual total phosphorus load by 6.2 lbs,	Analyze subwatershed for regional BMP opportunities	Construction of 15th and Hilo pond maintenance and IESF BMP; Prioritize potential BMPs from completed feasibility study, monitor potential locations, and develop budget strategy
6	Markgrafs Lake: Restore Markgrafs Lake to state eutrophication standards by	N/A	Conduct a Subwatershed Retrofit	Conduct a Subwatershed Retrofit Analysis in ~~2019~~ 2020 to identify BMP opportunities

	reducing the annual total phosphorus load by 209 lbs/yr		Analysis to identify BMP opportunities	
7	Ravine Lake: Restore Ravine Lake to state eutrophication standards by reducing the growing season total phosphorus load by 141 lbs/yr at full build-out through enforcement of established total phosphorus loading standards.	Construction of the Cottage Grove Hero Center provided additional WQ treatment. Grant funding was provided through SWWD's CCIP program.	-	Construction of new County park facility will provide additional WQ treatment adjacent to the lake.
8	Mississippi River: Meet proposed TMDL loading rate of 154 lbs/ac/yr of Total Suspended Solids;	Conducted a Subwatershed Retrofit Analysis (SWA) for City of Newport in 2018; Received Watershed Based Funding for an underground filtration BMP in Newport (identified in the SWA) – final design completed 2019; Proposed developments tributary to the Mississippi River are being reviewed for compliance with the TMDL loading rate.	-	Underground filtration BMP in Newport under contract for 2020 construction; work with stakeholders on other identified BMPs to develop projects; Review proposed developments for compliance. Promote sediment control BMPs as part of proposed municipal projects.
9	Lake St. Croix: Achieve 36%, or approximately 315 kg of total phosphorus load reduction for Trout Brook as specified in the Lake St. Croix TMDL.	Multiple BMPs have been installed in the Trout Brook watershed to date. Monitored stream load at SWWD's regional assessment location meets the proposed TMDL loading rate.	-	Continue project development in the Trout Brook watershed. Projects under development include land cover conversion, stream restoration, and ravine stabilization.
10	No net loss in wetland acreage or function;	Ongoing.	-	Enforce SWWD and WCA rules.
11	Protect/promote soil health as part of District projects and through District rules as a means to limit hydrological impacts of land alteration.	N/A	-	
12	Continue existing Incentive programs to encourage voluntary implementation of BMPs;	Programs are ongoing.	-	Distribute up to $70,000 for BMP cost share.
13	Coordinate CIP plan with municipalities through engagement of a standing Technical Advisory Committee	Program is ongoing.	-	Distribute up to $500,000 for CCIP projects.

	and implementation of the District's CCIP program;			
14	Evaluate impact of emerging contaminants and identify District programs or actions to control or mitigate that risk.	District staff and Board participated in various PFAS work grounds related to 3M settlement fund.	-	Ongoing participation in PFAS work.

Progress Evaluation for the Issue: WATERSHED ALTERATIONS

Subcategories: EROSION

Issue Goal:

Prevent resource degradation of District resources from bluff, streambank, shoreland, and construction site erosion.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	In partnership with State and Municipal programs, promote and ensure erosion and sediment control compliance at active construction sites.	SWWD rules require compliance with ESC rules. SWWD staff assists its municipalities in site inspections during the construction season.	-	Enforce SWWD rules. Continue to support municipalities with ESC inspections.
2	Develop and implement buffer regulatory measures to comply with State requirements;	N/A	-	Review State requirements as part of planned WMP amendment.
3	Establish and maintain a 50 foot, permanently vegetated buffer along all bluffs, ravines, lakes, and streams;	N/A	-	Work with developers to ensure adequate buffers as part of development.
4	Identify and prioritize actively eroding ravines and address as budget allows;	Inventory complete for Trout Brook – McQuade ravine prioritized. Ongoing for rest of St. Croix watershed.	-	Construct McQuade Ravine Stabilization in 2020. Continue work on a ravine inventory and prioritization. Continue to seek funding opportunities to address additional ravines.
5	Maintain and enforce rules which prevent increased channel instability due to development;	Rule is in place and enforced during development.	-	Enforce SWWD rules.

Progress Evaluation for the Issue: GROUNDWATER SUSTAINABILITY

Subcategories: SUPPLY

Issue Goal:

Implement conservation efforts to ensure long term viability of groundwater resources in South Washington County.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Participate in development of a county-wide groundwater monitoring effort as identified in the County Groundwater Plan;	N/A	-	Continue partnership with MPCA to monitor SWWD wells as part of the MPCA ambient groundwater monitoring program.
2	Maintain rules and permitting program necessary to adequately protect groundwater resources, protect recharge potential, and promote low impact development as identified in the County Groundwater Plan	Ongoing.	-	Enforce SWWD rules.
3	Implement conservation actions identified through regional planning efforts identified in the County Groundwater Plan;	Ongoing.	-	Continue to support cities in improving De-icing operations.
4	Incentivize practices that reduce demand on groundwater supply;	Ongoing. SWWD is currently assisting Woodbury and Cottage Grove with several pilot conservation programs.	-	Continue to support pilot conservation programs.
5	Promote and incentivize feasible re-use of water;	Ongoing.	-	Support use of re-use in development and re-development applications.
6	Promote use of infiltration as a tool for recharge where appropriate;	Not started.	-	Nothing planned.
7	Evaluate feasibility of active recharge.	Not started.	-	Nothing planned.

Progress Evaluation for the Issue: GROUNDWATER SUSTAINABILITY

Subcategories: PROTECTION (POLLUTION PREVENTION)

Issue Goal:

Protect groundwater resources through pollution prevention and management of surface water groundwater interactions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Continue enforcement of existing karst rules;	Ongoing.	-	Enforce SWWD rules.
2	Consider pollution potential in siting and design of District funded stormwater BMPs;	Ongoing.	-	Enforce SWWD rules.
3	Utilize alternative compliance sequencing for meeting District development rules in areas where infiltration is not appropriate;	Ongoing. Several proposed developments in SWWD have used alternative compliance sequencing due to shallow bedrock, wellhead protection, and poor soils.	-	Enforce SWWD rules.
4	Participate in State and regional efforts to quantify risks to groundwater resources from de-icing operations;	SWWD is partnering with MPCA to include SWWD's groundwater monitoring sites as part of the MPCA ambient groundwater monitoring program.	-	Continue monitoring program.
5	Supplement County incentive programs to prevent pollution from septic systems and abandoned wells;	Not started.	-	Nothing planned.
6	Incentivize road authority upgrades to de-icing operations to prevent overuse of road salt;	Ongoing. SWWD continues to incentivize improvements through its CCIP program.	-	Continue to support cities in improving De-icing operations.

7	Continue groundwater quality monitoring at District regional infiltration facilities sufficient to identify potential impacts to groundwater from large scale infiltration practices.	Ongoing.	-	Continue monitoring program.
8	Consider additional protection of surface water features with potential to impact groundwater quality with guidance from State Agencies.	Not started.	-	Nothing planned.

Progress Evaluation for the Issue: NATURAL RESOURCES

Issue Goal:

Protect, restore, and reconstruct native terrestrial and aquatic habitat for the benefit of resource management.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Protect, restore, and reconstruct native terrestrial and aquatic habitat for the benefit of resource management.	Ongoing. SWWD continues restoration efforts on its Central greenway which includes over 200 acres of prairie and 50 acres of woodland restoration; Campus greening efforts ongoing at several school campus sites.	-	Continue current restoration efforts at SWWDs CDSF, Ravine Park, and school campuses throughout the District.
2	Participate in development of regional programs to address spread and management of invasive terrestrial and aquatic invasive species;	Not started.	-	Nothing planned.
3	Implement local actions identified in regional planning efforts;	Not started.	-	Nothing planned.
4	Avoid impacts to rare, unique, and high quality habitats as part of all District projects;	Ongoing.	-	Nothing planned.
5	Maintain natural buffers or riparian areas on all District water resources;	Ongoing.	-	Nothing planned.
6	Promote use of site appropriate native plants as part of District funded projects;	Ongoing.	-	Continue use of native plants on SWWD projects and promote their use throughout the District.
7	Promote compliance with guidance for pollinator friendly design practices as	Ongoing. Continued campus greening effort at Lake/Middleton and	-	Work with ISD 833 schools to continue turf to prairie conversions. Continue use of pollinator-focused native plants

	part of District funded projects;	beginning additional campus greening projects throughout District.		on SWWD projects and promote their use throughout the District.
8	Consider preservation or restoration of native habitat and benefits to pollinators and other wildlife in allocation of incentive funding.	Ongoing.	-	Continue use of pollinator-focused native plants on SWWD projects and promote their use throughout the District.
9	Evaluate potential credit mechanisms to incentivize developers to maintain mature trees during development within 3 years;	Not started.	-	Evaluate options in cooperation with Cities.
10	Implement habitat improvement practices identified in completed Resource Management Plans.	SWWD has completed an update of its Lake Management Plans and continues to monitor vegetation in its lakes. While there are potential improvements that could be made, SWWD's focus in the near term will remain on reducing watershed nutrient loading. Reductions to watershed loads will make in-lake management more effective in the future.	-	Develop and pursue watershed loading reductions. Continue vegetation monitoring of lakes.

Progress Evaluation for the Issue: CLIMATE CHANGE

Issue Goal:

Facilitate increased resilience of District resources and public infrastructure through development of information and strategies and implementation of accepted climate adaptation practices.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Consider adaptive capacity—ability of a system to adjust to climate change to mitigate potential damages, take advantage of opportunities, or cope with consequences— of District systems and resources in Developing projects and management plans;	-	-	Consideration being made as part of planning for ongoing campus greening projects. District CCIP program now includes projects that build resilience in District resources and infrastructure.
2	Require use of up to date hydrologic data for meeting District development and redevelopment standards;	Ongoing. SWWD requires use of Atlas 14.	-	Enforce SWWD rules.
3	Utilize District surface water modeling and County Groundwater model to explore changes in surface water/groundwater interactions as a result of predicted changes in hydrologic conditions and water demand;	Not started.	-	Nothing planned.
4	Utilize District CCIP or similar program framework to assist Cities in adapting their infrastructure systems to increase resiliency—capability to anticipate, prepare for, respond to, and recover from significant threats with minimum damage to social well-being, the economy, and the environment;	SWWD's CCIP program has been modified to include resiliency focused projects as eligible for funding.	-	Continue CCIP program.

5	Promote use of alternative landscapes which require less water;	Ongoing partnership with ISD 833 on campus greening projects throughout District	-	Continue to implement turf to prairie conversion on utility corridors and at school campuses.
6	Promote water re-use where feasible to reduce demand on aquifers;	Not started.	-	Nothing planned.
7	Work with local partners to improve delivery of soil conservation programs to prevent increased field erosion from changing precipitation patterns.	SWWD and its partners will begin engaging landowners on soil conservation efforts as part of the Lower St. Croix 1W1P development.	-	Work with partners to engage landowners in SWWD.

Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: RESOURCE ASSESSMENT

Issue Goal:

In partnership with Local, State, and Regional partners, operate a monitoring program adequate to establish baseline water quality and quantity measures and identify long-term trends. Operate a monitoring program adequate to detect changes in loading rate as a result of District implementation actions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Maintain equipment inventory to quickly establish additional monitoring locations in response to identified resource concerns;	Ongoing.	-	Repair and replace monitoring equipment as needed.
2	Biennially, complete trend analyses for all lakes and Regional Assessment Locations and complete a review of the District's Monitoring Plan;	Ongoing.	-	Complete SWWD monitoring reports for inclusion on the website.
3	Expand groundwater monitoring program in partnership with Washington County, MnDNR, MDH, and MPCA to adequately characterize groundwater resources in the District;	Ongoing.	-	Continue partnership with MPCA to monitor SWWD wells as part of the MPCA ambient groundwater monitoring program.

Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: DISTRICT-WIDE HYDROLOGIC MODELING

Issue Goal:

Maintain updated, District-wide hydrological modeling to inform District and Municipal management of resources and infrastructure.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Complete development of subwatershed models to complete District-wide coverage within 6 years;	Ongoing. Completed model update for West Draw;	-	Nothing planned.
2	Calibrate completed models to collected monitoring data once every 3 years.	Not started.	Calibrate to available data during model updates.	Nothing planned.
3	Promote use of District models and modeling specifications through dissemination on SWWD website.	Ongoing. Draft modeling spec is available on web. Models are available through request.	-	Update website to ensure that stakeholders can access models as needed.

Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: RESEARCH

Issue Goal:

Work with local and regional partners to advance knowledge of watershed management issues.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Further identify and refine research and information needs as ongoing role of Technical Advisory Committee;	Identified climate related topics as part of climate adaptation plan.	-	Nothing planned.
2	Pursue research opportunities to provide for identified information needs;	Ongoing. SWWD staff participates on the Stormwater Research Council advisory board and contributes funds to the collaborative effort.	-	Participate in the MN Stormwater Research Council through staff participation on advisory board and through contribution of funds.
3	Biannually publish a summary of completed and ongoing research efforts as part of annual reporting.	Not started.	-	SWWD will work to disseminate results of research completed as part of the MSRC.
4	As part of annual reporting, review existing District web tools for improvements and incorporation of new technologies.	Completed PTMapp model for the rural portions of SWWD; Updated monitoring database to improve function	-	Regular website info updates.

Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: EDUCATION

Issue Goal:

Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs, and activities.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs, and activities.	Ongoing. Participated in the Master Water Steward Program	-	Continue to support the Master Water Steward Program by sponsoring interested residents, See EMWREP
2	Actively participate in regional education efforts as an active partner in the East Metro Water Resources Education Partnership (EMWREP);	Ongoing.	-	See EMWREP
3	Develop District facilities for use as interpretive and educational sites as user demand grows with development (i.e. Signage trails, programming at CDSF);	Ongoing. Developed conceptual plan for future learning center at CDSF with Cities and stakeholders	-	Pursue grant funds for construction. Begin development of interpretive signage.
4	Evaluate the need and opportunity for shared Learning Center at the Central Draw Storage Facility;	Complete	-	None
5	Develop shared interpretive and educational programming through EMWREP for use at Municipal and District facilities focused on identified District issues;	Ongoing. Developed and installed signage at outdoor classrooms and Trout Brook.	-	Additional signage at Trout Brook and additional outdoor classrooms.
6	Engage local public, private, and NGO partners to develop experiential programming for children;	Ongoing. Pilot effort continued with Refuge Friends, the successor to Kids 4 conservation.	-	Re-launch effort with Carpenter Nature Center, a local non-profit. Program in question for 2020 due to Covid19 shutdowns.

7	Maintain a website to disseminate consistent information and coordinate program implementation;	Ongoing.	-	Update website as needed.
8	Utilize existing Municipal committee structure to educate residents and disseminate information as part of the District's Citizen Advisory Committee;	Ongoing.	-	Engage CAC in ongoing pollinator/greenway efforts.
9	Develop a mechanism to gauge effectiveness of educational programming efforts.	Not started.	-	Nothing planned.

Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: PROGRESS EVALUATION

Issue Goal:

Utilize a Results Based Accountability approach in evaluating and refining implementation strategies for achieving resource goals and to evaluate and improve program performance.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Ongoing development and use of documented strategies and actions (i.e. Management plans and other guidance documents) to achieve established resource goals;	Ongoing. Minor plan amendment adopted in April 2019.	-	Mid plan review and strategic planning exercise with staff and Board.
2	Incorporate strategy documentation, progress evaluation, and annual workplan into annual report;	Ongoing.	-	Continue to refine reporting and documentation methods.
3	Amend Watershed Plan as necessary to provide the District with programs and tools necessary to implement identified strategies.	Minor plan amendment adopted in April 2019.	-	Nothing planned.

Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: UNIFORM STANDARDS

Issue Goal:

Establish and maintain District controls necessary to achieve established District resource goals, comply with mandated permits and programs, and maximize regulatory consistency with neighboring jurisdictions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Regularly review and update District Rules as necessary to keep pace with changing resource issues and mandated regulatory programs;	Ongoing.	-	Nothing planned.
2	Ensure uniform MS4 program coverage across District using a documented cooperative approach;	Ongoing.	-	Complete required MS4 reporting. Apply for continued coverage under new permit.
3	Work with neighboring Watershed Districts to develop uniform standards where possible;	Not started.	-	Engage in ongoing discussions as part of Metro WDs collaboration.
4	Require municipal adoption of District Rules within 2 years of any completed update;	Ongoing.	-	Assist municipalities in Comp Plan and ordinance updates as requested.

Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: COLLABORATION AND COORDINATION OF EFFORTS

Issue Goal:

Limit duplication of planning and implementation efforts by the District and its State and Local partners by improving collaboration and coordination of efforts. Create efficiencies in implementation through partnerships.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Collaborate and coordinate agency efforts through engagement of a standing Technical Advisory Committee;	Ongoing. TAC was engaged as part of climate adaptation planning in 2017. TAC members were engaged as part of regional BMP feasibility study.	-	Continue to work with City staff as members of TAC to develop and pursue regional projects.
2	Incorporate local input into District planning efforts through engagement of a standing Citizens Advisory Committee	Ongoing. CAC was engaged in development of minor plan amendment to adopt new and updated guidance documents.	-	Engage CAC in pollinator and greenway efforts.
3	Inform State and Regional agencies and organizations of local efforts through participation in their advisory committees;	Ongoing.	-	Participate as opportunities arise.
4	Combine local implementation to gain economy of scale;	Ongoing. Grey Cloud restoration completed in cooperation with Washington County. CDO III and IV were completed in cooperation with Washington County.	-	Continue to partner with Cottage Grove to complete CDSF improvements as part of Ravine Parkway construction.
5	Incorporate implementation actions identified in regional planning efforts into District programs.	Not started.	-	Nothing planned.

Progress Evaluation for the Program: Planning

Subcategories: RESOURCE, FLOOD DAMAGE REDUCTION & MITIGATION PLAN, CLIMATE ADAPTATION PLAN, NATURAL RESOURCES, GROUNDWATER, GUIDANCE DOCUMENTS, ADVISORY COMMITTEES, MODELING

Program Purpose:

Through its various planning efforts, SWWD evaluates resource issues, risks, and uncertainty in formulating a strategy or identifying practices to address identified issues. The District routinely collects information to evaluate success of implemented practices and better informed understanding of resource issues. Using that information, the District re-visits planning efforts to revise strategies as necessary.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Maintain up to date planning documents necessary to guide District Implementation (staff time);	Ongoing.	$ 532,206	$ 185,044	Minor plan amendment adopted in 2019. Planned strategic planning retreat for Board and staff in 2020.	As Planned	-	$57,750
2	Complete SWWD Flooding Emergency Response Plan within 6 years;	Complete by 2023.	$ 45,000	$ 45,000	Plan completed. Subsequent work in 2020 will review and optimize operation plans for active stormwater controls throughout the District.	Ahead of schedule	-	$70,000
3	Complete development of subwatershed hydrologic models within 6 years;	Complete by 2023.	$ 160,000	$ 157,811	Complete	Ahead of schedule	-	$81,263

4	Update/calibrate completed hydrologic models every 3 years	Ongoing.	$ 390,208	$ -	On schedule	As Planned	-	$
5	Review and update inter-community flow limits within 3 years (modeling);	Review/ update by 2020.	N/A, included above	$ -	Discussions ongoing between SWWD and Cities re inter community flow follow West Draw model update.	As Planned	-	$ -
6	Complete resource management plans for all lakes and perennial open channel streams within the District within 6 years;	All plans completed by 2023.	$ 100,000	$ 100,000	Plans were completed in 2018 and included in the minor amendment submittal in 2019	Ahead of schedule	-	$
7	Re-assess completed management plans at a minimum of once every 3 years to evaluate progress and review and adjust strategies;	Re-assess all plans by 2020. Every 3 years thereafter.	$ 227,821	$ -	Review and update of plans were completed in 2019.	As Planned	-	
8	ID excessively eroding bluff ravines within 3 years;	Completed by 2020.	$ 45,000	$ 6,806	ID process underway via WCD. A Ravine Stabilization project is scheduled for 2020	As Planned	-	$
9	Update the District's Greenway Plan within 3 years;	Completed by 2020.	$ 30,000	$ -	Plan will be updated as part of County's greenway plan update process	N/A, will be evaluated in 2020.	-	
10	Develop a Climate Adaptation Plan within 6 years;	Completed by 2023.	$	$ 107,000	Complete	Ahead of schedule		

			105,000					
11	Participate in State or Regional planning efforts to coordinate groundwater resource assessment and regulation.	Ongoing.	N/A, included above	$ -	Not Started	N/A, will be evaluated in 2019.	-	$ -
12	Work with partners to develop a Strategic Groundwater Assessment Plan to guide and coordinate groundwater monitoring efforts within 3 years;	Completed by 2020.	$ 8,000	$ -	Limited coordination with MPCA. SWWD's groundwater monitoring efforts now under umbrella of MPCA ambient groundwater monitoring program.	N/A, will be evaluated in 2020.	-	$ -
13	Work with partners to develop a Strategic Groundwater Regulatory Coordination Plan within 3 years;	Completed by 2020.	$ 15,000	$ -	Not started.	N/A, will be evaluated in 2020.	-	$ -
14	Update and finalize the Districts Wetland inventory within 3 years.	Completed by 2020.	$ 50,000	$ -	Planned for 2020.	As planned	-	$50,000

Progress Evaluation for the Program: REGULATORY

Subcategories:

Program Purpose:
Established under authorities granted in MN Statute 103D.341, District Rules seek to limit the affects land alterations to protect the public health, welfare, and natural resources of the District, reduce the need for additional storage capacity and the potential need for the construction of systems to convey storm water, preserve floodplains and wetland storage capacity, maintain or improve the chemical and physical quality of the surface and groundwater, reduce sedimentation, preserve the hydraulic and navigational capacity of water bodies, preserve natural shoreland features, and minimize the public expenditure to avoid or correct such problems in the future.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Development Reviews and Assessments	Ongoing	$ 343,916	$ 108,684	Ongoing	As planned	-	$ 12,825
2	Wetland Conservation Act (Staff Time)	Ongoing	$ 30,000.00	$ 4,500	Ongoing	As planned	-	$4,400
3	Erosion and Sediment Control (Staff Time)	Ongoing	$ 140,000.00	$ 68,633	Ongoing	As planned	-	$8,525
4	Rules (Staff Time)	Ongoing	$ 10,000	$ 4,600	Ongoing	As planned	-	$2,200

Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: MONITORING

Program Purpose:

To optimize monitoring efforts for regional assessment, the District has designated key locations at critical crossings and checkpoints throughout the watershed as regional assessment locations (Chapter 6, Section 8 of the SWWD 2007 WMP, Houston Engineering). Locations were chosen to characterize water quality and quantity entering or leaving a region and are included on the District's web viewer. Data collected at these locations is used to identify trends in regional water quality and quantity as well as potential areas for concern, develop and verify regional models, set benchmarks for regional water quality, evaluate effectiveness of District Rules and evaluate regional effects of proposed development projects. Once established, all regional assessment locations are part of the District's permanent monitoring program and will be operated until deemed unnecessary by analysis and modeling.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Survey aquatic vegetation of District Lakes a minimum of every 3 years;	Survey completed in 2015. Re-survey every 3 years.	N/A, included in monitoring budget	$ -	Surveyed in 2018, next in 2021	As Planned	-	$ -
2	Annually implement District's monitoring plan;	Ongoing.	$ 1,776,901	$ 462,846	Ongoing.	As Planned	-	$180,806
3	Monitor levels and water quality of all publicly accessible lakes annually;	Ongoing.	N/A, included in monitoring budget	$ -	Ongoing.	As Planned	-	$
4	Monitor established Regional Assessment Locations a minimum of 3 out of every 6 years;	Monitor established sites 3 of every 6 years.	N/A, included in monitoring budget	$ -	Ongoing.	As Planned	-	$ -
5	Implement recommendations of the Strategic Assessment Plan once complete.	TBD	N/A, included in monitoring budget	$ -	Not started.	N/A	-	$ -

Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: WATERSHED RESTORATION, RECONSTRUCTION, AND RESILIENCY

Program Purpose:

The District's Watershed Restoration, Reconstruction, and Resiliency program provides implementation funds to address problems that these changes cause including altered hydrographs or increase in peak flows as water runs off of the watershed more quickly, stabilization of natural drainage systems to withstand anticipated discharges, protection and restoration of rare and native communities, increasing resiliency of natural and man-made systems against climate changes, reducing habitat fragmentation by creating or maintaining linear corridors, managing invasive species, and protecting groundwater resources.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Establishment and protection of identified greenway corridors (Greenway Plan);	Limited implementation ongoing under SWWD's existing greenway plan.	$ 700,000	$ 250,000	Work continues on the Central Greenway (Lake Elmo to Ravine Park) in cooperation with Washington County, Woodbury, Cottage Grove, and S Washington School District.	As Planned	-	$200,000
2	Implementation of completed resource management plans as guided by accompanying retrofit analyses;	Ongoing.	$ 3,875,000	$40,997	No additional projects were completed in 2019. Several projects are planned for 2020-2021	As Planned	-	$205,850

3	Establishment and protection of vegetated buffers along streams, ravines, bluffs and around lakes and wetlands (Buffers, Part II);	TBD	$ 100,000	$ -	Not started.	N/A, will be evaluated in 2019.	-	$ -
4	Stabilization of identified ravines to prevent downstream transport of sediment and nutrients (Ravine Survey and Assessment Plan);	TBD	$ 179,591	$	Survey of Trout Brook is complete. Stabilization of a top identified ravine is under contract for 2020 construction	As Planned	-	$ 80,000
5	Implementation of yet to be identified practices to increase resiliency of natural and man-made systems against land use and climate change (Climate Adaptation Plan)	TBD	$ 1,000,000	$ 250,000	Plan complete. Resiliency efforts now eligible for funding through SWWDs CCIP program.	Ahead of schedule	-	$141,900
6	Implementation of regionally identified strategies to address aquatic and terrestrial invasive species.	TBD	$ 40,000	$ -	Not started.	N/A, will be evaluated in 2020.	-	$ -
7	Implement yet to be identified flood damage reduction and mitigation projects and practices (Flood Damage Reduction and Mitigation Plan;	TBD	$ 101,423	$ -	Coordinatio n with Cities ongoing.	N/A, will be evaluated in 2020.	-	$ -
8	Identify willing landowners and begin operation of pilot agriculture BMP research program within 6 years;	Identify participants, develop program, and roll out by 2023.	$ 383,123	$ -	Working with a farmer to showcase cover crop techniques in Denmark Twp.	N/A, will be evaluated in 2020.	-	$24,900
9	Provide adequate funding for local implementation actions identified in the Washington		$ 132,026	$ -	Not started.	N/A, will be evaluated in 2020.	-	$ -

	County Groundwater Plan							

Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: INSPECTION AND MAINTENANCE

Program Purpose:

Communities rely on public watercourses, both natural and piped, for conveyance of stormwater runoff. Additionally, the District and its partners utilize an increasingly long list of BMPs to meet local resource goals. Conveyance systems and physical BMPs need routine inspection and maintenance to ensure long term functionality.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Maintain database of all physical BMPs;	Ongoing.	$ 185,000	$ 3,500	Work completed annually in cooperation with WCD and other Washington County WMOs.	As Planned	-	$3,900
2	Inspect BMPs at a minimum of 10, 33, and 66% of expected BMP lifetime;	Ongoing.	$ 50,000	$ 10,000	Work completed annually in cooperation with WCD and other Washington County WMOs.	As Planned	-	$6,000
3	Perform maintenance or enforce maintenance agreements as necessary to maintain full resource benefits of BMPs.	Ongoing.	$ 523,194	$ 50,000	SWWD currently contracts with WCD to complete maintenance needs identified as part of annual inspection program.	As Planned	-	$29,613

Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: CAPITAL IMPROVEMENT

Program Purpose:

Consistent with MN Rule 8410.0080 subp. 2, SWWD defines Capital Improvement Project (CIP) as a physical improvement with an extended useful life. For the purposes of its CIP Program, the District further defines a CIP as having a lifetime of greater than 25 years and a total project cost greater than $50,000. Generally, projects implemented under the District's CIP are developed and analyzed through completion of a feasibility study

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Provide adequate funding to carryout identified capital projects	Ongoing.	N/A	N/A	Current funding levels are adequate to complete planned work. SWWD collected revenue will begin dropping in 2018 as larger projects are completed.	As Planned	-	N/A; broken out below
2	Deliver Capital improvements as scheduled in the long-range workplan	Ongoing.	$ 18,183, 123.00	$ 3,500,0 00	Work on phases 3 and 4 of the CDO were completed in 2018. Excavation of regional basins at CDSF began in 2018 and will continue through 2020. Phase 5 will be completed in 2020. Trout Brook Remeander was completed in 2019. Subsequent phase is being planned.	As Planned	-	$10,381,000

Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: INCENTIVES

Program Purpose:

Implementation need outpaces the District's implementation capacity. To address that need and gain efficiency by drawing on the capacity of public and private entities in the District, SWWD operates several incentive programs to facilitate implementation by District residents and partners. Those programs are briefly described here. Additional information is available on the SWWD website.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Maintain and refine existing incentive programs to adequately leverage community interest;	Ongoing.	$ 6,738,742	$ 2,333,457	Programs were modified for use as incentivizing improvements identified in development of SWWD's climate adaptation and resiliency plan. Includes funds granted to Woodbury for their irrigation controller cost share program.	As Planned	-	$ 799,360
2	Expand existing cost share program to effectively target rural areas for source reduction within 3 years;	Expand/refine program by 2020.	N/A, inlcuded above.	$ -	Not started.	N/A, will be evaluated in 2020.	-	$ -
3	Annually review District's role in and need for supplementing County groundwater focused cost share and loan programs.	Ongoing.	N/A	$ -	Not started.	N/A, will be evaluated in 2020.	-	$ -

Progress Evaluation for the Program: INFORMATION AND EDUCATION

Program Purpose:

SWWD is a member of the East Metro Water Resource Education Program. EMWREP is a partnership formed in 2006 that serves 20 local units of government in the east metro area. The purpose of the shared education program is to provide education to District communities and their residents about the impacts of non-point source pollution (e.g. Nutrients, de-icing chemicals) on local lakes, rivers, streams, wetlands and groundwater resources and to engage them in projects that will help to protect and improve water quality in the region.

SWWD intends for this plan and its website to serve as a repository of water resource related information. The District's website includes several tools which serve to deliver information to District residents and stakeholders including: Resource Library, Water Quality Monitoring Database, Web Map Viewer and project Story Maps.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Continue support of and participation in EMWREP; Local Education Programs	Ongoing.	$ 366,844	$ 200,000	Ongoing. Includes support for EMWREP, Master Water Stewards, Watershed Partners, and SWWD's experiential education programming	As Planned	-	$96,000
2	Increase use of Website and Web Tools (staff time);Research; Databases; GIS	Ongoing.	$ 261,376	$ 125,000	Ongoing. Improvements planned for 2019, including web userface of PTM App dataset completed in 2018	As Planned	-	$61,600
3	Annually update story mapping as part of annual report to reflect current project status;	Ongoing.	N/A, included above	$ -	Ongoing	As Planned	-	$ -

4	Annually update water quality database to include previous year's data;	Ongoing.	N/A, included above	$ -	Database is current through the 2019 monitoring season.	As Planned	-	$ -
5	Annually update web viewer to reflect most recent spatial data;	Ongoing.	N/A, included above	$ -	Ongoing.	As Planned	-	$ -
6	Distribute semi-annual newsletter to District residents and stakeholders regarding District efforts and progress in addressing identified resource issues.	Ongoing. News distributed in 2018 via website, Twitter, and Facebook.	N/A, included above	$ -	Information distributed via social medial and website.	Continue to increase news distribution via web.	-	$ -
7	Maintain up to date files on electronic library;	Ongoing.	N/A, included above	$ -	Ongoing.	As Planned	-	$ -

Progress Evaluation for the Program: ADMINISTRATION

Program Purpose:

Watershed administration program has five focus areas to develop and maintain: District Boundary, Funding, Local Water Plans, Reporting and Progress Evaluation and Long Range Workplan.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Annually, evaluate District progress in achieving identified issue goals and effectiveness of District programs (staff);	Ongoing.	$2,226,090	$ 1,000,000	Ongoing.	As Planned	-	$458,312
2	Maintain funding levels adequate to meet implementation demand of the District;	Ongoing.	N/A, included above	N/A, included above $ -	Ongoing.	As Planned	-	N/A, included above $ -
3	In partnership with neighboring Districts, maintain legal boundary that reflects SWWD's hydrological boundary.	Ongoing.	N/A, included above	N/A, included above $ -	Ongoing.	As Planned	-	N/A, included above $ -

Progress Evaluation for the Program: DEBT SERVICE

Program Purpose:

Not specifically mentioned in the 2007 SWWD Watershed Management Plan as a management area, debt service is included in the SWWD annual budget as an accounting fund. In 2002 the SWWD issued $5.8 million in General Obligation Bonds for the purchase of real property as described in the 1997 watershed plan. The SWWD completed acquisition of 150+ acres for increased downstream stormwater system capacity, flood control and stormwater management. Bonds were paid off in 2017. In 2011, SWWD bonded for three projects in the East Mississippi watershed (Newport Ravine, Clear Channel Pond, and Grey Cloud Slough). In 2016, SWWD refinanced the 2011 general obligation bonds. In 2019, the 2016 general obligation bonds will cross over to general obligation ***refunding*** bonds, which will save the SWWD $186,134.

Appendix A 2019 Audit Report on Compliance

The 2019 Audit will be completed and submitted in May 2020

Appendix B Education

East-Metro
Water Resource Education Program

2019 Annual Report

Above: (Clockwise from upper left) Adopt-A-Raingarden volunteers; Woodbury family nature event; Wyoming landscaping workshop; Stillwater family nature event

Members of the East Metro Water Resource Education Program:

Brown's Creek Watershed • Carnelian-Marine-St. Croix Watershed •
Comfort Lake-Forest Lake Watershed • Cottage Grove • Dellwood • Forest Lake
Grant • Hugo • Lake Elmo • Middle St. Croix Watershed • Newport • Oak Park Heights • Oakdale
Ramsey-Washington Metro Watershed • Rice Creek Watershed • South Washington Watershed
Stillwater • St. Paul Park • Valley Branch Watershed • Willernie • West Lakeland
Woodbury • Washington Conservation District • Washington County

East Metro Water Resource Education Program
2019 Annual Report

TABLE OF CONTENTS

About the East Metro Water Resource Education Program

Background: The East Metro Water Resource Education Program (EMWREP) is a partnership formed in 2006 to implement a comprehensive water education and outreach program for the east metro area of St. Paul, MN. Current EMWREP partners include:

- Washington Conservation District (host)
- Washington County
- Watershed management organizations: Brown's Creek, Carnelian-Marine-St. Croix, Comfort-Lake Forest Lake, Rice Creek, Ramsey-Washington Metro, South Washington, and Valley Branch Watershed Districts, and the Middle St. Croix Watershed Management Organization
- Cities and townships: Cottage Grove, Dellwood, Forest Lake, Grant, Hugo, Lake Elmo, Newport, Oakdale, Oak Park Heights, Stillwater, St. Paul Park, Willernie, and Woodbury, West Lakeland Township

Purpose: The purpose of the shared education program is to educate community residents, businesses, staff and decision-makers about issues affecting local lakes, rivers, streams, wetlands and groundwater resources and to engage people in projects that will help to protect and improve the health of these water resources.

Partnership Structure: EMWREP is guided by a steering committee comprised of representatives from each of the 24 partner organizations. The committee generally meets twice a year to provide recommendations on the program budget and activities. The EMWREP coordinator communicates regularly with partner staff, council members and board members; prepares an annual report on program activities; provides outreach data and statistics for partners' MS4 Permit reports; and communicates one-on-one with individual partners on projects throughout the year. All EMWREP reports, plans, and education updates are available on-line at www.mnwcd.org/emwrep.

Staff: Angie Hong is the EMWREP program coordinator. Additional education support in 2019 was provided by Lauren Haydon (0.5 FTE), Cameron Blake (0.1 FTE), and Bobbie Law (0.1 FTE).

Coordination with Other Regional Education Efforts: The EMWREP partnership helps to strengthen relationships between Washington Conservation District, Washington County and the eight watershed management organizations and 14 cities that constitute the partnership. This translates into better coordination and less overlap in the management of local water resources.

EMWREP staff provide leadership for Watershed Partners (a collaborative of more than 60 non-profit and public entities in the Twin Cities metro area), participate in the Blue Thumb partnership and Master Water Stewards programs, and work actively with organizations in the St. Croix Basin, including partners in the Lower St. Croix "One Watershed" Plan.

Accolades: EMWREP was the 2012 MAWD Watershed Program of the Year.

2019 EXECUTIVE SUMMARY

PUBLIC EDUCATION AND ENGAGEMENT

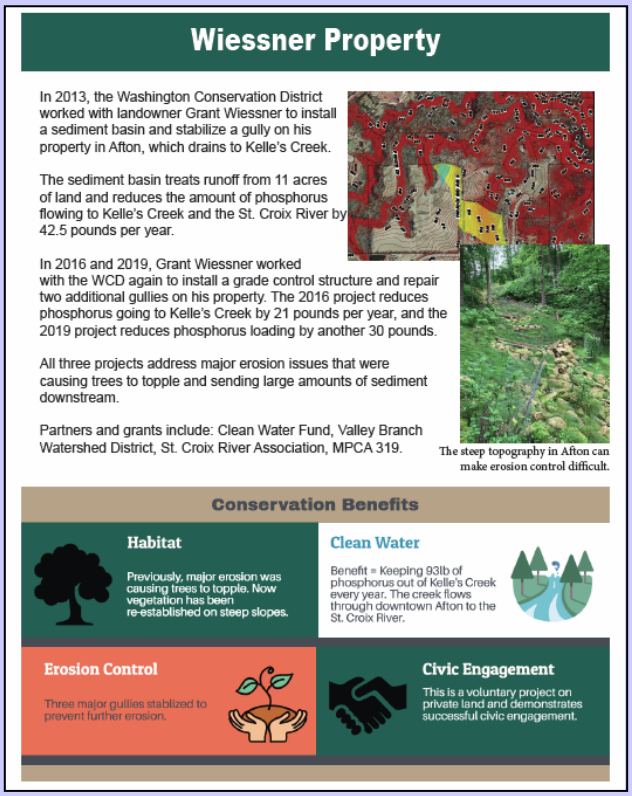
PUBLIC EDUCATION				
4600 face-to-face interactions with the public at workshops and events				
17 Community Events	**15** Workshops	**12** Presentations	**8** Classes for Water Stewards	**3** Clean-Up Events
52 weekly articles in local newspapers: www.eastmetrowater.org				

VOLUNTEER ENGAGEMENT	
Master Water Stewards	
13 trained in 2019 **(20 total)**	
50-hours of training + capstone project + 25-50 hours of volunteer support	
Organize raingarden clean-up events Join watershed district CACs Promote Adopt-a-Drain Promote BMP programs	Attend community events Remove invasive species Plant native gardens and raingardens Grow trees for community plantings
Adopt a Drain	
285 drains adopted in Washington County since April **9981 drains** adopted in the Twin Cities	
A partnership with Hamline University and Watershed Partners	
Residents help to prevent stormwater pollution by cleaning leaves, litter and sediment away from storm drains near their homes	
Adopt a Raingarden	
55 raingardens adopted in Stillwater and Oak Park Heights	
Master Water Stewards Stephanie Wang and Anna Barker used the model to organize two raingarden clean-up events in Woodbury	
100 volunteers engaged at clean-up events in Stillwater and Woodbury	
AIS Detectors	
4 trained in 2019 **(14 total)**	
8 hours of training + 25 hours of volunteer support	

YOUTH EDUCATION			
30 groundwater/watershed lessons taught to 4th grade students			
5 Forest Lake Elementary	**5** Lake Elmo Elementary	**2** Newport Elementary	**7** Oneka (Hugo)
4 Royal Oaks (Woodbury)	**5** St. Peter's (North St. Paul)	**2** Wyoming Elementary	
Campus Greening: Valley Crossing (Woodbury) + Crestview (Cottage Grove)			
8 outdoor family nature events; **4** informal youth programs; St. Croix Summit			
Teacher Workshop in Oakdale (Aug. 6)			

OUTREACH SUPPORT FOR PARTNER PROJECTS AND PROGRAMS

BMP & COST-SHARE PROGRAMS			
6 Blue Thumb Workshops Wyoming – Hugo – Scandia – Oakdale - Lake Elmo - Cottage Grove			
154 Workshop Attendees	**193** Site Visits by WCD staff	**116 lbs TP** Total Phosphorus Reduction	**29,793 lbs TSS** Total Suspended Solids Reduction
Downloadable calendar for Outlook and Google www.mnwcd.org/maintenance-guide			
BMP maintenance guidance – print materials www.mnwcd.org/adoptaraingarden			



OUTREACH & AUDIENCE RESEARCH: AGRICULTURAL LANDOWNERS		
12 Interviews	**387** Survey Responses	**95** Workshop Participants
"One Watershed, One Plan" Listening Session Feb. 2, Scandia (45 attendees)		
Oriental bittersweet Oct. 10, Oakdale (10 attendees)		
Perennial Crops, Conservation Grazing and Conservation Planning Oct. 22, Scandia (30 attendees)		
Large acreage restoration Nov. 4, Stillwater (10 attendees)		
What do they want to do? **soil health** conservation easements **physical projects** **cover crops** convert cropland to natural areas **repair gullies and ravines** conservation plans transition cropland to hay or grazing install monitoring equipment in fields try new perennial crops MN Ag Water Quality Certification		

EDUCATION SUPPORT FOR PARTNER PROJECTS			
Comfort Lake – Forest Lake WD Community Survey	South Washington Trout Brook Project Signs	Washington CD Board Tour	Valley Branch WD 50th Anniversary
Brown's Creek WD Community Event	Woodbury Wetland Outreach	Forest Lake Shoreline Outreach	County Groundwater Education

PROFESSIONAL TRAININGS FOR BUSINESS AND LOCAL GOVERNMENT

EMWREP provides professional training for businesses and local government through Stormwater U, NEMO, and partnerships with MN Extension, U of MN Erosion and Stormwater Management Program, MN Erosion Control Association (MECA), Fortin Consulting, St. Croix River Association, and MN Department of Natural Resources (DNR).

PROFESSIONAL TRAININGS
4 SMART salting workshops
Targeted outreach to contractors and businesses **Cottage Grove - Forest Lake – Hugo – Oakdale - Stillwater – Woodbury** Via direct mail, email, and in-person visits
Presentations Minnesota Cities Stormwater Coalition (April 10) Water Summit (May 9) EWRI Conference (Aug. 6) St. Croix Research Rendezvous (Oct. 22) Washington County Water Consortium (Sept. 4 and Dec. 4)
Coordination of monthly **Watershed Partners** meetings and workshops
Planning support for **Washington County Water Consortium**

NEW MATERIALS AND RESOURCES

In 2019, EMWREP developed dozens of new education materials for the Minnesota MS4 Toolkit, through a contract partnership with the Minnesota Pollution Control Agency.

Completed resources can be accessed online at the MPCA Stormwater Wiki. We will continue to add new resources to the toolkit in 2020.

Please refer to the full report for example images and materials lists.

Public Education and Engagement

Minimum Control Measure

☑ Public education & outreach	☐ Construction site runoff controls
☑ Public participation & involvement	☐ Post-construction storm water management
☐ Illicit discharge detection and elimination	☐ Municipal pollution prevention & good housekeeping

Audience: General Public, Urban and Rural Landowners, Youth

Program Goals:

1. Educate the public about nonpoint source water pollution, groundwater conservation, and basic watershed ecology and management.
2. Build partnerships with state and local government, non-profit organizations, and community groups.
3. Engage citizen volunteers to help conduct education and outreach.
4. Motivate urban and rural landowners to practice behaviors that protect water resources.
5. Train and assist urban and rural residents to complete projects on their land that reduce runoff pollution, conserve groundwater, and increase infiltration.

Educational Objectives:

Citizens will learn:

1. That nonpoint source water pollution comes from a variety of land uses - residential, commercial, and agricultural.
2. That common pollutants impacting surface and groundwater resources in the east metro area include phosphorus, sediment, nitrates, *E. coli*, chloride, and mercury.
3. That a watershed includes all of the land draining to a lake, stream or river, and that Watershed Districts and Watershed Management Organizations are special-purpose local units of government charged with managing the resources of a given watershed to prevent flooding and protect water quality.
4. That surface and groundwater resources interact.
5. That area residents can help to prevent nonpoint source water pollution through a variety of behaviors, including raking leaves and grass clippings out of the street, using less fertilizers and chemicals on lawns and gardens, covering bare soil during landscaping and construction, picking up pet poop, replacing failing septic systems, using less salt for winter maintenance and water softening, disposing of household waste properly, and using less electricity.
6. That landowners can help to reduce runoff pollution, conserve groundwater, and increase infiltration by installing best management practices such as habitat plantings, raingardens, and shoreline plantings; repairing erosion; and managing drainage around homes, farms, and commercial buildings.

PUBLIC EDUCATION AND ENGAGEMENT ACTIVITIES IN 2019

1) Public Education

4600 face-to-face interactions with the public at workshops and events		
17 Community Events	**12** Presentations	**3** Clean-Up Events

Community Events and Presentations
(x) = approximate number of attendees

- March 7: Pollinator Summit
- April 25: Stillwater Noon Rotary (20)
- April 26-27: WCD Tree sale (258)
- April 27: Mahtomedi RITE of Spring (150)
- April 30: CLFLWD State of the Water (30)
- May 4: Stillwater raingarden clean-up (24)
- May 4: Grant community clean-up (100+)
- May 7: Newport bluffland meeting (10)
- May 16: Family Hike at Schuneman Marsh Wildlife Preserve (Grant) (6)
- May 19: Master Gardeners Plant Sale (100+)
- May 18: Belwin Bison Release (Afton) (100+)
- May 30th: Family Hike at Tamarack Nature Preserve, (Woodbury) (65)
- June 1: WaterFest (St. Paul) (500+)
- June 1: Sunfish Lake Park Family Nature Day (Lake Elmo) (200)
- June 8: Landscape Revival Native Plant Expo & Market (Oakdale) (1000)
- June 26: Water Critters Program at Edgewater Park (Woodbury) (40)
- July 10: Water Critters Program The Lakes in Stillwater
- July 13: Campfire Program (St. Croix Bluffs) (30)
- July 17: Water Critters Program at Highlands Park (Cottage Grove)
- July 20: Learn and Grow with Us, Master Gardener Garden Tour (Lake Elmo) (50)
- July 31 – Aug. 4: Washington County Fair (Lake Elmo) (500+)
- Aug. 22 – Sept. 2: Minnesota State Fair (500+)
- Sept. 7: River Rally (Stillwater) (30)
- Sept. 12: Valley Branch Watershed District 50th Anniversary celebration (50)
- Sept. 14: Brown's Creek Watershed District Community Event (150)
- Sept. 19: Cottage Grove Public Works Open House event (100)
- Sept. 21-27: Comfort Lake – Forest Lake Watershed District tour and 20th Anniversary activities (30)
- Sept. 26: Presentation at Master Gardener monthly meeting (Bayport) (
- Oct. 12: Afton Alps Fall into Winter Fair
- Oct. 15: Presentation at Wild Ones monthly meeting (Stillwater) (75)
- Nov. 1: Master Water Stewards and St. Croix Watershed Stewards gathering (Marine on St. Croix) (30)
- Nov. 13: Septics, wells and healthy homes: A groundwater class for homeowners (Hugo)
- Dec. 2: "A salty tale for Minnesota lakes and streams" (Forest Lake) (5)

Engaging lake associations

- May 13 Lake Association workshop in Mahtomedi (24 attendees)
    - Guest speaker: Julia Bohnen, MN Aquatic Invasive Species Research Center
- E-newsletter sent semi-monthly to 150 lake association leaders. Includes information about programs, AIS research, and upcoming events
- Postcards mailed to residents on Demontreville, Lily, Long, and Square Lakes advertising the UMN AIS Detectors program. Four (4) signed up through this outreach. (AIS)
- Flyers created for distribution by Big Marine and Silver Lake Associations (AIS)
- Mailing and door-knocking to residents on Forest Lake (shoreline erosion)

2) Volunteer engagement:

Master Water Stewards
13 trained in 2019 **(20 total)**

In 2018, EMWREP received an $81,000 Clean Water grant to train 20 Master Water Stewards and install up to 10 stormwater management capstone projects.

Volunteers participate in 50-hours of in-person and on-line training, then complete a capstone project to become certified. Once certified, stewards volunteer 50-hours during their first year of service and 25-hours per year afterwards to remain in the program.

We trained 13 Master Water Steward volunteers in 2019:

- Leslie MacKenzie – Carnelian-Marine-St. Croix WD
- Jean & John Schreckeis – Comfort Lake – Forest Lake WD
- Jared Kooiker, South Washington WD
- Deb Wall, John Hodler, Kimberly Myhers, Martin Hyndman and Pamela Kelly – Valley Branch WD
- Barb Bickford, Michael McCarthy, Katherine Mahoney, and Gabriel Curell – Middle St. Croix WMO

There are now a total of 20 Master Water Stewards trained in Washington County.

Our stewards continue to work on wonderful projects in their communities, including:

- Organizing raingarden clean-up events
- Joining watershed district CACs
- Going door-to-door in their neighborhoods to promote Adopt-a-Drain and other programs
- Attending community events on behalf of EMWREP partners
- Removing invasive species and planting natives in public spaces
- Establishing gravel beds to grow trees for community plantings

Adopt a Drain
285 drains adopted in Washington County since April www.adopt-a-drain.org

The Adopt-a-Drain program engages community residents in helping to prevent stormwater pollution by cleaning leaves, litter and other debris off of storm drains near their homes. Volunteers get reminders via text or email and are asked to report their actions on-line so that cities can track the program's impact. They may also receive a small sign, placed in their yard to help spread the action and let neighbors know of their commitment to clean water.

The Adopt-a-Drain program was created by Hamline University's Center for Global Environmental Education on behalf of Watershed Partners, a metro area collaborative with 60+ partners.

We have worked hard to launch and promote the program in 2019 through efforts, including:

- Press releases, city newsletter articles, utility bill inserts
- Website, social media, cable television videos
- Door-hangers distributed by volunteers
- Storm drain stenciling events
- Presentations to community groups and youth groups

AIS Detectors
4 trained in 2019 **(14 total)**

Using Washington County aquatic invasive species (AIS) funds we have helped 4 local residents to become AIS Detectors through a partnership with the University of Minnesota.

- Program details: Participants complete 6-8 hours of on-line training and attend one full-day, in-person workshop. They learn how to identify invasive species including: Eurasian watermilfoil, hydrilla, starry stonewort, spiny waterflea, rusty crayfish, zebra mussels, quagga mussels, bighead carp, silver carp, round goby, and ruffe. Volunteers received a certificate upon completion of training and are asked to volunteer 25 hours per year.
- 2019 AIS Detectors:
    - Doug Joens (Forest Lake)
    - Jim Arkell (Tri-Lakes)
    - Lynn and John Mecum (Square Lake)
- 2019 volunteer projects:
    - Conducting AIS surveys on area lakes
    - Volunteering at the AIS Summit, MAISRC research and Management showcase, and Upper Midwest Invasive Species Conference
    - Other AIS education/outreach, including staffing booths at the State Fair and community events and creating newsletter articles

Adopt a Raingarden
55 raingardens adopted in Stillwater and Oak Park Heights
Master Water Stewards Stephanie Wang and Anna Barker used the model to organize two raingarden clean-up events in Woodbury
100 volunteers engaged at clean-up events in Stillwater and Woodbury

Last year, EMWREP launched a pilot "Adopt-a-Raingarden" program in Stillwater, which has now expanded to include raingardens in Oak Park Heights. Volunteers can sign-up and find resources at www.mnwcd.org/adoptaraingarden.

3) Youth education:

30 groundwater/watershed lessons taught to 4th grade students
Campus Greening: Valley Crossing (Woodbury) + Crestview (Cottage Grove)
4 informal youth programs + St. Croix Summit
Teacher Workshop in Oakdale

School programming: EMWREP staff taught 30 groundwater and watershed lessons to 4th grade classes through classroom visits, field trips, and Children's Water Festival

- Groundwater education: Taught lessons to four 4th grade classes at Royal Oaks Elementary (Woodbury) with a field trip component, seven classes at Oneka Elementary (Hugo), and five classes at St. Peter's Elementary (North St. Paul).
- Children's Water Festival: 1700 4th grader students from 23 schools attend the event each year. Lessons focus on water conservation, water quality, stormwater and runoff, groundwater and wells, native plant benefits to water, aquatic species (fish, macro-invertebrates and invasive species), mercury, and more. EMWREP staff talked about groundwater using the interactive model and displays. Local schools attending:
    - Forest Lake Elementary (5 classes)
    - Lake Elmo Elementary (5 classes)
    - Newport Elementary (2 classes)
    - St. Peter's School (4 classes)
    - Wyoming Elementary (2 classes)
- Campus Greening: Met with principals and facilities' staff at Valley Crossing (Woodbury) and Crestview (Cottage Grove) schools to plan campus greening projects for 2020. Coordinated educational programming with Carpenter Nature Center.
- Informal youth education:
    - Feb. 28: St. Croix Youth Summit
    - March 1: St. Croix Preparatory Career Day
    - June 26: Cottage Grove Safety Camp
    - Oct. 19: Groundwater program at R.H. Stafford Library (Woodbury)

WaterWorks Teacher Workshop – Aug. 6, Oakdale (40 attendees)

- EMWREP collaborated with Hamline University to host a workshop for local teachers. Teachers from around the area attended and learned about Project WET, groundwater, watersheds, and available teaching resources. Angie facilitated the groundwater model and the K12 Watershed Game and shared contact information for area watershed district, as well as displays.

4) Media and communications:

52 weekly articles in local newspapers: www.eastmetrowater.org

Newspaper articles: Angie Hong continues to write articles about water and conservation for local newspapers. Read them on-line at www.eastmetrowater.org. Tailored versions are sent to local community papers, including:

- **Chisago Press** (Circulation - 3963)
- **Forest Lake Lowdown** (Circulation – 13,997)
- **Forest Lake Times (**Circulation - 13,029) – *Hong column featured monthly*
- **Hugo Citizen** (Circulation – 14,500)
- **Oakdale-Lake Elmo Review** (Circulation – 11,066) ***Went out of business in September**
- **Ramsey Review** (Circulation – 24,326) ***Went out of business in September**
- **Scandia Country Messenger** (Circulation - 1075)
- **South Washington County Bulletin** (Circulation - 8616)
- **St. Croix 360** (On-line: 25,647 followers)
- **St. Croix Lowdown (**Circulation – 5000)
- **Valley Life / Stillwater Gazette** (Circulation - 17,479) – *Hong column featured weekly*
- **White Bear Press (**Circulation – 19,331)
- **Woodbury Bulletin** (Circulation - 7811)

Newsletters: EMWREP also provides content for city, watershed and WCD newsletters.

- Afton (pop. 3010) - newsletters
  - Jan – Valley Branch Watershed District Awarded the 2018 Program of the Year from the Minnesota Association of Watershed Districts
  - May – Middle St. Croix Watershed Updates
  - June Adopt-a-Drain
  - July – Invasive Plants and Noxious Weeds
- Bayport (pop. 3735) newsletters
  - Summer – Smart Outdoor Water Use and Middle St. Croix watershed project update
- Birchwood (pop. 875) - newsletter
  - Summer – Illicit Discharge
- Browns Creek Watershed District – content for annual newsletter
- Carnelian-Marine-St. Croix Watershed District – content for annual newsletter

- Cottage Grove (pop. 37,000) - newsletter
    - February - Crews search the city for emerald ash borer
    - April - Arbor Day event, Buckthorn removal, and irrigating with smart controllers
    - May - Irrigation with smart controllers & Goats to control Buckthorn & Garlic Mustard
    - June – Stencil Your Storm Drain
    - Sept – Green garden award winners,
- Forest Lake (pop. 18,600)
    - April - utility bill insert about Adopt a Drain
- Lakeland (pop. 1830) - newsletter
- Mahtomedi (pop. 8200) - newsletter
    - Nov/Dec – white oak problems
    - July/Aug – Non-toxic fishing tackle
    - May/June – Great river greening
    - March/April – Rebates program for water conservation
    - Jan/Feb – Smart salting
- Oakdale (pop. 28,083) – newsletter
    - Summer – Do your part one drop at a time (storm drains), sweep rake and pick up (storm drains
- Oak Park Heights (pop. 4918) - newsletter
    - March – Adopt-a-Drain
- Stillwater (pop. 19,368) - newsletter
- Stillwater Twp. (pop. 2000) - newsletter
- St. Paul Park (pop. 5,392)
    - Spring - Illicit Discharge, Sewer maintenance, And Adopt-a-Drain
    - Fall - Don't leaf the lakes you love
- Washington Conservation District – content for bi-annual newsletters
- White Bear Lake (pop. 25,888) - newsletter
    - Spring – Illicit discharge, street sweeping, rain barrels available for purchase
    - Fall - Adopt-a-Drain live!
- Woodbury (pop. 69,756)
    - Feb – SMART Irrigation Controller program
    - Jun – Lawn watering policy
    - Sept –Irrigation Controller program
    - Nov/Dec – Well receives health risk advisory
- Wyoming (pop. 7,887)
    - Winter – Smart Salting

Minnesota Water – Let's Keep it Clean: Through our participation in Watershed Partners, EMWREP partners get access to additional stormwater education resources, including a blog-style website with monthly articles about local water heroes (www.cleanwatermn.org), photography and print materials, professional trainings and networking meetings, and a large exhibit space at the Minnesota State Fair, Eco Experience.

EMWREP and its partners provide funding support for the Minnesota Water – Let's Keep it Clean campaign and Angie Hong serves on the partnership's steering committee.

Articles for 2019 included:

- Jan. – GreenCorps Fight to Keep Salt Out of Minnesota Lakes
- Feb. –Bloomington Public Schools Improve Safety and their Bottom Line with Anti-Icing Strategies
- March –Announcing the Nation's Largest Adopt-a-Drain Program
- April –Transform Your Yard into a Monarch Oasis
- May – Bee-Friendly Yard Becomes Neighborhood Sanctuary
- June – Paddling to Protect the Mississippi
- July – Smart Irrigation Reduces Water Waste
- Aug. – Blaine's Wetland Restoration Revives Endangered Species
- Sept. – Fighting to Understand Bees in Decline
- Oct. – Brooklyn Park Preserve Fosters Community
- Nov. – Cleaning the Streets Before the Snow Flies
- Dec. - A Song to Sweep to from Frassati Academy

Websites and Social Media: EMWREP uses the following websites and social media accounts to share information and promote programs and events.

Websites:

- East Metro Water: https://eastmetrowater.org
- Washington Conservation District: www.mnwcd.org
- Blue Thumb – Planting for Clean Water: www.bluethumb.org
- Clean Water Minnesota: www.cleanwatermn.org

Social Media:

- Twitter
  - @angiehongwater
  - @EMWREP
- Facebook
  - @mnwcd
  - @BlueThumbMN
  - @ brownscreekwatersheddistrict
  - @cmscwd
  - @CLFLWD
  - @ricecreekwd
  - @RWMWD
  - @SoWashWD
- Instagram:
  - @wcd_mn

Outreach Support for Project Implementation

Minimum Control Measure

☑ Public education & outreach	☐ Construction site runoff controls
☑ Public participation & involvement	☑ Post-construction storm water management
☐ Illicit discharge detection and elimination	☐ Municipal pollution prevention & good housekeeping

Program Goals:

1. Publicize EMWREP partner programs and projects.
2. Promote BMP (Best Management Practices) and cost-share incentive programs.
3. Engage community members and other stakeholders to help meet water quality goals identified through local water plans, TMDL (Total Maximum Daily Load) studies, WRAP (Water Restoration and Protection) strategies, and other regulatory programs.
4. Engage public and private land owners to complete activities funded through state and federal grants.

Educational Objectives:

1. Citizens will be aware of water-quality improvement projects and programs happening in their communities and understand the benefits of these activities.
2. Citizens will be aware of and utilize BMP and cost-share incentive programs to complete water protection projects on their land.
3. EMWREP will help partners to identify, reach out to, and engage public and private landowners and managers in targeted locations in order to complete water resource improvement and protection projects.

OUTREACH AND PROJECT SUPPORT IN 2019

1) Promotion of watershed BMP and cost-share incentive programs

PLANTING FOR CLEAN WATER WORKSHOPS

Residents learn how to add beauty to their yards with native plants, raingardens, and other landscaping features that protect water and provide habitat for birds and pollinators.

During our "Wonderful Wetlands" workshops, we talked about unique plants and animals that are found in wetlands, invasive species, and rules that affect what landowners can and can't do with wetlands on their properties.

Workshops help residents to connect with resources including: Incentive grants - Free site visits - Garden designs - Plant lists - Conservation plans for larger properties

Planting for Clean Water – Blue Thumb Basics

- Thursday, April 4: Wyoming Area Library – 41 registrations
- Thursday, April 11: Cottage Grove City Hall – 30 registrations

Planting for Clean Water –Wonderful Wetlands

- Thursday, April 25: Hugo City Hall – 33 registrations
- Thursday, May 23: Oakdale Discovery Center – 18 registrations
- Thursday, June 6: Sally Manzara Nature Center, Lake Elmo – 12 registrations

Building resiliency for climate change

- Tuesday, April 30: Scandia – 20 attendees

This year's outreach helped to support:

- 193 landowner site visits with Washington Conservation District staff
- 116 lbs/yr of phosphorus kept out of surface waters
- 29,793 lbs/yr of total suspended solids kept out of surface waters

BMP PROJECT MAINTENANCE CALENDAR FOR LANDOWNERS

Lauren Haydon created a virtual BMP (best management practice) maintenance calendar that can be added to a Google or Outlook calendar. Landowners with raingardens and native plantings can download this calendar to receive monthly reminders when common maintenance activities should happen (ie. cleaning inlets or weeding): www.mnwcd.org/maintenance-guide.

Additional resources for raingarden maintenance are also available at www.mnwcd.org/adoptaraingarden.

OUTREACH AND ENGAGEMENT WITH LOCAL FARMERS

In 2019, EMWREP staff worked with local partners to:

- Conduct twelve one-on-one interviews with local farmers
- Send surveys to more than 1000 agricultural landowners in in Chisago, Pine and Washington Counties (387 responses received)
- Host four workshops for landowners in Chisago and Washington Counties:
    - Feb. 2, Scandia. One Watershed, One Plan (45 attendees)
    - Oct. 10, Oakdale. Oriental bittersweet (10 attendees)
    - Oct. 22, Scandia. Perennial Crops, Conservation Grazing and Conservation Planning (30 attendees)
    - Nov. 4, Stillwater. Large acreage restoration (10 attendees)

We are very excited about the level of interest and engagement we are seeing from our local farmers. In addition to providing us with input for the Lower St. Croix "One Watershed Plan," landowners have expressed interest in a wide variety of conservation projects and programs. Mary Jo Youngbauer, the new Conservation Planner for the Lower St. Croix Watershed, has also been meeting with farmers to develop conservation plans for their properties.

Survey respondents provided important information about their water resource concerns and conservation practices they are most interested in implementing. For example:

What 3-5 water issues in the Lower St. Croix Watershed are most important to address? (173 responses)

- (52) Agricultural issues (runoff, erosion, pesticides, fertilizers)
- (23) Groundwater/well water pollution
- (24) Runoff / Chemicals / Contaminants
- (21) Protecting / Improving water quality
- (19) Invasive species (aquatic and terrestrial)

How interested are you in the following projects or practices?
(#) = number of people who were very or somewhat interested in the practice
** = practices with the most "very interested" responses

- **Improving soil health (241)
- **Installing physical projects on your land such as grassed waterways, windbreaks, sediment basins (169)
- **Converting less productive land to natural areas - woods, wetlands or prairie (156)
- Planting cover crops for the winter (155)
- **Repairing gullies or ravines (152)
- Developing a Whole Farm Conservation Plan (148)

Please share any other input you'd like included in the watershed plan.
(Brief sample of reponses)

- I have already installed grassed waterways and repaired gullies on my property. I manage fertilizer and lime, plant cover crops, and have hay land. I work with NRCS. I haven't converted less productive land to habitat because there is no tax break.
- I rent the land. They raise crops. Not interested.
- We just completed a project in 2018 to inhibit erosion of a small stream. Thanks!
- I think big money doesn't admit or share the info that would educate us all on the effects of all the chemicals in relation to water quality. Thank you.
- The portion of our land that has row crops (corn & soybeans) was laid out to minimize erosion. The forest & wetlands are self sustaining natural areas. I would welcome any help to control the spread of buckthorn.
- Apply stricter rules on septic tank enforcement, junk and junk vehicles on property

Please contact Angie Hong for a full summary of interview, survey and small group conversations.

EDUCATION SUPPORT FOR PARTNER PROJECTS AND PROGRAMS

EMWREP provided education support for numerous special projects and events during the year. Some of these included:

- **Brown's Creek WD**
  - Helped to plan, promote and attend Sept. 14 community event at Brown's Creek Park
- **Carnelian-Marine-St. Croix WD**
  - Helped to develop a community engagement plan for the watershed plan update
- **Comfort Lake - Forest Lake WD**
  - Developed an on-line community survey to support the watershed plan update process. To date the watershed has received 131 responses.
  - Helped to promote April 30 "State of the Water" event and September 21-27 20th Anniversary events
  - Attended and presented at the Sept. 21 district tour
  - Direct mailing and door-knocking to shoreline owners on Forest Lake
- **South Washington WD**
  - Helped to design four new interpretive signs for installation at Afton Alps
  - Outreach and coordination support for campus greening projects
- **Washington Conservation District**
  - Created a map and project fact sheets for the annual board tour
- **Washington County**
  - Support for groundwater education
  - Support for AIS education
- **Woodbury – South Washington WD – Ramsey-Washington WD**
  - Developed a special mailing for residents near city park and wetland projects
- **Valley Branch WD**
  - Helped to plan, promote and attend the Sept. 12 50th Anniversary event

Professional Trainings for Business and Local Government

Minimum Control Measure

☑ Public education & outreach	☐ Construction site runoff controls
☐ Public participation & involvement	☑ Post-construction storm water management
☑ Illicit discharge detection and elimination	☑ Municipal pollution prevention & good housekeeping

Audience: Water resource professionals, municipal staff, consultants and contractors, local elected and appointed officials, business owners, realtors, lawn care providers, winter maintenance providers

Program Goals:

1. Provide technical training to help EMWREP partners meet MS4 Permit requirements and reduce stormwater pollution.
2. Work in partnership with University of Minnesota to provide high-quality professional education at a local level.
3. Provide local decision makers (city councils, planning commissions, watershed boards, county commissioners, etc.) with information and training needed to implement policies, programs, and practices that protect and restore water resources.
4. Offer professional trainings for area business owners, realtors, lawn care providers, and winter maintenance contractors to share information about local water issues and encourage business practices that protect surface and groundwater resources.

Educational Objectives:

1. Municipal employees will understand that stormwater runoff, erosion, and illicit discharge contaminate surface and groundwater resources and, also, that there are best management practices to reduce these causes of water pollution.
2. Local decision makers will understand that land use impacts water quality and that there are a variety of policies, programs and practices cities, counties, and watershed management organizations can implement to protect their water resources.
3. Area business owners, realtors, lawn care providers, and winter maintenance contractors will learn how to conserve groundwater resources and reduce surface and groundwater pollution through a variety of practices, including:
    a. Completing water efficiency audits;
    b. Talking with home buyers and sellers about shoreline landscaping, remodeling, and septic system maintenance;
    c. Mowing higher and using fewer lawn chemicals; and
    d. Reducing road salt application by using new technology, calibrating equipment, and adjusting anti-icing and deicing methods based on weather forecasts.

PROFESSIONAL TRAININGS FOR BUSINESS AND LOCAL GOVERNMENT IN 2019

1) Training for local government staff and consultants

EMWREP helps to conduct professional trainings for businesses and local government, as well as connect partners with other training opportunities. Training partners include: U of MN Extension, U of MN Erosion and Stormwater Management Program, MN Erosion Control Association (MECA), Fortin Consulting, St. Croix River Association, and MN Department of Natural Resources (DNR).

4 SMART salting workshops
Targeted outreach to contractors and businesses **Cottage Grove - Forest Lake – Hugo – Oakdale - Stillwater – Woodbury** Via direct mail, email, and in-person visits

- Sept. 11: Smart Salting for Parking Lots and Sidewalks (Blaine)
- Sept. 26: Smart Salting for Property Managers (St. Anthony Village)
- Oct. 14: Winter Maintenance Certification for Parking Lots and Sidewalks (Cottage Grove)
- Oct. 15: 19th Annual Road Salt Symposium (Vadnais Heights)

Certified contractors listed at: www.pca.state.mn.us/water/salt-application-training
Find a model contract here: https://www.edinamn.gov/422/Pollution-Prevention

In addition to helping to plan, promote and host these workshops, EMWREP spent considerable effort to reach out to businesses in our area cities through direct mail, email and in-person visits. Staff reached out to more than 200 businesses in Cottage Grove, Forest Lake, Hugo, Oakdale, Stillwater, and Woodbury.

2) Professional partnerships, meetings, and conferences

Presentations – staff was invited to present at several professional trainings and meetings

- Minnesota Cities Stormwater Coalition (April 10) – Adopt a Drain
- Water Summit (May 9) – Art of Storytelling
- EWRI Conference (Aug. 6) – Adopt a Raingarden
- St. Croix Research Rendezvous (Oct. 22) – Agricultural audience research project

Water Consortium – EMWREP staff help to plan topics and presenters for Washington County water consortium meetings. Angie Hong also was a presenter at the following meetings:

- Sept. 4 – Agricultural audience research project
- Dec. 4 – Master Water Stewards

Watershed Partners – EMWREP and its partners contribute financial and staff support to Metro Watershed Partners, a partnership of 60+ public and non-profit organizations in the Twin Cities area. Angie Hong has served on the Watershed Partners' steering committee since 2006.

Watershed Partners provides learning opportunities for water resource professionals through its monthly meetings. Presentation topics in 2019 included:

- Jan – **RiverFirst Initiative** - Tom Evers
- Feb. – **Integrating Pollinator Protection into Clean Water and Habitat Projects** – Tara Kelly, Dan Shaw, Brianna Gohde
- March – **Legislative update** – Steve Woods
- April – **Community-centered urban water planning** - Mae Davenport
- May – **Moving Communities to Action** - Patience Caso
- Aug. 14 - **Tour**: **Blaine Wetland Sanctuary** – Jason Husveth and Rebecca Haug
- Sept. 11 –
    - **MS4 Toolkit** and **MS4 General Permit** – Cha Thao
    - **WaterBar Story Circles** – Shanai Matteson
- Oct. – **Minnesota climate trends** – Kenny Blumenfeld
- Nov. 13 - **Workshop**: **Building an Inclusive Education Program for Your Organization and Community**
- Dec. 11 – **Workshop**: **WaterBar Story Circle**

St. Croix Environmental Education Collaborative

Angie Hong has helped to form a new education partnership with nature centers, parks and other environmental educators working in the St. Croix Valley – both Minnesota and Wisconsin.

- In 2019, the group met four times and developed a mission statement and goals for 2020.
    - **Mission:** We inspire leadership in environmental education though networking, community engagement and collaborative events within the St. Croix River Watershed.
- Learned about volunteer management
- Shared info about projects, programs and events
- Met with staff from ArtReach and adapted the St. Croix SPLASH event calendar to better promote environmental and nature events in the area
- 2020 plans: Celebrate the 50th anniversary of Earth Day with a series of events around the watershed and a passport program to allow cross-promotion

NEW MATERIALS AND RESOURCES

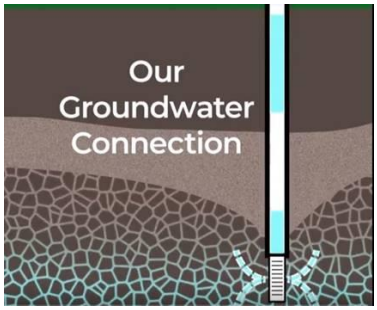
In 2019, EMWREP developed dozens of new education materials for the Minnesota MS4 Toolkit, through a contract partnership with the Minnesota Pollution Control Agency.

Completed resources can be accessed online at the MPCA Stormwater Wiki. We will continue to add new resources to the toolkit in 2020. Some highlights from the project include:

Videos:

These three videos are available in Spanish, Hmong and Somali and will be customized with EMWREP partner contact info. (*Click images above to preview English version videos*.)

Additionally, we have adapted "Our Groundwater Connection," originally produced by Anoka County partners for use in Washington County and other parts of Minnesota.



Municipal training videos:

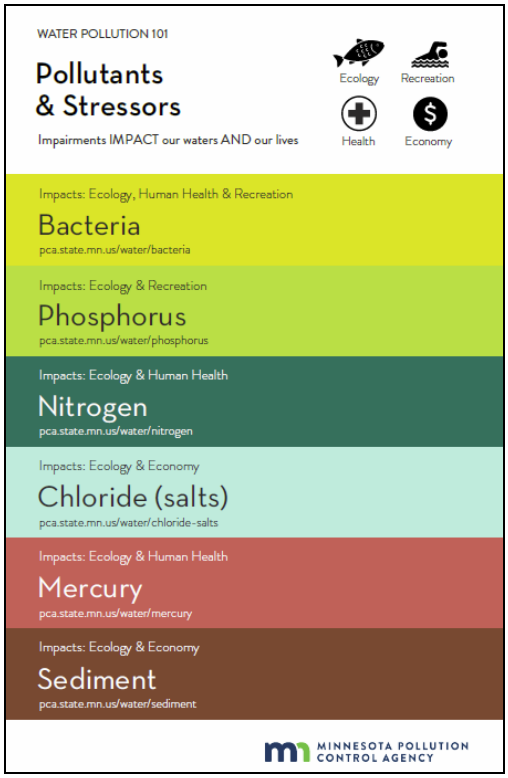
Short videos for municipal staff training that cover topics required in the MS4 permit:

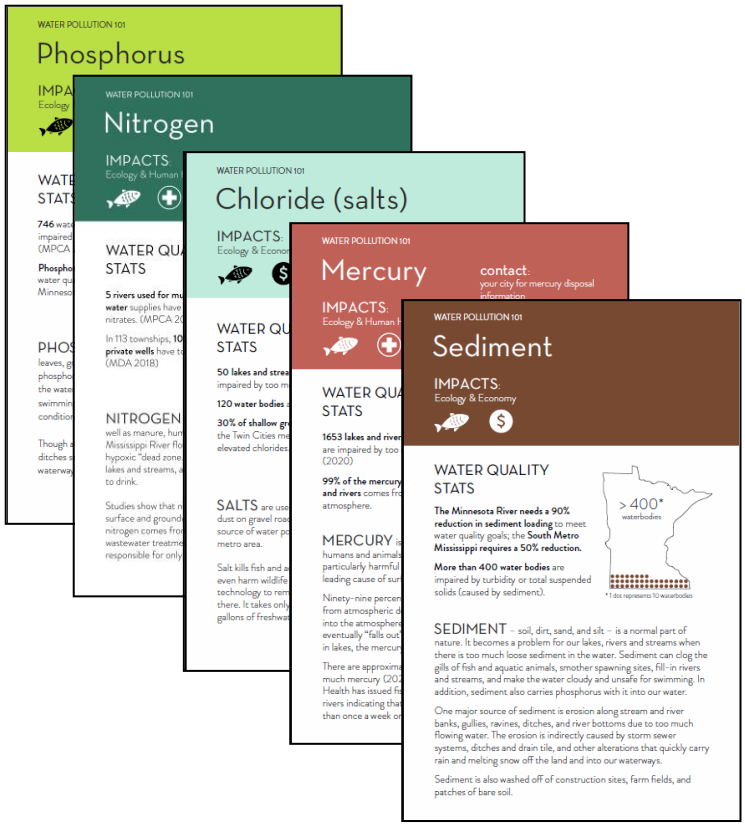
1. Cleaning and associated wastewater
2. Emergency Response & Spills
3. Herbicides, Pesticides, Fertilizers
4. Right of Way Maintenance
5. Road Maintenance
6. Parking lot & street sweeping
7. Stockpiles
8. Storage of Significant Materials
9. Vehicle care
10. Waste disposal and storage

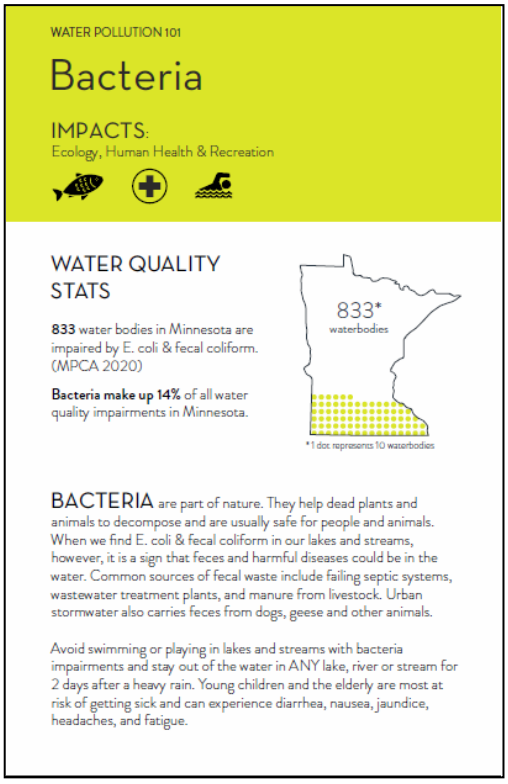
Print materials:

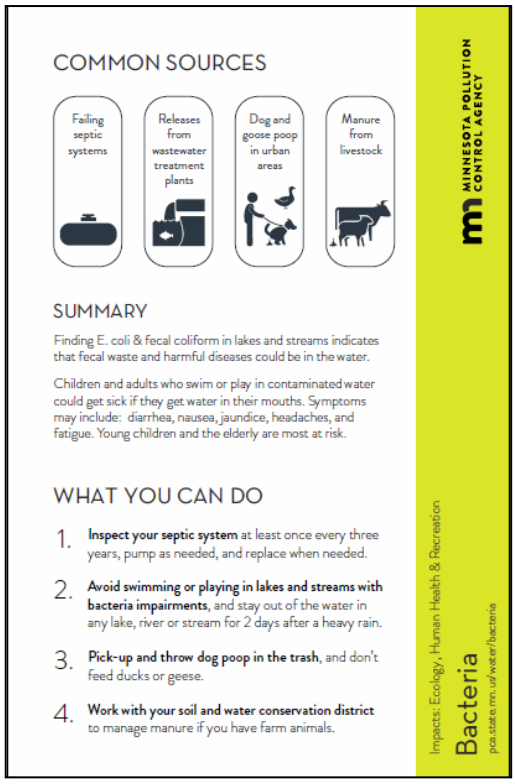
*All materials can be customized with EMWREP partner logos and contact information

Impairment fact sheets

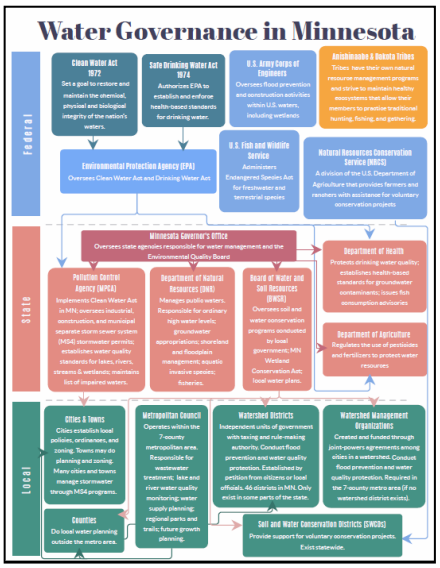


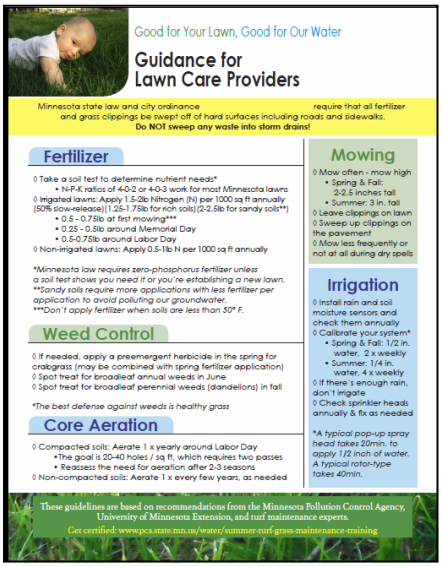


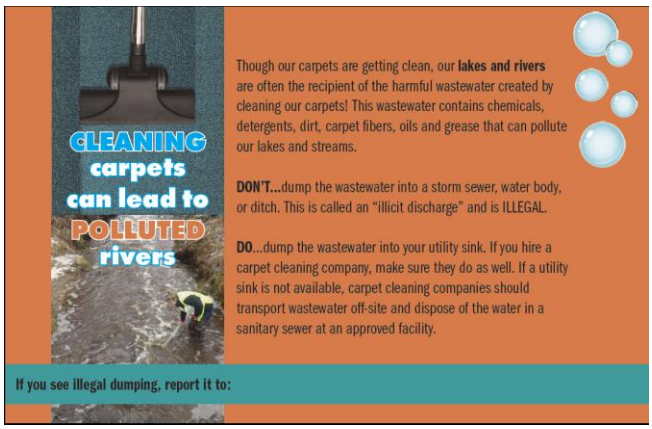




Example print materials – Visit [MPCA Stormwater Wiki]() to access the full collection.
More materials coming in early 2020. Several will be available in Spanish, Somali and Hmong.







Fall utility inserts

Media collections:

For each of the following 30 topics, we created full-length newsletter articles, shorter versions for websites and social media, and Facebook formatted images. Example images are included below.

1. Five easy ways to protect our water
2. Adopt a Drain 1
3. Adopt a Drain 2
4. All about wetlands
5. Caring for wetlands
6. Chat about scat
7. Clean streets for clean water
8. Condos and townhomes go green
9. Raingarden myths
10. Frogs
11. Grass clippings
12. Green lawns for blue waters
13. Grimy, green and gross
14. Algae
15. Rake leaves out of streets
16. Mow leaves instead of raking
17. Illicit discharge – urban
18. Illicit discharge - rural
19. Low-mow lawns
20. Reduce household electricity usage
21. Salting the earth
22. Scooping the poop with style
23. Score your shore
24. SMART salting
25. State of the lakes
26. State of the rivers
27. Vehicle care
28. Wetland conservation act
29. Wetland vs stormwater pond
30. Winter yard prep

Appendix A: 2019-2021 Annual Budget

Staff Support and Overhead Expenses	Materials	Total
$144,200	$10,000	**$154,200.00**

MEMBERSHIP STRUCTURE AND FUNDING CONTRIBUTIONS*

PARTNER	Annual Contribution
SWWD	$25,000
VBWD	$19,300
BCWD	$19,300
CLFLWD	$19,300
CMSCWD	$12,700
RWMWD	$12,700
RCWD	$3,000
Washington County	$12,800
MSCWMO	$6,300
Cottage Grove	$2,700
Forest Lake	$2,700
Lake Elmo	$2,700
Hugo	$2,700
Oakdale	$2,700
Stillwater	$2,700
Woodbury	$2,700
Dellwood	$700
Grant	$700
Newport	$700
Oak Park Heights	$700
St. Paul Park	$700
West Lakeland	$700
Willernie	$700
TOTAL	**$154,200.00**

Appendix C Local Articles

Column: Lending a helping hand to Afton's Trout Brook

By Angie Hong Featured Columnist Oct 5, 2019

1 of 2

Washington Conservation District staff collect water quality samples from Trout Brook. (Submitted photo)

South Washington Watershed District partners with Great River Greening and Vail Resorts

A coldwater stream flows through the hills of Afton Alps and Afton State Park, bringing life to a valley in the woods. Over the past 150 years, Trout Brook has weathered the rise and fall of logging in region, decades of farming, and several manmade alterations designed to make way for parking lots, roads, buildings, and ski slopes.

This year, South Washington Watershed District is working with Great River Greening and Vail Resorts to complete a large-scale restoration project designed to return tiny Trout Brook back to good health.

The landscape in Afton and Denmark Township features deeply carved valleys amidst steep wooded hills. The same hills that make Afton Alps a great place to ski also create unique habitats. Groundwater flows out of the bedrock and into Trout Brook year round and the stream helps to sustain native brook

trout, turtles and frogs, migratory birds, and even fox and badgers. After passing through Afton Alps, Trout Brook flows through Afton State Park to the St. Croix River.

When European-American settlers first mapped the area in 1848, the Trout Brook stream corridor was entirely forested, with prairie found only near the headwaters (located just east of Manning Ave. today). Over the next 100 years, however, settlers from Germany and Sweden converted much of the landscape to farm fields. Eventually, in 1960, three local farm families combined 300 acres of land to create Afton Alps. Construction began in 1960 and the ski hill opened on December 21, 1963 with 37 guests in attendance. Five years later, the state purchased adjoining land, which eventually became Afton State Park. Today, the park includes 1,702 acres of land along the river with trails and hike-in camping.

Over the years, government and non-profit partners have worked to restore habitat and reduce runoff pollution within the St. Croix River corridor and along its tributaries. As part of a larger study conducted in 2013, Washington Conservation District identified several potential projects to improve water quality in both the St. Croix River and Trout Brook, including within Afton Alps. With funding from the Minnesota Clean Water Fund and Outdoor Heritage Fund, South Washington Watershed District and Great River Greening were able to move forward on the Trout Brook restoration effort this year. Vail Resorts, which owns and operates Afton Alps, has provided support as well.

The Trout Brook stream restoration will help to keep sediment and nutrients out of the St. Croix River and will also create a passage for trout and other fish to swim upstream and down at different times of the year when they are feeding, overwintering, and laying eggs. The stream was re-routed from an artificial channel back to its natural, meandering course and several additional features were added to improve habitat and reduce erosion. The “wiggles” in the stream create different types of habitat that fish need: deep pools with slow-moving water; shallow riffles with fast, turbulent water running over rocks; and runs with deep, fast water and little or no turbulence. Wood logs will help to anchor the stream bank.

Project partners also re-created the natural floodplain that once existed along the banks of Trout Brook. Now, when it floods, water will be able to flow outside the stream channel so that sediment settles out along the banks of the stream instead of in the center. That way, the fertile soil can nourish plants along the water’s edge instead of burying fish spawning areas in the stream. Water flowing downstream to the St. Croix River will also be clearer and carry less nutrients. Culverts near the parking lot entrance will also be replaced so that water can flow continuously.

The Afton Alps project will create ideal habitat for the stream's namesake native brook trout, as well as smaller fish including sculpin, white suckers, creek chubs, brook sticklebacks, and pearl dace. Already, biological surveys have found a healthy array of aquatic invertebrates to serve as a food source for these fish – larval insects such as mayflies, dragonflies, caddisflies, stoneflies, and craneflies. In addition, the stream corridor will continue to support reptiles, amphibians, mammals and birds.

Visitors can see and learn about the Trout Brook restoration on Oct. 10-13, during Afton Alps "Fall into Winter" Fair. The weekend's events will include a ski and snowboard swap sale, as well as family friendly events:

- Friday, Oct. 11, 4-9 p.m.: sale, s'mores, chairlift rides, nature walk and food trucks

- Saturday, Oct. 12, 11 a.m.-5 p.m.: sale, chairlift rides, beer sampling, hay rides, kids inflatable jumper, and pumpkin painting

- Sunday, Oct. 13, 12-5 p.m.: sale, chairlift rides, hay rides, kids inflatable jumper, and pumpkin painting.

Learn more about the Afton Alps Fall into Winter Fair at www.aftonalps.com/events. Learn more about the Trout Brook restoration at www.swwdmn.org/projects.

Angie Hong is an educator for East Metro Water - www.mnwcd.org/emwrep - which includes Brown's Creek, Carnelian Marine - St. Croix, Comfort Lake – Forest Lake, Middle St. Croix, Ramsey Washington-Metro, Rice Creek, South Washington and Valley Branch Watersheds, Cottage Grove, Dellwood, Forest Lake, Grant, Hugo, Lake Elmo, Newport, Oak Park Heights, Oakdale, Stillwater, St. Paul Park, West Lakeland, Willernie and Woodbury, Washington County and the Washington Conservation District. Contact her at 651-330-8220 x.35 or angie.hong@mnwcd.org

Snip! Cottage Grove Ravine Parkway officially opens
Written By: William Loeffler | Sep 18th 2019 - 4pm.

Cottage Grove Mayor Myron Bailey lends a hand during the Sept. 18 Ravine Parkway ribbon cutting. William Loeffler/RiverTown Multimedia

COTTAGE GROVE — City, county and state officials dedicated a section of the new $7.2 million Ravine Parkway at a Sept. 18 ribbon cutting.

The ceremony, which took place on the Parkway's pedestrian bridge, also included residents, the Park High School Marching Band and a curious bald eagle who observed the proceedings while perched atop a nearby pile of dirt.

"This is a day 16 years in the making," Cottage Grove Mayor Myron Bailey said, referring to the city's East Ravine Master Plan that was created in 2003.

The 1.6-mile stretch of Ravine Parkway runs from Jamaica Avenue to Keats Avenue, north of 70th Street near the border with Woodbury. It replaces Military Road as a link between the two. The design includes landscaped medians, trails, prairie restoration plantings and 8 acres of land that have been set aside for the future Glacial Valley Community Park. Several new housing developments, including Kingston Fields, have been built on the former farmland in anticipation of the new road.

Bailey thanked Washington County and the South Washington Watershed District for their help. Part of the land will be preserved as "green infrastructure," South Washington Watershed District president Don Pereira told the crowd. The open space will serve as a natural sponge to help absorb runoff during extreme "100-year" floods.

After the ceremony, kids beat the 80-degree heat by dashing under the spray from a Cottage Grove Fire Department pumper truck. Free ice cream treats were also available.

Another section of Ravine Parkway is under construction between 65th Street at Hinton and Innsdale avenues.
The project was made possible with the help of a $600,000 local roadway improvement grant from the Minnesota Department of Transportation.
Ravine Parkway MAP

Appendix D Biennial Solicitation for Professional Services

SOUTH WASHINGTON WATERSHED DISTRICT

October 12, 2017

RE: South Washington Watershed District Request for Professional Services.

The South Washington Watershed District (SWWD) is required to biannually solicit for professional services. The SWWD is requesting letters of interest for Engineering, Legal, and Financial consulting services. This request was published in the Woodbury Bulletin and South Washington County Bulletin newspapers for two consecutive weeks beginning October 4, 2017. If your firm is interested in providing services, please submit **3 copies** of the requested information by November 9, 2017. If you have any questions or need additional information, please contact me at 651.714.3729 or matt.moore@woodburymn.gov

Thank you.

Sincerely,
South Washington Watershed District

Matt Moore
Administrator

c: SWWD Board of Mangers

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SOUTH WASHINGTON WATERSHED DISTRICT

Memo

To: SWWD Board of Managers

From: Matt Moore. SWWD Administrator

CC:

Date: December 1, 2017

Re: 2018-2019 Professional Services

***** Please note in an interest of saving paper we are not providing copies of the consultant information, if you would like this information please contact the SWWD office *****

The SWWD received 15 responses for engineering services, 1 legal response and 2 financial responses. Currently, there are 10 firms in the engineering pool that are returning responses. There is 1 new firm that responded.

Engineering

1) Barr Engineering
2) Bridge & Stream Engineering, Inc.
3) Emmons & Olivier Resources, Inc.
4) Geosyntec Consultants
5) HDR Engineering Inc.
6) Houston Engineering Inc.
7) HR Green, Inc.
8) Inter-Fluve
9) Kimley-Horn and Associates, Inc.
10) MSA Professional Services, Inc.
11) RESPEC
12) SRF Consulting Group
13) Stantec Consulting Services
14) Wenck
15) Limnopro Aquatic Science, Inc.

Other

Sunde Land Surveying

Legal
1) Jack W. Clinton P.A.

Financial
1) Abdo, Eick & Meyers, LLP
2) Redpath and Company

The Board could choose one of the following processes to establish engineering services for the 2018-2019 calendar years.

1) Place all responders in the pool and delegate work on a project by project basis.

2) Select a preferred vendor list using the information we have or request additional information.

3) Generate a short list from the twelve responders and conduct interviews to select one or multiple firms.

4) Other options

Each engineering firm has ample qualifications, personnel and experience in the types of watershed projects the SWWD is completing. Billing rates average $185/hour for Principals, $160/hour for Professional Engineers, $130/hour for Scientists and $100/hour for Technicians.

Requested Board Action

- The Board Sub-Committee recommendations:
    - Approval of 2018-2019 engineering services pool to include all respondents, providing a wide range of capabilities to address upcoming SWWD projects.
    - Approval of 2018-2019 legal services with Mr. Jack Clinton, Jack W. Clinton Law.
    - Approval of 2018-2019 financial services with Redpath and Company.
    - Approval of the 2018 and 2019 financial audits with Abdo, Eick, & Meyers, LLC.

SOUTH WASHINGTON WATERSHED DISTRICT

December 13, 2017

RE: South Washington Watershed District 2018-2019 Professional Services.

The South Washington Watershed District (SWWD) Board established the 2018-2019 Consulting Engineer Pool at their regular meeting on December 12, 2017. The SWWD received a total of fifteen responses for engineering services. All fifteen responding firms were place in the 2018-2019 consulting pool and will be considered for engineering services on a project by project basis. If the annual work plan includes projects best suited for your firm, the SWWD staff will contact you. Thank you for your time to respond to the request.
If you have any questions or need additional information, please contact me at 651.714.3729 or matt.moore@woodburymn.gov

Thank you.

Sincerely,
South Washington Watershed District

Matt Moore
Administrator

c: SWWD Board of Managers

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